AGENDA

CHARTER TOWNSHIP OF MERIDIAN
TOWNSHIP BOARD – REGULAR MEETING
December 11, 2018 6:00 pm

1. CALL MEETING TO ORDER
2. PLEDGE OF ALLEGIANCE/INTRODUCTIONS
3. ROLL CALL
4. PRESENTATION
   A. MEDC/Patronicity Community Places Grant Program-Marketplace on the Green
   B. 2019 Township Goals-Action Plan Presentation

5. CITIZENS ADDRESS AGENDA ITEMS AND NON-AGENDA ITEMS*
6. TOWNSHIP MANAGER REPORT
7. BOARD MEMBER REPORTS AND ANNOUNCEMENTS
8. APPROVAL OF AGENDA
9. CONSENT AGENDA
   A. Communications
   B. Minutes-December 4, 2018 Regular Meeting
      (Minutes will be Approved at the January 8, 2018 Township Board Meeting)
   C. Bills
   D. Non-Union Wage Schedule
   E. Ratification of New Police Officer

10. QUESTIONS FOR THE ATTORNEY
11. HEARINGS (CANARY)
    A. Copper Creek Planned Unit Development
    B. Sierra Ridge #2 & #3 Streetlighting SAD #426

12. ACTION ITEMS (PINK)
    A. Medical Marihuana Zoning Ordinance
    B. Senior Housing Zoning Amendment
    C. Property and Liability Insurance Contract
    D. 4th Quarter Budget Amendments
    E. Board and Commission Appointments
    F. Investigative Services Agreement
    G. Annual Performance Review Township Manager
    H. Township Manager Contract Extension

13. BOARD DISCUSSION ITEMS (ORCHID)
    A. Copper Creek Planned Unit Development
    B. Medical Marihuana Non Zoning Ordinance
    C. Sierra Ridge #2 & #3 Streetlighting SAD #426 – Resolution #3
    D. 2019 Goals-Action Plan

14. COMMENTS FROM THE PUBLIC
15. OTHER MATTERS AND BOARD MEMBER COMMENTS
16. ADJOURNMENT
17. POSTSCRIPT-KATHY ANN SUNDLAND

All comments limited to 3 minutes, unless prior approval for additional time for good cause is obtained from the Supervisor.
Appointment of Supervisor Pro Tem and/ or Temporary Clerk if necessary.

Individuals with disabilities requiring auxiliary aids or services should contact the Meridian Township Board by contacting:
Township Manager Frank L. Walsh, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4258 - Ten Day Notice is Required.
Meeting Location: 5151 Marsh Road, Okemos, Ml 48864 Township Hall

4A

Crowdfunding Campaign launch for "The Marketplace on the Green"

- Meridian Township is certified as a redevelopment community by the Michigan Economic Development Corporation, which qualifies us for new grant funding opportunities.

- Meridian Township is planning to transform an outdated market into a lively public marketplace and functional centerpiece for community life.

- The new large covered pavilion and surrounding greenspace will host numerous activities including the Meridian Township Farmers' Market, street fairs, arts and crafts markets, ice skating, live music, special events and more.

- The campaign is being offered through Michigan-based crowdfunding platform ***Patronicity***

- 60 day campaign

    - **Launch Day: Monday, December 10**
    - **End Day: Friday, February 8**

- If the campaign reaches its crowdfunding goal of $50,000 by February 8, the project will receive a matching grant through MEDC's Public Spaces Community Places program *(We have to reach our goal of $50,000 in order to receive the matching grant funds)*

- Public Spaces Community Places is a collaborative effort of the MEDC, The Michigan municipal League, and Patronicity, in which local residents can use crowdfunding to be part of the development of strategic projects in their communities and be backed with a matching grant from the MEDC.

- The Public Spaces Community Places initiative started in 2014 with MEDC providing matched funding of up to $50,000 for community improvement projects throughout Michigan.

- We go live on Monday, December 10: to donate visit our campaign page at www.patronicity.com/meridian

MEDC
MICHIGAN ECONOMIC DEVELOPMENT CORPORATION

P

PUBLIC SPACES COMMUNITY PLACES

CLERK'S OFFICE BOARD COMMUNICATIONS
December 11, 2018

BOARD INFORMATION
(BI)

Riley Millard

From: Emily Stivers <estivers@gmail.com>
Sent: Monday, December 3, 2018 9:59 AM
To: Board
Subject: Copper Creek

For inclusion in December 11, 2018 Board Packet.

Dear Meridian Township Board of Trustees,

I'm writing to you not as a representative of the Meridian Township Planning Commission or the Ingham County Board of Commissioners, but as a concerned resident living near the proposed Copper Creek development. I urge you to reject the current plan, and instead encourage the developer to come back with a new plan that involves two connections to Haslett Road -- neither of which connect through Creekwood Lane.

I live in the Brookshire neighborhood just southwest of the proposed development. I make a difficult left turn onto Haslett Road every day, because cars race around the bend where Green Road meets Haslett Road at alarming speeds -- well over the posted limit of 35. My turn is hard enough, but in my Planning Commission research for this case, I attempted both left and right turns out of Creekwood Lane at night. It was significantly worse than my daily turns out of Woodside Drive.

I can tell you unequivocally -- regardless of the numbers presented regarding site distances, or the crash data for the intersection -- turning either right or left out of Creekwood is scary. I strongly encourage you all to try it for yourselves, at night, before making a decision on this case.

It's even worse for pedestrians, as I found when I walked this neighborhood while campaigning. Haslett Road is practically uncrossable at this intersection. We have a general goal, in Meridian Township, of increasing use of form-based code and improving placemaking. Adding more cars turning out of Creekwood Lane would be a step in the opposite direction, away from walkability for area residents.

Crash data for this intersection indicates several single-vehicle crashes in the past few years, all involving bad weather, deer, or both. But even though we haven't had any multi-vehicle crashes and the numbers are not more alarming than other nearby intersections, that's partly because the residents of Creekwood are used to how dangerous the turn is, and take special care, often waiting several minutes for traffic to clear before jamming on the gas pedal to turn as fast as possible. New residents from Copper Creek driving through Creekwood, plus all the added traffic on Haslett Road from the development, will potentially be less careful and significantly increase the danger.

But even if you don't believe the people who live in this area, and don't rate the safety concerns as highly as we do, there's another important reason to reject the current Copper Creek plan: the unique nature of the Creekwood Lane neighborhood, itself.

When Creekwood Lane was first established, everyone thought it would soon be connected to a larger neighborhood. But when that didn't happen, Creekwood Lane instead evolved into something unique and beautiful -- a self-contained neighborhood of just one quiet, peaceful and narrow street.

Meridian Township boasts a wide variety of different kinds of neighborhoods. For those who enjoy living deep in suburbs, we have a lot of those. For people who want better access to main roads or to live in walking

distance to our many amenities and shops, plenty of options. We have new homes, old homes, and everything in-between. A fair selection of apartments and great options for seniors. And for those who love a rural feel, plenty of wide-open spaces.

Creekwood is an entirely different kind of neighborhood that offers an entirely different experience from all of those. We don't have many, if any streets like it in Meridian Township, at least in my experience walking about half of it for my campaign. Creekwood feels like its own, very small town, set apart from the suburbs, but with suburban-quality homes. It's near a lot of amenities, but also feels rural. It's a micro-community in and of itself, with a charm I find unique in our municipality.

Tacking it on to Copper Creek will irrevocably and incontrovertably alter the nature of this tiny neighborhood. And I believe its uniqueness is worth preserving, just was we would take care to preserve a piece of land with rare wildlife or vegetation on it. Shouldn't we show the same concern for rare neighborhoods that we do for rare plant and animal species?

I believe that Creekwood Lane, in its current form, adds diversity to the neighborhood and housing options available in Meridian Township. For this reason as well as for serious safety concerns, I urge the Township to pass on the proposed development plan for Copper Creek, and instead work with the developers to find a way to build this new development without encroaching on Creekwood Lane.

Thank you,

Emily Stivers
1010 Cliffdale Dr.
Haslett, MI 48840

Riley Millard

From: Arnold-Garcia, Amy <Grossm11@msu.edu>
Sent: Monday, December 3, 2018 4:03 PM
To: Board
Cc: Garcia, John; Arnold-Garcia, Amy
Subject: Proposed Copper Creek Development

Dear Meridian Township Board of Trustees,

We have lived at 5603 Creekwood Lane for 18 years. We are anxious, uneasy, concerned, stressed and troubled by the current Copper Creek development plan. We urge you to reject the current plan, and instead encourage the developer to come back with a new plan that involves two connections to Haslett Road -- neither of which connect through Creekwood Lane.

We have raised our children on Creekwood, made lifelong friends on Creekwood and hope to live out the rest of our days on Creekwood. Please consider all of the following:

- Regardless of the numbers presented regarding site distances, or the crash data for the intersection -- turning either right or left out of Creekwood is scary. I strongly encourage you all to try it for yourselves, at night, before making a decision on this case.
- This intersection is even worse for pedestrians. Haslett Road is practically uncrossable at this intersection. We have a general goal, in Meridian Township, of increasing use of form-based code and improving placemaking. Adding more cars turning out of Creekwood Lane would be a step in the opposite direction, away from walkability for area residents.
- Crash data for this intersection indicates several single-vehicle crashes in the past few years, all involving bad weather, deer, or both. But even though we haven't had any multi-vehicle crashes and the numbers are not more alarming than other nearby intersections, that's partly because the residents of Creekwood are used to how dangerous the turn is, and take special care, often waiting several minutes for traffic to clear before jamming on the gas pedal to turn as fast as possible. New residents from Copper Creek driving through Creekwood, plus all the added traffic on Haslett Road from the development, will potentially be less careful and significantly increase the danger.

Even if you don't believe the people who live in this area, and don't rate the safety concerns as highly as we do, there's another important reason to reject the current Copper Creek plan: the unique nature of the Creekwood Lane neighborhood, itself.

When Creekwood Lane was first established, everyone thought it would soon be connected to a larger neighborhood. But when that didn't happen, Creekwood Lane instead evolved into something unique and beautiful -- a self-contained neighborhood of just one quiet, peaceful and narrow street We shovel each other's driveways, we participate in neighborhood night out and we generally take care of each other. Creekwood feels like its own, very small town, set apart from the suburbs, but with suburban-quality homes. It's near a lot of amenities, but also feels rural. It's a micro-community in and of itself, with a charm that's unique in our municipality.

Tacking it on to Copper Creek will irrevocably and incontrovertibly alter the nature of this tiny neighborhood. Its uniqueness is worth preserving, just was we would take care to preserve a piece of land with rare wildlife or vegetation on it. Shouldn't we show the same concern for rare neighborhoods that we do for rare plant and animal species?

We believe that Creekwood Lane, in its current form, adds diversity to the neighborhood and housing options available in Meridian Township. We've had a number of houses sell this year within a day or two of listing! For all of these reasons, we urge the Township to pass on the proposed development plan for Copper Creek, and instead work with the developers to find a way to build this new development without encroaching on Creekwood Lane.

Sincerely,

John and Amy Garcia

Riley Millard

From: Vikingstaff <smithjef3@gmail.com>
Sent: Monday, December 3, 2018 4:59 PM
To: Board
Subject: Copper Creek Development Proposal

Dear Meridian Township Board of Trustees,

I am writing as a concerned community member, HOA President, parent, and teacher in Haslett. I want to share my concerns about the proposed Copper Creek Development. My concerns are specifically about its current proposed connection to the Creekwood Ln neighborhood, and this proposed neighborhoods entry/exit onto Haslett rd.

We live in the Country Green neighborhood on Summerfield Ct. As a resident of this one road cul'de'sac neighborhood as well as the President of its HOA for these past four years, we share many characteristics in common with the residents on Creekwood Lane. We are a one road, small and close-knit community. We live near, and use daily, the intersection of Green rd and Haslett rd (which can be very awkward due to the bend in Haslett road at that point. We value the unique characteristics of our small and friendly neighborhood.

As such, we as an community and HOA empathize with the people that live in Creekwood. Diverting the traffic of a large scale new development through their quite street is unconscionable. Each of us chooses to live in Haslett for a variety of reasons, and a LARGE part of that is the nature and characteristics of the neighborhood we choose to live in. The residents of Creekwood SHOULD NOT have to have their neighborhood's very nature and safety be impacted by the potential of 80+ families from Cooper Creek someday driving through it on a regular/daily basis.

There are better alternatives to Maybury Homes current proposal for entry/exit of their proposed development. There is an ample stretch of Haslett rd. east of Creekwood that TWO entry/exits into the Cooper Creek development could be added. Doing so, mixed with NOT connecting Creekwood and Cooper Creek would be in the best interests of both neighborhoods, as well as all of us that live in nearby neighborhoods.

For the residents of Creekwood, they would retain the small private atmosphere that their neighborhood now comprises. For Cooper Creek they would see no difference to the character of their new neighborhood, enjoy the benefit of not facing the resentment of the Creekwood residents they would otherwise be intruding upon, and finally and most importantly, they would have direct entry/exits onto Haslett road that are further east of the awkward bend in Haslett Road between Green and VanAtta Rd. Finally, for those of us that are in nearby neighborhoods it would spread out the flow of traffic onto Haslett road over a longer east to west axis. During peak rush hour traffic, this entire area is very congested already. Spreading it all out would benefit all nearby neighborhoods.

These are all reasons why I implore you to consider requiring revisions by Maybury Homes in their site plan for Copper Creek. Require them to change and end the connection through Creekwood onto Haslett rd. Require them to build in two independent entry/exit points for their development directly onto Haslett rd. Ideally, one at the furthest extent possible eastward, and a second one further west along the straight-a-way that allows for 400 or more yards of sight distance for cars turning into and out of their new development.

Such changes would make the entire stretch safer, more pleasant to drive, maintain good will between neighborhoods, and demonstrate the boards commitment both to the current AND future residents of this area of Haslett.

Thanks your for your time and consideration,

Jeff Smith

History Teacher/Chairperson
Haslett Public Schools
Country Green Association President
Sent from my iPad

Riley Millard

From: Joyce Breedlove <joyjrb5200@gmail.com>
Sent: Monday, December 3, 2018 4:59 PM
To: Board
Subject: PUD #18014 Copper Creek

Dear Meridian Township Board of Trustees,
I am writing to you regarding the Copper Creek PUD #18014.
I do not feel that the PUD, as it stands, is based on what would be best for ALL concerned, but rather, just what would be good for the Developer financially at this moment in time.

My biggest concern is not their desire to develop their land, but rather how they plan to do it - specifically to use Creekwood Lane as a second ingress/egress to their development to satisfy the requirement of needing two. I consider this to be unsafe and unreasonable, especially when the developer has the option of providing a safe second ingress/egress off from Haslett Road, using their own land.

Creekwood Lane is a one street cul-de-sac subdivision. It is a very unique subdivision and the very reason that I chose to purchase my home here 6 years ago. It is a quiet, safe, family-oriented, low traffic subdivision that is ideal for both families and retirees, such as myself.
Children can play and even walk to and from the school bus stop, safely, which is located at the intersection of Creekwood Lane and Haslett Rd.

The one downside is the intersection at Creekwood Lane and Haslett Rd. This is due to a limited sight distance due to the "S" curve on Haslett Road and the speed of traffic traveling on Haslett Rd. Our 25 families in this neighborhood are quite aware that they need to be cautious of traffic at the intersection. The developers desire to use Creekwood Lane (which is a narrow street to begin with) as an ingress/egress increases the chances of near misses turning into actual accidents. Increased traffic on Creekwood Lane also would remove the desirability for this unique neighborhood, because it would no longer be the quiet, safe, family oriented, low traffic subdivision that drew us here to begin with.

I understand that development happens. But, what I wouldn't understand is the destruction of an established, unique, subdivision in the process – especially when the developer does not have to, but merely chooses to. I urge the Board to not allow the use of Creekwood Lane as an ingress/egress for their development and to, instead, have the developer provide their required two ingress/egress' off Haslett Road where it is much safer and will also preserve our Creekwood Lane neighborhood.

Respectfully,
Joyce R. Breedlove
5597 Creekwood Lane
Haslett, MI

Riley Millard

From: DENISE KANE <kane.denise@comcast.net>
Sent: Monday, December 3, 2018 8:46 PM
To: Board; Frank Walsh
Subject: Re: Copper Creek PUD

My name is Denise Kane and I live at 5600 Creekwood Lane.

I am writing to you to ask you to deny approval for the proposed Copper Creek PUD to be built northeast of Creekwood and Haslett Roads, unless changes are made that include a second entrance from Haslett Road rather than connecting it to Haslett Road via Creekwood Lane.

Creekwood is a small neighborhood of 25 houses where everyone knows each other. We have a block party every year on the National Night Out and all of the neighbors attend. We also keep in close touch with one another throughout the year and look out for each others' children as they play along the block or walk to and from the bus stop at Haslett Road. Many people on the street have lived her over 20 years and new families are choosing this neighborhood in part because of the safety it affords from heavy traffic.

I moved here from Lansing 6 years ago and one of the main selling points of the house was the quiet street. In Lansing, we lived on a through street and routinely had cars speeding through on the way to somewhere else. I am extremely concerned that if the Board allows the Copper Creek PUD to be developed as proposed, that Creekwood will become such a cut-through street where cars are hurrying through on their way to somewhere else. The way that Creekwood is now - as a cul-de-sac, only traffic belonging to neighbors drives down the street. I never see anyone speeding down the road because everyone coming down our road has a vested interest in the safety of our family members. Connecting our small neighborhood to a neighborhood 4 times or maybe eventually 10 times larger will destroy the character of our neighborhood and make Creekwood a less safe place for pedestrians or children playing or walking to or from the bus stop.

Before we purchased our house, I inquired at the township about the land to the east of our house. I was told that it might be developed some day, but that if it was, that the access would be directly on to Haslett Road. I was told that an earlier developer had proposed connecting through Creekwood and that the proposal was denied because of that connection.

I am not against the development if it is done in such a way as to not negatively affect our existing neighborhood. There is no reason, other than financial, that the developer cannot include two entrances to Haslett Road rather than using Creekwood as a second entrance. If this development

eventually becomes bigger, there is no incentive for the developer to spend money making another entrance off of Haslett and even more traffic will funnel through our quiet neighborhood street.

I am also concerned what this additional traffic will do to the physical condition of Creekwood. Already, with our low traffic level, there are potholes and cracks in the road. My understanding is that when Creekwood is repaved or has other work done, that the cost is assessed to the people who live on the road, not all of the people who are cutting through and living somewhere else.

For all of these reasons, I urge you to act on the concerns of the current residents and not in the financial interest of the developer.

Thank you for your consideration.

Denise Kane

Someone once said - 'All politics is local'. Here's how the Meridian Township Planning Commission's support for a dangerous, unsafe, unsuitable subdivision traffic plan exemplifies this. It violates the following human rights and political freedoms of citizens. Life/Freedom from threat of injury: people have been, and others will be, seriously injured, or may die in a tragic accident; potential increase in crime. Liberty: citizens' voices/concerns were ignored. Pursuit of happiness: quality of life will plummet. Property: property rights and value concerns were ignored - value will descend. Freedom from undue/unjust taxation: Creekwood residents will be assessed for needed repairs to a crumbling street, caused by overuse by interloping through traffic users.

Here is where a developer gained unfair, unjust favor over the citizens. And, they never sought to meet with the residents. Interesting - isn't it?

From the beginning the Planning Commission repeatedly asked for a second access road to the east off of Haslett Road - for expressed safety concerns. Its requests were repeatedly ignored. Planning commissioners clearly acknowledged the unsafe nature of the proposal. One of them remarked: "I do not want to get into the driving through the Creekwood neighborhood. I think that's inappropriate, and their roads are too narrow to begin with, and to have an egress or entrance through that neighborhood is inappropriate." "I don't know why anybody would use an exit onto Haslett Road that is difficult and/or dangerous." Yet, they approved the recognized dangerous, unsuitable traffic plan. Commissioners expressed concern of potential costs to the developer - something that should never be their concern - a slap in the face of citizens. The citizens and safety have been trod-over in all of this thus far.

The need is for a minimum of two SAFE access roads, to the east of the Creekwood Lane/Haslett Road intersection. The intersection has been found to be dangerous, unsafe, unsuitable. The proposed traffic plan possesses numerous other violations. The developer stated they have plans for a second easterly road. Build it now for safety and the betterment of the development itself. They stated they can build it. It should be required now - for safety.

Township street ordinance provides that a subdivision traffic plan shall at the minimum: a) not violate sight distance, b) not encourage through traffic, c) not increase traffic congestion, d) not increase traffic volume, e) not be an unreasonable location, f) not be incapable of handling increased traffic volume safely, and g) not be incompatible with adjacent developments. The proposed traffic plan significantly violates all of these minimum requirements.

The plan also violates a number of minimum requirements of a PUD development in the Township beginning with violating: a) established values and rights, b) vehicular safety issues, c) a positive social contribution, d) special provisions for safety, and e) a required higher degree of public direction and scrutiny.

Actual number of accidents at the intersection is a false premise. A 'red herring', if you will. It is dangerous upon every use – for cars, buses, garbage, mail, delivery trucks, bikes, and pedestrians. We are fortunate that there haven't been more accidents. There are frequent 'near accidents'. What's relevant is the known threat of accidents because of a dangerous, unsafe, unsuitable intersection. Schools don't put in safety systems because they've had an incident. No. They have them because of the threat of such terrible things - intelligent, proactive, preventative actions.

The fire marshal made the assessment of Wood Knoll/Creekwood in a vacuum, unaware of the dangerous public safety traffic flow status of it all. Interestingly enough, the Creekwood/Haslett intersection wasn't included in the traffic study - making it invalid.

People talk about the benefits of increased property tax income from development. Yes. If done correctly and safely. But we must ask - what is the cost of a lost limb, lost eye, lost life of a teen driver resulting from accidents at a

known dangerous, unsafe, unsuitable intersection?

The residents are not entirely against the development if done safely. But, if a subdivision cannot be designed and built with appropriate, required safe and suitable ingress/egress then something is terribly wrong. As a matter of fact, the development itself may be unsuitable for the parcel of land. Perhaps the developer is trying to 'pound a square peg into a round hole'. No one has seen any of the 3-5 house plans they may offer; or what a block of lots of them may look like. Sort of - 'buying a pig in a poke'.

Furthermore, one must ask - what has happened to the commitment to keep the eastern third of the Township rural?

The Township has no control over Haslett Road itself - design, modification, speed.... But it does have control over safe and suitable access to and from it.

A number of very, very old hardwood oak trees will be lost if this traffic plan is approved. Lesser quality trees were saved when improvements were made to Cornell Road.

Once it's done, it can't be undone. And this traffic plan should not be done. Re-design is needed, with a safe, acceptable, fair, rationale, smart traffic plan.

The Township already invested much time and money to deny an exact same traffic plan. The Michigan Supreme Court attested to the Board's authority to take such action. It also ruled that the Board is under no obligation to open Wood Knoll for any development, in the past, now, or in the future, as it would be unsafe and unsuitable. People purchased homes on Creekwood with that understanding. Not with the understanding that it might be opened one day. As then - the current traffic plan violates Township street ordinance, County regulations, Board actions, current legal and functional aspects of the dangerous intersection. While the Board may have changed, to be sure, the situation is more dangerous, more unsafe, more unsuitable today.

There have been far too many occasions where governments have not listened to the citizens. Learn from the lessons of Flint. Government is to be: Of The People, By The People, and For The People. Not: of the developer, by the developer, and for the developer.

We want safe, rational, fair, smart development. The Township Board must 'right the wrongs', as it ultimately did in modifying the traffic pattern for the new central fire station, and modify or deny the proposed Mayberry Copper Creek traffic plan. It is dangerous, unsafe, unsuitable, unreasonable, violating existing Board actions, ordinance, road regulations - and citizens' rights. Do not force residents to seek legal recourse against their own township. The citizens are unanimous in their resolve. There are safe alternatives available.
Please listen, and act for the good of the citizens of – 'One Meridian.'

Michael W. and Elizabeth Casby
5624 Creekwood Lane
Haslett, MI
(For verification: 517-648-1665)

c: George Brookover, JD, East Lansing, MI

Attachments:

Use of a Wood knoll Road connection is wholly inappropriate, as it feeds into the dangerous, unsafe, unsuitable Creekwood Lane/Haslett Road intersection. Furthermore, Creekwood would become a crumbling driveway for Copper Creek under the proposed traffic plan. Access to Copper Creek must be two SAFE points east of this intersection. The developer stated they can do this. It must be required of the development now. It is for required minimum safety and the betterment of the development itself.

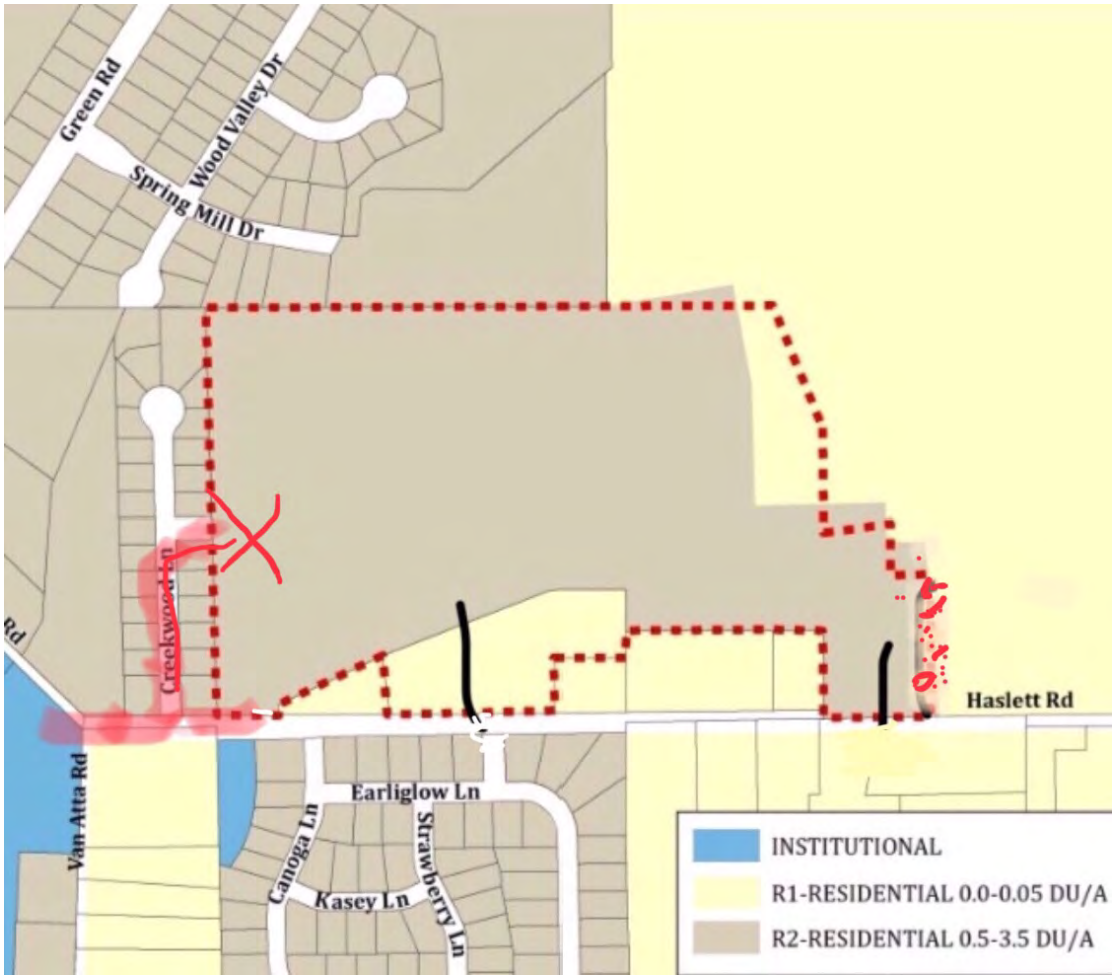


TABLE 3 - INTERSECTION SIGHT DISTANCE REQUIREMENTS AT SUBDIVISION ROADS & TWO-LANE LOCAL COLLECTOR OR PRIMARY ROADS (Single Unit Trucks)

Local or Primary Road Posted Speed (mph)	Minimum Decision Sight Distance (ft.)[a]
55	770
45	630
35	490
25	350

Table 3 values were taken from the AASHTO manual, A Policy on Geometric Design of Highways and Streets, 2001 edition.

(a) Intersection sight distance measured from a point on the minor road at least 18 feet from the edge of the local collector or primary road pavement and measured from a height of eye located 3.50 feet above the pavement surface of the minor road to a height of object located 3.50 feet above the pavement surface of the local collector or primary road.

Intersection sight distance requirements for commercial or industrial roads where the design vehicle, as determined by the County Engineer, is a WB-50 will be evaluated on a case by case basis. A case by case evaluation of required sight distance will also be performed for proposed subdivision roads that intersect with multi-lane local collector and primary roads.

All intersection sight distance requirements shall be subject to adjustment using the factors set forth in Table 4 - Effect of Grade on Sight Distance.

TABLE 4 - EFFECT OF GRADE ON SIGHT DISTANCE

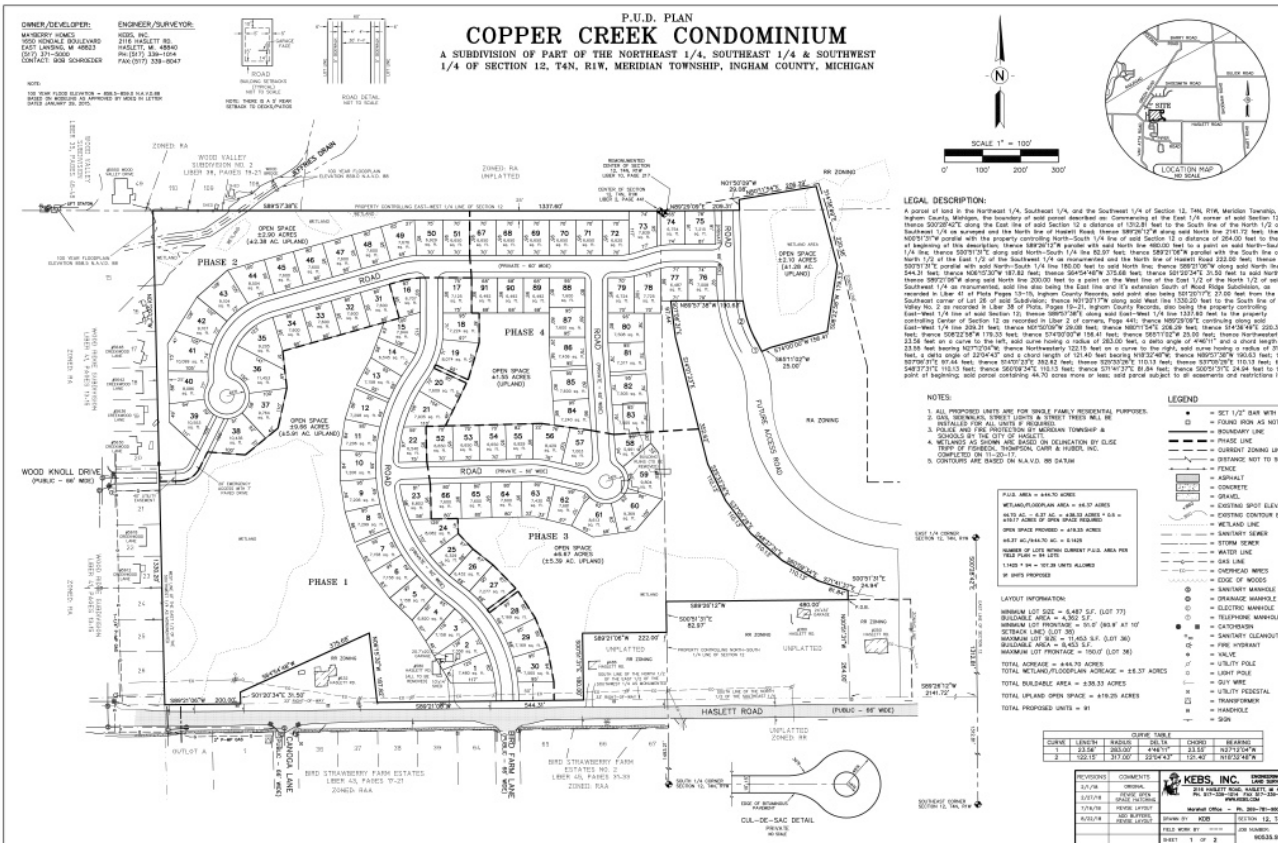
Grade of Local Collector or Primary Road (%)	Downgrade [1]	Upgrade [2]
2.0% to 3.0%	0.9	1.1
3.1% to 4.0%	0.7	1.3
4.1% to 5.0%	0.6	1.4

(1) When the local collector or primary road in the section to be used for acceleration after a vehicle has made a turning movement exhibits a downgrade, sight distance in the direction of approaching descending traffic should be reduced by these factors.

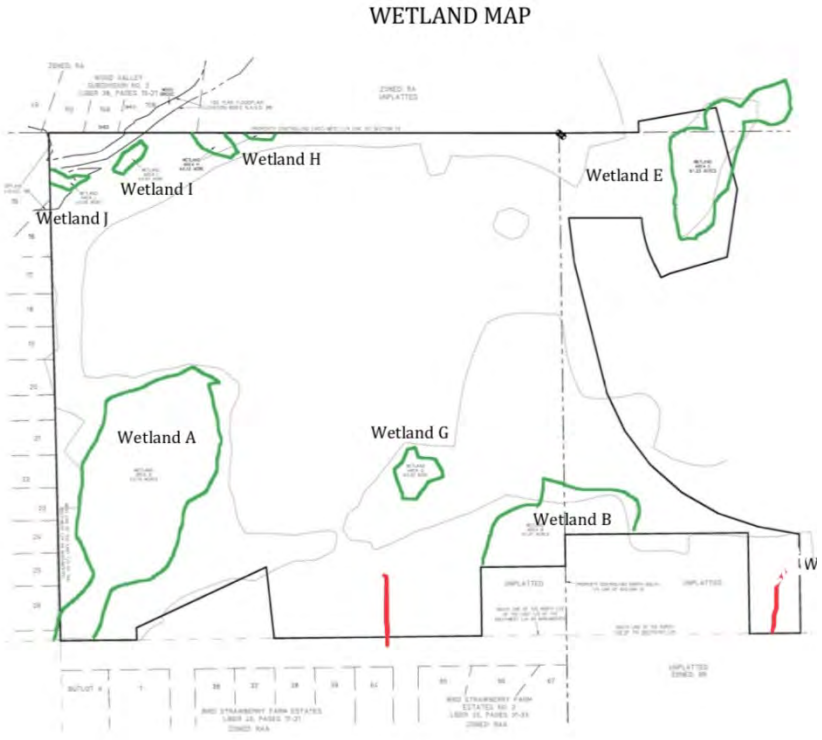
(2) When the local collector or primary road in the section to be used for acceleration after a vehicle has made a turning movement exhibits an upgrade, sight distance in the direction of approaching ascending traffic should be increased by these factors.

Ingham County road regulations regarding speed, intersection, and required minimum sight distances.

Site plan showing developer's own proposed second easterly road for connecting to Haslett Road. It should be build now for safety and betterment of all.



Map showing the clear possibility of two easterly safe access roads. The developer stated – they can do this. It should be required for safety and betterment of all now.



Picture of crumbling Creekwood Lane.

Riley Millard

From: Chris Coady <coadychris@comcast.net>
Sent: Wednesday, December 5, 2018 9:46 PM
To: Board
Subject: Copper Creek PUD

Dear Meridian Township Board of Trustees -

I am writing to you as a concerned resident of Creekwood Lane. My family has lived at 5639 Creekwood Lane for 26 years. We ask that you reject the current Copper Creek plan with an entrance via Creekwood Lane and Wood Knoll Drive and urge you to work with the developer to create a plan that provides two access points from Haslett Road instead.

As a former member of the Haslett Board of Education, I appreciate the opportunity for new homes to be built within the school district. But I don't think that benefit outweighs the negative aspects of the access from Creekwood Lane. As I know you have heard from many citizens, the intersection of Creekwood Land and Haslett Road is dangerous as is; adding additional traffic increases not only the danger to current Creekwood residents, but puts new Copper Creek residents at risk as well.

Safety is really important, but this decision has more at stake. It's also about preserving the amazing, one street cul-de-sac neighborhood my family has been fortunate enough to enjoy.

Please reject the current Copper Creek proposal and work with the developer to find a way to add homes to the Haslett School District without accessing them from Creekwood Lane.

Thank you for your consideration.

Sincerely,

Christine Coady and Robert Gifford

5639 Creekwood Lane

Haslett, MI

Riley Millard

From: Joshua Morey <morey.joshua@gmail.com>
Sent: Wednesday, December 5, 2018 9:46 PM
To: Board
Subject: Creekwood Lane / Copper Creek Development

Dear Meridian Township Board of Trustees,

I am writing to you regarding the Copper Creek development which is currently under your review. As a citizen, community member, and father I request that you modify or deny the plan for Copper Creek as it is currently proposed.

I am not usually someone who gets this involved in issues. Yet, I have attended almost all of the planning commission meetings (and watched from home when I was Ill for a meeting), spoke at the planning commission meetings, met with my neighbors (countless times), talked to the road commission, met with the Community Planning and Development Director, and been interviewed and featured by the *Lansing State Journal.* This may be just another project for Mayberry Homes, but for us this development would severely alter my family and neighbor's way of life.

I am a Michigan native and never would have known that the Lansing area would be the spot that I would eventually call home and choose to raise my family. We initially moved to a condo in Haslett to see if we liked the area, we did, and then searched for a home, community, and neighborhood that fit what we were looking for. Haslett has a diverse amount of neighborhoods but the instant we looked at Creekwood Lane we knew we were home. A short, cul de sac street with low traffic, safety, and community. Perfect. We have been here for almost 5 years and have never looked back on that decision.

Throughout this entire process we as a community have had the same stance on the project. We are not against it, we know it is going to happen one way or another. That is not the issue here. The issue is this new development encroaching and negatively impacting way of life. The current plan for Copper Creek has Wood Knoll Drive and Creekwood Lane directly connected to this new development, essentially turning our safe and quiet street into a driveway for a development 4x as large as our neighborhood. This was brought up many times during the planning commission meetings, and in the beginning, the commissioners seemed to care about that fact, yet as the meetings went on, for some unknown reason they ceased to care. Some members even made the statement that they "didn't think" people would use our road. But in the end that is a baseless opinion and there is no way to know that. The fact is that Mayberry owns the land, and their earlier plan even gave indication, to a location where they could put a second access directly on Haslett Rd., thereby avoiding the connection to Creekwood Lane. Yet they refuse to provide that solution.

The citizens and the planning committee had inquired why the developer did not want to build a second access directly off of Haslet road instead of disrupting our neighborhood. At the final meeting Commissioner John Scott-Craig asked the developer this repeatedly. Mayberry's resulting answer was that they didn't want to because it would cost more. So in the end, our entire neighborhood's concerns are going to be ignored because of money.

As I attended the planning commission meetings, there was something that stood out to me. The lack of respect or care that the developer has for the citizens. Mayberry could hardly be bothered to answer direct

questions regarding the development. They were asked what the houses would look like, they evaded the question and said they had many different models. They were asked what the houses would cost, as the master plan calls for affordable housing. Again, they said they have lots of options (which in the LSJ article, they say the houses will be $300k+, which maybe for some that is “affordable” but I doubt it is for most). The developer failed to provide this information to the commission, that they were directly asking for, because those answers don’t fit with the township’s master plan.

At one meeting there was a proposed project for a new car dealership, and both the developer and community members that spoke to that plan mentioned how that developer had met with the community to find ways to work together so that it was everyone was happy. Mayberry has never done that. At that same meeting the planning commission was extremely concerned with how many trees the dealership would cut down and if they could specifically request a certain number of trees to be planted in front of the dealership. No concern to that degree has been given to Creekwood. Instead, this development would severely impact our lives, remove countless tress and natural habitat, as well as effect the drainage of natural wetlands. We know we are a small community and it seems like for that reason we, our concerns, and cares can be swept under the rug. The planning commission’s decision gave us a pretty clear answer, we don’t matter.

There are solutions to the concerns of the current citizens of Creekwood Lane. First, the developer should be required to provide two access points off of Haslett road to their development. Instead of utilizing an already established neightborhood as their driveway. Second, if the need for a connection to Creekwood Lane is a must, the Developer should still be required to create two access points off of Haslett Rd and work with the fire department to establish the connection to Creekwood Lane solely as an emergency access (blocked with bollards etc). Third the township board should mediate a discussion between the developer and the current residents to communicate about this development, something Mayberry has yet to attempt with any of us.

In conclusion, I did not write this letter to quote traffic data, measure sight lines, or discuss what has happened in the past. We are homes, families, and children that under the current Copper Creek plan will have their lives and safety negatively impacted. Instead, I wrote this to support a point, don’t let a developer’s costs and needs come above your citizens, the community, that has already chosen to call Haslett and Creekwood Lane their home. I urge you to deny the current development plan or request for it to be modified, until Mayberry can provide their required access to their project, without negatively impacting the community already here. I have to ask, if you were my neighbor, how would you feel? Would you sit by doing nothing, or would you be doing the same as I am right now, writing to the people elected to have a voice for their citizens.

Joshua Morey
5609 Creekwood Lane
Haslett, MI 48840

Joshua Morey
morey.joshua@gmail.com | 765.532.5481 | joshua-morey.com

Riley Millard

From: Dawn Kettinger <dawnkett@gmail.com>
Sent: Wednesday, December 5, 2018 9:57 PM
To: Board
Cc: Peter Menser
Subject: Concerns about Copper Creek Condominiums plan
Attachments: Creekwood petition 10-22-18.pdf

Dear members of the Meridian Township Board,
I'm writing to express my opposition to any version of the Copper Creek Condominiums plan that uses Creekwood Lane as an entry/exit. Please also see the attached petition from my fellow Creekwood lane neighbors and me regarding this.
We are not opposed to Mayberry developing the land they own.
We are simply asking the Township Board to protect us - dozens of long-standing residents of our small block, as well as additional motorists - from the dangerous burden of increased traffic that will come from our road being used as a driveway to a subdivision expected to be more than 3 times as big as ours (and with hundreds more houses, long-term).
Creekwood Lane is a close-knit cul-de-sac with many children. We are all worried about their safety, if dozens of cars were to start using our road as a thruway.
The developer has a viable alternative. It can build two entrances/exits off of Haslett Road.
At a recent Planning Commission meeting, a developer's representative acknowledged that the company could, indeed, do that.
We believe this is an option that better meets the township's requirement for public safety, as laid out in the master plan.
The current plan certainly does not meet that value.
Instead, it sacrifices the safety and peace of mind of dozens of us moved to Haslett to enjoy.
Using one subdivision (ours) as a thruway to another subdivision appears to violate a township ordinance.
In addition, allowing this unsafe plan sends a terrible message that a developer's desire for convenience supersedes residents' rights.
It is incumbent upon the township board to find a balance to these competing desires.
We respectfully ask that you find a solution that respects our well-founded concerns, and require Mayberry to create a plan that avoids hurting our unique neighborhood, the township's values, and the voice of long-standing residents who have shown a deep commitment to, and investment in, living in Haslett.
Such a plan would preclude using Creekwood Lane as a thruway to Copper Creek Condominiums.
Sincerely,
Dawn Kettinger
5600 Creekwood Lane
Haslett, MI 48840

A community petition to the Meridian Township Planning Board and Township Board
October 18, 2018

We, the undersigned residents of Creekwood Lane, oppose any version of the Copper Creek development plan that will compromise current residents' safety by increasing traffic on our narrow street. With 88 proposed homes, the new subdivision could pour dozens of vehicles into our small cul-de-sac every day. Our street, which turns into a single-lane road when cars are parked on either side, cannot safely accommodate an influx of traffic. Children on our street play outside frequently and catch the school bus on the corner. We urge rejection of any plan that includes funneling additional traffic through Creekwood Lane.

Dawn Kettinger (5600)

Sheila Salliganan (5648)

Joyce R Breedlove (5597)

Michael W. Cosby (5624)

Jacqueline Shinn (5660

JACQUELINE SHINN

Vicki Kindy (5642)

Christina Morey (5609)

Vicki Kindy

Christina Morey

Randy R. Kindy (5642)

RANDY R. KINDY

Amy Deimler (5615)

Amy Deimler

Kristen Hood 5636

Ruth Ann Smith (5615)

Kristen Hood

Ruth Ann Smith

John Hood 5636

5609.

John Hood

Joshua Morey

A community petition to the Meridian Township
Planning Board and Township Board re: Copper Creek development
October 18, 2018
(continued)

James H. Fashbaugh
James H. Fashbaugh
5663 Creekwood Ln.

Daryl Saliganan
Daryl Saliganan
5648 Creekwood Ln.

C Kapp
Christopher J. Kapp
5612 Creekwood Lane

Alyse Arnold
Alyse Arnold
5603 Creekwood Ln

James Stoll
5591 Creekwood Ln
James Stoll

Elizabeth Casby
5624 Creekwood

Connie Keros
5633 Creekwood

Teri Banas
5604 Creekwood
Teri Banas

5606 Creekwood
John Foren
Amy C. Arnold-Garcia
AMY L. ARNOLD-GARCIA
5603 CREEKWOOD LN

John Garcia
John Garcia
5603 Creekwood Ln.

Stacy L. Stoll
STACY STOLL
5591 Creekwood Ln Haslett

Jeffery Gilbert
5618 Creekwood

Christine Coady (5639)

A community petition to the Meridian Township
Planning Board and Township Board re: Copper Creek development
October 18, 2018
(continued)

Robert Gifford
Robert Gifford (5639)

Helen M. Stonehouse
Helen M. Stonehouse (5645)

Craig Phillipich 5594

Lorraine Cook 5654
Lorraine Cook

Jonathan Chotin (5657)
Pam Comer 5594

Denise Kane (5600)
Denise Kane

9.C

To: Board Members

From: Miriam Mattison, Finance Director

Date: December 11, 2018

Re: Board Bills

MOVED THAT THE TOWNSHIP BOARD APPROVE THE MANAGER'S BILLS AS FOLLOWS:

COMMON CASH		$	74,571.01
PUBLIC WORKS		$	269,358.67
TRUST & AGENCY		$	264,652.79
	TOTAL CHECKS:	$	608,582.47
CREDIT CARD TRANSACTIONS Nov 29th to Dec 6th		$	3,983.06
	TOTAL PURCHASES:	$	612,565.53
ACH PAYMENTS		$	413,671.14

INVOICE APPROVAL BY INVOICE REPORT FOR CHARTER TOWNSHIP OF MERIDIAN
EXP CHECK RUN DATES 12/11/2018 - 12/11/2018
BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID
BANK CODE: GF

Vendor Name	Description		Amount	Check #
1. 56-A DISTRICT COURT				
	CASH BOND - WOODS, JARED		200.00	99620
2. INGHAM COUNTY 911				
	911 RADIO SERVICE FEE'S		1,705.31	
	911 RADIO SERVICE FEE'S		1,681.86	
	911 RADIO SERVICE FEE'S		1,691.83	
		TOTAL	5,079.00	
3. CATHERINE ADAMS				
	REIMBURSEMENT FOR MILEAGE - SEPT, OCT, NOV		59.95	
4. AIRGAS GREAT LAKES				
	STANDING PO - MEDICAL OXYGEN		72.11	
	STANDING PO FOR MEDICAL OXYGEN		40.92	
		TOTAL	113.03	
5. MELANIE ALESSA				
	NOV ELECTION		135.50	
6. AMERICAN ARBITRATION ASSOCIATION				
	INITIAL ADMINISTRATIVE FEE		275.00	
7. APOLLO FIRE EQUIPMENT				
	GRANT EXTRICATION EQUIPMENT		11,525.00	
8. ASAP PRINTING				
	FORMS AND PAMPHLET PRINTING		170.52	
	FORMS AND PAMPHLET PRINTING		305.61	
		TOTAL	476.13	
9. DBI				
	WALL CALENDARS/BINDERS		115.44	
	DOCUMENT COVER		12.23	
		TOTAL	127.67	
10. KELSEY DILLON				
	REIMBURSEMENT MILEAGE - NOV		27.90	
11. FORESIGHT GROUP				
	WATER BILL MAILING 11/15		221.94	
	WATER BILLING & POSTAGE FOR 11/30		482.03	
		TOTAL	703.97	
12. GABRIEL, ROEDER, SMITH & COMP				
	PROFESSIONAL SERVICES		400.00	
13. HASLETT-OKEMOS ROTARY				
	POLICE MEMBERSHIP		140.00	
14. DANIELLE HUGHES				
	REIMBURSEMENT MILEAGE - NOV & EXCELL TRAINING		82.84	
15. INGHAM COUNTY FIRE CHIEFS ASSOC				
	HEALTH/SAFETY - C JOHNSON		50.00	
16. INGHAM COUNTY				
	PC REPLACEMENT AND INSTALL.		2,595.60	
17. JOHN DEERE FINANCIAL				
	4TH QTR FUEL 2018		11,376.58	
18. KAMMINGA & ROODVOETS				
	CONCRETE REPAIR CONTRACT 2018		17,820.20	
19. KENT COUNTY DEPT OF PUBLIC WORKS				
	ACCT#M493 WE-WASTE TO ENERGY		94.50	
20. KITCH DRUTCHAS WAGNER VALITUTTI				
	PROFESSIONAL SERVICES		3,000.00	
	PROFESSIONAL SERVICES - NOV		4,055.40	
		TOTAL	7,055.40	
21. LANSING UNIFORM COMPANY				
	STANDARD POLICE UNIFORM PURCHASE		45.00	
22. LUKE LANDSCAPE CO				
	MOWING SERVICES - 5906 MARSH RD		105.00	
23. MERIDIAN TOWNSHIP				
	TRANSFER FOR FLEX CKING P/R 12.7.18		763.61	
24. MEDICAL MANAGEMENT SYSTEMS OF				
	AMBULANCE BILLING SERVICE		6,931.69	

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Vendor Name	Description	Amount	Check #
25. MICHIGAN ASSESSORS ASSOCIATION			
	MAA 2019 MEMBERSHIP J FLOWER/D WOZNIAK	180.00	
26. MICHIGAN MUNICIPAL LEAGUE			
	PAYROLL AUDIT POLICY #5000880-17	69.00	
27. MOORE MEDICAL LLC			
	STANDING PO FOR EMS SUPPLIES/EQUIPMENT	97.93	
28. NATIONAL PEN CO			
	TOWNSHIP PENS	136.56	
29. NEMOKE TRAIL APARTMENTS			
	EMG CRC PM'T TO AVOID EVICTION	400.00	99621
30. NORTHERN MICHIGAN LAW ENFORCEMENT			
	TRAINING SEPT 10-13	879.00	
31. PEOPLEFACTS LLC			
	PROFESSIONAL SERVICES 11.01.18 TO 12.01.18	16.67	
32. PRESTON SERVICES			
	WEB HOSTING - ANNUAL 2018	600.00	
33. PRINTER TECHS.COM INC			
	MAINTENANCE KITS FOR HP PRITNERS	587.00	
34. PRINT MAKERS SERVICE INC			
	PRINTING SUPPLIES	500.60	
35. PURE GREEN			
	SEASONAL WEED AND FEED SOCCER/ SOFTBAL FIELDS	1,275.00	
36. BRETT REED			
	REIMBURSEMENT FOR MILEAGE	33.79	
37. KIT RICH			
	REIMBURSEMENT MILEAGE - NOVEMBER	77.39	
38. SME			
	PROF SRVS 9/24 TO 10/28 GRD RVR/JODON WTR MN	1,302.25	
39. SPARROW OCCUPATIONAL			
	PROFESSIONAL SERVICES	140.00	
40. SPRINT			
	CELLULAR PHONE SERVICE FOR SGT'S VEHICLES	24.40	
	MONTHLY SERVICE	73.70	
	TOTAL	98.10	
41. ST MARTHA CONFERENCE OF			
	EMG CRC PM'T TO AVOID EVICTION	225.00	99622
42. ST THOMAS AQUINAS PARISH			
	EMG CRC PM'T TO AVOID EVICTION	400.00	99623
43. TDS			
	MONTHLY SERVICES - NOV	1,369.15	
TOTAL - ALL VENDORS		74,571.01	

FUND TOTALS:

Fund 101 - GENERAL FUND	42,652.91
Fund 203 - LOCAL ROADS	4,801.39
Fund 204 - PEDESTRIAN BIKEPATH MILLAGE	4,818.18
Fund 208 - PARK MILLAGE	774.84
Fund 209 - Land Preservation Millage	27.90
Fund 230 - CABLE TV	7,791.96
Fund 246 - TIRF	1,302.25
Fund 250 - COMMUNITY NEEDS FUND	1,025.00
Fund 661 - MOTOR POOL	11,376.58

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EXP CHECK RUN DATES 12/11/2018 - 12/11/2018
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BANK CODE: PW

Vendor Name	Description	Amount	Check #
1. MELISSA BLUE			
	REFUND OVERPM'T ON WATER/SEWER BILL	354.69	
2. CITY OF EAST LANSING			
	OPERATING COSTS/INTERCONNECT COSTS	258,171.25	
3. KAMMINGA & ROODVOETS			
	CONCRETE REPAIR CONTRACT 2018 (PO#53486)	2,500.00	
4. MAYBERRY HOMES			
	REIMB PERFORMANCE GUARANTEE @ 1436 KALORAMA	2,000.00	
	REIMB PERFORMANCE GUARANTEE @ 5055 GIESBORO	3,821.14	
	TOTAL	5,821.14	
5. MISS DIG SYSTEM			
	ANNUAL MEMBERS FEES 2019	1,760.28	
6. SME			
	PROF SRVS FROM 9/24 TO 10/28 MISC SWR REPORTS	620.25	
7. TDS			
	MONTHLY SERVICES	131.06	
TOTAL - ALL VENDORS		269,358.67	
FUND TOTALS:			
Fund 590 - SEWER FUND		6,684.27	
Fund 591 - WATER FUND		262,674.40	

INVOICE APPROVAL BY INVOICE REPORT FOR CHARTER TOWNSHIP OF MERIDIAN
EXP CHECK RUN DATES 12/11/2018 - 12/11/2018
BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID
BANK CODE: TA

Vendor Name	Description	Amount	Check #
1. CAPITAL AREA DISTRICT LIBRARY	WINTER & DELINQ PERSONAL PROPERTY TAX COLLECTION	29,209.15	12450
2. CATA	WINTER & DELINQ PERSONAL PROPERTY TAX COLLECTION	56,303.48	12449
3. CAPITAL REGION AIRPORT AUTHORITY	WINTER & DELINQ PERSONAL PROPERTY TAX COLLECTION	13,087.34	12451
4. HASLETT PUBLIC SCHOOLS	WINTER & DELINQ PERSONAL PROPERTY COLLECTION	37,841.83	12445
5. INGHAM INTERMEDIATE SCHOOL	DELINQ PERSONAL PROPERTY TAX COLLECTION	163.27	12446
6. LANSING COMMUNITY COLLEGE	WINTER & DELINQ PERSONAL PROPERTY TAX COLLECTION	71,286.66	12447
7. MERIDIAN CHARTER TOWNSHIP	STATE TAX COMM REFUND DOC#154-18-0483 *PARCEL #33-02-02-90-529-453	107.01	12441
8. OKEMOS PUBLIC SCHOOLS	WINTER & DELINQ PERSONAL PROPERTY TAX COLLECTION	55,501.08	12448
9. WILLIAMSTON SCHOOLS	WINTER TAX COLLECTION	1,259.98	12442
TOTAL - ALL VENDORS		264,759.80	
FUND TOTALS:			
Fund 701 - TRUST & AGENCY		264,759.80	

Credit Card Charges from November 29th to December 5th

Posting Date	Merchant Name	Transaction Amount	Account Name
2018/12/04	#06 RUSTY BUCKET DAYTON	$16.67	CHRIS BUCK
2018/12/05	4ALLPROMOS	$225.31	KRISTI SCHAEDING
2018/12/03	AIR FRANCE 0571424054063	($1,772.72)	WILLIAM PRIESE
2018/12/03	AMAZON.COM*M01R79P30	$24.89	KRISTI SCHAEDING
2018/12/04	AMAZON.COM*M02KH35C0	$269.99	MICHELLE PRINZ
2018/11/30	AMAZON.COM*M06PN2AJ2	$44.20	MICHELLE PRINZ
2018/12/04	AMAZON.COM*M07IK15Y0	$12.94	MICHELLE PRINZ
2018/12/05	AMAZON.COM*M08I025O2	$20.48	MICHELLE PRINZ
2018/12/03	AMZN MKTP US*M01DY3PB0	$125.95	MICHELLE PRINZ
2018/12/03	AMZN MKTP US*M01L21122	$26.17	MICHELLE PRINZ
2018/12/04	AMZN MKTP US*M04HJ3BJ1	$619.00	MICHELLE PRINZ
2018/12/03	AMZN MKTP US*M066Z0132	$13.99	KRISTI SCHAEDING
2018/11/29	AMZN MKTP US*M06ZS0EO2	$71.61	KRISTI SCHAEDING
2018/11/30	BEST BUY 00004168	$230.94	KATHERINE RICH
2018/12/04	BP#3656709LONDON FOODMAR	$32.92	CHRIS BUCK
2018/12/03	BP#8471534GIANT #487	$36.41	CHRIS BUCK
2018/12/04	CATHEY COMPANY	$17.24	ROBERT STACY
2018/12/04	COMCAST	$298.30	ANDREA SMILEY
2018/12/04	CROWN AWARDS INC	$5.99	MICHELLE PRINZ
2018/12/04	D & G EQUIPMENT INC	$106.12	JIM HANSEN
2018/11/29	DEWALT/PORTER/DELTA#183	$36.58	PETER VASILION
2018/11/30	DISCOUNTMUGS.COM	$204.00	KELSEY DILLON
2018/12/03	ELECTRICAL TERMINAL SE	$116.02	TODD FRANK
2018/12/04	EXXONMOBIL 42368241	$32.54	CHRIS BUCK
2018/12/04	FACEBK DTV92HW762	$29.98	DARCIE WEIGAND
2018/11/30	GLOW UNIVERSE	$227.81	KRISTI SCHAEDING
2018/11/30	HASLETT TRUE VALUE HARDW	$16.98	DAVID LESTER
2018/11/30	HASLETT TRUE VALUE HARDW	$9.14	TOM OXENDER
2018/11/29	HASLETT TRUE VALUE HARDW	$10.99	DAN PALACIOS
2018/12/04	HIFI CLYDES CHATTANOOGA	$32.86	CHRIS BUCK
2018/12/05	HIS CHATTANOOGA/HP II	$145.39	CHRIS BUCK
2018/12/05	HIS CHATTANOOGA/HP II	$75.04	DEREK PERRY
2018/12/03	MALLBEST	$68.20	KYLE ROYSTON
2018/12/05	MARATHON PETRO133132	$20.25	ANDREA SMILEY
2018/11/30	MARKETING HOLDERS	$143.94	CATHERINE ADAMS
2018/12/05	MEIJER INC #156 Q01	$34.87	CHRIS BUCK
2018/11/30	MGFOA MEMBERSHIP DUES	$120.00	JULIE BRIXIE
2018/11/29	MICHIGAN MUNICIPAL TREASU	$50.00	JULIE BRIXIE
2018/12/05	MIDWEST POWER EQUIPMENT	$122.28	MATT FOREMAN
2018/11/29	NATURE- WATCH	$154.00	CATHERINE ADAMS
2018/11/29	NUTRON NAMEPLATE INC	$100.00	CATHERINE ADAMS
2018/11/30	OFFICEMAX/OFFICEDEPT#3379	$49.41	TODD FRANK
2018/11/30	PANERA BREAD #600715	$21.96	MARK VROMAN
2018/12/03	PANERA BREAD #600715	$18.97	MARK VROMAN
2018/11/29	PARKING EP/PS	$12.50	DEBORAH GUTHRIE
2018/11/30	PARKING EP/PS	$2.50	DEBORAH GUTHRIE
2018/11/30	PEAVEY CORP.	$71.95	KYLE ROYSTON
2018/12/03	QUALITY DAIRY 31280027	$15.41	MARK VROMAN
2018/12/03	QUALITY DAIRY 31280027	$12.78	MARK VROMAN
2018/11/29	QUALITY TIRE	$66.00	TODD FRANK
2018/12/04	RANCH LIFE PLASTICS INC	$114.41	CATHERINE ADAMS
2018/11/29	ROWERDINK INC.	$98.80	JIM HANSEN

2018/12/04	ROWERDINK INC.	$122.07	JIM HANSEN
2018/12/05	ROWERDINK INC.	$87.78	JIM HANSEN
2018/12/03	SKATEPRO APS	$239.70	KATHERINE RICH
2018/12/03	SOLDANS FEEDS & PET S	$10.14	CATHERINE ADAMS
2018/12/03	STAMPRITE	$27.35	JULIE BRIXIE
2018/12/03	THE HOME DEPOT #2723	$22.56	DENNIS ANTONE
2018/11/29	THE HOME DEPOT #2723	$32.76	PETER VASILION
2018/11/29	THE HOME DEPOT #2723	$27.79	PETER VASILION
2018/11/30	THE HOME DEPOT #2723	$13.90	PETER VASILION
2018/12/05	THE HOME DEPOT #2723	$11.94	PETER VASILION
2018/11/30	THE HOME DEPOT #2723	$71.59	TODD FRANK
2018/12/03	THE HOME DEPOT #2723	$47.00	TODD FRANK
2018/12/03	THE HOME DEPOT #2723	$7.47	TODD FRANK
2018/12/05	THE HOME DEPOT #2723	$11.92	DAVID LESTER
2018/12/05	THE HOME DEPOT #2723	$104.71	DAN PALACIOS
2018/11/30	THE HOME DEPOT #2723	$32.83	MATT FOREMAN
2018/11/30	THE HOME DEPOT #2723	$4.69	MATT FOREMAN
2018/12/03	THE HOME DEPOT #2723	$193.58	MATT FOREMAN
2018/11/29	THE UPS STORE 0811	$42.96	CHAD HOUCK
2018/11/30	TOP HAT CRICKET FARM INC	$23.47	CATHERINE ADAMS
2018/11/30	TST* FOUR ROSES CAFE-	$168.90	FRANK L WALSH
2018/12/03	WEB*NETWORKSOLUTIONS	$15.99	BENJAMIN MAKULSKI
	TOTAL	**$3,983.06**	

ACH Transactions

Date	Payee	Amount	Purpose
12/04/18	Meridian Township	10.00	Water & Sewer Bills
12/04/18	Blue Care Network	13,756.97	Employee Health Insurance
12/05/18	ICMA	35,962.64	Payroll Deductions 12/07/18 Payroll
12/05/18	IRS	94,793.83	Payroll Taxes 12/07/18 Payroll
12/05/18	Various Financial Institutions	269,147.70	Direct Deposit 12/07/18 Payroll
	Total ACH Payments	413,671.14	

To: **Board Members**

From: **Joyce A. Marx, Human Resources Director**

Date: **December 9, 2018**

Re: **2019 Non-Union Wage Schedule**

The 2019 Budget includes a Township Manager position for an employee hired after 2018, a 2% wage adjustment to the pay ranges for Department Directors and other non-union staff.

The following motion has been prepared for Board consideration:

MOVE TO APPROVE THE 2019 NON-UNION WAGE SCHEDULE, WITH A 2% WAGE ADJUSTMENT, AS PRESENTED.

Attachment:

1. 2019 Proposed Non-Union Wage Schedule

2019 Proposed Salaries for Non-Union Employees
Effective January 1, 2019

			2019 Salary	
Township Manager**	Step 1	$ 131,121.00		January 1, 2019
	Step 2	$ 133,088.00		
	Step 3	$ 135,084.00		
	Step 4	$ 137,110.00		
	Step 5	$ 139,167.00		
	Step 6	$ 141,255.00		
Assistant Township Manager/	Step 1	$ 94,319.00	$109,326.00	January 1, 2019
Director of Public Works	Step 2	$ 98,607.00		
Derek Perry	Step 3	$ 101,823.00		
	Step 4	$ 104,503.00		
	Step 5	$ 107,182.00		
	Step 6	$ 109,326.00		
Executive Assistant *	Step 1	$ 41,635.00	$57,875.00	January 1, 2019
Michelle Prinz	Step 2	$ 44,882.00		
	Step 3	$ 48,130.00		
	Step 4	$ 51,376.00		
	Step 5	$ 54,629.00		
	Step 6	$ 57,875.00		
Human Resources Director	Step 1	$ 77,315.00	$95,432.00	January 1, 2019
Joyce Marx	Step 2	$ 80,941.00		
	Step 3	$ 84,567.00		
	Step 4	$ 88,189.00		
	Step 5	$ 91,811.00		
	Step 6	$ 95,432.00		
Human Resources Specialist *	Step 1	$ 53,021.00	$63,339.00	January 1, 2019
Carol Hasse	Step 2	$ 55,088.00		
	Step 3	$ 57,149.00		
	Step 4	$ 59,211.00		
	Step 5	$ 61,277.00		
	Step 6	$ 63,339.00		
Finance Director	Step 1	$ 77,315.00	$95,432.00	January 1, 2019
Miriam Mattison	Step 2	$ 80,941.00		
	Step 3	$ 84,567.00		
	Step 4	$ 88,189.00		
	Step 5	$ 91,811.00		
	Step 6	$ 95,432.00		

* Employees are entitled to overtime compensation. Salaries listed are base pay.
**Employees hired after January 1, 2018

2019 Proposed Salaries for Non-Union Employees
Effective January 1, 2019

				2019 Salary	
Communications Director	Step 1	$	77,315.00	$95,432.00	January 1, 2019
Deborah Guthrie	Step 2	$	80,941.00		
	Step 3	$	84,567.00		
	Step 4	$	88,189.00		
	Step 5	$	91,811.00		
	Step 6	$	95,432.00		
Community Planning & Development Director	Step 1	$	86,761.00	$106,283.00	January 1, 2019
	Step 2	$	90,667.00		
Mark Kieselbach	Step 3	$	94,570.00		
	Step 4	$	98,474.00		
	Step 5	$	102,379.00		
	Step 6	$	106,283.00		
Economic Development Director	Step 1	$	77,315.00	$91,811.00	January 1, 2019
Chris Buck	Step 2	$	80,941.00	$95,432.00	October 2, 2019
	Step 3	$	84,567.00		
	Step 4	$	88,189.00		
	Step 5	$	91,811.00		
	Step 6	$	95,432.00		
EMS/Fire Chief	Step 1	$	86,761.00	$94,570.00	January 1, 2019
Mike Hamel	Step 2	$	90,667.00	$98,474.00	July 2, 2019
	Step 3	$	94,570.00		
	Step 4	$	98,474.00		
	Step 5	$	102,379.00		
	Step 6	$	106,283.00		
Chief of Police	Step 1	$	81,953.00	$93,809.00	January 1, 2019
Ken Plaga	Step 2	$	85,230.00		
	Step 3	$	88,641.00		
	Step 4	$	91,299.00		
	Step 5	$	93,809.00		
Parks and Recreation Director	Step 1	$	77,315.00	$95,432.00	January 1, 2019
LuAnn Maisner	Step 2	$	80,941.00		
	Step 3	$	84,567.00		
	Step 4	$	88,189.00		
	Step 5	$	91,811.00		
	Step 6	$	95,432.00		

* Employees are entitled to overtime compensation. Salaries listed are base pay.
**Employees hired after January 1, 2018

2019 Proposed Salaries for Non-Union Employees
Effective January 1, 2019

				2019 Salary	
Information Technology Director	Step 1	$	77,315.00	$95,432.00	January 1, 2019
Stephen Gebes	Step 2	$	80,941.00		
	Step 3	$	84,567.00		
	Step 4	$	88,189.00		
	Step 5	$	91,811.00		
	Step 6	$	95,432.00		
Systems Administrator II*	Step 1	$	53,021.00		
Vacant	Step 2	$	55,088.00		
	Step 3	$	57,149.00		
	Step 4	$	59,211.00		
	Step 5	$	61,277.00		
	Step 6	$	63,339.00		
Systems Administrator I*	Step 1	$	49,487.00	$54,010.00	January 1, 2019
Greg Akin	Step 2	$	50,996.00	$55,519.00	November 16, 2019
	Step 3	$	52,500.00		
	Step 4	$	54,010.00		
	Step 5	$	55,519.00		
	Step 6	$	57,019.00		
Systems Administrator I*	Step 1	$	49,487.00	$50,996.00	January 1, 2019
Matt MacFadden	Step 2	$	50,996.00	$52,500.00	March 19, 2018
	Step 3	$	52,500.00		
	Step 4	$	54,010.00		
	Step 5	$	55,519.00		
	Step 6	$	57,019.00		
Facility Superintendent*	Step 1	$	56,463.00	$73,224.00	January 1, 2019
Dennis Antone	Step 2	$	59,575.00		
	Step 3	$	62,733.00		
	Step 4	$	65,823.00		
	Step 5	$	68,979.00		
	Step 6	$	73,224.00		
Part-time Paramedic/Firefighter		$15.00 - $18.50			

* Employees are entitled to overtime compensation. Salaries listed are base pay.
**Employees hired after January 1, 2018

To: **Board Members**

From: **Joyce A. Marx, Human Resources Director**

Date: **December 9, 2018**

Re: **Ratification of New Police Officer Appointment**

The Township has presented a conditional offer of employment to a qualified police officer candidate. The prospective hiring will bring the staffing level of the police department to 39 sworn personnel.

Kyle Cornell obtained his Bachelor's Degree in Law Enforcement from Saginaw Valley State University and will graduate from Delta Police Academy on December 13, 2018.

A motion is prepared for Board consideration:

> **MOVE TO RATIFY THE APPOINTMENT OF KYLE CORNELL TO THE POSITION OF POLICE OFFICER CONTINGENT UPON SUCCESSFUL COMPLETION OF THOSE ITEMS STIPULATED IN THE CONDITIONAL OFFER OF EMPLOYMENT.**

11.A/13.A

To: **Township Board**

From: **Mark Kieselbach, Director of Community Planning & Development**

Peter Menser, Principal Planner

Date: **December 7, 2018**

Re: **Planned Unit Development #18014 (Haslett Holding LLC), develop Copper Creek PUD consisting of 88 single family residential lots on the north side of Haslett Road, east of Creekwood Lane.**

Haslett Holding LLC (Mayberry Homes) has submitted a planned unit development (PUD) proposal for a project identified as Copper Creek. The overall PUD proposal includes the construction of 88 single family homes on 44.70 acres of a larger 191 acre parcel located on the north side of Haslett Road, east of Creekwood Lane. The first phase of the project includes 31 lots. The property is located in the RA (Single Family-Medium Density) zoning district.

The Planning Commission held the public hearing on the rezoning request at its August 13, 2018 meeting and voted 6-2 to recommend approval at the November 5, 2018 meeting, citing the following reasons for its decision:

- The proposed planned unit development provides adequate buffering between the development and adjacent residential land uses to the west.

- The proposed planned unit development meets the minimum PUD performance objective to preserve at least 50% of the project area, excluding wetlands and floodplains, as open space.

- The proposed connection to Wood Knoll Drive provides for sufficient access for emergency vehicles (police, fire, ambulance) to the dwelling units in the development as required in the PUD general restrictions and standards identified in Section 86-439(c)(9) of the Code of Ordinances.

- The proposed planned unit development will be harmonious and similar in character with the existing residential developments to the west, south, and north of the subject site.

- The requested waivers for lot size, lot frontage, building setbacks, and water feature setbacks are necessary to facilitate preservation of open space.

- The proposed planned unit development will be adequately served by public water and sanitary sewer.

- The proposed planned unit development meets the minimum PUD performance objectives as stated in Section 86-439(b) of the Code of Ordinances.

- The proposed development is consistent with Objective E of Goal 2 of the 2017 Master Plan to preserve open space and natural areas by utilizing the planned unit development ordinance for the project.

- The proposed planned unit development is consistent with Objectives A and B of Goal 1 of the 2017 Master Plan to preserve and strengthen residential neighborhoods by ensuring new residential developments meet high standards of visual attractiveness, health and safety, and environmental sensitivity.

Staff memorandums outlining the PUD and minutes from the Planning Commission meetings at which the project was discussed are attached for the Board's review.

Since the last meeting at which this project was discussed the applicant has provided an updated traffic study reflecting the changes to the proposal that have occurred since the initial application. To inform Township Board discussion at the public hearing, the Ingham County Road Department has provided both a review letter for the PUD and a letter pertaining to sight distance at the Haslett Road/Creekwood Lane intersection. Additionally, the Meridian Township Police Chief has provided information on the number of motor vehicle crashes at both the Creekwood Lane/Haslett Road and Haslett Road/Van Atta Road intersections.

Township Board Options

The Township Board may approve or deny the proposed planned unit development project. If the Board amends the proposal, the request may be referred back to the Planning Commission for a recommendation. A resolution will be provided at a future meeting.

Attachments

1. Staff memorandums dated August 6, 2018, August 27, 2018, October 18, 2018, and November 1, 2018 with attachments.
2. Planning Commission minutes dated August 13, 2018 (public hearing), August 27, 2018, October 22, 2018, and November 5, 2018 (decision).
3. Resolution recommending approval from the November 5, 2018 Planning Commission meeting.
4. Site plan recommended for approval prepared by Kebs, Inc. dated February 1, 2018 (revision date October 8, 2018).
5. PUD plan rendering prepared by Mayberry Homes received by the Township on December 6, 2018.
6. Communications received by the Planning Commission regarding PUD #18014.
7. Revised traffic study prepared by Traffic Engineering Associates, Inc. dated November 2018.
8. Letter from Police Chief Ken Plaga dated November 6, 2018.
9. Review letter from the Ingham County Road Department dated November 30, 2018.
10. Sight distance memo from the Ingham County Road Department dated December 6, 2018.

To: Planning Commission

From: Peter Menser, Principal Planner

Date: August 6, 2018

Re: **Planned Unit Development #18014 (Haslett Holding LLC), develop Copper Creek PUD consisting of 91 single family residential lots on the north side of Haslett Road, east of Creekwood Lane.**

Haslett Holding LLC has submitted a planned unit development (PUD) proposal for a project identified as Copper Creek. The overall PUD proposal includes the construction of 91 single family homes on 44.70 acres of a larger 191 acre parcel located on the north side of Haslett Road, east of Creekwood Lane. The first phase of the project includes 35 lots. The property is located in the RA (Single Family-Medium Density) zoning district.

The intent of the PUD ordinance is to permit greater flexibility and more creative design of residential areas than is possible under conventional zoning regulations. The PUD ordinance allows a developer to propose a residential project with diverse housing types and different lot dimensions and yard setbacks as those prescribed in the underlying zoning district. Lot size, yards, frontage requirements, setbacks, building height, and type and size of dwelling unit restrictions are generally waived in a PUD. In exchange for the flexible standards, a minimum of 50% of the project area, excluding wetlands and floodplains, must be preserved as open space.

Master Plan

The property is designated on the Future Land Use Map from the 2017 Master Plan as R-2 Residential, 0.5-3.5 dwelling units per acre (du/a). A 5.03 acre portion of the project area, recently rezoned (Rezoning #18030) from RR (Rural Residential) to RA (Single Family-Medium Density) is designated in the R-1 Residential, 0.0-0.5 du/a category. This rezoned parcel is included in the submitted PUD project area.

FUTURE LAND USE MAP

Zoning

The property proposed for development is located in the RA (Single Family-Medium Density) zoning district. A PUD is allowed in any residential zoning district on any sized property. All uses in all residential zoning districts are allowed in a PUD, which means any type and mix of housing (detached or attached single family dwellings or multiple family dwellings) are permitted.

ZONING MAP

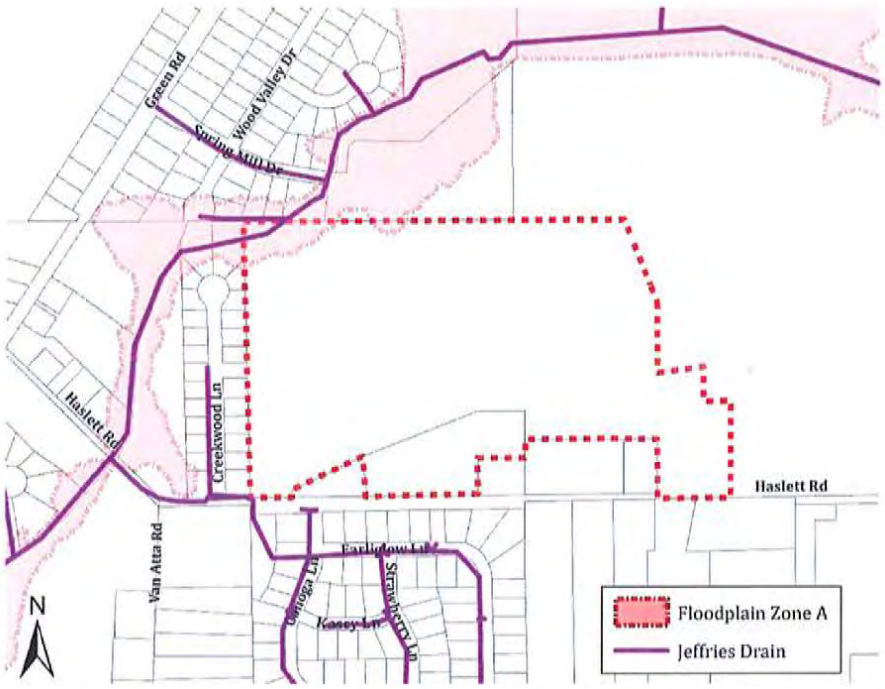
Physical Features

The property is currently occupied by wooded areas and farm fields. Two dilapidated agricultural buildings of undetermined age are located in the central part of the property and slated for removal. A 1,147 square foot, one-story single family residence built in 1937 occupies the parcel currently addressed as 580 Haslett Road and is slated for demolition as part of the PUD.

Floodplain

The northern portion of the project area is adjacent to the floodplain of the Jeffries Drain. The floodplain in this area is classified as Zone A, which is a category used to identify areas where the flood elevation is not provided by the Federal Emergency Management Agency (FEMA) and must be determined by hydraulic analysis. The applicant conducted the necessary modeling and submitted it to the Michigan Department of Environmental Quality (MDEQ) for approval, which was granted. The flood elevations around the drain are depicted on the submitted site plan. There are no residential lots or work proposed in the floodplain.

FLOODPLAIN MAP

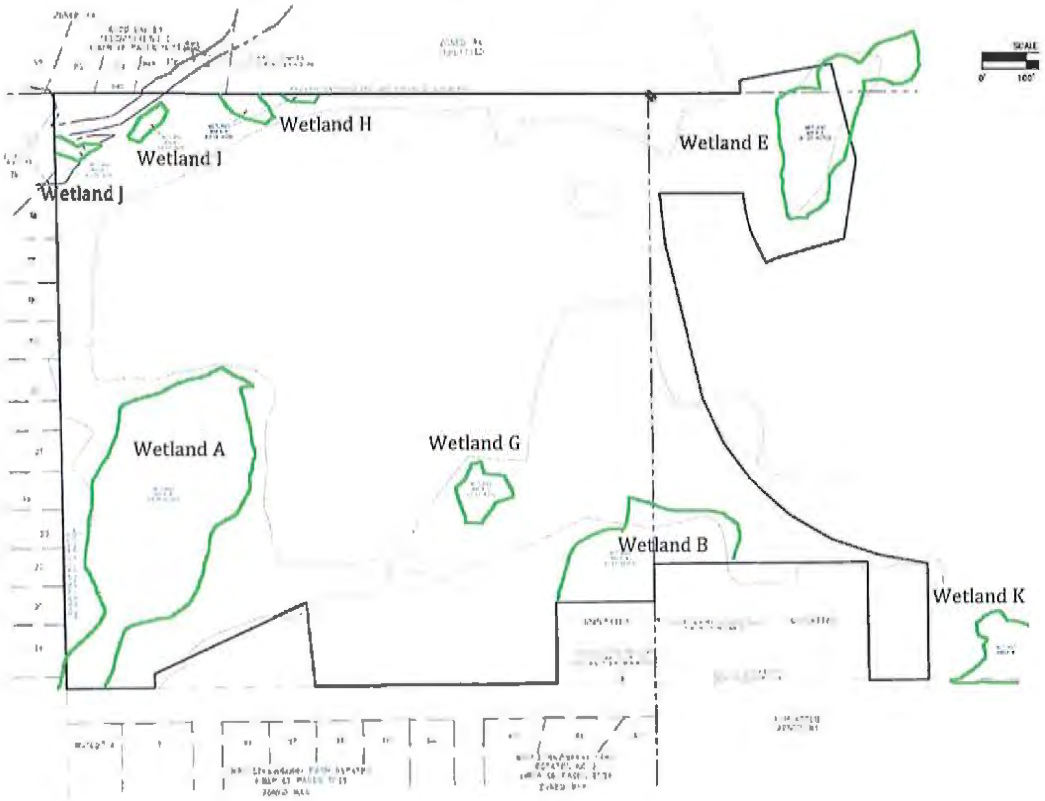


Wetlands

Wetlands on the project site were delineated by the Township's wetland consultant in late 2017. The delineation identified eight wetlands on the property, each of which is designated on the submitted site plan by letters A-K. Of the eight wetlands identified, Wetlands A, B, H, I, J, and K are regulated by both the Michigan Department of Environmental Quality (MDEQ) and Meridian Township based on either their size or distance from a regulated water body (river, stream/drain, or inland lake). Regulated wetlands equal to or greater than two acres in size require a 40 foot setback from the delineated boundary and wetlands greater than one quarter acre but smaller than two acres require a 20 foot setback.

At 0.22 acre in size, Wetland G is not regulated by the Township or the MDEQ as it is below the 0.25 acre standard established for regulation in the Wetland Protection ordinance. At 1.23 acres, Wetland E is not regulated by the MDEQ but could be regulated by Meridian Township if it is determined by the Township Board to be essential to the preservation of the natural resources of the Township. At this time there are no activities proposed within or near Wetland E.

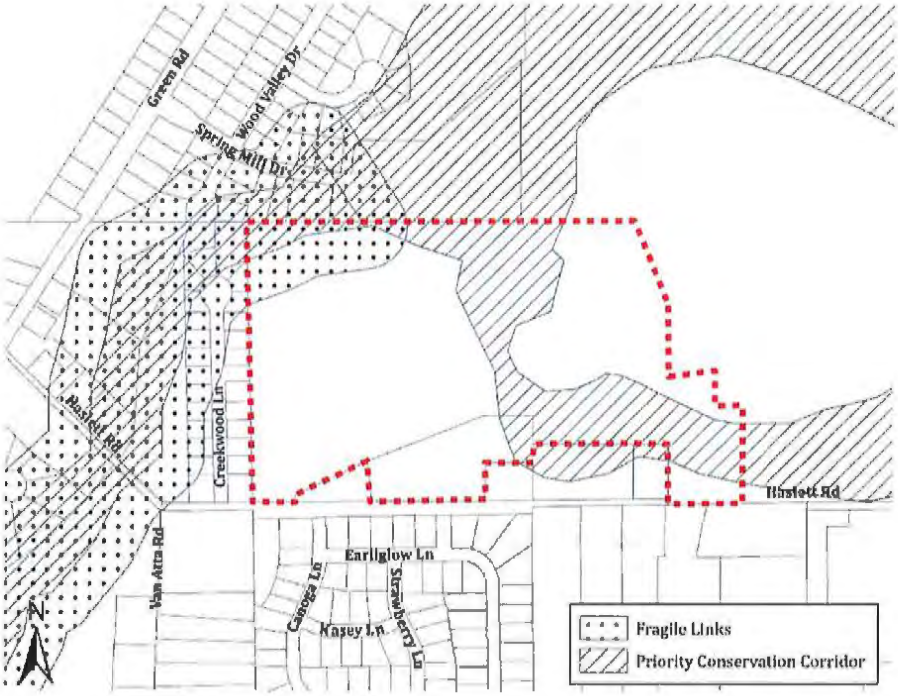
WETLAND MAP



Greenspace Plan

The Township Greenspace Plan shows a Priority Conservation Corridor (PCC) and Fragile Link on portions of the property. A PCC is a network of ecologically significant open spaces. A Fragile Link describes an area where the Priority Conservation Corridor (PCC) is exceptionally narrow or fragmented.

