

CHARTER TOWNSHIP OF MERIDIAN  
PLANNING COMMISSION  
AGENDA

REGULAR MEETING

June 24, 2013

Town Hall Room, Meridian Municipal Building  
5151 Marsh Road, Okemos, MI 48864

**Regular Meeting**

1. Call meeting to order at approximately 7:00 p.m.
2. Approval of agenda
3. Approval of minutes
4.
  - A. June 10, 2013 Regular Meeting
5. Public remarks
6. Communications
  - A. Wanda Bloomquist Re: Williamstown Township Master Plan
7. Public Hearings
  - A. Mixed Use Planned Unit Development 13014 (Capstone), request to develop Hannah Lofts, a mixed use planned unit development consisting of 22,545 square feet of retail space and 282 multiple family residential units in four buildings.
  - B. Special Use Permit #13081 (Capstone), request to construct a group of buildings greater than 25,000 square feet in gross floor area.
8. Unfinished Business
  - A. Special Use Permit #13071 (AT & T), request to install utility cabinets in the easement at 2258 Bennett Road (Presbyterian Church of Okemos)
  - B. Commission Review #12053 (Planning Commission), 2005 Master Plan amendment
9. Other Business
10. Township Board, Planning Commission officer, committee chair, and staff comment or reports
11. New Applications

**Planning Commission Agenda**

**June 24, 2013**

**Page 2**

- A. Mixed Use Planned Unit Development #13-12051 (Douglas J), minor amendment to increase total building size from 43,569 gross square feet to 47,618 grosssquare feet
  - B. Zoning Amendment #13030 (Planning Commission), to add adult day care facilities to Section 86-654(c)(6).
- 12. Site Plans received
  - 13. Site Plans approved
  - 14. Public Remarks
  - 15. Adjournment

**Post Script: Pat Jackson**

The Planning Commission's Bylaws state agenda items shall not be introduced for discussion or public hearing that is opened after 10:00 p.m. The chair may approve exceptions when this rule would cause substantial backlog in Commission business (Rule 5.14 Limit on Introduction of Agenda Items).

Persons wishing to appeal a decision of the Planning Commission to the Township Board in the granting of a Special Use Permit must do so within ten (10) days of the decision of the Planning Commission (Sub-section 86-189 of the Zoning Ordinance).

**TENTATIVE  
PLANNING COMMISSION AGENDA**

**July 8, 2013  
Regular Meeting 7:00 p.m.**

**Regular Meeting**

1. Public Hearings
  - A. Zoning Amendment #13030 (Planning Commission), to add adult day care facilities to Section 86-654(c)(6).
  
2. Unfinished Business
  - B. Mixed Use Planned Unit Development 13014 (Capstone), request to develop Hannah Lofts, a mixed use planned unit development consisting of 22,545 square feet of retail space and 282 multiple family residential units in four buildings.
  - C. Special Use Permit #13081 (Capstone), request to construct a group of buildings greater than 25,000 square feet in gross floor area.
  
3. Other Business

**CHARTER TOWNSHIP OF MERIDIAN  
PLANNING COMMISSION  
REGULAR MEETING MINUTES  
June 10, 2013**

**DRAFT**

**5151 Marsh Road, Okemos, MI 48864-1198  
853-4000, Town Hall Room, 7:00 P.M.**

PRESENT: Commissioners Cordill, Deits, Hildebrandt, Honicky, Ianni, Jackson, Norkin, Scott-Craig  
ABSENT: Commissioner Salehi  
STAFF: Principal Planner Gail Oranchak

**1. Call meeting to order**

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

**2. Approval of agenda**

Commissioner Honicky moved to approve the agenda. Seconded by Commissioner Scott-Craig.

VOICE VOTE: Motion carried 8-0.

**3. Approval of Minutes**

Commissioner Cordill moved to approve the Regular Meeting Minutes of May 13, 2013 and May 20, 2013. Seconded by Commissioner Ianni.

VOICE VOTE: Motion carried 8-0.

**4. Public Remarks**

Chair Jackson opened the floor for public remarks.

Pastor Moore, 3665 Ponderosa, Okemos, and Danelle Lofton, 5130 Wexford Road, Lansing, questioned the delay on their special use permit request and requested clarification on the issue.

Neil Bowlby, 6020 Beechwood Drive, Haslett, announced the next meeting of LINC will be held on Wednesday, June 20, 2013 at 6:45 PM in the Community Room of the Haslett Library. He addressed his communication relative to non-conforming uses. Mr. Bowlby spoke to Board changes to the 2005 Master Plan amendment.