GREENSPACE MAP



Streets and Traffic

The subject site is located on the north side of Haslett Road. Haslett Road is a two-lane road designated as a Minor Arterial. The most recent (2010) traffic count information from the Ingham County Road Department (ICRD) for Haslett Road, between Meridian Road and Bird Farm Lane, showed a total of 4,591 vehicles in a 24 hour period, with 2,354 eastbound trips and 2,237 westbound trips.

The 2017 Master Plan shows a proposed seven foot wide pathway along the north side of Haslett Road. The applicant will be required to construct the portion of the pathway located along the Haslett Road property frontage as part of the PUD.

A traffic study is required for PUDs which would generate over 100 vehicle trips during the peak hours of traffic on adjacent roadways. The applicant submitted a traffic impact study prepared by Traffic Engineering Associates, Inc. dated January 2018 that provides information on traffic generated by the proposed PUD. The study looks at existing, background (future traffic volumes without the traffic generated by the proposed development), and future level of service (LOS) during the AM (7:15-8:15 a.m.) and PM (5:00-6:00 p.m.) peak hours at the following four intersections around the project site:

- Haslett Road and Van Atta Road
- Haslett Road and Creekwood Lane
- Haslett Road and Bird Farm Lane
- Haslett Road and Meridian Road

The traffic study notes that existing traffic at the studied intersections all operate at a good LOS (LOS C or better) during the AM and PM peak hours. The study shows that background traffic at the studied intersections will operate at a good level of service during AM and PM peak hours. For future traffic, the report indicates that all studied intersections will continue to operate at a good LOS during the AM and PM peak hours.

The traffic impact study estimated traffic generation for the proposed project based on a 102 unit PUD consisting of *Single-Family Detached Housing*, which is Land Use Code 210 in the Institute of Transportation Engineers (ITE) Trip Generation Manual. Land Use Code 210 describes single-family detached housing on individual lots. The following table estimates traffic generation for the proposed project.

	Proposed PUD
Peak Hour trips	77 (a.m.) 104 (p.m.)
Total Weekday Traffic	1,059 trips

The findings of the submitted traffic study show that there are no recommendations to the existing road system. Under future conditions, all studied intersections are projected to continue to operate at a good level of service (LOS C or better).

Utilities

Municipal water and sanitary sewer is available in the vicinity of the subject site and would have to be extended to serve the proposed development. The location and capacity of utilities for any proposed development will be reviewed in detail by the Department of Public Works and Engineering during the Site Plan Review process.

Staff Analysis

The applicant has requested to develop Copper Creek, a single family residential neighborhood with 91 lots. In a PUD request the Planning Commission makes a recommendation on the project and the Township Board makes the final decision.

When reviewing the project the Planning Commission should consider whether or not the project meets the purpose and minimum PUD performance objectives found in Sections 86-439(a) and (b) of the Code of Ordinances, the appropriateness of the requested waivers, and the general restrictions and standards for a PUD as outlined in Section 86-439(c) of the Code of Ordinances. The following is a summary of the project's consistency with the provisions of the PUD ordinance.

Density: To determine the maximum number of residential dwelling units in a PUD the applicant is first required to submit a yield plan that shows the number of lots that could be developed on the property as if it were a typical platted subdivision. The yield plan is reviewed using the standards established in the subdivision regulations. If the yield plan is deemed to be acceptable, the number of units depicted in the plan is what can be developed in the PUD.

For properties with wetlands or floodplain, as is the case with the Copper Creek proposal, a formula is applied whereby the number of lots depicted in the yield plan is multiplied by the percent of the site covered by wetlands and floodplain (expressed as a decimal) plus one. Computation of this formula establishes the final maximum number of residential units for the project. Applying this formal, the maximum number of lots allowed in Copper Creek is 94. The applicant is proposing 91 lots. The total density for the project is 2.04 dwelling units per acre (du/a).

The PUD ordinance allows the maximum density to be increased by up to 25% with the provision of unique and extraordinary amenities such as preservation of woodlots, provisions of lakes, provision of recreational facilities, provision of affordable housing, or other amenities deemed acceptable. The applicant is not seeking the density bonus for this project.

Open space: In a PUD a minimum of 50% of the project area, excluding wetlands and floodplains, must be preserved as "common open space," which is defined as "a parcel or parcels of land or an area of water or a combination of land and water designed and intended for the use or enjoyment of the residents of the PUD or of the general public." The ordinance prohibits proposed streets, rights-of-way, and open parking areas or commercial areas from counting towards the 50% open space requirement. It further notes that features such as recreational trails, picnic areas, children's play areas, greenways, or linear parks may be included in a common open space. All common open space is required by ordinance to be protected in perpetuity by establishment of a restrictive covenant or other such mechanism.

With a total of 38.33 acres of developable area, the proposed PUD is required to preserve at least 50 percent of the site, or 19.17 acres, as open space. The submitted PUD plan provides 20.18 acres of open space. The submitted site plan depicts the areas proposed by the applicant as open space, which includes an area between lots and strips of land between the lots and the road. In its review of the PUD the Planning Commission and Township Board may consider if the areas proposed for designation as open space are acceptable.

Phasing: The submitted site plan shows that three phases are proposed for the development of the PUD. Phase 1 will include 35 lots, Phase 2 has 18 lots, and Phase 3 has 38 lots.

Streets/Circulation Facilities: The PUD ordinance encourages public streets but does allow private streets when they are designed to allow sufficient access for emergency vehicles (police, fire, ambulance) to the dwelling units they will serve. The streets in the proposed PUD are private with a 50 foot right-of-way, with the only exception being a stub street adjacent to lots 36 and 53, which shows a 66 foot right-of-way. If private streets are proposed and approved, easements of sufficient width acceptable to the Ingham County Road Department (ICRD) are required to be granted to the Township in order to accommodate possible future dedication. The private streets in the proposed development must be designed to meet ICRD standards. Final approval of the streets in the PUD is subject to approval by the ICRD and Meridian Township Engineering Department.

Street Access: The Fire Code contains a provision limiting the number of lots on a single access to 30. The Township's subdivision regulations have a limit of a maximum of 35 lots on a single access. Currently, all of the lots in the proposed PUD will be served by a single access. The Township Fire Department has indicated the PUD cannot be approved until a second access is identified.

Sidewalks: The Township requires sidewalks for internal circulation with a minimum of five feet in width. The submitted site plan shows five foot wide sidewalks along the streets in the PUD.

Waivers

The PUD ordinance generally waives the standard requirements for lot size, yards, frontage requirements, setbacks, building height, and type and size of dwelling unit, provided the purpose and intent of the ordinance are incorporated into the overall development plan. The PUD ordinance is intended to provide flexibility for the Planning Commission and Township Board to set appropriate standards during the review process. Based on the submitted site plan the applicant is requesting the following waivers for the Copper Creek project.

Lot size: The underlying RA zoning district requires parcels have a minimum lot area of 10,000 square feet. The submitted PUD has lots ranging from 5,022 square feet (Lot 67) to 11,008 square feet (Lot 79) in size.

Lot frontage: The underlying RA zoning district requires parcels have a minimum of 80 feet of lot frontage (90 feet for corner lots). The submitted PUD has lots ranging from 57.2 feet of lot width (Lots 8 and 9) to 117.6 feet (Lot 12).

Setbacks: The yard setbacks for the underlying RA zoning district and the proposed PUD are summarized in the table below.

	RA zoning	Proposed setback
Front yard setback	25 feet from street right-of-way (based on street classification)	10 feet from street right-of-way
Side yard setback	10 feet	5 feet
Rear yard setback	30 or 40 feet depending on lot depth	0 feet

The Planning Commission may consider the proposed setbacks and determine whether they are appropriate or whether additional setbacks, like an increased rear yard setback, should be established. Planning staff suggests the applicant establish a rear yard setback to avoid homeowners building up to their rear lot line and then not having a yard or having to amend the PUD to add a deck to their house. Regardless of yard setbacks, the maximum lot coverage for the RA zoning district for all buildings, including accessory buildings, can be no greater than 30% of the total lot area. Maximum lot coverage is not a provision that can be waived as part of the PUD.

Wetland setback: A 40 foot water features setback is required from the delineated boundary of wetlands greater than two acres in size or adjacent to a regulated water body. It appears that grading in the wetland setback for home construction may occur on Lots 87, 88, 89 near Wetland H and on Lot 78 near Wetland A.

If the project is approved by the Township Board, the applicant will be required to submit for Site Plan Review before work on the project can begin. Site Plan Review is a detailed staff-level analysis of the project which includes reviews of storm water, utilities, landscaping, grading, and other issues to ensure compliance with all applicable ordinances as well as confirmation of approvals from local agencies such as the Ingham County Drain Commissioner's Office and Road Department. The applicant must begin construction of the PUD within two years of a final site plan approval. The Planning Commission may grant one, one-year extension of the PUD if requested prior to its expiration.

Planning Commission Options

The Planning Commission may recommend approval, approval with conditions, or denial of the proposed PUD. A resolution will be provided at a future meeting.

Attachments

1. Application and attachments.
2. Site plan prepared by Kebs, Inc. dated February 1, 2018 (Revision Date July 16, 2018) and received by the Township on July 18, 2018.
3. Yield plan prepared by Kebs, Inc. dated August 7, 2018 and received by the Township on August 9, 2018.
4. Traffic study prepared by Traffic Engineering Associates, Inc. dated January 2018 and received by the Township on February 27, 2018.
5. Wetland delineation report prepared by Township wetland consultant dated December 19, 2017.

G:\Community Planning & Development\Planning\PLANNED UNIT DEVELOPMENTS (PUD)\2018\PUD 18014 Copper Creek\PUD 18014.pc1.docx

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

RECEIVED
FEB 02 2018

Planned Unit Development Permit Application

A. Owner/Applicant HASLETT HOLDING LLC - Bob Schroeder
Address of applicant 1650 KENDALE BLVD EAST LANSING MI 48823
Telephone: Work 517-[redacted]371-5000 Home _____
Fax _____ Email _____

B. Applicant's Representative, Architect, Engineer or Planner responsible for request:
Name / Contact Person KEBS INC - DANE PASCOE
Address 2116 HASLETT ROAD HASLETT MI 48840
Telephone: Work 517-339-1014 Home _____
Fax 517-339-8047 Email dpascoe@kebs.com

C. Site address/location HASLETT ROAD
Legal description (Attach additional sheets if necessary) ATTACHED
Parcel number 33-02-02-12-200-013 & 33-02-02-12-326-006 Site acreage ± 44.70

D. Date of preapplication conference with Director of Community Planning and Development _____
Total acres of property ± 44.70
Acres in floodplain ± 0.29 Percent of total 0.65 %
Acres in wetland not in floodplain ± 6.08 Percent of total 13.60 %
Total dwelling units 102
Total units/acre 2.28
Dwelling unit mix

Number single family detached	102	for Rent	(Condo)
Number duplex		for Rent	Condo
Number townhouse		for Rent	Condo
Number garden apt. style		for Rent	Condo
Number other		for Rent	Condo

Will commercial be included? (circle one) yes (no) acres _____
Will all or part of property be platted? (circle one) yes (no)
Percent open space provide exclusive of wetland/floodplain _____

I (we) hereby grant permission for member of the Charter Township of Meridian Planning Commission, Township staff members 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. ***(Note to Applicant(s): This is optional and will not affect any decision on your application.)***

Signature of Applicant(s) _____ Date 1/30/18

Signature of Applicant(s) _____ Date _____

PUD Permit Application
Page 2

E. Required Data: (check if attached)

Site location map ✓
Site plan ✓ see drawing
Site analysis ✓
Schematic storm sewer layout ✓
Preliminary phasing plan ✓
Reproducible contour map ✓
Traffic study/analysis (if required) ✓ emailed to Peter Menser & Mark Kieselbach
Natural features analysis (if required) ✓ wetland study in Twp possession

Signature of Applicant

1/30/18
Date

Robert H. Schroeder
Print Name

Fee: $1010.00

Received by/Date: Peter Menser 2-5-18

mayberryhomes

July 3, 2018

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

RE: Copper Creek Condominium P.U.D.

This is to provide a description of the proposed phasing program for the Copper Creek Condominium P.U.D. This is a proposed 98 lot development in Meridian Township to be done in several phases with Phase 1 to be the initial phase completed with approximately 39 units in that phase. It should be noted that infrastructure improvements (water, sewer and storm) will be installed from inception for the project in its entirety, leaving roadway improvements to define future phases.

Sincerely,

David Straub, Mayberry Homes, LLC

1650 Kendale Boulevard Suite 200, East Lansing, Michigan 48823 (517) 371-5000 phone (517) 371-5001 fax
mayberryhomes.com

mayberryhomes

July 3, 2018

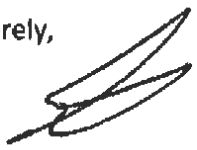
Community Planning and Development
Meridian Township
5151 Marsh Road
Okemos, MI 48864

RE: Copper Creek Condominium P.U.D.

This document is intended to provide a written site analysis, indicating the principal factors which influenced the design decisions regarding the plan. Mayberry Homes is confident that the proposed Copper Creek PUD meets all of the guidelines, design criteria, and ordinances based upon the Meridian Township Zoning Ordinance. The following key elements were thoughtfully considered in our proposed PUD:

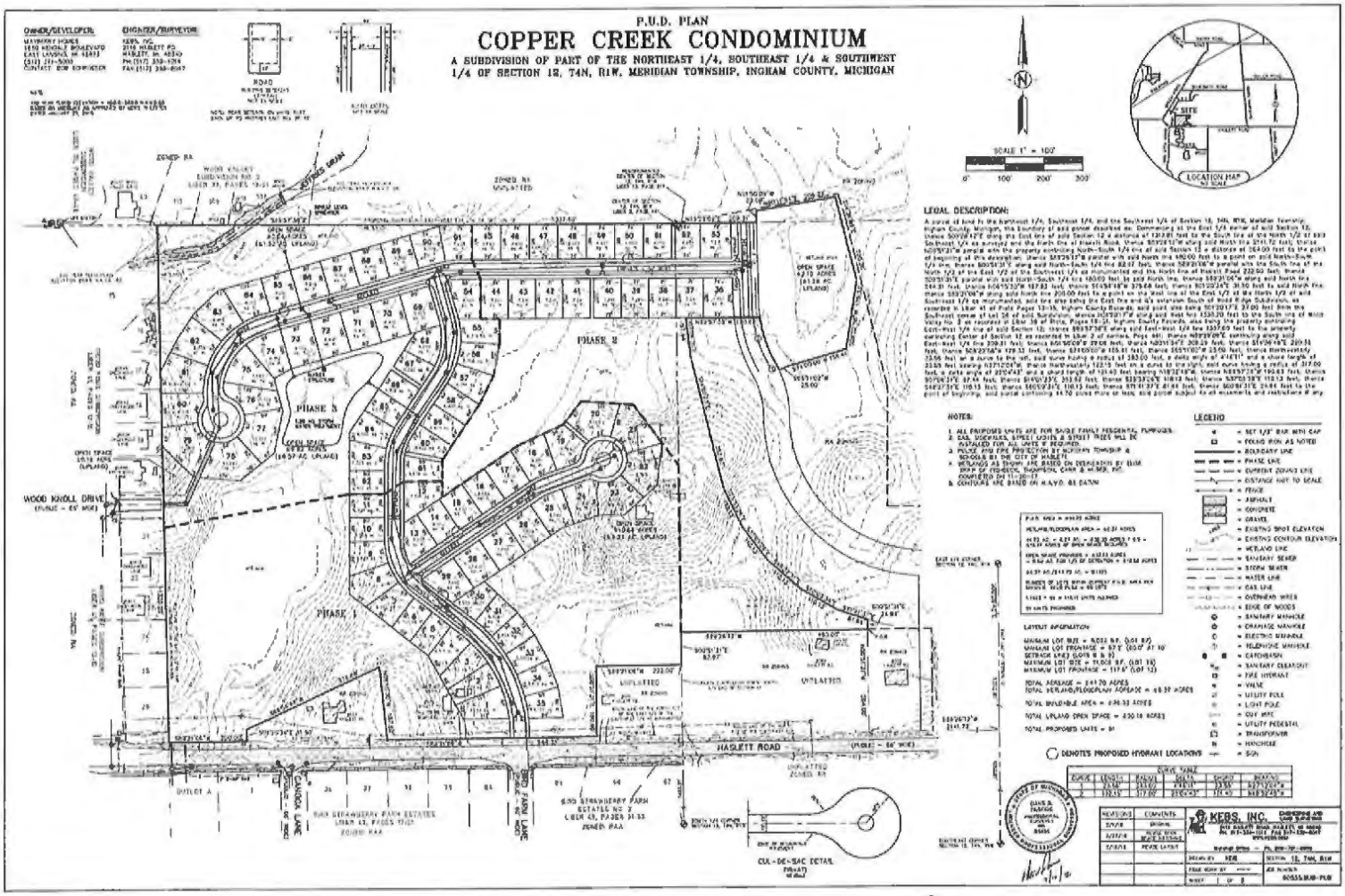
1. The Yield Plan suggests that Copper Creek could include up to 126 homes. The proposed PUD represents 98 homes, with three (3) different lot sizes (60', 70' and 80' wide lots). Thus allowing the community to appeal to a broad spectrum of home buyers
2. All homes will be Energy Star Certified
3. Landscaping, signage, lighting, and building materials are all intended to be of a high design quality and aesthetically pleasing
4. 95% of the homes back up to open space. The PUD exceeds the 50% open space requirement
5. Maintenance of existing wetlands and tree rows preserves existing nature corridors
6. All wetlands, parks and open space will be protected by the condominium documents
7. Soils conditions encountered ranged from top soil and sand within 1' of the ground surface to clay at depths required for development. The soils are very suitable for development
8. Historically, the property was used for farming operations. The topography is relatively flat, with some minor elevation change across the property
9. The property is located away from the city proper, however in rather close proximity to other residential developments. A traffic study will be included in our submittal package, however we don't anticipate a material impact to the pedestrian or vehicular circulation systems

Sincerely,



David Straub, Mayberry Homes, LLC

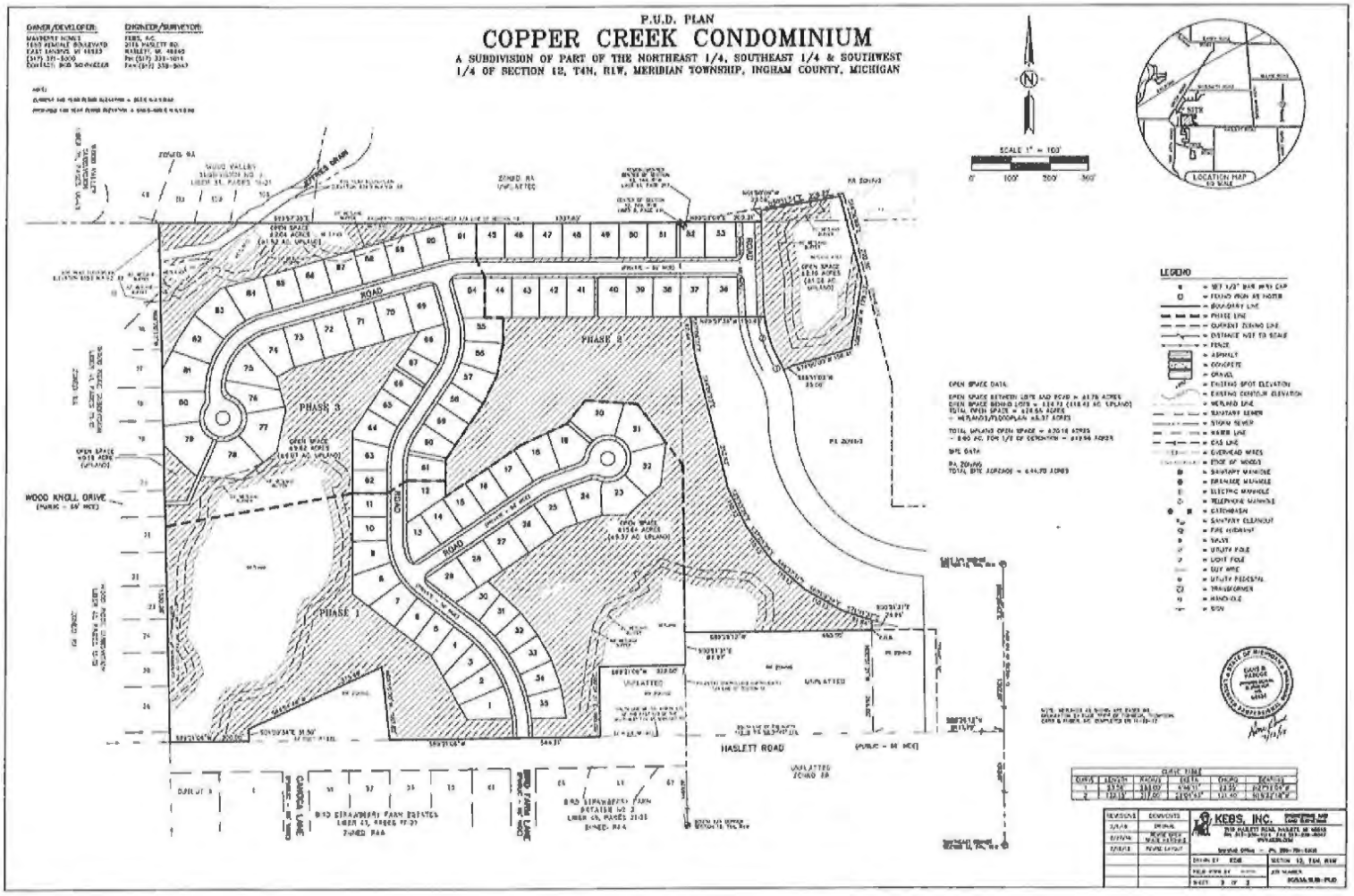
1650 Kendale Boulevard Suite 200, East Lansing, Michigan 48823 (517) 371-5000 phone (517) 371-5001 fax
mayberryhomes.com


P.U.D. PLAN
COPPER CREEK CONDOMINIUM
A SUBDIVISION OF PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4 & SOUTHWEST 1/4 OF SECTION 12, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN
OWNER/DEVELOPER:
ENGINEER/SURVEYOR:
ROAD
N
SCALE 1" = 100'
0'
100'
200'
300'
LOCATION MAP
NO SCALE
SITE
LEGAL DESCRIPTION:
NOTES:
LEGEND
PHASE 1
PHASE 2
PHASE 3
WOOD KNOLL DRIVE
HASLETT ROAD
CANOGA LANE
BIRD FARM LANE
UNPLATTED
ZONED RA
OUTLOT A
LAYOUT INFORMATION
TOTAL ACREAGE
TOTAL PROPOSED UNITS
DENOTES PROPOSED HYDRANT LOCATIONS
CURVE TABLE
CUL-DE-SAC DETAIL
REVISIONS
COMMENTS
KEBS, INC.

P.U.D. PLAN

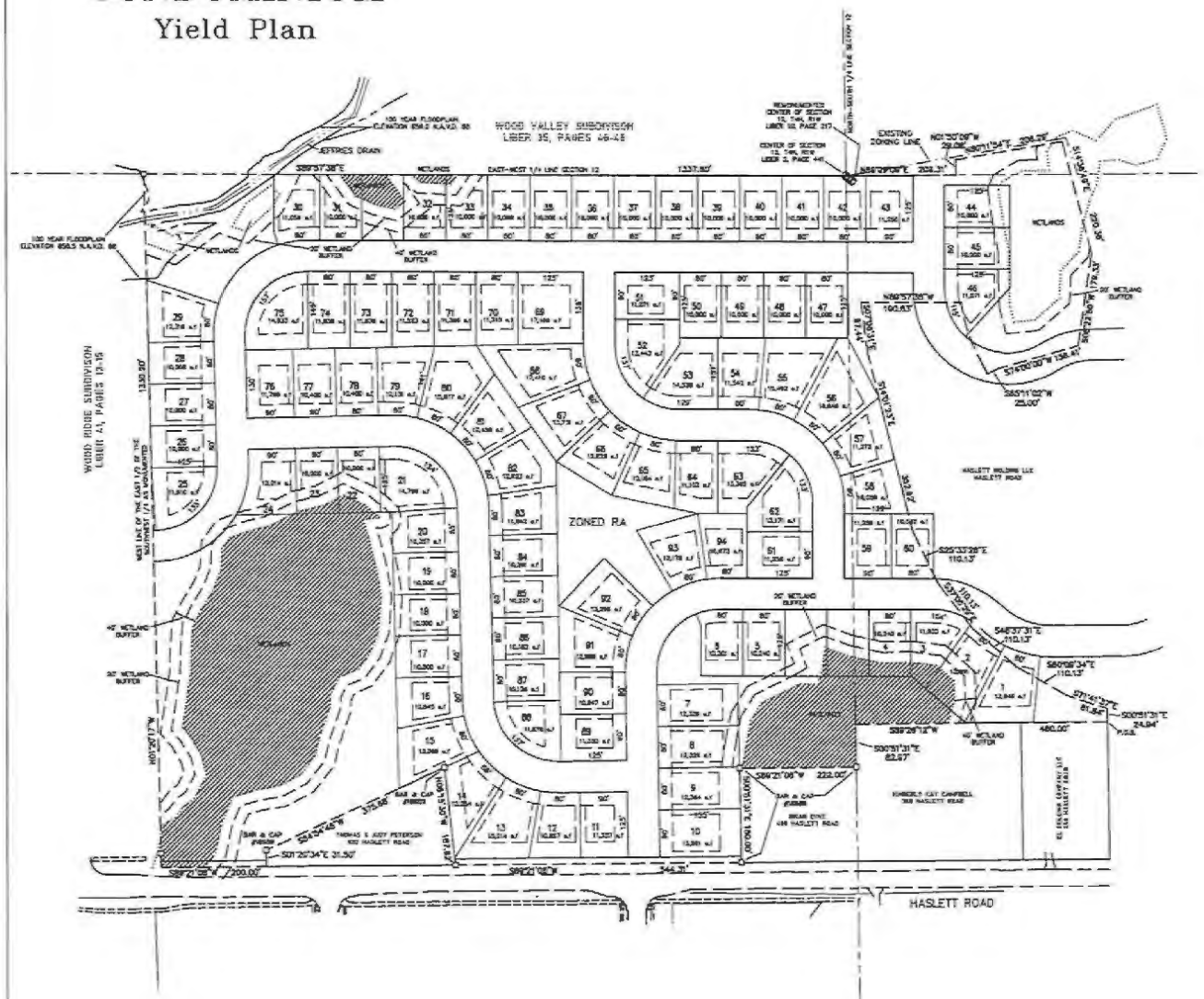
COPPER CREEK CONDOMINIUM

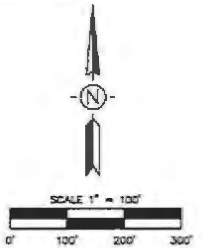
A SUBDIVISION OF PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4 & SOUTHWEST 1/4 OF SECTION 12, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN



COPPER CREEK CONDOMINIUM

Yield Plan





LEGAL DESCRIPTION:

A parcel of land in the Northeast 1/4, Southeast 1/4, and the Southwest 1/4 of Section 12, T4N, R1W, Meridian Township, Ingham County, Michigan, the boundary of said parcel described as: Commencing at the East 1/4 corner of said Section 12; thence S00°28'42"E along the East line of said Section 12 a distance of 1312.81 feet to the South line of the North 1/2 of said Southeast 1/4 as surveyed and the North line of Haslett Road; thence S89°26'12"W along said North line 2141.72 feet; thence N00°31'21"W parallel with the property controlling North–South 1/4 line of said Section 12 a distance of 264.00 feet to the point of beginning of this description; thence S89°26'12"W parallel with said North line 480.00 feet to a point on said North–South 1/4 line; thence S00°31'31"E along said North–South 1/4 line 82.97 feet; thence S89°21'06"W parallel with the South line of the North 1/2 of the East 1/2 of the Southwest 1/4 as monumented and the North line of Haslett Road 222.00 feet; thence S00°38'31"E parallel with said North–South 1/4 line 180.63 feet to said North line; thence S89°21'06"W along said North line 544.31 feet; thence N06°15'30"W 187.82 feet; thence S64°24'48"W 275.68 feet; thence S01°20'34"E 31.50 feet to said North line; thence S89°21'06"W along said North line 200.00 feet to a point on the West line of the East 1/2 of the North 1/2 of said Southeast 1/4 as monumented, said line also being the East line and it's extension South of Wood Ridge Subdivision, as recorded in Liber 41 of Plats Pages 13–15, Ingham County Records, said point also being S01°20'17"E 27.03 feet from the Southeast corner of Lot 26 of said Subdivision; thence N01°20'17"W along said West line 1330.20 feet to the South line of Wood Valley No. 2 as recorded in Liber 38 of Plats, Pages 18–21, Ingham County Records, also being the property controlling East–West 1/4 line of said Section 12; thence S89°57'38"E along said East–West 1/4 line 1337.60 feet to the property controlling Center of Section 12 as recorded in Liber 2 of corners, Page 441; thence N89°28'06"E continuing along said East–West 1/4 line 209.31 feet; thence N01°30'09"W 28.08 feet; thence N80°11'34"E 208.29 feet; thence S14°36'48"E 225.36 feet; thence S08°22'58"W 179.33 feet; thence S74°00'00"W 156.41 feet; thence S85°11'02"W 25.00 feet; thence Northwesterly 23.56 feet on a curve to the left, said curve having a radius of 283.00 feet, a delta angle of 4°46'11" and a chord length of 23.55 feet bearing N27°12'04"W; thence Northeasterly 122.15 feet on a curve to the right, said curve having a radius of 317.00 feet, a delta angle of 22°04'43" and a chord length of 121.40 feet bearing N18°32'48"W; thence N85°57'38"W 180.63 feet; thence S01°06'31"E 97.44 feet; thence S14°01'23"E 352.82 feet; thence S25°33'28"E 110.13 feet; thence S37°05'29"E 110.13 feet; thence S48°37'31"E 110.13 feet; thence S60°08'34"E 110.13 feet; thence S71°41'37"E 81.84 feet; thence S00°31'31"E 24.84 feet to the point of beginning; said parcel containing 44.70 acres more or less; said parcel subject to all easements and restrictions if any.

DENOTES WETLANDS GREATER THAN 2 ACRES IN SIZE

RA ZONING
10,000 SQ. FT. MINIMUM LOT AREA (PLATTED)
80.00 FT. MINIMUM LOT WIDTH
90.00 FT. MINIMUM CORNER LOT

SETBACKS
25' FRONT
10' SIDE
30' REAR (LOTS UP TO 150' DEEP)
40' REAR (LOTS OVER 150' DEEP)

LOT SUMMARY:
94 – 80' WIDE LOTS OR LARGER
94 – TOTAL LOTS

60 FT. R.O.W. (TYPICAL)

NOTE: 1) WETLANDS AREAS DELINEATED BY EUGE WAPP OF FISHBECK, THOMPSON, CARR & HUBER, INC.

90535 YIELD PLAN

REVISIONS	KEBS, INC. KIRCO ENGINEERING BRYANT LAND SERVICES
8-1-08 YIELD PLAN SUBMITTAL	2196 HASLETT ROAD, HASLETT, MI 48840 PH. 517-339-1014 FAX 517-339-1037 WWW.KEBS.COM
	Howell Office – Ph. 269-781-9800
	COPPER CREEK YIELD PLAN
	SCALE 1"=100' DRAWN BY: KDB APPROVED BY: DP
	DATE: 8-30-08 PROJ. MGR. J. KIRCO SHEET 1 OF 1
	AUTHORIZED BY: MAYBERRY HOMES JOB # 90535

TRAFFIC IMPACT STUDY

For The Proposed

Copper Creek PUD

Meridian Charter Township, Ingham County, MI

January, 2018

Prepared by:

Traffic Engineering Associates, Inc.
PO Box 100 • Saranac, Michigan 48881
517/627-6028 FAX: 517/627-6040

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EXECUTIVE SUMMARY

Traffic Engineering Associates, Inc. (TEA) conducted a traffic impact study for the proposed Copper Creek PUD development in Meridian Charter Township, Ingham County, Michigan. The purpose of this study is to determine the impact of traffic to be generated on the surrounding road system. The new development will consist of 102 single family homes on approximately 44 acres.

The new subdivision will be located on the north side of Haslett Road, just east of Van Atta Road, and across from Bird Strawberry Farm Subdivision. The proposed subdivision will have one (1) public road connection on Haslett Road opposite the existing Bird Farm Lane. The proposed development is expected to be completed and fully occupied by the end of 2022 (five years).

TEA, Inc. conducted vehicle turning movement counts during the midweek, of a non-holiday week in the month of September, 2017. The existing weekday AM and PM peak hour traffic volumes are 7:15 – 8:15 AM and 5:00 – 6:00 PM. All existing turning movements at the studied intersections operate at a good level of service (LOS C or better).

Background traffic represents future volumes without the traffic generated by the proposed Copper Creek PUD development. The target year for completion is the end of 2022; therefore, a five (5) year growth rate was applied to the existing traffic volumes. It is anticipated that all movements will operate at a good level of service (LOS C or better) under background conditions.

The ITE trip generation rates for Single-Family Detached Housing (Land Use Code 210) were selected to represent the proposed 102 units. It is projected that the proposed Copper Creek PUD development will generate 77 vehicle trips in the AM peak hour, 104 vehicle trips in the PM peak hour, and 1,059 weekday trips. Under future conditions, all studied intersections are projected to continue to operate at a good level of service (LOS C or better).

The findings of this study show that there are no recommendations to the existing road system.

INTRODUCTION

PROJECT DESCRIPTION

The purpose of this study is to determine the impact of traffic to be generated by the proposed Copper Creek PUD in Meridian Charter Township, Ingham County, Michigan. The new development will consist of 102 single family homes on approximately 44 acres.

The new subdivision will be located on the north side of Haslett Road, just east of Van Atta Road and across from Bird Strawberry Farm Subdivision. The proposed subdivision will have one (1) public road connection on Haslett Road opposite the existing Bird Farm Lane. The proposed development is expected to be completed and fully occupied by the end of 2022 (five years).

SCOPE OF WORK

The scope of work contained in this report is as follows:

- Analysis of existing traffic conditions on the adjoining street system, including the following intersections;

    - Haslett Road and Van Atta Road
    - Haslett Road and Creekwood Lane
    - Haslett Road and Bird Farm Lane
    - Haslett Road and Meridian Road

- Analysis of background traffic conditions on the adjoining street system, which includes the above listed intersections, for the future year 2022 volumes without the proposed Copper Creek PUD.

- Projection of future traffic volumes to be generated by the proposed Copper Creek PUD for the future year.

- Analysis of the impact of future traffic for the proposed Copper Creek PUD at the above listed intersections.

- Determination of what roadway and traffic control improvements, if any, will be needed to accommodate future traffic volumes for the proposed Copper Creek PUD.

Aerial Site Map

EXISTING CONDITIONS

ROADWAYS AND INTERSECTIONS

Roadways

Haslett Road is an east-west, two-lane roadway in the project area with gravel shoulders. The posted speed limit is 45 mph from Van Atta Road to Bird Farm Lane, then the speed limit changes to 55 mph east of Bird Farm Lane. The roadway is under the jurisdiction of the Ingham County Road Department. There are no bicycle lanes on this portion of Haslett Road. There are sidewalks on the south side of Haslett Road from Van Atta Road to Bird Farm Lane. There are no sidewalks on the north side of Haslett Road.

Intersections

Haslett Road and Van Atta Road

The intersection of Haslett Road and Van Atta Road is a stop sign controlled intersection with northbound Van Atta Road stopping for Haslett Road. The east approach on Haslett Road has three (3) lanes with one (1) two-way center left turn lane, one (1) thru lane, and one (1) outbound lane. The west approach on Haslett Road has three (3) lanes with one (1) two-way center left turn lane, one (1) thru-right turn lane and one (1) outbound lane. The south approach on Van Atta Road is two (2) lanes with one (1) left-right lane and one (1) outbound lane. There is a marked pedestrian crossing on Haslett Road, east of Van Atta Road.

Haslett Road and Creekwood Lane

The intersection of Haslett Road and Creekwood Lane is a stop sign controlled intersection with southbound Creekwood Lane stopping for Haslett Road. The west approach on Haslett Road has three (3) lanes with one (1) two-way center left turn lane, one (1) thru lane, and one (1) outbound lane. The east approach on Haslett Road has three (3) lanes with one (1) two-way center left turn lane, one (1) thru-right lane and one (1) outbound lane. The north approach on Creekwood Lane has two (2) lanes with one (1) left-right lane and one (1) outbound lane. The center two-way left turn lane on Haslett Road ends just east of Creekwood Lane. There are no marked pedestrian crossings at this intersection.

Haslett Road and Bird Farm Lane

The intersection of Haslett Road and Bird Farm Lane is a stop sign controlled intersection with northbound Bird Farm Lane stopping for Haslett Road. The east approach on Haslett Road has two (2) lanes with one (1) left-thru lane, and one (1) outbound lane. The west approach on Haslett Road has two (2) lanes with one (1) thru-right lane and one (1) outbound lane. The south approach on Bird Farm Lane has two (2) lanes with one (1) left-right lane and one (1) outbound lane. There are no marked pedestrian crossings at this intersection.

Haslett Road and Meridian Road

The intersection of Haslett Road and Meridian Road is a stop sign controlled intersection with northbound Meridian Road stopping for Haslett Road. The east approach on Haslett Road has two (2) lanes with one (1) left-thru lane and one (1) outbound lane. The west approach has two (2) lanes with one (1) thru-right lane and one (1) outbound lane. The south approach on Meridian Road has two (2) lanes with one (1) left-right lane and one (I) outbound lane. There are no marked pedestrian crossings at this intersection.

LAND USE

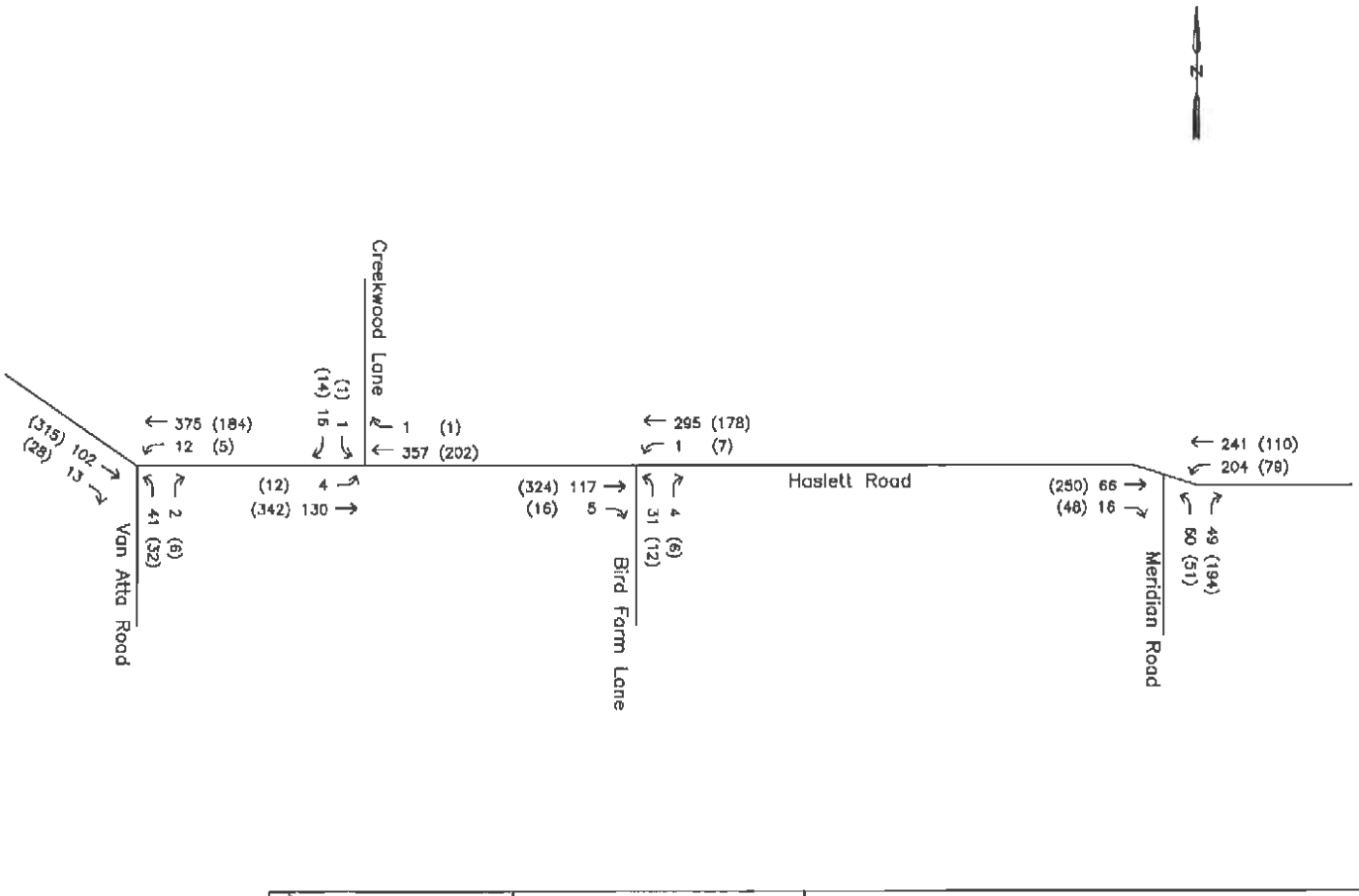
The proposed Copper Creek PUD will consist of single family residential units. The proposed site is currently vacant land. The surrounding land use is single family residential to the west, north and south, and vacant land to the east.

EXISTING TRAFFIC VOLUMES

TEA, Inc. conducted vehicle counts during the midweek, of a non-holiday week in the month of September, 2017 at the following locations:

- Haslett Road and Van Atta Road
- Haslett Road and Creekwood Lane
- Haslett Road and Bird Farm Lane
- Haslett Road and Meridian Road

The existing weekday AM and PM peak hour traffic volumes are 7:15 – 8:15 AM and 5:00 – 6:00 PM at the key locations, respectively. The existing volumes are illustrated in **Figure 1**.



TRAFFIC ENGINEERING ASSOCIATES, INC.
PO Box 100
Saranac, MI 48881
PHONE: (517) 627-6028
FAX: (517) 627-6040

LEGEND

XXX AM Pk Hr (7:15-8:15 AM) Volumes

(XXX) PM Pk Hr (5:00-6:00 PM) Volumes

FIGURE 1: Existing Traffic – Peak Hours

DATE: January, 2018 | SCALE: NTS | PAGE: 8

LEVEL OF SERVICE ANALYSIS FOR EXISTING TRAFFIC

The critical intersections defined for this study were analyzed according to the methodologies published in the most recent edition of the *Highway Capacity Manual.* The analysis determines the "Level of Service" of the intersections and is based on factors such as the number and types of lanes, signal timing, traffic volumes, pedestrian activity, etc. The level of service (LOS) is defined by average vehicle delay in seconds created by a traffic control device for a given traffic movement or intersection approach.

Level of Service	Delay per Vehicle (seconds)	
	Non-Signalized	Signalized
A	< 10	<10
B	10 to 15	10 to 20
C	15 to 25	20 to 35
D	25 to 35	35 to 55
E	35 to 50	55 to 80
F	> 50	> 80

Levels of Service are expressed in a range from "A" to "F," with "A" being the highest LOS and "F" representing the lowest LOS. Level of service "D" is considered the minimum acceptable LOS in an urban area.

The above table shows the thresholds for Levels of Service "A" through "F" for non-signalized and signalized intersections, respectively.

All Level of Service computations contained in this report were based upon the Synchro software package which is approved by the Michigan Department of Transportation (MDOT). Delay per vehicle includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

The Level of Service analysis for existing traffic at the subject intersections during the peak hours is summarized in **Table 1.** All existing turning movements at the studied intersections operate at a good level of service (LOS C or better).

Table 1
Level of Service (LOS) Summary
Existing Traffic

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Haslett Road and Van Atta Road	EB Thru-Right	0.0	A	0.0	A
	WB Left	7.5	A	8.0	A
	WB Thru	0.0	A	0.0	A
	NB Left-Right	12.3	B	11.8	B
	Intersection	1.1	A	1.1	A
Haslett Road and Creekwood Lane	EB Left	8.1	A	7.7	A
	EB Thru	0.0	A	0.0	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	10.9	B	9.8	A
	Intersection	0.5	A	0.6	A
Haslett Road and Bird Farm Lane	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	0.0	A	0.3	A
	NB Left-Right	11.9	B	12.1	B
	Intersection	1.0	A	0.6	A
Haslett Road and Meridian Road	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	3.6	A	3.4	A
	NB Left-Right	18.6	C	16.3	C
	Intersection	5.8	A	6.8	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service

BACKGROUND CONDITIONS

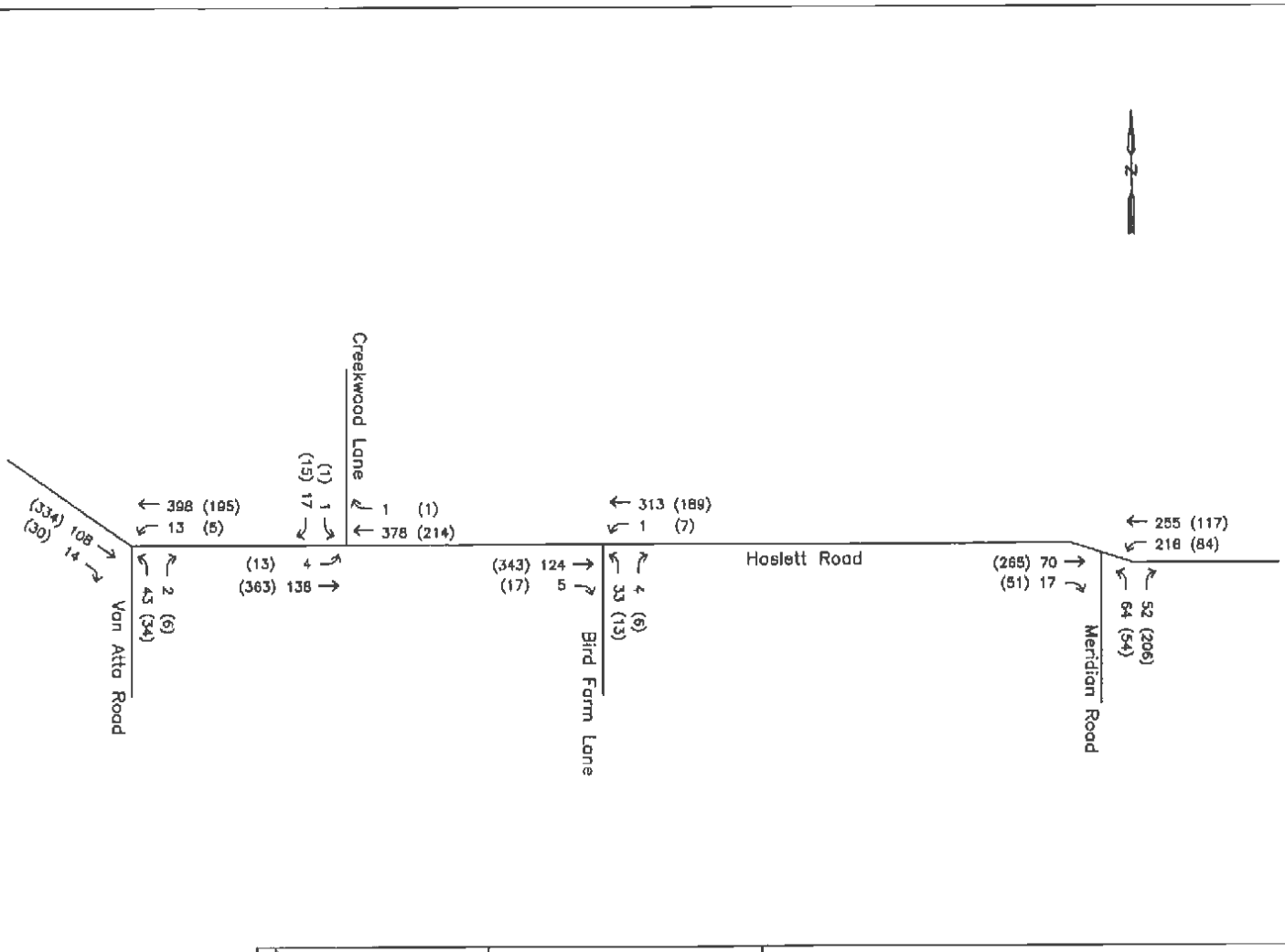
BACKGROUND TRAFFIC VOLUMES – GROWTH RELATED

Background traffic represents future volumes without the traffic generated by the proposed Copper Creek PUD. The target year for completion is the end of 2022; therefore, a five (5) year growth rate was applied to the existing traffic volumes.

According to the Meridian Charter Township Planning Department, the total population growth for Meridian Charter Township from 2010 to 2016 is six point nine percent (6.9%). An annual average growth rate of one point one percent (1.1%) was used for the background growth period to project background traffic to the build out date at the end of 2022 (five years). The proposed growth related background weekday AM and PM peak hour traffic volumes are illustrated in **Figure 2.**

BACKGROUND TRAFFIC VOLUMES – DEVELOPMENT RELATED

There were no new developments identified by the Meridian Charter Township Planning Department in the immediate area that would influence the background traffic for the proposed Copper Creek PUD; therefore, no background developments were included in the study.



TRAFFIC ENGINEERING ASSOCIATES, INC. PO Box 100 Saranac, MI 48881 PHONE: (517) 627-8028 FAX: (517) 627-8040	LEGEND XXX AM Pk Hr (7:15–8:15 AM) Volumes (XXX) PM Pk Hr (5:00–6:00 PM) Volumes	FIGURE 2: Background Traffic – Peak Hours	
		DATE: January, 2018	SCALE: NTS	PAGE: 13

LEVEL OF SERVICE ANALYSIS FOR BACKGROUND TRAFFIC

The level of service analysis for background 2022 traffic is summarized in **Table 2.** All existing roadway geometrics and traffic control devices were utilized for the background analysis. Under background conditions, it is anticipated that all movements will continue to operate at a good level of service (LOS C or better).

Table 2
Level of Service (LOS) Summary
Background Traffic

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Haslett Road and Van Atta Road	EB Thru-Right	0.0	A	0.0	A
	WB Left	7.5	A	8.1	A
	WB Thru	0.0	A	0.0	A
	NB Left-Right	12.7	B	12.1	B
	Intersection	1.2	A	1.1	A
Haslett Road and Creekwood Lane	EB Left	8.2	A	7.7	A
	EB Thru	0.0	A	0.0	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	11.1	B	9.9	A
	Intersection	0.5	A	0.6	A
Haslett Road and Bird Farm Lane	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	0.0	A	0.3	A
	NB Left-Right	12.3	B	12.5	B
	Intersection	1.0	A	0.6	A
Haslett Road and Meridian Road	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	3.6	A	3.5	A
	NB Left-Right	20.7	C	17.8	C
	Intersection	6.1	A	7.3	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service

FUTURE CONDITIONS

SITE TRAFFIC GENERATION

The trip generation rates for the proposed Copper Creek PUD were derived from the ITE TRIP GENERATION MANUAL (10th edition). The ITE trip generation rates for Single-Family Detached Housing (Land Use Code 210) were selected to represent the proposed 102 units. The ITE description of Single-Family Detached Housing is as follows:

Single-family detached housing includes all single-family homes on individual lots. A typical site surveyed is a suburban subdivision.

It is projected that the proposed Copper Creek PUD will generate 77 vehicle trips in the AM peak hour, 104 vehicle trips in the PM peak hour, and 1,059 weekday trips. The projected traffic to be generated by the Copper Creek PUD is summarized in **Table 3**.

Table 3
Vehicle Trip Generation Summary
Copper Creek PUD Development

Land Use	Size	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	
Single-Family Detached Housing, Land Use Code 210	102 Units	19	58	77	66	38	104	1,059
Total Trips		**19**	**58**	**77**	**66**	**38**	**104**	**1,059**

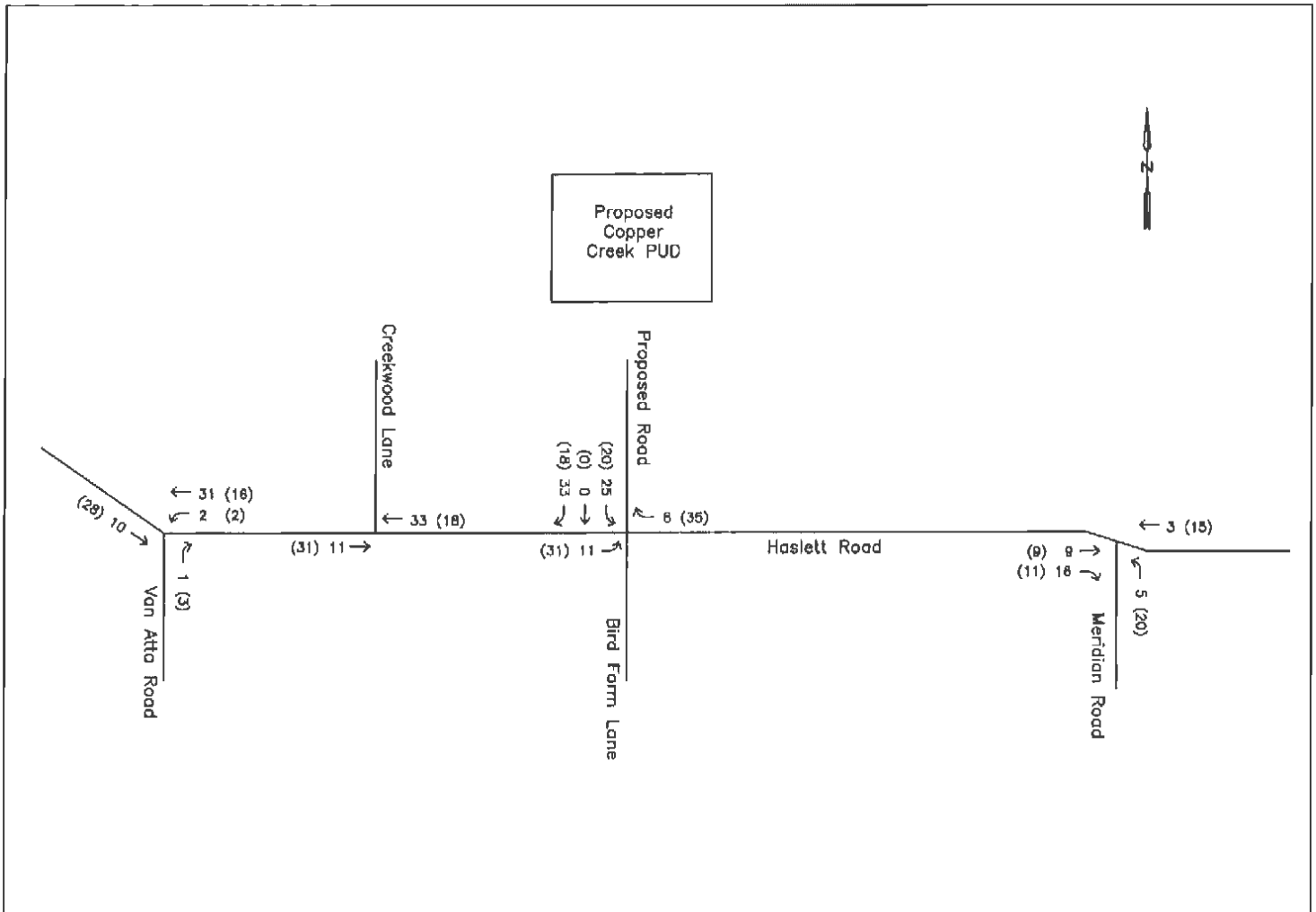
SITE TRAFFIC DISTRIBUTION

Traffic distribution for the proposed Copper Creek PUD development was distributed based on the surrounding roadway patterns. Typically, a residential development has a traffic pattern where vehicles are exiting in the morning and entering in the evening; therefore, the existing exiting traffic pattern on the roadway system during the morning, and the entering traffic pattern during the evening, dictated the generation of the distribution for this study. The distribution for the residential generated traffic is as follows.

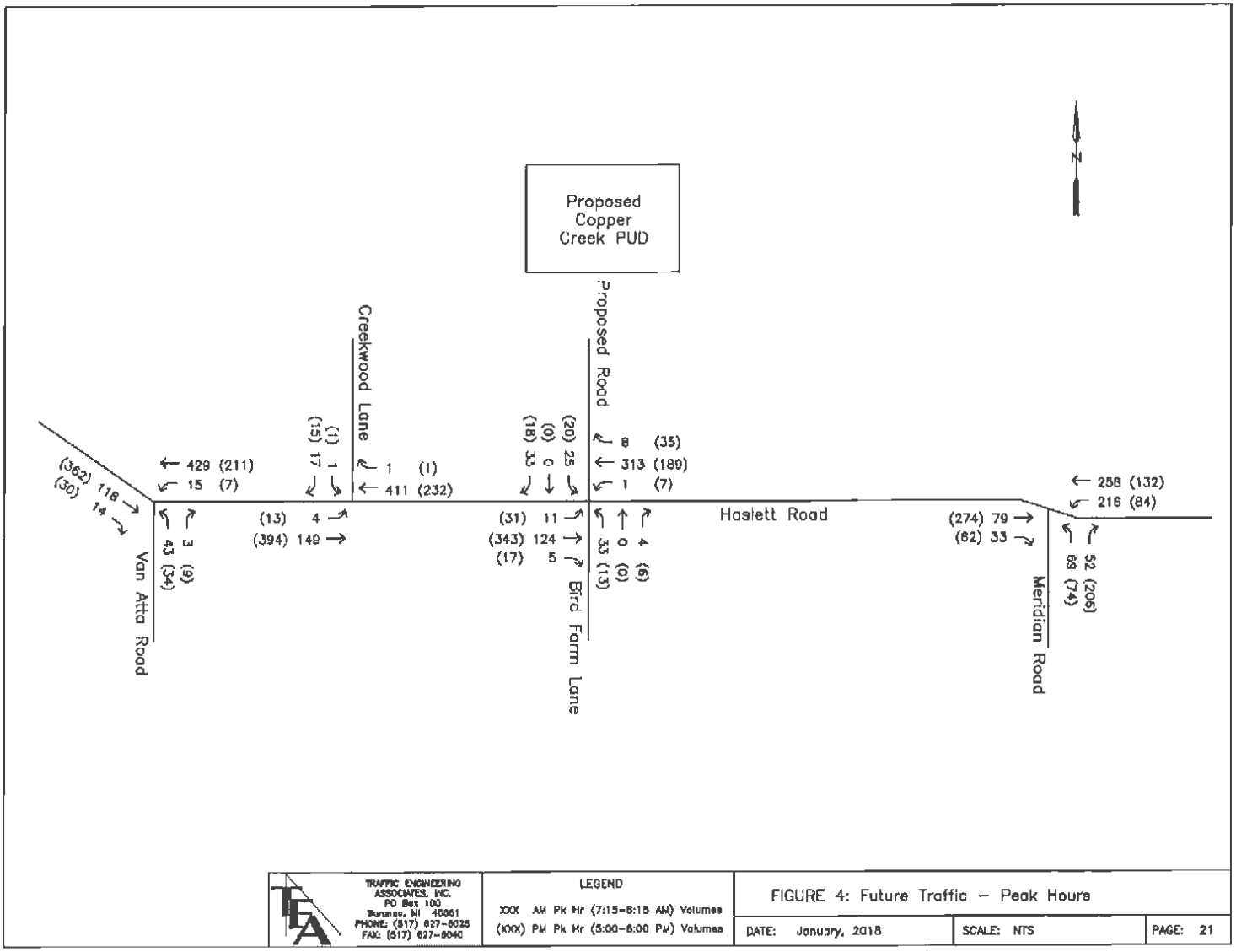
Direction of Approach and Departure	AM Peak Hour	PM Peak Hour
To/From the WEST on Haslett Road	54%	42%
To/From the EAST on Haslett Road	15%	23%
To/From the SOUTH on Van Atta Road	3%	5%
To/From the SOUTH on Meridian Road	28%	30%

The total estimated site generated traffic for the proposed Copper Creek PUD development during the AM and PM peak hours is illustrated in **Figure 3**.

Adding the project site traffic (Figure 3) to the background traffic (Figure 2) generates the total anticipated future traffic which is displayed in **Figure 4**.



TRAFFIC ENGINEERING ASSOCIATES, INC. PO Box 100 Sarines, MI 48881 PHONE: (517) 627-8028 FAX: (517) 627-8040	LEGEND XXX AM Pk Hr (7:15-8:15 AM) Volumes (XXX) PM Pk Hr (5:00-6:00 PM) Volumes	FIGURE 3: Site Traffic – Peak Hours		
		DATE: January, 2018	SCALE: NTS	PAGE: 20



TRAFFIC ENGINEERING ASSOCIATES, INC. PO Box 100 Sonoma, MI 48661 PHONE: (517) 627-6025 FAX: (517) 627-8040	LEGEND XXX AM Pk Hr (7:15-8:15 AM) Volumes (XXX) PM Pk Hr (5:00-6:00 PM) Volumes	FIGURE 4: Future Traffic – Peak Hours		
		DATE: January, 2018	SCALE: NTS	PAGE: 21

LEVEL OF SERVICE ANALYSIS FOR FUTURE TRAFFIC

The level of service analysis for future traffic is summarized in **Table 4**. Comparing future level of service conditions to background level of service conditions determines the impact that can be expected from the addition of new traffic generated from the Copper Creek PUD.

All existing roadway geometrics and traffic control devices were utilized for the future analysis. The proposed new roadway to the Copper Creek PUD was analyzed with one (1) inbound lane and one (1) outbound lane. Under future conditions, it is projected that all movements will continue to operate at a good level of service (LOS C or better).

Table 4
Level of Service (LOS) Summary
Future Traffic

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Haslett Road and Van Atta Road	EB Thru-Right	0.0	A	0.0	A
	WB Left	7.6	A	8.1	A
	WB Thru	0.0	A	0.0	A
	NB Left-Right	13.0	B	12.4	B
	Intersection	1.2	A	1.2	A
Haslett Road and Creekwood Lane	EB Left	8.3	A	7.8	A
	EB Thru	0.0	A	0.0	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	11.4	B	10.0	A
	Intersection	0.5	A	0.5	A
Haslett Road and Bird Farm Lane/ Proposed New Roadway	EB Left-Thru-Right	0.6	A	0.6	A
	WB Left-Thru-Right	0.0	A	0.2	A
	NB Left-Thru-Right	14.4	B	14.9	B
	SB Left-Thru-Right	12.6	B	13.7	B
	Intersection	2.5	A	1.9	A
Haslett Road and Meridian Road	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	3.7	A	3.2	A
	NB Left-Right	22.8	C	21.7	C
	Intersection	6.4	A	8.7	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service

SIGNIFICANT FINDINGS

ROADWAY ANALYSIS FOR A RECOMMENDED RIGHT TURN LANE OR TAPER

The Ingham County Road Department (ICRD) has roadway standards to determine the necessity of right turn lanes/tapers at intersections. These standards are found in their "Rules, Standards and Procedures for Driveways, Banners and Parades Upon or Over Ingham County Road Commission Right of Way".

Using the ICRD guideline for right turn lanes or tapers, the results show that the projected right turn volumes, for both the AM and PM peak hours, do not meet the criteria for a right turn lane or taper at this intersection.

ROADWAY ANALYSIS FOR A RECOMMENDED LEFT-TURN TREATMENT

The proposed new Copper Creek PUD roadway on Haslett Road is across from Bird Farm Lane and will be a four-way intersection. The Ingham County Road Department standards do not have a guideline for a passing lane at a four-way intersection. Under that premise, the MDOT Traffic and Safety "Geometric Design Guidance Document," Traffic Volume Guidelines for Left-Turning Lanes at Unsignalized Intersections will be applied at this location. Using the MDOT Traffic and Safety Guideline, an analysis was conducted for a left turn lane at the Copper Creek PUD proposed roadway across from Bird Farm Lane.

Using the MDOT Traffic and Safety "Geometric Design Guidance Document", Traffic Volume Guidelines for Left-Turning Lanes at Unsignalized Intersections, the results show that the projected left turn volumes, during both the AM and PM peak hours, do not meet the criteria for a left turn lane at this intersection.

NON-MOTORIZED TRANSPORTATION

There are sidewalks on the south side of Haslett Road from Van Atta Road to Bird Farm Lane. There are no sidewalks on the north side of Haslett Road. There are no bicycle lanes on this portion of Haslett Road.

SIGHT DISTANCE

The proposed Copper Creek PUD new roadway on Haslett Road will be located across from Bird Farm Lane. A field review shows that there are no issues with sight distance from the east or west along Haslett Road.

RECOMMENDATIONS

The findings of this study show that there are no recommendations to the existing road system.

SUPPLEMENTAL INFORMATION

Supplemental Information

Site Plan
Vehicle Volume Counts
ICRD 24-Hour Volume Counts
ICRD Guidelines for Right-Turn Lanes and Tapers
MDOT Guidelines for Left-Turn Lanes
LOS Computations

December 19, 2017
Project No. G171993

Mr. Mark Kieselbach
Charter Township of Meridian
5151 Marsh Road
Okemos, MI 48864-1198

Re: Wetland Investigation – WDV 17-05
Western Portion of the Altman Property
Haslett Road, Haslett, Ingham County, Michigan

Dear Mr. Kieselbach:

On November 16 and 20, 2017 and December 1, 2017, Fishbeck, Thompson, Carr & Huber, Inc. (FTCH) staff conducted a field investigation to determine whether wetlands are present on the approximately 48.5-acre, western portion of a 191.5-acre parcel owned by the Alvin Altman Company (the Site). The parcel is located directly north of Haslett Road and east of Creekwood Lane. The results of the investigation are included in this report.

The area of investigation is located on Parcel Number 33-02-02-12-200-013 in the south ½ of Section 12, Town 4 North, Range 1 West, and contains undeveloped property and agricultural fields. The site is bound by agricultural fields and undeveloped property to the north and east, residential property to the west, and Haslett Road, emergent wetland, and residential property to the south.

Most of the Site was previously delineated by FTCH in November 2013. Reevaluation of site wetlands is necessary because the prior investigation was conducted more than 3 years ago. The current investigation utilized the wetland area designations used in the 2013 investigation (i.e. Wetlands A, B, etc.) to avoid confusion. Wetlands C and D were not evaluated because they are located to the east and outside of the current area of investigation. Wetland F was not evaluated because visual observation confirmed that it has not significantly increased in size since 2013. Also being approximately 0.04 acre, it is not regulated by the Charter Township of Meridian (Township). Four wetlands not previously evaluated by FTCH were delineated as part of this investigation: Wetlands H, I, J and K.

The investigation was conducted in a manner consistent with the 1987 *Corps of Engineers Wetlands Delineation Manual* and 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2). The wetlands identification and delineation procedures outlined in these manuals require evaluation of site vegetation, soils, and hydrologic characteristics. Hydrophytic vegetation decisions are based on the wetland indicator status of species that are dominant in the plant community. Species with indicator statuses of obligate wetland (OBL), facultative wetland (FACW), and facultative (FAC) are considered wetland species, while species with indicator statuses of facultative upland (FACU) and upland (UPL) are considered upland species. FAC species are also commonly present in upland plant communities.

Literature Review

According to the U.S. Department of Agriculture Natural Resources Conservation Service *Web Soil Survey*, the area of investigation contains seven different soil series. Predominantly hydric (wetland) soil (i.e. Colwood-Brookston loams) and hydric soil (Houghton muck) are mapped in topographically low areas of the site (see Appendix 1).

The National Wetlands Inventory map indicates forested/shrub and emergent wetlands are present in generally the same areas as those with mapped hydric soil (see Appendix 2).

Site Investigation

The area of investigation and wetland sampling locations are noted in Figure 1 and photographs of wetland sampling locations are included in Appendix 3. The investigation was conducted after a killing frost which resulted in significant die-back of herbaceous vegetation. Most of the site contained agricultural fields, which appeared to be actively farmed and gently rolling topography. A private residence was located along Haslett Road and an abandoned farmstead was located near the center of the area of investigation. This area contained several building foundations and a silo.

Native vegetation was present in much of the southern third of the area of investigation. Mature upland forest was observed in topographically higher areas; dominant species included sugar maple (*Acer saccharum*, FACU), black cherry (*Prunus serotina*, FACU), red oak (*Quercus rubra*, FACU), white oak (*Quercus alba*, FACU), burr oak (*Quercus macrocarpa*, FACU), scarlet oak (*Quercus coccinea*, UPL), shag-bark hickory (*Carya ovata*, FACU), box-elder (*Acer negundo*, FAC), and invasive honeysuckle (*Lonicera* sp.).

A large wetland complex was present at the southwest corner of the area of investigation (Wetland A). This wetland primarily consisted of a cattail marsh and sedge meadow dominated by lakebed sedge (*Carex lacustris*, OBL). Scrub-shrub and forested wetlands were present along the wetland's perimeter. Woody vegetation primarily consisted of red-osier dogwood (*Cornus alba*, FACW), grey dogwood (*Cornus racemosa*, FAC), eastern cottonwood (*Populus deltoides*, FAC), box-elder, sandbar willow (*Salix interior*, FACW) and green ash (*Fraxinus pennsylvanica*, FACW). A culvert under Haslett Road connected this wetland to a similar wetland on the south side of Haslett Road. Aerial photographs suggest that a drainageway connects the southern wetland to a large, forested wetland to the south. Wetland A is approximately 3.75 acres in size. The size of the entire wetland complex (on both sides of Haslett Road) is approximately 4.47 acres, based upon aerial photography interpretation.

Wetland B consisted of a cattail marsh that extended to Haslett Road and to its south. Sampling Point SP-B was located at the western edge of this wetland complex. The outer edge of the wetland contained scrub shrub wetland and wet meadow dominated by reed canarygrass (*Phalaris arundinacea*, FACW). The approximate total size of this wetland north of Haslett Road is 2.78 acres, based upon aerial photography, and the corresponding wetland south of Haslett Road is approximately 2.39 acres. The total, approximate size of this wetland complex is 5.17 acres.

Wetland E was located in a depression in the agricultural field. Wetland E was dominated by reed canary grass in the interior and eastern cottonwood, black willow (*Salix nigra*, OBL), and silver maple (*Acer saccharinum*, FACW) trees near the wetland edge. This wetland has increased in size since 2013 from 0.85 acres to 1.23 acres. The wetland expansion was largely due to standing water in the adjacent field on the northeast side of the wetland (see photograph). The southeast side of Wetland E also extended into the agricultural field, as confirmed by the presence of shallow standing water.

A 0.23-acre wetland (Wetland G) was observed in a depression in a forested area. This wetland had an open understory, and large box-elder, eastern cottonwood, and green ash trees.

Wetland Areas H, I, and J were outside of FTCH's 2013 area of investigation, but were previously delineated, as noted on a site plan obtained from KEBS, Inc. All three areas are located within 500 feet of the Jeferes Drain. FTCH only evaluated one wetland sampling point in this general area (SP-H) because the three small wetland areas are within close proximity to each other, contain similar plant communities, and are located within the same landscape context. All three areas contained forested floodplain wetland dominated by swamp oak (*Quercus bicolor*, FACW), box-elder, and silver maple trees.

Wetland K is located at the extreme southeast end of the 2017 area of investigation, which is outside of the 2013 area of investigation. This area contained forested/scrub shrub wetland which extends to the east and appears to be part of a large wetland complex (the 27.54-acre Township Wetland No. 12-10D). After wetland

flags were surveyed, it was confirmed that Wetland K is outside of the Planned Unit Development currently proposed by KEBS, Inc.

A U.S. Army Corps of Engineers Wetland Determination Data Form was completed to describe site vegetation, soil, and hydrology at each sampling location (Points SB-A, SP-B, SP-E, SP-G, SP-H, and SP-K) (Appendix 4). The locations of these points are shown on Figure 1. Appendix 4 includes photographs of each sampling point location and its corresponding wetland.

FTCH flagged the wetland boundaries with pink ribbon labelled A1 through A46, B1 through B16, E1 through E26, G1 through G14, H1 through H9, I1 through I7, J1 through J6, and K1 through K17. The points were surveyed by Kebs, Inc. Wetland boundaries and associated wetland acreages are noted on the Wetland Sketch Plan in Appendix 5. Wetland size is limited to the wetland present on the Site. Wetlands B, H, and J extend onto adjacent parcels and are larger than is indicated.

Conclusions

The site survey indicates the location of the delineated wetland boundaries. Table 1 summarizes information pertaining to the delineated wetlands.

According to Michigan's Natural Resources and Environmental Protection Act, Act 451, Section 30301(d), wetlands "contiguous to the Great Lakes or Lake St. Clair, an inland lake or pond, or a river or stream" or "more than 5 acres in size" are regulated by the State of Michigan. In addition, the Township regulates wetlands greater than two acres in size which are not contiguous to a water body; and wetlands between 0.25 acre and two acres in size that are determined to be essential to the preservation of the natural resources of the Township.

Table 1 – Summary of Wetlands
Wetland Investigation – WDV 17-05
Meridian Township/Altman Property

Wetland	Wetland Type	Size (on Subject Property) (Acres)	Corresponding Meridian Wetland	Regulated by the State of Michigan?	Regulated by Meridian?
A	Forested/Scrub-Shrub/Emergent	3.75	12-20	Yes	Yes
B	Emergent with Scrub-Shrub Edge	1.27	12-12	Yes	Yes
E	Forested/Scrub-Shrub/Emergent	1.23	12-16	No	Possibly
G	Forested	0.22		No	No
H	Forested	0.13	12-10A	Yes	Yes
I	Forested	0.07	12-10A	Yes	Yes
J	Forested	0.06	12-10A	Yes	Yes
K	Forested/Scrub-Shrub		12-10D	Yes	Yes

Wetlands contiguous to a lake, stream, river, or pond include Wetlands A, H, I and J. These wetlands are regulated by both the State of Michigan and the Township. Wetlands with a total size greater than 5 acres include Wetlands B and K; these are also regulated by both the State and Township. Wetland G is not regulated by the State of Michigan and the Township, due to its small size and not being contiguous to a body of water.

Wetland E is not regulated by the State due to its size and not being contiguous with a body of water. Because this wetland is greater than 0.25 acre in size, a determination of essentiality is needed to determine whether it is regulated by the Township's wetland ordinance.

A permit would be required from the Township for the following activities for all wetlands regulated by the Township:

- Placing fill or permitting the placement of fill in the wetland.
- Dredging, removing, or permitting the removal of soil or minerals from the wetland.
- Constructing, operating, or maintaining any use or development in the wetland.
- Draining surface water from the wetland.
- Discharging water into the wetland.

In addition, the Township requires that all structures and grading activities during site development shall be set back 40 feet from the delineated wetland boundary and a natural vegetation strip shall be maintained within 20 feet of the wetland boundary.

If you have any questions regarding this letter, the wetland permitting process, or any other wetland-related issues, please contact me at 616-464-3738 or ehtripp@ftch.com.

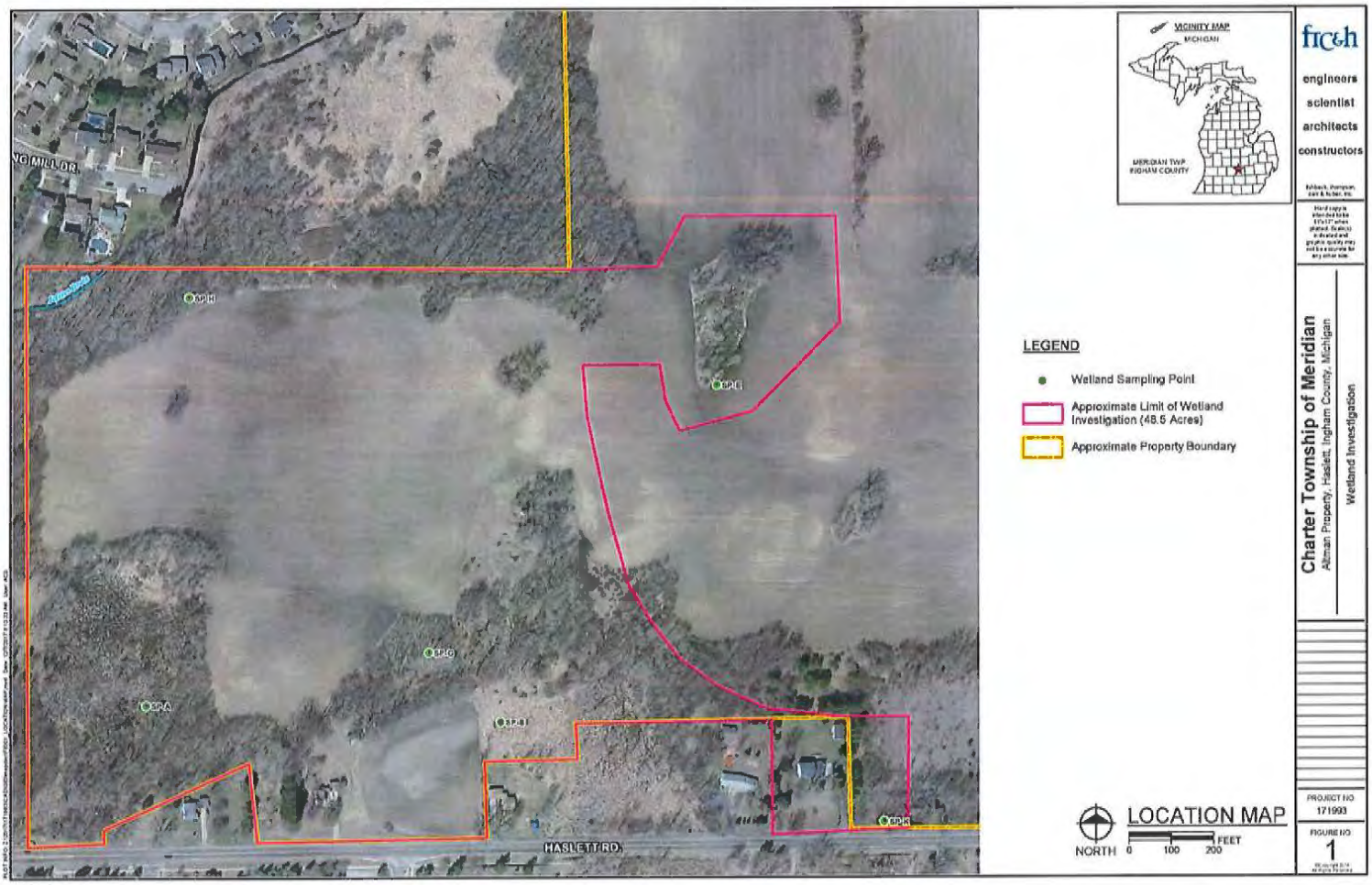
Sincerely,

FISHBECK, THOMPSON, CARR & HUBER, INC.

Elise Hansen Tripp, PWS

pmb
Attachments
By email
cc/att: Mr. Peter Menser – Township of Meridian

Figures



fr&h

engineers
scientist
architects
constructors

Charter Township of Meridian

Allman Property, Haslett, Ingham County, Michigan

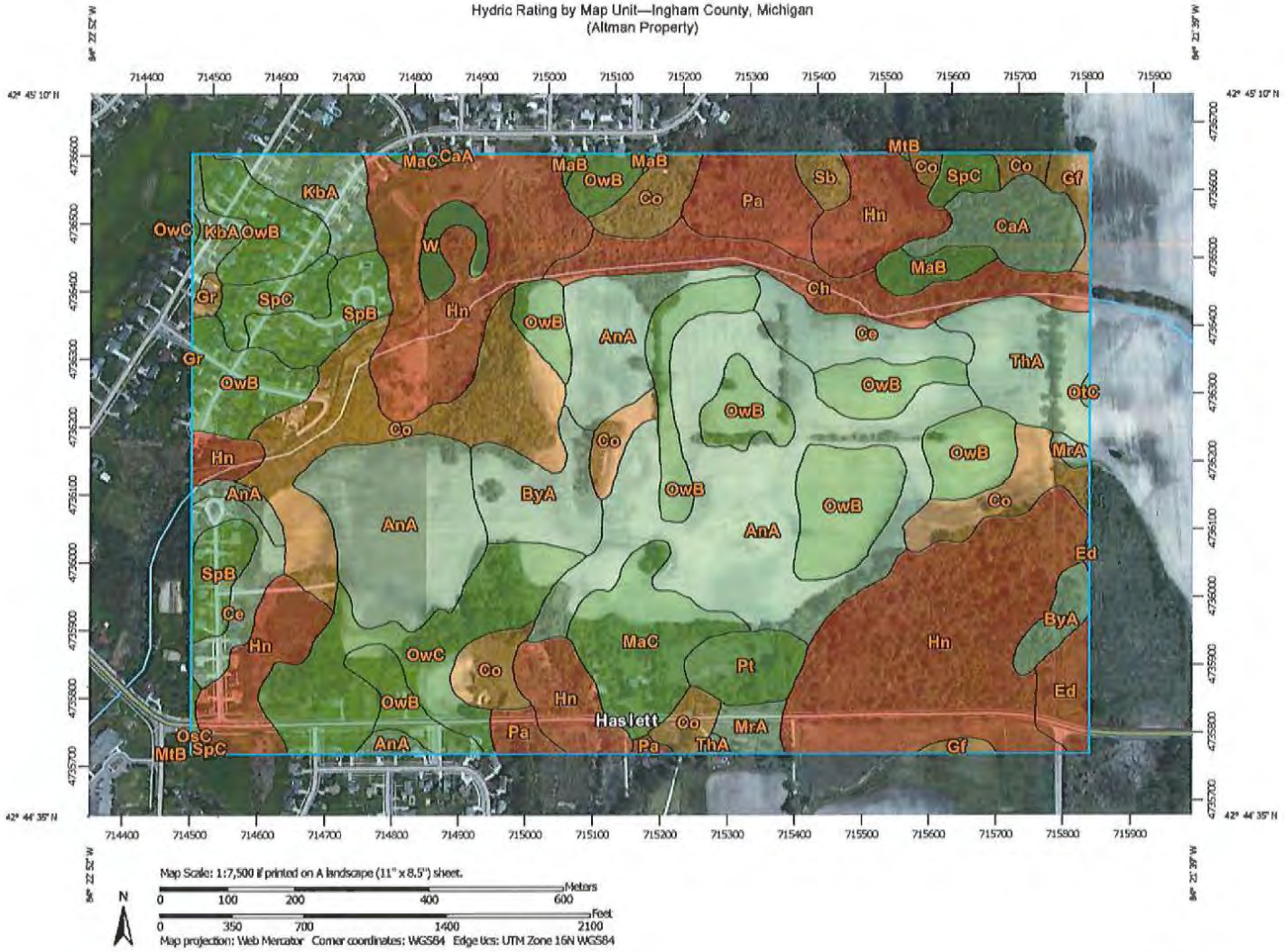
Wetland Investigation

PROJECT NO
171993

FIGURE NO
1

Appendix 1

Hydric Rating by Map Unit—Ingham County, Michigan
(Altman Property)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Predominantly Hydric (66 to 99%)
- Partially hydric (33 to 65%)
- Predominantly nonhydric (1 to 32%)
- Nonhydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Predominantly Hydric (66 to 99%)
- Partially hydric (33 to 65%)
- Predominantly nonhydric (1 to 32%)
- Nonhydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Predominantly Hydric (66 to 99%)
- Partially hydric (33 to 65%)
- Predominantly nonhydric (1 to 32%)
- Nonhydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that compriso your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ingham County, Michigan
Survey Area Data. Version 10, Dec 14, 2009

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 27, 2010—May 5, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Ingham County, Michigan (MI065)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AnA	Aubbeenaubbee-Capac sandy loams, 0 to 3 percent slopes	8	52.4	17.8%
ByA	Brady sandy loam, 0 to 3 percent slopes	5	8.5	2.9%
CaA	Capac loam, 0 to 3 percent slopes	5	5.7	1.9%
Ce	Ceresco fine sandy loam	5	9.1	3.1%
Ch	Cohoctah silt loam	100	10.3	3.5%
Co	Colwood-Brookston loams	80	30.8	10.5%
Ed	Edwards muck	100	3.0	1.0%
Gf	Gilford sandy loam	93	1.9	0.6%
Gr	Granby loamy fine sand	97	0.6	0.2%
Hn	Houghton muck	100	63.7	21.7%
KbA	Kibbie loam, 0 to 3 percent slopes	10	6.1	2.1%
MaB	Marlette fine sandy loam, 2 to 6 percent slopes	0	2.4	0.8%
MaC	Marlette fine sandy loam, 6 to 12 percent slopes	0	9.6	3.3%
MrA	Matherton sandy loam, 0 to 3 percent slopes	10	2.2	0.8%
MtB	Metea loamy sand, 2 to 6 percent slopes	0	0.0	0.0%
OsC	Oshtemo sandy loam, 6 to 12 percent slopes	0	0.3	0.1%
OtC	Oshtemo-Spinks loamy sands, 6 to 12 percent slopes	0	0.1	0.0%
OwB	Owosso-Marlette sandy loams, 2 to 6 percent slopes	0	38.2	13.0%
OwC	Owosso-Marlette sandy loams, 6 to 12 percent slopes	0	14.4	4.9%
Pa	Palms muck	100	7.3	2.5%
Pt	Pits	0	4.0	1.3%
Sb	Sebewa loam	95	1.3	0.4%
SpB	Spinks loamy sand, 0 to 6 percent slopes	0	7.4	2.5%

Hydric Rating by Map Unit— Summary by Map Unit — Ingham County, Michigan (MI065)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
SpC	Spinks loamy sand, 6 to 12 percent slopes	0	4.3	1.4%
ThA	Thetford loamy sand, 0 to 3 percent slopes	10	8.3	2.8%
W	Water	0	2.0	0.7%
Totals for Area of Interest			**293.8**	**100.0%**

Description

This rating indicates the proportion of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is designated as "hydric," "predominantly hydric," "partially hydric," "predominantly nonhydric," or "nonhydric" depending on the rating of its respective components and the percentage of each component within the map unit.

"Hydric" means that all components listed for a given map unit are rated as being hydric. "Predominantly hydric" means components that comprise 66 to 99 percent of the map unit are rated as hydric. "Partially hydric" means components that comprise 33 to 66 percent of the map unit are rated as hydric. "Predominantly nonhydric" means components that comprise up to 33 percent of the map unit are rated as hydric. "Nonhydric" means that none of the components are rated as hydric. The assumption here is that all components of the map unit are rated as hydric or nonhydric in the underlying database. A "Not rated or not available" map unit rating is displayed when none of the components within a map unit have been rated.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as being hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

Appendix 2

U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands

December 6, 2017

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Appendix 3

Fishbeck, Thompson, Carr & Huber, Inc.

Site Photographs

Altman Property

Haslett Road, Meridian Township, MI

frc&h Project No. 171993

Wetland Adjacent to SP-A

Wetland Sampling Point SP-A

Wetland Adjacent to SP-B

Wetland Sampling Point SP-B

Wetland Adjacent to SP-E

Wetland Sampling Point SP-E

Northeast End of Area E

Wetland Adjacent to SP-G

Wetland Sampling Point SP-G

Wetland Adjacent to SP-H

Wetland Sampling Point SP-H

Wetland J

Wetland Adjacent to SP-K

Wetland Sampling Point SP-K

Appendix 4

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/WDV 17-05 **City/County:** Meridian Township/Ingham **Sampling Date:** 16-Nov-17

Applicant/Owner: Haslett Holdings LLC **State:** Michigan **Sampling Point:** SP-A

Investigator(s): Elise Tripp **Section, Township, Range:** S. 12 T. 4N R. 1W

Landform (hillslope, terrace, etc.): Kettle **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR L **Lat.:** 42.745423890 **Long.:** 84.377091382 **Datum:** WGS84

Soil Map Unit Name: Houghton muck **NWI classification:** PSS1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ◉ No ○	**Is the Sampled Area within a Wetland?**	Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○		
Wetland Hydrology Present?	Yes ◉ No ○		

Remarks: (Explain alternative procedures here or in a separate report.)

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	0	
Water Table Present?	Yes ◉	No ○	Depth (inches):	3	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: SP-A

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix interior*	5	☑	FACW
2. *Acer saccharum*	5	☑	FACU
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus alba*	5	☑	FACW
2. *Viburnum opulus var. opulus*	5	☑	FACW
3. *Fraxinus pennsylvanica*	5	☑	FACW
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	15	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex lacustris*	60	☑	OBL
2. *Typha angustifolia*	5	☐	OBL
3. *Phalaris arundinacea*	30	☑	FACW
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
11.	0	☐	
12.	0	☐	
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	65	x 1 =	65
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	120 (A)		185 (B)

Prevalence Index = B/A = 1.542

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators 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 3.28 ft (1m) tall..

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

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc[2]	Texture	Remarks
0-19	10YR 2/1	100					Muck	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- [x] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Muck Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) (LRR R, MLRA 149B)
- [ ] Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- [ ] Thin Dark Surface (S9) (LRR R, MLRA 149B)
- [ ] Loamy Mucky Mineral (F1) LRR K, L)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

Indicators for Problematic Hydric Soils : [3]

- [ ] 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- [ ] Coast Prairie Redox (A16) (LRR K, L, R)
- [ ] 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- [ ] Dark Surface (S7) (LRR K, L, M)
- [ ] Polyvalue Below Surface (S8) (LRR K, L)
- [ ] Thin Dark Surface (S9) (LRR K, L)
- [ ] Iron-Manganese Masses (F12) (LRR K, L, R)
- [ ] Piedmont Floodplain Soils (F19) (MLRA 149B)
- [ ] Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- [ ] Red Parent Material (F21)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/WDV 17-05 **City/County:** Meridian Township/Ingham **Sampling Date:** 16-Nov-17

Applicant/Owner: Haslett Holdings LLC **State:** Michigan **Sampling Point:** SP-B

Investigator(s): Elise Tripp **Section, Township, Range:** S. 12 T. 4N R. 1W

Landform (hillslope, terrace, etc.): Kettle **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR L **Lat.:** 42.745317335 **Long.:** 84.373948380 **Datum:** WGS84

Soil Map Unit Name: Colwood-Brookston loams **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks: (Explain alternative procedures here or in a separate report.)

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○ No ◉	Depth (inches):	0	
Water Table Present?	Yes ◉ No ○	Depth (inches):	3	
Saturation Present? (includes capillary fringe)	Yes ◉ No ○	Depth (inches):	0	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: SP-B

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Typha latifolia*	85	☑	OBL
2. *Phalaris arundinacea*	15	☐	FACW
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
11.	0	☐	
12.	0	☐	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85	
FACW species	15	x 2 =	30	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	100	(A)	115	(B)

Prevalence Index = B/A = 1.150

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators 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 3.28 ft (1m) tall..

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

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc[2]	Texture	Remarks
0-18	10YR 2/1	100					Muck	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- [x] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Muck Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) (LRR R, MLRA 149B)
- [ ] Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- [ ] Thin Dark Surface (S9) (LRR R, MLRA 149B)
- [ ] Loamy Mucky Mineral (F1) LRR K, L)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

Indicators for Problematic Hydric Soils : [3]

- [ ] 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- [ ] Coast Prairie Redox (A16) (LRR K, L, R)
- [ ] 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- [ ] Dark Surface (S7) (LRR K, L, M)
- [ ] Polyvalue Below Surface (S8) (LRR K, L)
- [ ] Thin Dark Surface (S9) (LRR K, L)
- [ ] Iron-Manganese Masses (F12) (LRR K, L, R)
- [ ] Piedmont Floodplain Soils (F19) (MLRA 149B)
- [ ] Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- [ ] Red Parent Material (F21)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/WDV 17-05 **City/County:** Meridian Township/Ingham **Sampling Date:** 20-Nov-17

Applicant/Owner: Haslett Holdings LLC **State:** Michigan **Sampling Point:** SP-E

Investigator(s): Elise Tripp **Section, Township, Range:** S. 12 T. 4N R. 1W

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR L **Lat.:** 42.747496630 **Long.:** 84.372053393 **Datum:** WGS84

Soil Map Unit Name: Colwood-Brookston loams **NWI classification:** PEM1A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks: (Explain alternative procedures here or in a separate report.)

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches): 3	
Water Table Present?	Yes ○	No ◉	Depth (inches): 0	**Wetland Hydrology Present?** Yes ◉ No ○
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): 0	

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

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: SP-E

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	20	☑	OBL
2. *Populus deltoides*	15	☑	FAC
3. *Acer saccharinum*	10	☑	FACW
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	45	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus alba*	5	☑	FACW
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	5	= Total Cover	

Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	100	☑	FACW
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
11.	0	☐	
12.	0	☐	
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	20	x 1 =	20	
FACW species	115	x 2 =	230	
FAC species	15	x 3 =	45	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	150	(A)	295	(B)

Prevalence Index = B/A = 1.967

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators 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 3.28 ft (1m) tall..

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

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP-E

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc[2]	Texture	Remarks
0-9	10YR 3/1	95	10YR 3/6	5	RM	PL	Clay Loam	
9-13	10YR 5/2	60	10YR 2/1	40	RM	M	Sandy Loam	Organic streaking

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☑ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils : [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Soil data obtained from 2013 delineation because of high water levels in 2017.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/WDV 17-05 **City/County:** Meridian Township/Ingham **Sampling Date:** 16-Nov-17

Applicant/Owner: Haslett Holdings LLC **State:** Michigan **Sampling Point:** SP-G

Investigator(s): Elise Tripp **Section, Township, Range:** S. 12 T. 4N R. 1W

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR L **Lat.:** 42.745767645 **Long.:** 84.374589169 **Datum:** WGS84

Soil Map Unit Name: Owosso-Marlette sandy loams, 6-12% slopes **NWI classification:** PEM1A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: (Explain alternative procedures here or in a separate report.)

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches): 0	
Water Table Present?	Yes ○	No ◉	Depth (inches): 0	**Wetland Hydrology Present?** Yes ○ No ◉
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): 0	

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

Remarks:

Dry to 17 inches

VEGETATION - Use scientific names of plants

Sampling Point: SP-G

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	40	☑	FAC
2. *Populus deltoides*	60	☑	FAC
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer negundo*	5	☑	FAC
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	5	= Total Cover	
Herb Stratum (Plot size: 5)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
11.	0	☐	
12.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	105	x 3 =	315	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	105	(A)	315	(B)

Prevalence Index = B/A = 3.000

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators 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 3.28 ft (1m) tall..

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

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP-G

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Loam	Mucky
4-17	10YR 3/1	100					Clay Loam	High organic matter

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☑ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils : [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/WDV 17-05 **City/County:** Meridian Township/Ingham **Sampling Date:** 20-Nov-17

Applicant/Owner: Haslett Holdings LLC **State:** Michigan **Sampling Point:** SP-H

Investigator(s): Elise Tripp **Section, Township, Range:** S. 12 T. 4N R. 1W

Landform (hillslope, terrace, etc.): Bench **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR L **Lat.:** 42.748071582 **Long.:** 84.376700121 **Datum:** WGS84

Soil Map Unit Name: Colwood-Brookston loams **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks: (Explain alternative procedures here or in a separate report.)

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉ No ○	Depth (inches):	2
Water Table Present?	Yes ◉ No ○	Depth (inches):	12
Saturation Present? (includes capillary fringe)	Yes ◉ No ○	Depth (inches):	7

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Standing water nearby.

VEGETATION - Use scientific names of plants

Sampling Point: SP-H

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus bicolor*	60	☑	FACW
2. *Acer saccharinum*	25	☑	FACW
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	85	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	0	= Total Cover	

Herb Stratum (Plot size: 5)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
11.	0	☐	
12.	0	☐	
	0	= Total Cover	

Woody Vine Stratum (Plot size: 30)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	85	x 2 =	170	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	85	(A)	170	(B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators 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 3.28 ft (1m) tall..

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

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP-H

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					Clay Loam	High organic matter
12-20	10YR 6/2	85	7.5YR 5/8	15			Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☑ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils : [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/WDV 17-05 **City/County:** Meridian Township/Ingham **Sampling Date:** 01-Dec-17

Applicant/Owner: Haslett Holdings LLC **State:** Michigan **Sampling Point:** SP-K

Investigator(s): Elise Tripp **Section, Township, Range:** S. 12 T. 4N R. 1W

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR L **Lat.:** 42.744667321 **Long.:** 84.370557860 **Datum:** WGS84

Soil Map Unit Name: Colwood-Brookston loams **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: (Explain alternative procedures here or in a separate report.)

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches): 3	
Water Table Present?	Yes ◉	No ○	Depth (inches): 5	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0	**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: SP-K

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus bicolor*	80	☑	FACW
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Quercus bicolor*	10	☑	FACW
2. *Cornus racemosa*	30	☑	FAC
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
	40	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex lacustris*	40	☑	OBL
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
11.	0	☐	
12.	0	☐	
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40	
FACW species	90	x 2 =	180	
FAC species	30	x 3 =	90	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	160	(A)	310	(B)

Prevalence Index = B/A = 1.938

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators 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 3.28 ft (1m) tall..

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

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP-K

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc[2]	Texture	Remarks
0-19	10YR 2/1	100					Muck	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- [x] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Muck Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) (LRR R, MLRA 149B)
- [ ] Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- [ ] Thin Dark Surface (S9) (LRR R, MLRA 149B)
- [ ] Loamy Mucky Mineral (F1) LRR K, L)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

Indicators for Problematic Hydric Soils : [3]

- [ ] 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- [ ] Coast Prairie Redox (A16) (LRR K, L, R)
- [ ] 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- [ ] Dark Surface (S7) (LRR K, L, M)
- [ ] Polyvalue Below Surface (S8) (LRR K, L)
- [ ] Thin Dark Surface (S9) (LRR K, L)
- [ ] Iron-Manganese Masses (F12) (LRR K, L, R)
- [ ] Piedmont Floodplain Soils (F19) (MLRA 149B)
- [ ] Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- [ ] Red Parent Material (F21)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Appendix 5

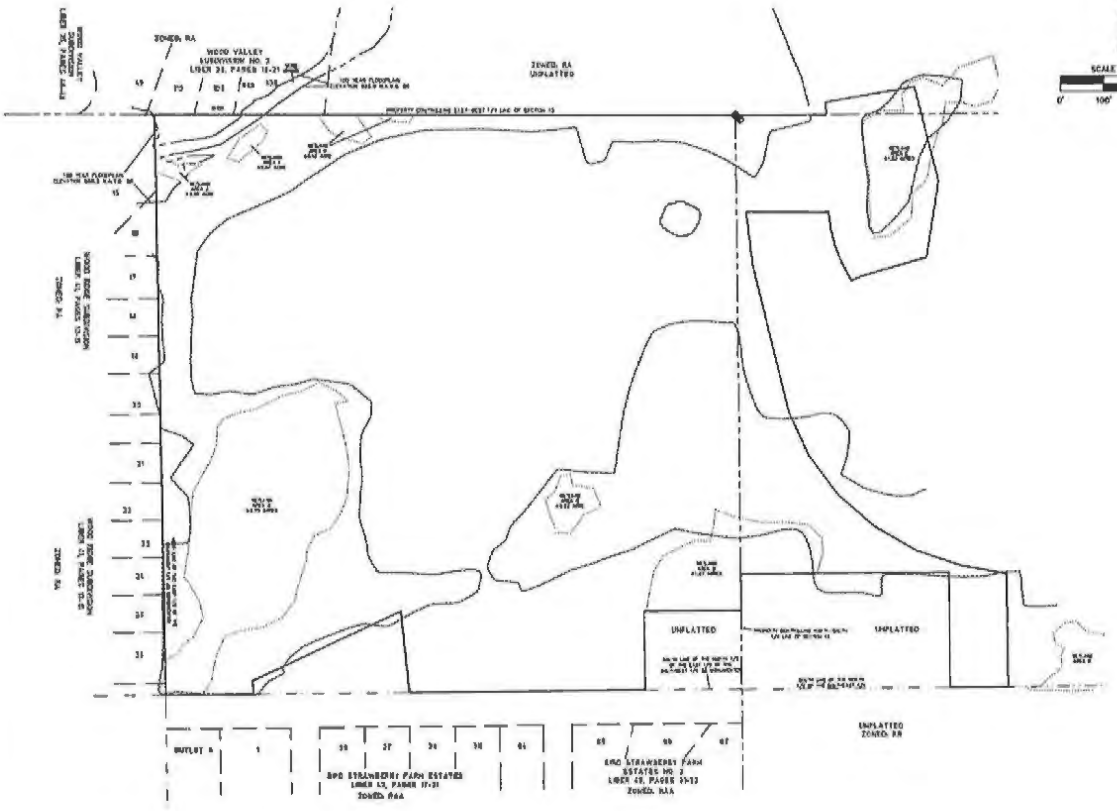
WETLAND SKETCH PLAN

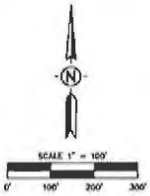
COPPER CREEK CONDOMINIUM

A SUBDIVISION OF PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4 & SOUTHWEST 1/4 OF SECTION 12, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

OWNER/DEVELOPER:
MAYBERRY HOMES
1800 KINSALE BOULEVARD
EAST LANSING, MI 48823
(517) 371-9000
CONTACT: BOB SCHNEIDER

ENGINEER/SURVEYOR:
KEBS, INC.
2116 HASLETT RD.
HASLETT, MI 48840
PH:(517) 339-1014
FAX:(517) 339-9047





REVISIONS	COMMENTS
11/20/13	ORIGINAL
12/31/13	PER MTG/SITE AREA "A"

KEBS, INC. SURVEYING AND LAND PLANNING
2116 HASLETT ROAD, HASLETT, MI 48840
PH: 517-339-1014 • FAX: 517-339-9047
www.KEBS.com

DESIGN BY: KEBS | SECTION 12, T4N, R1W
FIELD WORK BY: ---- | JOB NUMBER: 2013.SUB-PUD
SHEET 1 OF 1

To: **Planning Commission**

From: **Peter Menser, Principal Planner**

Date: **August 24, 2018**

Re: **<u>Planned Unit Development #18014 (Haslett Holding LLC)</u>, develop Copper Creek PUD consisting of 91 single family residential lots on the north side of Haslett Road, east of Creekwood Lane.**

The public hearing for PUD #18014 was held at the August 13, 2018 Planning Commission meeting. Since the public hearing the applicant has submitted a revised site plan that includes several changes, including the addition of a 25 foot buffer from properties to the west and north and revisions to yard setbacks, among others. Additional review of the revisions to the site plan and comments from staff will be provided at the August 27, 2018 Planning Commission meeting and included in a future memorandum.

Planning Commission Options

The Planning Commission may recommend approval, approval with conditions, or denial of the proposed PUD. A resolution will be provided at a future meeting.

Attachments

1. Revised site plan prepared by Kebs, Inc. dated February 1, 2018 (Revision Date August 22, 2018) and received by the Township on August 22, 2018.
2. Letter from David Straub at Mayberry Homes dated August 22, 2018.

G:\Community Planning & Development\Planning\PLANNED UNIT DEVELOPMENTS (PUD)\2018\PUD 18014 Copper Creek\PUD 18014.pc2.docx

P.U.D. PLAN

COPPER CREEK CONDOMINIUM

A SUBDIVISION OF PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4 & SOUTHWEST 1/4 OF SECTION 12, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

OWNER/DEVELOPER:

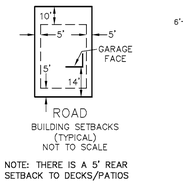
MAYBERRY HOMES
1650 KENDALE BOULEVARD
EAST LANSING, MI 48823
(517) 371-5000
CONTACT: BOB SCHROEDER

ENGINEER/SURVEYOR:

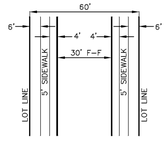
KEBS, INC.
2116 HASLETT RD.
HASLETT, MI. 48840
PH: (517) 339-1014
FAX: (517) 339-8047

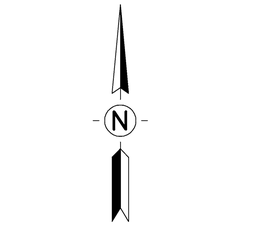
NOTE:

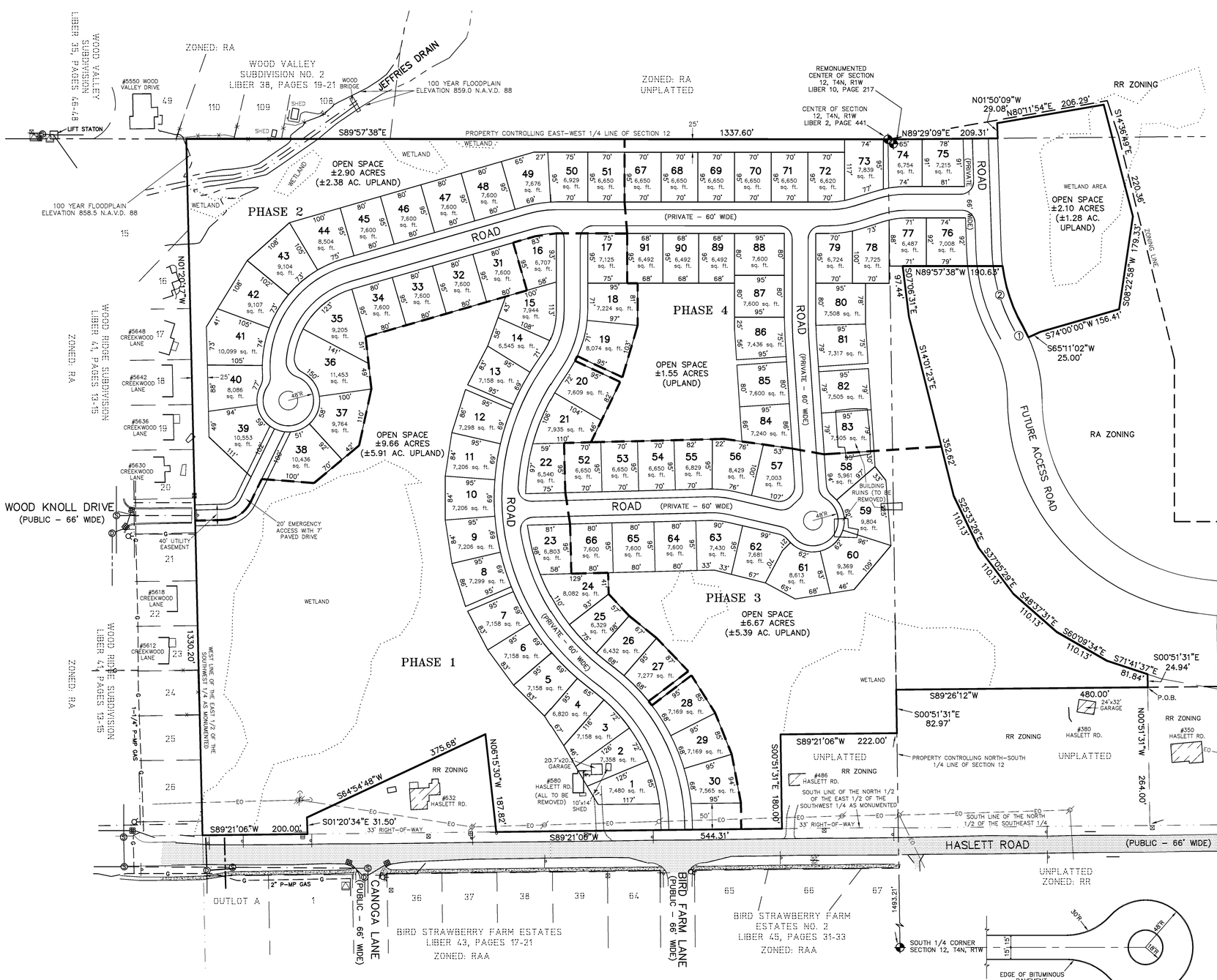
100 YEAR FLOOD ELEVATION = 858.5-859.0 N.A.V.D.88 BASED ON MODELING AS APPROVED BY MDEQ IN LETTER DATED JANUARY 29, 2015.



NOTE: THERE IS A 5' REAR SETBACK TO DECKS/PATIOS







LEGAL DESCRIPTION:

A parcel of land in the Northeast 1/4, Southeast 1/4, and the Southwest 1/4 of Section 12, T4N, R1W, Meridian Township, Ingham County, Michigan, the boundary of said parcel described as: Commencing at the East 1/4 corner of said Section 12; thence S00°28'42"E along the East line of said Section 12 a distance of 1312.81 feet to the South line of the North 1/2 of said Southeast 1/4 as surveyed and the North line of Haslett Road; thence S89°26'12"W along said North line 2141.72 feet; thence N00°51'31"W parallel with the property controlling North-South 1/4 line of said Section 12 a distance of 264.00 feet to the point of beginning of this description; thence S89°26'12"W parallel with said North line 480.00 feet to a point on said North-South 1/4 line; thence S00°51'31"E along said North-South 1/4 line 82.97 feet; thence S89°21'06"W parallel with the South line of the North 1/2 of the East 1/2 of the Southwest 1/4 as monumented and the North line of Haslett Road 222.00 feet; thence S00°51'31"E parallel with said North-South 1/4 line 180.00 feet to said North line; thence S89°21'06"W along said North line 544.31 feet; thence N06°15'30"W 187.82 feet; thence S64°54'48"W 375.68 feet; thence S01°20'34"E 31.50 feet to said North line; thence S89°21'06"W along said North line 200.00 feet to a point on the West line of the East 1/2 of the North 1/2 of said Southwest 1/4 as monumented, said line also being the East line and it's extension South of Wood Ridge Subdivision, as recorded in Liber 41 of Plats Pages 13-15, Ingham County Records, said point also being S01°20'17"E 27.00 feet from the Southeast corner of Lot 26 of said Subdivision; thence N01°20'17"W along said West line 1330.20 feet to the South line of Wood Valley No. 2 as recorded in Liber 38 of Plats, Pages 19-21, Ingham County Records, also being the property controlling East-West 1/4 line of said Section 12; thence S89°57'38"E along said East-West 1/4 line 1337.60 feet to the property controlling Center of Section 12 as recorded in Liber 2 of corners, Page 441; thence N89°29'09"E continuing along said East-West 1/4 line 209.31 feet; thence N01°50'09"W 29.08 feet; thence N80°11'54"E 206.29 feet; thence S14°36'49"E 220.36 feet; thence S08°22'58"W 179.33 feet; thence S74°00'00"W 156.41 feet; thence S65°11'02"W 25.00 feet; thence Northwesterly 23.56 feet on a curve to the left, said curve having a radius of 283.00 feet, a delta angle of 4°46'11" and a chord length of 23.55 feet bearing N27°12'04"W; thence Northwesterly 122.15 feet on a curve to the right, said curve having a radius of 317.00 feet, a delta angle of 22°04'43" and a chord length of 121.40 feet bearing N18°32'48"W; thence N89°57'38"W 190.63 feet; thence S07°06'31"E 97.44 feet; thence S14°01'23"E 352.62 feet; thence S25°33'26"E 110.13 feet; thence S37°05'29"E 110.13 feet; thence S48°37'31"E 110.13 feet; thence S60°09'34"E 110.13 feet; thence S71°41'37"E 81.84 feet; thence S00°51'31"E 24.94 feet to the point of beginning; said parcel containing 44.70 acres more or less; said parcel subject to all easements and restrictions if any.

NOTES:

1. ALL PROPOSED UNITS ARE FOR SINGLE FAMILY RESIDENTIAL PURPOSES.
2. GAS, SIDEWALKS, STREET LIGHTS & STREET TREES WILL BE INSTALLED FOR ALL UNITS IF REQUIRED.
3. POLICE AND FIRE PROTECTION BY MERIDIAN TOWNSHIP & SCHOOLS BY THE CITY OF HASLETT.
4. WETLANDS AS SHOWN ARE BASED ON DELINEATION BY ELISE TRIPP OF FISHBECK, THOMPSON, CARR & HUBER, INC. COMPLETED ON 11-20-17.
5. CONTOURS ARE BASED ON N.A.V.D. 88 DATUM

LEGEND

- = SET 1/2" BAR WITH CAP
- = FOUND IRON AS NOTED
- = BOUNDARY LINE
- = PHASE LINE
- = CURRENT ZONING LINE
- = DISTANCE NOT TO SCALE
- = FENCE
- = ASPHALT
- = CONCRETE
- = GRAVEL
- +860 = EXISTING SPOT ELEVATION
- 860 = EXISTING CONTOUR ELEVATION
- = WETLAND LINE
- = SANITARY SEWER
- = STORM SEWER
- = WATER LINE
- G = GAS LINE
- EO = OVERHEAD WIRES
- = EDGE OF WOODS
- S = SANITARY MANHOLE
- D = DRAINAGE MANHOLE
- E = ELECTRIC MANHOLE
- T = TELEPHONE MANHOLE
- = CATCHBASIN
- CO = SANITARY CLEANOUT
- = FIRE HYDRANT
- = VALVE
- = UTILITY POLE
- = LIGHT POLE
- = GUY WIRE
- = UTILITY PEDESTAL
- = TRANSFORMER
- = HANDHOLE
- = SIGN

P.U.D. AREA = ±44.70 ACRES

WETLAND/FLOODPLAIN AREA = ±6.37 ACRES

44.70 AC. - 6.37 AC. = ±38.33 ACRES * 0.5 = ±19.17 ACRES OF OPEN SPACE REQUIRED

OPEN SPACE PROVIDED = ±19.25 ACRES

±6.37 AC./±44.70 AC. = 0.1425

NUMBER OF LOTS WITHIN CURRENT P.U.D. AREA PER YIELD PLAN = 94 LOTS

1.1425 * 94 = 107.39 UNITS ALLOWED

91 UNITS PROPOSED

LAYOUT INFORMATION:

MINIMUM LOT SIZE = 6,487 S.F. (LOT 77)
BUILDABLE AREA = 4,362 S.F.
MINIMUM LOT FRONTAGE = 51.0' (60.9' AT 10' SETBACK LINE) (LOT 38)
MAXIMUM LOT SIZE = 11,453 S.F. (LOT 36)
BUILDABLE AREA = 8,453 S.F.
MAXIMUM LOT FRONTAGE = 150.0' (LOT 36)

TOTAL ACREAGE = ±44.70 ACRES
TOTAL WETLAND/FLOODPLAIN ACREAGE = ±6.37 ACRES

TOTAL BUILDABLE AREA = ±38.33 ACRES

TOTAL UPLAND OPEN SPACE = ±19.25 ACRES

TOTAL PROPOSED UNITS = 91

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	BEARING
1	23.56'	283.00'	4°46'11"	23.55'	N27°12'04"W
2	122.15'	317.00'	22°04'43"	121.40'	N18°32'48"W

REVISIONS	COMMENTS
2/1/18	ORIGINAL
2/27/18	REVISE OPEN SPACE HATCHING
7/16/18	REVISE LAYOUT
8/22/18	ADD BUFFERS, REVISE LAYOUT

KEBS, INC. ENGINEERING AND LAND SURVEYING
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX 517-339-8047
WWW.KEBS.COM
Marshall Office - Ph. 269-781-9800

DRAWN BY KDB | SECTION 12, T4N, R1W
FIELD WORK BY --- | JOB NUMBER: 90535.SUB-PUD
SHEET 1 OF 2

P.U.D. PLAN

COPPER CREEK CONDOMINIUM

A SUBDIVISION OF PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4 & SOUTHWEST 1/4 OF SECTION 12, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

OWNER/DEVELOPER:
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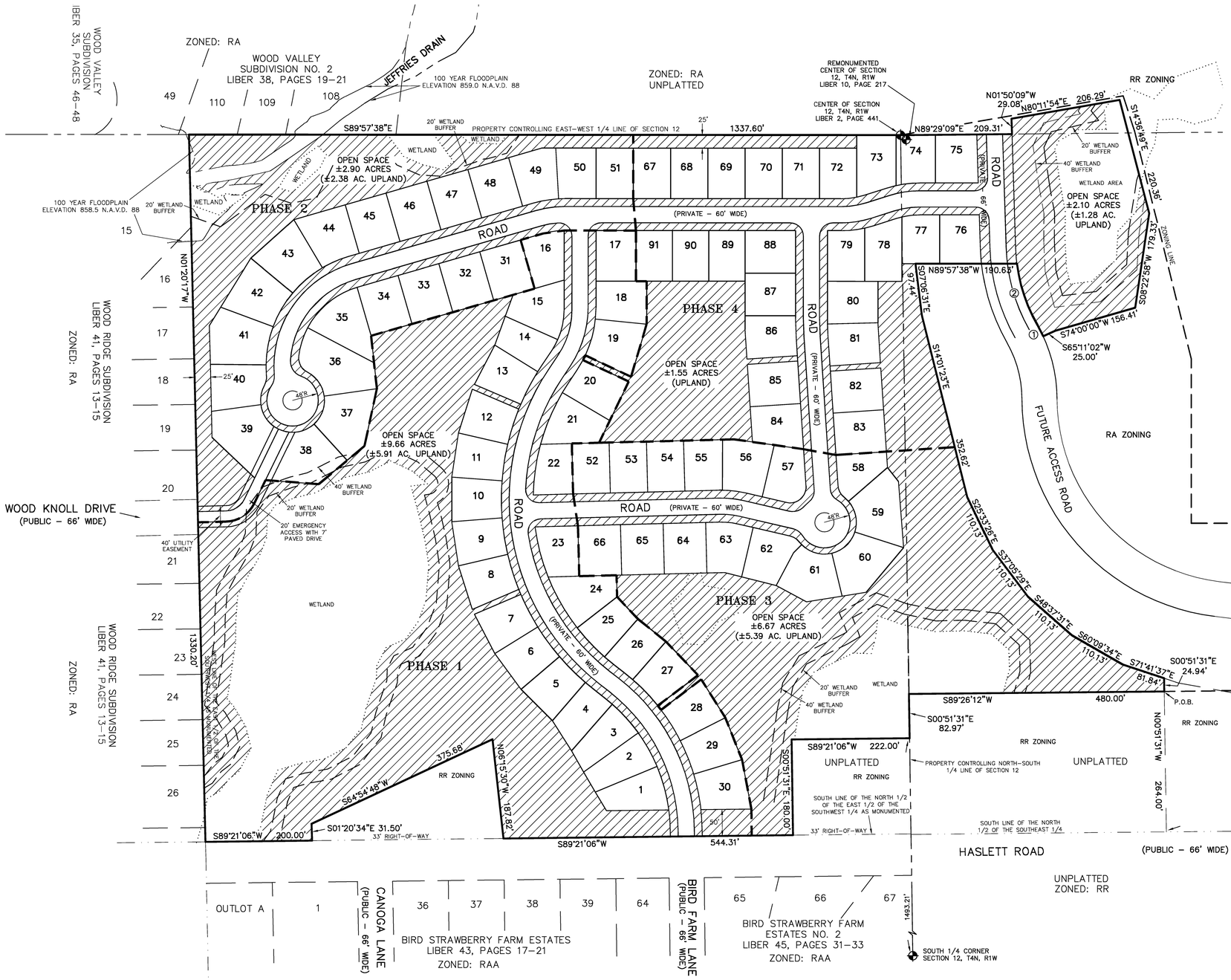
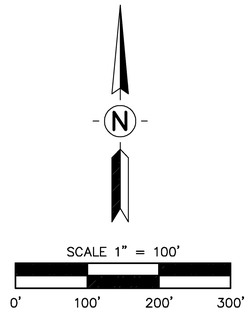
NOTE:

CURRENT 100 YEAR FLOOD ELEVATION = 863.0 N.A.V.D.88

PROPOSED 100 YEAR FLOOD ELEVATION = 858.5-859.0 N.A.V.D.88





OPEN SPACE DATA:

OPEN SPACE BETWEEN LOTS AND ROAD = ±2.74 ACRES
OPEN SPACE BEHIND LOTS = ±22.88 (±16.51 AC. UPLAND)
TOTAL OPEN SPACE = ±25.62 ACRES
- WETLANDS/FLOODPLAIN ±6.37 ACRES

TOTAL UPLAND OPEN SPACE = ±19.25 ACRES

SITE DATA:

RA ZONING
TOTAL SITE ACREAGE = ±44.70 ACRES

LEGEND

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- = FOUND IRON AS NOTED
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DRAWN BY KDB	SECTION 12, T4N, R1W
FIELD WORK BY ---	JOB NUMBER: 90535.SUB-PUD
SHEET 2 OF 2	

mayberryhomes

August 22, 2018

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

RE: Copper Creek Condominium P.U.D.

This document summarizes the revisions to the Copper Creek PUD in response to the August 13, 2018 Planning Commission Meeting.

1. Sensitivity to preservation of natural areas and increased rear yard setbacks. Close attention was paid to our neighbors to the west and north:
    a. A 25' natural buffer will be maintained adjacent to both the western border (Creekwood Lane Neighbors) and to the northern border
    b. Rear setbacks have been increased to 10' to the home and 5' for a deck or patio
2. Setbacks:
    a. Front Setback (originally proposed as 10' to include both the home and garage)
        i. 5' from property line to the home, 11' from Right-of-Way("ROW")
        ii. 14' from property line to the garage, 20' from ROW
    b. Side Setback (originally proposed as 5')
        i. 5' from property line to the home
    c. Rear Setback (originally proposed as 0')
        i. 10' from property line to the home
        ii. 5' from property line to a deck or patio
3. Secondary Access:
    a. The previous proposal included only the primary access point off Haslett Rd.
    b. The revised PUD includes the provision for a 20' emergency access with 7' paved drive between lots 38 and 39. A crash gate will be provided for access to Wood Knoll Drive
4. Revised Road Right-of-Way
    a. The Right-of-Way was increased from 50' to 60'. The detail includes a 30' road, 4' green space, 5' sidewalk, an additional 6' green space, then the property line

1650 Kendale Boulevard Suite 200, East Lansing, Michigan 48823 (517) 371-5000 phone (517) 371-5001 fax
mayberryhomes.com

5. Lot widths were increased to a minimum of 65', thus increasing the minimum sized lot from 5,022 sq. ft. to 6,329 sq. ft.
6. The east-west cul-de-sac was removed from the center of the property and replaced with a connector road to the north end of the parcel
7. Mid-Block access easements were added to promote community access to the open space

Sincerely,

David Straub
Mayberry Homes

1650 Kendale Boulevard Suite 200, East Lansing, Michigan 48823 (517) 371-5000 phone (517) 371-5001 fax
mayberryhomes.com

To: **Planning Commission**

From: **Peter Menser, Principal Planner**

Date: **October 18, 2018**

Re: **<u>Planned Unit Development #18014 (Haslett Holding LLC)</u>, develop Copper Creek PUD consisting of 88 single family residential lots on the north side of Haslett Road, east of Creekwood Lane.**

The Copper Creek PUD was last discussed at the August 27, 2018 Planning Commission meeting. Since the meeting the applicant has submitted a revised site plan that includes several changes, which are as follows:

- Increase in the setback from the western property line from 25 feet to 75 feet.
- Addition of a boulevard at the Haslett Road entrance.
- Reduction in the total number of lots in the development from 91 to 88 lots.
- Addition of a vehicular connection to Wood Knoll Drive.

In previous site plans the property owner proposed one primary entrance off Haslett Road and a second, emergency-only, gated and paved access lane out to Wood Knoll Drive. The applicant has indicated the stub street depicted at the northeast corner of the site will eventually provide a second means of access to Haslett Road, however the road is not included in the current proposal and would presumably be constructed at some point after the first three phases of the development are complete.

The current site plan provides a 60 foot wide vehicular connection to Wood Knoll Drive in the Wood Ridge subdivision to the west. Wood Ridge is a 26 lot platted subdivision originally approved in 1986. Wood Knoll Drive, which was depicted and dedicated for public use on the Wood Ridge plat, is a 66 foot wide public street currently stubbed approximately 117 feet east of Creekwood Lane. The road connection from Copper Creek encroaches into the water features setback of an adjacent wetland and would require a waiver to be constructed as proposed.

The Township's Fire Inspector had initially submitted a letter noting dissatisfaction with the emergency access proposal and stating a preference for a formal road connection. Since the revised plans have been submitted the Fire Inspector submitted a second letter noting that the vehicular connection as proposed meets the provisions of the Fire Code as it relates to access.

Generally, providing a second access to a neighborhood is good policy as it allows for emergency access in the event one entrance is compromised and alleviates traffic congestion during peak hours. A second entrance also provides convenient access for school buses, trash pick-up, snow removal, and postal delivery. The Township's subdivision regulations require at least two points of street access be provided when more than 35 lots are proposed on a single access. The connection to Wood Knoll Drive satisfies this requirement for the proposed PUD.

Planning Commission Options

The Planning Commission may recommend approval, approval with conditions, or denial of the proposed PUD. A resolution will be provided at a future meeting.

Attachments

1. Revised site plan prepared by Kebs, Inc. dated February 1, 2018 (Revision Date October 8, 2018) and received by the Township on October 10, 2018.
2. Letter from David Straub at Mayberry Homes dated October 9, 2018.
3. Letter from Township Fire Inspector Tavis Millerov dated September 5, 2018.
4. Letter from Township Fire Inspector Tavis Millerov dated October 17, 2018.
5. Approved Wood Ridge subdivision plat dated June 30, 1986.

G:\Community Planning & Development\Planning\PLANNED UNIT DEVELOPMENTS (PUD)\2018\PUD 18014 Copper Creek\PUD 18014.pc4.docx

OWNER/DEVELOPER:
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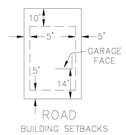

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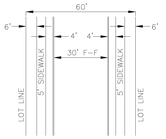

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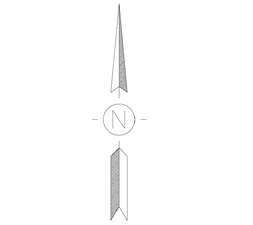
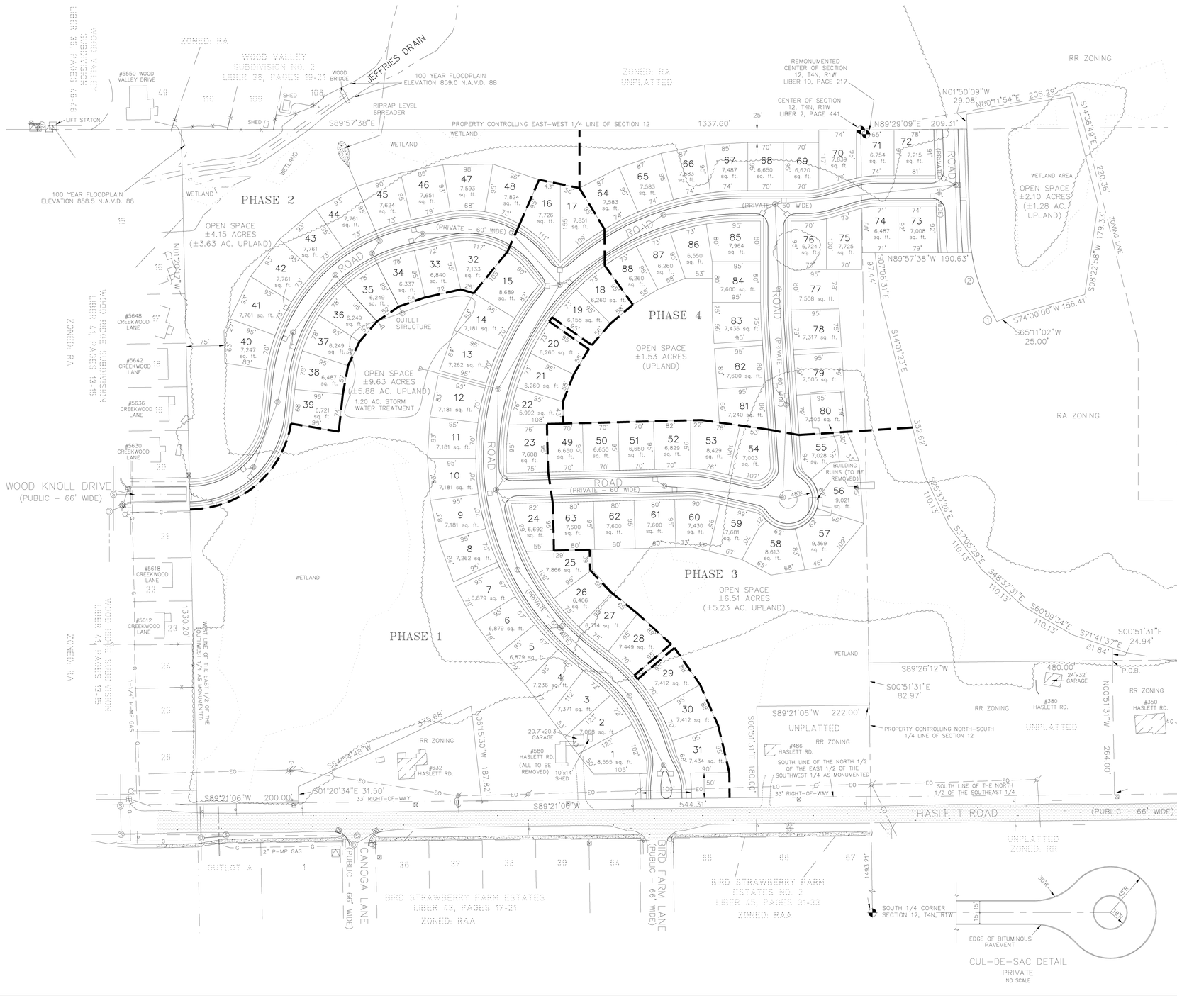




LEGAL DESCRIPTION:

A parcel of land in the Northeast 1/4, Southeast 1/4, and the Southwest 1/4 of Section 12, T4N, R1W, Meridian Township, Ingham County, Michigan, the boundary of said parcel described as: Commencing at the East 1/4 corner of said Section 12; thence S00°28'42"E along the East line of said Section 12 a distance of 1312.81 feet to the South line of the North 1/2 of said Southeast 1/4 as surveyed and the North line of Haslett Road; thence S89°26'12"W along said North line 2141.72 feet; thence N00°51'31"W parallel with the property controlling North-South 1/4 line of said Section 12 a distance of 264.00 feet to the point of beginning of this description; thence S89°26'12"W parallel with said North line 480.00 feet to a point on said North-South 1/4 line; thence S00°51'31"E along said North-South 1/4 line 82.97 feet; thence S89°21'06"W parallel with the South line of the North 1/2 of the East 1/2 of the Southwest 1/4 as monumented and the North line of Haslett Road 222.00 feet; thence S00°51'31"E parallel with said North-South 1/4 line 180.00 feet to said North line; thence S89°21'06"W along said North line 544.31 feet; thence N06°15'30"W 187.82 feet; thence S64°54'48"W 375.68 feet; thence S01°20'34"E 31.50 feet to said North line; thence S89°21'06"W along said North line 200.00 feet to a point on the West line of the East 1/2 of the North 1/2 of said Southwest 1/4 as monumented, said line also being the East line and it's extension South of Wood Ridge Subdivision, as recorded in Liber 41 of Plats Pages 13-15, Ingham County Records, said point also being S01°20'17"E 27.00 feet from the Southeast corner of Lot 26 of said Subdivision; thence N01°20'17"W along said West line 1330.20 feet to the South line of Wood Valley No. 2 as recorded in Liber 38 of Plats, Pages 19-21, Ingham County, Michigan, also being the property controlling East-West 1/4 line of said Section 12; thence S89°57'38"E along said East-West 1/4 line 1337.60 feet to the property controlling Center of Section 12 as recorded in Liber 2 of corners, Page 441; thence N89°29'09"E continuing along said East-West 1/4 line 209.31 feet; thence N01°50'09"W 29.08 feet; thence N80°11'54"E 206.29 feet; thence S14°36'49"E 220.36 feet; thence S08°22'58"W 179.33 feet; thence S74°00'00"W 156.41 feet; thence S65°11'02"W 25.00 feet; thence Northwesterly 23.56 feet on a curve to the left, said curve having a radius of 283.00 feet, a delta angle of 4°46'11" and a chord length of 23.55 feet bearing N27°12'04"W; thence Northwesterly 122.15 feet on a curve to the right, said curve having a radius of 317.00 feet, a delta angle of 22°04'43" and a chord length of 121.40 feet bearing N18°32'48"W; thence N89°57'38"W 190.63 feet; thence S07°06'31"E 97.44 feet; thence S14°01'23"E 352.62 feet; thence S25°33'26"E 110.13 feet; thence S37°05'29"E 110.13 feet; thence S48°37'31"E 110.13 feet; thence S60°09'34"E 110.13 feet; thence S71°41'37"E 81.84 feet; thence S00°51'31"E 24.94 feet to the point of beginning; said parcel containing 44.70 acres more or less; said parcel subject to all easements and restrictions if any.

NOTES:

1. ALL PROPOSED UNITS ARE FOR SINGLE FAMILY RESIDENTIAL PURPOSES.
2. GAS, SIDEWALKS, STREET LIGHTS & STREET TREES WILL BE INSTALLED FOR ALL UNITS IF REQUIRED.
3. POLICE AND FIRE PROTECTION BY MERIDIAN TOWNSHIP & SCHOOLS BY THE CITY OF HASLETT.
4. WETLANDS AS SHOWN ARE BASED ON DELINEATION BY ELISE TRIPP OF FISHBECK, THOMPSON, CARR & HUBER, INC. COMPLETED ON 11-20-17.
5. CONTOURS ARE BASED ON N.A.V.D. 88 DATUM

LEGEND

- = SET 1/2" BAR WITH CAP
- = FOUND IRON AS NOTED
- = BOUNDARY LINE
- = PHASE LINE
- = CURRENT ZONING LINE
- = DISTANCE NOT TO SCALE
- = FENCE
- = ASPHALT
- = CONCRETE
- = GRAVEL
- +860 = EXISTING SPOT ELEVATION
- 860 = EXISTING CONTOUR ELEVATION
- = WETLAND LINE
- = SANITARY SEWER
- = STORM SEWER
- = WATER LINE
- = GAS LINE
- = OVERHEAD WIRES
- = EDGE OF WOODS
- = SANITARY MANHOLE
- = DRAINAGE MANHOLE
- = ELECTRIC MANHOLE
- = TELEPHONE MANHOLE
- = CATCHBASIN
- = SANITARY CLEANOUT
- = FIRE HYDRANT
- = VALVE
- = UTILITY POLE
- = LIGHT POLE
- = GUY WIRE
- = UTILITY PEDESTAL
- = TRANSFORMER
- = HANDHOLE
- = SIGN

P.U.D. AREA = ±44.70 ACRES

WETLAND/FLOODPLAIN AREA = ±6.37 ACRES

44.70 AC. - 6.37 AC. = ±38.33 ACRES * 0.5 = ±19.17 ACRES OF OPEN SPACE REQUIRED

OPEN SPACE PROVIDED = ±20.41 ACRES

±6.37 AC./±44.70 AC. = 0.1425

NUMBER OF LOTS WITHIN CURRENT P.U.D. AREA PER YIELD PLAN = 94 LOTS

1.1425 * 94 = 107.39 UNITS ALLOWED

88 UNITS PROPOSED

LAYOUT INFORMATION:

MINIMUM LOT SIZE = 5,992 S.F. (LOT 22)
BUILDABLE AREA = 4,304 S.F.
MINIMUM LOT FRONTAGE = 61.5' (63.8' AT 5' SETBACK LINE) (LOT 56)
MAXIMUM LOT SIZE = 9,369 S.F. (LOT 57)
BUILDABLE AREA = 6,807 S.F.
MAXIMUM LOT FRONTAGE = 116.8' (LOT 32)

TOTAL ACREAGE = ±44.70 ACRES
TOTAL WETLAND/FLOODPLAIN ACREAGE = ±6.37 ACRES

TOTAL BUILDABLE AREA = ±38.33 ACRES

TOTAL UPLAND OPEN SPACE = ±20.41 ACRES

TOTAL PROPOSED UNITS = 88

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	BEARING
1	23.56'	283.00'	4°46'11"	23.55'	N27°12'04"W
2	122.15'	317.00'	22°04'43"	121.40'	N18°32'48"W

REVISIONS	COMMENTS
2/1/18	ORIGINAL
2/27/18	REVISE OPEN SPACE HATCHING
7/16/18	REVISE LAYOUT
8/22/18	ADD BUFFERS, REVISE LAYOUT
8/31/18	ADD BOULEVARD, REVISE LAYOUT
10/8/18	ADD CONNECTION, REVISE LAYOUT

KEBS, INC. ENGINEERING AND LAND SURVEYING
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX 517-339-8047
WWW.KEBS.COM
Marshall Office - Ph. 269-781-9800

DRAWN BY KDB | SECTION 12, T4N, R1W
FIELD WORK BY --- | JOB NUMBER: 90535.SUB-PUD
SHEET 1 OF 2

P.U.D. PLAN

COPPER CREEK CONDOMINIUM

A SUBDIVISION OF PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4 & SOUTHWEST 1/4 OF SECTION 12, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

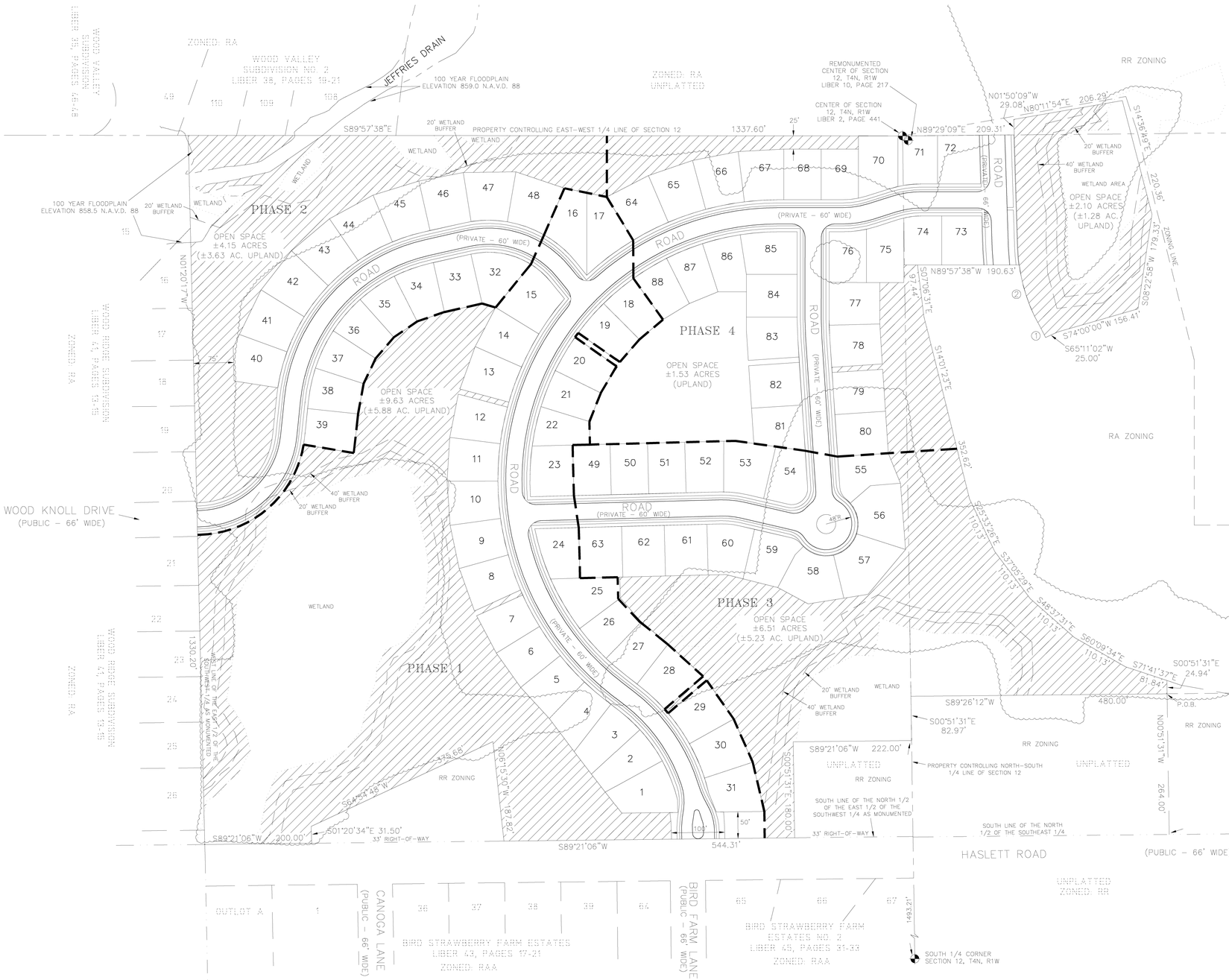
OWNER/DEVELOPER:
MAYBERRY HOMES
1650 KENDALE BOULEVARD
EAST LANSING, MI 48823
(517) 371-5000
CONTACT: BOB SCHROEDER

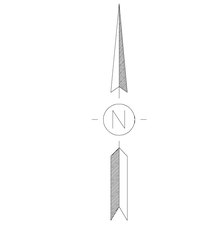
ENGINEER/SURVEYOR:
KEBS, INC.
2116 HASLETT RD.
HASLETT, MI. 48840
PH: (517) 339-1014
FAX: (517) 339-8047

NOTE:

CURRENT 100 YEAR FLOOD ELEVATION = 863.0 N.A.V.D.88

PROPOSED 100 YEAR FLOOD ELEVATION = 858.5-859.0 N.A.V.D.88





OPEN SPACE DATA:

OPEN SPACE BETWEEN LOTS AND ROAD = ±2.86 ACRES
OPEN SPACE BEHIND LOTS = ±23.92 (±17.55 AC. UPLAND)
TOTAL OPEN SPACE = ±26.78 ACRES
- WETLANDS/FLOODPLAIN ±6.37 ACRES

TOTAL UPLAND OPEN SPACE = ±20.41 ACRES

SITE DATA:

RA ZONING
TOTAL SITE ACREAGE = ±44.70 ACRES

LEGEND

- = SET 1/2" BAR WITH CAP
- = FOUND IRON AS NOTED
- = BOUNDARY LINE
- = PHASE LINE
- = CURRENT ZONING LINE
- = DISTANCE NOT TO SCALE
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- S = SANITARY MANHOLE
- D = DRAINAGE MANHOLE
- E = ELECTRIC MANHOLE
- T = TELEPHONE MANHOLE
- = CATCHBASIN
- CO = SANITARY CLEANOUT
- = FIRE HYDRANT
- = VALVE
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NOTE: WETLANDS AS SHOWN ARE BASED ON DELINEATION BY ELISE TRIPP OF FISHBECK, THOMPSON, CARR & HUBER, INC. COMPLETED ON 11-20-17.

CURVE TABLE					
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REVISIONS	COMMENTS
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DRAWN BY KDB	SECTION 12, T4N, R1W
FIELD WORK BY ---	JOB NUMBER: 90535.SUB-PUD
SHEET 2 OF 2	

mayberryhomes

October 9, 2018

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

RE: Copper Creek Condominium P.U.D.

This document summarizes the revisions to the Copper Creek PUD in response to the August 27, 2018 Planning Commission Meeting.

1. Sensitivity to preservation of natural areas:
    a. The natural buffer was increased from 25' to 75' along the western border. This acts to preserve the existing nature corridor running north and south between Copper Creek and our neighbors to the west
2. Secondary Access:
    a. The revised PUD includes a vehicular connection to Wood Knoll Drive. This decision was made based on further discussion with Township Staff and Fire. An attempt was made to design this connection for emergency access only, however for good reason Fire denied this connection. Throughout this process, we've tried to remain sensitive to our neighbors, the political situation and to our customers. Concerns for health and safety prevailed in the final decision to make this connection. A stub street currently exists on Wood Knoll Drive providing for both a vehicular and a sanitary sewer connection to Copper Creek. A traffic calming turning movement has been designed in proximity to lots 15 and 16 in an effort to help to deter traffic from using Wood Knoll Drive as a means of ingress or egress to Copper Creek
3. Boulevard Entry:
    a. A boulevard entry has been added to enhance the entrance experience and provide for simultaneous left and right hand turning movements while exiting the community
4. Open Space:
    a. Open space increased from 19.25 acres (50.2%) to 20.41 acres (53.2%)
5. Lot Count:
    a. The lot count has been reduced from 91 to 88

Sincerely,

David Straub
Mayberry Homes

1650 Kendale Boulevard Suite 200, East Lansing, Michigan 48823 (517) 371-5000 phone (517) 371-5001 fax
mayberryhomes.com

To: **Peter Menser, Principal Planner**

From: **Tavis Millerov, Fire Inspector**

Date: **September 5, 2018**

Re: **Copper Creek Development**

After reviewing the latest rendition of the Copper Creek site plan, I am reaffirming my original conclusions that a second road into the development is required. My conclusions are based on the following:

Appendix D107 of the 2015 International Fire Code (2015 IFC) clearly states any 1 or 2 family development exceeding 30 dwelling units SHALL be developed with two separate and approved fire apparatus access roads. These roads must be placed at a distance apart equal to not less than one-half the length of the maximum overall diagonal dimension of the property.

A Fire Apparatus Access Road is defined as: *A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as fire lane, public street, private street, parking lot lane and access roadway.*

Approved is defined as: *Acceptable to the fire code official.*

The minimum specifications for fire apparatus access roads are spelled out under section 503.2 of the 2015 IFC. These subsections state the road must be a minimum of 20 feet unobstructed width with a height clearance of at least 13 feet 6 inches. In addition, the surface of the access road is required to support the loads imposed by fire apparatus and is to provide all-weather driving capabilities.

The latest site plan shows detail for a 24 foot wide private paved pathway and a "crash gate" for emergency access. While this arrangement is acceptable for dimensional design of the access, the placement of the access is problematic. The longest diagonal dimension in the plan calculates to 2213 feet. At half the distance, per D107, the two access roads MUST be a MINIMAL distance of 1106.5 feet apart. In this latest plan, they are shown at a distance of 1096 feet apart. Additionally, under the premise that this development would be private road, snow and ice removal and the responsibility of maintaining the apparatus access road becomes a serious question. Especially in light of the winter conditions of other "access pathways" developed in other areas of the Township.

My recommendation is to make an open access street connection directly to Wood Knoll Drive in lieu of relocating the Haslett road entrance due to the minimal distance shortfall. By doing this, the emergency access to the development can be maintained much easier in the winter months.

To: **Peter Menser**

From: **Tavis Millerov, Fire Inspector**

Date: **October 17, 2018**

Re: **Copper Creek Development**

After reviewing the 10-8-2018 rendition of the Copper Creek site plan, I am standing by my original conclusions that a second road into the development is required. My conclusions are based on the following:

Appendix D107 of the 2015 International Fire Code (2015 IFC) clearly states **any 1 or 2 family development exceeding 30 dwelling units SHALL be developed with two separate and approved fire apparatus access roads**. These roads must be placed at a distance apart equal to not less than one-half the length of the maximum overall diagonal dimension of the property.

Definitions
Fire Apparatus Access Road: A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as fire lane, public street, private street, parking lot lane and access roadway.

Approved: Acceptable to the fire code official.

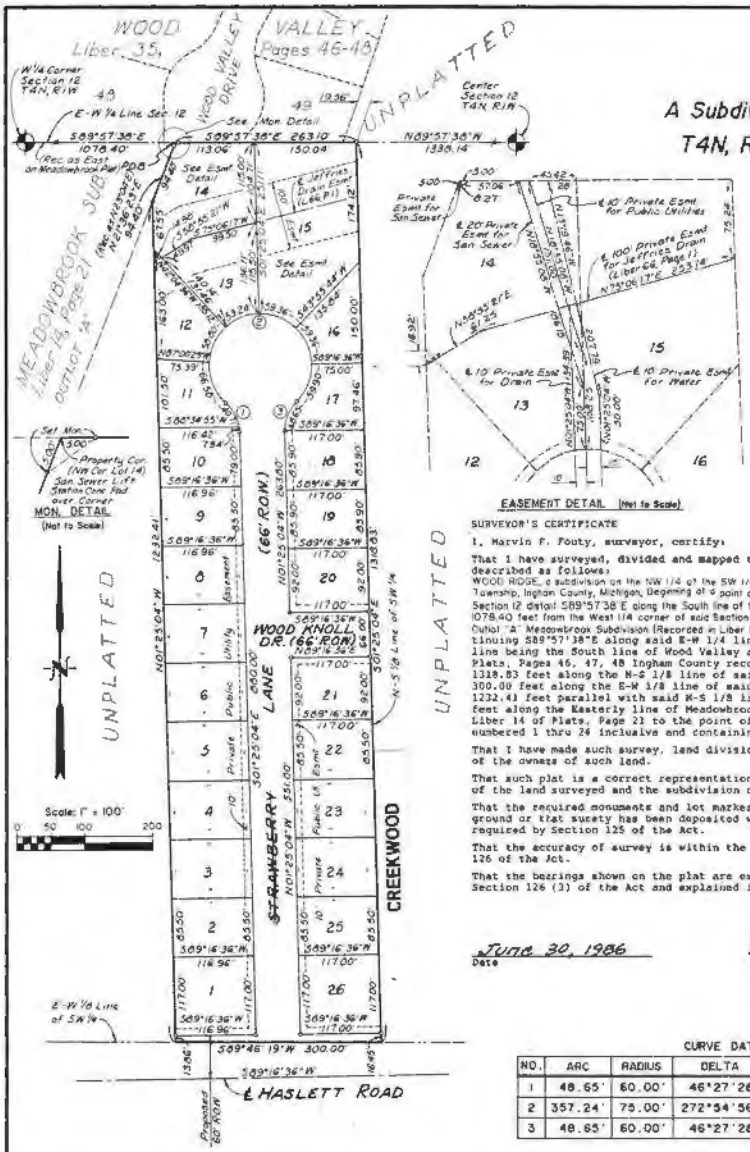
The minimum specifications of a fire apparatus access road is spelled out under section 503.2 of the 2015 IFC. These subsections state the road must be a minimum of 20 feet unobstructed width, with a height clearance of at least 13 feet 6 inches. In addition, the surface of the access road is required to support the loads imposed by fire apparatus and is to provide all-weather driving capabilities.

In the code commentary for this section, it is further explained the 20 foot clear width is required in the necessary event two apparatus must pass each other on the access road for fire-ground and/or aerial ladder operations. The code does not specify a particular surface requirement. However, the term "all-weather driving capabilities" would typically imply some type of paved or hard surface. Gravel would be prone to problems in areas subject to snowy climates.

The latest site plan showing the secondary access as connecting to the existing Wood Knoll Drive stub street meets the requirements of section D107, and is therefore acceptable to the fire code official.

WOOD RIDGE

A Subdivision on the NW 1/4 of the SW 1/4 of Section 12, T4N, R1W, Meridian Township, Ingham County, Michigan



LEGEND :

1. All dimensions are in feet.
2. All curve dimensions are arc lengths.
3. A Concrete Monuments 36" in length with 1/2" iron bars have been placed at all points marked "o"
4. Lot corners have been marked with 1/2" diameter round iron bars 18" long.
5. Bearings were established from the recorded plat of Wood Valley Subdivision, recorded in Liber 35, Pages 46, 47, 48 of Ingham County records.

LOCATION MAP
NO SCALE

SURVEYOR'S CERTIFICATE

I, Marvin F. Fouty, surveyor, certify:

That I have surveyed, divided and mapped the land shown on this plat, described as follows:
WOOD RIDGE, a subdivision on the NW 1/4 of the SW 1/4 of Section 12, T4N, R1W, Meridian Township, Ingham County, Michigan, Beginning at a point on the E-W 1/4 line of said Section 12 distant S89°57'38"E along the South line of Wood Valley and its westerly extension 1078.40 feet from the West 1/4 corner of said Section 12 being the northeasterly corner of Outlot "A" Meadowbrook Subdivision (Recorded in Liber 14, Page 21); thence continuing S89°57'38"E along said E-W 1/4 line 263.10 feet; said E-W 1/4 line being the South line of Wood Valley as recorded in Liber 35 of Plats, Pages 46, 47, 48 Ingham County records; thence S01°25'04"E 1318.83 feet along the N-S 1/8 line of said SW 1/4; thence S89°46'19"W 300.00 feet along the E-W 1/8 line of said SW 1/4; thence N01°25'04"W 1232.41 feet parallel with said N-S 1/8 line; thence N21°36'23"E 94.40 feet along the Easterly line of Meadowbrook Subdivision as recorded in Liber 14 of Plats, Page 21 to the point of beginning; containing 26 lots numbered 1 thru 26 inclusive and containing 9.048 acres more or less.

That I have made such survey, land division and plat by the direction of the owners of such land.

That such plat is a correct representation of all exterior boundaries of the land surveyed and the subdivision of it.

That the required monuments and lot markers have been located in the ground or that surety has been deposited with the municipality, as required by Section 125 of the Act.

That the accuracy of survey is within the limits required by Section 126 of the Act.

That the bearings shown on the plat are expressed as required by Section 126 (3) of the Act and explained in the legend.

MARVIN F. FOUTY, PC
717 Beech Street
East Lansing, Mich 48823

June 30, 1986
Date

Marvin F. Fouty
Marvin F. Fouty, President
Reg. Land Surveyor No. 18989

PROPRIETOR'S CERTIFICATE

J. B. Development, Incorporated a corporation duly organized and existing under the laws of the State of Michigan by James Barnhart, President and Connie Barnhart, Secretary as proprietor, has caused the land to be surveyed, divided, mapped and dedicated as represented on this plat and that the Lane, Drive and Road are for the use of the public, that the utility easements are private easements and that all other easements are for the uses shown on the plat.

J. B. Development, Incorporated
6355 Holt Road
Holt, Michigan 48842

WITNESSES:

Elaine Warner

Patrick C. Glogrich

James Barnhart, President

Connie Barnhart, Secretary

ACKNOWLEDGEMENT

State of Michigan
Ingham County

Personally came before me this 30th day of June 1986 James Barnhart President and Connie Barnhart, Secretary of the above named corporation, to me known to be the persons who executed the foregoing instrument and to me known to be such president and secretary of said corporationand acknowledged that they executed the foregoing instrument as such officers as the free act and deed of said corporation by it's authority.

My Commission expires:
April 12, 1989

Debra S. Stevenson Notary Public
Ingham County, Michigan

CURVE DATA

NO.	ARC	RADIUS	DELTA	CHORD	BEARING
1	48.65'	60.00'	46°27'28"	47.33'	N24°38'48"W
2	357.24'	75.00'	272°34'56"	103.33'	N88°34'56"E
3	48.65'	60.00'	46°27'28"	47.33'	S21°48'40"W

STATE OF MICHIGAN
MARVIN F. FOUTY
LAND SURVEYOR
No. 18989

To: **Planning Commission**

From: **Peter Menser, Principal Planner**

Date: **November 1, 2018**

Re: **<u>Planned Unit Development #18014 (Haslett Holding LLC)</u>, develop Copper Creek PUD consisting of 88 single family residential lots on the north side of Haslett Road, east of Creekwood Lane.**

The Planning Commission last discussed Planned Unit Development #18014 at its last meeting on October 22, 2018. At the meeting the Commission agreed to consider a resolution to recommend approval of the request at its next meeting on November 5, 2018.

Planning Commission Options

The Planning Commission may recommend approval, approval with conditions, or denial of the proposed PUD. A resolution to recommend approval of the PUD to the Township Board is provided.

- Motion to adopt the resolution recommending approval of Planned Unit Development #18014.

Attachment

1. Resolution to recommend approval.

G:\Community Planning & Development\Planning\PLANNED UNIT DEVELOPMENTS (PUD)\2018\PUD 18014 Copper Creek\PUD 18014.pc5.docx

RESOLUTION TO RECOMMEND APPROVAL **Planned Unit Development #18014 (Haslett Holding LLC)**

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 5th day of November, 2018, at 7:00 p.m., Local Time.

PRESENT: _____

_____

ABSENT: _____

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

WHEREAS, Haslett Holding LLC has submitted a request to establish a planned unit development (PUD) identified as Copper Creek; and

WHEREAS, the proposed planned unit development includes the construction of 88 single family residential lots on 44.70 acres located on the north side of Haslett Road, east of Creekwood Lane; and

WHEREAS, the subject site is appropriately zoned RA (Single Family-Medium Density), which allows for a planned unit development; and

WHEREAS, the Planning Commission held a public hearing at its regular meeting on August 13, 2018, and has reviewed staff material forwarded under cover memorandums dated August 6, 2018, August 24, 2018, September 6, 2018, and October 18, 2018; and

WHEREAS, the proposed planned unit development provides adequate buffering between the development and adjacent residential land uses to the west; and

WHEREAS, the proposed planned unit development meets the minimum PUD performance objective to preserve at least 50% of the project area, excluding wetlands and floodplains, as open space; and

WHEREAS, the proposed connection to Wood Knoll Drive provides for sufficient access for emergency vehicles (police, fire, ambulance) to the dwelling units in the development as required in the PUD general restrictions and standards identified in Section 86-439(c)(9) of the Code of Ordinances; and

WHEREAS, the proposed planned unit development will be harmonious and similar in character with the existing residential developments to the west, south, and north of the subject site; and

WHEREAS, the requested waivers for lot size, lot frontage, building setbacks, and water feature setbacks are necessary to facilitate preservation of open space; and

WHEREAS, the proposed planned unit development will be adequately served by public water and sanitary sewer; and

WHEREAS, the proposed planned unit development meets the minimum PUD performance objectives as stated in Section 86-439(b) of the Code of Ordinances; and

WHEREAS, the proposed development is consistent with Objective E of Goal 2 of the 2017 Master Plan to preserve open space and natural areas by utilizing the planned unit development ordinance for the project; and

WHEREAS, the proposed planned unit development is consistent with Objectives A and B of Goal 1 of the 2017 Master Plan to preserve and strengthen residential neighborhoods by ensuring new residential developments meet high standards of visual attractiveness, health and safety, and environmental sensitivity.

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby recommends approval of Planned Unit Development #18014, subject to the following conditions.

1. Approval is in accordance with the submitted site plan prepared by Kebs, Inc., dated February 1, 2018 (revision date October 8, 2018) and received by the Township on October 10, 2018.

2. The waivers requested for lot size, lot frontage, building setbacks, and water feature setbacks are recommended for approval as depicted on the submitted site plan prepared by Kebs, Inc., dated February 1, 2018 (revision date October 8, 2018) and received by the Township on October 10, 2018.

3. The applicant shall obtain all necessary permits, licenses, and approvals from the Ingham County Road Department, Ingham County Drain Commissioner, Michigan Department of Environmental Quality, and the Township, as applicable. Copies of all permits and approval letters shall be submitted to the Department of Community Planning and Development.

4. The utility, grading, and storm drainage plans for the site are subject to the approval of the Director of Public Works and Engineering and Ingham County Drain Commissioner and shall be completed in accordance with the Township Engineering Design and Construction Standards.

5. No grading or land clearing shall take place on the site until the site plan has been approved by the Director of Community Planning and Development and grading and soil erosion and sedimentation control (SESC) permits have been issued for the project.

6. The proposed roads in the development shall be built to Ingham County Road Department construction standards and shall be subject to the approval of the Director of Public Works and Engineering.

7. Construction traffic for development of the property shall only access the site from Haslett Road.

8. The proposed boulevard at Haslett Road is subject to approval from the Ingham County Road Department.

9. Any wetland boundaries or setbacks located on or adjacent to residential lots shall be clearly identified by posted signage notifying the property owner of restrictions related to grading, mowing, placement of structures, landscaping, and dumping in the wetlands. The size, number, location, and language of the signs shall be subject to the approval of the Director of Community Planning and Development.

10. The applicant shall construct a seven foot wide pathway along the Haslett Road frontage of the properties included in the development. The pathway shall be designed and constructed in accordance with Township Engineering and Construction standards. The design and location of the pathway shall be subject to the approval of the Director of Public Works and Engineering.

11. Street trees shall be provided along all internal roads in the development. The species, size, and location of the street trees shall be subject to the approval of the Director of Community Planning and Development.

12. The open space shall be reserved or dedicated by lease or conveyance of title, including beneficial ownership, to a corporation, association, or other legal entity or by reservation by means of a restrictive convenient.

ADOPTED: YEAS: _____

_____

NAYS: _____

STATE OF MICHIGAN)
) ss
COUNTY OF INGHAM)

I, the undersigned, the duly qualified and acting Chair of the Planning Commission of the Charter Township 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 5th day of November, 2018.

_____
Dante Ianni
Planning Commission Chair

6. Public Hearing

A. Planned Unit Development #18014 (Haslett Road LLC), develop Copper Creek PUD consisting of 91 single family homes on 44 acres located on the north side of Haslett Road, east of Creekwood Lane.

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

Principal Planner Menser presented an overview of Planned Unit Development #18014 and provided multiple visual documents to support the discussion.

Representative for the applicant Mr. David Straub, 1650 Boulevard in Lansing, noted his company has owned the property under discussion for five years

Jeff Kyes, from the applicant's engineer Kebs, Inc., 2116 Haslett Road, noted Creekwood Lane would initially be used for utility work but construction traffic would use Haslett Road.

Principal Planner Menser stated a second means of access for the proposed project is required.

Public Comments:

Mr Randy Kindy, 5642 Creekwood Lane, shared concerns regarding green space, land preservation, safety for residents, and the construction of a pathway.

Mr. John Hood, 5636 Creekwood Lane, shared concerns with lots 79-81, preservation of the tree row, concern of no setbacks, and inquired as to the location of the second access road.

Ms. Sheila Saliganan, 5648 Creekwood Lane, shared that her lot backs up to proposed lot 81 and that privacy and preservation of land is a great concern and keeping construction to a minimum in the current neighboring areas for the safety of children.

Mr. Michael Casby, 5624 Creekwood Lane, shared concerns of increased traffic flow on Creekwood Lane and Woodknoll, Haslett Road turn lane issues, Meridian Road increased traffic issues, and location of secondary access.

Mr. Terry Taliaferro, 832 Spring Mill Drive, shared concerns with the Jeffries Drain and involvement by the Township with trees down in the area, concerns of dredging the drain, issues with the care of local roads and reducing the lanes, the sewer sub-station infrastructure, lack of quick response to snow removal, and having the response times be delayed further by the proposed development. He stated Meridian Township may be too busy with future projects to handle the current concerns and issues that residents have.

Mr. Ned Krouse, 5413 Meridian Road, shared concerns with the northeast corner of Meridian Township being a beautiful wooded and scenic area currently but the landscape will change with the future proposed development and many issues of concern in the future for roads, lights and traffic. He is opposed to the proposal

Mr. Dany Rothfeld, 5634 Wood Valley, shared concerns with Green Road traffic. He stated there is heavy traffic from Green Road to Haslett Road and traffic coming from Williamston and it is only going to get worse and suggested installing a roundabout.

Ms. Geralyn Sue Thelen, 5548 Wood Valley Drive, shared concerns about Jeffries Drain as her property is 100% in the 100 year flood plain. She also expressed concern regarding the water run-off from neighboring rooftops, plans to dredge Jeffries drain, and sewer line problems to the lift station.

Commissioner Premoe expressed concerns with the zero foot rear yard setbacks mentioned in the proposed project.

Commissioner Cordill expressed the same concerns with the zero foot rear yard setbacks and also the five foot side yard setbacks.

Commissioner Scott-Craig asked a question regarding the "Big Picture" for future development, noting this meeting is only addressing a quarter of the property that intends to be developed in the future. Questions were raised regarding fire department regulations, future traffic, and flood issues. He said access points would need to be added if the future development involves 400 homes. He also shared questions regarding the kind of housing being proposed, price range, and the need for affordable housing.

Commissioner Trezise expressed concern with the proposed yard setbacks.

Principal Planner Menser suggested reviewing any submitted revised plans at the next meeting on August 27, 2018.

A straw poll conducted indicated the Planning Commission would like to revisit the proposal at the next meeting prior to voting on the project.

Chair Ianni closed the public hearing at 8:34 p.m. and a brief recess was taken until 8:40pm.

7. Unfinished Business

A. Rezoning #18090 (M&J Management LLC), rezone approximately 5 acres located at 1999 East Saginaw Highway from I (Industrial) to C-2 (Commercial).

Property owner Jim Phillipich, 5823 Woodbury, discussed water and sewer availability at the site. He stated there is approved sewer service to the site but there is currently no public water however negotiations are underway with the Department of Public Works and Engineering for service.

Commissioner Premoe moved to approve the rezoning, with changes to the resolution as discussed. Supported by Commissioner Trezise.

ROLL CALL VOTE FOR APPROVAL WITH CORRECTION TO RESOLUTION:
YEAS: Commissioners Premoe, Trezise, Cordill, Scott-Craig, Shrewsbury, Lane, and Ianni
NAYS: None
Motion carried 7-0

Commissioner Stivers asked if a waiver could be granted from the minimum lot area requirement of the RB zoning district so the applicant would not have to apply for a variance to build a house if the property is rezoned.

Principal Planner Menser stated the Planning Commission does not have authority to grant waivers from the lot area requirement.

A straw poll indicated the Planning Commission would be in favor of approval of Rezoning #18110 and staff was asked to prepare a resolution to approve for the next meeting.

Vice-Chair Scott-Craig closed the public hearing at 8:07 p.m.

7. Unfinished Business

A. Planned Unit Development #18014 (Haslett Road LLC), develop Copper Creek PUD consisting of 91 single family homes on 44 acres located on the north side of Haslett Road, east of Creekwood Lane.

Principal Planner Menser stated this time is an opportunity for the Planning Commission to review and discuss the revised PUD plans.

Commissioner Cordill stated concerns with the side, rear, and front setbacks.

Commissioner Trezise stated concerns relating to the single access from Haslett Road.