Chair Jackson closed public remarks.

**5. Communications**

A. Neil Bowlby, 6020 Beechwood Drive, Haslett; RE: Non-conforming uses

**6. Public hearings**

A. Special Use Permit #13071 (AT & T), request to install utility cabinets in the easement at 2258 Bennett Road (Presbyterian Church of Okemos)

Chair Jackson opened the public hearing at 7:08 P.M.

- Introduction by the Chair (announcement of procedures, time limits and protocols for public participation and applicants)
- Summary of subject matter  
Principal Planner Oranchak summarized the special use permit (SUP) request as outlined in staff memorandum dated June 6, 2013.

- Applicant  
Al Dionise, Engineering Manager, AT&T, 337 N. Abbot Road, East Lansing, spoke to the special use permit request which was approved in 2010. He offered information indicating AT&T did not build after the initial approval due to issues which needed to be resolved with the First Presbyterian Church of Okemos. Mr. Dionise noted those issues have since been resolved.
- Planning Commission discussion:  
Commissioner Cordill inquired as to the distance between the proposed utility cabinets and the home on the adjacent property relative to the decibels which will be emitted.

Principal Planner Oranchak responded the distance is 75 feet. She noted the decibels to be emitted will be low level.

Commissioner Norkin asked about landscaping surrounding the boxes from the road, church and neighboring property sides for visual aesthetics.

Principal Planner Oranchak stated it could be a condition of the SUP which could be addressed during site plan review, while not impeding the function of the boxes.

Mr. Dionise added landscaping would be provided as needed to make the cabinets fit in with the surrounding area.

Chair Jackson inquired if the existing white cabinets would be painted to match the current colors of either green or tan.

Mr. Dionise responded the existing large cabinet is a close match to the current tan color and the other existing cabinet is green. He noted that, in some cases, AT&T has painted existing cabinets to match new installations.

Chair Jackson requested an explanation as to the purpose of the Lifespan Pairgain as noted in the staff memorandum.

Mr. Dionise responded the current cabinet is fed by fiber optics and provides DSL and phone service for the area. He indicated the cabinet to be installed is an upgraded Broadband internet service which is much faster than services currently provided through the existing cabinet and will provide U-Verse television service for the area. Mr. Dionise believed the large cabinet currently on the site will eventually be removed as its technology is obsolete. He noted the exchange building on Dobie Road is the central office for the Okemos area.

Chair Jackson closed the public hearing at 7:22 P.M.

## 7. Unfinished Business

- A. Special Use Permit #13061 (Caring Hand), request to establish an adult day care center in the International New Life Church addressed as 2630 Bennett Road

Principal Planner Oranchak summarized the staff memorandum dated June 6, 2013 and offered developments to date regarding this request.

Planning Commission and staff discussion:

- Inquiry if the Board considered making an adult day care center an allowed use in a residential district when the last zoning ordinance was "looked at"

- Focus at that time was only for changes and amendments to the commercial districts
- Timeline for the process if the Planning Commission initiates a zoning amendment
- Adult day care not currently listed in the zoning ordinance as an institution for human care
- Inquiry if the list in the zoning ordinance is considered all-inclusive
- Applicant cannot proceed as the specific type of use is not included in the ordinance
- Previous SUP was for a child day care center specifically listed in the ordinance
- Child care facilities are not listed under institutions for human care
- Possibility of a Memorandum of Understanding (MOU) to move this project forward
- Real issue is the adult day care center is not specifically listed in any other zoning district
- Adult day care center is also not listed in the non-residential section, but is listed in the commercial districts
- Suggestion to move that, in the Planning Commission's opinion, the adult day care use be covered under Section 86-659 as a non-residential use in a residential district for purposes of moving this SUP forward
- Concern with the public having an opportunity to comment on this type of use in a residential district
- Correct process will take 3-4 months

**Commissioner Cordill moved to initiate a zoning amendment to include Adult Day Care Facilities in Section 86-654 Non-residential structures and uses in residential districts and other districts as may be deemed appropriate and request staff to prepare the amendment and schedule a public hearing. Seconded by Commissioner Deits.**

Continued Planning Commission discussion:

- Code of ordinances does not currently define adult day care facilities and their spectrum of types of uses
- Versions of adult day care which are appropriate in a residential neighborhood
- Need for more information as to the various services which could be offered in an adult day care
- Need for definitions for all the terms to be used in the draft amendment
- Planning Commissioner belief adult day care is a serious use issue given the impact of group child care in a residential area is substantially greater than the elderly
- Suggestion to recommend suspension of the rules on the date of the public hearing to expedite the request
- Adult day care is not limited to the elderly, but for anyone 21 years of age or older
- Adult day care in C-1 and C-2 is a conditional use
- Applicant cannot move forward with their operation until the zoning amendment is approved
- Estimated timeline of several months
- Option for the Board to hold a special meeting on this topic if they so desired

**The seconder offered the following friendly amendment:**

- **A motion to suspend the rules will be considered the same night as the public hearing.**

**The amendment was accepted by the maker of the motion.**

VOICE VOTE: Motion carried 8-0.

- B. Commission Review #12053 (Planning Commission), 2005 Master Plan amendment  
Principal Planner Oranchak summarized Board changes to the 2005 Master Plan amendment as outlined in staff memorandum dated June 6, 2013.

Planning Commission discussion:

- Rationale for Board inclusion in the urban services boundary (USB) of properties north of Shoemith Road, east of Green Road along rear property lines
- Area north of Haslett Road and east of Meridian Road which is currently undeveloped but previously had developer interest in constructing (Haslett Preserve)
- Land south of Grand River, east of Cornell Road (inclusion of White Oak Estates, Asbury Commons, Eastpointe Subdivision)
- Land north of Grand River, east and west of Van Atta Road (Wellington Estates, Spagnuolo's Restaurant, Winslow Trailer Park, Red Cedar Church)
- Commercially zoned land south of Grand River and east of Van Atta Road
- Land west of the extension of the Consumers Power easement and north of Jolly Road (Ponderosa subdivision)
- Another public hearing will be held on the Board's proposed urban service boundary
- Board text included the Georgetown Sewer Payback District exemption for a time certain (2024 or until full reimbursement to the developer)
- Difference in the USB between an exemption v. no exemption for the Georgetown Sewer Payback District
- Rationale for Board inclusion of park land on the southern boundary
- Last time a Board moved the boundary east, members were all defeated at the next election
- Concern with the "gerrymandering" of the boundary by the Board
- County ordinance requires everyone within a 300 foot radius of a sewer to connect
- Board disregard for many goals and objectives of the Master Plan through its version of the USB
- Georgetown Payback District amount is \$347,767 plus interest
- Confidential legal opinion could not be included in the Planning Commission packet
- Request for a closed session joint meeting (or joint subcommittee meeting) between the Planning Commission and the Township Board to iron out the differences between the two (2) versions of the USB
- Concern with the decision as a Township if it is going to provide sewer to everyone on the possibility that it might improve public health in a given part of the Township
- Multiple alternatives are available to septic system failure other than sewer hookup

**8. Other Business (None)**

**9. Township Board, Planning Commission officer, committee chair, and staff comment or reports**

Commissioner Honicky spoke to the demographic of the "65 and over" population in Meridian Township increasing by nearly 50% over the last ten (10) years. He noted SUP #13061 highlights a need of this aging population and recommended the Planning Commission revisit the demographic section and how it impacts various aspects of the Master Plan.

Commissioner Deits addressed the issue of nonconformance and suggested the Planning Commission look at its current ordinances for possible modifications, while disclosing that he owns a home and two lots which are non-conforming. He gave an example of rebuilding in the event a tornado destroys a home.

Principal Planner Oranchak noted there is a vehicle available through the Zoning Board of Appeals. She added there are caveats involved for an existing lot of record, allowances to build on a lot as long as it has 40 feet of lot width, etc. Principal Planner Oranchak addressed the distinction between nonconforming use and nonconforming structure.

Chair Jackson asked Commissioner Deits to make a list of ordinances he believed the Planning Commission should discuss relative to nonconformance.

**10. New applications**

- A. Mixed Use Planned Unit Development 13014 (Capstone), request to develop Hannah Lofts, a mixed use planned unit development consisting of 22,545 square feet of retail space and 282 multiple family residential units in four buildings.
- B. Special Use Permit #13081 (Capstone), request to construct a group of buildings greater than 25,000 square feet in gross floor area.
- C. Special Use Permit #13-84211 (Graff), minor special use permit amendment to add a 1,750 square foot wash bay to the existing building addressed as 1748 Grand River Avenue.