Vice-Chair Scott-Craig questioned the applicant's representative, David Straub, about the style of homes being considered for the project, and wanted to know if Copper Creek would resemble the Okemos Preserve planned unit development. Further points involved the proposed emergency access not being an adequate secondary access as it would be for emergency access only, and not a means for residents to enter and exit the development. Vice-Chair Scott-Craig stated there is a need for at least one additional access point and it should be built as part of the first phase.

A straw poll indicated the Planning Commission would not be in favor of Planned Unit Development #18014 as proposed and staff was asked to prepare a resolution to recommend denial for the next meeting.

8. Other Business

A. Mixed Use Planned Unit Development (MUPUD) Concept Plan – 6365 Newton Road

Principal Planner Menser introduced the mixed use planned unit development concept plan for discussion.

The applicant, Mr. Jerome Abood, 246 East Saginaw Street, explained the ideas being proposed and showed diagrams of the concept to get feedback from the commissioners.

Commissioner Premoe asked Mr. Abood if any of units in the development would be set aside as affordable housing, and if some form of senior housing had been considered.

7. Unfinished Business

A. Planned Unit Development #18014 (Haslett Road LLC), develop Copper Creek PUD consisting of 88 single family homes on 44 acres located on the north side of Haslett Road, east of Creekwood Lane.

Principal Planner Menser provided updates on the revised site plan submitted by Mayberry Homes since the August 27, 2018 Planning Commission Meeting. The natural buffer was increased to 75 feet along the western border. The revised PUD includes a vehicular connection to Wood Knoll Drive. The open space was increased to 20.41 acres and the lot count was decreased to 88 homes.

Principal Planner Menser noted Meridian Township Fire Inspector Tavis Millerov reviewed the project and concluded that a second road into the development is required and Tavis was in attendance in case anyone had questions for him tonight.

The Director of Community Planning and Development Mark Kieselbach provided an overview of a court case in 1988 regarding a previous development for the property. The Township denied a plat because of sight distance and was sued by the applicant at the time. The Township appealed and the case was heard by the State Supreme Court. Director Kieselbach concluded the issue was not related to the sight distance but rather the authority of the Township to require a second access point for the development.

Following comments by the Planning Commission, a straw poll indicated the Planning Commission would be in favor of considering a resolution to recommend approval of Planned Unit Development #18014 to the Township Board at its next meeting.

ROLL CALL VOTE:
YEAS: Commissioners Premoe, Shrewsbury, Trezise, Lane, Richards and Vice-Chair Scott-Craig
NAYS: Commissioner Stivers
MOTION CARRIES: 6-1

8. Other Business

A. 2019 Meeting Schedule.

Principal Planner Menser proposed the 2019 schedule and it was approved. He also asked for feedback regarding possibly changing the meeting times but the decision of the group resulted in maintaining the same start time of 7P.M.

Commissioner Trezise moved to approve the 2019 Meeting Schedule as proposed.
Supported by Commissioner Shrewsbury.
VOICE VOTE: Motion approved unanimously.

Planning Commission Discussion:

Commissioner Scott-Craig suggested the developers work with MDOT for further evaluation of traffic flow in this area. The traffic studies for the demographics involved in the area raise many concerns. Commissioner Scott-Craig also expressed concerns (safety and noise) for the proposed building C-7 being too close to M-78/Saginaw Highway and would prefer to see it removed and replacing it with green space. He also added that by reducing the amount of ten-unit apartment buildings from ten to nine perhaps that would allow for more flexibility in building plans.

A straw poll conducted by Chair Ianni indicated the Planning Commission would like to have a resolution to approve the Mixed Use Planned Unit Development #18044 and Special Use Permit #18091 at the next meeting.

Chair Ianni closed the public hearing at 9:36 P.M.

7. Unfinished Business

A. Planned Unit Development #18014 (Haslett Road LLC), develop Copper Creek PUD consisting of 88 single family homes on 44 acres located on the north side of Haslett Road, east of Creekwood Lane.

Commissioner Lane moved to adopt the resolution recommending approval of Planned Unit Development #18014 as outlined in the resolution.
Supported by Commissioner Richards.

VOICE VOTE:
YEAS: Commissioners Lane, Richards, Premoe, Trezise, Scott-Craig and Chair Ianni
NAYS: Commissioners Stivers and Cordill
MOTION CARRIED: 6-2

8. Other Business- None

9. Township Board, Planning Commission Officer, Committee Chair, and staff comments or Reports

Commissioner Scott-Craig noted a Redevelopment Ready Certification Ceremony being held on Friday, November 16, 2018 at 3 P.M. at the Okemos Elevations Community Room on Jolly Oak Road.

Commissioner Stivers attended the Downtown Development Authority meeting this morning and had an ongoing discussion on the tax capture plan. The Planning Commission is being asked to review the downtown area when reviewing the section for the Master Plan because there are a couple parcels that are listed as residential and should be changed to commercial so the map is accurate.

RESOLUTION TO RECOMMEND APPROVAL **Planned Unit Development #18014 (Haslett Holding LLC)**

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 5th day of November, 2018, at 7:00 p.m., Local Time.

PRESENT: Commissioners Premoe, Trezise, Cordill, Scott-Craig, Ianni, Stivers, Richards, Lane

ABSENT: Commissioner Shrewsbury

The following resolution was offered by Commissioner Lane and supported by Commissioner Richards.

WHEREAS, Haslett Holding LLC has submitted a request to establish a planned unit development (PUD) identified as Copper Creek; and

WHEREAS, the proposed planned unit development includes the construction of 88 single family residential lots on 44.70 acres located on the north side of Haslett Road, east of Creekwood Lane; and

WHEREAS, the subject site is appropriately zoned RA (Single Family-Medium Density), which allows for a planned unit development; and

WHEREAS, the Planning Commission held a public hearing at its regular meeting on August 13, 2018, and has reviewed staff material forwarded under cover memorandums dated August 6, 2018, August 24, 2018, September 6, 2018, and October 18, 2018; and

WHEREAS, the proposed planned unit development provides adequate buffering between the development and adjacent residential land uses to the west; and

WHEREAS, the proposed planned unit development meets the minimum PUD performance objective to preserve at least 50% of the project area, excluding wetlands and floodplains, as open space; and

WHEREAS, the proposed connection to Wood Knoll Drive provides for sufficient access for emergency vehicles (police, fire, ambulance) to the dwelling units in the development as required in the PUD general restrictions and standards identified in Section 86-439(c)(9) of the Code of Ordinances; and

WHEREAS, the proposed planned unit development will be harmonious and similar in character with the existing residential developments to the west, south, and north of the subject site; and

WHEREAS, the requested waivers for lot size, lot frontage, building setbacks, and water feature setbacks are necessary to facilitate preservation of open space; and

WHEREAS, the proposed planned unit development will be adequately served by public water and sanitary sewer; and

WHEREAS, the proposed planned unit development meets the minimum PUD performance objectives as stated in Section 86-439(b) of the Code of Ordinances; and

WHEREAS, the proposed development is consistent with Objective E of Goal 2 of the 2017 Master Plan to preserve open space and natural areas by utilizing the planned unit development ordinance for the project; and

WHEREAS, the proposed planned unit development is consistent with Objectives A and B of Goal 1 of the 2017 Master Plan to preserve and strengthen residential neighborhoods by ensuring new residential developments meet high standards of visual attractiveness, health and safety, and environmental sensitivity.

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby recommends approval of Planned Unit Development #18014, subject to the following conditions.

1. Approval is in accordance with the submitted site plan prepared by Kebs, Inc., dated February 1, 2018 (revision date October 8, 2018) and received by the Township on October 10, 2018.

2. The waivers requested for lot size, lot frontage, building setbacks, and water feature setbacks are recommended for approval as depicted on the submitted site plan prepared by Kebs, Inc., dated February 1, 2018 (revision date October 8, 2018) and received by the Township on October 10, 2018.

3. The applicant shall obtain all necessary permits, licenses, and approvals from the Ingham County Road Department, Ingham County Drain Commissioner, Michigan Department of Environmental Quality, and the Township, as applicable. Copies of all permits and approval letters shall be submitted to the Department of Community Planning and Development.

4. The utility, grading, and storm drainage plans for the site are subject to the approval of the Director of Public Works and Engineering and Ingham County Drain Commissioner and shall be completed in accordance with the Township Engineering Design and Construction Standards.

5. No grading or land clearing shall take place on the site until the site plan has been approved by the Director of Community Planning and Development and grading and soil erosion and sedimentation control (SESC) permits have been issued for the project.

6. The proposed roads in the development shall be built to Ingham County Road Department construction standards and shall be subject to the approval of the Director of Public Works and Engineering.

7. Construction traffic for development of the property shall only access the site from Haslett Road.

8. The proposed boulevard at Haslett Road is subject to approval from the Ingham County Road Department.

9. Any wetland boundaries or setbacks located on or adjacent to residential lots shall be clearly identified by posted signage notifying the property owner of restrictions related to grading, mowing, placement of structures, landscaping, and dumping in the wetlands. The size, number, location, and language of the signs shall be subject to the approval of the Director of Community Planning and Development.

10. The applicant shall construct a seven foot wide pathway along the Haslett Road frontage of the properties included in the development. The pathway shall be designed and constructed in accordance with Township Engineering and Construction standards. The design and location of the pathway shall be subject to the approval of the Director of Public Works and Engineering.

11. Street trees shall be provided along all internal roads in the development. The species, size, and location of the street trees shall be subject to the approval of the Director of Community Planning and Development.

12. The open space shall be reserved or dedicated by lease or conveyance of title, including beneficial ownership, to a corporation, association, or other legal entity or by reservation by means of a restrictive convenient.

ADOPTED: YEAS: Chair Ianni, Vice-Chair Scott-Craig, Secretary Premoe, Commissioners Lane, Richards, Trezise

NAYS: Commissioners Stivers and Cordill

STATE OF MICHIGAN)
) ss
COUNTY OF INGHAM)

I, the undersigned, the duly qualified and acting Chair of the Planning Commission of the Charter Township 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 5th day of November, 2018.

Dante Ianni
Planning Commission Chair

P.U.D. PLAN

COPPER CREEK CONDOMINIUM

A SUBDIVISION OF PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4 & SOUTHWEST 1/4 OF SECTION 12, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

OWNER/DEVELOPER:

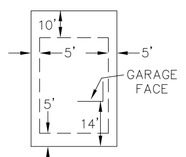
MAYBERRY HOMES
1650 KENDALE BOULEVARD
EAST LANSING, MI 48823
(517) 371-5000
CONTACT: BOB SCHROEDER

ENGINEER/SURVEYOR:

KEBS, INC.
2116 HASLETT RD.
HASLETT, MI. 48840
PH: (517) 339-1014
FAX: (517) 339-8047

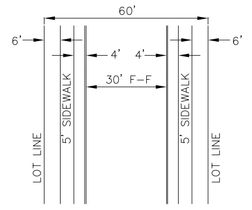
NOTE:

100 YEAR FLOOD ELEVATION = 858.5-859.0 N.A.V.D.88 BASED ON MODELING AS APPROVED BY MDEQ IN LETTER DATED JANUARY 29, 2015.

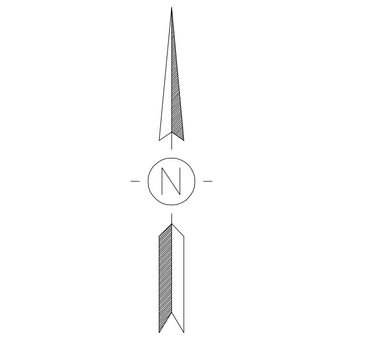


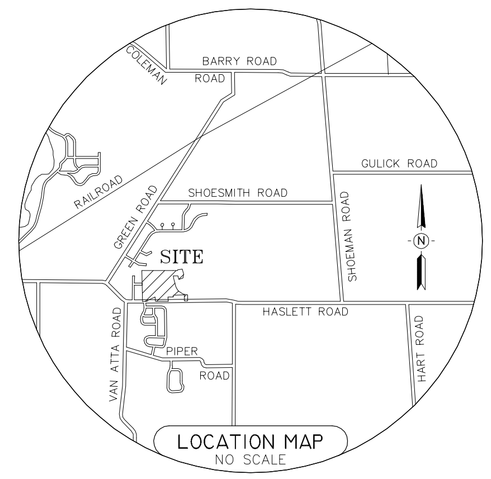
BUILDING SETBACKS (TYPICAL) NOT TO SCALE

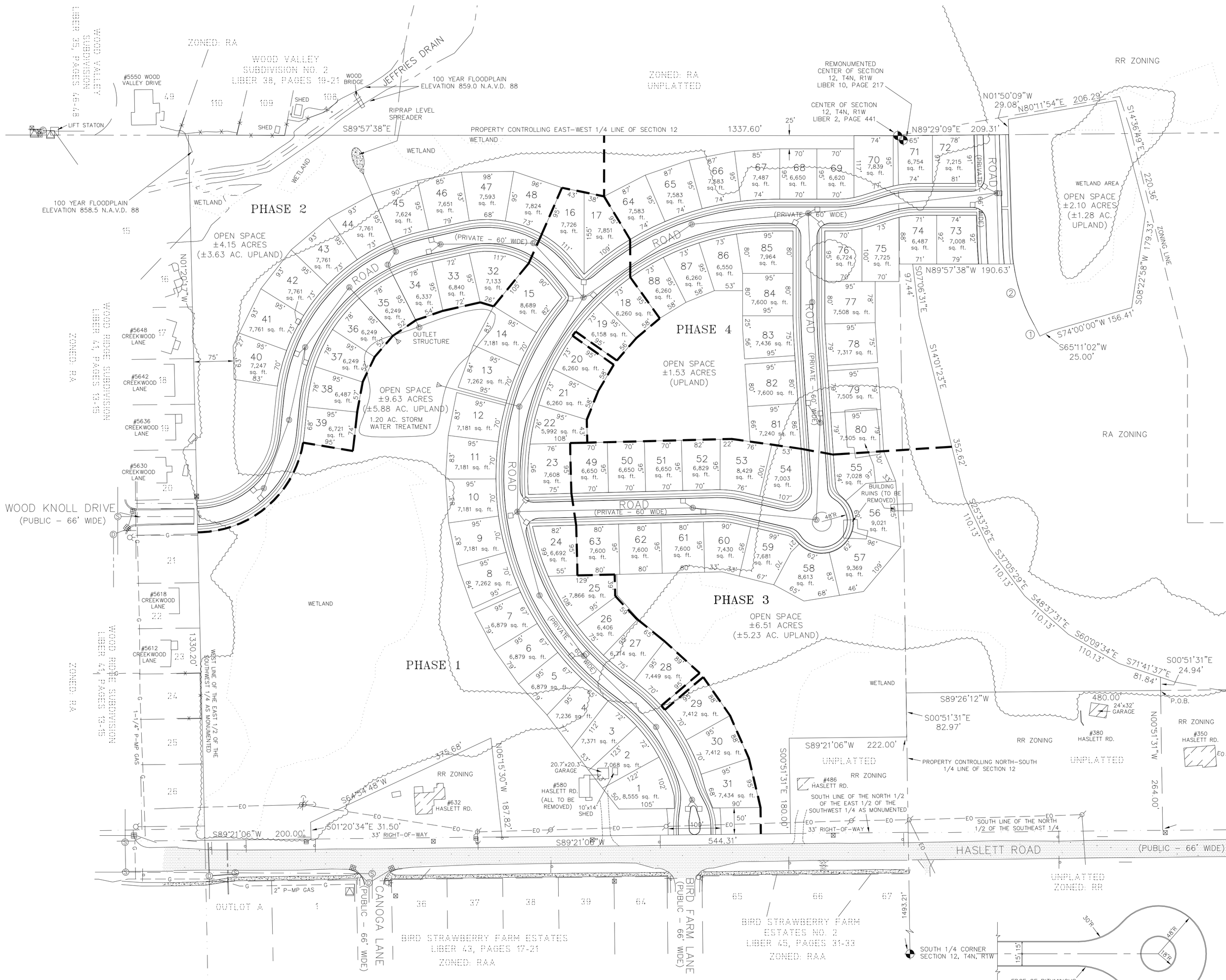
NOTE: THERE IS A 5' REAR SETBACK TO DECKS/PATIOS



ROAD DETAIL NOT TO SCALE







LEGAL DESCRIPTION:

A parcel of land in the Northeast 1/4, Southeast 1/4, and the Southwest 1/4 of Section 12, T4N, R1W, Meridian Township, Ingham County, Michigan, the boundary of said parcel described as: Commencing at the East 1/4 corner of said Section 12; thence S00°28'42"E along the East line of said Section 12 a distance of 1312.81 feet to the South line of the North 1/2 of said Southeast 1/4 as surveyed and the North line of Haslett Road; thence S89°26'12"W along said North line 2141.72 feet; thence N00°51'31"W parallel with the property controlling North-South 1/4 line of said Section 12 a distance of 264.00 feet to the point of beginning of this description; thence S89°26'12"W parallel with said North line 480.00 feet to a point on said North-South 1/4 line; thence S00°51'31"E along said North-South 1/4 line 82.97 feet; thence S89°21'06"W parallel with the South line of the North 1/2 of the East 1/2 of the Southwest 1/4 as monumented and the North line of Haslett Road 222.00 feet; thence S00°51'31"E parallel with said North-South 1/4 line 180.00 feet to said North line; thence S89°21'06"W along said North line 544.31 feet; thence N06°15'30"W 187.82 feet; thence S64°54'48"W 375.68 feet; thence S01°20'34"E 31.50 feet to said North line; thence S89°21'06"W along said North line 200.00 feet to a point on the West line of the East 1/2 of the North 1/2 of said Southwest 1/4 as monumented, said line also being the East line and it's extension South of Wood Ridge Subdivision, as recorded in Liber 41 of Plats Pages 13-15, Ingham County Records, said point also being S01°20'17"E 27.00 feet from the Southeast corner of Lot 26 of said Subdivision; thence N01°20'17"W along said West line 1330.20 feet to the South line of Wood Valley No. 2 as recorded in Liber 38 of Plats, Pages 19-21, Ingham County Records, also being the property controlling East-West 1/4 line of said Section 12; thence S89°57'38"E along said East-West 1/4 line 1337.60 feet to the property controlling Center of Section 12 as recorded in Liber 2 of corners, Page 441; thence N89°29'09"E continuing along said East-West 1/4 line 209.31 feet; thence N01°50'09"W 29.08 feet; thence N80°11'54"E 206.29 feet; thence S14°36'49"E 220.36 feet; thence S08°22'58"W 179.33 feet; thence S74°00'00"W 156.41 feet; thence S65°11'02"W 25.00 feet; thence Northwesterly 23.56 feet on a curve to the left, said curve having a radius of 283.00 feet, a delta angle of 4°46'11" and a chord length of 23.55 feet bearing N27°12'04"W; thence Northwesterly 122.15 feet on a curve to the right, said curve having a radius of 317.00 feet, a delta angle of 22°04'43" and a chord length of 121.40 feet bearing N18°32'48"W; thence N89°57'38"W 190.63 feet; thence S07°06'31"E 97.44 feet; thence S14°01'23"E 352.62 feet; thence S25°33'26"E 110.13 feet; thence S37°05'29"E 110.13 feet; thence S48°37'31"E 110.13 feet; thence S60°09'34"E 110.13 feet; thence S71°41'37"E 81.84 feet; thence S00°51'31"E 24.94 feet to the point of beginning; said parcel containing 44.70 acres more or less; said parcel subject to all easements and restrictions if any.

NOTES:

1. ALL PROPOSED UNITS ARE FOR SINGLE FAMILY RESIDENTIAL PURPOSES.
2. GAS, SIDEWALKS, STREET LIGHTS & STREET TREES WILL BE INSTALLED FOR ALL UNITS IF REQUIRED.
3. POLICE AND FIRE PROTECTION BY MERIDIAN TOWNSHIP & SCHOOLS BY THE CITY OF HASLETT.
4. WETLANDS AS SHOWN ARE BASED ON DELINEATION BY ELISE TRIPP OF FISHBECK, THOMPSON, CARR & HUBER, INC. COMPLETED ON 11-20-17.
5. CONTOURS ARE BASED ON N.A.V.D. 88 DATUM

LEGEND

- = SET 1/2" BAR WITH CAP
- = FOUND IRON AS NOTED
- = BOUNDARY LINE
- = PHASE LINE
- = CURRENT ZONING LINE
- = DISTANCE NOT TO SCALE
- = FENCE
- = ASPHALT
- = CONCRETE
- = GRAVEL
- = EXISTING SPOT ELEVATION
- = EXISTING CONTOUR ELEVATION
- = WETLAND LINE
- = SANITARY SEWER
- = STORM SEWER
- = WATER LINE
- = GAS LINE
- = OVERHEAD WIRES
- = EDGE OF WOODS
- = SANITARY MANHOLE
- = DRAINAGE MANHOLE
- = ELECTRIC MANHOLE
- = TELEPHONE MANHOLE
- = CATCHBASIN
- = SANITARY CLEANOUT
- = FIRE HYDRANT
- = VALVE
- = UTILITY POLE
- = LIGHT POLE
- = GUY WIRE
- = UTILITY PEDESTAL
- = TRANSFORMER
- = HANDHOLE
- = SIGN

P.U.D. AREA = ±44.70 ACRES

WETLAND/FLOODPLAIN AREA = ±6.37 ACRES

44.70 AC. - 6.37 AC. = ±38.33 ACRES * 0.5 = ±19.17 ACRES OF OPEN SPACE REQUIRED

OPEN SPACE PROVIDED = ±20.41 ACRES

±6.37 AC./±44.70 AC. = 0.1425

NUMBER OF LOTS WITHIN CURRENT P.U.D. AREA PER YIELD PLAN = 94 LOTS

1.1425 * 94 = 107.39 UNITS ALLOWED

88 UNITS PROPOSED

LAYOUT INFORMATION:

MINIMUM LOT SIZE = 5,992 S.F. (LOT 22)
BUILDABLE AREA = 4,304 S.F.
MINIMUM LOT FRONTAGE = 61.5' (63.8' AT 5' SETBACK LINE) (LOT 56)
MAXIMUM LOT SIZE = 9,369 S.F. (LOT 57)
BUILDABLE AREA = 6,807 S.F.
MAXIMUM LOT FRONTAGE = 116.8' (LOT 32)

TOTAL ACREAGE = ±44.70 ACRES
TOTAL WETLAND/FLOODPLAIN ACREAGE = ±6.37 ACRES

TOTAL BUILDABLE AREA = ±38.33 ACRES

TOTAL UPLAND OPEN SPACE = ±20.41 ACRES

TOTAL PROPOSED UNITS = 88

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	CHORD	BEARING
1	23.56'	283.00'	4°46'11"	23.55'	N27°12'04"W
2	122.15'	317.00'	22°04'43"	121.40'	N18°32'48"W

REVISIONS	COMMENTS
2/1/18	ORIGINAL
2/27/18	REVISE OPEN SPACE HATCHING
7/16/18	REVISE LAYOUT
8/22/18	ADD BUFFERS, REVISE LAYOUT
8/31/18	ADD BOULEVARD, REVISE LAYOUT
10/8/18	ADD CONNECTION, REVISE LAYOUT

KEBS, INC. ENGINEERING AND LAND SURVEYING
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX 517-339-8047
WWW.KEBS.COM
Marshall Office - Ph. 269-781-9800

DRAWN BY KDB | SECTION 12, T4N, R1W
FIELD WORK BY --- | JOB NUMBER: 90535.SUB-PUD
SHEET 1 OF 2

P.U.D. PLAN

COPPER CREEK CONDOMINIUM

A SUBDIVISION OF PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4 & SOUTHWEST 1/4 OF SECTION 12, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

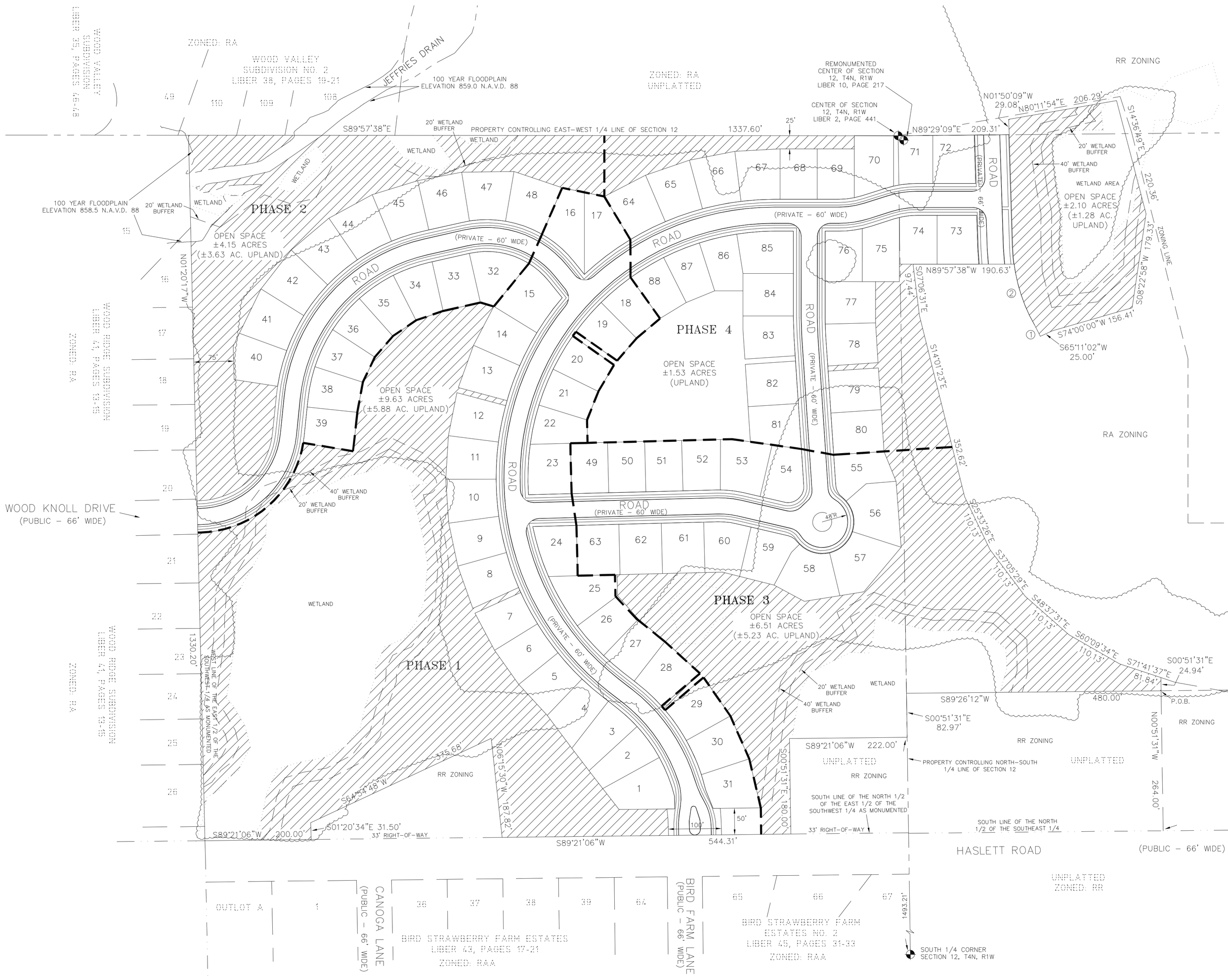
OWNER/DEVELOPER:
MAYBERRY HOMES
1650 KENDALE BOULEVARD
EAST LANSING, MI 48823
(517) 371-5000
CONTACT: BOB SCHROEDER

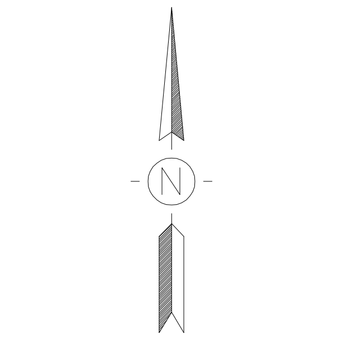
ENGINEER/SURVEYOR:
KEBS, INC.
2116 HASLETT RD.
HASLETT, MI. 48840
PH: (517) 339-1014
FAX: (517) 339-8047

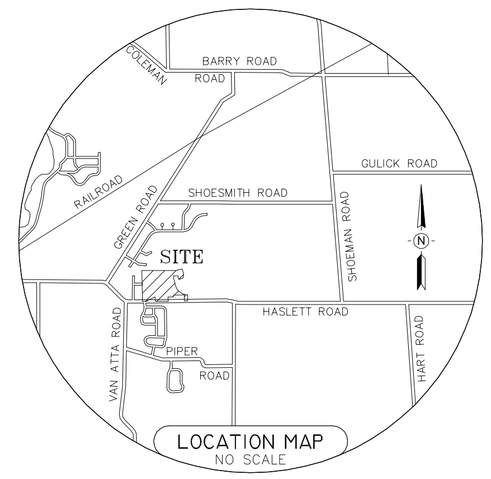
NOTE:

CURRENT 100 YEAR FLOOD ELEVATION = 863.0 N.A.V.D.88

PROPOSED 100 YEAR FLOOD ELEVATION = 858.5-859.0 N.A.V.D.88







OPEN SPACE DATA:

OPEN SPACE BETWEEN LOTS AND ROAD = ±2.86 ACRES
OPEN SPACE BEHIND LOTS = ±23.92 (±17.55 AC. UPLAND)
TOTAL OPEN SPACE = ±26.78 ACRES
- WETLANDS/FLOODPLAIN ±6.37 ACRES

TOTAL UPLAND OPEN SPACE = ±20.41 ACRES

SITE DATA:

RA ZONING
TOTAL SITE ACREAGE = ±44.70 ACRES

LEGEND

- = SET 1/2" BAR WITH CAP
- = FOUND IRON AS NOTED
- = BOUNDARY LINE
- = PHASE LINE
- = CURRENT ZONING LINE
- = DISTANCE NOT TO SCALE
- = FENCE
- = ASPHALT
- = CONCRETE
- = GRAVEL
- +860 = EXISTING SPOT ELEVATION
- 860 = EXISTING CONTOUR ELEVATION
- = WETLAND LINE
- = SANITARY SEWER
- = STORM SEWER
- = WATER LINE
- G = GAS LINE
- EO = OVERHEAD WIRES
- = EDGE OF WOODS
- S = SANITARY MANHOLE
- D = DRAINAGE MANHOLE
- E = ELECTRIC MANHOLE
- T = TELEPHONE MANHOLE
- = CATCHBASIN
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- = FIRE HYDRANT
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- = LIGHT POLE
- = GUY WIRE
- = UTILITY PEDESTAL
- = TRANSFORMER
- = HANDHOLE
- = SIGN

NOTE: WETLANDS AS SHOWN ARE BASED ON DELINEATION BY ELISE TRIPP OF FISHBECK, THOMPSON, CARR & HUBER, INC. COMPLETED ON 11-20-17.

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	BEARING
1	23.56'	283.00'	4°46'11"	23.55'	N27°12'04"W
2	122.15'	317.00'	22°04'43"	121.40'	N18°32'48"W

REVISIONS	COMMENTS
2/1/18	ORIGINAL
2/27/18	REVISE OPEN SPACE HATCHING
7/16/18	REVISE LAYOUT
8/22/18	ADD BUFFERS, REVISE LAYOUT
8/31/18	ADD BOULEVARD, REVISE LAYOUT
10/8/18	ADD CONNECTION, REVISE LAYOUT

KEBS, INC. ENGINEERING AND LAND SURVEYING
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX 517-339-8047
WWW.KEBS.COM
Marshall Office - Ph. 269-781-9800

DRAWN BY KDB	SECTION 12, T4N, R1W
FIELD WORK BY ---	JOB NUMBER: 90535.SUB-PUD
SHEET 2 OF 2	

PUD PLAN

COPPER CREEK CONDOMINIUM

Meridian Township, Ingram County, MI

mayberryhomes

Peter Menser

From: M W. Casby <casbymw@yahoo.com>
Sent: Thursday, August 02, 2018 10:23 AM
To: Peter Menser
Subject: Planned Unit Development #18090 (M&J Management LLC), east of Creekwood Lane in section 12 of the Township.

My name is Michael W. Casby. My wife and I – Betty – are long-term residents of: 5624 Creekwood Lane, Haslett, MI 48840. With this correspondence we would like to submit the following comments for the record with regard to: Planned Unit Development #18090 (M&J Management LLC), east of Creekwood Lane in section 12 of the Township. Please submit this to the Planning Commission record for the planned meeting of August 13, 2018.

The woodland/wetland/nature area running just east of the length Creekwood Lane must be preserved. It is a habitat for numerous protected migratory birds, to include – cardinals, blue birds, robins, woodpeckers, as well as others. This area also serves an important drainage function for the land. New home owners to its east will, no doubt, want this area to remain as well, as it will act as a natural sight and sound buffer and nature preserve.

Construction traffic must be prohibited from Creekwood Lane/Wood Knoll Lane. It is a narrow street, and heavily parked on; many times making two-way traffic impossible. Furthermore, it is very busy with young children throughout the day and evening.

Entrance to any new subdivision in this area should be off of Haslett Road, and not via Creekwood Lane/Wood Knoll Lane. Creekwood Lane is a long-established, no-outlet/dead-end, cul-de-sac that needs protection from any ingress/egress to the property to its east. Any increase in traffic would add considerable health, safety, and quality-of-life concerns.

We believe that the needs, requests of the citizens should be upheld. These are simple, necessary requests that will support positive health, safety, and quality of life. We believe that they are very reasonable, non-obstructive, and should take precedence over rebuttals of a developer.

Thank you, and the Planning Commission for its consideration.

Cordially,
Michael W., and Betty Casby
(517-648-1665)

Future Land Use Classifications and Summaries

Current (Summarized)	Proposed
Agricultural / Educational *Agricultural land owned entirely by Michigan State University and used for research and classes, helping to preserve the agricultural character once prevalent throughout the Township.*	**Agricultural / Educational** (1470 acres, 7.82%) *No Changes Proposed*
Single-family Residential 0-0.5 DU/A *The lowest density residential areas are intended to preserve the rural and agricultural character of the eastern one-third of the Township.* **Single-family Residential 0.5-1.25 DU/A** *Low density single-family residential areas which are characterized by natural settings, wetlands, and stands of vegetation.*	**(R1) Single-family Residential 0-1.25 DU/A** (4724 acres, 25.11%) *The low density residential areas are intended to preserve rural and agricultural character. These areas, characterized by agricultural fields, natural settings, wetlands, and stands of vegetation, are generally found in the eastern one-third of the Township. No water and sewer service should be extended to these locations.*
Single-family Residential 1.25-3.5 DU/A *The most prevalent residential category in the Township, these medium density areas are characterized by suburban amenities, planned aesthetic, and proximity to retail centers.*	**(R2) Single-family Residential 1.25-3.5 DU/A** (6086 acres, 32.35%) *The most prevalent residential category in the Township, these medium density areas are characterized by suburban amenities, planned aesthetic, and proximity to retail centers. These areas are found throughout the western two-thirds of the Township. New development should be encouraged to include 20% of all units specifically designated as workforce housing (100% Area Median Income (AMI)) and 15% of all units designated for affordable housing (30-80% AMI).*
Single-family Residential 3.5-5 DU/A *High density single-family housing mixed with duplexes and small townhomes are intended to provide a more walkable community character, with access to numerous amenities nearby.*	**(R3) Single-family Residential 1.25-3.5 DU/A, with Infill Density Encouraged up to 5 DU/A** (810 acres, 4.30%) *This single-family residential category is similar in feel and function to the R2, characterized by suburban amenities and proximity to retail centers. These areas have the additional benefit of proximity to mixed-use cores of activity. Efforts to increase walkability and residential density through infill development, accessory dwelling units, and prioritization of pedestrian movement should be encouraged in these areas. Accessory units that qualify as affordable housing (30-80% AMI) should be encouraged.*
Multi-family Residential 5-8 DU/A *Multi-family residential character of light intensity, this density provides for housing types that transition between high-intensity uses and lower-intensity single-family residential development.* **Multi-family Residential 8-14 DU/A** *The highest residential density permitted within the Township, this category provides multiple-family housing along major thoroughfares with access to public transportation routes and amenities.*	**Multi-family Residential 5-14 DU/A** (883 acres, 4.69%) *The multi-family residential category provides housing opportunities of varying intensity. These areas are found throughout the western two-thirds of the Township, regularly adjacent to main transportation routes and public transit opportunities. These areas are also found in transition zones between high-intensity commercial uses and low-intensity single-family housing. New multiple-family developments should be required to provide affordable housing (30-80% AMI) in 35% of all new units.*
Commercial *Community and neighborhood service businesses scaled to supplement the commercial core in strategic locations throughout the Township.* **Office** *Commercial businesses intended to directly provide services or employment opportunities within the Township, including small-scale professional offices and larger scale office parks and corporate headquarters.* **Commercial Core** *The Commercial Core is the aggregation of nationally and regionally significant businesses surrounding and including the Meridian Mall.*	**Mixed-Use Core** (268 acres, 3.38%) *The mixed-use core should promote walkable, self-sustaining districts by combining residential and neighborhood-focused commercial opportunities. Building and streetscape forms should be pedestrian-friendly, with outdoor dining and entertainment options, easy access to public transit, and upper-floor residential options.* **Commercial** (637 acres, 3.38%) *Commercial areas are those that provide goods and services on a regional and Township-wide scale. Large, national retailers and restaurants mix with regional draws and specialty stores at varying scales. Indoor malls, stores requiring large lots, and smaller strip malls all characterize the retail opportunities in the commercial areas. Service providers, professional offices, banks, and other regional office uses should be encouraged in commercial areas throughout the Township.*
Industrial *Land and facilities intended to provide light industrial, warehousing, research, and related uses to the community and region.* **Research Park** *Research parks are provided as employment centers for Township and region residents and are not intended to directly provide goods and services to the community.*	**Business and Technology** (388 acres, 2.06%) *Business and Technology areas are employment centers for residents of the Township and the Lansing region. These areas should serve the community's need for research facilities, light industrial opportunities, or corporate campuses. These areas are not intended to directly provide goods and services to the community.*
Institutional *Publicly or privately owned facilities providing recreational, educational, religious, governmental, or other public services to the community.*	**Institutional** (1312 acres, 6.98%) *No Changes Proposed*

Peter Menser

From: Oneill, Craig <oneillc@osp.msu.edu>
Sent: Friday, August 03, 2018 2:05 PM
To: Peter Menser
Subject: PUD 18014
Attachments: MERIDIAN TOWNSHIP MASTER PLAN June 27 2016-.pdf

Hi Peter,
Thanks for discussing the Planned Unit Development #18014 today. I appreciate your expertise and understanding regarding development of the 98 lots with 39 lots on the western portion of the property identified on your provided map. If the approximate space is 44.70 acres and is Zoned RA (Single Family, Medium Density), the math would mean that it would be about .45 per acre lots or 2.2 houses per acre assuming all the land is usable.

My concern is that using the RA higher scale levels of houses/acre would not be consistent with the abutting neighborhoods. Based on the known issues with wetlands*, it appears that not all this land will be buildable. So I guess the spaces between the houses could be very tight. Assuming that I have the correct definition ("R2" from the June Meridian Township Master Plan), the developer is allowed to build up to 3.5 houses on each acre if the plan is approved. Assuming the max, that would mean that about 28 acres could be used out of the approximate 44.7 leaving the other 16.7 acres for drainage and wetlands (if my math his right). So maybe the location cannot or should not support the proposed number of lots.

My concern is that the new development will encroach on the current drainage system called the Jefferies Drain System (http://www.inghamdrains.org/Drains/township_maps/Meridian_NE_36x41_10.2.pdf) including the adjacent wetlands* and that this will cause major issues for upstream home-owners from the proposed PUD (as well as the wildlife that lives in those wetlands) if not addressed in the plan. Maybe the developer will need to provide a proven drainage plan to ensure that water will not backup during spring flooding and high rain seasons.

I trust that these concerns will be addressed by the Meridian Township Planning Commission before giving the ?Haslett Development LLC? the go-ahead. Please feel free to share these comments and images provided below at the August 8th meeting if appropriate.

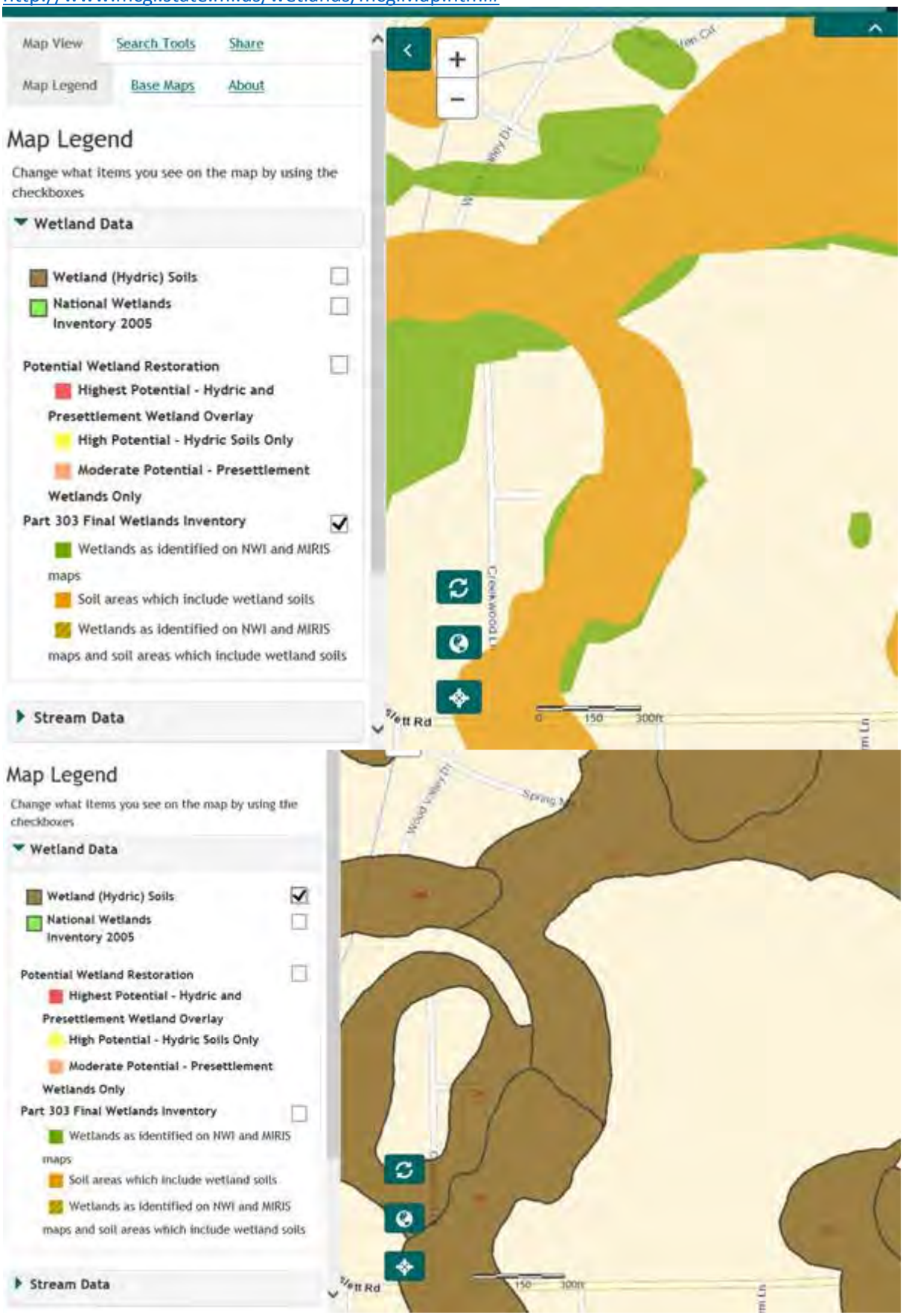
Kindest regards,
Craig O'Neill
861 Moss Glen Circle
Haslett

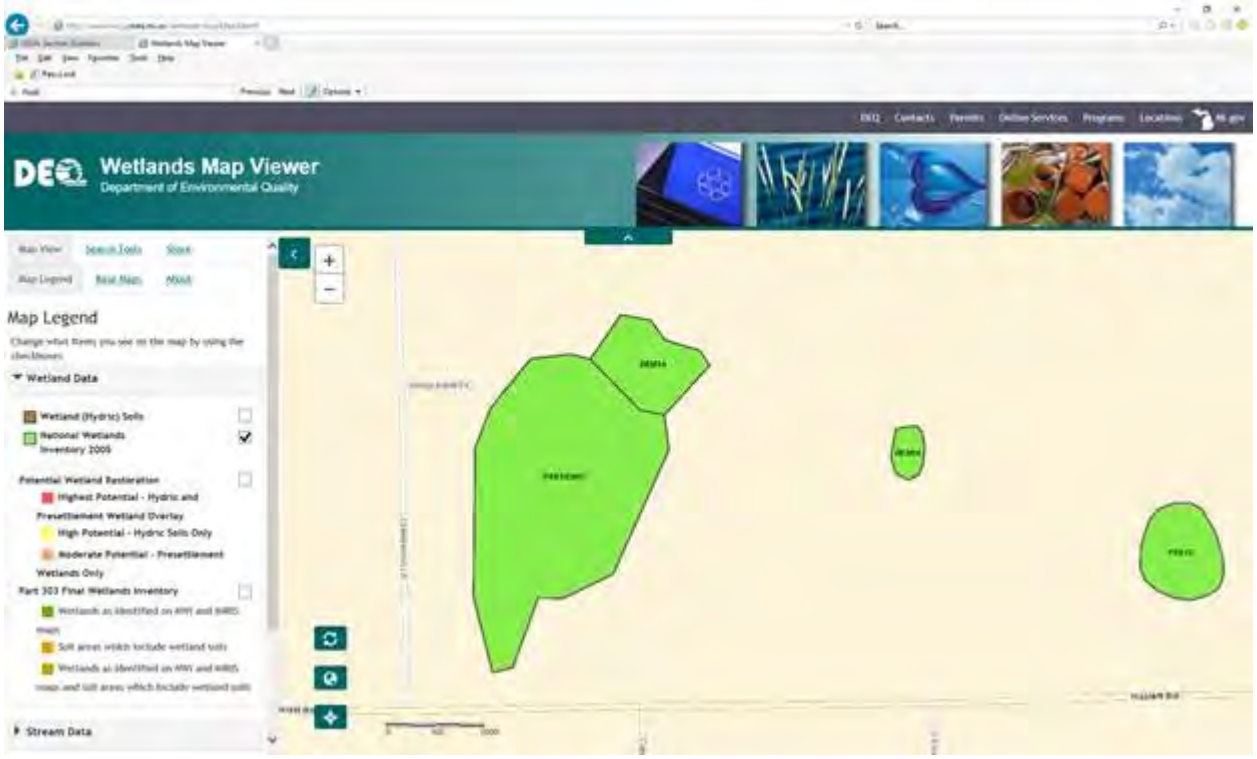
From the June 27, 2016 Meridian Township Master Plan:
The most prevalent residential category in the Township, these medium density areas are characterized by suburban amenities, planned aesthetic, and proximity to retail centers.
…R2) Single-family Residential 1.25-3.5 DU/A (6086 acres, 32.35%) The most prevalent residential category in the Township, these medium density areas are characterized by suburban amenities, planned aesthetic, and proximity to retail centers. These areas are found throughout the western two-thirds of the Township. New development should be encouraged to include 20% of all units specifically designated as workforce housing
(100% Area Median Income (AMI)) and 15% of all units designated for affordable housing (30-80% AMI).

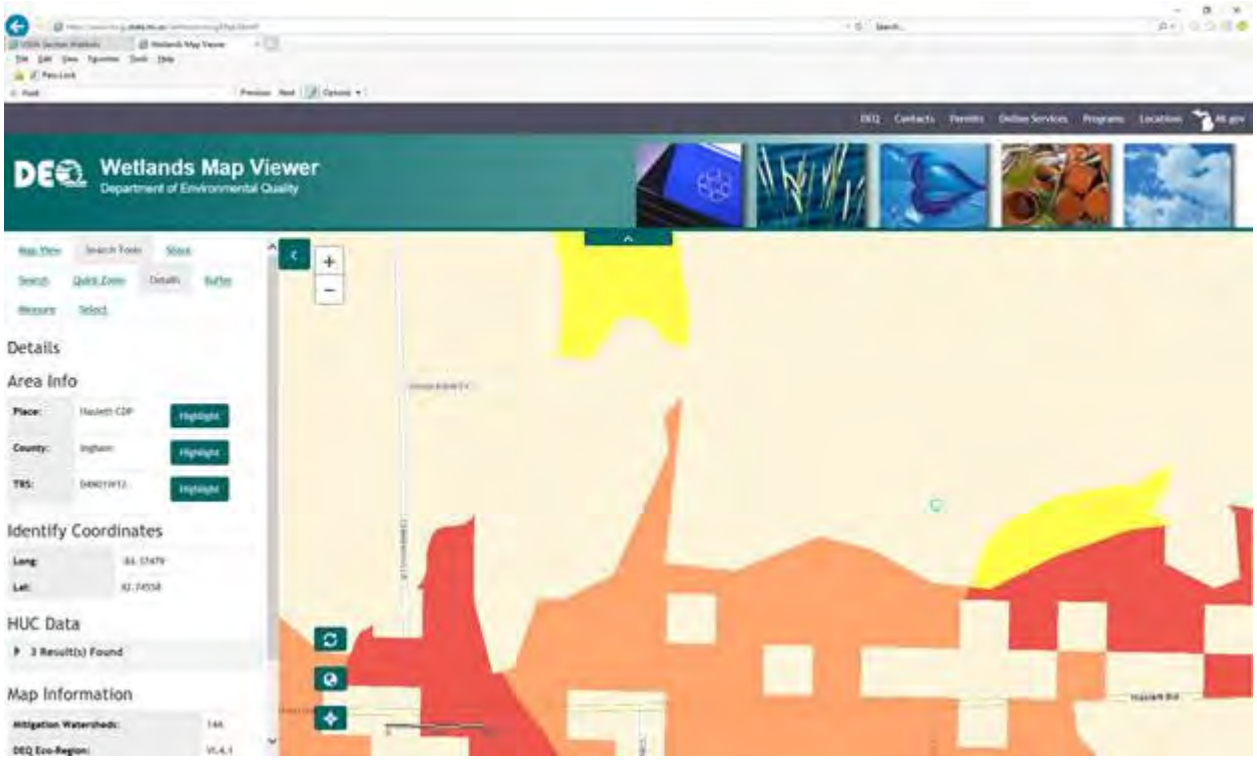
PUD 18014

*

http://www.mcgi.state.mi.us/wetlands/mcgiMap.html#




DEQ Wetlands Map Viewer
Department of Environmental Quality
Map Legend
Wetland Data
Wetland (Hydric) Soils
National Wetlands Inventory 2005
Potential Wetland Restoration
Highest Potential - Hydric and Presettlement Wetland Overlay
High Potential - Hydric Soils Only
Moderate Potential - Presettlement Wetlands Only
Part 303 Final Wetlands Inventory
Stream Data


DEQ Wetlands Map Viewer
Department of Environmental Quality
Details
Area Info
Place:
County:
TRS:
Highlight
Identify Coordinates
Long:
Lat:
HUC Data
3 Result(s) Found
Map Information
Mitigation Watersheds:
DEQ Eco-Region:

PUD 18014

RE: Planned Unit Development #18090 (M & J Management LLC)

Dear Property Owner/Occupant:

This is to notify you that the Planning Commission of the Charter Township of Meridian will hold a public hearing regarding a request from Haslett Holding LLC for a proposed planned unit development consisting of 98 lots with 39 lots on the western portion of the property being in phase 1. The approximate 44.70 acre parcel is zoned RA (Single Family, Medium Density). The subject site is located on the north side of Haslett Road, east of Creekwood lane in section 12 of the Township.

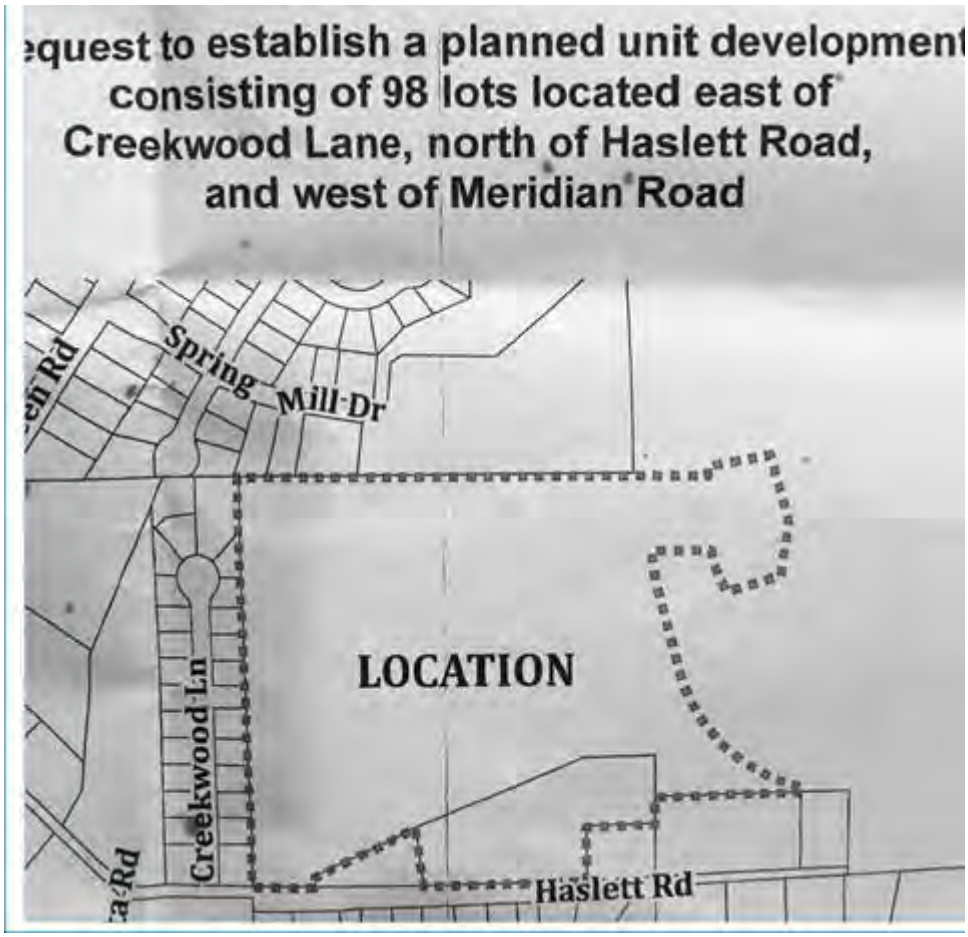
The public hearing will be held during the Planning Commission's regular meeting on **Monday, August 13, 2018**. The meeting will begin at 7:00 p.m. in the Town Hall Room of the Meridian Municipal Building, 5151 Marsh Road, Okemos, Michigan, 48864.

The purpose of the public hearing is to give the Planning Commission an opportunity to hear all persons interested or involved in the request. Your comments may be made in writing addressed to Peter Menser, Principal Planner, 5151 Marsh Road, Okemos, Michigan, 48864, by email to menser@meridian.mi.us, or at the meeting.

If you have any questions about the proposed rezoning please contact me at (517) 853-4576.

Sincerely,

Peter Menser
Principal Planner


equest to establish a planned unit development
consisting of 98 lots located east of
Creekwood Lane, north of Haslett Road,
and west of Meridian Road
Spring Mill Dr
LOCATION
Creekwood Ln
Haslett Rd

Peter Menser

From: Christina Morey <morey.christina@gmail.com>
Sent: Thursday, August 09, 2018 12:29 PM
To: Peter Menser
Subject: Copper Creek Condominium
Attachments: IMG_5866.JPG; IMG_5865.JPG

My name is Christina Morey and I am a resident at 5609 Creekwood Lane, Haslett MI 48840. I would like to submit the following comments for the record with regard to: Planned Unit Development #18090 (M&J Management LLC), east of Creekwood Lane in section 12 of the Township. Please submit this to the Planning Commission record for the planned meeting of August 13, 2018.

I have concerns I would like to share in regards to this proposal. The first is construction traffic using Creekwood lane to access the new build. There are many young children on this street and such traffic would be a safety concern as would any possible connection to the new subdivision in the future. With cars parked on the road it is often reduced to a one lane street.

My second concern is the crosswalk located on the east end of the Van Atta and Haslett Rd intersection. This is already a dangerous place to cross with very limited visibility on Haslett Rd of oncoming east bound traffic. Many people use this crosswalk for biking and walking and I use it to access preschool at St. Lukes. My worry is that with more residents using this in the future that another accident will happen involving a pedestrian. Are there any plans to change the crosswalk further east on Haslett Rd? Please see attached photos of view from crosswalk.

My third concern is the current speed limit in this area of Haslett Road. As of now, the speed decreases from 55mph to 45mph to 35mph in rapid succession when traveling westbound on Haslett road. Many drivers already ignore this reduction of speed and only slow down when they reach the curve at Van Atta. In contrast, as mentioned before, drivers are already accelerating out of this curve before the speed limit increases. This is a normal occurrence and is increasingly dangerous in the morning as I have witnessed many cars speed past the school bus with it's lights flashing. There have been accidents with cars not making the curve and crashing into the pedestrian crossing sign. After Copper Creek is built there will be even more vehicles and pedestrians in this area adding to the issue. The speed limit needs to be adjusted so that the speed limit change occurs more eastward on Haslett road before Strawberry Farms and the proposed Copper Creek.

Thank you for you time and consideration.

Christina Morey
765-532-8952

August 9, 2018

Dear Meridian Township Planning Commission,

We would like to submit the following comments for the record with regard to: Planned Unit Development #18090 (M&J Management LLC), east of Creekwood Lane in section 12 of the Township. Please submit this to the Planning Commission record for the planned meeting of August 13, 2018.

We live at 5600 Creekwood Lane. We believe it is possible to facilitate township growth like that proposed while maintaining long-standing neighborhoods like ours. This new development will be significantly larger than ours and will change the area significantly, though, so we appreciate careful consideration of the following requests as the process progresses:

- Prohibit construction equipment and materials from traveling or parking on Creekwood Lane. Allowing construction equipment/traffic on our narrow street could endanger the children on our block, as well as inhibit health and safety for all current residents.

- Maintain the current treeline/natural area behind the homes on the east side of Creekwood Lane. This is an important habitat for many birds and a sound and sight buffer between homes that we believe the residents of the new development would appreciate as much as current residents do. Our block has also had basement flooding problems in the past and it's important to ensure that any development doesn't increase the area's flooding risks.

- Protect current residents from the hazards of excessive traffic and speeding vehicles. Entrance to any new subdivision should be off Haslett Road, rather than via Creekwood Lane/Wood Knoll Lane. In addition, the curve on Haslett Road (passing by Van Atta Road) is already dangerous; the crosswalk is unsafely placed and vehicles tend to speed around the semi-blind curve without concern for possible pedestrians. At the least, that section of road needs a reduced speed limit, and perhaps even a flashing yellow light.

  Protecting safety would also include extending the sidewalk along the north side of Haslett Road. This will ensure safer walking access for the nearly 100 additional families coming in to the area, as well as current residents.

Thank you for your consideration of input from our neighborhood as this proposal moves forward.

Sincerely,

Dawn Kettinger and Denise Kane
Dawn: (517) 721-9688

August 10 ,2018

Meridian Township Planning Commission Members

Dear Mr. Menser,

Good Afternoon Sir my name is Helen Stonehouse, I live at 5645 Creekwood Lane Haslett, Michigan. I would like to express a concern about the Copper Creek Project that is being proposed east of my residence. Although my property is not located adjacent to the project I have spoken with my neighbors and echo their concerns. I would like to request that there be minimal removal to any trees and foliage. My home is adjacent to property that is entirely wooded and this certainly has added to my enjoyment of the home and to my flower gardens. I would like to have my neighbors enjoy nature as I do when sitting on my deck with my morning coffee. I also believe that as a close community we all share a concern for safety. I am an independent older woman who enjoys my workouts at the YMCA each morning. When I leave my subdivision I must turn westbound onto Haslett Rd. This area is very close to a curve in the roadway, and the traffic traveling west is still maintaining the 50 mph speed. The increased amount of traffic from the Copper Creek Project will only increase my trepidation when making this turn. I would appreciate attention being given to this area to accommodate the traffic as well as improvements for the children's safety as there are many young people living in the area.

I hope to attend the meeting on Monday August 13, 2018 in support of Woodridge community.

Sincerely,

Helen M. Stonehouse

Helen Stonehouse

August 8, 2018

Dear Mr. Menser and Planning Commission Members,

First allow me to introduce myself, my name is Randy R. Kindy and I live with my wife Vicki at 5642 Creekwood Lane Haslett, Michigan. I write you today reference to the Copper Creek Condominium project that is proposed on the property adjacent and east of Woodridge Subdivision. This is not a letter of opposition but is one of concerns and requests.

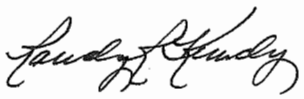
I have lived in Meridian Township since 1979. I have four adult children whom I have raised, and who have graduated from Haslett High School, all of my children are now raising families of their own. I retired from the Meridian Township Police Department in 2008. I have lived in four different homes within the township and have no intentions of moving, this is where I CHOOSE to live. One of the factors in my choosing to live here have been based on decisions made by my planning commission and township board members relative to building projects. I believe a great deal of thought goes into your decisions particularly how projects will affect wetlands, natural areas, and residents. I believe that Meridian Township Master Plan is based on these aforementioned areas. The Land Preservation Tax, which helps to preserve natural areas, reinforces all of this, more specifically not removing trees. If I am not mistaken I believe we have an ordinance that prohibits the removal and clearing of trees without a permit. This is where my concerns are based. I respect the fact that the project may move forward but would request that the Planning Commission require that the existing natural area between Copper Creek Condominiums (lots numbered 79-81) and Woodridge Subdivision be undisturbed. I believe that preserving this area would not only benefit current residents in Woodridge but would also benefit future residents of Copper Creek. The area that the development occupies is primarily open farmland that has been used for that purpose for years. I don't believe the request to leave the natural area that I have mentioned to be unreasonable. It is a small area of the whole, and one of the only areas with mature trees other than wetland areas that will be undisturbed. More importantly it maintains a natural area in a development project that Meridian Township is known for "preservation of our natural areas."

In discussions with my neighbors they too share the concerns and requests above. Many have expressed concern about the project generating more traffic, and were pleased that there did not appear to be an extension of Woodknoll Drive for vehicular traffic. We have many young families with younger children and safety is of the utmost importance. I do feel that more traffic on Haslett Rd between VanAtta Road and the Bird Farm Lane will necessitate the extension of the sidewalk east

from Creekwood Lane. By extending the sidewalk the relocation of the crosswalk at Haslett Road and VanAtta Road further east would make crossing the roadway safer. The current crosswalk is dangerous at best; located within the curve of Haslett Rd. it is difficult to see traffic eastbound when crossing Haslett Rd. My daughter and her husband live in Strawberry Farms across from the proposed entrance to Copper Creek and she too is concerned with traffic at that location.

Thank you for your time and consideration of my concerns. I will be at the Planning Commission meeting Monday August 13, 2018 and would respectfully request to be placed on the agenda to speak.

Sincerely,



Randy R. Kindy

Dear Meridian Township Planning Commission:

Thank you for your consideration of community input regarding the proposed Planned Unit Development \Copper Creek development off of Haslett Road and east of Creekwood lane. Please submit this to the planning commission record for the planned meeting of August 13, 2018. As long time residents of Creekwood Lane (at 5636), we respectfully request your consideration of the following:

- Maintain the existing tree line along the entire length of Creekwood Lane on the eastern side as one contiguous greenspace. Current plans suggest that Copper Creek lots 79, 80, 81 and possibly lot 82 would remove the existing tree line and create segmented and isolated open/green spaces in the plan. The treeline contains large, mature trees which are irreplaceable resources if destroyed, and maintaining the continuity of the entire treeline also creates a more natural green space corridor and habitat for existing wildlife. Maintaining the entire treeline would also better maintain current drainage patterns, and allows for a natural sight and sound barrier which is to the benefit of both current Creekwood Lane residents and any future Copper Creek residents and aligns with the township's consistent vision of preserving green space.

- Extend a reduced speed limit east along Haslett Road, and create a center turn lane to allow for safe traffic flow of the increased volume of traffic with the new development.

- Move the existing crosswalk on Haslett Road near Van Atta, as the current crosswalk does not have clear sightlines and is a very dangerous crossing when traversing from the north side to the south. Increased daily traffic will only make this more dangerous.

- Create/extend the sidewalk on Haslett Road to connect Copper Creek to Haslett Road sidewalks. Current plans do not show a sidewalk connecting future Copper Creek residents to current sidewalks on Haslett Road. The only sidewalk access to Haslett Road on the plan is through Creekwood Lane.

- Prohibit construction vehicles and construction traffic on Creekwood Lane for the duration of the development.

- Maintain communication with current residents as to the outcomes and decisions of the planning commission, so that residents are fully aware of any finalized plans and construction timelines.

Thank you for your consideration of the requests outlined above. Incorporation of these factors allows for the development while at the same time best providing for the health, safety, and well-being of current residents, as well residents of any future development.

Sincerely,

John and Kristen Hood
5636 Creekwood Lane
517-339-0449

Peter Menser

From: Garcia, John <Garcia11@msu.edu>
Sent: Monday, August 13, 2018 2:27 PM
To: Peter Menser
Subject: Planning Commission Meeting August 13th, 2018

Mr. Menser,

My name is John Garcia and I, my daughter and wife live at 5603 Creekwood Lane, Haslett, MI 48840. I would like to submit the following comments for the record regarding the Planned Unit Development #18090 (M&J Management LLC), east of Creekwood Lane in section 12 of the Township. I ask that you please submit this to the Planning Commission record.

Our kids enjoyed a wonderful childhood on our quiet cul-de-sac riding bikes in summer and trick-or-treating at Halloween. The street has not changed much since we moved here in 2000; we still have children riding bikes in summer and kids trick-or-treating at Halloween, but we are the ones handing out candy now. I hope that we can preserve these experiences for the children on our street today.

We also hope that construction traffic is routed from Creekwood Lane/Wood Knoll Lane. We do not have a lot of room for big trucks. Furthermore, it's a very active area with young children day and night. Finally any entrance to the new development should exclude our street and Wood Knoll for the same reasons.

Thank you, and the Planning Commission, for your consideration.

John Garcia, Financial Aid Director
Michigan State University College of Law
648 N. Shaw Lane, Room 316
East Lansing, MI 48824
517-432-6810
517-432-0098 FAX
finaid@law.msu.edu
STU-INFO: https://stuinfo.msu.edu/AppLogin.Asp?
** Please include PID in correspondence. **
Statement on Loan Indebtedness:
www.law.msu.edu/finaid/Statement1.html

August 25th, 2018

RE: Planned Unit Development #18090

TO:
Mr. Peter Menser
5151 Marsh Road
Okemos, MI 48864
menser@meridian.mi.us

FROM:
Sheila and Daryl Saliganan
5648 Creekwood Ln
Haslett, MI 48840
sczwiese@gmail.com

We are writing to again express our concerns regarding Planned Unit Development #18090 (Copper Creek Condominiums), on the north side of Haslett Road, east of Creekwood Lane. As you may recall, I (Sheila) attended the public hearing on August 13, 2018. At that time, I expressed my interests in upholding the privacy, preservation, safety, and quality of life in the Creekwood subdivison by a) encouraging acceptable setbacks and boundaries especially between current houses on Creekwood Lane and the new proposed development, b) preserving the natural tree line behind our houses, and c) limiting traffic (construction and otherwise) through both Wood Knoll Drive and Creekwood Lane. Since that meeting, I am glad to see that some revisions have been made, and I believe this is a step in the right direction. However, I would again like to reiterate these points for the record, and request further clarification.

A. My understanding of the revision is that there is now a 25-foot border between the proposed neighborhood and the closest Creekwood lots (5636, 5642, 5648). While this issue directly affects a very small number of people (ours is one of only three houses backing up to the proposed development), it is quite important to us, and so we do appreciate the developers hearing our concerns and making attempts to remedy the design. It is not clear to me, however, whether this 25-foot border is in addition to the rear yard setbacks requirements, which were unanimously recommended by the committee at the last meeting. At the very least, I would like to see a 30-foot rear yard setback for the proposed lots 39, 40, and 41 (to match our neighborhood requirements) in addition to the 25-foot border (ideally more, see next point).

B. Along those same lines, larger setback requirements and a generous border between Creekwood lots (5636, 5642, 5648) and Copper Creek lots (39, 40, 41) are necessary to preserve the existing natural tree line. This is not only a priority for us, but for the Township as well. Under the Meridian Township Code of Ordinances, "Woodland areas should be identified in the preparation of plans submitted to the

Township for the development of a subdivision. Significant trees or woodlands should be identified on the tentative preliminary plat and preserved to the extent consistent with the reasonable utilization of land" (§62-61Lots. (1)(l) Woodlands and mature trees). This is a well-established wooded area that I believe serves several important roles: to sustain wildlife and native vegetation, to prevent soil erosion and flooding from the nearby wetlands and drain, and to maintain privacy for both current and future residents. We sincerely hope that every effort is being made to preserve this natural area.

C. I understand from the last meeting that additional access roads are required for a development of this size. Based on the current revision, Wood Knoll Drive (and thus the obligatory Creekwood Lane) serves as an emergency access only. However, if "the Fire Code contains a provision limiting the number of lots on a single access road to 30", and Creekwood Lane (a dead-end cul-de-sac) already serves as a single access road for the 25 existing houses, then I fail to understand how Wood Knoll Drive and Creekwood Lane would be able to provide access for an *additional* 30 houses in the proposed development. In addition, I feel that it must be stated again, Creekwood Lane is simply not capable of safely handling additional traffic volumes if Wood Knoll Drive were to be used as an access road in the future. In fact, as I'm sure you are aware, a similar case was made in 1992 Altman v. Meridian Twp. While Wood Knoll Drive and Creekwood Lane are technically public streets, neither can provide suitable access (to quote, "not just any access, or some access, but *suitable* access") to larger public routes owing to the reduced visibility at the Creekwood Lane and Haslett Road intersection. Lastly, I am concerned that a connection between the Creekwood and Copper Creek subdivisions will encourage through traffic and jeopardize the safety of the many children who enjoy playing on our street (my own included).

Thank you for taking the time to hear our concerns. We appreciate the opportunity to provide our input and hope that you will take it under consideration.

Sincerely,

Sheila and Daryl Saliganan

Peter Menser

From: M.W.Casby <casby@msu.edu>
Sent: Saturday, August 25, 2018 11:24 PM
To: Peter Menser
Subject: I would like to submit the following to the Planning Commission regarding...

(My earlier email had the wrong PUD #.)

I would like to submit the following to the Planning Commission regarding:
7. UNFINISHED BUSINESS
A. Planned Unit Development #18014 (Haslett Road LLC), develop Copper
Creek PUD consisting of 91 single family homes on 44 acres located on the north side of Haslett Road, east of Creekwood Lane. Please include it for the upcoming meeting. Thank you.

I would call your attention to the following information regarding a Michigan Supreme Court decision regarding an earlier request to develop this plat which was denied by the Township Board. It is every bit as relevant today.
https://www.court listener.com/opinion/2191796/altman-v-meridian-twp/
In particular, the following quotes, taken from the final decision, relate to the property access via Creekwood Lane and Wood Knoll Drive. The ultimate finding was that any such ingress/egress along this route is neither safe nor "suitable " And the entire request for development of the plat was denied and upheld by the Michigan Supreme Court.
"The Meridian Township Planning Commission conducted a public hearing on the plat on June 20, 1988, and heard evidence that increased traffic from the proposed development would aggravate an already dangerous traffic condition at the intersection of Creekwood Lane and Haslett Road...
The Meridian Township Board of Trustees, the final local authority with regard to plat approval, considered the proposed plat at its regular meeting of September 20, 1988, and disapproved it by a vote of five to one. At meetings on October 3 and November 22, 1988, the board amended the minutes of its September 20 meeting to specify the reasons for its disapproval of the plat and the key condition of approval, which were adopted by a vote of five to two, as follows:
(1) ...Such a design is not consistent with Section 101-4.12(a) of the subdivision regulations, which states that streets shall be so arranged so as to discourage their use by through traffic.
(2) The alignment of Wood Knoll Drive provides sole access onto Creekwood [Lane], which requires egress onto Haslett Road at a point where there is less than 750 feet of sight distance — in violation of Section VII.B.1 of the County Road Commission Plat Procedures. It would be practical for the proprietor to provide access to Haslett Road farther to the east, where there is 750 feet of sight distance...
The issue is whether the legislature authorized a township to decide whether such a residential street provides "suitable" access. In this Court's view the legislature did grant that authority, and the township may withhold permission to develop the plat until suitable access is provided.
Section 182(4)(a) of the SCA states:
The governing body shall ... [r]eject a plat which is isolated from or which isolates other lands from existing public streets, unless suitable access is provided. [Emphasis added.]
In sum, we conclude that...the township board was entitled to conclude that Creekwood Lane would not provide suitable access to the subdivision in light of all the circumstances, in particular the safety concerns regarding the Creekwood-Haslett intersection discussed more fully in part II(C). Therefore, § 182(4)(a) supports the township board's disapproval of the proposed plat...the township board has imposed in this case, essentially, that the developer locate the main access road[s] to his subdivision at a safe distance from the sight obstruction (the s-curve) on Haslett Road...The required access road[s]...would primarily benefit the developer's own property and

would further his overall development plans. As discussed in part II(B), the township board has ample statutory authority to require that the developer provide for safe and suitable access to his own proposed subdivision... While the required access road[s] would extend beyond the boundaries of the initial plat submitted by the developer, it...would traverse the developer's own property across the overall planned subdivision, which the developer himself has already slated for eventual platting and development.
In sum, nothing more has been asked of the developer in this case than that he develop his own property in a manner consistent with governing statutes, local regulations, and legitimate safety concerns. The duty to provide suitable access in accordance with such statutes and regulations rests with the developer...
Equally untenable is the suggestion that the township's prior consent to the construction of the existing Wood Knoll Drive stub street adjoining Creekwood Lane constituted some sort of irrevocable advance consent to the development of any new subdivisions seeking to use that stub street for access. See post, pp 643-644. The township was not under any legal requirement, "at the time the Creekwood subdivision was developed," post, p 644, to give advance notice of what hypothetical future subdivisions adjoining Creekwood Lane it might approve or disapprove, and on what grounds."

Cordially,
Michael W. Casby
5624 Creekwood Lane
Haslett, MI 48840

MWC
sntbymysmrtphn

Peter Menser

From: Mr John <mrjohn1972@gmail.com>
Sent: Sunday, August 26, 2018 10:34 PM
To: Peter Menser
Cc: Kris Hood
Subject: Copper Creek PUD Revision Feedback
Attachments: Video.MOV; Video_1.MOV; Video_2.MOV; Video_3.MOV

Dear Meridian Township Planning Commission:

This letter is to provide feedback on the recently revised plans for the proposed Planned Unit Development \Copper Creek development off of Haslett Road and east of Creekwood lane. Please submit this to the planning commission record for the planned meeting of August 27, 2018. As long time residents of Creekwood Lane (at 5636), we respectfully request your consideration of the following:

- Based on our understanding of the discussions at the planning commission meeting on August 13, 2018, the planning commission requested additional access roads to the proposed Copper Creek subdivision, and the current plan adds only a new emergency access at Wood Knoll. We are concerned that the new proposed Wood Knoll emergency access road may very well be considered for an open access road due to the apparent need for more accesses. We have significant concerns about using Wood Knoll as a full access, as it would not provide suitable access due to the location of the Creekwood/Haslett Road intersection (1992 Altman v. Meridian Twp). Using Wood Knoll as a full access point would be a significant detriment to the safety of the residents and many children on the street due to added traffic, would change the feel of our subdivision, and would fundamentally alter the character of our neighborhood. Using Wood Knoll would also require the removal of many mature trees and create a break in the continuous woodland corridor currently in existence.

- When the builder wrote the township in July they noted "maintenance of wetland areas and tree rows preserves natural corridors" in the plan. We appreciate the addition of a 25 ft buffer zone behind Creekwood Lots 5636, 5642, and 5648 in the revised plan as a step in the right direction, but want to clarify that this revision fails to significantly preserve the natural corridor and tree line near those lots.

    - The natural corridor and tree line to be maintained is approximately 75 feet wide from the rear property lines of the affected lots on Creekwood Lane, with the tree line beginning approximately 8 feet from the rear property lines and extending another 67 feet of heaving wooded land to the edge of the area that is currently cleared and farmed. Of this 67 feet of heavily wooded land, approximately 17 feet (or 25%) of the treeline is preserved within the 25 foot buffer. Nearly 50 feet (or 75%) of existing tree line would still be destroyed to accommodate three condo sites. This does not seem to be in the spirit of maintenance of natural corridors as suggested in the Copper Creek application, nor does it coincide with

the township's past practices of keeping mature trees and green space when possible. We would like this tree line maintained as completely as possible to the benefit of both Creekwood Lane residents and new homeowners.

o We have submitted along with this letter brief video footage to allow planning commission members to see firsthand the dimensions and scope of the mature tree growth within the currently existing tree line. To further clarify our concerns we would respectfully request that the overlay of the current tree line is presented with the revised plan to illustrate the impact on the tree line the builder said they would maintain in the July correspondence. (Please Note: The 25 foot border illustrated on the revision site plan is also not proportioned correctly on the submitted plan and is actually smaller than it appears on the revision - where it incorrectly scales to appear larger).

• Planning commission members had requested a 30 foot rear setback for Copper Creek lots whendirectly behind existing houses to match our required 30 foot setback. The revised plan proposes a 10 foot rear setback but allowspatios/decks within 5 feet. We would like a 30 foot setback from the rear of their property where it adjoins existing homes to match our neighborhood's "feel" and our requirement and think this needs clarification as well. Again, under the current draft of the plan, the condos even with the ten foot setback will cause a majority of the tree line to be destroyed.

• We also note that the area of the Copper Creek development closest to Creekwood Lane has been scheduled as an earlier phase than previous plans, and request explanation of the rationale for those changes.

Thank you for your continued consideration of these points and your willingness to mitigate negative impacts of the new development on Creekwood Lane residents.

Sincerely,

John and Kristen Hood
5636 Creekwood Lane
(517) 339-0449

The videos below illustrate the 25 foot buffer zone, five foot deck setback, ten foot rear setback and impact on the wooded corridor and Creekwood lots.

Peter Menser

From: Dawn Kettinger <dawnkett@gmail.com>
Sent: Monday, August 27, 2018 6:27 AM
To: Peter Menser
Subject: Re: comments for Planning Commission meeting 8-10-18

Hi, Mr. Menser.
This is a follow-up email regarding Planned Unit Development #18090 (M&J Management LLC), east of Creekwood Lane in section 12 of the Township.

I was unable to attend last week's meeting, although I did submit written comments. My neighbors and I continue to have serious concerns regarding the safety and viability of this plan as it is currently proposed.

I'm hoping you can help me understand one point in particular. Our road, like many in Michigan, is already in poor condition. It has cracks throughout, as well as potholes in a number of spots. I'm concerned that our road will only deteriorate much more quickly with the addition of dozens of vehicles a day.

While not all residents of the new subdivision would come down our street assuming it is connected, I think it is safe to assume a rate of 1.5 cars per household. That makes approximately 135 cars a day coming in and out of the new subdivision, and there is no doubt a good portion would use the proposed connector road and travel down Creekwood Lane.

Our road simply cannot sustain this traffic, both for the purposes of the condition of the road and also for the safety of traffic flow at our corner (which intersects with Haslett Road near that already dangerous curve).

My question is, is the condition of Creekwood Lane's road being taken into consideration? I understand this is an Ingham County issue, but it would seem prudent for the township planning commission to consider this in their decisions.

Thank you very much for your time.

Dawn Kettinger
5600 Creekwood Lane
Haslett

On Fri, Aug 10, 2018 at 8:11 AM Dawn Kettinger <dawnkett@gmail.com> wrote:

> Dear Mr. Menser.
> Please see the letter pasted below and attached. Thank you.
> Dawn Kettinger
> 5600 Creekwood Lane, Haslett
>
> August 9, 2018

Dear Meridian Township Planning Commission,

We would like to submit the following comments for the record with regard to: Planned Unit Development #18090 (M&J Management LLC), east of Creekwood Lane in section 12 of the Township. Please submit this to the Planning Commission record for the planned meeting of August 13, 2018.

We live at 5600 Creekwood Lane. We believe it is possible to facilitate township growth like that proposed while maintaining long-standing neighborhoods like ours. This new development will be significantly larger than ours and will change the area significantly, though, so we appreciate careful consideration of the following requests as the process progresses:

- Prohibit construction equipment and materials from traveling or parking on Creekwood Lane. Allowing construction equipment/traffic on our narrow street could endanger the children on our block, as well as inhibit health and safety for all current residents.

- Maintain the current treeline/natural area behind the homes on the east side of Creekwood Lane. This is an important habitat for many birds and a sound and sight buffer between homes that we believe the residents of the new development would appreciate as much as current residents do. Our block has also had basement flooding problems in the past and it's important to ensure that any development doesn't increase the area's flooding risks.

- Protect current residents from the hazards of excessive traffic and speeding vehicles. Entrance to any new subdivision should be off Haslett Road, rather than via Creekwood Lane/Wood Knoll Lane. In addition, the curve on Haslett Road (passing by Van Atta Road) is already dangerous; the crosswalk is unsafely placed and vehicles tend to speed around the semi-blind curve without concern for possible pedestrians. At the least, that section of road needs a reduced speed limit, and perhaps even a flashing yellow light.

Protecting safety would also include extending the sidewalk along the north side of Haslett Road. This will ensure safer walking access for the nearly 100 additional families coming in to the area, as well as current residents.

Thank you for your consideration of input from our neighborhood as this proposal moves forward.

Sincerely,

Dawn Kettinger and Denise Kane
Dawn: (517) 721-9688

Peter Menser

From: M.W.Casby <casby@msu.edu>
Sent: Monday, August 27, 2018 10:53 AM
To: Peter Menser
Subject: PUD 18014

Please accept these additional comments regarding PUD 18014.

It would seem that the NW cul de sac of the proposed development would need no emergency access. The currently proposed access road off of Haslett serves it well. No need to force a connection with the existing Creekwood neighborhood that would be a less desirable, less safe, less suitable, and less efficient one. It also appears that the farther out NE section of the development is much more removed, and is in need of ingress/egress from a second access road off of Haslett Rd. This could be the planned road coursing north and south. This access should not be delayed. It would be to the benefit of the developer and all.

Thank you,

Michael W. Casby
5624 Creekwood Ln
Haslett, MI. 48840

Peter Menser

From: Chris Coady <coadychris@comcast.net>
Sent: Monday, August 27, 2018 3:39 PM
To: Peter Menser
Subject: Planned Unit Development Copper Creek Condominium

Dear Mr. Menser and the Meridian Township Planning Commission:

Thank you for the opportunity to submit comments regarding the proposed Copper Creek Condominium development.

My husband and I reside at 5639 Creekwood Lane. Several of my neighbors have shared their appreciation for changes proposed since the August 13 Planning Commission meeting and concern that there is more work to be done to address our neighborhood's concern.

Rather than repeat the information, we would like to go on record sharing their concerns including:

1. Access to the proposed development from Wood Knoll.

2. Preservation of the natural corridor and tree line between Creekwood Lane and the proposed development.

3. Need for a 30 foot setback for Copper Creek, and

4. Adherence to the township's 1988 finding (and affirmed by the Michigan Supreme Court) of the unsuitability of access to this area from Creekwood Lane via Wood Knoll.

{Note, in particular, we are referencing correspondence from the Hood family (5636 Creekwood), Casby family (5624 Creekwood) and Saliganan family (5648 Creekwood).}

We are unable to attend the Planning Commission meeting this evening, but look forward to hearing about the discussion from our neighbors who are able to attend.

Thank you for consideration.

Sincerely,

Chris Coady and Rob Gifford

5639 Creekwood Lane

517-339-0695

Peter Menser

From: M.W.Casby <casby@msu.edu>
Sent: Wednesday, August 29, 2018 12:08 PM
To: Peter Menser
Cc: dawnkett@gmail.com
Subject: Proposed PUD east of Creekwood Ln.

I am submitting the following for the record, based on my comments made to the Planning Commission, at the August 27, 2018 meeting. Thank you.

I referred the Commission to my email wherein I offered information from the Township Board's earlier 1988 denial of a similar request. Their rationale was that a Haslett Rd/Creekwood Ln/Wood Knoll access would be unsafe and unsuitable. The decision was upheld by the Michigan Supreme Court.
At that time it was further noted that one subdivision should not be used as a roadway for another subdivision. If a subdivision cannot provide total, direct, safe and suitable access, then it should be modified - or denied.
The proposed use of Wood Knoll will not work. It's based on an already determined unsafe/unsuitable connection to other roads, having sharp angular turns with very limited sight lines. It is filled with piled snow from County snow plows throughout the winter.
There needs to be at least one more Haslett Rd access point for the proposed subdivision. This should be the easterly 'future' road the developer intends to

build. Build it now for the betterment of the development, citizens, and developer. There is likely the need for the northern stub road access point - now, not later - as well. There is no need for encroachment upon the Creekwood Ln/Wood ridge subdivision, by any means. The citizens do not want it.

MWC
sntbymysmrtphn

Peter Menser

From: Joyce Breedlove <joyjrb5200@gmail.com>
Sent: Saturday, September 01, 2018 1:45 PM
To: Peter Menser
Subject: Planned Unit Development #18014 Copper Creek

Dear Mr. Menser and Planning Commission,

I am writing to let you know that, like my neighbors, I have concerns about the Planned Unit Development #18014 Copper Creek.

My concern is the use of Creekwood Lane / Wood Knoll Drive as a possible ingress/egress to this planned development - whether as a permanent access OR even as a road to be used during construction. Both instances would make our road unsafe due to high volumes of traffic. We are blessed to have many families with young children in our neighborhood. High volumes of traffic put these children at risk, whether it is while they are playing or if it is walking to the bus stop at the Haslett Road/Creekwood intersection. It would also make it unsafe for residents of our one street, cul-de-sac, subdivision due to the narrow size of our street. At times, there are cars parked on each side of the street which leaves one lane for travel. That has not been a problem for the 24 households on our street because we do not all travel down our street at the same time. But, with the higher traffic volume that PUD #18014 would create, it would become a serious safety issue, just to back out of our driveways, let alone travel down the street.

It is my understanding that the use of Creekwood Lane & Wood Knoll Drive as access for a proposed development to the east of Creekwood Lane has already been denied, in the past, by the Meridian Township Board of Trustees. That denial was appealed to the Michigan Supreme Court and the court upheld the Meridian Township Board of Trustees denial. A letter to the Planning Commission by Michael W. Casby on August 25 ,2018 provides great detail on the Michigan Supreme Courts decision to uphold Meridian Township's denial in the past. I would urge the Commission to review the detailed information provided by Mr. Casby, as it is very relevant to the current PUD.

I feel that it is the responsibility of the developers of PUD #18014 Copper Creek to establish appropriate and safe ingress/egress routes for their development following Meridian Township requirements and to, also, maintain the existence of natural areas and wetlands.

Respectfully,
Joyce R. Breedlove
5597 Creekwood Lane
Haslett, MI 48840

Peter Menser

From: Meridian Township, MI <meridian-mi@enotify.visioninternet.com>
Sent: Monday, September 03, 2018 12:40 PM
To: Peter Menser
Subject: Haslett Rd Access for 91 Home PUD #18014

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

Site Visitor Name: Jan Olsen
Site Visitor Email: janolsen2004@yahoo.com

I live at 1093 Cliffdale Dr in Haslett, just up the road from the proposed Copper Creek development. I, along with many of my neighbors, have concerns about inadequate ingress/egress into the PUD. Based on the plans I've seen, only one permanent access point, onto Haslett Rd,, is planned. This seems unsafe from both the public safety side, and also from road use - i.e., having that many residents trying to get in and out of the subdivision, especially during rush hour traffic, and considering Strawberry Farms is across the street. It's my understanding the developer is resistant to another ingress/egress point.

My question, which I hope you will answer:: Does the Planning Commission have the power to not approve (and therefore stop) a proposed development if the developer does not want to conform to Planning Commission recommendations?

If so, I urge the Planning Commission to not approve this development until multiple permanent ingress/egress to the subdivision is included in the plans, and to be phased in at a reasonable time (meaning added well before the final phase of the development, and not "emergency" entrances that would not be used on a daily basis by residents). I would also urge the Planning Commission to strongly consider that, for safety reasons, access points should all not dump residents onto Haslett Rd,.

Best regards,

Jan Olsen

Peter Menser

From: M.W.Casby <casby@msu.edu>
Sent: Tuesday, September 04, 2018 11:23 AM
To: Peter Menser
Subject: Mayberry Copper Creek proposal

(Peter, we are submitting the following for the record for the 9/10/18 Planning Commission meeting. Thank you.)

We once again refer The Commissioners to our earlier communication — written and public comments.
We strongly urge a vote to deny the Mayberry Copper Creek development. As designed it has unsafe access. Unfortunately the developer has not incorporated the Commission's and citizens stated need for safer additional access.
If a development needs to start off planning an emergency access, something is terribly wrong with its design — perhaps too large, too dense for the piece of property. Other such 'emergency' access has been denied in the past.
Township regulation basically states that one subdivision should not serve as roadway for another.
If a subdivision cannot provide total, safe, and suitable access unto itself, it should be modified or denied.
It's been remarked that Haslett needs more houses. We don't think so - not in this manner. We are Haslett. Safety must be first.
This proposal looks nothing like other Haslett subdivisions, with extremely small lots, small setbacks, narrow roads, high density...
The increased traffic on Haslett road would also lead to an unsafe and unsuitable situation - especially with the current traffic from Bird Farm, and east, and the unsafe blind intersection of: Creekwood-VanAtta-Green Roads. Allowing such use of an already noted unsafe, unsuitable stretch of road could potentially lead to significant liability issues for the Township itself.
Please vote to deny this proposed subdivision.
Thank you,
Michael & Betty Casby
5624 Creekwood Lane
Haslett, MI

MWC
sntbymysmrtphn

Peter Menser

From: Mr John <mrjohn1972@gmail.com>
Sent: Tuesday, September 04, 2018 10:11 PM
To: Peter Menser
Cc: Kris Hood
Subject: Copper Creek Subdivision

Mr. Menser-

Please provide this letter to the planning commission as a included item in the September 10 meeting packet regarding the proposed Copper Creek subdivision.

Dear Meridian Township Planning Commission:

As nearly 20 year residents at 5636 Creekwood Lane, this letter is to reiterate and clarify our concerns (also previously communicated by letter and public comment) relative to the current proposed plan for the Copper Creek development. The current plan eliminates a significant portion of a large well-established treeline bordering Creekwood Lane and the proposed development, and Copper Creek proposal should therefore be denied in its present form. Any future plans must include specific preservation of that treeline noted in the developer's plan (which extends 75 feet from the rear of Creekwood Lane lots). An undefined buffer of 25 feet in the current proposal does not maintain the tree line or specify keeping any trees. Pictures of the treeline are attached.

In fact, the current plan's failure to specifically maintain the entirety of that treeline, within a 75 ft buffer zone, is in in direct contraction to the developer's own assertion in its July 3 letter to the planning commission which claims that the proposed plan provides for "maintenance of existing wetlands and tree rows [and] preserves existing nature corridors." The current plan clearly does not do so.

Preservation of the treeline as specified above would be more consistent with priorities identified in the Planning Commission's Master plan and the parameters of the Township's current PUD ordinance. The Planning Commission's current master plan prioritizes "focused development patterns, coupled with the

preservation of natural resources....[which] and the provision of recreational opportunities, will ensure that the Township is positioned to continue to offer residents the best possible blend of amenities and character." Preservation of the existing treeline is consistent with those principles. The current plan, which eliminates the treeline, is not.

It is also essential that the Planning Commission consider the parameters of the proposal in the context of the current PUD ordinance, which requires the inclusion of designated open space. The preservation of that treeline could easily be included as a part of the required open space formula, and is a much more desireable feature than vacant open space available in other areas of the proposed development. The PUD Ordinance itself encourages the "preservation of attractive site features," and the large mature trees are not only an attractive site feature as a natural resource, but are an attractive as a site and sound buffer for current and future residents, much more so than open farm land that is utlized as such in the plan. It should also be noted that the current proposal represents only 44 of 191 developable acres - in the context of that exceedingly large available space, a shift of 75 feet to preserve an attractive feature is minimal, and would have overall minimal impact on the developer while maximizing the protection of current residents from unnecessary burden and harm.

In the currently proposed plan, the developer has disregarded all of the above mentioned principles solely for its convenience or in an attempt to nominally maximize its profit (by placing 3 of its proposed 90+ lots within the existing treeline) with the effect that unfairly places a disproportionately negative burden on 3 Creekwood Lane residents. In removing an attractive natural feature which has defined our lots for the 20 years we have lived here, it not only negatively impacts our quality of life, it sets our homes apart from other Creekwood homes which continue to have more rural borders (which has been a defining characteristic of the neighborhood for years) and potentially therefore devalues our homes in any future sale as close proximity to Copper Creek units would be an comparatively undesireable feature. The current Copper Creek proposal allows the developer to fractionally increase its profits by causing potentially significant financial harm to individual families' most valuable asset: the family home.

The negative impact extends beyond the three Creekwood residents most directly affected, as removal of the treeline also fundamentally alters the character of the Creekwood Lane neighborhood; it removes an attractive natural feature and privacy barrier, and places new PUD units in close proximity to the neighborhood - these new PUD units, with minimal side and rear setbacks, do not match the spacing and character of the Creekwood neighborhood and create a

negative impact for all Creekwood residents. As noted in the Planning Commission's Master Plan, the 2004 Greenspace Plan "outlines ways in which growth and development in the Township can continue to occur while simultaneously protecting the natural systems and community character of the Township." The current Copper Creek development plan negatively impacts the community character of the neighborhood and township by removing the treeline (and by increasing traffic and residential density, concerns we have noted before and which have been reiterated by many of our Creekwood neighbors).

The only fair conclusion after consideration of all of the above points is that the treeline must be fully maintained in any future Copper Creek proposals and the current proposal must be denied.

Thank you for you continued consideration of the impact of this proposed development on its nearest neighbors.

John and Kristen Hood
5636 Creekwood Lane
517-339-0449

Tree line looking South along Creekwood border. This natural area is not designated to be preserved as a natural border.

Tree line looking North along Creekwood border. These trees, including the large one in the yard, would be destroyed in current plan to make space for three new homes.

Tree line looking North from farm field (future Copper Creek PUD) bordering affected homes. This natural border of mature trees would be destroyed in current plan near Creekwood to make room fo three

Tree line looking South from farm field bordering affected homes. This natural border area would be destroyed in current plan near Creekwood homes.

Looking West towards Creekwood from the proposed Copper Creek PUD. This natural border would be removed in the current plan removing privacy and altering the character for residents.

Looking east from tree line towards farm field to be used for Copper Creek lots and open space as required by the PUD. Note the space for future developments unaffected by keeping the natural border which lies to the photographer's back.

Looking east from our house at 5636 Creekwood. This well established wooded border will be unnecessarily removed in the proposed plan as it could be counted as open space satisfying the master plan, the builders own declaration, while maintaining natural features for current and future residents. The current plan removes this natural area.

Two views from inside the natural border area that would be destroyed as no trees are designated to be maintained to make room for three new lots of 91 in the Copper Creek phase of an even larger development.

Looking at our home from the tree line. The character of our lot and neighborhood are clearly altered by removal of the mature tree line and natural

Sept. 5, 2018

Dear Planning Commission Members,

As 20-year residents of Creekwood Lane in Haslett, we have happily raised a family in this fine neighborhood and now appreciate seeing new young families raising their children here, too. On their behalf and on behalf of the rest of the neighborhood**, we oppose the Mayberry Copper Creek development** in its current state for all the reasons stated so far by our neighbors.

Clearly, we see serious safety issues in a plan that does not take into account the security of the residents of the 25 homes on this block. It is inconceivable to us that a 91-home development would receive government approval without at least two access points from Haslett Road. Wouldn't it be reasonable to ask the developer, who stands to make a significant profit from such a development, to provide for adequate access?

Without an acceptable plan for ingress/egress into this new dense development, we worry about undue amounts of traffic volume clogging Haslett Road at our nearby neighborhood entrance, particularly with the added worry of the sharp curve immediately west of Creekwood Lane at Haslett Road. Ours is a one-street cul-de-sac where turns into the neighborhood are already treacherous due to speeding traffic going east passed Creekwood as well as in the opposite direction. Making this particularly problematic is the limited sight distance around the sharp curve from Van Atta – Green Roads just west of our neighborhood. To add hundreds of additional cars to this scenario without changes in the roadway and without creating adequate access points into the Copper Creek development would put too many of our residents at risk.

If you check your records, you will find that Mayberry Homes had previously floated plans for a development on the same land until the Great Recession curtailed their efforts. At that time, we worked closely with the township and developer to ensure for adequate access, landscape buffering and other amenities, including a circular walking path around the development. Perhaps this institutional memory is gone, but we were also promised that our neighborhood street would not become a cut-through via Wood Knoll into that development. The discussed walking path was viewed favorably by residents here at the time because it also created greenspace and landscape buffering from our neighborhood. In our experience, having a walking path that connects neighborhoods is preferred. We are currently cut off from the Wood Valley subdivision to the north of us when the township mistakenly did not require a pathway of the developer of this neighborhood.

In summary, **please deny this proposed development** and send it back to the drawing board for the wellbeing and safety of existing residents. Under no circumstances should Creekwood Lane be used as an access road to the proposed Copper Creek development. The developer must provide additional access to his project off Haslett Road, instead. The risks are too great.

Sincerely,

John Foren and Teri Banas
5606 Creekwood Lane
Haslett, MI 48840

Peter Menser

From: Carol Trojanowski <carolhelen@icloud.com>
Sent: Thursday, August 30, 2018 8:53 AM
To: Peter Menser
Subject: new sub division

Haslett rd is next to impossible to turn onto during peak traffic times. How will township accommodate even more congestion?
Carol Trojanowski
517.339.8441 home
517.420.0685 cell

Peter Menser

From: M.W.Casby <casby@msu.edu>
Sent: Saturday, September 08, 2018 4:49 PM
To: Peter Menser
Subject: Mayberry Copper Creek

It has been long determined by the Township that the Creekwood Lane/Haslett Road intersection is neither safe nor suitable as an access for any additional traffic flow, because of its below minimum sightline distance. Making the Wood Knoll connection moot. When using the Creekwood/Haslett intersection, one has little reaction time to respond to traffic flow because of the very limited sight lines.

MWC
sntbymysmrtphn

Peter Menser

From: Joyce Breedlove <joyjrb5200@gmail.com>
Sent: Wednesday, October 17, 2018 1:07 PM
To: Peter Menser
Subject: Copper Creek condominium PUD

Dear Mr. Menser and Planning Commission in whole,

I am in receipt of the recent proposed modified plan submitted for the Copper Creek Condominium PUD. In appears that their answer for the need of a second ingress-egress road for their development is the use of Wood Knoll and Creekwood.
This is unacceptable for safety reasons.
1. There is limited sight distance at the corner of Creekwood and Haslett Rd. due to the "S" curve to the immediate west of the intersection.
2. Creekwood is a narrow road - parking on each side is allowed and needed.
3. Higher volumes of traffic that would be created by using Creekwood as an ingress-egress to the proposed development would make the neighborhood unsafe for the children who are required to walk to the bus stop at the intersection of Creekwood and Haslett Rd. During inclement weather, parents drive and park at the end of Creekwood to provide shelter for their children while waiting for the bus - which basically leaves one lane for travel. It is not a problem for a neighborhood of 20 some residences, but becomes a huge problem if you allow a development of the proposed size of Copper Creek to use Creekwood as an ingress-egress.

I stand with my neighbors in expressing our concern that to allow Copper Creek to use Creekwood Lane as the answer for their required 2nd ingress-egress would be detrimental to our neighborhood and should not be allowed.
Respectfully submitted,
Joyce R. Breedlove
5597 Creekwood Lane
Haslett, MI 48840

Peter Menser

From: Arnold-Garcia, Amy <Grossm11@msu.edu>
Sent: Wednesday, October 17, 2018 2:07 PM
To: Peter Menser
Cc: Garcia, John; Arnold-Garcia, Amy
Subject: Copper Creek

Mr. Menser,

My name is Amy Arnold-Garcia and my family has lived at 5603 Creekwood Lane since August of 2000. I went before the township when we were vying for sidewalks to connect us to Haslett when my children were three and five. My children grew-up (and one of them is out) of Haslett and my husband and I had recently decided to stay in our home after and during retirement.

After sharing that with you, I feel compelled to ask some very pointed questions. You see, I manage an office, a budget, personnel and construction projects at MSU. I have to tell you, the Copper Creek proposal seems really lacking in answers and management. With every new proposal I ask myself why we keep seeing the same things that concern us. My gut tells me that some simple and honest answers might eliminate time, effort and some increasingly angry tax payers.

- Is this development a done-deal? If so, it should just be conveyed.
- Is there a reason Mayberry was asked to go back to the drafting board a month ago and if so, what was it?
- Why does Mayberry feel compelled to connect this development to the Wood Knoll stub street after hearing our concerns?
- We've had enough tragedy on Creekwood (our babysitter in the house to the right overdosed on heroin and our neighbors to the left died in a murder-suicide, not to mention any number of foreclosures when the housing market tanked and another Creekwood resident who died of brain cancer) in our 18 years. We participate in neighborhood night out every year, we have a great relationship with Meridian Township Police and we are embracing a flurry of new, young families to Haslett in our neighborhood. We've made it very clear the connection to this development is unwanted for many reasons, so why wouldn't the township advocate for our concerns?
- We are very invested in our lives on Creekwood. How can we best convey our concerns and know they are valued if we keep seeing plans that connect Creekwood to Copper Creek? Does it matter?

I appreciate your time and look forward to not having to change my retirement plans.

Amy L. Arnold-Garcia

Peter Menser

From: M.W. Casby <casbymw@yahoo.com>
Sent: Wednesday, October 17, 2018 9:03 PM
To: Peter Menser
Subject: Copper Creek Proposal

It has been long determined by the Township Board, and supported by the Michigan Supreme Court, that the Creekwood Lane/Haslett Road intersection is neither safe nor suitable as an access for any additional traffic flow, because of its below minimum sightline distance. This fact alone makes the proposed Wood Knoll Road/Copper Creek connection wholly incongruous, as it would feed into the afore mentioned troubled Creekwood Lane/Haslett Road intersection.

Furthermore, quoting from the relevant Michigan Supreme Court decision: "Equally untenable is the suggestion that the Township's prior consent to the construction of the existing Wood Knoll Drive stub street adjoining Creekwood Lane constituted some sort of irrevocable advance consent to the development of any new subdivisions seeking to use that stub street for access. The township was not under any legal requirement, at the time the Creekwood subdivision was developed, to give advance notice of what hypothetical future subdivisions adjoining Creekwood Lane it might approve or disapprove, and on what grounds."

Please note that Township regulations contend that a subdivision's roads shall be arranged so as not to have a negative influence by encouraging through traffic.

One subdivision should not be used as a roadway for through traffic to another subdivision. If a subdivision cannot provide total, direct, safe, and suitable access, then it should be modified - or denied.

There is no need for (negative) encroachment upon the Creekwood Lane/Wood Ridge subdivision - by any means. I call your attention to all of the previous arguments against this development as proposed.

Thank you.
Michael & Betty Casby
5624 Creekwood Lane
Haslett, Mi 48840

MWC
sntbymysmrtphn

Peter Menser

From: DENISE KANE <kane.denise@comcast.net>
Sent: Wednesday, October 17, 2018 9:11 PM
To: Peter Menser
Subject: Copper Creek subdivision

Dear Mr. Menser,

I am a resident living on Creekwood Lane and am writing to you to express my concerns about the latest plan for the Copper Creek development off of Haslett Road.

Creekwood is a quite neighborhood of 25 homes and I am concerned that attaching it to another development of 88 homes will destroy the character and safety of our neighborhood. Many vehicles will be using Creekwood as a thruway into the new subdivision.

I am not against the development outright, but I don't see why it needs to be connected to our existing neighborhood. I think that it should have to have it's own connection/s (how ever many are needed) directly to Haslett Road.

Our street is narrow and not built for that much additional through traffic. This much additional traffic will be a safety and quality of life issue for the existing residents.

Please enter this letter into the record for the upcoming hearing on Monday, October 22nd.

Thank you,

Denise Kane

5600 Creekwood Lane

Peter Menser

From: Christina Morey <morey.christina@gmail.com>
Sent: Thursday, October 18, 2018 10:42 AM
To: Peter Menser
Subject: Copper Creek PUD

Planning Commission,

I would like to again express my dissatisfaction with the updated plan for the Copper Creek subdivision. This updated plan now includes a connection with Wood Knoll road which has been opposed by our neighbors and the board at previous meetings. One of the deciding factors when we purchased our house at 5609 Creekwood Lane in 2014 was the safety and peace of mind of a dead end street. Our two children have grown up knowing how to safely navigate this low traffic area and our 6 year old often bikes and runs across the road. We are a close community and everyone looks out for the many kids who play along the street. The addition of a connecting road to this large subdivision will alter the character of the neighborhood. The turn out onto Haslett road from Creekwood is already dangerous as you can not see oncoming east bound traffic until it is past the curve. We also have many cars use our street as a turn around if they miss Van Atta or Green Road which contributes to the danger here. This is not a spot to add more cars. Thank you.

Christina

Peter Menser

From: RANDY KINDY <rkindy@comcast.net>
Sent: Thursday, October 18, 2018 3:15 PM
To: Peter Menser
Subject: Copper Creek Development

Good Morning Mr. Menser,

I am writing to you and to all members of the Meridian Charter Township Planning Commission and would ask that this writing be included in any correspondence/packet/information that is reviewed by Planning Commission Members prior to the meeting Monday October 22, 2018.

After reviewing the most recent plan for the Copper Creek Development I was encouraged to see that they have now included a 75' set back behind my home 5642 Creekwood Lane and my neighbors adjacent to me. It appears to me that this will leave intact the natural area with mature trees that I have spoke about at previous meetings. I also believe this is consistent with what I have seen in other developments in Meridian Township, that being maintaining/protecting these natural areas. I am still concerned about the safety issues that have been discussed in past meetings and that has been created more so by the most recent plan. Mayberry Homes has now extended Woodknoll Dr. and made this a primary entrance for Copper Creek. That being said, in all past meetings it was indicated by Mayberry Homes that they had no intentions of doing what they have now indicated they would like to do. They have been told in past meetings that due to the number of homes they would be required to have more then the one entrance off Haslett Rd. It appears to me that they are; #1 not listening to the Planning Commissions request, #2 ignoring the request, #3 believing that it is not required, or #4 believing the Planning Commission will forget about what was stated and will allow them to move forward. It was clear to me that due to the number of homes in the initial phases of Copper Creek that they need at least two entrances off Haslett Rd. I would quess more entrances in the future would be required given the eventual estimate of 400 homes total. This is where my concern for safety exist. The Wood Knoll Dr. location cannot be used as an entrance as Woodcreek Lane is the only road servicing our subdivision. It has approximately 25 homes and the township prohibits using an existing subdivision as a entrance for another. It is also my belief that the Supreme Court Decision from the 1980's has addressed this issue and was quite clear. I feel it is still applicable today more then in the 1980's. Woodcreek Lane is too narrow to accommodate the anticipated number of vehicles that will be using it as an entrance. The fact that it was not designed for this use, and that it already services our subdivision where numerous families with small children reside is of great concern to me and others.

Many weeks have passed since the initial meeting reference to the Copper Creek Development. I have yet to see what the structures look like, and what materials will be used. I have heard commission members reference the homes being "affordable". Will they have the appearance of a modular home, will they have a combination of different materials, will they all look the same, will they have basements, what type of landscaping is required. When I hear affordable I picture a

manufactured home community. The minimal distance between homes is also a concern which can also make it look like a manufactured home community. All concerns that will impact my property value.

I would respectfully request that in addition to reviewing the proposals made by Mayberry Homes that you as Planning Commission Members consider the residents on Creekwood Lane a subdivision that was established in the mid 1080's. Residents that have raised families, and have moved on and residents who are new and beginning to raise families. Residents who chose to live on Creekwood Lane and of the closeness we have all developed as we raise our families. Our quality of life needs to be considered. I don't feel our neighborhood to be one of opposition or adversarial. It is Mayberry Homes property and I am just asking that consideration be given to our positions relative to Safety, Natural areas, effect on our quality of life, not to mention the effects on property values.

Respectfully, Randy R. Kindy 5642 Creekwood Lane Haslett, Michigan 48840

Peter Menser

From: Daryl S. <darylsal8@gmail.com>
Sent: Thursday, October 18, 2018 3:57 PM
To: Peter Menser
Subject: Copper Creek PUD

Mr. Menser,

We are writing to express opposition of the Copper Creek PUD plan to convert Wood Knoll Dr. to an access road connecting the PUD to Creekwood Lane. We oppose this proposal due to the concern of safety of residents, especially the children, who often spend time outdoors. The additional traffic into Creekwood not only creates additional safety hazard for those living in Creekwood but exacerbates the risk of accidents and backups at the Creekwood/Haslett and Van Atta/Haslett intersections due to the poor sightline caused by the curve on Haslett and Van Atta.

More importantly, this type of plan has already been denied at two different levels of government as cited in the Altman v. Meridian Twp ruling when the proposal was to build 25 homes . It was denied by Meridian Township Board of Trustees in 1988, and upheld by the Michigan circuit court in 1992 subsequent to the developer's appeal of the Board's decision. If it was denied 30 years ago for 25 homes, when there was likely less traffic and less residents in the area, the current proposal of 88 homes in a neighborhood with more traffic and residents is simply absurd, even with two access roads to Haslett.

The Creekwood neighborhood has made more than a dozen public comments and probably dozens more emails and letters voicing their opposition of converting Wood Knoll as an access road to the Planning Committee and the developers. Yet the developers have provided a plan that disregards our concerns based on the fact that the developers' previous version of the plan showed Wood Knoll would only be an emergency access road. This attitude is concerning, and we call for the Planning Commission to recognize and uphold the precedent set by the previous decisions of the Board and Michigan circuit court.

Thanks for your time.

Daryl and Sheila Saliganan

5648 Creekwood Lane.

Peter Menser

From: Dawn Kettinger <dawnkett@gmail.com>
Sent: Friday, October 19, 2018 8:24 AM
To: Peter Menser
Subject: Re: Copper Creek PUD - Revised plan received
Attachments: image003.jpg

Hello, Peter.
Thanks for continuing to keep us updated. Here are my comments for the record:

I am writing to again express my deep concern regarding the PUD Plan for Copper Creek Condominium.
Our small street, Creekwood Lane, simply cannot safely accommodate any additional traffic, let alone the possibility of vehicles from 88 more homes. Making Creekwood Lane a through-way will put the children on our block in danger as well as make the Creekwood Lane/Haslett Road intersection more dangerous for everyone who uses it or passes it by.
There is no question that the developers have the right to build on their property. They don't, however, have the right to build in a way that endangers current residents and violates the township's stated priority of public safety.
Most Creekwood Lane residents have lived here for years - some for decades - and our right to be safe should supercede the developers' desire to build in whatever way they want.
Respectfully,
Dawn Kettinger
5600 Creekwood Lane, Haslett

On Wed, Oct 17, 2018 at 10:02 AM Peter Menser <menser@meridian.mi.us> wrote:

> Hi all,
>
> Copper Creek will be back on the Planning Commission agenda for Monday, October 22. The meeting starts at 7pm. Wanted to give you a heads up that a revised plan has been received. To get in the

meeting packet I will need all communications by this Friday at noon. Anything after that will get copied and provided at the meeting on Monday evening and be included in the following meeting packet. Please help me by sharing this information with your neighbors and any others you many know that have been following this project.

Hope you are all doing well.

-Peter

Peter Menser

Principal Planner

menser@meridian.mi.us

517.853.4576

5151 Marsh Road | Okemos, MI 48864

meridian.mi.us

Peter Menser

From: DENISE KANE <kane.denise@comcast.net>
Sent: Tuesday, October 30, 2018 10:18 AM
To: Peter Menser
Subject: Re: Copper Creek development

Dear Mr. Menser,

My name is Denise Kane and I live at 5600 Creekwood Lane. I am writing to express my objection to the new plan proposed for the Copper Creek development that uses Creekwood as a through street for access.

Creekwood Lane is not suitable for the additional traffic that this plan will bring. As the westernmost road, Creekwood will see the bulk of the traffic in and out of Copper Creek because most traffic from this area goes west – towards the schools, East Lansing, Okemos, or Lansing. When Copper Creek residents are returning home from one of these areas, Creekwood will be the first available entrance and will be used by much of the traffic.

I am concerned that the township is deferring to the financial interests of the developer over long-term township residents' concerns over safety and quality of life. If the developer wants to build 88 homes, he should provide adequate access to those homes without negatively impacting existing neighborhoods.

The road spur shown in the northeast section of the plans makes me assume that there will be additional homes built at some time in the future – I've heard the number 400 mentioned. This would mean hundreds of more cars funneling through our neighborhood.

This development should not be approved until the developer presents a plan that provides adequate access to the new homes on roads that do not go through an existing neighborhood. I realize that the developer has a right to develop his land, but not at the expense of other residents' safety.

Please enter this letter into the record for the upcoming hearing on Monday, November 5th.

Thank you for your consideration.

Denise Kane

Peter Menser

From: M.W. Casby <casbymw@yahoo.com>
Sent: Wednesday, October 31, 2018 12:07 PM
To: Peter Menser
Subject: Copper Creek dev - Nov 5 Planning meeting

Decisions should be made on facts - not subjective opinions, viewpoints, preconceived notions, or poor understanding.

Here are the facts-

From the beginning the Planning Commission repeatedly asked for a second access road to the east off of Haslett Road - for expressed safety concerns. Its requests were repeatedly ignored.

The Township Board has previously rejected a subdivision proposal with an exact traffic pattern plan - declaring it to be unsafe and unsuitable.

The Board also rejected such a plan with an exact traffic pattern because it violated a Township regulation which requires subdivision roads to be arranged so as not to encourage through traffic. This plan forces illicit through traffic.

This previous Board action is relevant today. It is, if you will, the - "law of the land."
(Supportive sources have been submitted numerous times.)

(cf. The Meridian Township Board of Trustees, the final local authority with regard to plat approval, considered the proposed plat at its regular meeting of September 20, 1988, and disapproved it by a vote of five to one. At meetings on October 3 and November 22, 1988, the board amended the minutes of its September 20 meeting to specify the reasons for its disapproval of the plat:
(1) Such a design is not consistent with Section 101-4.12(a) of the subdivision regulations, which states that streets shall be so arranged so as to discourage their use by through traffic.
(2) The alignment of Wood Knoll Drive provides sole access onto Creekwood [Lane], which requires egress onto Haslett Road at a point where there is less than 750 feet of sight distance — in violation of Section VII.B.1 of the County Road Commission Plat Procedures. (Altman v. Meridian))

As for the Wood Knoll Drive stub facts. If the prior submitted materials were read, and understood, it would be clear that it was laid out prior to when the traffic safety concerns became apparent. When those concerns became known the stub basically became unusable. It was further noted that the stub's prior existence did not guarantee any future use, let alone unsafe use. It has had that status for 30 years. People purchased homes on Creekwood with that understanding. Not with the understanding that it might be opened one day.

(cf. Quoting from the relevant Michigan Supreme Court materials: "Equally untenable is the suggestion that the [T]ownship's prior consent to the construction of the existing Wood Knoll Drive stub street adjoining Creekwood Lane constituted some sort of irrevocable advance consent to the development of any new subdivisions seeking to use that stub street for access. The township was not under any legal requirement, at the time the Creekwood subdivision was developed, to give advance notice of what hypothetical future subdivisions adjoining Creekwood Lane it might approve or disapprove, and on what grounds.")

Commissioners stated that building another safe access onto Haslett Road would cost the developer money. This is their responsibility. Lack of the access may very well cost someone life or limb. There are dangers on exit and entrance. Other cars come up blindly very quickly on exit and entrance. Approval will make a dangerous situation worse.

Commissioners have clearly acknowledged, the dangers of the roadway. Yet many making excuses for the developer, and trying to predict the future, while ignoring the facts of the past and present. The Chair (Tresize) of the last meeting stated - "I don't know why anybody would use an exit onto Haslett Road that is difficult and/or dangerous." At the August 27th meeting Commissioner Tresize stated: "I do not want to get into the driving through the Creekwood neighborhood. I think that's inappropriate, and their roads are too narrow to begin with, and to have an egress or entrance through that neighborhood is inappropriate."

It was remarked that drivers would just need to be more careful. No. The onus for safety is on the developer and the Township. And in fact, there are other safe options.

It's like saying it's ok for one to park cars and trailers in a front yard, even though it's a violation of a Township ordinance. This plan is in violation of ordinance, regulation, and Board action.

The interests of the Township and its citizens should be foremost - not those of a developer. Support for a known unsafe, unsuitable, illicit access proposed by a developer is not in the interest of the Township or its citizens.

Vote to deny this plan. Voting for it puts the Township and its citizens at significant risk. Funneling more traffic into the Creekwood/Haslett intersection via Wood Knoll is in fact significantly unsafe and unsuitable, and in violation of a Township ordinance and decision. This is a shame, when there are safe alternatives.

Michael & Betty Casby
5624 Creekwood Lane
Haslett, MI 48840

Below you will find Table 3 from the Ingham County Road Commission regulations regarding sight distance. You will also find a map addressing the relevant intersection and distance. Traveling at 35 mph it functionally takes less than 4 sec. to travel the distance.

TABLE 3 - INTERSECTION SIGHT DISTAN SUBDIVISION ROADS & TWO-LANE LOCAL C(ROADS (Single Unit Trucks)

Local or Primary Road Posted Speed (mph)	M S
55	
45	
35	
25	

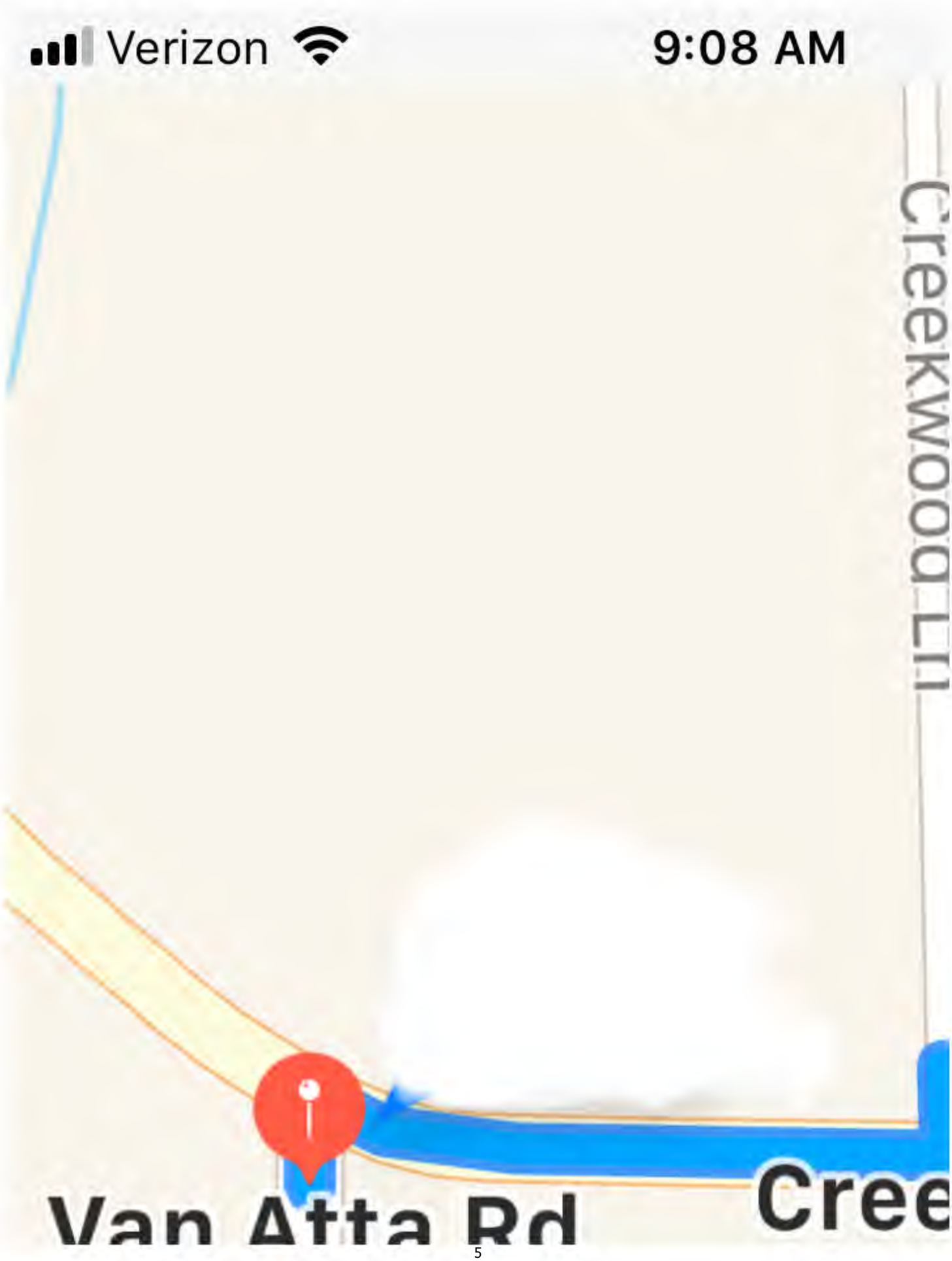
Table 3 values were taken from the AASHTO manual, A Policy (and Streets, 2001 edition.

(a) Intersection sight distance measured from a point on the the edge of the local collector or primary road pavemen eye located 3.50 feet above the pavement surface of the located 3.50 feet above the pavement surface of the loc

Intersection sight distance requirements for commercial or in vehicle, as determined by the County Engineer, is a WB-50 will basis. A case by case evaluation of required sight distance will subdivision roads that intersect with multi-lane local collector a

All intersection sight distance requirements shall be subject to forth in Table 4 - Effect of Grade on Sight Distance.

TABLE 4 - EFFECT OF GRADE ON SIGHT DISTANC


Verizon
9:08 AM
Creekwood Ln
Van Atta Rd
Cree

Peter Menser

From: Dawn Kettinger <dawnkett@gmail.com>
Sent: Wednesday, October 31, 2018 3:42 PM
To: Peter Menser
Subject: Re: P.U.D. Plan for Copper Creek Condominium

Hello, Peter. Please enter this into the record.
Best wishes,
Dawn

Re: P.U.D. Plan for Copper Creek Condominium

The township planning commission would be violating one of the Master Plan's core principles -- public safety -- if it were to recommend approval of the P.U.D. for Copper Creek Condominium.

When the plan included one egress/ingress (on Haslett Road) and using Wood Knoll as emergency access only, the feedback to the developer was to come back with at least two thru roads. That clearly meant two **safe and viable** entrances.

Instead, the developer came back with a plan that adds traffic to an already dangerous intersection (Haslett-Creekwood Lane).

Regardless of who is responsible, that hazardous curve on Haslett is here to stay. Creekwood Lane is the most dangerous point at which to send more traffic into it.

That hazard's effect on the safety of residents and motorists must be taken into consideration with any development; that consideration here would lead to denying the current plan.

I urge you to act according to the government's primary duty -- protecting public safety -- and recommend rejection of the plan.

I respect the developer's rights, but I think the voices of those of us on Creekwood Lane should be respected. That will not be the case if the plan is recommended for approval.

Mayberry is trying to get away with the cheapest, easiest way - that's to be expected. It should also be expected that our representatives on the commission put the safety of township residents - not the interests of a corporation -- first.

Respectfully,
Dawn Kettinger
5600 Creekwood Lane
Haslett, MI 48840

A community petition to the Meridian Township Planning Board and Township Board
October 18, 2018

We, the undersigned residents of Creekwood Lane, oppose any version of the Copper Creek development plan that will compromise current residents' safety by increasing traffic on our narrow street. With 88 proposed homes, the new subdivision could pour dozens of vehicles into our small cul-de-sac every day. Our street, which turns into a single-lane road when cars are parked on either side, cannot safely accommodate an influx of traffic. Children on our street play outside frequently and catch the school bus on the corner. We urge rejection of any plan that includes funneling additional traffic through Creekwood Lane.

Dawn Kettinger (5600)

Sheila Saliganan (5648)

Joyce R Breedlove (5597)

Michael W. Casey (5624)

Jacqueline Shinn (5660)
JACQUELINE SHINN

Vicki Kindy (5642)
Vicki Kindy

Christina Morey (5609)
Christina Morey

Randy R. Kindy (5642)
RANDY R. KINDY

Amy Deimler (5615)
Amy Deimler

Kristen Hood 5636
Kristen Hood

Ruth Ann Smith (5615)
Ruth Ann Smith

John Hood 5636
John Hood

5609.
Joshua Morey

A community petition to the Meridian Township
Planning Board and Township Board re: Copper Creek development
October 18, 2018
(continued)

James H. Fashbaugh
James H. Fashbaugh
(5663 Creekwood Ln)

Daryl Saliganan
Daryl Saliganan
5648 Creekwood Ln.

C Kapp
Christopher J. Kapp
5612 Creekwood Lane.

Alyse Arnold
Alyse Arnold
5603 Creekwood Ln

5591 Creekwood Ln
James Stoll

ELIZABETH CASBY
5624 Creekwood

Connie Keros
5633 CREEKWOOD

Teri Banas
5606 Creekwood
Teri Banas

5606 Creekwood
John Foren

Amy C. Arnold-Garcia
AMY L. ARNOLD-GARCIA
5603 CREEKWOOD LN

John Garcia
John Garcia
5603 Creekwood Ln.

Stacy L. Stoll
STACY SUE BOONIE
5591 Creekwood Ln Haslett

Jeffery Gilbert
5618 Creekwood

Christine Coady (5639)

A community petition to the Meridian Township
Planning Board and Township Board re: Copper Creek development
October 18, 2018
(continued)

Robert Gifford
Robert Gifford (5639)

Helen M. Stonehouse
Helen M. Stonehouse (5645)

Craig Phillipich 5594

Lorraine Cook 5654
Lorraine Cook

Jonathan Choti (5657)
Pam Comer 5594

Denise Kane (5600)
Denise Kane

Peter Menser

From: Sheila Zwiesele <sczwiese@gmail.com>
Sent: Saturday, November 03, 2018 9:21 PM
To: Peter Menser
Subject: Letter for 11-5-18 meeting re: Copper Creek PUD

Dear Peter,
We would like to officially submit the letter below for the upcoming planning committee meeting on Monday 11-5-18. May you please see that it gets added to the meeting materials?
Thank you
Sheila

We are again writing regarding the planned unit development proposal for Copper Creek.

We live in the Wood Ridge subdivision, directly adjacent to the proposed Copper Creek development. Our home at 5648 Creekwood Lane is one that is in closest proximity to the proposed units at the NW corner of the development. As you know from your review of previously submitted materials, the developer's initial proposal suggested zero setbacks between our abutting properties, which we and several other neighbors as well as planning committee members felt was inappropriate. We advocated for increased setbacks and preservation of the natural wooded border along the West boundary of their property. After several revisions, there is now a proposed 75 foot buffer between our properties. While we would ideally prefer even more separation, this seems to be a minimum acceptable compromise to both parties which at the very least must be upheld. As revisions are seemingly still being made to the proposed development, we felt compelled to again bring this to your attention so that our prior progress is not undone.

While progress has been made in one area, there is another that demands our attention. The proposed connection between Wood Ridge subdivision and Copper Creek via Wood Knoll Drive (and subsequently Creekwood Lane) is unsafe, unsuitable, and undesirable for the following reasons:

- One neighborhood should not serve as an entrance for another
- There is severely limited sight distance at the intersection of Creekwood Lane and Haslett Road, which will only become more dangerous with increased traffic through our neighborhood
- Creekwood Lane is a narrow road that becomes a single lane when cars are parked along the curbs, and cannot accommodate increased traffic flow
- A safer alternative exists. The developer has the option to build a road on the East end of their property since they have future plans to expand that way further. This would satisfy the fire code requirements for access and eliminate the unnecessary shortcut through an existing subdivision
- The proposed connection will destroy a protected wetland area, which raises additional concerns for drainage and wildlife displacement
- The connection would negatively impact the safety and quality of life of the current residents of the Wood Ridge subdivision

We would like to elaborate on the last point and provide some perspective. Creekwood Lane is a single access dead-end cul-de-sac with only 25 houses. This fosters a sense of security, charm, and close knit community which current residents have come to love. Our children play outside, we look out for each other, and we enjoy coming home to a quiet and peaceful neighborhood. In fact, this is what drew us to buy a house here. We love living in Haslett and we want future residents to as well, but not by compromising what we love in the first place.

Based on the initial concept plan, the developers are eventually planning to build 350+ units. It is unreasonable to consider connecting our small established neighborhood to one that is OVER 14 TIMES its size and comprised of newly constructed units with different zoning requirements. This proposed connection raises concerns for our safety, home value, quality of life, and environmental impacts. The current residents of Wood Ridge subdivision have continuously and unanimously voiced these objections even when the connection was planned as an emergency access only in earlier proposals. Despite our concerns, the developers proceeded to propose a full vehicular connection via Wood Knoll Drive/Creekwood Lane, which we strongly oppose. We urge the planning committee to take these concerns seriously and advocate for the current residents rather than appease the requests of a new developer at our expense.

Thank you for your time and consideration.

Sheila and Daryl Saliganan
5648 Creekwood Lane, Haslett MI 48840

Peter Menser

From: M.W. Casby <casbymw@yahoo.com>
Sent: Wednesday, October 31, 2018 12:07 PM
To: Peter Menser
Subject: Copper Creek dev - Nov 5 Planning meeting

Decisions should be made on facts - not subjective opinions, viewpoints, preconceived notions, or poor understanding.

Here are the facts-

From the beginning the Planning Commission repeatedly asked for a second access road to the east off of Haslett Road - for expressed safety concerns. Its requests were repeatedly ignored.

The Township Board has previously rejected a subdivision proposal with an exact traffic pattern plan - declaring it to be unsafe and unsuitable.

The Board also rejected such a plan with an exact traffic pattern because it violated a Township regulation which requires subdivision roads to be arranged so as not to encourage through traffic. This plan forces illicit through traffic.

This previous Board action is relevant today. It is, if you will, the - "law of the land."
(Supportive sources have been submitted numerous times.)

(cf. The Meridian Township Board of Trustees, the final local authority with regard to plat approval, considered the proposed plat at its regular meeting of September 20, 1988, and disapproved it by a vote of five to one. At meetings on October 3 and November 22, 1988, the board amended the minutes of its September 20 meeting to specify the reasons for its disapproval of the plat:
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(2) The alignment of Wood Knoll Drive provides sole access onto Creekwood [Lane], which requires egress onto Haslett Road at a point where there is less than 750 feet of sight distance — in violation of Section VII.B.1 of the County Road Commission Plat Procedures. (Altman v. Meridian))

As for the Wood Knoll Drive stub facts. If the prior submitted materials were read, and understood, it would be clear that it was laid out prior to when the traffic safety concerns became apparent. When those concerns became known the stub basically became unusable. It was further noted that the stub's prior existence did not guarantee any future use, let alone unsafe use. It has had that status for 30 years. People purchased homes on Creekwood with that understanding. Not with the understanding that it might be opened one day.

(cf. Quoting from the relevant Michigan Supreme Court materials: "Equally untenable is the suggestion that the [T]ownship's prior consent to the construction of the existing Wood Knoll Drive stub street adjoining Creekwood Lane constituted some sort of irrevocable advance consent to the development of any new subdivisions seeking to use that stub street for access. The township was not under any legal requirement, at the time the Creekwood subdivision was developed, to give advance notice of what hypothetical future subdivisions adjoining Creekwood Lane it might approve or disapprove, and on what grounds.")

Commissioners stated that building another safe access onto Haslett Road would cost the developer money. This is their responsibility. Lack of the access may very well cost someone life or limb. There are dangers on exit and entrance. Other cars come up blindly very quickly on exit and entrance. Approval will make a dangerous situation worse.

Commissioners have clearly acknowledged, the dangers of the roadway. Yet many making excuses for the developer, and trying to predict the future, while ignoring the facts of the past and present. The Chair (Tresize) of the last meeting stated - "I don't know why anybody would use an exit onto Haslett Road that is difficult and/or dangerous." At the August 27th meeting Commissioner Tresize stated: "I do not want to get into the driving through the Creekwood neighborhood. I think that's inappropriate, and their roads are too narrow to begin with, and to have an egress or entrance through that neighborhood is inappropriate."

It was remarked that drivers would just need to be more careful. No. The onus for safety is on the developer and the Township. And in fact, there are other safe options.

It's like saying it's ok for one to park cars and trailers in a front yard, even though it's a violation of a Township ordinance. This plan is in violation of ordinance, regulation, and Board action.

The interests of the Township and its citizens should be foremost - not those of a developer. Support for a known unsafe, unsuitable, illicit access proposed by a developer is not in the interest of the Township or its citizens.

Vote to deny this plan. Voting for it puts the Township and its citizens at significant risk. Funneling more traffic into the Creekwood/Haslett intersection via Wood Knoll is in fact significantly unsafe and unsuitable, and in violation of a Township ordinance and decision. This is a shame, when there are safe alternatives.

Michael & Betty Casby
5624 Creekwood Lane
Haslett, MI 48840

Below you will find Table 3 from the Ingham County Road Commission regulations regarding sight distance. You will also find a map addressing the relevant intersection and distance. Traveling at 35 mph it functionally takes less than 4 sec. to travel the distance.

TABLE 3 - INTERSECTION SIGHT DISTAN SUBDIVISION ROADS & TWO-LANE LOCAL C(ROADS (Single Unit Trucks)

Local or Primary Road Posted Speed (mph)	M S
55	
45	
35	
25	

Table 3 values were taken from the AASHTO manual, A Policy (and Streets, 2001 edition.

(a) Intersection sight distance measured from a point on the the edge of the local collector or primary road pavemen eye located 3.50 feet above the pavement surface of the located 3.50 feet above the pavement surface of the loc

Intersection sight distance requirements for commercial or in vehicle, as determined by the County Engineer, is a WB-50 will basis. A case by case evaluation of required sight distance will subdivision roads that intersect with multi-lane local collector a

All intersection sight distance requirements shall be subject to forth in Table 4 - Effect of Grade on Sight Distance.

TABLE 4 - EFFECT OF GRADE ON SIGHT DISTANC

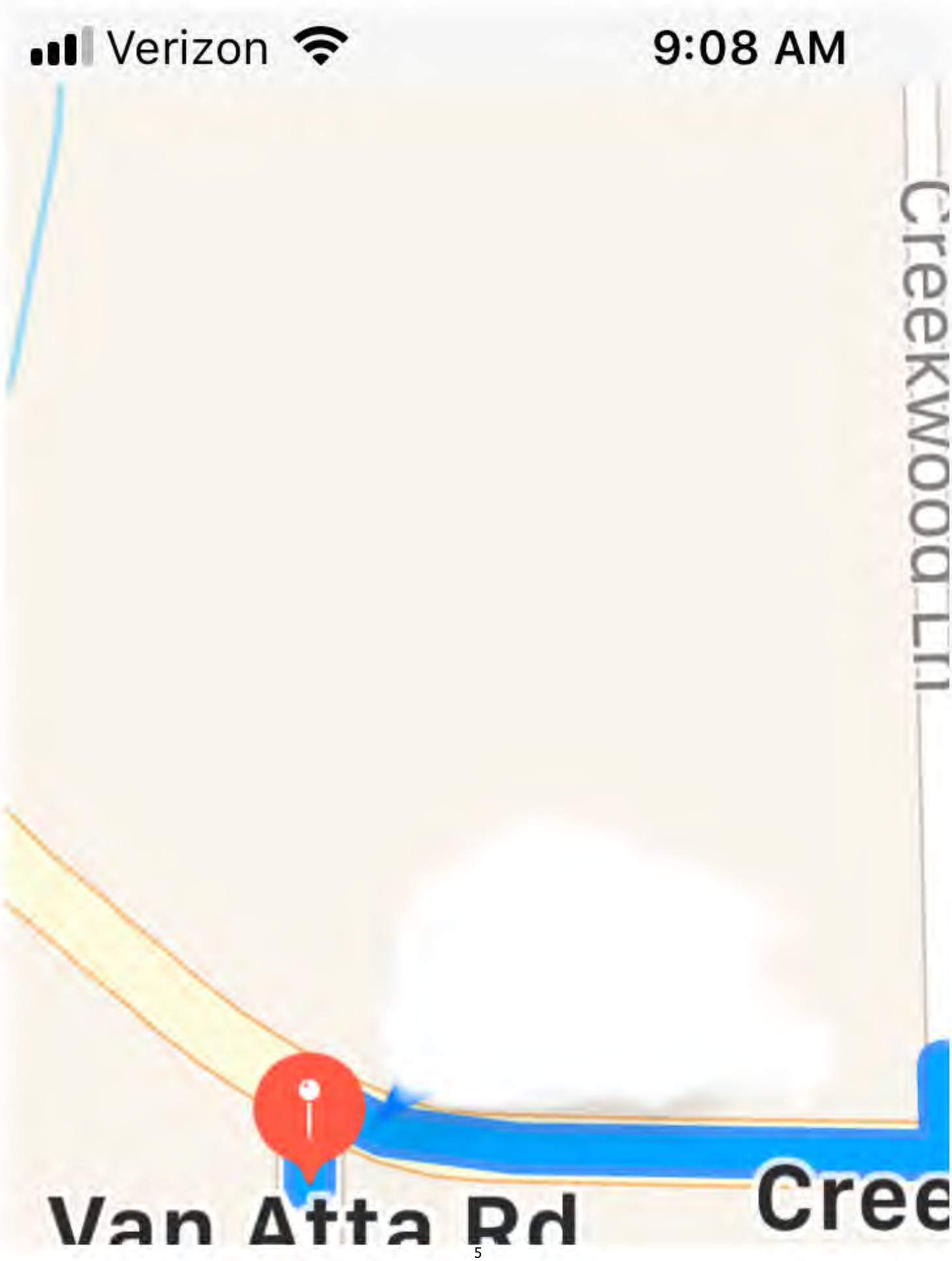

Verizon
9:08 AM
Creekwood Ln
Van Atta Rd
Cree

TABLE 3 - INTERSECTION SIGHT DISTANCE REQUIREMENTS AT SUBDIVISION ROADS & TWO-LANE LOCAL COLLECTOR OR PRIMARY ROADS (Single Unit Trucks)

Local or Primary Road Posted Speed (mph)	Minimum Decision Sight Distance (ft.)[a]
55	770
45	630
35	490
25	350

Table 3 values were taken from the AASHTO manual, A Policy on Geometric Design of Highways and Streets, 2001 edition.

(a) Intersection sight distance measured from a point on the minor road at least 18 feet from the edge of the local collector or primary road pavement and measured from a height of eye located 3.50 feet above the pavement surface of the minor road to a height of object located 3.50 feet above the pavement surface of the local collector or primary road.

Intersection sight distance requirements for commercial or industrial roads where the design vehicle, as determined by the County Engineer, is a WB-50 will be evaluated on a case by case basis. A case by case evaluation of required sight distance will also be performed for proposed subdivision roads that intersect with multi-lane local collector and primary roads.

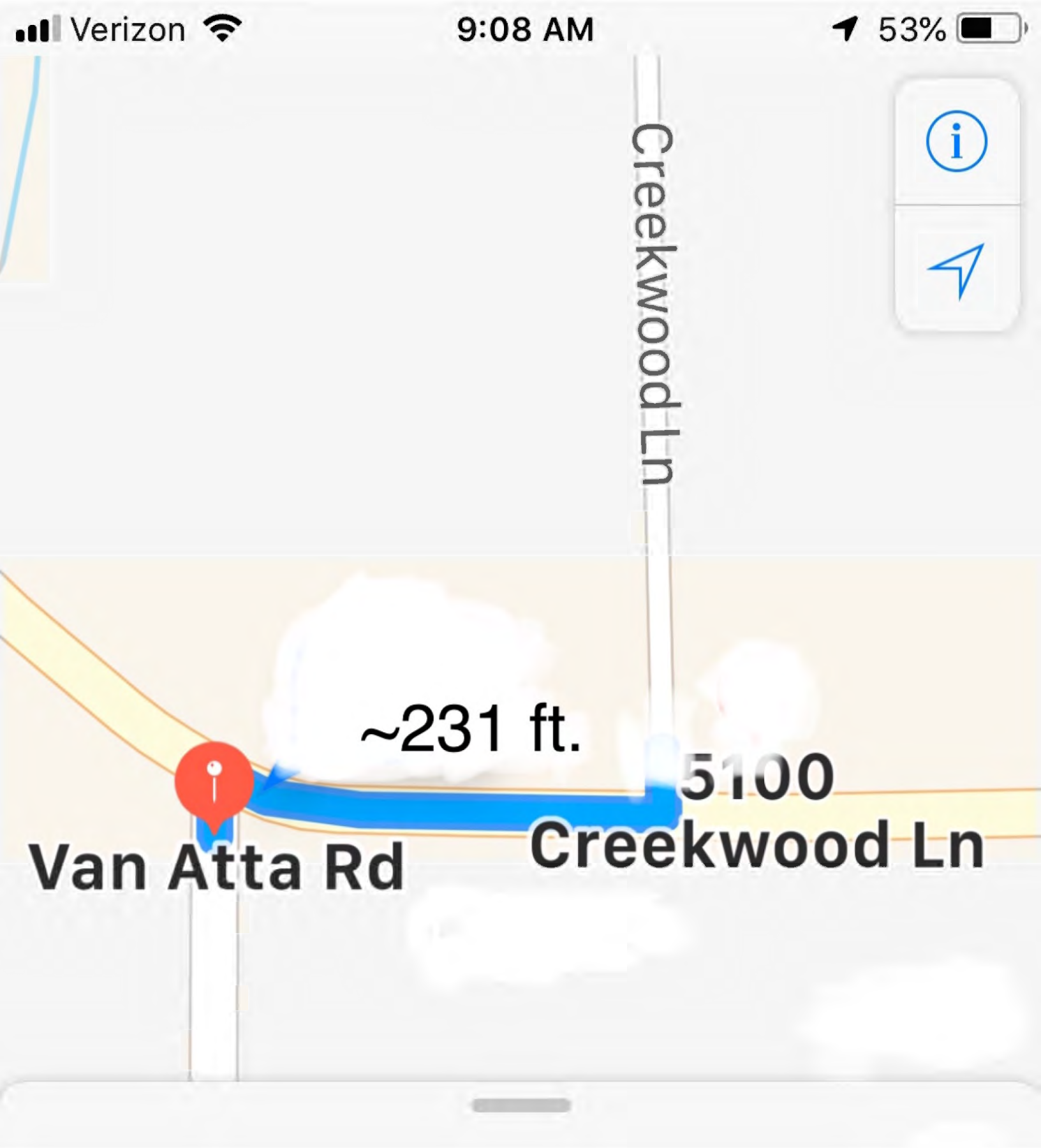
All intersection sight distance requirements shall be subject to adjustment using the factors set forth in Table 4 - Effect of Grade on Sight Distance.

TABLE 4 - EFFECT OF GRADE ON SIGHT DISTANCE

Grade of Local Collector or Primary Road (%)	Downgrade [1]	Upgrade [2]
2.0% to 3.0%	0.9	1.1
3.1% to 4.0%	0.7	1.3
4.1% to 5.0%	0.6	1.4

(1) When the local collector or primary road in the section to be used for acceleration after a vehicle has made a turning movement exhibits a downgrade, sight distance in the direction of approaching descending traffic should be reduced by these factors.

(2) When the local collector or primary road in the section to be used for acceleration after a vehicle has made a turning movement exhibits an upgrade, sight distance in the direction of approaching ascending traffic should be increased by these factors.


Verizon
9:08 AM
53%
Creekwood Ln
~231 ft.
5100
Creekwood Ln
Van Atta Rd

(Revised)

TRAFFIC IMPACT STUDY

For The Proposed

Copper Creek PUD

Meridian Charter Township, Ingham County, MI

November, 2018

Prepared by:

Traffic Engineering Associates, Inc.
PO Box 100 • Saranac, Michigan 48881
517/627-6028 FAX: 517/627-6040

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EXECUTIVE SUMMARY

Traffic Engineering Associates, Inc. (TEA) conducted a traffic impact study for the proposed Copper Creek PUD development in Meridian Charter Township, Ingham County, Michigan. The purpose of this study is to determine the impact of traffic to be generated on the surrounding road system. The new development will consist of 88 single family homes on approximately 44 acres.

The new subdivision will be located on the north side of Haslett Road, just east of Van Atta Road, and across from Bird Strawberry Farm Subdivision. The proposed subdivision will have two (2) public road connections; one (1) connection on Haslett Road opposite the existing Bird Farm Lane and one (1) connection to Wood Knoll Drive to the west. The proposed development is expected to be completed and fully occupied by the end of 2022 (five years).

TEA, Inc. conducted vehicle turning movement counts during the midweek, of a non-holiday week in the month of September, 2017. The existing weekday AM and PM peak hour traffic volumes are 7:15 – 8:15 AM and 5:00 – 6:00 PM. All existing turning movements at the studied intersections operate at a good level of service (LOS C or better).

Background traffic represents future volumes without the traffic generated by the proposed Copper Creek PUD development. The target year for completion is the end of 2022; therefore, a five (5) year growth rate was applied to the existing traffic volumes. It is anticipated that all movements will operate at a good level of service (LOS C or better) under background conditions.

The ITE trip generation rates for Single-Family Detached Housing (Land Use Code 210) were selected to represent the proposed 88 units. It is projected that the proposed Copper Creek PUD development will generate 67 vehicle trips in the AM peak hour, 90 vehicle trips in the PM peak hour, and 924 weekday trips. Under future conditions, all studied intersections are projected to continue to operate at a good level of service (LOS C or better).

The proposed Copper Creek PUD new roadway on Haslett Road will be located across from Bird Farm Lane. A field review shows that there are no issues with sight distance from the east or west along Haslett Road. The proposed access to Wood Knoll Drive connects to Creekwood Lane. A field review at the intersection of Creekwood Lane and Haslett Road show an approximate sight distance of 400 feet to the west. In accordance with the Ingham County Road Department guidelines for intersection sight distance for a 35 MPH posted speed limit, the intersection sight distance should be a minimum of 390 feet, and the safe stopping distance is a minimum of 250 feet.

The findings of this study show that there are no recommendations to the existing road system.

INTRODUCTION

PROJECT DESCRIPTION

The purpose of this study is to determine the impact of traffic to be generated by the proposed Copper Creek PUD in Meridian Charter Township, Ingham County, Michigan. The new development will consist of 88 single family homes on approximately 44 acres.

The new subdivision will be located on the north side of Haslett Road, just east of Van Atta Road and across from Bird Strawberry Farm Subdivision. The proposed subdivision will have two (2) public road connections; one (1) connection on Haslett Road opposite the existing Bird Farm Lane and one (1) connection to Wood Knoll Drive to the west. The proposed development is expected to be completed and fully occupied by the end of 2022 (five years).

SCOPE OF WORK

The scope of work contained in this report is as follows:

- Analysis of existing traffic conditions on the adjoining street system, including the following intersections;

    - Haslett Road and Van Atta Road
    - Haslett Road and Creekwood Lane
    - Haslett Road and Bird Farm Lane
    - Haslett Road and Meridian Road

- Analysis of background traffic conditions on the adjoining street system, which includes the above listed intersections, for the future year 2022 volumes without the proposed Copper Creek PUD.

- Projection of future traffic volumes to be generated by the proposed Copper Creek PUD for the future year.

- Analysis of the impact of future traffic for the proposed Copper Creek PUD at the above listed intersections.

- Determination of what roadway and traffic control improvements, if any, will be needed to accommodate future traffic volumes for the proposed Copper Creek PUD.

Aerial Site Map

EXISTING CONDITIONS

ROADWAYS AND INTERSECTIONS

Roadways

Haslett Road is an east-west, two-lane roadway in the project area with gravel shoulders. The posted speed limit is 45 mph from Van Atta Road to Bird Farm Lane, then the speed limit changes to 55 mph east of Bird Farm Lane. The roadway is under the jurisdiction of the Ingham County Road Department. There are no bicycle lanes on this portion of Haslett Road. There are sidewalks on the south side of Haslett Road from Van Atta Road to Bird Farm Lane. There are no sidewalks on the north side of Haslett Road.

Intersections

Haslett Road and Van Atta Road

The intersection of Haslett Road and Van Atta Road is a stop sign controlled intersection with northbound Van Atta Road stopping for Haslett Road. The east approach on Haslett Road has three (3) lanes with one (1) two-way center left turn lane, one (1) thru lane, and one (1) outbound lane. The west approach on Haslett Road has three (3) lanes with one (1) two-way center left turn lane, one (1) thru-right turn lane and one (1) outbound lane. The south approach on Van Atta Road is two (2) lanes with one (1) left-right lane and one (1) outbound lane. There is a marked pedestrian crossing on Haslett Road, east of Van Atta Road.

Haslett Road and Creekwood Lane

The intersection of Haslett Road and Creekwood Lane is a stop sign controlled intersection with southbound Creekwood Lane stopping for Haslett Road. The west approach on Haslett Road has three (3) lanes with one (1) two-way center left turn lane, one (1) thru lane, and one (1) outbound lane. The east approach on Haslett Road has three (3) lanes with one (1) two-way center left turn lane, one (1) thru-right lane and one (1) outbound lane. The north approach on Creekwood Lane has two (2) lanes with one (1) left-right lane and one (1) outbound lane. The center two-way left turn lane on Haslett Road ends just east of Creekwood Lane. There are no marked pedestrian crossings at this intersection.

Haslett Road and Bird Farm Lane

The intersection of Haslett Road and Bird Farm Lane is a stop sign controlled intersection with northbound Bird Farm Lane stopping for Haslett Road. The east approach on Haslett Road has two (2) lanes with one (1) left-thru lane, and one (1) outbound lane. The west approach on Haslett Road has two (2) lanes with one (1) thru-right lane and one (1) outbound lane. The south approach on Bird Farm Lane has two (2) lanes with one (1) left-right lane and one (1) outbound lane. There are no marked pedestrian crossings at this intersection.

Haslett Road and Meridian Road

The intersection of Haslett Road and Meridian Road is a stop sign controlled intersection with northbound Meridian Road stopping for Haslett Road. The east approach on Haslett Road has two (2) lanes with one (1) left-thru lane and one (1) outbound lane. The west approach has two (2) lanes with one (1) thru-right lane and one (1) outbound lane. The south approach on Meridian Road has two (2) lanes with one (1) left-right lane and one (1) outbound lane. There are no marked pedestrian crossings at this intersection.

LAND USE

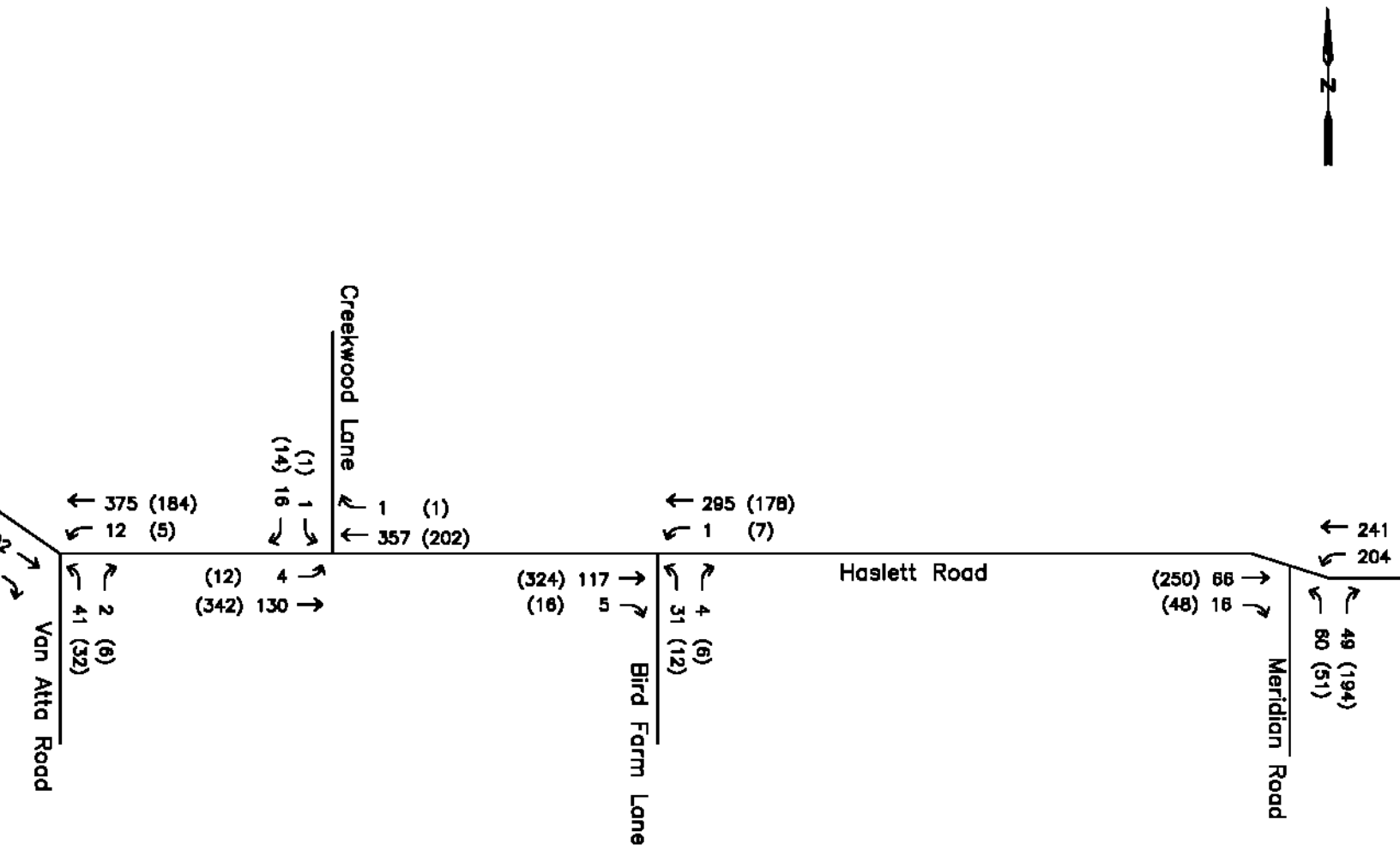
The proposed Copper Creek PUD will consist of single family residential units. The proposed site is currently vacant land. The surrounding land use is single family residential to the west, north and south, and vacant land to the east.

EXISTING TRAFFIC VOLUMES

TEA, Inc. conducted vehicle counts during the midweek, of a non-holiday week in the month of September, 2017 at the following locations:

- Haslett Road and Van Atta Road
- Haslett Road and Creekwood Lane
- Haslett Road and Bird Farm Lane
- Haslett Road and Meridian Road

The existing weekday AM and PM peak hour traffic volumes are 7:15 – 8:15 AM and 5:00 – 6:00 PM at the key locations, respectively. The existing volumes are illustrated in **Figure 1**.



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LEGEND

XXX AM Pk Hr (7:15-8:15 AM) Volumes
(XXX) PM Pk Hr (5:00-6:00 PM) Volumes

FIGURE 1: Existing Traffic – Peak Hours

DATE: November, 2016

SCALE: NTS

LEVEL OF SERVICE ANALYSIS FOR EXISTING TRAFFIC

The critical intersections defined for this study were analyzed according to the methodologies published in the most recent edition of the *Highway Capacity Manual*. The analysis determines the "Level of Service" of the intersections and is based on factors such as the number and types of lanes, signal timing, traffic volumes, pedestrian activity, etc. The level of service (LOS) is defined by average vehicle delay in seconds created by a traffic control device for a given traffic movement or intersection approach.

Level of Service	Delay per Vehicle (seconds)	
	Non-Signalized	Signalized
A	< 10	<10
B	10 to 15	10 to 20
C	15 to 25	20 to 35
D	25 to 35	35 to 55
E	35 to 50	55 to 80
F	> 50	> 80

Levels of Service are expressed in a range from "A" to "F," with "A" being the highest LOS and "F" representing the lowest LOS. Level of service "D" is considered the minimum acceptable LOS in an urban area.

The above table shows the thresholds for Levels of Service "A" through "F" for non-signalized and signalized intersections, respectively.

All Level of Service computations contained in this report were based upon the Synchro software package which is approved by the Michigan Department of Transportation (MDOT). Delay per vehicle includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

The Level of Service analysis for existing traffic at the subject intersections during the peak hours is summarized in **Table 1.** All existing turning movements at the studied intersections operate at a good level of service (LOS C or better).

Table 1
Level of Service (LOS) Summary
Existing Traffic

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Haslett Road and Van Atta Road	EB Thru-Right	0.0	A	0.0	A
	WB Left	7.5	A	8.0	A
	WB Thru	0.0	A	0.0	A
	NB Left-Right	12.3	B	11.8	B
	Intersection	1.1	A	1.1	A
Haslett Road and Creekwood Lane	EB Left	8.1	A	7.7	A
	EB Thru	0.0	A	0.0	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	10.9	B	9.8	A
	Intersection	0.5	A	0.6	A
Haslett Road and Bird Farm Lane	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	0.0	A	0.3	A
	NB Left-Right	11.9	B	12.1	B
	Intersection	1.0	A	0.6	A
Haslett Road and Meridian Road	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	3.6	A	3.4	A
	NB Left-Right	18.6	C	16.3	C
	Intersection	5.8	A	6.8	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service

BACKGROUND CONDITIONS

BACKGROUND TRAFFIC VOLUMES – GROWTH RELATED

Background traffic represents future volumes without the traffic generated by the proposed Copper Creek PUD. The target year for completion is the end of 2022; therefore, a five (5) year growth rate was applied to the existing traffic volumes.

According to the Meridian Charter Township Planning Department, the total population growth for Meridian Charter Township from 2010 to 2016 is six point nine percent (6.9%). An annual average growth rate of one point one percent (1.1%) was used for the background growth period to project background traffic to the build out date at the end of 2022 (five years). The proposed growth related background weekday AM and PM peak hour traffic volumes are illustrated in **Figure 2.**

BACKGROUND TRAFFIC VOLUMES – DEVELOPMENT RELATED

There were no new developments identified by the Meridian Charter Township Planning Department in the immediate area that would influence the background traffic for the proposed Copper Creek PUD; therefore, no background developments were included in the study.

LEGEND

XXX AM Pk Hr (7:15–8:15 AM) Volumes

(XXX) PM Pk Hr (5:00–6:00 PM) Volumes

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FIGURE 2: Background Traffic – Peak Hours

DATE: November, 2018

SCALE: NTS

LEVEL OF SERVICE ANALYSIS FOR BACKGROUND TRAFFIC

The level of service analysis for background 2022 traffic is summarized in **Table 2**. All existing roadway geometrics and traffic control devices were utilized for the background analysis. Under background conditions, it is anticipated that all movements will continue to operate at a good level of service (LOS C or better).

Table 2
Level of Service (LOS) Summary
Background Traffic

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Haslett Road and Van Atta Road	EB Thru-Right	0.0	A	0.0	A
	WB Left	7.5	A	8.1	A
	WB Thru	0.0	A	0.0	A
	NB Left-Right	12.7	B	12.1	B
	Intersection	1.2	A	1.1	A
Haslett Road and Creekwood Lane	EB Left	8.2	A	7.7	A
	EB Thru	0.0	A	0.0	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	11.1	B	9.9	A
	Intersection	0.5	A	0.6	A
Haslett Road and Bird Farm Lane	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	0.0	A	0.3	A
	NB Left-Right	12.3	B	12.5	B
	Intersection	1.0	A	0.6	A
Haslett Road and Meridian Road	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	3.6	A	3.5	A
	NB Left-Right	20.7	C	17.8	C
	Intersection	6.1	A	7.3	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service

FUTURE CONDITIONS

SITE TRAFFIC GENERATION

The trip generation rates for the proposed Copper Creek PUD were derived from the ITE TRIP GENERATION MANUAL (10th edition). The ITE trip generation rates for Single-Family Detached Housing (Land Use Code 210) were selected to represent the proposed 88 units. The ITE description of Single-Family Detached Housing is as follows:

Single-family detached housing includes all single-family homes on individual lots. A typical site surveyed is a suburban subdivision.

It is projected that the proposed Copper Creek PUD will generate 67 vehicle trips in the AM peak hour, 90 vehicle trips in the PM peak hour, and 924 weekday trips. The projected traffic to be generated by the Copper Creek PUD is summarized in **Table 3**.

Table 3
Vehicle Trip Generation Summary
Proposed Copper Creek PUD Development

Land Use	Size	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	
Single-Family Detached Housing, Land Use Code 210	88 Units	17	50	67	57	33	90	924
Total Trips		**17**	**50**	**67**	**57**	**33**	**90**	**924**

SITE TRAFFIC DISTRIBUTION

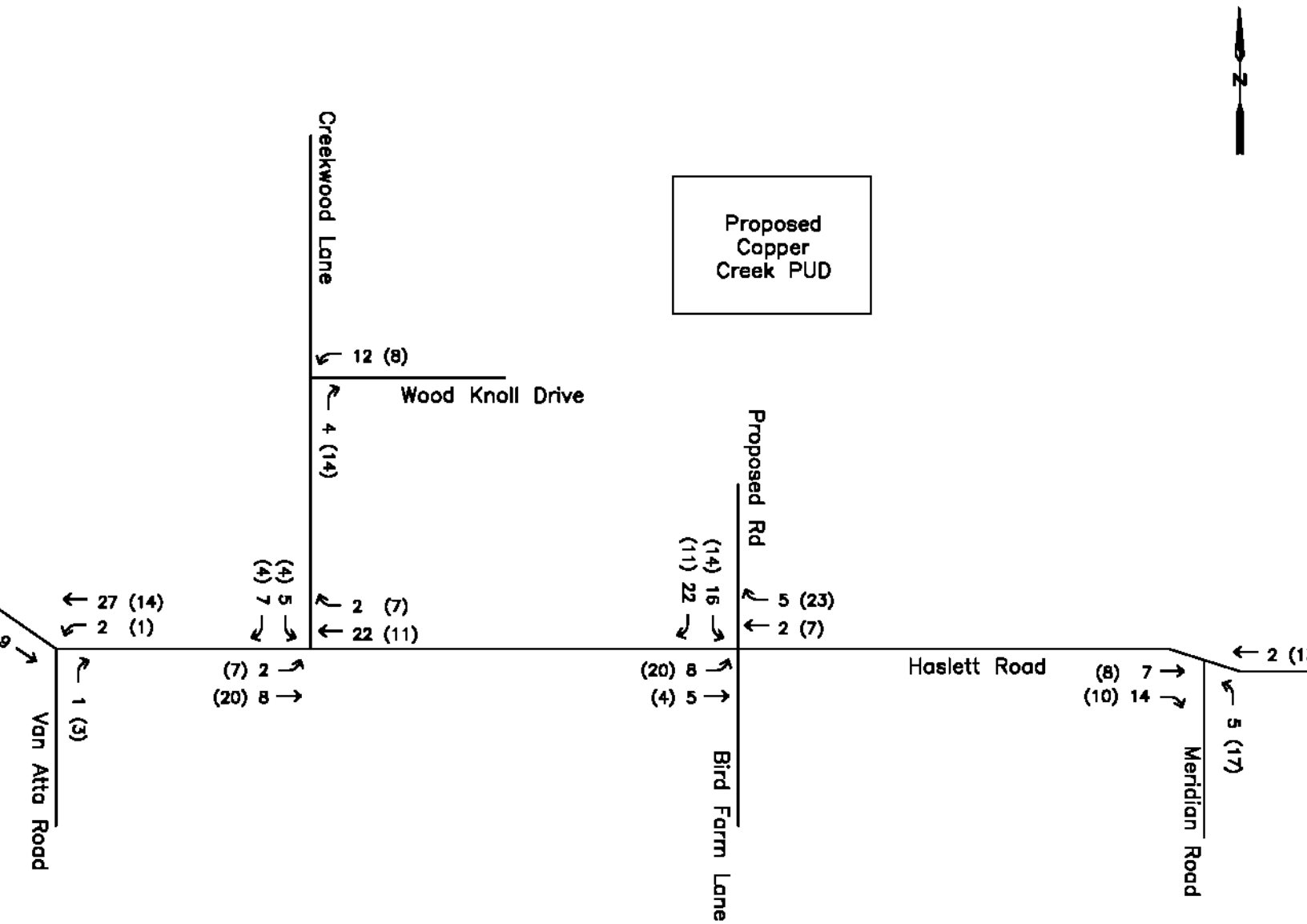
Traffic distribution for the proposed Copper Creek PUD development was distributed based on the surrounding roadway patterns. Typically, a residential development has a traffic pattern where vehicles are exiting in the morning and entering in the evening; therefore, the existing exiting traffic pattern on the roadway system during the morning, and the entering traffic pattern during the evening, dictated the generation of the distribution for this study. The distribution for the residential generated traffic is as follows.

Direction of Approach and Departure	**AM Peak Hour**	**PM Peak Hour**
To/From the WEST on Haslett Road	54%	42%
To/From the EAST on Haslett Road	15%	23%
To/From the SOUTH on Van Atta Road	3%	5%
To/From the SOUTH on Meridian Road	28%	30%

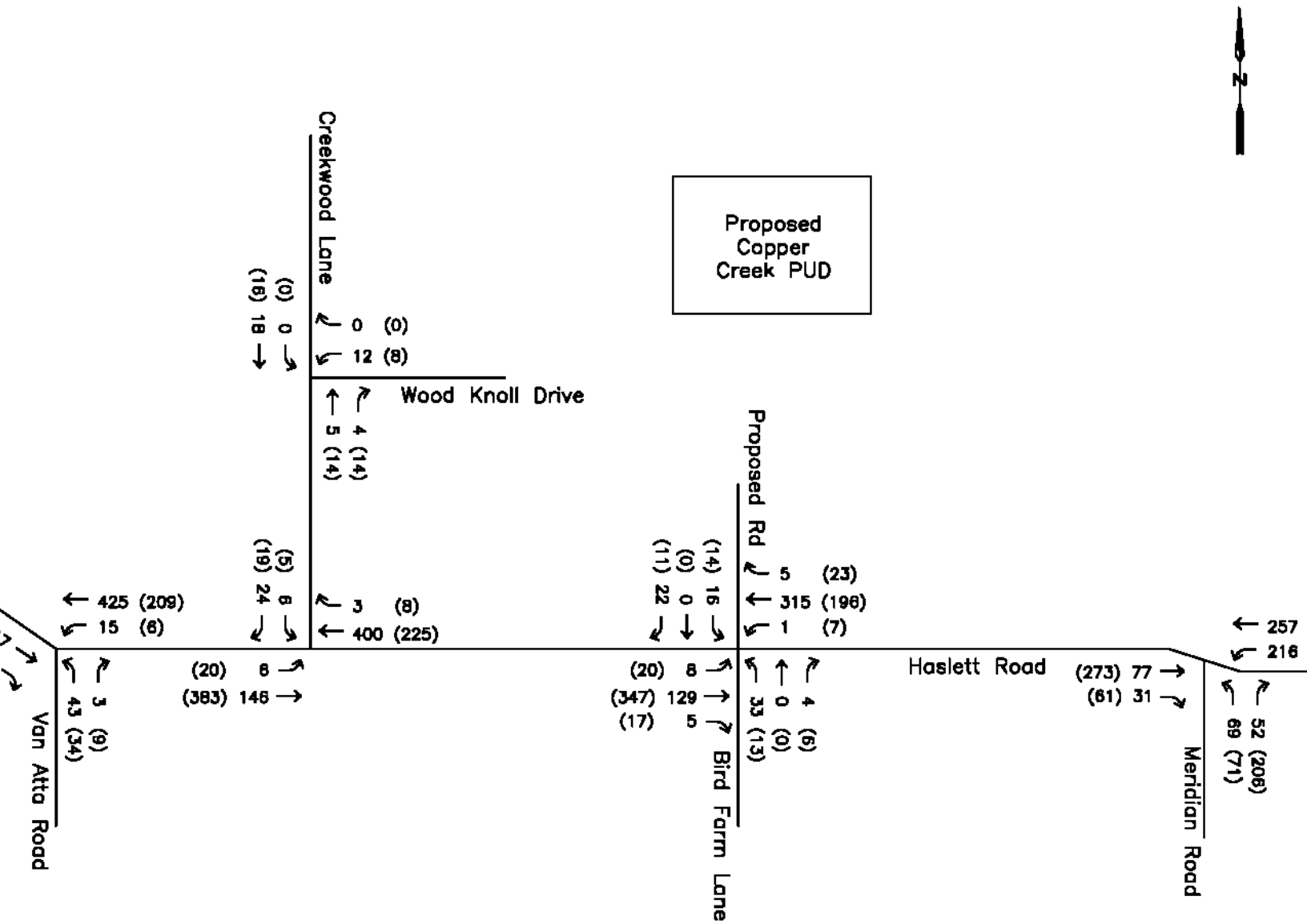
Traffic was further distributed by roadway. Given the site layout, it was projected that 25% of the site traffic would utilize the entrance on Wood Knoll Drive and 75% would utilize the main entrance on Haslett Road.

The total estimated site generated traffic for the proposed Copper Creek PUD development during the AM and PM peak hours is illustrated in **Figure 3**.

Adding the project site traffic (Figure 3) to the background traffic (Figure 2) generates the total anticipated future traffic which is displayed in **Figure 4**.



TRAFFIC ENGINEERING ASSOCIATES, INC. PO Box 100 Saranac, MI 48881 PHONE: (517) 627-6025 FAX: (517) 627-6040	LEGEND XXX AM Pk Hr (7:15-8:15 AM) Volumes (XXX) PM Pk Hr (5:00-6:00 PM) Volumes	FIGURE 3: Site Traffic – Peak Hours	
		DATE: November, 2018	SCALE: NTS



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LEGEND

XXX AM Pk Hr (7:15–8:15 AM) Volumes

(XXX) PM Pk Hr (5:00–6:00 PM) Volumes

FIGURE 4: Future Traffic – Peak Hours

DATE: November, 2018

SCALE: NTS

LEVEL OF SERVICE ANALYSIS FOR FUTURE TRAFFIC

The level of service analysis for future traffic is summarized in **Table 4**. Comparing future level of service conditions to background level of service conditions determines the impact that can be expected from the addition of new traffic generated from the Copper Creek PUD.

All existing roadway geometrics and traffic control devices were utilized for the future analysis. The proposed new roadway on Haslett Road to the Copper Creek PUD was analyzed with one (1) inbound lane and one (1) outbound lane. At the intersection of Wood Knoll Drive and Creekwood Lane all approaches were modeled as one (1) lane inbound and one (1) lane outbound.

Under future conditions, it is projected that all movements will continue to operate at a good level of service (LOS C or better).

Table 4
Level of Service (LOS) Summary
Future Traffic

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Haslett Road and Van Atta Road	EB Thru-Right	0.0	A	0.0	A
	WB Left	7.6	A	8.1	A
	WB Thru	0.0	A	0.0	A
	NB Left-Right	13.0	B	12.4	B
	Intersection	1.2	A	1.2	A
Haslett Road and Creekwood Lane	EB Left	8.2	A	7.8	A
	EB Thru	0.0	A	0.0	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	11.9	B	10.9	B
	Intersection	0.9	A	0.8	A
Haslett Road and Bird Farm Lane/ Proposed New Roadway	EB Left-Thru-Right	0.5	A	0.4	A
	WB Left-Thru-Right	0.0	A	0.3	A
	NB Left-Thru-Right	14.1	B	14.4	B
	SB Left-Thru-Right	12.2	B	13.3	B
	Intersection	2.1	A	1.5	A
Haslett Road and Meridian Road	EB Thru-Right	0.0	A	0.0	A
	WB Left-Thru	3.7	A	3.3	A
	NB Left-Right	22.7	C	21.1	C
	Intersection	6.5	A	8.5	A
Creekwood Lane and Wood Knoll Drive	WB Left-Right	8.8	A	8.8	A
	NB Thru-Right	0.0	A	0.0	A
	SB Left-Thru	0.0	A	0.0	A
	Intersection	2.4	A	1.2	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service

SIGNIFICANT FINDINGS

ANALYSIS FOR A RIGHT TURN LANE OR TAPER

The Ingham County Road Department (ICRD) has roadway standards to determine the necessity of right turn lanes/tapers at intersections. These standards are found in their "Rules, Standards and Procedures for Driveways, Banners and Parades Upon or Over Ingham County Road Commission Right of Way."

The proposed new roadway on Haslett Road was reviewed for a possible right turn lane or right turn taper. Using the ICRD guideline for right turn lanes or tapers, the results show that the projected right turn volumes, for both the AM and PM peak hours, do not meet the criteria for a right turn lane or taper at this intersection.

ANALYSIS FOR A LEFT-TURN TREATMENT

The proposed new Copper Creek PUD roadway on Haslett Road is across from Bird Farm Lane and will be a four-way intersection. The Ingham County Road Department standards do not have a guideline for a passing lane at a four-way intersection. Under that premise, the MDOT Traffic and Safety "Geometric Design Guidance Document," Traffic Volume Guidelines for Left-Turning Lanes at Unsignalized Intersections will be applied at this location. Using the MDOT Traffic and Safety Guideline, an analysis was conducted for a left turn lane at the Copper Creek PUD proposed roadway across from Bird Farm Lane.

Using the MDOT Traffic and Safety "Geometric Design Guidance Document", Traffic Volume Guidelines for Left-Turning Lanes at Unsignalized Intersections, the results show that the projected left turn volumes, during both the AM and PM peak hours, do not meet the criteria for a left turn lane at this intersection.

NON-MOTORIZED TRANSPORTATION

There are sidewalks on the south side of Haslett Road from Van Atta Road to Bird Farm Lane. There are no sidewalks on the north side of Haslett Road. There are no bicycle lanes on this portion of Haslett Road.

SIGHT DISTANCE

The proposed Copper Creek PUD new roadway on Haslett Road will be located across from Bird Farm Lane. A field review shows that there are no issues with sight distance from the east or west along Haslett Road.

The proposed access to Wood Knoll Drive connects to Creekwood Lane. A field review at the intersection of Creekwood Lane and Haslett Road show an approximate sight distance of 400 feet to the west. In accordance with the Ingham County Road Department guidelines for intersection sight distance for a 35 MPH posted speed limit, the intersection sight distance should be a minimum of 390 feet, and the safe stopping distance is a minimum of 250 feet.

RECOMMENDATIONS

The findings of this study show that there are no recommendations to the existing road system.

SUPPLEMENTAL INFORMATION

Supplemental Information

Site Plan
Vehicle Volume Counts
ICRD 24-Hour Volume Counts
ICRD Guidelines for Right-Turn Lanes and Tapers
MDOT Guidelines for Left-Turn Lanes
ICRD Sight Distance Table
LOS Computations

P.U.D. PLAN

COPPER CREEK CONDOMINIUM

A SUBDIVISION OF PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4 & SOUTHWEST 1/4 OF SECTION 12, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

OWNER/DEVELOPER:

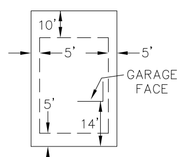
MAYBERRY HOMES
1650 KENDALE BOULEVARD
EAST LANSING, MI 48823
(517) 371-5000
CONTACT: BOB SCHROEDER

ENGINEER/SURVEYOR:

KEBS, INC.
2116 HASLETT RD.
HASLETT, MI. 48840
PH: (517) 339-1014
FAX: (517) 339-8047

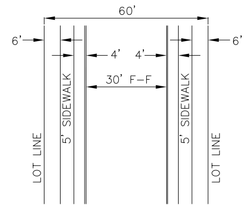
NOTE:

100 YEAR FLOOD ELEVATION = 858.5-859.0 N.A.V.D.88 BASED ON MODELING AS APPROVED BY MDEQ IN LETTER DATED JANUARY 29, 2015.

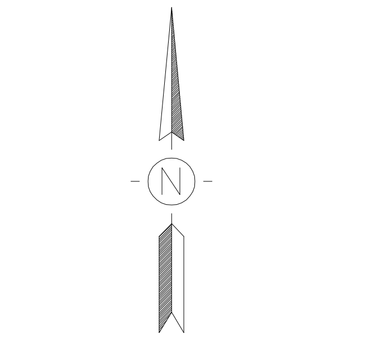


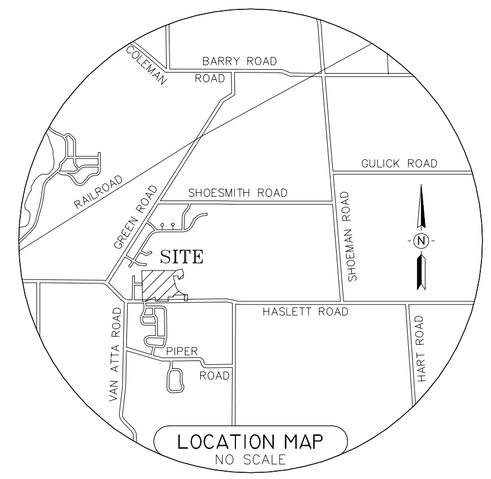
BUILDING SETBACKS (TYPICAL) NOT TO SCALE

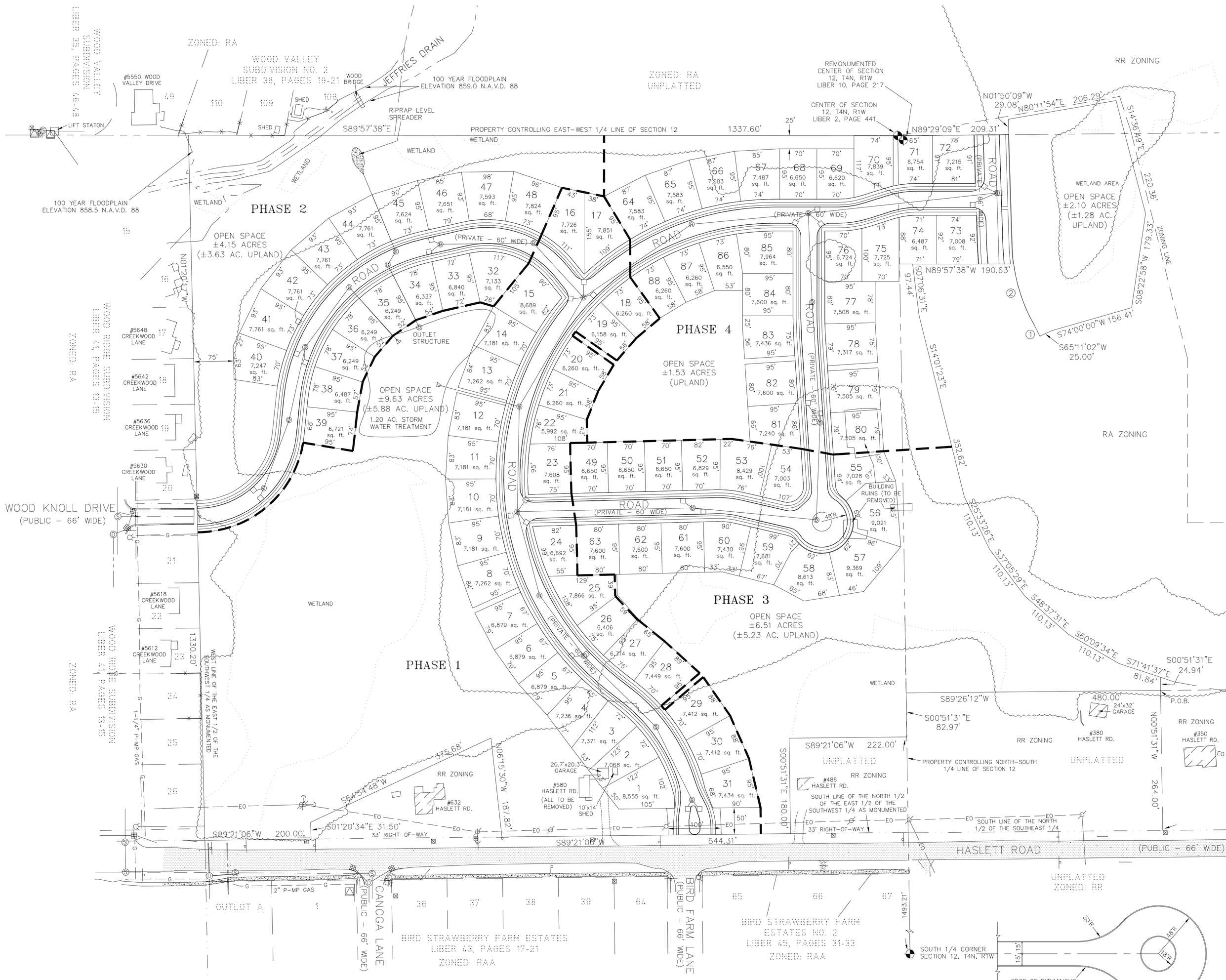
NOTE: THERE IS A 5' REAR SETBACK TO DECKS/PATIOS



ROAD DETAIL NOT TO SCALE







LEGAL DESCRIPTION:

A parcel of land in the Northeast 1/4, Southeast 1/4, and the Southwest 1/4 of Section 12, T4N, R1W, Meridian Township, Ingham County, Michigan, the boundary of said parcel described as: Commencing at the East 1/4 corner of said Section 12; thence S00°28'42"E along the East line of said Section 12 a distance of 1312.81 feet to the South line of the North 1/2 of said Southeast 1/4 as surveyed and the North line of Haslett Road; thence S89°26'12"W along said North line 2141.72 feet; thence N00°51'31"W parallel with the property controlling North-South 1/4 line of said Section 12 a distance of 264.00 feet to the point of beginning of this description; thence S89°26'12"W parallel with said North line 480.00 feet to a point on said North-South 1/4 line; thence S00°51'31"E along said North-South 1/4 line 82.97 feet; thence S89°21'06"W parallel with the South line of the North 1/2 of the East 1/2 of the Southwest 1/4 as monumented and the North line of Haslett Road 222.00 feet; thence S00°51'31"E parallel with said North-South 1/4 line 180.00 feet to said North line; thence S89°21'06"W along said North line 544.31 feet; thence N06°15'30"W 187.82 feet; thence S64°54'48"W 375.68 feet; thence S01°20'34"E 31.50 feet to said North line; thence S89°21'06"W along said North line 200.00 feet to a point on the West line of the East 1/2 of the North 1/2 of said Southwest 1/4 as monumented, said line also being the East line and it's extension South of Wood Ridge Subdivision, as recorded in Liber 41 of Plats Pages 13-15, Ingham County Records, said point also being S01°20'17"E 27.00 feet from the Southeast corner of Lot 26 of said Subdivision; thence N01°20'17"W along said West line 1330.20 feet to the South line of Wood Valley No. 2 as recorded in Liber 38 of Plats, Pages 19-21, Ingham County Records, also being the property controlling East-West 1/4 line of said Section 12; thence S89°57'38"E along said East-West 1/4 line 1337.60 feet to the property controlling Center of Section 12 as recorded in Liber 2 of corners, Page 441; thence N89°29'09"E continuing along said East-West 1/4 line 209.31 feet; thence N01°50'09"W 29.08 feet; thence N80°11'54"E 206.29 feet; thence S14°36'49"E 220.36 feet; thence S08°22'58"W 179.33 feet; thence S74°00'00"W 156.41 feet; thence S65°11'02"W 25.00 feet; thence Northwesterly 23.56 feet on a curve to the left, said curve having a radius of 283.00 feet, a delta angle of 4°46'11" and a chord length of 23.55 feet bearing N27°12'04"W; thence Northwesterly 122.15 feet on a curve to the right, said curve having a radius of 317.00 feet, a delta angle of 22°04'43" and a chord length of 121.40 feet bearing N18°32'48"W; thence N89°57'38"W 190.63 feet; thence S07°06'31"E 97.44 feet; thence S14°01'23"E 352.62 feet; thence S25°33'26"E 110.13 feet; thence S37°05'29"E 110.13 feet; thence S48°37'31"E 110.13 feet; thence S60°09'34"E 110.13 feet; thence S71°41'37"E 81.84 feet; thence S00°51'31"E 24.94 feet to the point of beginning; said parcel containing 44.70 acres more or less; said parcel subject to all easements and restrictions if any.

NOTES:

1. ALL PROPOSED UNITS ARE FOR SINGLE FAMILY RESIDENTIAL PURPOSES.
2. GAS, SIDEWALKS, STREET LIGHTS & STREET TREES WILL BE INSTALLED FOR ALL UNITS IF REQUIRED.
3. POLICE AND FIRE PROTECTION BY MERIDIAN TOWNSHIP & SCHOOLS BY THE CITY OF HASLETT.
4. WETLANDS AS SHOWN ARE BASED ON DELINEATION BY ELISE TRIPP OF FISHBECK, THOMPSON, CARR & HUBER, INC. COMPLETED ON 11-20-17.
5. CONTOURS ARE BASED ON N.A.V.D. 88 DATUM

LEGEND

- = SET 1/2" BAR WITH CAP
- = FOUND IRON AS NOTED
- = BOUNDARY LINE
- = PHASE LINE
- = CURRENT ZONING LINE
- = DISTANCE NOT TO SCALE
- = FENCE
- = ASPHALT
- = CONCRETE
- = GRAVEL
- = EXISTING SPOT ELEVATION
- = EXISTING CONTOUR ELEVATION
- = WETLAND LINE
- = SANITARY SEWER
- = STORM SEWER
- = WATER LINE
- = GAS LINE
- = OVERHEAD WIRES
- = EDGE OF WOODS
- = SANITARY MANHOLE
- = DRAINAGE MANHOLE
- = ELECTRIC MANHOLE
- = TELEPHONE MANHOLE
- = CATCHBASIN
- = SANITARY CLEANOUT
- = FIRE HYDRANT
- = VALVE
- = UTILITY POLE
- = LIGHT POLE
- = GUY WIRE
- = UTILITY PEDESTAL
- = TRANSFORMER
- = HANDHOLE
- = SIGN

P.U.D. AREA = ±44.70 ACRES

WETLAND/FLOODPLAIN AREA = ±6.37 ACRES

44.70 AC. - 6.37 AC. = ±38.33 ACRES * 0.5 = ±19.17 ACRES OF OPEN SPACE REQUIRED

OPEN SPACE PROVIDED = ±20.41 ACRES

±6.37 AC./±44.70 AC. = 0.1425

NUMBER OF LOTS WITHIN CURRENT P.U.D. AREA PER YIELD PLAN = 94 LOTS

1.1425 * 94 = 107.39 UNITS ALLOWED

88 UNITS PROPOSED

LAYOUT INFORMATION:

MINIMUM LOT SIZE = 5,992 S.F. (LOT 22)
BUILDABLE AREA = 4,304 S.F.
MINIMUM LOT FRONTAGE = 61.5' (63.8' AT 5' SETBACK LINE) (LOT 56)
MAXIMUM LOT SIZE = 9,369 S.F. (LOT 57)
BUILDABLE AREA = 6,807 S.F.
MAXIMUM LOT FRONTAGE = 116.8' (LOT 32)

TOTAL ACREAGE = ±44.70 ACRES
TOTAL WETLAND/FLOODPLAIN ACREAGE = ±6.37 ACRES

TOTAL BUILDABLE AREA = ±38.33 ACRES

TOTAL UPLAND OPEN SPACE = ±20.41 ACRES

TOTAL PROPOSED UNITS = 88

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	CHORD	BEARING
1	23.56'	283.00'	4°46'11"	23.55'	N27°12'04"W
2	122.15'	317.00'	22°04'43"	121.40'	N18°32'48"W

REVISIONS	COMMENTS
2/1/18	ORIGINAL
2/27/18	REVISE OPEN SPACE HATCHING
7/16/18	REVISE LAYOUT
8/22/18	ADD BUFFERS, REVISE LAYOUT
8/31/18	ADD BOULEVARD, REVISE LAYOUT
10/8/18	ADD CONNECTION, REVISE LAYOUT

KEBS, INC. ENGINEERING AND LAND SURVEYING
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX 517-339-8047
WWW.KEBS.COM
Marshall Office - Ph. 269-781-9800

DRAWN BY KDB | SECTION 12, T4N, R1W
FIELD WORK BY --- | JOB NUMBER: 90535.SUB-PUD
SHEET 1 OF 2

Traffic Engineering Associates, Inc.
PO Box 100
Saranac, MI 48881
517-627-6028

Location: Haslett Road & Bird Farm Lane
County/City: Ingham Cty, Meridian Twp
Weather: Sunny
Counted By: JJ

File Name : Haslett & Bird Farm Lane - AM
Site Code : 09201703
Start Date : 9/20/2017
Page No : 1

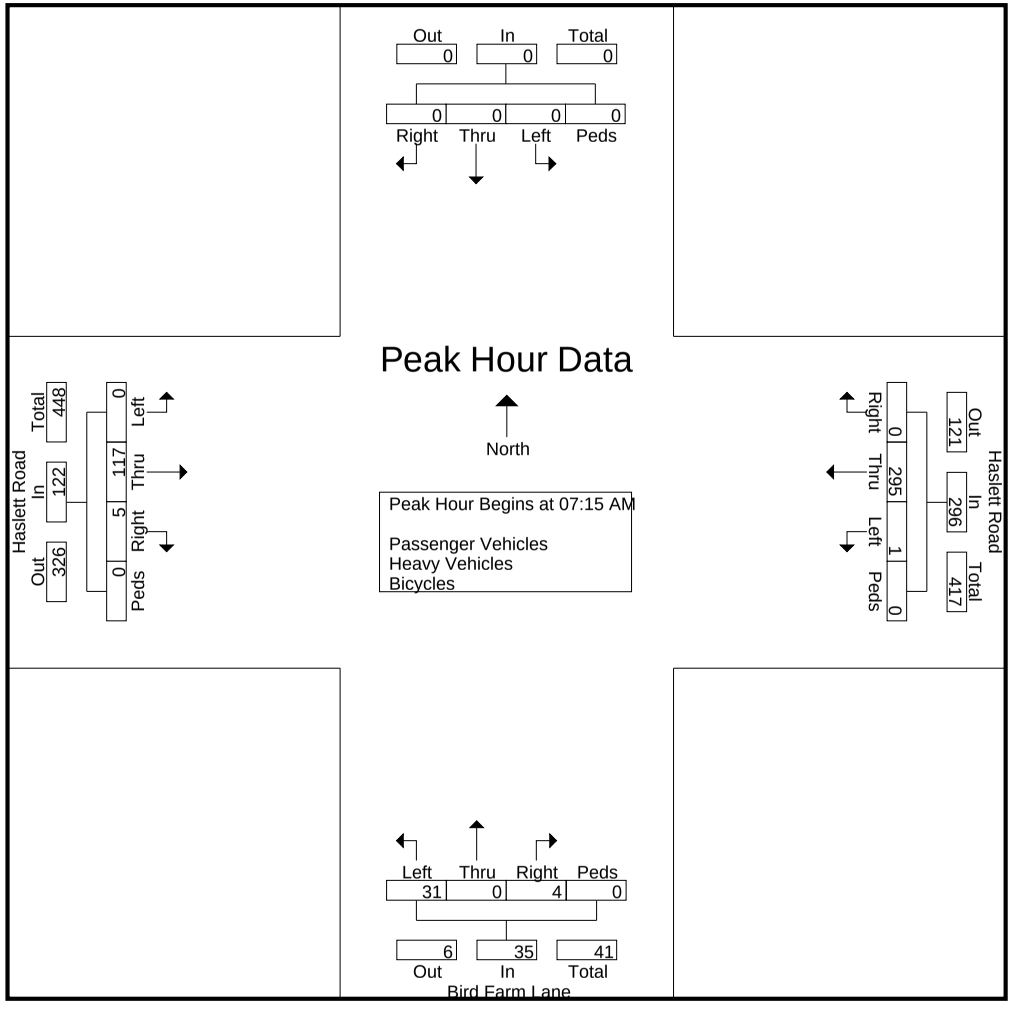
Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

	From North					Haslett Road From East					Bird Farm Lane From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	1	51	0	0	52	3	0	0	0	3	0	15	0	0	15	70
07:15 AM	0	0	0	0	0	0	71	0	0	71	4	0	2	0	6	0	27	1	0	28	105
07:30 AM	0	0	0	0	0	0	87	0	0	87	11	0	0	0	11	0	35	1	0	36	134
07:45 AM	0	0	0	0	0	1	72	0	0	73	10	0	1	0	11	0	33	1	0	34	118
Total	0	0	0	0	0	2	281	0	0	283	28	0	3	0	31	0	110	3	0	113	427
08:00 AM	0	0	0	0	0	0	65	0	0	65	6	0	1	0	7	0	22	2	0	24	96
08:15 AM	0	0	0	0	0	0	64	0	0	64	2	0	0	0	2	0	29	3	0	32	98
08:30 AM	0	0	0	0	0	0	54	0	0	54	3	0	0	0	3	0	26	1	0	27	84
08:45 AM	0	0	0	0	0	0	54	0	0	54	1	0	1	0	2	0	20	1	0	21	77
Total	0	0	0	0	0	0	237	0	0	237	12	0	2	0	14	0	97	7	0	104	355
Grand Total	0	0	0	0	0	2	518	0	0	520	40	0	5	0	45	0	207	10	0	217	782
Apprch %	0	0	0	0		0.4	99.6	0	0		88.9	0	11.1	0		0	95.4	4.6	0		
Total %	0	0	0	0	0	0.3	66.2	0	0	66.5	5.1	0	0.6	0	5.8	0	26.5	1.3	0	27.7	
Passenger Vehicles																					
% Passenger Vehicles	0	0	0	0	0	100	96.5	0	0	96.5	100	0	80	0	97.8	0	97.6	100	0	97.7	96.9
Heavy Vehicles	0	0	0	0	0	0	18	0	0	18	0	0	1	0	1	0	5	0	0	5	24
% Heavy Vehicles	0	0	0	0	0	0	3.5	0	0	3.5	0	0	20	0	2.2	0	2.4	0	0	2.3	3.1
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	From North					Haslett Road From East					Bird Farm Lane From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	0	71	0	0	71	4	0	**2**								
07:30 AM	0	0	0	0	0	0	**87**	0	0	**87**	**11**	0	0	0	**11**	0	**35**	1	0	**36**	**134**
07:45 AM	0	0	0	0	0	**1**	72	0	0	73	10	0	1	0	11	0	33	1	0	34	118
08:00 AM	0	0	0	0	0	0	65	0	0	65	6	0	1	0	7	0	22	**2**	0	24	96
Total Volume	0	0	0	0	0	1	295	0	0	296	31	0	4	0	35	0	117	5	0	122	453
% App. Total	0	0	0	0		0.3	99.7	0	0		88.6	0	11.4	0		0	95.9	4.1	0		
PHF	.000	.000	.000	.000	.000	.250	.848	.000	.000	.851	.705	.000	.500	.000	.795	.000	.836	.625	.000	.847	.845

Traffic Engineering Associates, Inc.
PO Box 100
Saranac, MI 48881
517-627-6028

File Name : Haslett & Bird Farm Lane - AM
Site Code : 09201703
Start Date : 9/20/2017
Page No : 2



Traffic Engineering Associates, Inc.
PO Box 100
Saranac, MI 48881
517-627-6028

Location: Haslett Road & Bird Farm Lane
County/City: Ingham Cty, Meridian Twp
Weather: Sunny
Counted By: JJ

File Name : Haslett & Bird Farm Lane - PM
Site Code : 09201703
Start Date : 9/20/2017
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

	From North					Haslett Road From East					Bird Farm Lane From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	0	0	0	0	0	1	42	0	0	43	0	0	0	0	0	0	58	1	0	59	102
04:15 PM	0	0	0	0	0	1	34	0	0	35	2	0	0	0	2	0	55	3	0	58	95
04:30 PM	0	0	0	0	0	0	39	0	0	39	3	0	1	0	4	0	54	4	0	58	101
04:45 PM	0	0	0	0	0	0	27	0	0	27	3	0	0	0	3	0	83	8	0	91	121
Total	0	0	0	0	0	2	142	0	0	144	8	0	1	0	9	0	250	16	0	266	419
05:00 PM	0	0	0	0	0	2	40	0	0	42	3	0	3	0	6	0	77	6	0	83	131
05:15 PM	0	0	0	0	0	1	50	0	0	51	3	0	2	0	5	0	86	3	0	89	145
05:30 PM	0	0	0	0	0	1	48	0	0	49	0	0	0	0	0	0	90	4	0	94	143
05:45 PM	0	0	0	0	0	3	40	0	0	43	6	0	0	0	6	0	71	3	0	74	123
Total	0	0	0	0	0	7	178	0	0	185	12	0	5	0	17	0	324	16	0	340	542
Grand Total	0	0	0	0	0	9	320	0	0	329	20	0	6	0	26	0	574	32	0	606	961
Apprch %	0	0	0	0		2.7	97.3	0	0		76.9	0	23.1	0		0	94.7	5.3	0		
Total %	0	0	0	0	0	0.9	33.3	0	0	34.2	2.1	0	0.6	0	2.7	0	59.7	3.3	0	63.1	
Passenger Vehicles																					
% Passenger Vehicles	0	0	0	0	0	100	96.9	0	0	97	100	0	100	0	100	0	96.2	100	0	96.4	96.7
Heavy Vehicles	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	22	0	0	22	32
% Heavy Vehicles	0	0	0	0	0	0	3.1	0	0	3	0	0	0	0	0	0	3.8	0	0	3.6	3.3
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	From North					Haslett Road From East					Bird Farm Lane From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	2	40	0	0	42	3	0	**3**		**6**			**6**			
05:15 PM	0	0	0	0	0	1	**50**	0	0	**51**	3	0	2	0	5	0	86	3	0	89	**145**
05:30 PM	0	0	0	0	0	1	48	0	0	49	0	0	0	0	0	0	**90**	4	0	**94**	143
05:45 PM	0	0	0	0	0	**3**	40	0	0	43	**6**	0	0	0	6	0	71	3	0	74	123
Total Volume	0	0	0	0	0	7	178	0	0	185	12	0	5	0	17	0	324	16	0	340	542
% App. Total	0	0	0	0		3.8	96.2	0	0		70.6	0	29.4	0		0	95.3	4.7	0		
PHF	.000	.000	.000	.000	.000	.583	.890	.000	.000	.907	.500	.000	.417	.000	.708	.000	.900	.667	.000	.904	.934

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File Name : Haslett & Bird Farm Lane - PM
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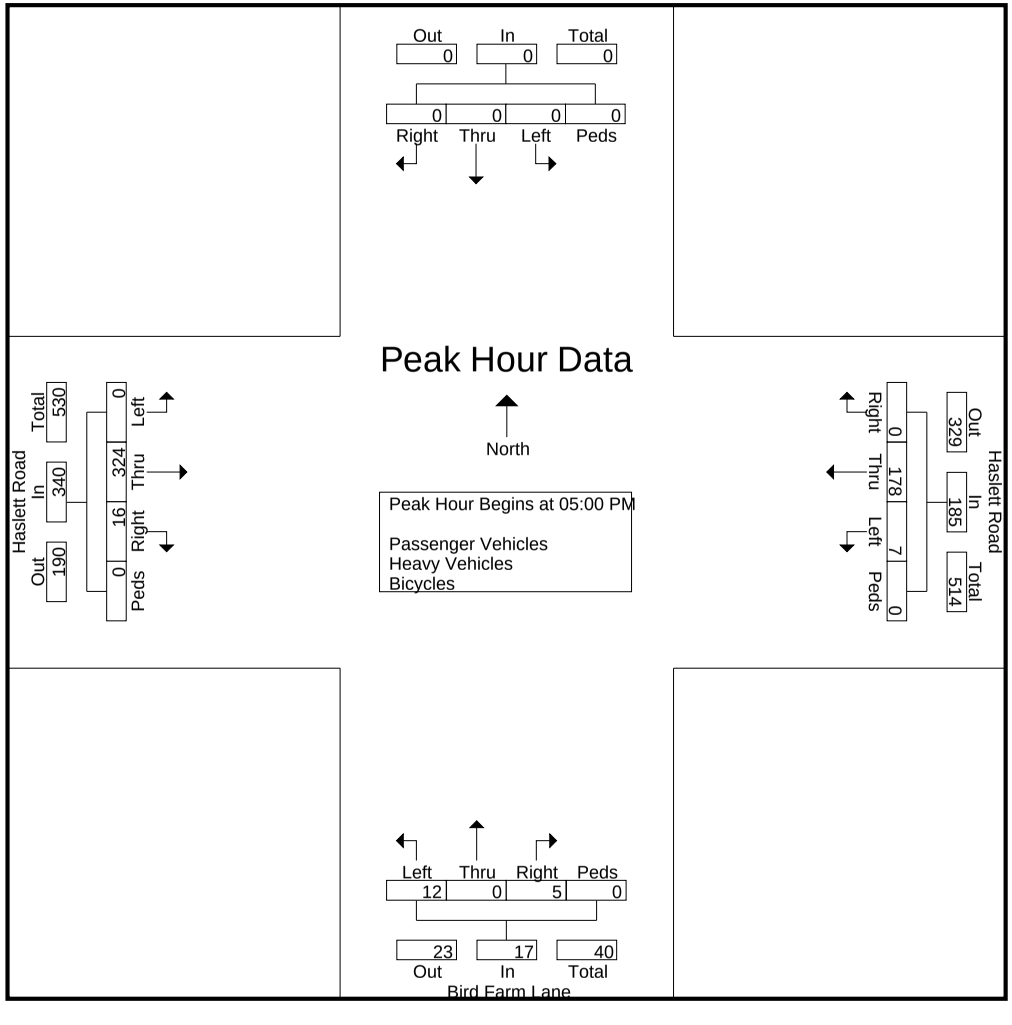
Page No : 2



Traffic Engineering Associates, Inc.
PO Box 100
Saranac, MI 48881
517-627-6028

Location: Haslett Rd. & Creekwood Lane
County/City: Ingham County, Meridain Twp
Weather: Sunny
Counted By: DES

File Name : Haslett & Creekwood - AM
Site Code : 09201702
Start Date : 9/20/2017
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

	Creekwood Lane From North					Haslett Road From East					From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	5	0	5	0	71	0	0	71	0	0	0	0	0	0	26	0	0	26	102
07:15 AM	0	0	6	0	6	0	97	0	0	97	0	0	0	0	0	2	31	0	0	33	136
07:30 AM	0	0	4	0	4	0	101	0	0	101	0	0	0	0	0	1	41	0	0	42	147
07:45 AM	0	0	4	0	4	0	89	0	0	89	0	0	0	0	0	1	32	0	0	33	126
Total	0	0	19	0	19	0	358	0	0	358	0	0	0	0	0	4	130	0	0	134	511
08:00 AM	0	0	2	0	2	0	70	0	1	71	0	0	0	0	0	0	26	0	0	26	99
08:15 AM	1	0	2	0	3	0	77	0	0	77	0	0	0	0	0	1	30	0	0	31	111
08:30 AM	0	0	1	0	1	0	46	0	0	46	0	0	0	0	0	1	19	0	0	20	67
08:45 AM	0	0	3	0	3	0	48	0	0	48	0	0	0	0	0	0	26	0	0	26	77
Total	1	0	8	0	9	0	241	0	1	242	0	0	0	0	0	2	101	0	0	103	354
Grand Total	1	0	27	0	28	0	599	0	1	600	0	0	0	0	0	6	231	0	0	237	865
Apprch %	3.6	0	96.4	0		0	99.8	0	0.2		0	0	0	0		2.5	97.5	0	0		
Total %	0.1	0	3.1	0	3.2	0	69.2	0	0.1	69.4	0	0	0	0	0	0.7	26.7	0	0	27.4	
Passenger Vehicles																					
% Passenger Vehicles	100	0	100	0	100	0	99.5	0	100	99.5	0	0	0	0	0	100	99.6	0	0	99.6	99.5
Heavy Vehicles	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
% Heavy Vehicles	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0	0.4	0	0	0.4	0.5
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Creekwood Lane From North					Haslett Road From East					From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	**6**		**6**											**2**					
07:30 AM	0	0	4	0	4	0	**101**	0	0	**101**	0	0	0	0	0	1	**41**	0	0	**42**	**147**
07:45 AM	0	0	4	0	4	0	89	0	0	89	0	0	0	0	0	1	32	0	0	33	126
08:00 AM	0	0	2	0	2	0	70	0	**1**	71	0	0	0	0	0	0	26	0	0	26	99
Total Volume	0	0	16	0	16	0	357	0	1	358	0	0	0	0	0	4	130	0	0	134	508
% App. Total	0	0	100	0		0	99.7	0	0.3		0	0	0	0		3	97	0	0		
PHF	.000	.000	.667	.000	.667	.000	.884	.000	.250	.886	.000	.000	.000	.000	.000	.500	.793	.000	.000	.798	.864

Traffic Engineering Associates, Inc.
PO Box 100
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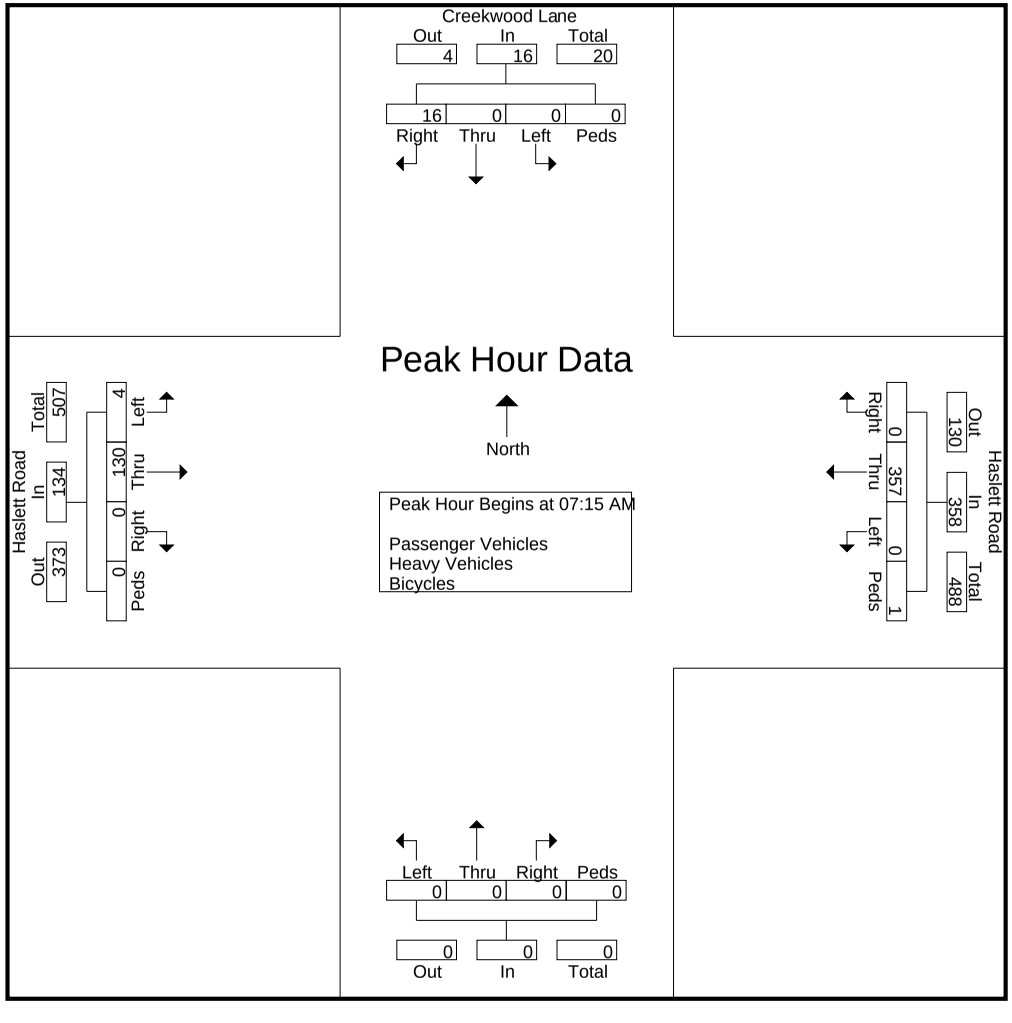
File Name : Haslett & Creekwood - AM
Site Code : 09201702
Start Date : 9/20/2017
Page No : 2



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517-627-6028

Location: Haslett Road & Creekwood Lane
County/City: Ingham Cty, Meridian Twp
Weather: Sunny
Counted By: DES

File Name : Haslett & Creekwood - PM
Site Code : 09201702
Start Date : 9/20/2017
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

	Creekwood Lane From North					Haslett Road From East					From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	1	0	1	0	2	0	40	0	0	40	0	0	0	0	0	0	54	0	0	54	96
04:15 PM	0	0	1	0	1	0	39	1	0	40	0	0	0	0	0	2	81	0	0	83	124
04:30 PM	1	0	2	0	3	0	45	0	0	45	0	0	0	0	0	4	75	0	0	79	127
04:45 PM	0	0	1	0	1	0	42	0	0	42	0	0	0	0	0	2	90	0	0	92	135
Total	2	0	5	0	7	0	166	1	0	167	0	0	0	0	0	8	300	0	0	308	482
05:00 PM	1	0	7	0	8	0	49	0	0	49	0	0	0	0	0	3	89	0	0	92	149
05:15 PM	0	0	3	0	3	0	56	0	0	56	0	0	0	0	0	4	92	0	0	96	155
05:30 PM	0	0	1	0	1	0	54	1	1	56	0	0	0	0	0	2	99	0	0	101	158
05:45 PM	0	0	3	0	3	0	43	0	0	43	0	0	0	0	0	3	62	0	0	65	111
Total	1	0	14	0	15	0	202	1	1	204	0	0	0	0	0	12	342	0	0	354	573
Grand Total	3	0	19	0	22	0	368	2	1	371	0	0	0	0	0	20	642	0	0	662	1055
Apprch %	13.6	0	86.4	0		0	99.2	0.5	0.3		0	0	0	0		3	97	0	0		
Total %	0.3	0	1.8	0	2.1	0	34.9	0.2	0.1	35.2	0	0	0	0	0	1.9	60.9	0	0	62.7	
Passenger Vehicles																					
% Passenger Vehicles	100	0	100	0	100	0	99.7	100	100	99.7	0	0	0	0	0	100	100	0	0	100	99.9
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Heavy Vehicles	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.1
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Creekwood Lane From North					Haslett Road From East					From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**1**		**7**		**8**																
05:15 PM	0	0	3	0	3	0	**56**	0	0	**56**	0	0	0	0	0	**4**	92	0	0	96	155
05:30 PM	0	0	1	0	1	0	54	**1**	**1**	56	0	0	0	0	0	2	**99**	0	0	**101**	**158**
05:45 PM	0	0	3	0	3	0	43	0	0	43	0	0	0	0	0	3	62	0	0	65	111
Total Volume	1	0	14	0	15	0	202	1	1	204	0	0	0	0	0	12	342	0	0	354	573
% App. Total	6.7	0	93.3	0		0	99	0.5	0.5		0	0	0	0		3.4	96.6	0	0		
PHF	.250	.000	.500	.000	.469	.000	.902	.250	.250	.911	.000	.000	.000	.000	.000	.750	.864	.000	.000	.876	.907

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File Name : Haslett & Creekwood - PM
Site Code : 09201702
Start Date : 9/20/2017
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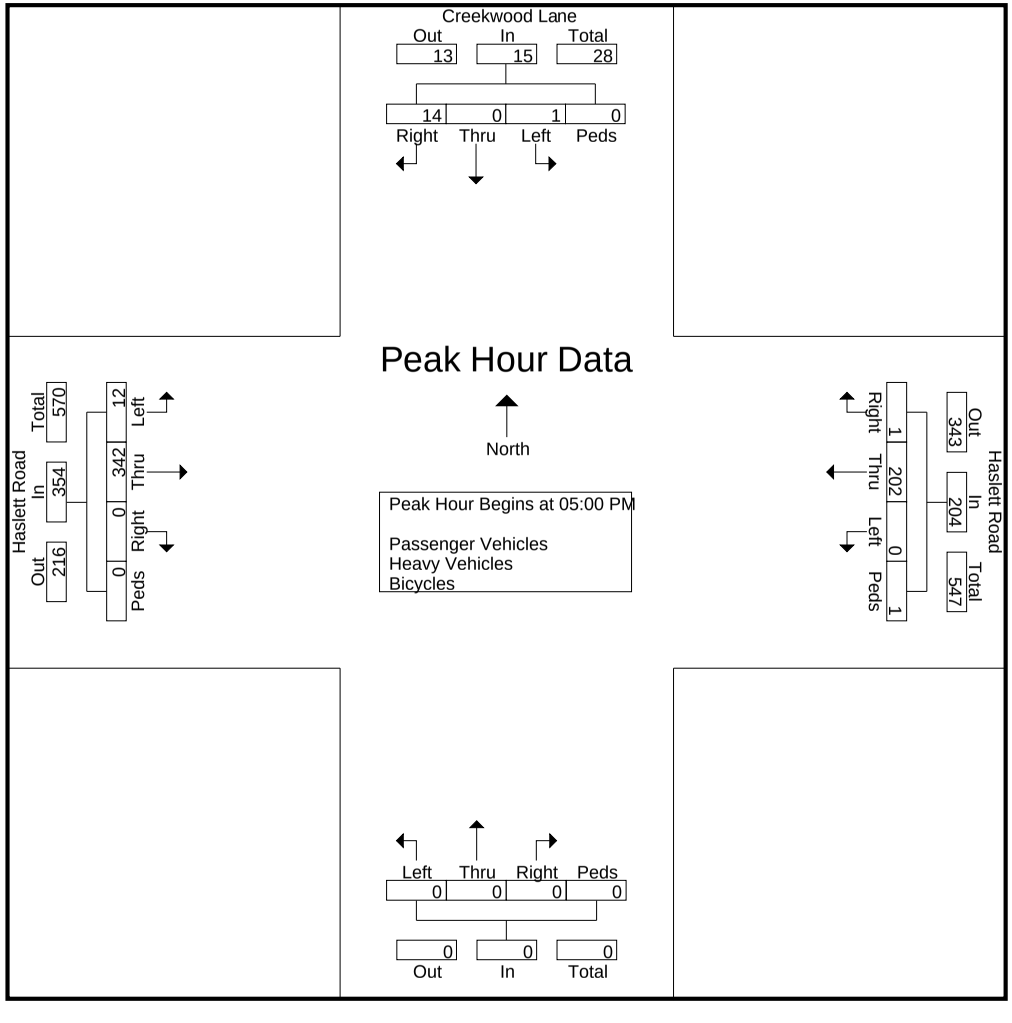

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517-627-6028

Location: Haslett Road & Meridian Road
County/City: Inghan Cty, Meridian Twp
Weather: Sunny
Counted By: JJ

File Name : Haslett & Meridian - PM
Site Code : 09191704
Start Date : 9/19/2017
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

	From North					Haslett Road From East					Meridian Road From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	0	0	0	0	0	14	25	0	0	39	7	0	30	0	37	0	32	4	0	36	112
04:15 PM	0	0	0	0	0	14	24	0	0	38	13	0	45	0	58	0	43	16	0	59	155
04:30 PM	0	0	0	0	0	22	24	0	0	46	10	0	28	0	38	0	28	9	0	37	121
04:45 PM	0	0	0	0	0	13	25	0	0	38	4	0	47	0	51	0	51	16	0	67	156
Total	0	0	0	0	0	63	98	0	0	161	34	0	150	0	184	0	154	45	0	199	544
05:00 PM	0	0	0	0	0	22	36	0	0	58	10	0	38	0	48	0	70	12	0	82	188
05:15 PM	0	0	0	0	0	19	26	0	0	45	10	0	69	0	79	0	57	10	0	67	191
05:30 PM	0	0	0	0	0	18	25	0	0	43	16	0	49	0	65	0	61	13	0	74	182
05:45 PM	0	0	0	0	0	20	23	0	0	43	15	0	38	0	53	0	62	13	0	75	171
Total	0	0	0	0	0	79	110	0	0	189	51	0	194	0	245	0	250	48	0	298	732
Grand Total	0	0	0	0	0	142	208	0	0	350	85	0	344	0	429	0	404	93	0	497	1276
Apprch %	0	0	0	0		40.6	59.4	0	0		19.8	0	80.2	0		0	81.3	18.7	0		
Total %	0	0	0	0	0	11.1	16.3	0	0	27.4	6.7	0	27	0	33.6	0	31.7	7.3	0	38.9	
Passenger Vehicles																					
% Passenger Vehicles	0	0	0	0	0	96.5	96.6	0	0	96.6	95.3	0	97.1	0	96.7	0	98.5	91.4	0	97.2	96.9
Heavy Vehicles	0	0	0	0	0	5	7	0	0	12	4	0	10	0	14	0	6	8	0	14	40
% Heavy Vehicles	0	0	0	0	0	3.5	3.4	0	0	3.4	4.7	0	2.9	0	3.3	0	1.5	8.6	0	2.8	3.1
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	From North					Haslett Road From East					Meridian Road From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	**22**	**36**			**58**							**70**			**82**	
05:15 PM	0	0	0	0	0	19	26	0	0	45	10	0	**69**	0	**79**	0	57	10	0	67	**191**
05:30 PM	0	0	0	0	0	18	25	0	0	43	**16**	0	49	0	65	0	61	**13**	0	74	182
05:45 PM	0	0	0	0	0	20	23	0	0	43	15	0	38	0	53	0	62	13	0	75	171
Total Volume	0	0	0	0	0	79	110	0	0	189	51	0	194	0	245	0	250	48	0	298	732
% App. Total	0	0	0	0		41.8	58.2	0	0		20.8	0	79.2	0		0	83.9	16.1	0		
PHF	.000	.000	.000	.000	.000	.898	.764	.000	.000	.815	.797	.000	.703	.000	.775	.000	.893	.923	.000	.909	.958

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File Name : Haslett & Meridian - PM
Site Code : 09191704
Start Date : 9/19/2017
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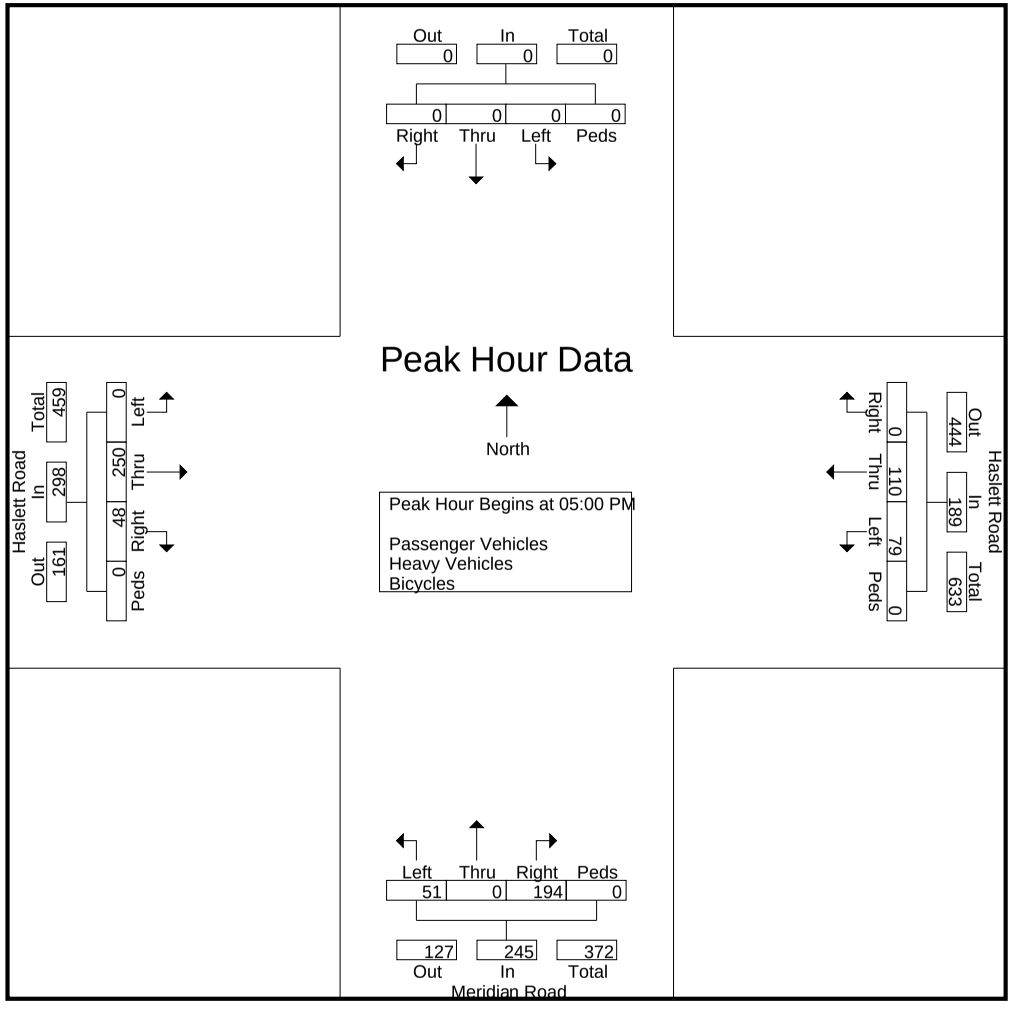

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517-627-6028

Location: Haslett Road & Meridian Road
County/City: Ingham Cty, Meridian Twp
Weather: Sunny
Counted By: JJ

File Name : Haslett & Meridian - AM
Site Code : 09191704
Start Date : 9/19/2017
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

	From North					Haslett Road From East					Meridian Road From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	36	34	0	0	70	10	0	12	0	22	0	12	4	0	16	108
07:15 AM	0	0	0	0	0	49	63	0	0	112	23	0	10	0	33	0	11	5	0	16	161
07:30 AM	0	0	0	0	0	51	77	0	0	128	12	0	7	0	19	0	18	3	0	21	168
07:45 AM	0	0	0	0	0	67	63	0	0	130	12	0	15	0	27	0	21	4	0	25	182
Total	0	0	0	0	0	203	237	0	0	440	57	0	44	0	101	0	62	16	0	78	619
08:00 AM	0	0	0	0	0	37	38	0	0	75	13	0	17	0	30	0	16	4	0	20	125
08:15 AM	0	0	0	0	0	51	47	0	0	98	16	0	12	0	28	0	21	5	0	26	152
08:30 AM	0	0	0	0	0	31	30	0	0	61	12	0	19	0	31	0	18	11	0	29	121
08:45 AM	0	0	0	0	0	26	33	0	0	59	11	0	12	0	23	0	16	8	0	24	106
Total	0	0	0	0	0	145	148	0	0	293	52	0	60	0	112	0	71	28	0	99	504
Grand Total	0	0	0	0	0	348	385	0	0	733	109	0	104	0	213	0	133	44	0	177	1123
Apprch %	0	0	0	0		47.5	52.5	0	0		51.2	0	48.8	0		0	75.1	24.9	0		
Total %	0	0	0	0	0	31	34.3	0	0	65.3	9.7	0	9.3	0	19	0	11.8	3.9	0	15.8	
Passenger Vehicles																					
% Passenger Vehicles	0	0	0	0	0	96.8	96.6	0	0	96.7	92.7	0	95.2	0	93.9	0	96.2	90.9	0	94.9	95.9
Heavy Vehicles	0	0	0	0	0	11	13	0	0	24	8	0	5	0	13	0	5	4	0	9	46
% Heavy Vehicles	0	0	0	0	0	3.2	3.4	0	0	3.3	7.3	0	4.8	0	6.1	0	3.8	9.1	0	5.1	4.1
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	From North					Haslett Road From East					Meridian Road From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	49	63	0	0	112	**23**				**33**			**5**			
07:30 AM	0	0	0	0	0	51	**77**	0	0	128	12	0	7	0	19	0	18	3	0	21	168
07:45 AM	0	0	0	0	0	**67**	63	0	0	**130**	12	0	15	0	27	0	**21**	4	0	**25**	**182**
08:00 AM	0	0	0	0	0	37	38	0	0	75	13	0	**17**	0	30	0	16	4	0	20	125
Total Volume	0	0	0	0	0	204	241	0	0	445	60	0	49	0	109	0	66	16	0	82	636
% App. Total	0	0	0	0		45.8	54.2	0	0		55	0	45	0		0	80.5	19.5	0		
PHF	.000	.000	.000	.000	.000	.761	.782	.000	.000	.856	.652	.000	.721	.000	.826	.000	.786	.800	.000	.820	.874

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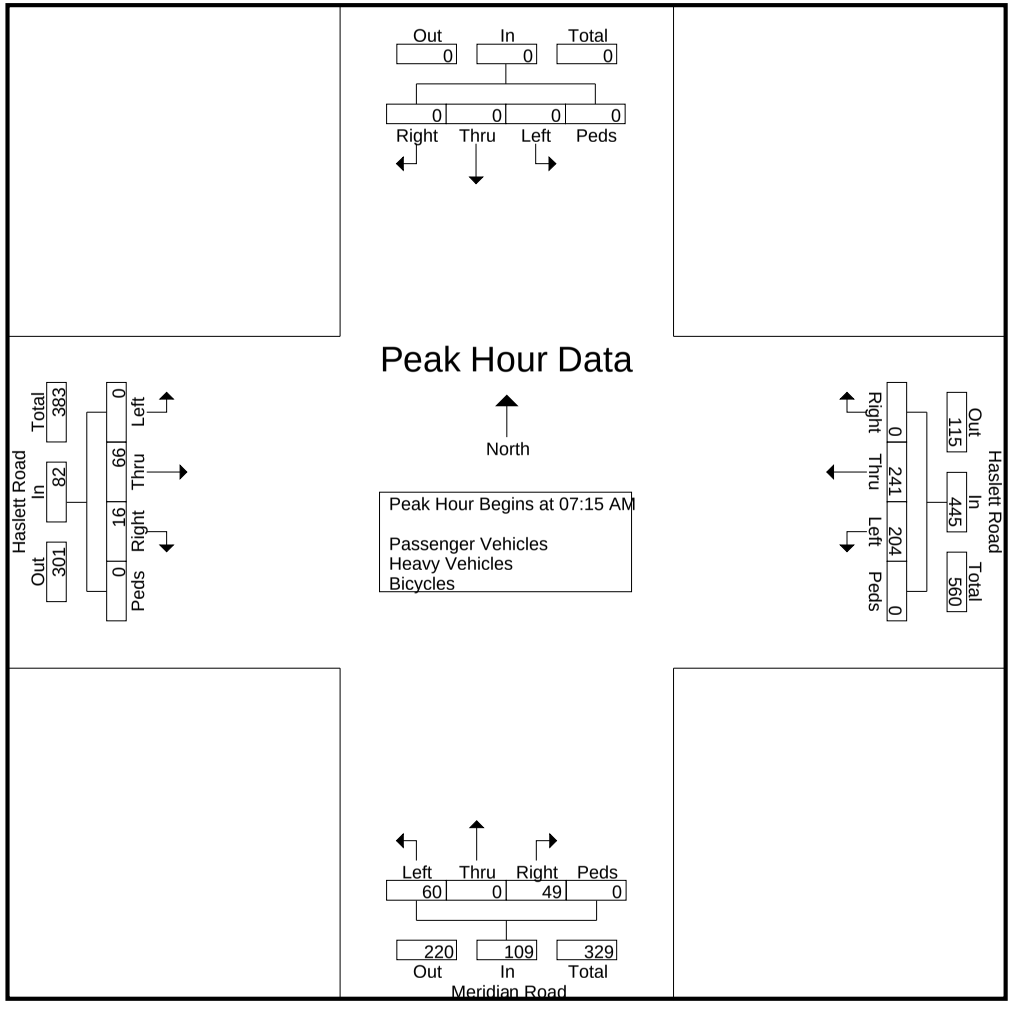
File Name : Haslett & Meridian - AM
Site Code : 09191704
Start Date : 9/19/2017
Page No : 2



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Location: Haslett Road & VanAtta Road
County/City: Ingham Cty, Meridian Twp
Weather: Sunny
Counted By: DES

File Name : Haslett & VanAtta - AM
Site Code : 09191701
Start Date : 9/19/2017

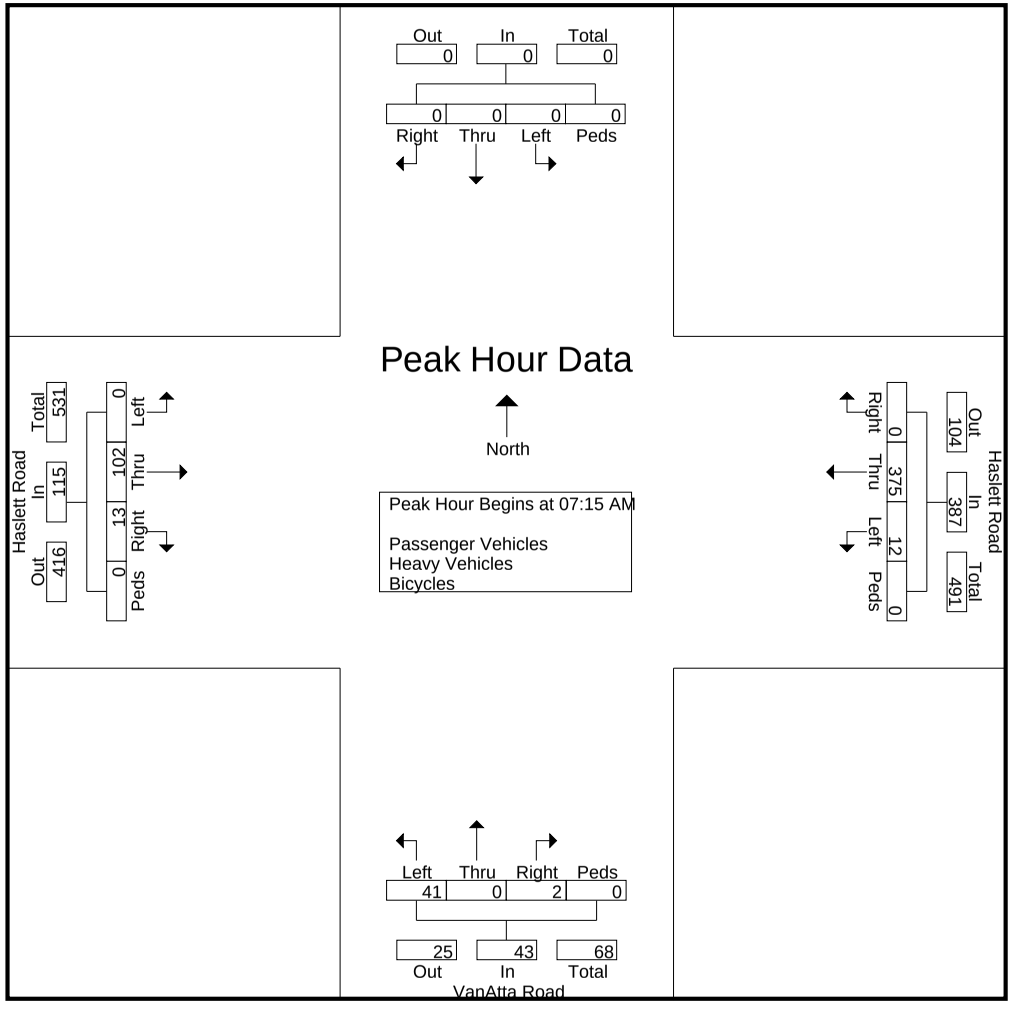
Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

	From North					Haslett Road From East					VanAtta Road From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	0	61	0	0	61	9	0	4	0	13	0	14	1	0	15	89
07:15 AM	0	0	0	0	0	3	111	0	0	114	10	0	1	0	11	0	21	1	0	22	147
07:30 AM	0	0	0	0	0	6	106	0	0	112	9	0	0	0	9	0	32	3	0	35	156
07:45 AM	0	0	0	0	0	3	93	0	0	96	10	0	0	0	10	0	27	4	0	31	137
Total	0	0	0	0	0	12	371	0	0	383	38	0	5	0	43	0	94	9	0	103	529
08:00 AM	0	0	0	0	0	0	65	0	0	65	12	0	1	0	13	0	22	5	0	27	105
08:15 AM	0	0	0	0	0	1	65	0	0	66	6	0	0	0	6	0	31	9	0	40	112
08:30 AM	0	0	0	0	0	1	52	0	0	53	3	0	0	0	3	0	26	8	0	34	90
08:45 AM	0	0	0	0	0	1	43	0	0	44	7	0	0	0	7	0	26	9	0	35	86
Total	0	0	0	0	0	3	225	0	0	228	28	0	1	0	29	0	105	31	0	136	393
Grand Total	0	0	0	0	0	15	596	0	0	611	66	0	6	0	72	0	199	40	0	239	922
Apprch %	0	0	0	0		2.5	97.5	0	0		91.7	0	8.3	0		0	83.3	16.7	0		
Total %	0	0	0	0	0	1.6	64.6	0	0	66.3	7.2	0	0.7	0	7.8	0	21.6	4.3	0	25.9	
Passenger Vehicles																					
% Passenger Vehicles	0	0	0	0	0	100	99.3	0	0	99.3	100	0	100	0	100	0	98.5	100	0	98.7	99.2
Heavy Vehicles	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
% Heavy Vehicles	0	0	0	0	0	0	0.7	0	0	0.7	0	0	0	0	0	0	1.5	0	0	1.3	0.8
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	From North					Haslett Road From East					VanAtta Road From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	3	**111**			**114**			**1**								
07:30 AM	0	0	0	0	0	**6**	106	0	0	112	9	0	0	0	9	0	**32**	3	0	**35**	**156**
07:45 AM	0	0	0	0	0	3	93	0	0	96	10	0	0	0	10	0	27	4	0	31	137
08:00 AM	0	0	0	0	0	0	65	0	0	65	**12**	0	1	0	**13**	0	22	**5**	0	27	105
Total Volume	0	0	0	0	0	12	375	0	0	387	41	0	2	0	43	0	102	13	0	115	545
% App. Total	0	0	0	0		3.1	96.9	0	0		95.3	0	4.7	0		0	88.7	11.3	0		
PHF	.000	.000	.000	.000	.000	.500	.845	.000	.000	.849	.854	.000	.500	.000	.827	.000	.797	.650	.000	.821	.873

Traffic Engineering Associates, Inc.
PO Box 100
Saranac, MI 48881
517-627-6028

File Name : Haslett & VanAtta - AM
Site Code : 09191701
Start Date : 9/19/2017
Page No : 2



Traffic Engineering Associates, Inc.
PO Box 100
Saranac, MI 48881
517-627-6028

Location: Haslett Road & VanAtta Road
County/City: Ingham Cty, Meridian Twp
Weather: Sunny
Counted By: DES

File Name : Haslett & VanAtta - PM
Site Code : 09191702
Start Date : 9/19/2017

Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

	From North					Haslett Road From East					VanAtta Road From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	0	0	0	0	0	0	47	0	0	47	8	0	5	0	13	0	53	9	0	62	122
04:15 PM	0	0	0	0	0	0	37	0	0	37	4	0	1	0	5	0	59	5	0	64	106
04:30 PM	0	0	0	0	0	0	43	0	0	43	2	0	3	0	5	0	70	8	0	78	126
04:45 PM	0	0	0	0	0	0	46	0	0	46	13	0	4	0	17	0	68	4	0	72	135
Total	0	0	0	0	0	0	173	0	0	173	27	0	13	0	40	0	250	26	0	276	489
05:00 PM	0	0	0	0	0	2	49	0	0	51	8	0	2	0	10	0	72	6	0	78	139
05:15 PM	0	0	0	0	0	0	54	0	0	54	11	0	3	0	14	0	79	7	1	87	155
05:30 PM	0	0	0	0	0	2	40	0	0	42	5	0	0	0	5	0	79	8	0	87	134
05:45 PM	0	0	0	0	0	1	41	0	0	42	8	0	1	0	9	0	85	7	0	92	143
Total	0	0	0	0	0	5	184	0	0	189	32	0	6	0	38	0	315	28	1	344	571
Grand Total	0	0	0	0	0	5	357	0	0	362	59	0	19	0	78	0	565	54	1	620	1060
Apprch %	0	0	0	0		1.4	98.6	0	0		75.6	0	24.4	0		0	91.1	8.7	0.2		
Total %	0	0	0	0	0	0.5	33.7	0	0	34.2	5.6	0	1.8	0	7.4	0	53.3	5.1	0.1	58.5	
Passenger Vehicles																					
% Passenger Vehicles	0	0	0	0	0	100	100	0	0	100	100	0	100	0	100	0	99.6	98.1	100	99.5	99.7
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.3	0.2
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9	0	0.2	0.1

	From North					Haslett Road From East					VanAtta Road From South					Haslett Road From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	**2**															
05:15 PM	0	0	0	0	0	0	**54**	0	0	**54**	**11**	0	**3**	0	**14**	0	79	7	**1**	87	**155**
05:30 PM	0	0	0	0	0	2	40	0	0	42	5	0	0	0	5	0	79	**8**	0	87	134
05:45 PM	0	0	0	0	0	1	41	0	0	42	8	0	1	0	9	0	**85**	7	0	**92**	143
Total Volume	0	0	0	0	0	5	184	0	0	189	32	0	6	0	38	0	315	28	1	344	571
% App. Total	0	0	0	0		2.6	97.4	0	0		84.2	0	15.8	0		0	91.6	8.1	0.3		
PHF	.000	.000	.000	.000	.000	.625	.852	.000	.000	.875	.727	.000	.500	.000	.679	.000	.926	.875	.250	.935	.921

Traffic Engineering Associates, Inc.
PO Box 100
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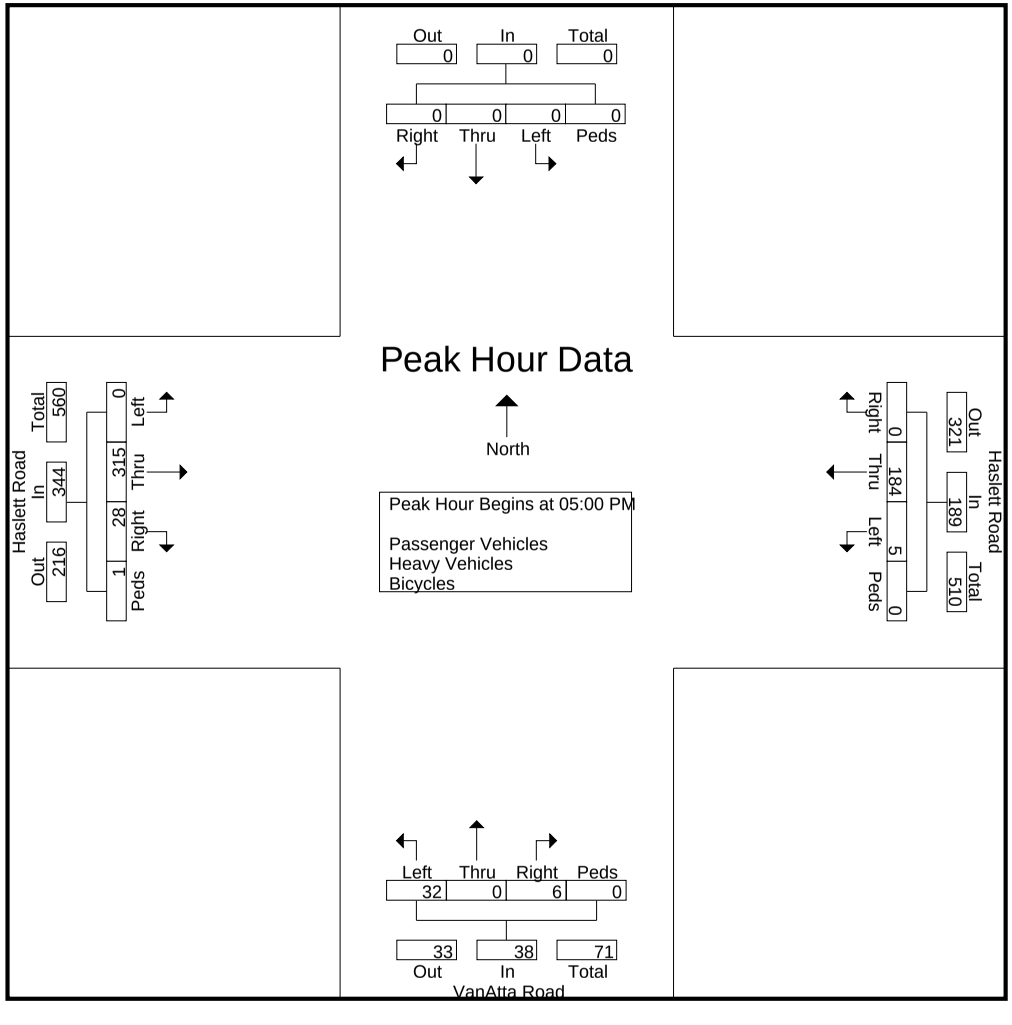
517-627-6028

File Name : Haslett & VanAtta - PM
Site Code : 09191702
Start Date : 9/19/2017
Page No : 2



Volume Count Report

LOCATION INFO	
Location ID	15609_EB
Type	LINK
Fnct'l Class	-
Located On	HASLETT RD
From Road	MERIDIAN RD
To Road	BIRD FARM LN
Direction	EB
County	Ingham
Community	Meridian Twp
MPO ID	
HPMS ID	
Agency	Ingham County

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 9/14/2010
End Date	Wed 9/15/2010
Start Time	10:45:00 AM
End Time	10:45:00 AM
Direction	
Notes	
Station	
Study	
Speed Limit	
Description	
Sensor Type	

INTERVAL: 15 MIN					
	15-min Interval				Hourly Count
Time	**1st**	**2nd**	**3rd**	**4th**	
0:00-1:00	5	2	3	0	10
1:00-2:00	6	2	0	2	10
2:00-3:00	2	2	0	2	6
3:00-4:00	0	1	1	1	3
4:00-5:00	0	1	0	2	3
5:00-6:00	2	8	3	2	15
6:00-7:00	11	9	11	18	49
7:00-8:00	25	22	25	32	104
8:00-9:00	29	26	16	26	97
9:00-10:00	27	25	24	19	95
10:00-11:00	12	24	21	26	83
11:00-12:00	21	26	32	21	100
12:00-13:00	31	33	21	28	113
13:00-14:00	40	37	32	30	139
14:00-15:00	26	38	44	37	145
15:00-16:00	45	50	45	51	191
16:00-17:00	50	61	63	57	231
17:00-18:00	85	75	73	75	308
18:00-19:00	60	51	48	45	204
19:00-20:00	42	27	35	36	140
20:00-21:00	50	32	32	36	150
21:00-22:00	22	30	24	13	89
22:00-23:00	13	16	13	11	53
23:00-24:00	1	10	3	2	16
Total					2,354
AM Peak					11:30-12:30 117
PM Peak					17:00-18:00 308

Transportation Data Management System

Volume Count Report

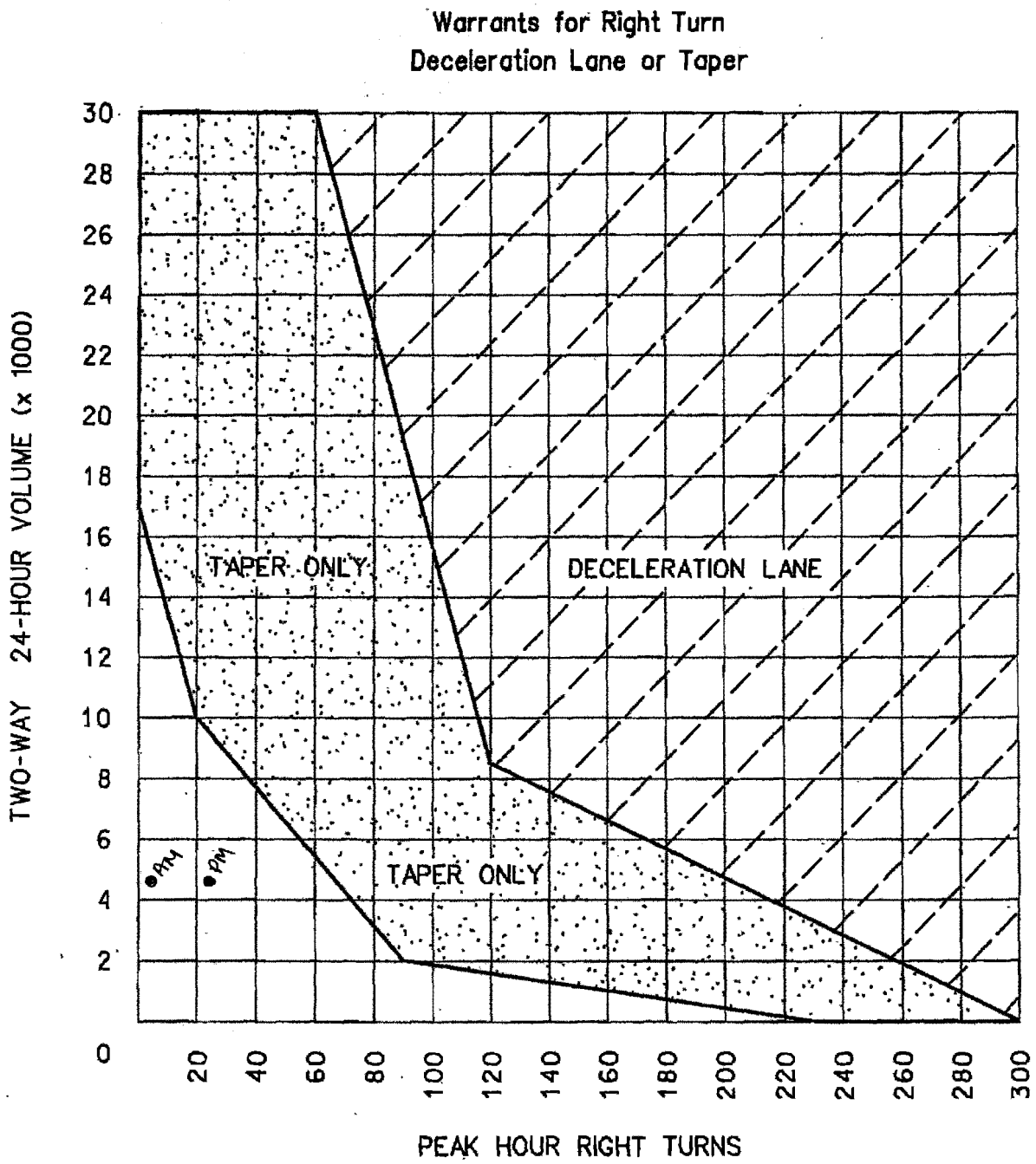
LOCATION INFO	
Location ID	15609_WB
Type	LINK
Fnct'l Class	-
Located On	HASLETT RD
From Road	MERIDIAN RD
To Road	BIRD FARM LN
Direction	WB
County	Ingham
Community	Meridian Twp
MPO ID	
HPMS ID	
Agency	Ingham County

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 9/14/2010
End Date	Wed 9/15/2010
Start Time	10:45:00 AM
End Time	10:45:00 AM
Direction	
Notes	
Station	
Study	
Speed Limit	
Description	
Sensor Type	

INTERVAL: 15-MIN

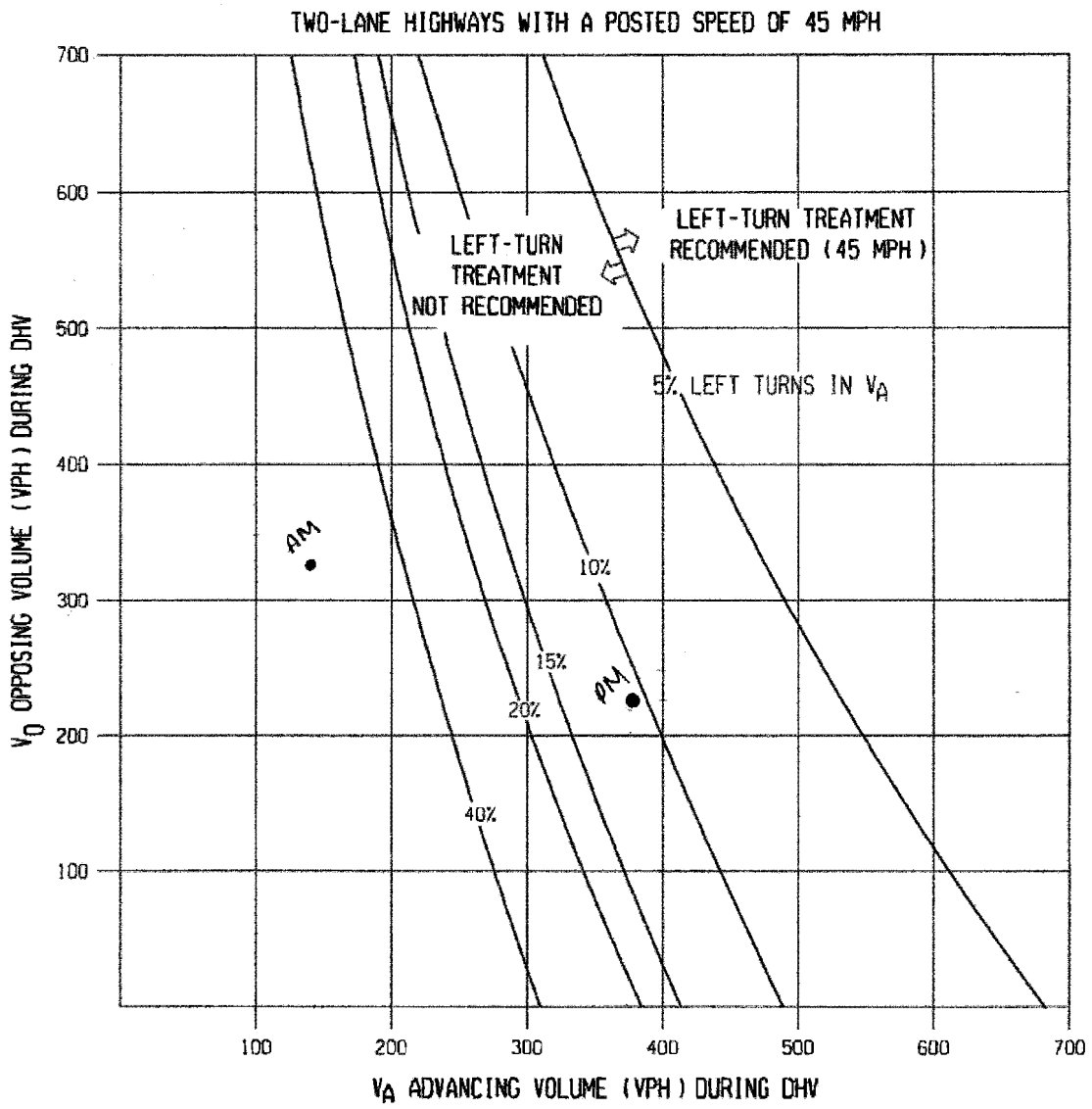
Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	0	3	1	2	6
1:00-2:00	1	1	0	0	2
2:00-3:00	0	0	0	0	0
3:00-4:00	0	0	1	1	2
4:00-5:00	1	2	4	2	9
5:00-6:00	5	6	6	9	26
6:00-7:00	15	16	19	20	70
7:00-8:00	32	75	82	68	257
8:00-9:00	77	62	49	59	247
9:00-10:00	39	28	31	30	128
10:00-11:00	27	32	41	15	115
11:00-12:00	32	32	25	29	118
12:00-13:00	35	28	28	34	125
13:00-14:00	25	25	22	28	100
14:00-15:00	30	42	29	25	126
15:00-16:00	35	43	37	34	149
16:00-17:00	35	43	41	47	166
17:00-18:00	46	50	61	35	192
18:00-19:00	44	41	40	43	168
19:00-20:00	24	36	22	17	99
20:00-21:00	20	10	16	10	56
21:00-22:00	14	7	15	5	41
22:00-23:00	7	6	7	1	21
23:00-24:00	5	5	2	2	14
Total					2,237
AM Peak					07:15-08:15 302
PM Peak					16:45-17:45 204

Exhibit 4



AM - (5; 4,591)

PM - (23; 4,591)



AM- (142, 321) 6%
PM- (384, 226) 5%

Instructions:

1. The family of curves represent the percentage of left turns in advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.
2. Read V_A and V_O into the chart and locate the intersection of the two volumes.
3. Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is recommended. If the point is to the left of the line, then a left-turn is not recommended based on traffic volumes.

and 18 feet from the edge of pavement on paved roads. The distances shown in Tables 4, 5 and 6 are designed to enable vehicles exiting a private driveway, when turning left or right, to accelerate to the operating speed of the roadway without significantly interfering with the vehicles coming from either direction.

(3) The sight distances presented in Tables 4, 5 and 6 are valid when highway grades are between –3.0 percent and +3.0 percent. With roadway grades steeper that +/-3.0 percent, an adjustment can be made and will be evaluated by the County Engineer on an individual basis.

(4) Values for Tables 4, 5 and 6 are taken from the AASHTO manual, ***A Policy on Geometric Design of Highways and Streets, 2001, Fourth Edition.***

Table 4 **Sight Distance**

Design Speed (mph)	Stopping Sight Distance (feet)	Intersection Sight Distance Onto Two – Lane Roads		
		Passenger Cars (feet)	Single Unit Truck (feet)	Combination Truck (feet)
25	155	280	350	425
30	200	335	420	510
35	250	390	490	595
40	305	445	560	680
45	360	500	630	765
50	425	555	700	850
55	495	610	770	930

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	102	13	12	375	41	2
Future Vol, veh/h	102	13	12	375	41	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	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	85	85	83	83
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	124	16	14	441	49	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	140	0	601	132
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	469	-
Critical Hdwy	-	-	4.11	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1449	-	467	923
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1449	-	462	923
Mov Cap-2 Maneuver	-	-	-	-	532	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	628	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	543	-	-	1449	-
HCM Lane V/C Ratio	0.095	-	-	0.01	-
HCM Control Delay (s)	12.3	-	-	7.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	130	357	1	1	16
Future Vol, veh/h	4	130	357	1	1	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	89	89	67	67
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	5	163	401	1	1	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	402	0	-	0	575	402
Stage 1	-	-	-	-	402	-
Stage 2	-	-	-	-	173	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1168	-	-	-	483	653
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	862	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1168	-	-	-	481	653
Mov Cap-2 Maneuver	-	-	-	-	481	-
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	858	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1168	-	-	-	640
HCM Lane V/C Ratio	0.004	-	-	-	0.04
HCM Control Delay (s)	8.1	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	117	5	1	295	31	4
Future Vol, veh/h	117	5	1	295	31	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	80	80
Heavy Vehicles, %	2	2	4	4	2	2
Mvmt Flow	138	6	1	347	39	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	144	0	490	141
Stage 1	-	-	-	-	141	-
Stage 2	-	-	-	-	349	-
Critical Hdwy	-	-	4.14	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.236	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1426	-	537	907
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	536	907
Mov Cap-2 Maneuver	-	-	-	-	536	-
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	562	-	-	1426	-
HCM Lane V/C Ratio	0.078	-	-	0.001	-
HCM Control Delay (s)	11.9	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	66	16	204	241	60	49
Future Vol, veh/h	66	16	204	241	60	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	86	86	83	83
Heavy Vehicles, %	5	5	3	3	6	6
Mvmt Flow	80	20	237	280	72	59

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	845	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	755	-
Critical Hdwy	-	-	4.13	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.227	-	3.554	3.354
Pot Cap-1 Maneuver	-	-	1486	-	328	957
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	457	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1486	-	266	957
Mov Cap-2 Maneuver	-	-	-	-	266	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	371	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	18.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	394	-	-	1486	-
HCM Lane V/C Ratio	0.333	-	-	0.16	-
HCM Control Delay (s)	18.6	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.6	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	315	28	5	184	32	6
Future Vol, veh/h	315	28	5	184	32	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	88	88	68	68
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	335	30	6	209	47	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	365	0	570	350
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	220	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1205	-	486	698
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1205	-	484	698
Mov Cap-2 Maneuver	-	-	-	-	567	-
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	817	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	584	-	-	1205	-
HCM Lane V/C Ratio	0.096	-	-	0.005	-
HCM Control Delay (s)	11.8	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	342	202	1	1	14
Future Vol, veh/h	12	342	202	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	60	60
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	389	222	1	2	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	223	0	-	0	639	223
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	416	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1358	-	-	-	443	822
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	670	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1358	-	-	-	438	822
Mov Cap-2 Maneuver	-	-	-	-	438	-
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	663	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1358	-	-	-	777
HCM Lane V/C Ratio	0.01	-	-	-	0.032
HCM Control Delay (s)	7.7	-	-	-	9.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	16	7	178	12	6
Future Vol, veh/h	324	16	7	178	12	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	91	91	71	71
Heavy Vehicles, %	4	4	3	3	0	0
Mvmt Flow	360	18	8	196	17	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	378	0	580	369
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	211	-
Critical Hdwy	-	-	4.13	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.227	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1175	-	480	681
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1175	-	476	681
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	822	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	529	-	-	1175	-
HCM Lane V/C Ratio	0.048	-	-	0.007	-
HCM Control Delay (s)	12.1	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	250	48	79	110	51	194
Future Vol, veh/h	250	48	79	110	51	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	82	82	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	275	53	96	134	65	249

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	327	0	628	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	327	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1227	-	445	736
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	728	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1227	-	407	736
Mov Cap-2 Maneuver	-	-	-	-	407	-
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	630	-	-	1227	-
HCM Lane V/C Ratio	0.499	-	-	0.079	-
HCM Control Delay (s)	16.3	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.8	-	-	0.3	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	102	13	12	375	41	2
Future Vol, veh/h	102	13	12	375	41	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	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	85	85	83	83
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	132	17	15	468	52	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	149	0	638	140
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	498	-
Critical Hdwy	-	-	4.11	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1439	-	444	913
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	615	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1439	-	439	913
Mov Cap-2 Maneuver	-	-	-	-	514	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	609	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	525	-	-	1439	-
HCM Lane V/C Ratio	0.105	-	-	0.01	-
HCM Control Delay (s)	12.7	-	-	7.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	130	357	1	1	16
Future Vol, veh/h	4	130	357	1	1	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	89	89	67	67
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	5	172	425	1	2	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	426	0	-	0	609	426
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	183	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1144	-	-	-	462	633
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1144	-	-	-	460	633
Mov Cap-2 Maneuver	-	-	-	-	460	-
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	849	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1144	-	-	-	619
HCM Lane V/C Ratio	0.005	-	-	-	0.043
HCM Control Delay (s)	8.2	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	117	5	1	295	31	4
Future Vol, veh/h	117	5	1	295	31	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	80	80
Heavy Vehicles, %	2	2	4	4	2	2
Mvmt Flow	146	6	1	368	41	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	152	0	519	149
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.14	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.236	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1417	-	517	898
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1417	-	516	898
Mov Cap-2 Maneuver	-	-	-	-	516	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	698	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	542	-	-	1417	-
HCM Lane V/C Ratio	0.086	-	-	0.001	-
HCM Control Delay (s)	12.3	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	66	16	204	241	60	49
Future Vol, veh/h	66	16	204	241	60	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	86	86	83	83
Heavy Vehicles, %	5	5	3	3	6	6
Mvmt Flow	85	21	251	297	77	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	106	0	896	96
Stage 1	-	-	-	-	96	-
Stage 2	-	-	-	-	800	-
Critical Hdwy	-	-	4.13	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.227	-	3.554	3.354
Pot Cap-1 Maneuver	-	-	1479	-	306	950
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	435	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1479	-	244	950
Mov Cap-2 Maneuver	-	-	-	-	244	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	347	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	366	-	-	1479	-
HCM Lane V/C Ratio	0.38	-	-	0.17	-
HCM Control Delay (s)	20.7	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.7	-	-	0.6	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	315	28	5	184	32	6
Future Vol, veh/h	315	28	5	184	32	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	88	88	68	68
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	355	32	6	222	50	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	387	0	605	371
Stage 1	-	-	-	-	371	-
Stage 2	-	-	-	-	234	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1183	-	464	679
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1183	-	462	679
Mov Cap-2 Maneuver	-	-	-	-	551	-
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	806	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	568	-	-	1183	-
HCM Lane V/C Ratio	0.104	-	-	0.005	-
HCM Control Delay (s)	12.1	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	342	202	1	1	14
Future Vol, veh/h	12	342	202	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	60	60
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	412	235	1	2	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	236	0	-	0	677	236
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	441	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1343	-	-	-	421	808
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	653	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1343	-	-	-	417	808
Mov Cap-2 Maneuver	-	-	-	-	417	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	646	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1343	-	-	-	760
HCM Lane V/C Ratio	0.011	-	-	-	0.035
HCM Control Delay (s)	7.7	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	16	7	178	12	6
Future Vol, veh/h	324	16	7	178	12	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	91	91	71	71
Heavy Vehicles, %	4	4	3	3	0	0
Mvmt Flow	382	19	8	207	18	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	400	0	615	391
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	224	-
Critical Hdwy	-	-	4.13	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.227	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1153	-	458	662
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1153	-	454	662
Mov Cap-2 Maneuver	-	-	-	-	454	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	811	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	507	-	-	1153	-
HCM Lane V/C Ratio	0.053	-	-	0.007	-
HCM Control Delay (s)	12.5	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	7.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	250	48	79	110	51	194
Future Vol, veh/h	250	48	79	110	51	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	82	82	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	291	56	102	142	69	264

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	347	0	665	319
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	346	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1206	-	424	719
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1206	-	385	719
Mov Cap-2 Maneuver	-	-	-	-	385	-
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	648	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	17.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	609	-	-	1206	-
HCM Lane V/C Ratio	0.547	-	-	0.085	-
HCM Control Delay (s)	17.8	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.3	-	-	0.3	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	117	14	15	425	43	3
Future Vol, veh/h	117	14	15	425	43	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	85	85	83	83
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	143	17	18	500	52	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	160	0	686	151
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	535	-
Critical Hdwy	-	-	4.11	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1425	-	416	901
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	591	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1425	-	411	901
Mov Cap-2 Maneuver	-	-	-	-	491	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	506	-	-	1425	-
HCM Lane V/C Ratio	0.11	-	-	0.012	-
HCM Control Delay (s)	13	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	146	400	3	6	24
Future Vol, veh/h	6	146	400	3	6	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	89	89	67	67
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	8	183	449	3	9	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	453	0	-	0	649	451
Stage 1	-	-	-	-	451	-
Stage 2	-	-	-	-	198	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1118	-	-	-	438	613
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	840	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1118	-	-	-	435	613
Mov Cap-2 Maneuver	-	-	-	-	435	-
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	834	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1118	-	-	-	567
HCM Lane V/C Ratio	0.007	-	-	-	0.079
HCM Control Delay (s)	8.2	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	8	129	5	1	315	5	33	0	4	16	0	22
Future Vol, veh/h	8	129	5	1	315	5	33	0	4	16	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	4	4	4	2	2	2	2	2	2
Mvmt Flow	9	152	6	1	371	6	41	0	5	20	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	376	0	0	158	0	0	564	553	155	552	552	374
Stage 1	-	-	-	-	-	-	174	174	-	376	376	-
Stage 2	-	-	-	-	-	-	390	379	-	176	176	-
Critical Hdwy	4.12	-	-	4.14	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.236	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1182	-	-	1409	-	-	436	441	891	444	442	672
Stage 1	-	-	-	-	-	-	828	755	-	645	616	-
Stage 2	-	-	-	-	-	-	634	615	-	826	753	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1182	-	-	1409	-	-	415	437	891	438	438	672
Mov Cap-2 Maneuver	-	-	-	-	-	-	415	437	-	438	438	-
Stage 1	-	-	-	-	-	-	821	749	-	640	615	-
Stage 2	-	-	-	-	-	-	607	614	-	815	747	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	14.1	12.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	440	1182	-	-	1409	-	-	549
HCM Lane V/C Ratio	0.105	0.008	-	-	0.001	-	-	0.087
HCM Control Delay (s)	14.1	8.1	0	-	7.6	0	-	12.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	6.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	77	31	216	257	69	52
Future Vol, veh/h	77	31	216	257	69	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	86	86	83	83
Heavy Vehicles, %	5	5	3	3	6	6
Mvmt Flow	94	38	251	299	83	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	914	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	801	-
Critical Hdwy	-	-	4.13	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.227	-	3.554	3.354
Pot Cap-1 Maneuver	-	-	1447	-	298	929
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	435	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1447	-	236	929
Mov Cap-2 Maneuver	-	-	-	-	236	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	345	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	22.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	347	-	-	1447	-
HCM Lane V/C Ratio	0.42	-	-	0.174	-
HCM Control Delay (s)	22.7	-	-	8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.6	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	0	5	4	0	18
Future Vol, veh/h	12	0	5	4	0	18
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	80	80	67	67	67	67
Heavy Vehicles, %	2	2	0	0	0	0
Mvmt Flow	15	0	7	6	0	27

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	37	10	0	0	13	0
Stage 1	10	-	-	-	-	-
Stage 2	27	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	975	1071	-	-	1619	-
Stage 1	1013	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	975	1071	-	-	1619	-
Mov Cap-2 Maneuver	975	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	996	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	975	1619	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	358	30	6	209	34	9
Future Vol, veh/h	358	30	6	209	34	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	88	88	68	68
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	381	32	7	238	50	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	413	0	648	397
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	251	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1157	-	438	657
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	795	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1157	-	435	657
Mov Cap-2 Maneuver	-	-	-	-	530	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	790	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	552	-	-	1157	-
HCM Lane V/C Ratio	0.115	-	-	0.006	-
HCM Control Delay (s)	12.4	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	383	225	8	5	19
Future Vol, veh/h	20	383	225	8	5	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	60	60
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	435	247	9	8	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	256	0	-	0	733	252
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	481	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1321	-	-	-	391	792
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1321	-	-	-	384	792
Mov Cap-2 Maneuver	-	-	-	-	384	-
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	615	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1321	-	-	-	648
HCM Lane V/C Ratio	0.017	-	-	-	0.062
HCM Control Delay (s)	7.8	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	347	17	7	196	23	13	0	6	14	0	11
Future Vol, veh/h	20	347	17	7	196	23	13	0	6	14	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	91	91	91	71	71	71	71	71	71
Heavy Vehicles, %	4	4	4	3	3	3	0	0	0	0	0	0
Mvmt Flow	22	386	19	8	215	25	18	0	8	20	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	241	0	0	404	0	0	690	695	395	687	692	228
Stage 1	-	-	-	-	-	-	439	439	-	243	243	-
Stage 2	-	-	-	-	-	-	251	256	-	444	449	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1314	-	-	1149	-	-	362	368	659	364	370	816
Stage 1	-	-	-	-	-	-	601	582	-	765	708	-
Stage 2	-	-	-	-	-	-	758	699	-	597	576	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1314	-	-	1149	-	-	347	357	659	351	359	816
Mov Cap-2 Maneuver	-	-	-	-	-	-	347	357	-	351	359	-
Stage 1	-	-	-	-	-	-	588	569	-	748	702	-
Stage 2	-	-	-	-	-	-	738	693	-	576	563	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	14.4	13.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	408	1314	-	-	1149	-	-	468
HCM Lane V/C Ratio	0.066	0.017	-	-	0.007	-	-	0.075
HCM Control Delay (s)	14.4	7.8	0	-	8.2	0	-	13.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	8.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	273	61	84	130	71	206
Future Vol, veh/h	273	61	84	130	71	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	82	82	78	78
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	300	67	102	159	91	264

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	367	0	697	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	363	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1186	-	406	706
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	702	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1186	-	368	706
Mov Cap-2 Maneuver	-	-	-	-	368	-
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	21.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	571	-	-	1186	-
HCM Lane V/C Ratio	0.622	-	-	0.086	-
HCM Control Delay (s)	21.1	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	4.3	-	-	0.3	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	14	14	0	16
Future Vol, veh/h	8	0	14	14	0	16
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	71	71	60	60	60	60
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	0	23	23	0	27

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	62	35	0	0	47	0
Stage 1	35	-	-	-	-	-
Stage 2	27	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	949	1044	-	-	1573	-
Stage 1	993	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	949	1044	-	-	1573	-
Mov Cap-2 Maneuver	949	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	1001	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	949	1573	-
HCM Lane V/C Ratio	-	-	0.012	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

To: **Mark Kieselbach, Director of Community Planning and Development**

From: **Ken Plaga, Chief of Police**

Date: **November 6, 2018**

Re: **Creekwood Lane Traffic Crashes**

Concerns over traffic safety at the intersection of Haslett Road and Creekwood Lane have been brought to my attention. I have reviewed the traffic crash data from the Michigan State Police Traffic Crash Reporting System for the intersection in question. A review of the past 10 years of the State's system showed one traffic crash in the past 10 years. That traffic crash was a single motor vehicle crash on December 18, 2015 at 5:19 pm.

I also reviewed crash data for the intersection of Haslett Road and Van Atta Road. The same 10 year period showed a total of nine traffic crashes related to the intersection of Haslett Road and Van Atta Road. Of the nine crashes, eight were single motor vehicle crashes. The only two vehicle crash occurred on December 15, 2013 at 11:10 am.

Please feel free to contact me regarding the traffic crash data or to discuss the intersections.

INGHAM COUNTY ROAD DEPARTMENT

AUSTIN E. CAVANAUGH ADMINISTRATION BUILDING
301 Bush Roadway, P.O. Box 38, Mason, MI 48854-0038

William M. Conklin, P.E.
Managing Director

November 30, 2018

Mr. Mark Kieselbach
Community Planning & Development Director
Charter Township of Meridian
5151 Marsh Road
Okemos, Michigan 48864

Via Email

RE: Proposed Copper Creek PUD

Dear Mr. Kieselbach:

As you requested, the Ingham County Road Department (ICRD) provides the following comments on the proposed Copper Creek PUD development based on the following information that was provided for our review:

- PUD Plan prepared by KEBS, Inc., dated October 8, 2018.
- Traffic Impact Study (Revised), dated November 2018, authored by Traffic Engineering Associates, Inc.

Preliminary comments:

1. The PUD Plan indicates the proposed roadways will be private. That being the case, ICRD has no comments on the internal roadway layout or design. If the proposed roadways are to be dedicated for the use of the public, the latest edition of ICRD's Procedures and Guidelines for Developing Public Roads, shall be followed for the roadway layout and design.

2. The proposed Copper Creek PUD development is essentially adjacent to Haslett Road from the Wood Ridge Subdivision, east to Meridian Road. As such, ICRD requests that additional right of way be granted to ICRD along Haslett Road to accommodate future public amenities, such as corridor utilities, pathways or sidewalks, and drainage. Since Haslett Road is a county primary road, the additional right of way requested is 50 feet, measured from the existing center of right of way to the north.

3. The proposed private road intersection connecting to Haslett Road across from Bird Farm Lane must meet ICRD requirements. Given the existence of Bird Farm Lane directly opposite of this proposed private roadway, the proposed intersection must match Bird Farm Lane's centerline alignment, width, offset, and geometry. The island shown in this proposed roadway, if desired, will need to be constructed outside the proposed 50 foot county road right of way.

4. The property where the Copper Creek PUD development is proposed is bordered by previously developed lands. Those previous developed plats contain "stub roads" for the purpose of providing roadway connectivity of similar lands uses. My research revealed three such road stubs that can provided the desired connectivity – Wood Knoll Drive, Spring Mill Drive, and Whisperwood Drive.

Any connection to, or extension of, new roadways within existing road stubs are subject to ICRD requirements. The presently proposed roadway extension of Wood Knoll Drive must match the existing roadway dimensions and features.

5. In order for ICRD to fully assess whether ICRD required road improvements are necessary due to future Copper Creek PUD development phases, ICRD requests to review a master plan of the entire proposed development. Said master plan would allow for road connectivity evaluations, primary road access management review, and a more useful traffic impact study.

   If a master plan for all related future development cannot be provided, the current traffic study should be revised to reflect traffic volumes for the maximum possible number of units that could be developed in the future (build-out scenario). The revised study should also include a reasonable assignment of the derived future traffic that would use the currently proposed Haslett Road intersection, additional Haslett Road intersections, and stub road connections associated with the development.

6. The nearly 200 acre parcel where Copper Creek is to be located has the potential to add considerable traffic to the surrounding public roads. Although ICRD does not have the authority to require analyses or improvements of nearby intersections, we would encourage the township to require a thorough warrant analysis of the following intersections:

   a. Haslett Road and Meridian Road
   b. Haslett Road and Van Atta Road
   c. Haslett Road and Green Road

7. The Traffic Impact Study evaluated the existing intersection sight distance and stopping sight distance for the Creekwood Lane and Haslett Road intersection. ICRD believes the intersection should meet the MDOT intersection sight distance recommended for a left turn, from a stopped condition, onto a 3-lane main road for an assumed main road design speed of 40 mph, which is 475 ft. ICRD also believes in using the AASHTO stopping sight distance for an assumed main road design speed of 40 mph, which is 305 ft. ICRD recommends using 40 mph, rather than the posted 35 mph speed limit, because the 85th percentile speed is closer to 40 mph than 35 mph. That being the case, provisions should be enacted to provide the recommended sight distances.

8. Lastly, any work proposed within the public road right of way will only be permitted by issuance of an ICRD permit. ICRD permits are issued based on work plans, or construction plans, that have been approved by the County Highway Engineer. Said work plans or construction plans must also illustrate traffic control schemes and all other necessary provisions to protect the health, safety, and welfare of the public.

The above consists of preliminary comments based on limited information. The ICRD reserves the right to comment further when more complete information is available. Should you have questions or need clarification, please contact me at (517) 676-9722 ext. 2336 or via email at rpeterson@ingham.org.

Sincerely,
INGHAM COUNTY ROAD DEPARTMENT

Director of Engineering
County Highway Engineer

cc: file

Peter Menser

From: Conklin, William <WConklin@ingham.org>
Sent: Thursday, December 06, 2018 4:57 PM
To: Peter Menser; Mark Kieselbach; Derek Perry; Ken Plaga; Frank Walsh
Cc: Peterson, Robert
Subject: Sight Distance at Creekwood Lane & Haslett Road
Attachments: Sight_Distance_PLAN Creekwood at Haslett Rd.pdf

In response to concerns regarding the intersection sight distance from Creekwood Lane to the west on Haslett Road, and as discussed at our meeting regarding this at Meridian Township on November 20, 2018, the subject sight distance is recommended by AASHTO and MDOT to be 475 ft. for a left turn from stop onto a 3 lane main road for an assumed main road speed of 40 mph. 40 mph is the assumed speed for Haslett Road at Creekwood Lane as the Haslett Road posted speed limit is 35 mph west of Creekwood Lane and 45 mph east of Creekwood. The sight distance measured by Ingham County Road Department (ICRD) at this location on November 16, 2018, was 376 ft. Various trees have been planted and/or have grown within this sight triangle that should be trimmed or removed to maintain the recommended clear vision triangle. Please see attached plan summarizing this.

ICRD also recommends that 540 ft. of sight distance be provided to the west on Haslett Road for a pedestrian on the north side of the existing cross-walk on Haslett Road between Van Atta Road and Creekwood Lane. Again, impediments to clear vision should be removed as necessary within the resulting sight triangle as also shown on the attached plan.

Recommended tree removal immediately west of Creekwood Lane falls in the platted Haslett Road right-of-way (ROW) for the Creekwood subdivision. A clear vision easement for the recommended clear vision triangles will be necessary from the acreage parcel having address 832 Haslett Road immediately west of the Creekwood subdivision.

The AASHTO stopping sight distance for the 40 mph assumed speed on Haslett Road at or near Creekwood Lane is 305 ft. At least 305 ft. or more of stopping sight distance currently exists on Haslett Road approaching both Creekwood Lane and the above-described cross-walk in both directions. ICRD believes the Creekwood Lane – Haslett Road intersection therefore is a safe intersection for both current traffic and future traffic estimated to be added by the Traffic Impact Study (Revised) dated November, 2018, by Traffic Engineering Associates, Inc. (TEA) for the proposed Copper Creek Development, but would be best served by improving the intersection sight distance as described above.

As always, please feel free to let ICRD know any remaining questions on the above issues.

William Conklin, P.E., Managing Director,
Ingham County Road Department (ICRD)

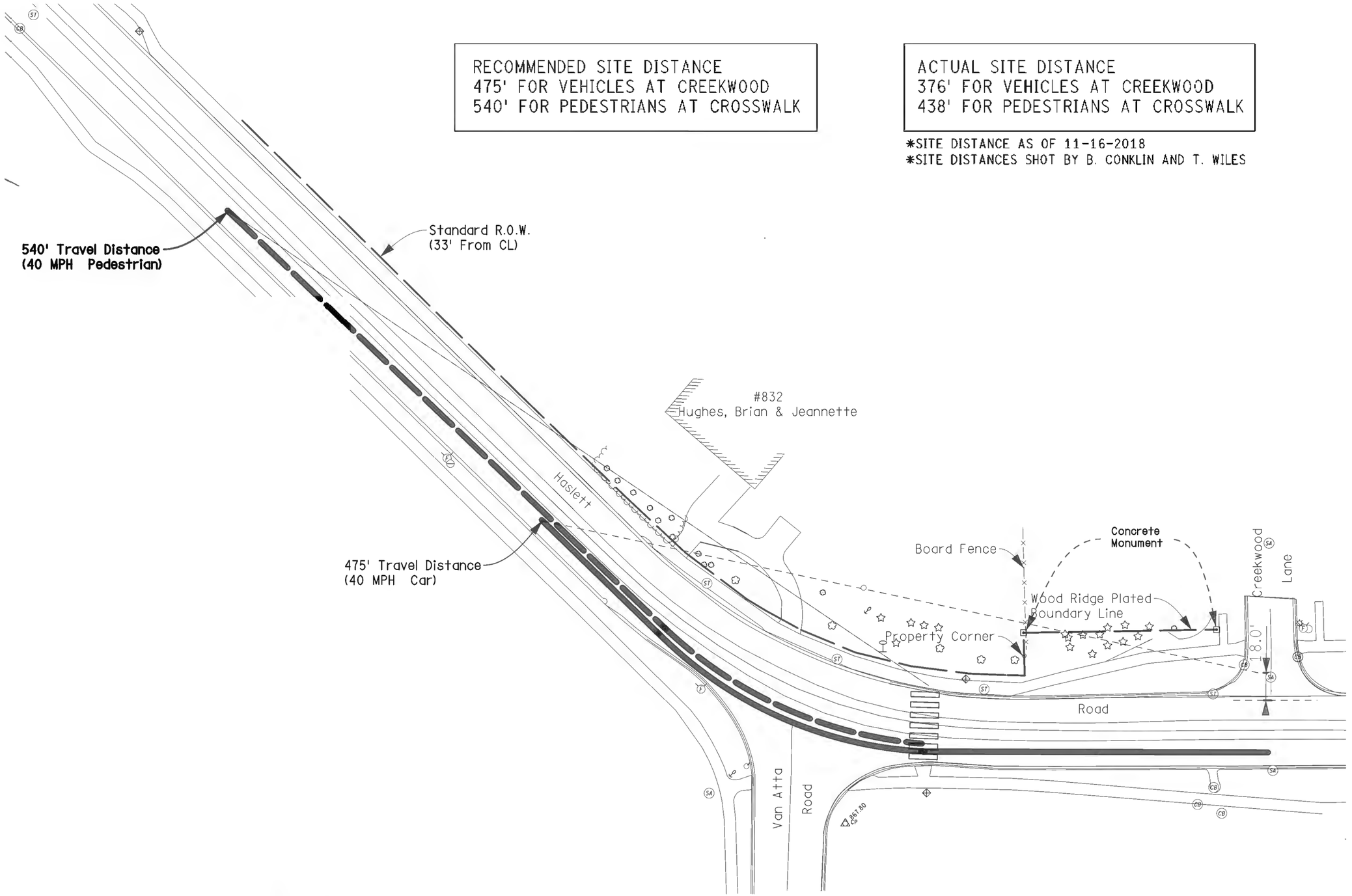
CC: Robert Peterson, P.E., ICRD Director of Engineering

RECOMMENDED SITE DISTANCE
475' FOR VEHICLES AT CREEKWOOD
540' FOR PEDESTRIANS AT CROSSWALK

ACTUAL SITE DISTANCE
376' FOR VEHICLES AT CREEKWOOD
438' FOR PEDESTRIANS AT CROSSWALK

*SITE DISTANCE AS OF 11-16-2018
*SITE DISTANCES SHOT BY B. CONKLIN AND T. WILES

N



FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)											
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	INGHAM COUNTY ROAD DEPARTMENT	0 HORZ. (FT) 60		DATE: 11/16/2018	CS:	PLAN - SITE DISTANCE	DRAWING SHEET
											DESIGN UNIT: CONKLIN	JN:	CREEKWOOD AT HASLETT ROAD	PLN
										FILE	TSC: ICRD			

11. B. & 13. C.

To: **Township Board Members**

From: **Derek N. Perry, Assistant Township Manager**
Director of Public Works & Engineering

Younes Ishraidi, Chief Engineer

Date: **December 11, 2018**

Re: **Sierra Ridge #2 & #3 Public Streetlighting Improvement**
Special Assessment District #426 – Public Hearing & Discussion

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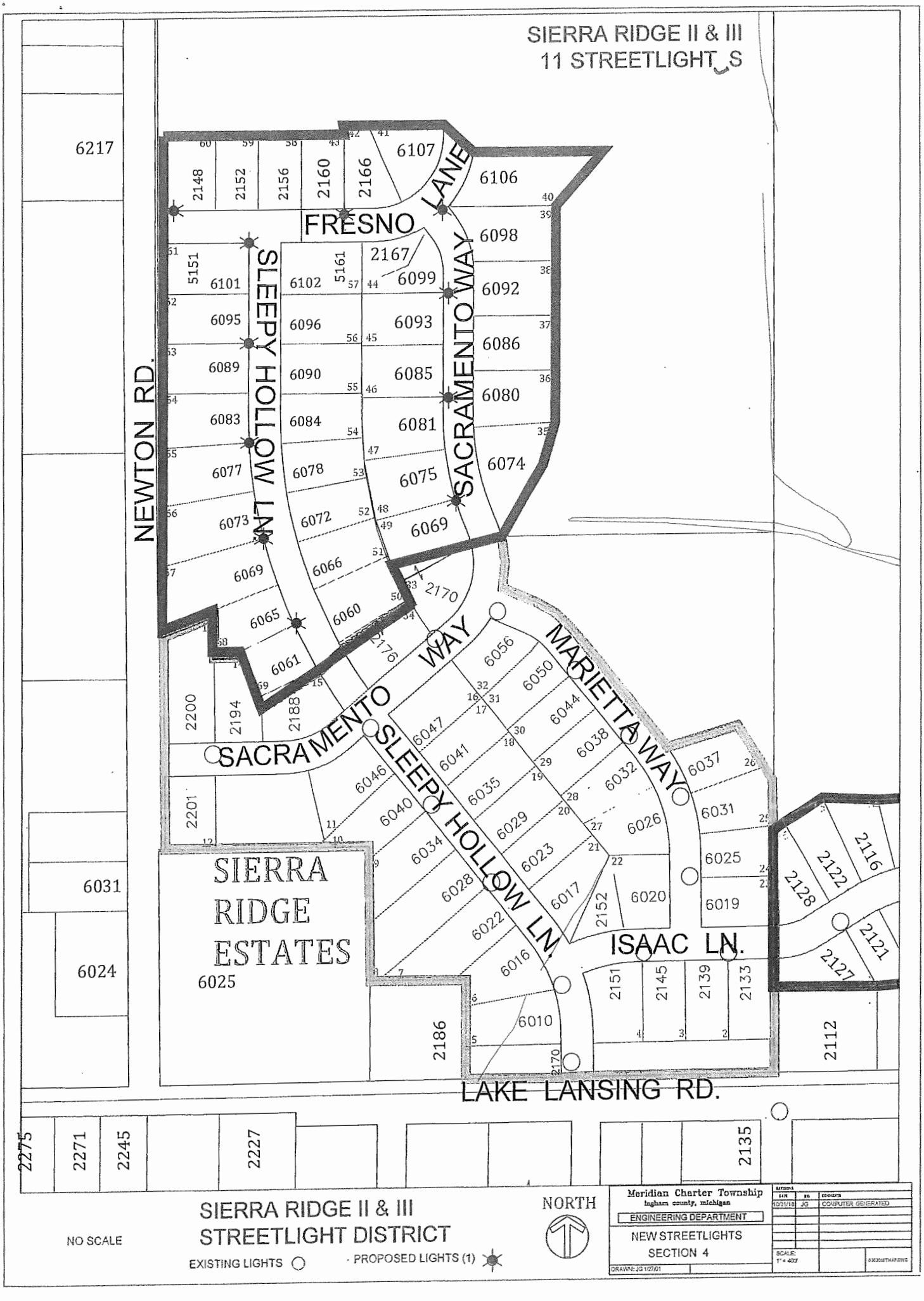
A request was received from the property owners of Sierra Ridge for the installation and maintenance of streetlights in Sierra Ridge #2 & #3. The proposed plan is for eleven (11) streetlights composed of Traditional fixtures with cut-offs, and black standard poles, to be installed and maintained along Sleepy Hollow Lane, Fresno Lane and Sacramento Way by Consumers Energy.

At its November 20, 2018 meeting, the Township Board set a public hearing for December 11, 2018 to hear comments on the installation and maintenance of the streetlighting in Sierra Ridge and its associated special assessment district (SAD). Notices for the public hearing were sent to the SAD property owners along Sleepy Hollow Lane, Fresno Lane & Sacramento Way. A map of the district and a copy of the assessment roll is attached.

There are 35 lots in SAD district #426. Based on pricing from Consumers Energy, the cost of operation and maintenance is $5,893.30 ($168.38/lot) for the first year, and $1,540 ($44.00/lot) annually thereafter (subject to adjustment).

Resolution #3 is also attached for your review and will be placed on the January 8, 2018 Township Board meeting agenda for ACTION based on the outcome of the public hearing and comments from the Township Board.

Attachments



SIERRA RIDGE II & III
STREETLIGHT DISTRICT

NO SCALE

EXISTING LIGHTS ○ · PROPOSED LIGHTS (1)

NORTH

Meridian Charter Township
Ingham County, Michigan
ENGINEERING DEPARTMENT
NEW STREETLIGHTS
SECTION 4
DRAWN: JG 1/27/01

REVISIONS		
DATE	BY	COMMENTS
10/31/18	JG	COMPUTER GENERATED

SCALE: 1" = 400'

Sierra Ridge #2 & #3 Public Streetlighting Improvement Special Assessment District No. 426

	Property Address	Parcel #	Lot #	Subd #	Property Owner	Owner Address	City	State	Zip Code	First Year Assessment	Annually Thereafter
1	6074 Sacramento Way	3302-02-04-402-001	35	#2	Scott D & Amy L Basel Trustees	6074 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
2	6080 Sacramento Way	3302-02-04-402-002	36	#2	Anna Bora Lee & Dino Rocco Precopio	6080 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
3	6086 Sacramento Way	3302-02-04-402-003	37	#2	Thomas D & Melissa A Allis	6086 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
4	6092 Sacramento Way	3302-02-04-402-004	38	#2	Michelle Rhodes Trust	6092 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
5	6098 Sacramento Way	3302-02-04-402-005	39	#2	Christopher M & Robyn D'Haem	6098 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
6	6106 Fresno Lane	3302-02-04-402-006	40	#2	Philip & Brenda Rose	6106 Fresno Lane	East Lansing	MI	48823	$168.38	$44.00
7	6107 Fresno Lane	3302-02-04-401-001	41	#2	Sean P & Dayna Zielinski	6107 Fresno Lane	East Lansing	MI	48823	$168.38	$44.00
8	2166 Fresno Lane	3302-02-04-401-002	42	#2	Sheri L & Mark D Conn	2166 Fresno Lane	East Lansing	MI	48823	$168.38	$44.00
9	2160 Fresno Lane	3302-02-04-401-003	43	#2	Thomas F & Mary L Kearney	2160 Fresno Lane	East Lansing	MI	48823	$168.38	$44.00
10	6099 Sacramento Way	3302-02-04-452-010	44	#2	Janaki R & Krishna K Karchalla	6099 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
11	6093 Sacramento Way	3302-02-04-452-009	45	#2	Gregory J & Lesley CK Comer	6093 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
12	6085 Sacramento Way	3302-02-04-452-008	46	#2	Matthew & Ann Mansfield	6085 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
13	6081 Sacramento Way	3302-02-04-452-007	47	#2	Kurt E & Amy Ronayne Krause	6081 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
14	6075 Sacramento Way	3302-02-04-452-006	48	#2	Paul & Angela Stewart	6075 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
15	6069 Sacramento Way	3302-02-04-452-005	49	#2	Dana M & Diane K Spence	6069 Sacramento Way	East Lansing	MI	48823	$168.38	$44.00
16	6060 Sleepy Hollow	3302-02-04-452-018	50	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
17	6066 Sleepy Hollow	3302-02-04-452-017	51	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
18	6072 Sleepy Hollow	3302-02-04-452-016	52	#3	Mayank Agrawal & Sunitha Yadav	6072 Sleepy Hollow Lane	East Lansing	MI	48823	$168.38	$44.00
19	6078 Sleepy Hollow	3302-02-04-452-015	53	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
20	6084 Sleepy Hollow	3302-02-04-452-014	54	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
21	6090 Sleepy Hollow	3302-02-04-452-013	55	#3	Darla Ann Devoe & Julia A Yingling	6090 Sleepy Hollow Lane	East Lansing	MI	48823	$168.38	$44.00
22	6096 Sleepy Hollow	3302-02-04-452-012	56	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
23	6102 Sleepy Hollow	3302-02-04-452-011	57	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
24	2156 Fresno Lane	3302-02-04-401-004	58	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
25	2152 Fresno Lane	3302-02-04-401-005	59	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
26	2148 Fresno Lane	3302-02-04-401-006	60	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
27	6101 Sleepy Hollow	3302-02-04-451-005	61	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
28	6095 Sleepy Hollow	3302-02-04-451-006	62	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
29	6089 Sleepy Hollow	3302-02-04-451-007	63	#3	Kenneth & Janet Zenner	6089 Sleepy Hollow Lane	East Lansing	MI	48823	$168.38	$44.00
30	6083 Sleepy Hollow	3302-02-04-451-008	64	#3	Alan B & Jennifer A Archambault	6083 Sleepy Hollow Lane	East Lansing	MI	48823	$168.38	$44.00
31	6077 Sleepy Hollow	3302-02-04-451-009	65	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
32	6073 Sleepy Hollow	3302-02-04-451-010	66	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
33	6069 Sleepy Hollow	3302-02-04-451-011	67	#3	Joseph & Ann Garrett	6069 Sleepy Hollow Lane	East Lansing	MI	48823	$168.38	$44.00
34	6065 Sleepy Hollow	3302-02-04-451-012	68	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
35	6061 Sleepy Hollow	3302-02-04-451-013	69	#3	GS Fedewa Builders, Inc.	5570 Okemos Road	East Lansing	MI	48823	$168.38	$44.00
										$5,893.30	$1,540.00

SIERRA RIDGE #2 & #3 PUBLIC STREETLIGHTING IMPROVEMENT
SPECIAL ASSESSMENT DISTRICT NO. 426

RESOLUTION NO.3

At a regular meeting of the Township Board of the Charter Township of Meridian, Ingham County, Michigan, held in the Meridian Township Municipal Building, 5151 Marsh Road, Okemos, MI 48864-1198, Phone (517) 853-4000 on Tuesday, January 8, 2019, at 6:00 p.m.

PRESENT: _____

_____

ABSENT: _____

The following resolution was offered by _____

and supported by _____.

WHEREAS, The Township Board, pursuant to the provisions of Act 188, Public Acts of Michigan, 1954, as amended, did on November 20, 2018, adopt a resolution tentatively approving the installation, operation and maintenance of certain public streetlighting improvements along Sleepy Hollow Lane, Fresno Lane & Sacramento Way, and the establishment of a special assessment district for the purpose of paying the cost thereof, which special assessment district is more specifically hereinafter described; and

WHEREAS, the Township Board did meet on December 11, 2018, at 6:00 p.m., the time, date and place set by the Board to hold a public hearing to hear any objections to the improvement and to the special assessment district therefore; and

WHEREAS, estimates of cost of said project are on file with the Township Clerk and have been on file since November 20, 2018, and

NOW, THEREFORE, BE IT RESOLVED BY THE TOWNSHIP BOARD OF THE CHARTER TOWNSHIP OF MERIDIAN, INGHAM COUNTY, MICHIGAN, AS FOLLOWS:

1. The Township Board hereby approves the following described improvement: Installation, operation and maintenance of eleven (11) traditional streetlights with cut off along Sleepy Hollow Lane, Fresno Lane & Sacramento Way, and to defray the cost by special assessment against the properties specially benefited thereby.

2. The Township Board hereby approves the estimate of cost in the sum of $5,893.30 ($168.38/lot) for the first year cost and $1,540 ($44.00/lot) annually thereafter (subject to adjustment).

3. The Township Board finally determines that the special assessment district shall be described as follows:

   Lots 35-49(inclusive), Sierra Ridge #2, and Lots 50-69(inclusive), Sierra Ridge #3

4. The Supervisor is hereby directed to make a special assessment roll in which shall be described all the parcels of land to be assessed as set forth with the names of the owners thereof if known, and the total amount to be assessed against each parcel of land which amount shall be such relative portion of the whole sum to be levied against all parcels of land in the assessment district as the benefit to such parcel bears to the total benefit of all parcels of land in the special assessment district. The term of the special assessment district shall continue until the special assessments, as approved or modified, have been collected in full.

5. When the Supervisor shall have completed the special assessment roll there shall be affixed thereto a certificate stating that said roll was made pursuant to a resolution of the Township Board of the Charter Township of Meridian adopted January 8, 2019, and that in making the assessment roll the Supervisor has, according to his best judgement, conformed in all respects to the directions contained in said resolution and the statutes of the State of Michigan and the Supervisor shall then report the special assessment roll with the certificate attached thereto, to the Township Board.

6 That the Township Board hereby authorizes Consumers Energy Company to proceed with the installation of the streetlighting facilities previously described and that the streetlighting contract dated March 18, 2014, be further amended to include the cost of these additional streetlights. The Clerk and Supervisor are hereby authorized to sign the Authorization for Change in Streetlighting Contract as prepared by Consumers Energy Company.

7. All resolutions and parts of resolutions insofar as they conflict with the provisions of this resolution be and the same are hereby rescinded.

YEAS: _____.

_____

NAYS: _____

Resolution declared adopted.

STATE OF MICHIGAN)
)ss.
COUNTY OF INGHAM)

I, the undersigned, the duly qualified and acting Clerk of the Charter Township of Meridian, Ingham County, Michigan, **DO HEREBY CERTIFY** that the foregoing is a true and complete copy of proceedings taken by the Township Board at a regular meeting held on January 8, 2019.

_____
Brett Dreyfus, Township Clerk

12.A

To: **Township Board**

From: **Mark Kieselbach, Director of Community Planning and Development**

Date: **December 5, 2018**

Re: **Medical Marihuana Zoning Ordinance**

The draft zoning ordinance would establish the Commercial Medical Marihuana Facilities Overlay District. The ordinance would allow commercial Medical Marihuana Facilities to be located in six overlay areas of the Township. The Township attorney reviewed the draft ordinance and recommended minor changes be made. A copy of the draft showing the changes is attached. A motion to initiate the zoning amendment and refer the amendment to the Planning Commission for a public hearing and recommendation has been provided for the Board's consideration.

Move to initiate a zoning amendment to establish the Commercial Medical Marihuana Facilities Overlay District and refer the zoning amendment to the Planning Commission for a public hearing and recommendation.

Attachments:
1. Draft zoning ordinance, dated December 6, 2018.
2. Overlay areas.

G:\Community Planning & Development\Planning\Medical Marihuana\Medical Marihuana Zoning Ordinance.tb5.docx

REVISED
December 6, 2018

DRAFT ORDINANCE
COMMERCIAL MEDICAL MARIHUANA FACILITIES OVERLAY DISTRICT
CHARTER TOWNSHIP OF MERIDIAN

Chapter 86: Zoning
Article I: In General
Section 86-2: Definitions

1. "Commercial Medical Marihuana Facility" or "Facility" means one of the following:

   a. "Provisioning Center," as that term is defined in the Medical Marihuana Facilities Licensing Act, Public Act 281 of 2016 ("MMFLA");

   b. "Processor," as that term is defined in the MMFLA;

   c. "Secure Transporter," as that term in the MMFLA;

   d. "Grower," including Class A, Class B and Class C, as those terms are defined in the MMFLA;

   e. "Safety Compliance Facility," as that term is defined in the MMFLA.

2. "Marihuana" means that term as defined in Section 7106 of the Michigan Public Health Code, 1978 PA 368, MCL 333.7106.

3. "Medical Marihuana" means that term as defined in MCL 333.26423.

4. "Patient" means a "registered qualifying patient" or a "visiting qualifying patient" as those terms are defined by MCL 333.26421, et seq.

5. "Permit" means a current and valid permit for a Commercial Medical Marihuana Facility issued under the Charter Township of Meridian Ordinance Authorizing and Permitting Commercial Medical Marihuana Facilities, Charter Township of Meridian Ordinance No. _____, which shall be granted to a Permit Holder only for and limited to a specific Permitted Premises and a specific Permitted Property. Said Permit shall be in addition to the Special Use Permit required to be obtained under this Zoning Ordinance.

6. "Person" means a natural person, company, partnership, profit or non-profit corporation, limited liability company, or any joint venture for a common purpose.

Chapter 86: Zoning
Article IV: District Regulations
Division 4: Other Districts
Section 86-445 Commercial Medical Marihuana Facilities Overlay District

(a) Applicability. The Commercial Medical Marihuana Facilities overlay district shall apply to all lots within the areas shown on Map (s) _____ (the "Overlay Areas"). All lots included in the overlay district shall be subject to the terms and conditions imposed in this section, in

addition to the terms and conditions imposed by the zoning district where such lots may be located, any other applicable ordinance and the requirements of Section (Ordinance Authorizing and Permitting Commercial Medical Marihuana Facilities).

(b) Uses permitted by right. All uses permitted by right in the underlying zoning districts.

(c) Uses permitted by special use permit. All uses permitted by special use permit in the underlying zoning district and all types of Commercial Medical Marihuana Facilities subject to the number of available Permits allowed per Section (Ordinance Authorizing and Permitting Commercial Medical Marihuana Facilities).

(d) Uses not permitted. Any use not permitted in the underlying zoning district is not permitted in the Commercial Medical Marihuana Facilities overlay district.

(e) Permitted locations.

1. Grower Class A, Class B, or Class C in the I (Industrial) district.

2. Processor in the I (Industrial) district; C-1, C-2, or C-3 (Commercial) districts; and RP (Research and Office Park) district.

3. Provisioning Center in the I (Industrial) district; C-1, C-2, or C-3 (Commercial) districts; and RP (Research and Office Park) district.

4. Safety Compliance Facility in the I (Industrial) district; C-1, C-2, or C-3 (Commercial) districts; and RP (Research and Office Park) district.

5. Secure Transporter in the I (Industrial) district; C-1, C-2, or C-3 (Commercial) districts; and RP (Research and Office Park) district.

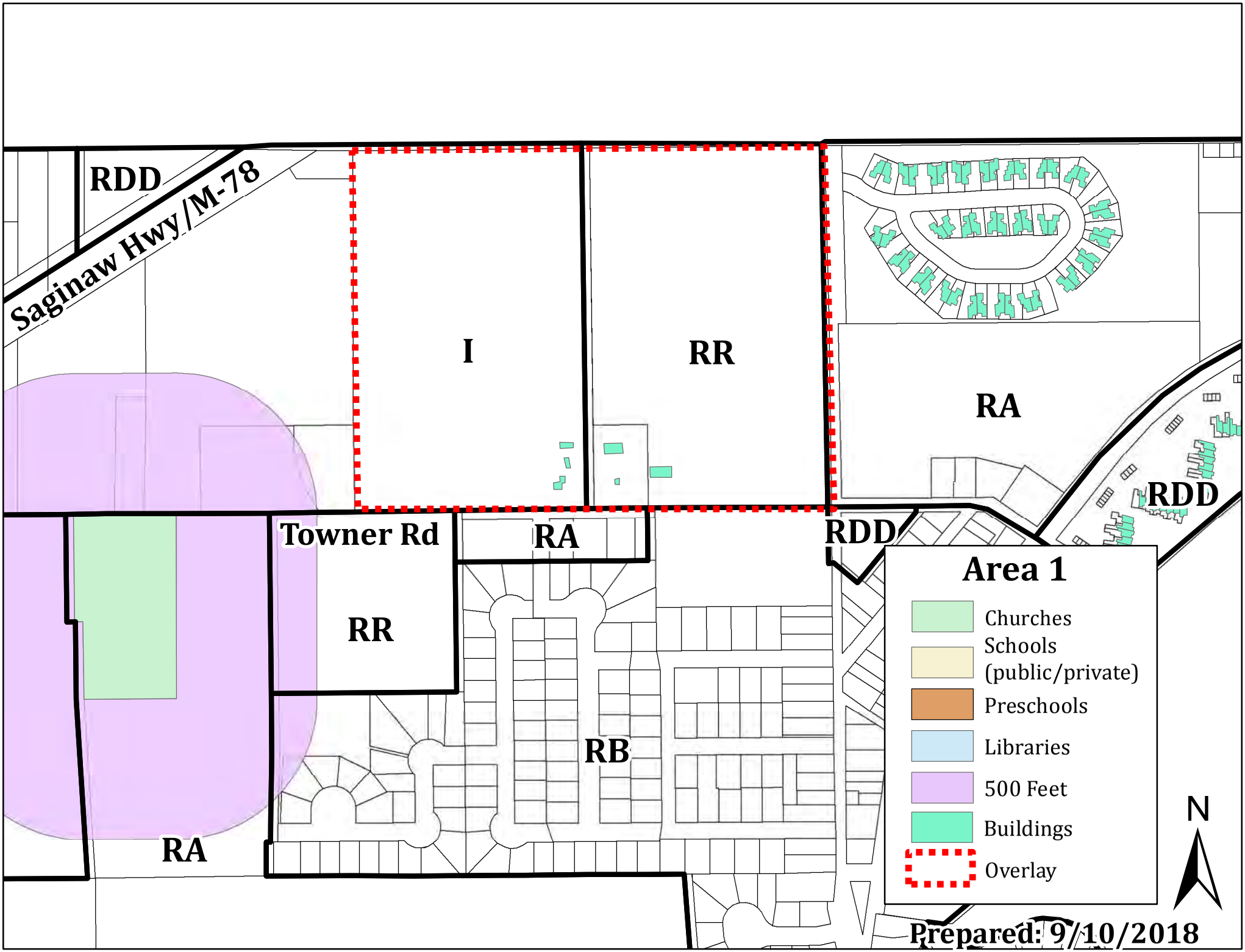
(f) Application and departmental reviews

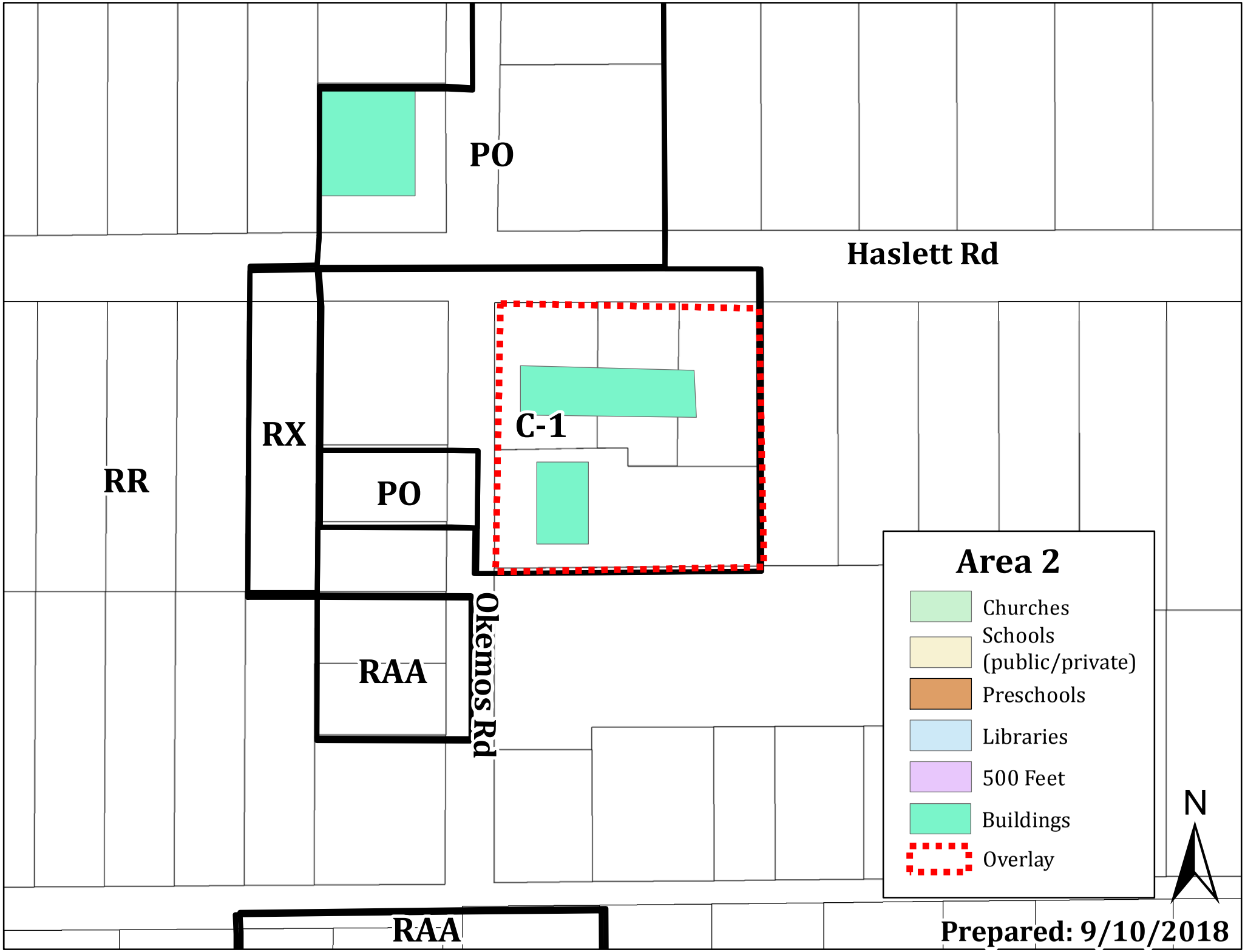
1. Application. The application for a special use permit shall be submitted to the Director of Community Planning and Development in accordance with Section 86-124.

2. Departmental reviews. The applicant's plan shall be reviewed by the Township Department of Community Planning and Development, the Township EMS/Fire Department, the Township Police Department, the Township Public Works/Engineering Department, the county drain commissioner, and the county road department or the state department of transportation, whichever road agency has jurisdiction over roads in the immediate vicinity, in order to ensure that public utilities, road, and other infrastructure systems are or will be adequate to support the proposed development.

(g) Review process. Upon determination that the application is complete, the Director of Community Planning and Development shall initiate a review process in accordance with Section 86-125 of this chapter, subject to all hearings and other provisions set forth therein, as applicable.

(h) Amendments. Any amendments to an approved special use permit shall be in accordance with Section 86-129. ~~and subject to the approval of the Township Board.~~


RDD
Saginaw Hwy/M-78
I
RR
RA
RDD
Towner Rd
RA
RDD
RR
RB
RA
Area 1
Churches
Schools (public/private)
Preschools
Libraries
500 Feet
Buildings
Overlay
N
Prepared: 9/10/2018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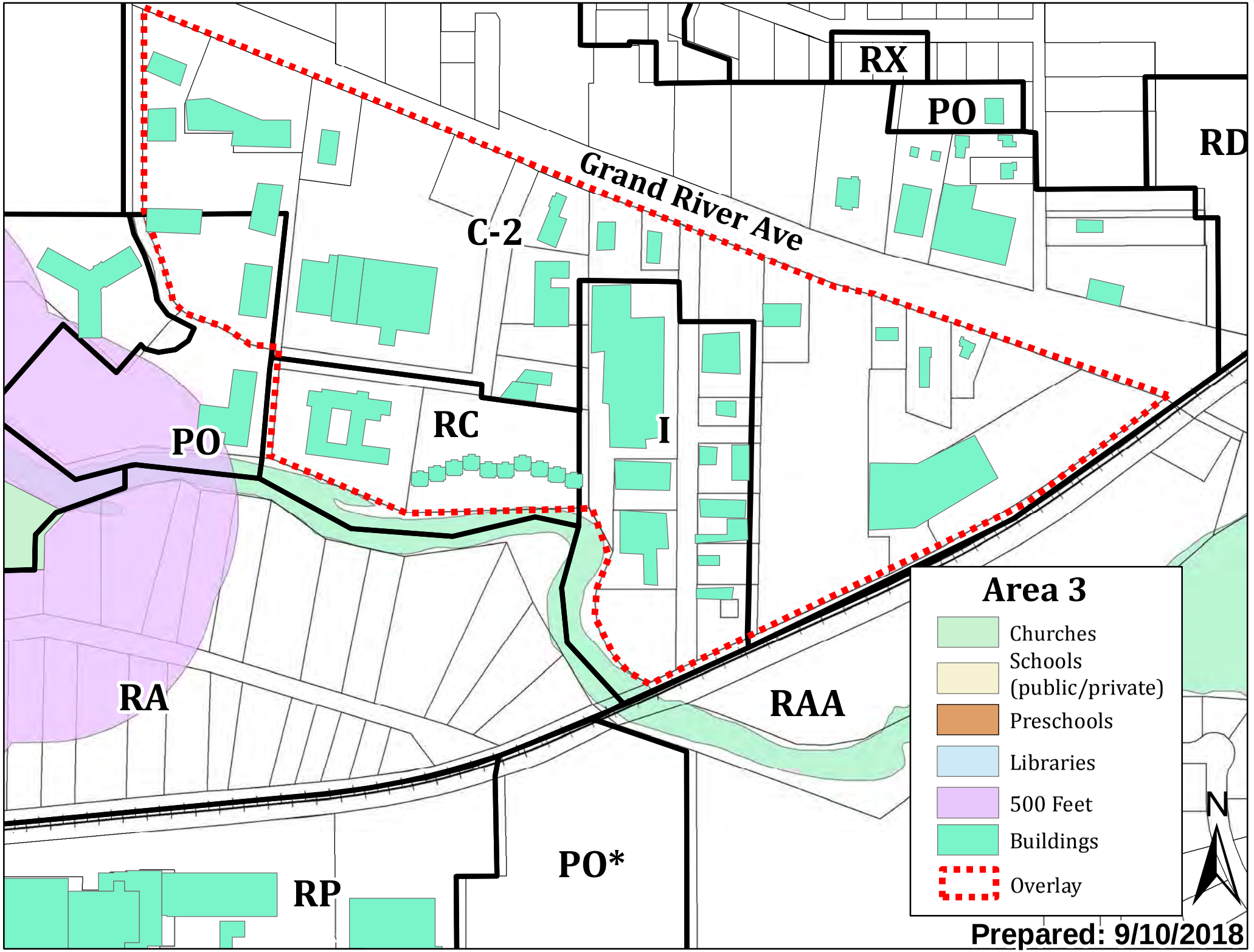
Haslett Rd
RX
C-1
RR
PO
RAA
Okemos Rd
RAA
Area 2
Churches
Schools (public/private)
Preschools
Libraries
500 Feet
Buildings
Overlay
N
Prepared: 9/10/2018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PO
RD
Grand River Ave
C-2
RC
I
PO
RA
RAA
PO*
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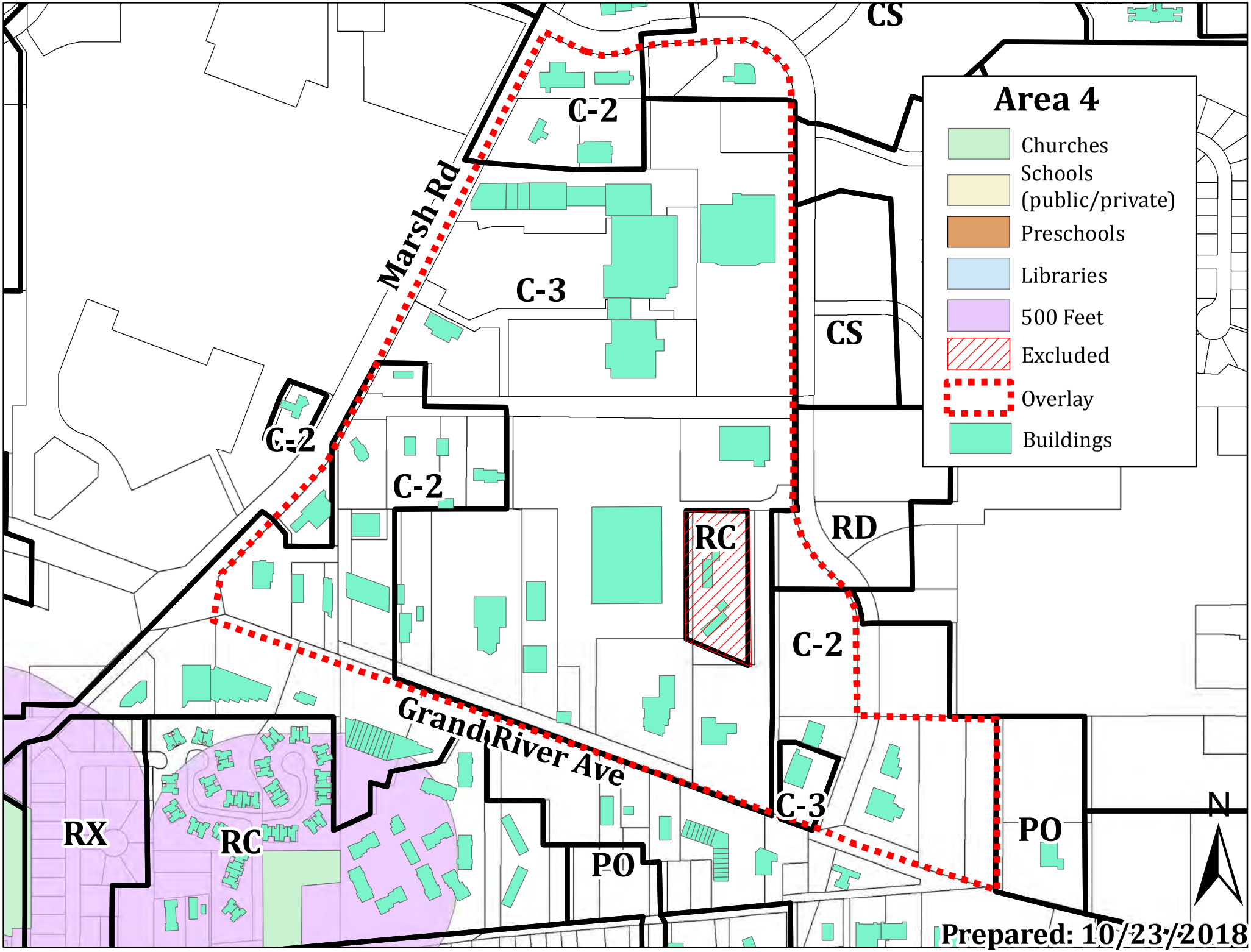
Area 3
Churches
Schools (public/private)
Preschools
Libraries
500 Feet
Buildings
Overlay
N
Prepared: 9/10/2018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Churches
Schools (public/private)
Preschools
Libraries
500 Feet
Excluded
Overlay
Buildings
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Grand River Ave
C-2
C-3
CS
RC
RD
RX
PO
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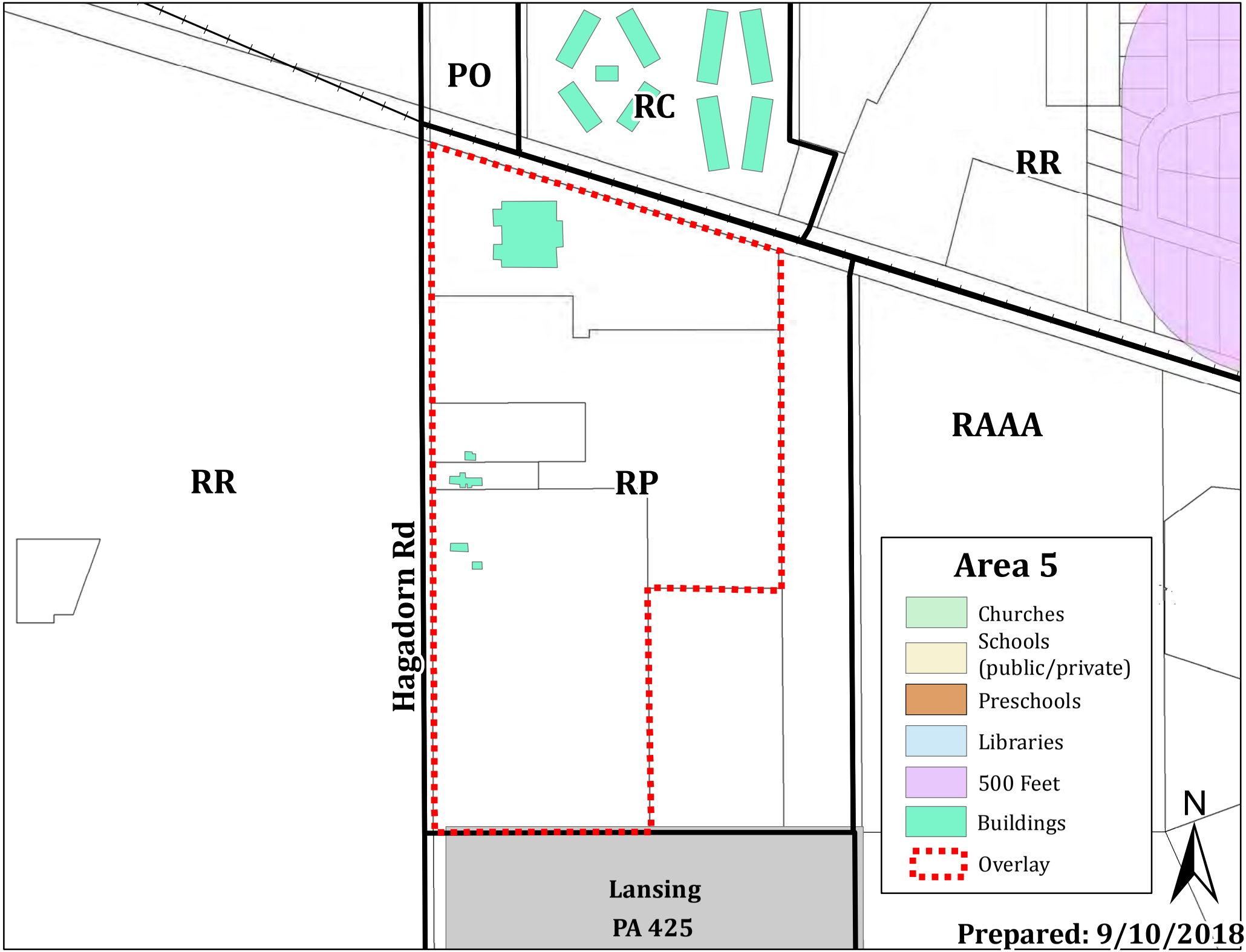
Prepared: 10/23/2018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Lansing
PA 425
Area 5
Churches
Schools (public/private)
Preschools
Libraries
500 Feet
Buildings
Overlay
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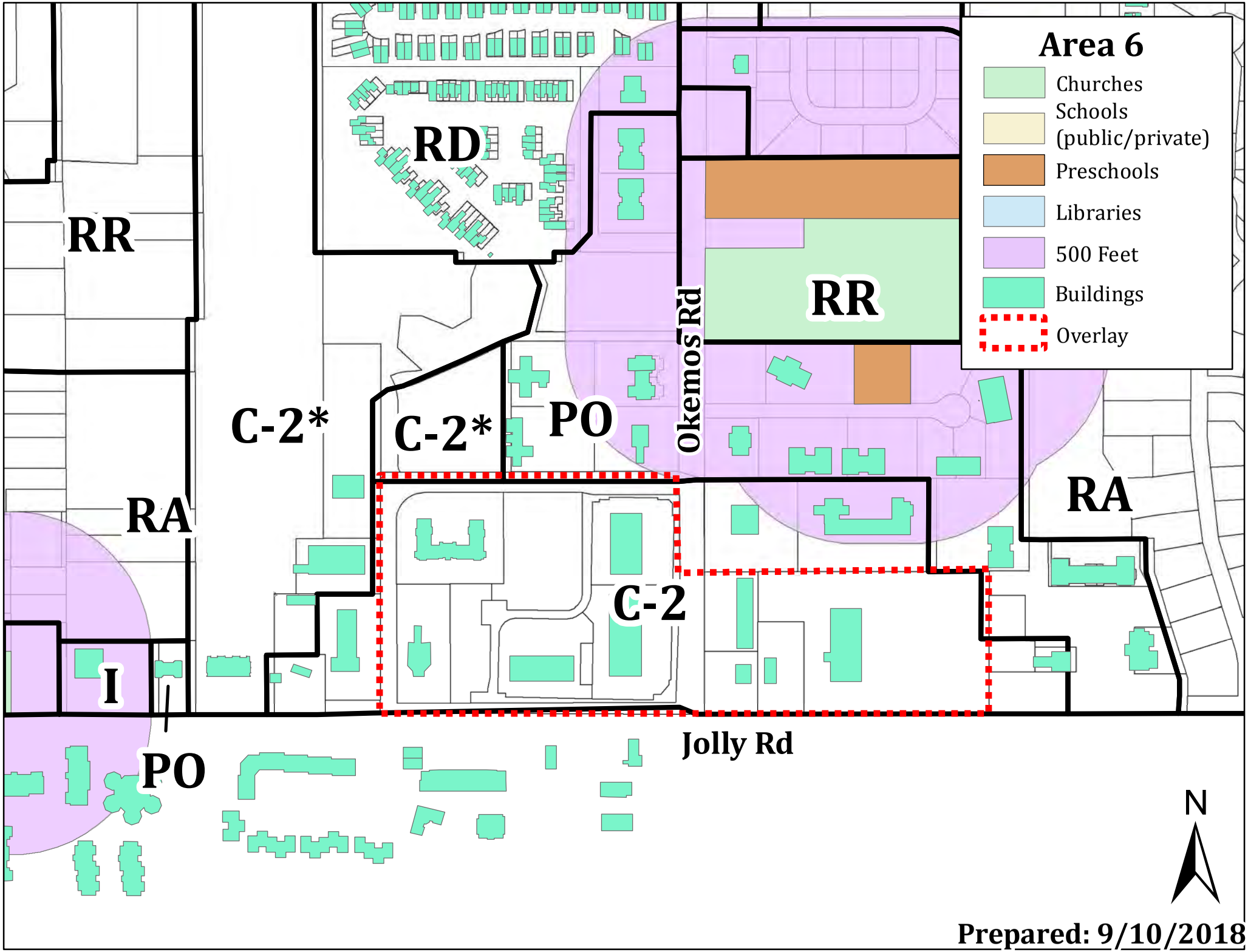
Prepared: 9/10/2018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Churches
Schools (public/private)
Preschools
Libraries
500 Feet
Buildings
Overlay
RR
RD
RR
Okemos Rd
C-2*
C-2*
PO
RA
RA
C-2
I
PO
Jolly Rd
N
Prepared: 9/10/2018

12.B

To: **Township Board**

From: **Mark Kieselbach, Director of Community Planning and Development**

Date: **December 5, 2018**

Re: **Senior Housing Zoning Amendment**

Based on the discussion at the Board meeting on December 4, 2018, the Board would be willing to initiate a zoning amendment to establish a new land use category to be known as a "Continuing Care Retirement Community" (CCRC). A CCRC would include both independent living, assisted living and special care such as memory, nursing or convalescent. The Township Zoning Ordinance does not provide for this type of multiple uses on one site. The proposed zoning amendment would consider allowing a CCRC as a nonresidential use in a residential zoning district by special use permit. A motion to initiate the zoning amendment and refer the amendment to the Planning Commission for a public hearing and recommendation has been provided for the Board's consideration.

Move to initiate a zoning amendment to establish a new land use category to be known as a Continuing Care Retirement Community and refer the zoning amendment to the Planning Commission for a public hearing and recommendation. The Planning Commission shall consider allowing a Continuing Care Retirement Community as a nonresidential use in a residential zoning district by special use permit and to determine the appropriate definitions and standards as may be needed to ensure proper development.

G:\Community Planning & Development\Planning\ZONING AMENDMENTS\Senior Housing Zoning Amendment.tb2.docx

12. C

To: **Board Members**

From: **Joyce A. Marx, Human Resources Director**

Date: **December 7, 2018**

Re: **Property and Liability Insurance Contract**

The evaluating committee (Human Resources Director Marx, Finance Director Mattison and Trustee Jackson) for the Property and Liability Insurance coverage proposals for 2019 is recommending to continue coverage with the Michigan Township Participating Plan (PAR Plan).

This recommendation is primarily based on the advantages to Meridian Township with respect to the on-going excellent customer service, expertise in handling claims, cost and a three year pricing guarantee only to be adjusted in cases of exposure changes or excessive losses.

The total cost for coverage January 1, 2019-December 31, 2019 is $181,382 as compared to the previous two year guaranteed rate of $164,000.

Changes impacting increased pricing with the PAR Plan are a result of a comprehensive property audit of current properties with additional properties to be added and the purchase of additional Police vehicles and a sewer truck in 2018.

Although we increased the 2019 Budget to $170,000 for Property and Liability Insurance, the above changes will require us to request a 2019 Budget amendment of $11,400.

The following motion is proposed:

> **MOTION TO DIRECT THE TOWNSHIP MANAGER TO SIGN THE CONTRACT WITH DAVID CHAPMAN AGENCY, AGENT FOR MICHIGAN TOWNSHIP PARTICIPATING PLAN (PAR PLAN) FOR THE PERIOD OF JANUARY 1, 2019-DECEMBER 31, 2019 WITH A TWO (2) YEAR EXTENSION.**

12. D

To: **Board Members**

From: **Miriam Mattison, Finance Director**

Date: **December 6, 2018**

Re: **4th Quarter Budget Amendments**

The 2018 Year End Amended Budget is attached. It reflects the recommended Budget amendments that are detailed in Exhibit A. These amendments result from revenue and expenditures that were unknown during the original budget process.

Amendments to the 2018 General Fund include revenue increases for property tax, administration fees, and interest, and varies recreational programs totaling $18,000. Expenditure requests are from additional cost to cover utilities, salaries and benefits. Reduction is expenditure are also show with a net of $97,000 from expenses going back into the General Fund.

The projected Fund Balance for the General Fund is computed as follows:

Fund Balance at 12/31/17 per audit	$6,857,233
Original Budgeted Use of Fund Balance 2018	($1,110,587)
Beginning-of-Year budget amendments	($66,725)
Amendments from September 2018	($134,100)
End of Year amendments	$115,000
Projected Use of Fund Balance	($1,196,412)
Projected Fund Balance at 12/31/18	$5,660,821
Fund Balance/Average Monthly Expenditures	3.52

Amendments to the special funds consists of requests from Cable TV Fund for use of $39,425 for video production equipment, personal costs, and legal expenses. The Park Millage Fund is requesting the use of $22,000 for personal costs. The Sewer Fund is requesting use of $17,000 for personal cost. The Water Fund is requesting the use of $4,000 for contractual services and customer installation costs.

The following motion is proposed:

MOVE TO APPROVE THE END-OF-YEAR 2018 BUDGET AMENDMENTS WITH AN INCREASE IN BUDGETED FUND BALANCE FOR THE GENERAL FUND IN THE AMOUNT OF $115,000 WHICH PROJECTS A USE OF FUND BALANCE OF $1,196,412. BASED ON AUDITED 2017 RESULTS, THE PROJECTED FUND BALANCE AT DECEMBER 31, 2018 WILL BE $5,660,821.

Attachment:

1. End-of-Year 2018 Budget Amendment Financial Information

Year End
Budget Amendments
2018

Department	Amount	Explanation	Account
General Fund			
Revenue			
Current Property taxes	17,000	Higher than anticipated	101-000.000-402.000
Delinquent Property taxes	11,000	Higher than anticipated	101-000.000-412.000
Tax Administration Fee	$17,000	Higher than anticipated	101-000.000-447.000
Annual Rental Inspection	-$10,000	Lower than anticipated	101-000.000-609.000
Rental Registration	-$15,000	Lower than anticipated	101-000.000-609.015
Recreation Program Rev	-$12,000	Lower than anticipated	101-000.000-638.500
Oaks Soccer	$23,000	Higher than anticipated	101-000.000-638.601
Contract Programs	-$3,000	Lower than anticipated	101-000.000-638.700
HYRA Soccer	$5,000	Higher than anticipated	101-000.000-638.804
Williamston Rec Revenue	-$37,000	Lower than anticipated	101-000.000-638.950
Cemetery Lot Sales	$5,000	Higher than anticipated	101-000.000-643.000
Recycling Revenue	$5,000	Higher than anticipated	101-000.000-650.000
Fines-UTC Enforcement	-$12,000	Lower than anticipated	101-000.000-657.010
Fines - Retail Fraud Ordinance	-$19,000	Lower than anticipated	101-000.000-657.020
Interest	$28,500	Higher than anticipated	101-000.000-665.000
Reimbursements - Elections	$15,000	Higher than anticipated	101-000.000-6790000
Total Revenue	$18,500		
Expenditures			
General Government			
Administrative Services			
Postage	-15,000	Lower than anticipated	101-170.173-730.000
Insurance	-45,000	Lower than anticipated	101-170.173-812.000
Contractual Services	6,300	Higher than anticipated	101-170.173-820.000
Utilities-Street Lights	70,500	Higher than anticipated	101-170.173-922.000
Elections			
Salaries - Temporary	9,600	Higher than anticipated	101-170.191-701.080
Salaries - August Primary	-9,450	Lower than anticipated	101-170.191-701.130
Salaries - November Elections	-15,400	Lower than anticipated	101-170.191-701.140
Overtime	4,100	Higher than anticipated	101-170.191-706.000
FICA	925	Higher than anticipated	101-170.191-714.000
Operating Supplies	-4,000	Lower than anticipated	101-170.191-728.000
Supplies - Nov Election	3,100	Higher than anticipated	101-170.191-728.003
Office Equipment & Furniture	22,300 *	Tabulators	101-170.191-980.000
Treasurer			
Postage	6,000	Higher than anticipated	101-170.253-730.000
WaterShed Management			
Drains at Large	-17,800	Lower than anticipated	101-170.260-842.000
Chapter 20 Drains	-32,850	Lower than anticipated	101-170.260-842.500
Dev. Control - Building Division			
Salaries - Temporary	-2,000	Lower than anticipated	101-300.371-701.080
Health Insurance	4,500	Higher than anticipated	101-300.371-715.000
Flexible Benefit	3,750	Higher than anticipated	101-300.371-715.010
Capital Outlay			
Hardware	-15,000	Lower than anticipated	101-900.901-980.020
Computer Upgrades	-29,000	Lower than anticipated	101-900.901-980.040
Server Upgrades	-14,500	Lower than anticipated	101-900.901-980.050
Rec&Culture			101-750.750-880.000
Recycling Center			
Longevity	1,500	Not budgeted	101-170.277-701.000
Parks and Recreation Admin			
Community Promotion	-$15,000	Lower than anticipated	101-750.753-942.000
Recreation			
Williamston Rec Expenditures	-15,000	Lower than anticipated	101-750.754-882.950
Total Expenditures	-$97,425		
Net to Fund Balance	**$115,925**		

SPECIAL REVENUE FUNDS

Park Millage (208)

Revenue -			
Expenditures - Salaries	$11,000	Higher than anticipated costs - Admin.	208-750.753-701.000
Pension	$3,000	Higher than anticipated costs - Admin.	208-750-753-717.000
Salaries - Temporary	$4,500	Higher than anticipated costs - Harris Nature Center	208-750.756-701.080
Health Insurance	$2,000	Higher than anticipated costs - Harris Nature Center	208-750.756-715.000
Contractual Services	-$3,000	Lower than anticipated - Harris Nature Center	208-750.756-820.000
Utilities-Electric/Gas/Water	$1,500	Higher than anticipated costs - Harris Nature Center	208-750.756-920.000
Longevity	$1,000	Higher than anticipated costs - Park Maintenance	208-750.758-710.000
Healthe Insurance	$8,000	Higher than anticipated costs - Park Maintenance	208-750.758-715.000
Contractual Services	-$6,000	Lower than anticipated costs - Park Maintenance	208-750.758-820.000
Net from Fund Balance	**-$22,000**		

Cable TV Fund (230)

Revenue - Miscellaneous Rev	$3,000	Higher than anticipated	230-000.000-646.000
- Interest	$1,700	Higher than anticipated	230-000.000-665.000
Expenditures - Salaries	$14,000	Higher than anticipated	230-750.806-701.000
- Salaries - Temporary	$8,000	Higher than anticipated	230-750.806-701.080
- Overtime	$500	Higher than anticipated	230-750.806-706.000
- Flexible Benefit	$2,625	Higher than anticipated	230-750.806-715.010
- Legal Fees	$15,000	Higher than anticipated	230-750.806-808.000
- Miscellaneous	$1,300	Higher than anticipated	230-750.806-955.000
- Video Production Equipment	$2,700	Higher than anticipated	230-750.806-980.010
Net from Fund Balance	**-$39,425**		

PUBLIC WORKS FUNDS

Sewer Fund

Revenue -			
Expenditures			
Salaries	14,000	Higher than budgeted - Engineering	590-440.447-701.000
FICA	1,300	Higher than budgeted - Engineering	590-440.447-714.000
Flexible Benefit	600	Higher than budgeted - Engineering	590-440.447-715.000
Pension	2,000	Higher than budgeted - Engineering	590-440.447-717.000
Total Expenditures	$17,900		
Net to Fund Balance	**-$17,900**		

Water Fund

Revenue - Rental Income Antennas	$26,000	Not budgeted	591-000.000-667.100
- Customer Installation	$15,000	Higher than budgeted revenue from Installations	591-000.000-633.000
Expenditures			
Contractual Services	15,000	Higher than budgeted	591-440.537-820.000
Customer Installation - Water	30,000	Higher than budgeted	591-440.537-972.000
Total Expenditures	$45,000		
Net to Fund Balance	**-$4,000**		

* Previously approved by the Township Board

To: **Board Members**

From: **Ronald J. Styka, Township Supervisor**

Date: **December 7, 2018**

Re: **Board and Commission Appointments**

Please see attached list of current incumbent candidates whose terms expire on 12/31/2018. These incumbent candidates have been contacted and wish to be reappointed for an additional term. The Supervisor recommends these reappointments.

The following motions have been prepared for Board consideration:

MOVE TO REAPPOINT MARTHA BASHORE, BERTRICE ELLIS, XAVIER DURAND-HOLLIS, DEBORAH FEDEREAU, CHARLES HAGAN, AND SONYA PENTECOST TO THE BOARD OF REVIEW FOR A 2 YEAR TERM ENDING 12/31/2020.

MOVE TO REAPPOINT JOHN MATUSZAK AND JOYCE VANCOEVERING TO THE BROWNFIELD REDEVELOPMENT AUTHORITY FOR A 3 YEAR TERM ENDING 12/31/2021.

MOVE TO REAPPOINT PETER POTTERPIN, DAVID PREMOE, AND CHARLES WALLIN TO THE BUILDING BOARD OF APPEALS FOR A 3 YEAR TERM ENDING 12/31/2021.

MOVE TO REAPPOINT KEVIN THATCHER TO THE COMMUNICATIONS COMMISSION FOR A 1 YEAR TERM ENDING 12/31/2019.

MOVE TO REAPPOINT CAROLYN AHLBRAND, DONNA KREGELKA, AARON RICHMOND, AND GEORGIA STYKA TO THE COMMUNITY RESOURCE COMMISSION FOR A 2 YEAR TERM ENDING 12/31/2020.

MOVE TO REAPPOINT BARRY GOETZ AND KELLIE JOHNSON TO THE CORRIDOR IMPROVEMENT AUTHORITY FOR A 4 YEAR TERM ENDING 2/1/2023.

MOVE TO REAPPOINT KIRK LAMPHAM AND SUSAN MASTEN TO THE ENVIRONMENTAL COMMISSION FOR A 3 YEAR TERM ENDING 12/31/2021.

MOVE TO REAPPOINT SHAWN DUNHAM AND BRENDA CHAPMAN TO THE ECONOMIC DEVELOPMENT CORPORATION FOR A 6 YEAR TERM ENDING 12/31/2024.

MOVE TO REAPPOINT JAMES DOYLE TO THE LOCAL OFFICIALS COMMISSION FOR A 5 YEAR TERM ENDING 12/31/2023.

MOVE TO APPROVE THE REAPPOINTMENTS MADE BY SUPERVISOR STYKA OF DAVID PREMOE AND GERALD RICHARDS TO THE PLANNING COMMISSION FOR A 3 YEAR TERM ENDING 12/31/2020.

Attachment:

1. 2019 Recommended Appointments

2019 Recommended Reappointments

FIRST NAME	LAST NAME	PUBLIC BODY FULL	TERM EXPIRATION DATE	NEW EXPIRATION DATE
Martha	Bashore	Board of Review- Alternate (2 year term)	12/31/2018	12/31/2020
Bertrice	Ellis	Board of Review-Alternate (2 year term)	12/31/2018	12/31/2020
Xavier	Durand-Hollis	Board of Review (2 year term)	12/31/2018	12/31/2020
Deborah	Federeau	Board of Review (2 year term)	12/31/2018	12/31/2020
Charles	Hagen	Board of Review (2 year term)	12/31/2018	12/31/2020
Sonya	Pentecost	Board of Review (2 year term)	12/31/2018	12/31/2020
John	Matuszak	Brownfield Redevelopment Authority (3 year term)	12/31/2018	12/31/2021
Joyce	Vancoevering	Brownfield Redevelopment Authority (3 year term)	12/31/2018	12/31/2021
Peter	Potterpin	Building Board of Appeals (3 year term)	12/31/2018	12/31/2021
David	Premoe	Building Board of Appeals (3 year term)	12/31/2018	12/31/2021
Charles	Wallin	Building Board of Appeals (3 year term)	12/31/2018	12/31/2021
Kevin	Thatcher	Communications Commission -Alternate (1 year term)	12/31/2018	12/31/2019
Carolyn	Ahlbrand	Community Resources Commission (2 year term)	12/31/2018	12/31/2020
Donna	Kregelka	Community Resources Commission (2 year term)	12/31/2018	12/31/2020
Aaron	Richmond	Community Resources Commission (2 year term)	12/31/2018	12/31/2020
Georgia	Styka	Community Resources Commission (2 year term)	12/31/2018	12/31/2020
Barry	Goetz	Corridor Improvement Authority (4 year term)	2/1/2019	2/1/2023
Kellie	Johnson	Corridor Improvement Authority (4 year term)	2/1/2019	2/1/2023
Shawn	Dunham	Economic Development Corp (6 year term)	12/31/2018	12/31/2024
Brenda	Chapman	Economic Development Corp (6 year term)	12/31/2018	12/31/2024
Kirk	Lampham	Environmental Commission (3 year term)	12/31/2018	12/31/2021
Susan	Masten	Environmental Commission (3 year term)	12/31/2018	12/31/2021
James	Doyle	Local Officials Compensation Commission (5 year term)	12/31/2018	12/31/2023
David	Premoe	Planning Commission (3 year term)	12/31/2018	12/31/2021
Gerald	Richards	Planning Commission (3 year term)	12/31/2018	12/31/2021

To: **Board Members**

From: **Frank L. Walsh, Township Manager**

Date: **December 7, 2018**

Re: **Investigative Services Agreement**

Over the past year Meridian Township has worked diligently to help Nassar survivor Brianne Randall-Gay heal from what occurred in September 2004. We have admitted we failed in 2004 and certainly wished we had the opportunity to rewrite history. What has been, and continues to be, important is healing the wound and bringing closure to Brianne and Meridian Township.

To that end, Brianne has suggested and requested an investigation into the handling of her September 2004 encounter with Nassar and the Meridian Township Police Department. In order for everyone to reach closure, Brianne needs to fully understand the process of the investigation and what should have occurred to stop Nassar. The results of the external investigation will shed more light on closure.

Brianne has selected Ken Ouellette to conduct the investigation. Mr. Ouellette is retired from the East Lansing Police Department and is considered to be an outstanding private investigator in the Lansing region. The proposed contract is attached for your review. We expect the final cost of the investigation to be $3,000-$4,500. If the Township Board chooses to approve the contract, we expect the investigation to be completed in the next 60 days.

I have complete trust in Brianne Randall-Gay. She believes this investigation is a step towards closure, I strongly support the investigation. At the end of the day, the important thing is we respect and honor Brianne.

A motion is prepared for Board consideration:

> **MOVE TO APPROVE THE INVESTIGATIVE SERVICES CONTRACT WITH KENNETH OUELLETTE INVESTIGATIONS L.L.C. AND BRIANNE RANDALL-GAY IN THE AMOUNT OF $3,000 WITH A NOT-TO-EXCEED $4,500.**

Attachment:

1. Investigative Services Agreement

INVESTIGATIVE SERVICES AGREEMENT

This investigative services agreement ("Agreement") is made between Kenneth Ouellette Investigations, L.L.C., a Michigan limited liability company ("Investigator"), Brianne Randall-Gay ("Client"), and the Charter Township of Meridian, Michigan, a Michigan municipal corporation ("Guarantor").

In consideration of the mutual promises and obligations of the parties, it is agreed:

1. *Scope of Work.* Client hereby retains Investigator to provide investigative services which include but are not limited to the drafting of a written investigative summary that may include documents, photographs, videos, interviews, and any other information that the Investigator reasonably believes is germane to the investigation. The scope of Investigator's investigation shall include: a comprehensive review of the facts, circumstances, and actions taken by Guarantor and/or the Meridian Township Police Department in response to Client's incident report to the Meridian Township Police Department in 2004 and to determine whether there was any prior relationship between Guarantor's police investigators and Lawrence "Larry" Nassar that might have clouded or biased Guarantor's police investigators' actions, including an investigation into any other related facts and circumstances that Investigator or Client reasonably believes is necessary to prepare a comprehensive written investigative summary (hereinafter "Investigation").

2. *Initial Payment.* Guarantor agrees to remit $3,000.00 to Investigator as a retainer for its services ("Initial Retainer"). The Initial Retainer shall cover up to 40 hours of work by Investigator.

3. *Additional Retainer.* If Investigator reasonably believes that the Investigation will take more than 40 hours to complete, Investigator shall describe in detail to Client and Guarantor what costs or expenditures it expects to incur to cause Investigator to exceed 40 hours of work. Guarantor agrees to pay Investigator at an hourly rate of $75.00/hour for services provided in excess of 40 hours of work.

4. *Expenditure Limitation.* This Agreement shall not exceed 60 total hours of work. In the event that the Investigation requires more than 60 hours for Investigator to create a comprehensive written investigative summary, Investigator shall provide to Client and Guarantor a written proposal of how much additional time is reasonably expected to conclude the Investigation, and the parties agree to negotiate in good faith on an agreement that will result in a completed Investigation.

5. *Costs.* Guarantor agrees to reimburse Investigator for all costs reasonably incurred in the scope of the Investigation, including but not limited to copying costs to be charged at $0.20/page, postage, and mileage to be charged at $0.50/mile. For costs other than copying costs, postage, or mileage, Investigator shall obtain prior written approval from Guarantor before incurring any such costs.

6. *Guarantor Cooperation and Assistance.* Guarantor agrees to make all employees or agents reasonably necessary for Investigator to complete the Investigation available for interviews upon the written request of the Investigator to the Meridian Township Manager. Guarantor also agrees to provide Investigator with copies of all documents that it has in its possession that are related to the Investigation, including but not limited to incident reports, notes, and any reports pertaining to any external or internal investigation that concerns the events underlying the Investigation. Guarantor agrees to provide Investigator with unredacted copies of any relevant documents to the extent permitted by law. Guarantor is not required to provide Investigator documents that are privileged legal communications and opinions between Guarantor's officials and Guarantor's attorney that were not contemporaneous with the 2004 incident report, but which address issues related to Client's expressed concerns.

7. *Written Investigative Summary*. Upon the conclusion of the Investigation, Investigator shall prepare a written investigative summary of its findings ("Preliminary Summary"). Investigator shall provide the Preliminary Summary to Client. Upon receipt of the Preliminary Summary, Client shall have 7 days to advise Investigator in writing of any additional concerns that merit further investigating pertaining solely to the Scope of Work stated in Paragraph 2 of this Agreement. If Client provides Investigator with additional concerns, Investigator shall promptly investigate those concerns and prepare a final written investigative summary ("Final Summary"). Upon completion of the Final Summary, Investigator shall provide copies of the Final Summary to Client and Guarantor, together with any written materials collected or produced by Investigator in the course of his Investigation. Nothing in this paragraph shall be construed to permit Investigator to exceed the expenditure limitation contained in Paragraph 4 of this Agreement.

8. *Entire Agreement.* This Agreement contains the entire agreement and understanding between the parties, and its terms are intended to be contractual and not merely a recital.

9. *Applicable Law.* This Agreement shall be construed under the laws of the State of Michigan. If any provision of this Agreement, or its application to any person or circumstances, shall to any extent be invalid or unenforceable, the remainder of this Agreement shall not be affected and each provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

10. *Third-Party Beneficiaries.* This Agreement is made solely for the benefit of the parties to this Agreement. Nothing contained in this Agreement shall be deemed to give any person, partnership, joint venture, corporation, limited liability company, governmental entity, or other entity any right to enforce any of the provisions of this Agreement, nor shall any of them be a third-party beneficiary of this Agreement.

11. *Entire Agreement.* This Agreement constitutes the entire agreement of the parties with respect to its subject matter, and it supersedes all prior discussions, negotiations, and communications between the parties.

12. *Amendment.* No provisions of this Agreement shall be amended unless a written amendment is signed by all parties.

13. *Counterparts.* This Agreement may be executed in counterparts, each of which will be deemed to constitute an executed original, even though not all signatures may appear on the same counterpart.

INVESTIGATOR

Dated: _____

/s/_____
Kenneth Ouellette Investigations, L.L.C.
By: Kenneth Ouellette
Its: Member and Authorized Agent

CLIENT

Dated: _____

/s/_____
Brianne Randall-Gay

GUARANTOR

Dated: _____

/s/_____
Charter Township of Meridian
By: Frank L. Walsh
Its: Township Manager

To: **Board Members**

From: **Ronald J. Styka, Township Supervisor**

Date: **December 7, 2018**

Re: **Township Manager Performance Review**

On Monday, December 10, 2018, the Township Board will convene to conduct our annual assessment of the Township Manager. As approved by the Board, we will use the same evaluation tool we used in previous years. The Manager has requested that his review be conducted in closed session. This is allowable, and is in accordance, with the Michigan Open Meetings Act.

The current Manager's contract dictates that we conclude his review by December 1, 2018. Given the volume of issues before us, the Manager granted us a voluntary, indefinite suspension of the contractual language. However, on Tuesday, the Board indicated their preference to complete the review in December.

Motion for Township Board's Consideration:

MOVE TO APPROVE THE 2018 TOWNSHIP MANAGER'S PERFORMANCE REVIEW AS PRESENTED. THE REVIEW DOCUMENT SHALL BE FORWARDED TO THE HUMAN RESOURCE OFFICE FOR PROPER FILING.

Attachments:

1. 2017 Annual Performance Evaluation
2. Evaluation Tool

Meridian Charter Township
January 9, 2018
Annual Performance Evaluation of 2017
Frank L. Walsh
Township Manager

On December 12, 2017, the members of the Meridian Township Board met to evaluate Meridian Township Manager, Frank L. Walsh. Each board member and the manager reviewed and discussed the manager's performance during the 2017 calendar year. After careful review the Board determined that overall Manager Walsh performed his duties in an excellent manner. Indeed, 2017 was in every respect an outstanding year. The Board's determination was based on review of the manager's performance in nine areas.

First, the Board determined that Manager Walsh excelled in providing customer service. He responded in a timely, courteous, and effective manner to the hundreds of annual calls for service received from Meridian residents. Board members determined that he prided himself on providing service to residents, created a culture of excellent customer service, fostered a sense of confidence and cooperation in many township employees, and quickly brought about solutions to problems presented by residents or board members.

Next, the Board determined that Mr. Walsh excelled in planning and problem solving. He anticipated and analyzed problem areas, researched and established alternative solutions, and was skillful in conflict resolution. Board members determined that he watched for signs of problems and took cues from board members and citizens before problems arose. He used innovative thinking and relied on his wealth of experience and fact-finding to resolve conflicts and problems. One example was the resolution of the township's unfunded pension liabilities. He worked to resolve both the immediate problem through a millage increase and the long term problem through renegotiation of retirement clauses in bargaining unity contracts.

Third, the Board determined that the manager far exceeded expectations with regard to interpersonal relations. He cooperated effectively with the governing body, department heads, supervisors, unions, employees and the public. He is empathetic and exhibited tact and sensitivity to the needs of others. He keeps Board members in the loop on all on-going matters. Board members determined that he was very helpful to them on all issues and cooperated very effectively with all constituencies—the board, employees, citizens, and businesses.

Fourth, the Board determined that Mr. Walsh excelled at organization. He demonstrated the ability to arrange work and to respond to conflicting or changing priorities. He maintained orderliness of documentation and assured the effective functioning of township government. Board members noted that he had to deal with many issues and did so in a very efficient and productive manner. In addition, the manager undertook to reorganize significant portions of the township departments and staff, resulting in efficiencies in work product, funds spent, and the timeliness of responses to both day-to-day activities and unusual circumstances. With redevelopment of key commercial areas being one of the Board's highest priorities, he reorganized the development office, hiring a director dedicated to working on development issues, including recruitment and retention of appropriate businesses and residential developments. Along with this, he encouraged the Board to establish a development fund.

Also, the Board determined that Manager Walsh was a strong communicator. He demonstrated the ability to effectively communicate in oral and written form with the governing body, department heads, supervisors, employees, media, other government leaders, and the public. He kept others informed of pertinent information and listed to the positions of others. Board members determined that the manager had outstanding communication skills and excelled in most aspects of this skill. His messages were clear, concise, and easily understood. He kept board

members informed of all aspects of township operations. He made over 25 presentations to the public on the facts behind the need for a police and fire millage, and did so in a clear and convincing manner. This clearly exceeded Board expectations.

Sixth, the Board determined that the manager also excelled in his work attitudes and ethics. He was open and straight-forward, accepted responsibility, responded to direction from the governing body, and conformed to high ethical standards. Board members determined that he was very responsible in responding to board issues, and seemed to always be on the job. It was noted that Mr. Walsh responded to board direction without complaint and accepted responsibility for success and failure. He willingly spent many evenings making community presentations, and did so without complaint. He rarely used sick or vacation time.

Seventh, the Board determined that Manager Walsh was excellent in providing supervision and leadership. He motivated others, effectively assigned work, encouraged employees and gave them the opportunity to increase their skills. Board members determined that Mr. Walsh was an excellent motivator and leader. Under his direction numerous employees received recognition, enhancing morale. Overall, the board found him to be an excellent leader and supervisor.

Next, the Board determined that, with regard to financial management, Mr. Walsh performed in an excellent manner. He accurately and effectively managed financial and material resources, maintained policies in purchasing procedures, materials replacement, equipment, etc. Also, he prioritized expenditures to reflect board policies. The budget process was very straight forward. Under Mr. Walsh's leadership the fund balance increased, allowing the board to approve one-time additional expenditures on roads and solar infrastructure.

Ninth, the Board determined that the manager performed excellently, as he worked to accomplish the township's goals. He focused on efforts to accomplish the goals and needs as outlined by the board, effectively working as a team player. The board appreciated the accomplishments that had occurred under Mr. Walsh's leadership. He led staff to work toward goal completion, with many being completed and significant progress being made on others. The manager was a team player and team leader, but deferred to the board's wishes on matters. The Board's highest goal, resolving the unfunded pension liabilities, was met in an outstanding manner.

In conclusion, the township board determined that Manager Frank Walsh is an excellent township manager. The consensus of the Board was that he was excellent in all phases of township governance. His insights and calm discernment of solutions to problems are to be envied. He cares about his job and about the community and its citizens, and takes pride in his work. His devotion to outstanding customer service gave the township government a reputation for caring about all of its citizens. In a year with difficult challenges, he was able to continue his focus on sustainability and stability, so that all programs and services of the township continued at a high level, even as the difficult tasks were being accomplished. It was observed that Meridian could not find a better manager than Frank Walsh.

Ronald J. Styka, Supervisor
On behalf of the Township Board

Frank L. Walsh, Township Manager

Date Jan 11, 2018

Ronald J. Styka, Township Supervisor

Date 1-23-18

Meridian Township
ANNUAL PERFORMANCE REVIEW
2018

Employee: Frank L. Walsh **Date: December 2018**

Title: Township Manager **Evaluated By: Township Board**

Please rate the Manager's performance in the following key areas:

1. CUSTOMER SERVICE: Responds in a timely, courteous and effective manner to the hundreds of annual calls for service received from Meridian Township residents.

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

2. PLANNING/PROBLEM SOLVING: Anticipates and/or analyzes problem areas; researches and establishes alternative solutions; makes sound decisions; is skillful in conflict resolution.

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

3. INTERPERSONAL RELATIONS: Cooperates effectively with governing body, department heads, supervisors, unions, employee relations and/or the public; exhibits tact and sensitivity to the needs of others.

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

4. ORGANIZATION: Ability to arrange work and to respond to conflicting or changing priorities; ability to maintain orderliness of documentation and to assure effective functioning of Township government.

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

5. COMMUNICATION: Ability to effectively communicate, in oral and written form, with governing body, department heads, supervisors, employees, media, other government leaders and/or the public; ability to keep others informed of pertinent information; ability to listen to the position of others.

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

6. WORK ATTITUDES/ETHICS: Is open and straight-forward; accepts responsibility; responds to direction of the governing body; conforms to high ethical standards.

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

7. SUPERVISION/LEADERSHIP: Ability to motivate others; effectively assigns work to others; encourages and affords the opportunity to employees to increase skills.

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

8. FINANCIAL MANAGEMENT: Accurately and effectively manages financial and material resources; maintains policies in purchasing procedures, materials replacement; equipment, etc. Prioritizes expenditures to reflect Board policies.

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

9. TOWNSHIP GOALS AND ACCOMLISHMENTS: Has the ability to focus efforts to accomplish Township goals and needs as outlined by the Board, able to effectively work as a team player.

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

10. OVERALL PERFORMANCE FOR 2016:

☐ **Unacceptable** ☐ **Needs Improvement** ☐ **Meets Expectations** ☐ **Exceeds Expectations** ☐ **Excellent**

Comments:

_____

_____

NARRATIVE COMMENTS:

_____

_____

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_____

GOALS AND OBJECTIVES:

_____

_____

_____

_____

_____

_____

_____ _____

Township Board Member Date

_____ _____

Ronald J. Styka, Township Supervisor Date

To: **Board Members**

From: **Ronald J. Styka, Township Supervisor**

Date: **December 7, 2018**

Re: **Township Manager Contract Extension**

Following the Manager's performance review on Monday evening, the Township Board will reconvene to open session for contractual discussions. The current employment agreement with the Township Manager expires in one year. If the Board, and the Manager, chooses to extend the contract, we will act on Tuesday evening. If there is not a mutual agreement to extend the contract, the item will be removed from the Board's agenda.

Given the December 1, 2018 contractual deadline, I hope we can accomplish both the 2018 performance review and contractual extension on Monday night.

Motion for Township Board's Consideration:

MOVE TO APPROVE EXTENDING THE TOWNSHIP MANAGER'S CONTRACT AS PRESENTED ON TUESDAY EVENING.

Attachment:

1. Current Township Manager Contract

EMPLOYMENT AGREEMENT

This AGREEMENT made on the date affixed by the parties below, between the CHARTER TOWNSHIP OF MERIDIAN, County of Ingham, State of Michigan (hereinafter referred to as the "Employer"), and Frank L. Walsh (hereinafter referred to as the "Township Manager").

RECITALS

WHEREAS, the Township Board has appointed Frank L. Walsh as Township Manager of the Charter Township of Meridian; and

WHEREAS, it is the desire of the Township Board to provide certain benefits, establish certain conditions of employment, and to set working conditions for the Township Manager; and

WHEREAS, the Township Manager desires to accept the appointment as Township Manager under the provisions as set forth herein.

IT IS AGREED as follows:

1. Appointment and Duties. The Employer hereby agrees to appoint Frank L. Walsh as Township Manager of the Charter Township of Meridian to perform the functions and duties specified in paragraphs (a) through (o) inclusive of Section 10 of the Charter Townships Act (MCL 42.10; MSA 5.46[10]), and to perform such other legally permissible and proper duties and functions as the Township Board shall from time to time assign. The Township Board reserves the unilateral right to add to, amend, modify, or withdraw any and all of the delegated and assigned functions and duties. The Township Manager accepts such appointment on the terms and conditions of this Agreement.

2. Term. The original term of this Agreement will begin on January 9, 2018 and end on January 7, 2020.

Prior to December 1 of each year, the Employer or its authorized representative(s) shall meet with the Township Manager, and the parties shall review such

information as they deem relevant. The Employer may extend this Agreement for a successor year with any modifications to which the parties mutually agree.

Failure to renew or extend this Agreement or any successor Agreement at the end of its term shall obligate the Employer to pay to the Township Manager a Severance Settlement as specified and defined in Section 7 of this Agreement, but shall give the Township Manager no other right or claim. Failure to renew or extend this or any successor Agreement shall not be considered a breach hereof or a termination with or without cause, nor give rise to any cause of action which may be arbitrated under the terms of this Agreement or adjudicated in any court of law, tribunal or administrative agency.

3. Extent of Services.

A. Best Efforts. Except as provided in Section 3.8., the Township Manager shall devote his entire time, attention, and energies to the Employer's business and shall not, during the term of this Agreement, be engaged in any other employment or business activity, whether or not pursued for gain, profit, or pecuniary advantage, without the express prior written consent of the Township Board. The Township Manager also shall not engage in any activity which conflicts or interferes with the performance of his duties as specified in this Agreement and as directed by the Employer or any of its agents as described in Section 1 above.

B. Other Activities. The Township Manager may, with prior written consent of the Township Board, teach, write or engage in similar or related activities which do not interfere with, but rather enhance, the Township Manager's performance of the duties and functions required under this Agreement.

4. Salary. The Employer shall pay the Township Manager for all services rendered pursuant to this Agreement calculated at an annual rate of $117,565. The Township Manager's salary shall be payable in installments at the same time and in the same manner as other employees of the Township are paid.

5. Benefits. The Employer shall provide the Township Manager with the following benefits:

A. Pension. The Township Manager shall be included in the Township Employee's Pension Plan ("Plan") ICMA-RC Money Purchase Plan pursuant to the terms of the Plan. The Township shall provide 12% of the Manager's base salary into the pension plan.

B. Deferred Compensation. The Employer shall provide the Township Manager a mutually agreeable mechanism for deferred compensation, such as the International City Management Association-Retirement Corporation ("ICMA-RC"), for the Township Manager's participation. In addition to the Township Manager's salary, the Employer shall make an annual contribution of 1.5% of the annual salary annually to the Township Manager's account.

C. Automobile. The Employer will provide the Township Manager an automobile for the Township Manager's unlimited use for official purposes and unlimited use for personal purposes. The personal use shall be reported as required by IRS regulations and the Township Manager shall pay any required taxes for such personal use. The Employer shall have the option of selecting the automobile to be provided to the Township Manager. The Employer shall be responsible to pay for or provide maintenance expenses, gas, oil and insurance coverage for the automobile. The Township Manager may choose to receive a monthly car allowance of $800.00 in lieu of the automobile, maintenance, gas, oil and insurance expenses as compensation for all business miles driven within a 50 mile radius of the Township Municipal Building.

D. Professional Activities, Conferences, and Training. The Employer recognizes that the Township Manager's participation in municipal and professional activities, conferences, and training is mutually beneficial. The Employer will provide as budgeted, funds for the Township Manager to participate in a minimum of one

professional conference per year. Such funds shall be available for the activities of the Township Manager only. This provision shall supersede Section 25 of the "Personnel Policy" of the Charter Township of Meridian adopted March 24, 1992, as revised.

E. Vacation. On January 2 of each year beginning 2018, the Township Manager shall receive twenty-eight (28) days of vacation. The Township Manager shall not be paid for more than forty (40) vacation days upon separation of employment. The Township Manager shall use a minimum of fifteen (15) days per year, and is encouraged to use all vacation days each year.

F. Life Insurance. The Township shall reimburse the Township Manager for an annual life insurance policy with a maximum premium of $1,000 per year.

G. The parties hereby adopt and incorporate by reference the following sections of the "Personnel Policy" of the Charter Township of Meridian as amended, or an adopted successor policy, which shall apply to the Township Manager.

(1) Section 12 "Benefits."

(2) Section 12.1 "Health and Hospitalization Insurance."

(3) Section 12.3 "Life Insurance."

(4) Section 12.4 "Accidental Death and Dismemberment."

(5) Section 12.5 "Accident and Sickness Income."

(6) Section 12.6 "Workers' Compensation ."

(7) Section 12.7 "Sick Leave."

(8) Section 12.8 "Funeral Leave."

(9) Section 12.9 "Personal Leave Days."

(10) Section 12.11 "Family and Medical Leave Act."

(11) Section 12.12 "Holiday Provisions."

(12) Section 12.14 "Jury Duty."

(13) Section 12.15 "Longevity."

(14) Section 12.17 "Act of God Days."

(15) Any other benefits to which the parties shall subsequently mutually agree in writing, and as approved by the Township Board at a Board Meeting.

For purposes of this Agreement, all applicable sections of the Township Personnel Policy shall be modified by inserting the term "Township Board" for the terms "Township Manager", "Department Head", or "Supervisor" as appropriate.

6. Nature of Employment. The Parties recognize that the Township Manager serves at the pleasure of the Township Board and that the Township Manager is an at-will employee. The Employer may terminate the appointment of the Township Manger for any reason, with or without cause, at any time, either by refusing to extend this Agreement or a successor Agreement, or at any time during the term of this or any successor Agreement, subject to the terms of Section 7, "Severance Settlement", set forth below.

7. Severance Settlement. In the event the Township Board exercises its sole and exclusive right to terminate the Township Manager's at-will appointment, the Employer shall pay to the Township Manager a lump-sum severance settlement, equal to twelve (12) months' salary at the Township Manager's then-current salary (hereinafter the "Severance Settlement"), or within the Employer's discretion pay twelve (12) month salary continuation, plus any payments then due and owing to the Township Manager for accumulated and unused sick leave pursuant to Section 12.7 of the Township Personnel Policy, and any accumulated but unused vacation leave pursuant to Section 12.13 of the Township Personnel Policy. All Severance Settlement sums shall be reduced by applicable taxes or withholdings as required by law. The Manager shall also receive twelve (12) months continued health care coverage at the level he was receiving at the time of termination.

8. Termination of Appointment for Gross Misconduct or Disability. The Township Manager's appointment may be terminated immediately and without Section 7 severance pay requirements by the Employer for "gross misconduct" as defined herein and shall terminate on the

date of occurrence in the event of "disability" of the Township Manager, as defined herein. Written notice of alleged gross misconduct shall be provided to the Township Manager and he shall be given an opportunity to respond to such charges.

A. Termination for Gross Misconduct. In the event of a termination of the Township Manager's appointment pursuant to this Section, no Severance Settlement payment shall be due to the Township Manager, but the Township Manager shall be entitled to receive only accrued but unused sick and vacation leave as specified in Section 7.

In the event the Township Manager's appointment is terminated by the Employer for gross misconduct, the Township Manager shall be paid his salary until the date of termination. Upon termination, all payments including the Township Manager's salary and all other benefits (except as may be required by law) shall there upon cease.

B. Definition of Gross Misconduct. As used in this Agreement, the term "gross misconduct" includes but is not limited to: (I) theft, dishonesty or fraud; (ii) an illegal act reflecting negatively on the Employer or relating to or affecting the Township Manager's duties or responsibilities to the Employer; (iii) grossly negligent failure to perform duties; (iv) intentional and material misrepresentation to the Employer; or (v) grossly deficient performance or gross failure to perform duties following written notice to the Township Manager that his performance has been deficient or that he had failed to perform his duties as specified.

C. Definition of Disability. As used in this Agreement, "disability" shall mean a physical or mental illness, injury, incompetency or incapacity, including alcoholism or drug addiction, which renders the Township Manager incapable of performing the services required of the Township Manager. Such definition shall include the definition as defined in the Township's insurance policy. Determination of disability and the date upon which it is deemed to have occurred shall be made by a physician who is acceptable to both the Employer and Township Manager. Such determination shall be binding on all parties to this Agreement. In the event the Employer and Township Manager do not agree upon a physician they shall each name a physician and the two physicians shall name a third physician who shall conduct the examination and make the determination as to whether the Township Manager is suffering a disability.

9. Resignation/Salary Reduction. In the event the Township Manager terminates his appointment pursuant to this Agreement by voluntary resignation in writing, the Township Manager shall not be entitled to any Severance Settlement as provided in Section 7 of this Agreement, except that a resignation submitted at the written request of a majority of the Township Board shall entitle the Township Manager to receive a Severance Settlement pursuant to Section 7 of this Agreement. The Township Manager shall give the Employer at least sixty (60) days prior written notice of his intent to voluntarily resign from his appointment, unless the parties agree otherwise in writing. If the Township Manager provides such notice, the Township Manager shall be eligible to receive pay for all accrued and unused sick leave and vacation leave pursuant to the applicable provisions of the Township Personnel Policy. If the Township Manager fails to provide written notice as required herein, the Township Manager shall forfeit any right or claim to any accrued sick or vacation leave or other benefits. Any reduction in the Township Manager's salary by a percentage greater than any average across-

the-board reduction for other employees may be considered a termination by the Township Manager and the Township Manager shall, upon submission of his written resignation giving notice as required in this Section, then be entitled to a Severance Settlement as specified in Section 7 of this Agreement.

10. Evaluations. The Employer shall conduct an annual evaluation of the Township Manager in a manner satisfactory to the Employer. The Township Manager shall assist in developing goal-based evaluation forms and an evaluation process subject to the sole approval of the Employer. The evaluation shall be completed and furnished to the Township Manager prior to December 1 of each year. The Township Manager shall have the right to file a written response to any written evaluation provided by the Employer. Such evaluation shall not alter or affect the nature of the Township Manager's at-will appointment status or any other term of this Agreement, including but not limited to, the Employer's rights under the "Term" or "Termination" provisions of this Agreement, shall not cause or require the Employer to extend or renew this Agreement or any extension of this Agreement, and shall not give rise to any right of the Township Manager to reply upon or enforce the terms of such evaluation with respect to job tenure, salary, benefits or any other reason or purpose.

11. Residency. The Township Manager shall maintain residency in the Township throughout his term of appointment.

12. Township Manager's Obligations under Township Personnel Policy. The parties hereby adopt and incorporate by reference the following sections of the Township Personnel Policy with respect to the Township Manager's obligations to the Employer. For the purposes of this Agreement, all sections of the Township Personnel Policy adopted by reference shall be modified by inserting the term "Township Board" for the terms "Superintendent" "Department Head", or "Supervisor" as appropriate.

Adoption of these provisions shall be in addition to all other duties and obligations of the Township Manager to the Employer as set forth in this Agreement and as imposed by the Employer:

A Section 4.6 "Physical Examination."

B. Section 20 "Care and Control of Property."

C. Section 21 "Ethics."

D. Section 3 "Policy on Non-Discrimination and Harassment."

E. Section 22 "Smoking Policy."

F. Section 23 "Conferences and Workshops."

G. Section 25 "Political Activities."

H. Section 24 "Substance Abuse."

13. Other Terms and Conditions of Employment. The Township shall fix any other terms and conditions of the Township Manager appointment, as it may determine from time to time, provided such terms and conditions are not inconsistent with or in conflict with the provisions of this Agreement.

14. Assignment. The Township Manager acknowledges that the services to be rendered by him are unique and personal. The Township Manager shall temporarily appoint one Department Director as Acting Township Manager during periods of vacation, sick leave, or other short term leave periods. The Township Board may, at its discretion, choose an alternative person to perform the duties of Acting Township Manager.

15. Arbitration. Any controversy or claim arising out of, or relating to Section 8 of this Agreement, shall be settled by final and binding arbitration in the County of Ingham, State of Michigan, in accordance with the then applicable rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator may be entered and enforced in any court having jurisdiction.

The arbitrator, if he/she should determine that termination of the Township Manager was not for gross misconduct, shall be limited, by way of remedy, to issuing a monetary award not to exceed the Township Manager's Severance Settlement, and shall have no power of reinstatement. In the event the arbitrator determines that termination of the Township Manager was for gross misconduct, the arbitrator shall have no power to modify the termination or otherwise substitute his/her judgment for that of the Employer.

16. Waiver of Breach. The waiver by the Employer or any of its agents of a breach of any provision of this Agreement by the Township Manager shall not operate or be construed as a waiver of any subsequent breach by the Employer. No waiver shall be valid unless it is in writing and signed by the Township Board.

17. Situs. This Agreement shall be governed by and construed according to the laws of the State of Michigan.

18. Severability. The invalidity or unenforceability of any provision, or a portion thereof, of this Agreement, shall not affect the validity or enforceability of any other provision or portion thereof. Should a provision, or portion thereof, be deemed invalid or unenforceable and later be deemed valid or enforceable, the parties hereto agree that such provision shall be deemed revived and in full force and effect in this Agreement.

19. Section Headings. Section and other headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

20. Entire Agreement. This Agreement constitutes the entire agreement between the parties respecting the appointment of the Township Manager, and there are no representations, warranties, or commitments between the parties, except as set forth herein. The terms of this Agreement shall prevail over any conflicting document, except the Meridian Township Employee's Pension Plan and in that case the Plan document shall control over any conflicting language in this Agreement.

21. Modification. Except where the Employer has reserved the right of unilateral amendment, this Agreement may be amended or modified only by written instrument intended as such executed by the parties.

IN WITNESS WHEREOF, the Charter Township of Meridian, through its Township Board, has caused this Agreement to be signed and executed in its behalf by its Supervisor and Clerk, and the Township Manager has signed and executed this Agreement on the 11th day of January 2018.

WITNESSES:

Michelle Prins

Michelle Prins

Michelle Prins

EMPLOYER CHARTER TOWNSHIP OF MERIDIAN

By: Ronald J. Styka, Supervisor

By: Brett Dreyfus, Clerk

By: Frank L. Walsh, Township Manager

EMPLOYMENT AGREEMENT

This AGREEMENT made on the date affixed by the parties below, between the CHARTER TOWNSHIP OF MERIDIAN, County of Ingham, State of Michigan (hereinafter referred to as the "Employer"), and Frank L. Walsh (hereinafter referred to as the "Township Manager").

RECITALS

WHEREAS, the Township Board has appointed Frank L. Walsh as Township Manager of the Charter Township of Meridian; and

WHEREAS, it is the desire of the Township Board to provide certain benefits, establish certain conditions of employment, and to set working conditions for the Township Manager; and

WHEREAS, the Township Manager desires to accept the appointment as Township Manager under the provisions as set forth herein.

IT IS AGREED as follows:

1. Appointment and Duties. The Employer hereby agrees to appoint Frank L. Walsh as Township Manager of the Charter Township of Meridian to perform the functions and duties specified in paragraphs (a) through (o) inclusive of Section 10 of the Charter Townships Act (MCL 42.1O; MSA 5.46[1O]), and to perform such other legally permissible and proper duties and functions as the Township Board shall from time to time assign. The Township Board reserves the unilateral right to add to, amend, modify, or withdraw any and all of the delegated and assigned functions and duties. The Township Manager accepts such appointment on the terms and conditions of this Agreement.

2. Term. The original term of this Agreement will begin on ~~January 9~~, ~~2018~~ December 11, 2018 and end on ~~January 7, 2020~~ December 31, 2021.

Prior to December ~~1~~ 31 of each year, the Employer or its authorized representative(s) shall meet with the Township Manager, and the parties shall review such

information as they deem relevant. The Employer may extend this Agreement for a successor year with any modifications to which the parties mutually agree.

Failure to renew or extend this Agreement or any successor Agreement at the end of its term shall obligate the Employer to pay to the Township Manager a Severance Settlement as specified and defined in Section 7 of this Agreement, but shall give the Township Manager no other right or claim. Failure to renew or extend this or any successor Agreement shall not be considered a breach hereof or a termination with or without cause, nor give rise to any cause of action which may be arbitrated under the terms of this Agreement or adjudicated in any court of law, tribunal or administrative agency.

3. Extent of Services.

A. Best Efforts. Except as provided in Section 3.8., the Township Manager shall devote his entire time, attention, and energies to the Employer's business and shall not, during the term of this Agreement, be engaged in any other employment or business activity, whether or not pursued for gain, profit, or pecuniary advantage, without the express prior written consent of the Township Board. The Township Manager also shall not engage in any activity which conflicts or interferes with the performance of his duties as specified in this Agreement and as directed by the Employer or any of its agents as described in Section 1 above.

B. Other Activities. The Township Manager may, with prior written consent of the Township Board, teach, write or engage in similar or related activities which do not interfere with, but rather enhance, the Township Manager's performance of the duties and functions required under this Agreement. The Township Board acknowledges that Township Manager is authorized to conduct up to ~~three~~ four managerial searches per calendar year. The Township Manager shall notify the Township Supervisor of each search process.

4. Salary. The Employer shall pay the Township Manager for all services rendered pursuant to this Agreement calculated at an annual rate of ~~$117,565~~ $130,000. The Township Manager's salary shall be payable in installments at the same time and in the same

manner as other employees of the Township are paid.

5. Benefits. The Employer shall provide the Township Manager with the following benefits:

A. Pension. The Township Manager shall be included in the Township Employee's Pension Plan ("Plan") ICMA-RC Money Purchase Plan pursuant to the terms of the Plan. The Township shall provide ~~12~~ 15% of the Manager's base salary into the pension plan.

B. Deferred Compensation . The Employer shall provide the Township Manager a mutually agreeable mechanism for deferred compensation, such as the International City Management Association-Retirement Corporation ("ICMA-RC"), for the Township Manager's participation. In addition to the Township Manager's salary, the Employer shall make an annual contribution of 1.5% of the annual salary annually to the Township Manager's account.

C. Automobile. The Employer will provide the Township Manager an automobile for the Township Manager's unlimited use for official purposes and unlimited use for personal purposes. The personal use shall be reported as required by IRS regulations and the Township Manager shall pay any required taxes for such personal use. The Employer shall have the option of selecting the automobile to be provided to the Township Manager. The Employer shall be responsible to pay for or provide maintenance expenses, gas, oil and insurance coverage for the automobile. The Township Manager may choose to receive a monthly car allowance of $800.00 in lieu of the automobile, maintenance, gas, oil and insurance expenses as compensation for all business miles driven within a 50 mile radius of the Township Municipal Building.

D. Professional Activities, Conferences, and Training. The Employer recognizes that the Township Manager's participation in municipal and professional activities, conferences, and training is mutually beneficial. The Employer will provide as budgeted, funds for the Township Manager to participate in a minimum of one professional conference per year. Such funds shall be available for the activities of the Township Manager only. This

provision shall supersede Section 25 of the "Personnel Policy" of the Charter Township of Meridian adopted March 24, 1992, as revised.

E. Vacation. On January 2 of each year beginning 2018, the Township Manager shall receive twenty-eight (28) days of vacation. The Township Manager shall not be paid for more than forty (~~40~~) (50) vacation days upon separation of employment. The Township Manager shall use a minimum of fifteen (15) days per year, and is encouraged to use all vacation days each year.

F. Life Insurance. The Township shall reimburse the Township Manager for an annual life insurance policy with a maximum premium of $1,000 per year.

G. The parties hereby adopt and incorporate by reference the following sections of the "Personnel Policy" of the Charter Township of Meridian as amended, or an adopted successor policy, which shall apply to the Township Manager.

(1) Section 12 "Benefits."

(2) Section 12.1 "Health and Hospitalization Insurance."

(3) Section 12.3 "Life Insurance."

(4) Section 12.4 "Accidental Death and Dismemberment."

(5) Section 12.5 "Accident and Sickness Income."

(6) Section 12.6 "Workers' Compensation ."

(7) Section 12.7 "Sick Leave."

(8) Section 12.8 "Funeral Leave."

(9) Section 12.9 "Personal Leave Days."

(10) Section 12.11 "Family and Medical Leave Act."

(11) Section 12.12 "Holiday Provisions."

(12) Section 12.14 "Jury Duty."

(13) Section 12.15 "Longevity."

(14) Section 12.17 "Act of God Days."

(15) Any other benefits to which the parties shall subsequently mutually agree in writing, and as approved by the Township Board at a Board Meeting.

For purposes of this Agreement, all applicable sections of the Township Personnel Policy shall be modified by inserting the term "Township Board" for the terms "Township Manager", "Department Head", or "Supervisor" as appropriate.

6. Nature of Employment. The Parties recognize that the Township Manager serves at the pleasure of the Township Board and that the Township Manager is an at-will employee. The Employer may terminate the appointment of the Township Manger for any reason, with or without cause, at any time, either by refusing to extend this Agreement or a successor Agreement, or at any time during the term of this or any successor Agreement, subject to the terms of Section 7, "Severance Settlement", set forth below.

7. Severance Settlement. In the event the Township Board exercises its sole and exclusive right to terminate the Township Manager's at-will appointment, the Employer shall pay to the Township Manager a lump-sum severance settlement, equal to twelve (12) months' salary at the Township Manager's then-current salary (hereinafter the "Severance Settlement"), or within the Employer's discretion pay twelve (12) month salary continuation, plus any payments then due and owing to the Township Manager for accumulated and unused sick leave pursuant to Section 12.7 of the Township Personnel Policy, and any accumulated but unused vacation leave pursuant to Section 12.13 of the Township Personnel Policy. All Severance Settlement sums shall be reduced by applicable taxes or withholdings as required by law. The Manager shall also receive twelve (12) months continued health care coverage at the level he was receiving at the time of termination.

8. Termination of Appointment for Gross Misconduct or Disability. The Township Manager's appointment may be terminated immediately and without Section 7 severance pay requirements by the Employer for "gross misconduct" as defined herein and shall terminate on the date of occurrence in the event of "disability" of the Township Manager, as defined herein. Written notice of alleged gross misconduct shall be provided to the Township Manager and he shall be given

an opportunity to respond to such charges.

A. Termination for Gross Misconduct. In the event of a termination of the Township Manager's appointment pursuant to this Section, no Severance Settlement payment shall be due to the Township Manager, but the Township Manager shall be entitled to receive only accrued but unused sick and vacation leave as specified in Section 7.

In the event the Township Manager's appointment is terminated by the Employer for gross misconduct, the Township Manager shall be paid his salary until the date of termination. Upon termination, all payments including the Township Manager's salary and all other benefits (except as may be required by law) shall there upon cease.

B. Definition of Gross Misconduct. As used in this Agreement, the term "gross misconduct" includes but is not limited to: (I) theft, dishonesty or fraud; (ii) an illegal act reflecting negatively on the Employer or relating to or affecting the Township Manager's duties or responsibilities to the Employer; (iii) grossly negligent failure to perform duties; (iv) intentional and material misrepresentation to the Employer; or (v) grossly deficient performance or gross failure to perform duties following written notice to the Township Manager that his performance has been deficient or that he had failed to perform his duties as specified.

C. Definition of Disability. As used in this Agreement, "disability" shall mean a physical or mental illness, injury, incompetency or incapacity, including alcoholism or drug addiction, which renders the Township Manager incapable of performing the services required of the Township Manager. Such definition shall include the definition as defined in the Township's insurance policy. Determination of disability and the date upon which it is deemed to have occurred shall be made by a physician who is acceptable to both the Employer and Township Manager. Such determination shall be binding on all parties to this Agreement. In the event the Employer and Township Manager do not agree upon a physician they shall each name a physician and the two physicians shall name a third

physician who shall conduct the examination and make the determination as to whether the Township Manager is suffering a disability.

9. Resignation/Salary Reduction. In the event the Township Manager terminates his appointment pursuant to this Agreement by voluntary resignation in writing, the Township Manager shall not be entitled to any Severance Settlement as provided in Section 7 of this Agreement, except that a resignation submitted at the written request of a majority of the Township Board shall entitle the Township Manager to receive a Severance Settlement pursuant to Section 7 of this Agreement. The Township Manager shall give the Employer at least sixty (60) days prior written notice of his intent to voluntarily resign from his appointment, unless the parties agree otherwise in writing. If the Township Manager provides such notice, the Township Manager shall be eligible to receive pay for all accrued and unused sick leave and vacation leave pursuant to the applicable provisions of the Township Personnel Policy. If the Township Manager fails to provide written notice as required herein, the Township Manager shall forfeit any right or claim to any accrued sick or vacation leave or other benefits. Any reduction in the Township Manager's salary by a percentage greater than any average across-the-board reduction for other employees may be considered a termination by the Township Manager and the Township Manager shall, upon submission of his written resignation giving notice as required in this Section, then be entitled to a Severance Settlement as specified in Section 7 of this Agreement.

10. Evaluations. The Employer shall conduct an annual evaluation of the Township Manager in a manner satisfactory to the Employer. The Township Manager shall assist in developing goal-based evaluation forms and an evaluation process subject to the sole approval of the Employer. The evaluation shall be completed and furnished to the Township Manager prior to December ~~1~~ 31 of each year. The Township Manager shall have the right to file a written response to any written evaluation provided by the Employer. Such evaluation shall not alter or affect the nature of the Township Manager's at-

will appointment status or any other term of this Agreement, including but not limited to, the Employer's rights under the "Term" or "Termination" provisions of this Agreement, shall not cause or require the Employer to extend or renew this Agreement or any extension of this Agreement, and shall not give rise to any right of the Township Manager to reply upon or enforce the terms of such evaluation with respect to job tenure, salary, benefits or any other reason or purpose.

~~11. Residency. The Township Manager shall maintain residency in the Township throughout his term of appointment.~~

12. Township Manager's Obligations under Township Personnel Policy. The parties hereby adopt and incorporate by reference the following sections of the Township Personnel Policy with respect to the Township Manager's obligations to the Employer. For the purposes of this Agreement, all sections of the Township Personnel Policy adopted by reference shall be modified by inserting the term "Township Board" for the terms "Superintendent" "Department Head", or "Supervisor" as appropriate.

Adoption of these provisions shall be in addition to all other duties and obligations of the Township Manager to the Employer as set forth in this Agreement and as imposed by the Employer:

A Section 4.6 "Physical Examination."

B. Section 20 "Care and Control of Property."

C. Section 21 "Ethics."

D. Section 3 "Policy on Non-Discrimination and Harassment."

E. Section 22 "Smoking Policy."

F. Section 23 "Conferences and Workshops."

G. Section 25 "Political Activities."

H. Section 24 "Substance Abuse."

13. Other Terms and Conditions of Employment. The Township shall fix any other

terms and conditions of the Township Manager appointment, as it may determine from time to time, provided such terms and conditions are not inconsistent with or in conflict with the provisions of this Agreement.

14. Assignment. The Township Manager acknowledges that the services to be rendered by him are unique and personal. The Township Manager shall temporarily appoint one Department Director as Acting Township Manager during periods of vacation, sick leave, or other short term leave periods. The Township Board may, at its discretion, choose an alternative person to perform the duties of Acting Township Manager.

15. Arbitration. Any controversy or claim arising out of, or relating to Section 8 of this Agreement, shall be settled by final and binding arbitration in the County of Ingham, State of Michigan, in accordance with the then applicable rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator may be entered and enforced in any court having jurisdiction.

The arbitrator, if he/she should determine that termination of the Township Manager was not for gross misconduct, shall be limited, by way of remedy, to issuing a monetary award not to exceed the Township Manager's Severance Settlement, and shall have no power of reinstatement. In the event the arbitrator determines that termination of the Township Manager was for gross misconduct, the arbitrator shall have no power to modify the termination or otherwise substitute his/her judgment for that of the Employer.

16. Waiver of Breach. The waiver by the Employer or any of its agents of a breach of any provision of this Agreement by the Township Manager shall not operate or be construed as a waiver of any subsequent breach by the Employer. No waiver shall be valid unless it is in writing and signed by the Township Board.

17. Situs. This Agreement shall be governed by and construed according to the laws of the State of Michigan.

18. Severability. The invalidity or unenforceability of any provision, or a portion thereof of this Agreement, shall not affect the validity or enforceability of any other provision or

portion thereof. Should a provision, or portion thereof, be deemed invalid or unenforceable and later be deemed valid or enforceable, the parties hereto agree that such provision shall be deemed revived and in full force and effect in this Agreement.

19. Section Headings. Section and other headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

20. Entire Agreement. This Agreement constitutes the entire agreement between The parties respecting the appointment of the Township Manager, and there are no representations, warranties, or commitments between the parties, except as set forth herein. The terms of this Agreement shall prevail over any conflicting document, except the Meridian Township Employee's Pension Plan and in that case the Plan document shall control over any conflicting language in this Agreement.

21. Modification. Except where the Employer has reserved the right of unilateral amendment, this Agreement may be amended or modified only by written instrument intended as such executed by the parties.

IN WITNESS WHEREOF, the Charter Township of Meridian, through its Township Board, has caused this Agreement to be signed and executed in its behalf by its Supervisor and Clerk, and the Township Manager has signed and executed this Agreement on the_____day of December 2018.

WITNESSES:

_____

_____

_____

EMPLOYER CHARTER TOWNSHIP OF MERIDIAN

_____
By: Ronald J. Styka, Supervisor

_____
By: Brett Dreyfus, Clerk

_____
By: Frank L. Walsh, Township Manager

13.B

To: **Township Board**

From: **Mark Kieselbach, Director of Community Planning and Development**

Date: **December 6, 2018**

Re: **Medical Marihuana Non- Zoning Ordinance**

The Township attorney has reviewed the draft non-zoning ordinance and has provided the following suggested changes:

Number of Permits

Two alternatives were provided regarding the number and location of provisioning Centers.

- The first alternative would allow bonus provisioning centers in some overlay areas. This alternative may require pulling additional provisioning center lottery names because the location of approved provisioning centers would impact the number of available permits.

- The second alternative limits the number of provisioning centers in each overlay area.

Application/Review Criteria

- It is unclear if LARA issues any "official paperwork" for the prequalification stage.

- Residency requirement is six months but could be changed to one year.

- A form agreement would need to be drafted limiting the transfer of the Permit for 30 months.

- A date certain for accepting applications each year is suggested.

Conditional Approval

- The Director of Community Planning and Development would issue a conditional approval for a complete application.

Certificate of Completion

- Certificate of Completion is awarded by lottery to an administratively complete application and allows the application to move to the special use permit process.
- The Planning Commission would review and approve a special use permit under its normal procedures.
- If limitations or bonus permits for overlay areas are allowed then the order which those special use permits will be reviewed and granted will need to be addressed.
- The lottery may need to be restricted to additionally sort applications by overlay area to determine not only who gets a permit but where they can operate.
- There could be 16 lotteries (6 for provisioning centers, 6 for growers and 4 for the other type of facilities) and up to 36 lotteries if all facility types are subject to overlay restrictions.
- If Certificates of Completion or Permits are abandoned after the lottery there will need to be a determination whether to accept new applications and hold a new lottery.
- As an alternative the lottery could be designed to grant the permit to the next person in line from the first lottery.

A copy of the revised draft ordinance is attached. Please keep in mind when reviewing the ordinance if there are limitations on the number of permits for each overlay area or if certain bonus permits are available the lottery process becomes more complicated. If there are limits or bonuses, the order in which the permits are approved and sited will impact whether another permit is available or whether another facility can operate in that overlay.

Attachment:
1. Draft Non-Zoning Ordinance with revisions, dated December 6, 2018.

G:\Community Planning & Development\Planning\Medical Marihuana\Medical Marihuana Non- Zoning Ordinance.tb6.docx

REVISED
December 6, 2018~~November 16, 2018~~

DRAFT ORDINANCE

CHARTER TOWNSHIP OF MERIDIAN

ORDINANCE AUTHORIZING AND PERMITTING COMMERCIAL MEDICAL MARIHUANA FACILITIES

Section 1. Definitions. The following words and phrases shall have the following definitions when used in this Ordinance:

1. "Application" means an Application for a Permit under this Ordinance and includes all supplemental documentation attached or required to be attached thereto; the Person filing the Application shall be known as the "Applicant."

2. "Director of Community Planning and Development" means the Charter Township of Meridian Director of Community Planning and Development or his/her designee.

3. "Commercial Medical Marihuana Facility" or "Facility" means one of the following:

    a. "Provisioning Center," as that term is defined in the Medical Marihuana Facilities Licensing Act, Public Act 281 of 2016 ("MMFLA");

    b. "Processor," as that term is defined in the MMFLA;

    c. "Secure Transporter," as that term in the MMFLA;

    d. "Grower," including Class A, Class B and Class C, as those terms are defined in the MMFLA;

    e. "Safety Compliance Facility," as that term is defined in the MMFLA.

4. "Department" means the Michigan State Department of Licensing and Regulatory Affairs or any authorized designated Michigan agency authorized to regulate, issue or administer a Michigan License for a Commercial Medical Marihuana Facility.

5. "LARA" means the Department of Licensing and Regulatory Affairs, and any successor agency to the department.

6. "License" means a current and valid License for a Commercial Medical Marihuana Facility issued by the State of Michigan.

7. "Licensee" means a Person holding a current and valid Michigan License for a Commercial Medical Marihuana Facility.

8. "Marihuana" means that term as defined in Section 7106 of the Michigan Public Health Code, 1978 PA 368, MCL 333.7106.

9. "Medical Marihuana" means that term as defined in MCL 333.26423.

10. "Paraphernalia" means drug paraphernalia as defined in section 7451 of the Michigan Public Health Code, 1978 PA 368, MCL 333.7451, that is or may be used in association with Medical Marihuana.

11. "Patient" means a "registered qualifying patient" or a "visiting qualifying patient" as those terms are defined by MCL 333.26421, et seq.

12. "Permit" means a current and valid Permit for a Commercial Medical Marihuana Facility issued under this Ordinance, which shall be granted to a Permit Holder only for and limited to a specific Permitted Premises and a specific Permitted Property. Said Permit shall be in addition to the Special Use Permit required to be obtained under the Township Zoning Ordinance.

13. "Permit Holder" means the Person that holds a current and valid Permit issued under this Ordinance.

14. "Permitted Premises" means the particular building or buildings within which the Permit Holder will be authorized to conduct the Facility's activities pursuant to the Permit.

15. "Permitted Property" means the real property comprised of a lot, parcel or other designated unit of real property upon which the Permitted Premises is situated.

16. "Person" means a natural person, company, partnership, profit or non-profit corporation, limited liability company, or any joint venture for a common purpose.

17. "Public Place" means any area in which the public is invited or generally permitted in the usual course of business.

18. "Registry Identification Card" means the document issued to a Patient or a Primary Caregiver and defined under MCL 333.26423(i).

Section 2. Permit Required; Number of Permits Available; Eligibility; General Provisions.

1. The Township hereby authorizes the operation of the following types of Commercial Medical Marihuana Facilities, subject to the number of available Permits issued in this Section:

    a. Growers, Class A

    b. Growers, Class B

    c. Growers, Class C

    d. Processors

    e. Provisioning Centers

f. Safety Compliance Facilities

g. Secure Transporters

2. The number of Commercial Medical Marihuana Facility Permits in effect at any time shall not exceed the following maximums within the Township:

a. Grower Permits, Class A, Class B, and Class C: 6, regardless of type
b. Processor Permits: 6
c. Provisioning Center Permits: 6
d. Safety Compliance Facility Permits: 6
e. Secure Transporter Permits: 6

{alternative} f. In addition to the above maximum permit limits, an Applicant for a Provisioning Center Permit, when located in Overlay Area ___, ___, or ___, may apply for and the Township Board may grant to the Applicant a bonus Provisioning Center Permit, except that not more than two bonus Provisioning Center Permits may be granted under this provision.

{alternative} f. No more than one Provisioning Center shall be located in any single Overlay Area except that if any Overlay Area has zero Provisioning Centers, then for each Overlay Area with zero Provisioning Centers, a second Provisioning Center may be added to another Overlay Area. No Overlay Area shall have more than two Provisioning Centers.

3. No person shall operate a Commercial Medical Marihuana Facility at any time or any location within the Township unless a currently-effective Permit for that person at that location has been issued under this Ordinance.

4. Commercial Medical Marihuana Facilities shall operate only as allowed under this Ordinance.

5. The requirements set forth in this Ordinance shall be in addition to, and not in lieu of, any other licensing or permitting requirements imposed by applicable federal, state or local laws, regulations, codes or ordinances.

6. At the time of Application, each Applicant shall pay Application fees, annual fees, renewal fees and inspection fees for Permits to the Township to defray the costs incurred by the Township for inspection, administration and enforcement of the local regulations regarding Commercial Medical Marihuana Facilities. The Township Board shall by resolution set the fees in an amount not to exceed any limitations imposed by Michigan law.

7. A Permit and a Renewal Permit shall not confer any vested rights or reasonable expectation of subsequent renewal on the Applicant or Permit Holder, and shall remain valid for one year immediately following its approval.

8. Each year, any pending Applications for renewal or amendment of existing Permits shall be reviewed and granted or denied before Applications for new Permits are considered.

9. It is the sole and exclusive responsibility of each Permit Holder or Person applying to be a Permit Holder at all times during the Application period and during its operation to immediately provide the Township with all material changes in any information submitted on an Application and any other changes that may materially affect any state License or its Township Permit.

10. No Permit issued under this Ordinance may be assigned or transferred to any Person unless the assignee or transferee has submitted an Application and all required fees under this Ordinance and has been granted a Permit by the Director of Community Planning and Development. No Permit issued under this Ordinance is transferrable to any other location except for the Permitted Premises on the Permitted Property.

11. The original Permit issued under this Ordinance shall be prominently displayed at the Permitted Premises in a location where it can be easily viewed by the public, law enforcement and administrative authorities.

12. Acceptance by the Permit Holder of a Permit constitutes consent by the Permit Holder and its owners, officers, managers, agents and employees for any state, federal or local law enforcement to conduct random and unannounced examinations of the Facility and all articles of property in that Facility at any time to ensure compliance with this Ordinance, any other local regulations, and with the Permit.

13. A Permit Holder may not engage in any other Commercial Medical Marihuana Facility in the Permitted Premises or on the Permitted Property, or in its name at any other location within the Township, without first obtaining a separate Permit.

Section 3. Other Laws and Ordinances. In addition to the terms of this Ordinance, any Commercial Medical Marihuana Facility shall comply with all Township Ordinances, including without limitation the Township Zoning Ordinance, and with all other applicable federal, state and local ordinances, laws, codes and regulations. To the extent that the terms of this Ordinance are in conflict with the terms of any other applicable federal, state or local ordinances, laws, codes or regulations, the terms of the most restrictive ordinance, law, code or regulation shall control.

Section 4. Application for and Renewal of Permits.

1. **Application**. An Application for a Permit for a Facility shall be submitted to the Director of Community Planning and Development, and shall contain the following information:

    a. The name, address, phone number and e-mail address of the proposed Permit Holder and the proposed Commercial Medical Marihuana Facility.
    b. The names, home addresses and personal phone numbers for all owners, directors, officers and managers of the Permit Holder and the Commercial Medical Marihuana Facility.

c. One (1) copy of all the following:

1) To encourage both local industry and also well-qualified applicants, at least two of the following items:

i) ~~The~~ An official ~~paperwork~~ statement issued by LARA indicating that the applicant has successfully completed ~~the~~ prequalification ~~step of the application~~ for a state operating license, if any. Copies of Entity/Individual Prequalification Packets and Supplemental Applicant Prequalification Packets ~~all documents submitted to LARA in connection with the initial application, subsequent renewal applications~~ or investigations conducted by LARA (if available) shall be provided.

ii) Documentation sufficient to prove residency within the Township for at least six months prior to the submission of the application, if any, satisfactory to the Township. Sufficient documentation includes, but is not limited to, lease documents, deeds, utility bills (such as water, electric, or gas bills), and being a registered elector in the Township. Majority shareholders, managing members, or managing partners must submit the same information.

iii) A certification on a form provided by the Township executed by the Applicant restricting transfer of the Permit and restricting the transfer of any interest in the Permit Holder for a period of not less than 30 months. This commitment shall be in a form acceptable to the Township and shall be enforceable severally or jointly by the Township against the Applicant, Permit Holder, and any members or shareholders thereof.

~~2)~~

2) All documentation showing the proposed Permit Holder's valid tenancy, ownership or other legal interest in the proposed Permitted Property and Permitted Premises. If the Applicant is not the owner of the proposed Permitted Property and Permitted Premises, a notarized statement from the owner of such property authorizing the use of the property for a Commercial Medical Marihuana Facility.

3) If the proposed Permit Holder is a corporation, non-profit organization, limited liability company or any other entity other than a natural person, indicates its legal status, attach a copy of all company formation documents (including amendments), proof of registration with the State of Michigan, and a certificate of good standing.

4) A valid, unexpired driver's license or state issued ID for all owners, directors, officers and managers of the proposed Facility.

5) Evidence of a valid sales tax license for the business if such a license is required by state law or local regulations.

6) Application for Sign Permit, if any sign is proposed.

7) Non-refundable Application fee.

8) Business and Operations Plan, showing in detail the Commercial Medical Marihuana Facility's proposed plan of operation, including without limitation, the following:

   i. A description of the type of Facility proposed and the anticipated or actual number of employees.

   ii. A security plan meeting the requirements of Section 5 of this Ordinance, which shall include a general description of the security systems(s), current centrally alarmed and monitored security system service agreement for the proposed Permitted Premises, and confirmation that those systems will meet State requirements and be approved by the State prior to commencing operations.

   iii. A description by category of all products to be sold.

   iv. A list of Material Safety Data Sheets for all nutrients, pesticides, and other chemicals proposed for use in the Commercial Medical Marihuana Facility.

   v. A description and plan of all equipment and methods that will be employed to stop any impact to adjacent uses, including enforceable assurances that no odor will be detectable from outside of the Permitted Premises.

   vi. A plan for the disposal of Marihuana and related byproducts that will be used at the Facility.

9) An identification of any business that is directly or indirectly involved in the growing, processing, testing, transporting or sale of Marihuana for the Facility.

10) Whether any Applicant has ever applied for or has been granted any commercial license or certificate issued by a licensing authority in Michigan or any other jurisdiction that has been denied, restricted, suspended, revoked, or not renewed and a statement describing the facts and circumstances concerning the application, denial, restriction, suspension, revocation, or nonrenewal, including the licensing authority, the date each action was taken, and the reason for each action.

11) Signed and sealed (by Michigan registered architect, surveyor or professional engineer) site plan and interior floor plan of the Permitted Premises and the Permitted Property.

12) Information regarding any other Commercial Medical Marihuana Facility that the Licensee is authorized to operate in any other jurisdiction within the State, or another State, and the Applicant's involvement in each Facility.

d. Any other information reasonably requested by the Township to be relevant to the processing or consideration of the Application.

e. If the Director of Community Planning and Development identifies or is informed of a deficiency in an application, the applicant shall have five (5) business days to correct the deficiency after notification by the Director of Community Planning and Development.

f. Information obtained from the Applicant or proposed Permit Holder is exempt from public disclosure under state law.

2. **Receipt of Applications**.

a. The Director of Community Planning and Development shall accept Applications for new permits during normal business hours on the second Tuesday in January at the Township Hall. Notice of the day, time, and place shall be given by publication once in a newspaper of general circulation within the Township, which shall be at least 10 days before the date set to accept the Applications. The notice shall also be posted on the Township's website, if any.

b. Notwithstanding Section 4(2)(a), the Director of Community Planning and Development may accept Applications for new permits on dates, times, and places as he may consider appropriate. Before accepting any Applications on a date other than the second Tuesday in January, notice of the day, time, and place shall be given by publication twice in a newspaper of general circulation within the Township, the first of which shall be at least 10 days before the date set to accept the Applications. The notice shall also be posted on the Township's website, if any.

~~2~~3. **Denial of Application.**

a. The Director of Community Planning and Development shall reject any application that does not meet the requirements of the MMFLA or this Chapter. The Director of Community Planning and Development shall reject any application that contains any false, misleading, or incomplete information.

b. An applicant whose application is rejected or denied because of missing, incomplete, erroneous, false, or misleading information, or because of a lack of submission of the full amount of the fees due, does not have a right to appeal the decision.

~~3~~4. **Issuance of Conditional Approval.**

a. Complete applications for a Commercial Medical Marihuana Facility Permit determined to be in full compliance with the requirements of this Chapter shall be issued conditional approval in accordance with the procedures specified in this Section.

b. The Director of Community Planning and Development shall issue a conditional approval if:

1) the background checks are satisfactory, full, and complete;

2) The applicant has submitted satisfactory proof in two out of the three following categories:

i. Official statement issued by LARA, pursuant to Section 4(1)(c)(1)(i).

ii. Proof of residency within the Township pursuant to Section 4(1)(c)((1)(ii).

iii. A certificate pursuant to Section 4(1)(c)(1)(iii).

3) ~~and a~~All other information available to the Township ~~verify~~ verifies that the applicant as a grower, processor, safety compliance facility, secure transporter has submitted a full and complete permit application and is in compliance with the Township Code of Ordinances and any other applicable law, rule, or regulation.

c. A conditional approval only means that the applicant has submitted a valid application for a Commercial Medical Marihuana Facility Permit and is eligible to submit for a special use permit.

d. A conditional approval does not prevent the Director of Community Planning and Development, from requesting additional documentation, as required or permitted under this Ordinance.

5. **Special Use Permit Applications; Certificate of Completion.**

a. A Special Use Permit application under Section 86-125 shall not be considered complete until a Certificate of Completion has been issued pursuant to this Ordinance.

b. All Applications granted conditional approval shall be eligible for a Certificate of Completion.

c. After all Applications have been either granted conditional approval or denied, then the Director of Community Planning and Development shall sort the Applications by the type of facility permit requested. If the number of Applications is equal to or less than the available township permits for that facility type then each conditionally approved Application shall be granted a Certificate of Completion.

d. If the number of Applications is greater than the available township permits authorized under the ordinance for any facility type, then Certificates of Completion for each facility type shall be awarded by random lottery drawing as follows:

1) The Applications shall be divided by facility type.

2) The number of available Certificates of Completion shall equal the number of available Township Permits, including bonus permits, if any.

3) For each facility type, the Director of Community Planning and Development shall randomly draw names of Applicants until all available Certificates of Completion are assigned. The Director of Community Planning and Development shall maintain a record of the lottery results and order of drawing for each facility type for one year following the date of the lottery.

4) Applications with Certificates of Completion may then apply for a Special User Permit under the standard ordinance and procedures.

5) All lottery drawings shall be conducted publicly by the Director of Community Planning and Development with the date and time published on the Township's website and all entrants provided notice.

~~6~~4. **Renewal Application**. The same requirements that apply to all new Applications for a Permit except for a special use permit shall apply to all Renewal Applications. Renewal Applications shall be submitted to and received by the Director of Community Planning and Development not less than ninety (90) days prior to the expiration of the annual Permit, except that an Application requesting a change in the location of the Permitted Premises shall be submitted and received not less than one hundred twenty (120) days prior to the expiration of the Permit. A Permit Holder whose Permit expires and for which a complete Renewal Application has not been received by the expiration date shall be deemed to have forfeited the Permit under this Ordinance. The Township will not accept Renewal Applications after the expiration date of the Permit.

~~5~~7. **Issuance of Commercial Medical Marihuana Facilities Permit.**

a. An inspection of the proposed commercial medical marihuana facility by the Township shall be required prior to issuance of the Permit. Such inspection

shall occur after the premises are ready for operation, but prior to the stocking of the business with any medical marihuana, and prior to the opening of the business or commencement of operations. The inspection is to verify that the business facilities are constructed and can be operated in accordance with the application submitted and the applicable requirements of this Chapter, the special use permit, and any other applicable law, rule, or regulation.

b. After verification the facilities are constructed and can be operated in accordance with the application submitted and the applicable requirements of this Chapter, the special use permit, and any other applicable law, rule, or regulation, and the issuance of a permanent certificate of occupancy for the facility, the Township Clerk shall issue the Permit for a term of one (1) year.

c. Maintaining a valid marihuana facility license issued by the State is a condition for the issuance and maintenance of the Permit issued under this Chapter and the continued operation of any marihuana facility.

d. An Applicant or Permit Holder has a duty to notify the Director of Community Planning and Development in writing of any pending criminal charge, and any criminal conviction of a felony or other offense involving a crime of moral turpitude by the Applicant, any owner, principal officer, director, manager, or employee within ten (10) days of the event.

e. An Applicant or Permit Holder has a duty to notify the Director of Community Planning and Development in writing of any pending criminal charge, and any criminal conviction, whether a felony, misdemeanor, petty offense, or any violation of a local law related to the cultivation, processing, manufacture, storage, sale, distribution, testing or consumption of any form of marijuana, the MMMA, the MMFLA, any building, fire, health or zoning statute, code or ordinance related to the cultivation, processing, manufacture, storage, sale, distribution, testing or consumption of any form of marijuana by the Applicant, any owner, principal officer, director, manager, or employee within (10) ten days of the event.

~~6~~8. **Applications for new Permits where no building is as yet in existence**. Any Applicant for a Commercial Medical Marihuana Facility Permit whose building is not yet in existence at the time of the Township's initial approval shall have one year immediately following the date of the Township's initial approval to complete construction of the building, in accordance with applicable zoning ordinances, building codes, and any other applicable state or local laws, rules or regulations, and to commence business operations.

~~7~~9. **Duty to Supplement**. If, at any time before or after a Permit is issued pursuant to this Ordinance, any information required in the Permit Application, the MMFLA, or any rule or regulation promulgated thereunder, changes in any way from that which is stated in the Application, the Applicant or Licensee shall supplement such information in writing within ten (10) days from the date upon which such change occurs.

10~~8~~. **Permit Forfeiture.** In the event that a Commercial Medical Marihuana Facility does not commence operations within one year of issuance of a Township Permit, the Permit shall be deemed forfeited; the facility may not commence operations and the Permit is not eligible for renewal.

Section 5. Operational Requirements – Commercial Medical Marihuana Facilities. A Commercial Medical Marihuana Facility issued a Permit under this Ordinance and operating in the Township shall at all times comply with the following operational requirements, which the Township Board may review and amend from time to time as it determines reasonable.

1. *Scope of Operation*. Commercial Medical Marihuana Facilities shall comply with all respective applicable codes of the local zoning, building, and health departments. The Facility must hold a valid local Permit and State Commercial Medical Marihuana Facility License for the type of Commercial Medical Marihuana Facility intended to be carried out on the Permitted Property. The Facility operator, owner or Licensee must have documentation available that local and State sales tax requirements, including holding any licenses, if applicable, are satisfied.

2. *Required Documentation*. Each Commercial Medical Marihuana Facility shall be operated from the Permitted Premises on the Permitted Property. No Commercial Medical Marihuana Facility shall be permitted to operate from a moveable, mobile or transitory location, except for a Permitted and Licensed Secure Transporter when engaged in the lawful transport of Marihuana. No person under the age of eighteen (18) shall be allowed to enter into the Permitted Premises without a parent or legal guardian.

3. *Security*. Permit Holders shall at all times maintain a security system that meets State law requirements, and shall also include the following:

    a. Security surveillance cameras installed to monitor all entrances, along with the interior and exterior of the Permitted Premises;

    b. Robbery and burglary alarm systems which are professionally monitored and operated 24 hours a day, 7 days a week;

    c. A locking safe permanently affixed to the Permitted Premises that shall store all Marihuana and cash remaining in the Facility overnight;

    d. All Marihuana in whatever form stored at the Permitted Premises shall be kept in a secure manner and shall not be visible from outside the Permitted Premises, nor shall it be grown, processed, exchanged, displayed or dispensed outside the Permitted Premises; and

    e. All security recordings and documentation shall be preserved for at least 48 hours by the Permit Holder and made available to any law enforcement upon request for inspection.

4. *Operating Hours*. No Provisioning Center shall operate between the hours of 8:00 p.m. and 8:00 a.m.

5. *Required Spacing*. No Commercial Medical Marihuana Facility shall be located within one-thousand (1,000) feet from any public or private K-12 school, five hundred (500) feet from any church, place of worship or other religious facility, and five hundred (500) feet from any library, preschool, or nearest child care center, with the minimum distance between uses measured horizontally between the nearest property lines.

6. *Amount of Marihuana*. The amount of Marihuana on the Permitted Property and under the control of the Permit Holder, owner or operator of the Facility shall not exceed that amount permitted by the state License or the Township's Permit.

7. *Sale of Marihuana*. The Marihuana offered for sale and distribution must be packaged and labeled in accordance with state law. The Facility is prohibited from selling, soliciting or receiving orders for Marihuana or Marihuana Products over the internet.

8. *Sign Restrictions*. No pictures, photographs, drawings or other depictions of Marihuana or Marihuana Paraphernalia shall appear on the outside of any Permitted Premises nor be visible outside of the Permitted Premises on the Permitted Property. The words "Marihuana," "cannabis" and any other words used or intended to convey the presence or availability of Marihuana shall not appear on the outside of the Permitted Premises nor be visible outside of the Permitted Premises on the Permitted Property.

9. *Use of Marihuana*. The sale, consumption or use of alcohol or tobacco products on the Permitted Premises is prohibited. Smoking or consumption of controlled substances, including Marihuana, on the Permitted Premises is prohibited.

10. *Indoor Operation*. All activities of Commercial Medical Marihuana Facilities, including without limitation, distribution, growth, cultivation, or the sale of Marihuana, and all other related activity permitted under the Permit Holder's License or Permit must occur indoors. The Facility's operation and design shall minimize any impact to adjacent uses, including the control of any odor by maintaining and operating an air filtration system so that no odor is detectable outside the Permitted Premises. Mobile facilities and drive-through operations are prohibited.

11. *Unpermitted Growing*. A Patient may not grow his or her own Marihuana at a Commercial Medical Marihuana Facility.

12. *Distribution*. No person operating a Facility shall provide or otherwise make available Marihuana to any person who is not legally authorized to receive Marihuana under state law.

13. *Permits*. All necessary building, electrical, plumbing, and mechanical permits must be obtained for any part of the Permitted Premises in which electrical, wiring, lighting or watering devices that support the cultivation, growing, harvesting or testing of Marihuana are located.

14. *Waste Disposal*. The permit holder, owner and operator of the Facility shall use lawful methods in controlling waste or by-products from any activities allowed under the License or Permit.

15. *Transportation*. Marihuana may be transported by a Secure Transporter within the Township under this Ordinance, and to effectuate its purpose, only:

    a. By Persons who are otherwise authorized by state law to possess Marihuana for medical purposes;

    b. In a manner consistent with all applicable state laws and rules, as amended;

    c. In a secure manner designed to prevent the loss of the Marihuana;

    d. No vehicle used for the transportation or delivery of Marihuana under this Ordinance shall have for markings the words "Marihuana", "cannabis" or any similar words; pictures or other renderings of the Marihuana plant; advertisements for Marihuana or for its sale, transfer, cultivation, delivery, transportation or manufacture, or any other word, phrase or symbol indicating or tending to indicate that the vehicle is transporting Marihuana.

    e. No vehicle may be used for the ongoing or continuous storage of Marihuana, but may only be used incidental to, and in furtherance of, the transportation of Marihuana.

16. Additional Conditions. The Director of Community Planning and Development may impose such reasonable terms and conditions on a Commercial Medical Marihuana Facility special use as may be necessary to protect the public health, safety and welfare, and to obtain compliance with the requirements of this Ordinance and applicable law.

Section 6. Penalties and Consequences for Violation. In addition to any other penalties or legal consequences provided under applicable federal, state and local law, regulations, codes and ordinances:

1. Violations of the provisions of this Ordinance or failure to comply with any of the requirements of this Ordinance shall constitute a misdemeanor. Any person who violates this Ordinance or fails to comply with any of the requirements of this Ordinance shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not more than $500.00, or imprisoned for not more than 90 days, or both, and, in addition, shall pay all costs and expenses involved. Each day the violation continues shall be considered a separate offense.

2. Violations of the provisions of this Ordinance or failure to comply with any of the requirements of this Ordinance shall be subject to and found responsible for a municipal civil infraction. The forfeiture for any municipal civil infraction shall be one thousand dollars ($1,000.00) plus court costs, attorney fees and abatement costs of each violation, together with all other remedies pursuant to MCL 600.8701, et seq. Each day a violation continues shall be deemed a separate municipal civil infraction.

3. Increased civil fines shall be imposed for repeated violations of any requirement of this Ordinance. As used in this subsection, the term "repeat offense" means a second (or any subsequent) municipal civil infraction violation of the same requirement or provision committed within any six-month period and found to be responsible. The increased fine for a repeat offense shall be as follows:
   a. The fine for any offense which is a first repeat offense shall be two thousand five hundred dollars ($2,500).

   b. The fine for any offense which is a second repeat offense or any subsequent repeat offense shall be five thousand dollars ($5,000).

4. The owner of record or tenant of any building, structure or premises, or part thereof, and any architect, builder, contractor, agent or person who commits, participates in, assists in or maintains such violation may each be found guilty or responsible of a separate offense and suffer the penalties and forfeitures provided in subsections (1) and (2) of this section, except as excluded from responsibility by state law.

5. In addition to any other remedies, the Township may institute proceedings for injunction, mandamus, abatement or other appropriate remedies to prevent, enjoin, abate or remove any violations of this Ordinance. The rights and remedies provided herein are both civil and criminal in nature. The imposition of any fine, jail sentence or forfeiture shall not exempt the violator from compliance with the provisions of this Ordinance.

13. D

To: **Board Members**

From: **Frank L. Walsh, Township Manager**

Date: **December 7, 2018**

Re: **2019 Goals-Action Plan**

On Monday, December 10, 2018, the Township Board will convene for their annual Goal Setting discussion. The agenda will include a review of 2018 and setting course for 2019. The final document will be presented to the Board on Tuesday evening. I've attached a copy of the 2018 Goals and Objectives for your review.

The Board will present their 2018 Review and 2019 Goals at the annual Board and Commission meeting to be held on January 15, 2019.

Attachment:

1. 2018 Action Plan

2018

GOALS ACTION PLAN

A. **Complete the following initiatives, as promised to Brianne Randall-Gay and our community:**
    1. **Community-wide sexual assault training**
    2. **Department-wide criminal sexual conduct training**
    3. **Review and analysis of criminal sexual conduct cases**

B. **Create and adopt additional tools to assist in the redevelopment of our core commercial areas including the Four Corners of Okemos and the Downtown Haslett.**

C. **Develop a comprehensive plan to fund our deteriorating local road system.**

D. **Implement a Township sponsored solar array and foster enacting timely components of the recently adopted Climate Sustainability Plan.**

E. **Determine the appropriate course of action regarding medical marijuana.**

F. **Solidify our plans with the Meridian Mall for the construction of a new Farmers' Market on Central Park Drive.**

G. **Achieve Redevelopment Ready Community (RRC) Certification through the Michigan Department of Economic Development (MEDC).**

H. **Continue to maximize recruiting and networking efforts to achieve increased diversity in our workforce.**

I. **Implement a plan to provide a comprehensive emergency siren program throughout the Township and expand our efforts to lower our Fire Insurance Rating through the Insurance Services Organization (ISO) from a 4 to 3.**

J. **Enhance our recently developed website to maximize exposure and provide timely information.**

K. **Develop a plan to continue to offer a curbside public transportation service beyond 2019.**