**11. Site plans received**

- A. Site Plan Review #13-98-8 (Eyde), revise approved site plan to add two access drives at Meridian Crossing located at the northwest corner of Okemos and Jolly Roads.
- B. Site Plan Review #13-95-10 (Graff), revise the approved site plan to add a 1,750 square foot wash bay to the existing building addressed as 1748 Grand River Avenue.

**12. Site plans approved**

- A. Site Plan Review #13-01 (HTA Companies, Inc.), landscape renovations at 2900 Place apartment, 2900 Grand River Avenue

**13. Public remarks**

Chair Jackson opened public remarks.

Pastor Philip Moore, 3665 Ponderosa, Okemos, expressed disappointment with Township handling of Special Use Permit #13061 requested by International New Life Church. He believed the church was a victim of the Township and suggested financial compensation for its loss relative to establishment of the adult day care. Pastor Moore requested their SUP request be expedited as the applicant has complied with all requests of the Township to date. He also asked where the request stood as of this meeting.

Commissioner Ianni explained the Planning Commission has recommended an ordinance amendment to the Township Board, indicating it would be illegal to take any action at this point.

Chair Jackson outlined the process, adding it will take approximately three (3) to four (4) months.

Neil Bowlby, 6020 Beechwood Drive, Haslett, spoke to the possibility of MUPUD #13014 (Capstone) qualifying as a major amendment to the previous MUPUD. He addressed the issues surrounding the Georgetown Sewer Payback District and the Board's latest version of the urban services boundary.

Chair Jackson closed public remarks.

**14. Adjournment**

Chair Jackson adjourned the regular meeting at 8:52 P.M.

Respectfully Submitted,



Sandra K. Otto  
Recording Secretary

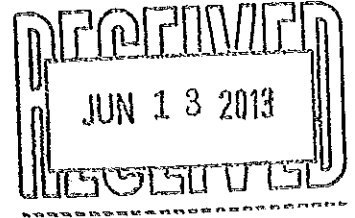


## WILLIAMSTOWN TOWNSHIP

4990 ZIMMER ROAD

WILLIAMSTON MI 48895

PHONE: 517-655-3193 FAX: 517-655-3971



June 11, 2013

Planning Commission  
Charter Township of Meridian  
5151 Marsh Road  
Okemos MI 48864

To Whom It May Concern:

**SUBJECT: Proposed Williamston Township Master Plan**

Consistent with the provisions of the Michigan Planning Enabling Act, Public Act 33 of 2008, as amended, the Williamstown Township Planning Commission is providing notification that an updated Williamstown Township Master Plan is now available for review.

Pursuant to Act 33, you may submit comments on the proposed Master Plan to the Williamstown Township Planning Commission within 63 days after the Plan has been submitted to you.

The proposed Plan is available via a link on the Township's website:  
[www.williamstowntownship.com](http://www.williamstowntownship.com).

If you have any questions or comments, please contact me at 517-655-3193 or via e-mail at [bloomquistw@williamstowntownship.com](mailto:bloomquistw@williamstowntownship.com).

We thank you in advance for your interest in this matter and the Planning Commission looks forward to your comments.

Sincerely,

Wanda Bloomquist  
Planning Assistant

**Mixed Use Planned Unit Development #13014  
(Capstone)  
June 20, 2012**

**APPLICANT:** Capstone Collegiate Communities  
431 Office Park Drive  
Birmingham AL 35223

**STATUS OF APPLICANT:** Option to purchase

**REQUEST:** Construct a mixed use planned unit development project

**CURRENT ZONING:** \*C-2 (Commercial)

**LOCATION:** S. of Hannah Blvd., E. of Esoteric Way, N. of Eyde Pkwy.

**AREA OF SUBJECT SITE:** Approximately 7.86 acres

**EXISTING LAND USE:** Undeveloped

**EXISTING LAND USES  
IN AREA:** North: Hannah Boulevard  
South: Eyde Parkway  
East: Marriott Town Suites Hotel  
West: Esoteric Way

**CURRENT ZONING IN AREA:** North: C-2 Commercial  
South: \*C-2 Commercial)  
East: RE (Research Park) and \*C-2 (Commercial)  
West: \*C-2 (Commercial)

**FUTURE LAND USE  
DESIGNATION:** Research Park

**FUTURE LAND USE MAP:** North: Research Park  
South: Office\  
East: Research Park and Office  
West: Research Park

\* Denotes Conditional Rezoning

## CHARTER TOWNSHIP OF MERIDIAN

### MEMORANDUM

TO: Planning Commission

FROM:



Gail Oranchak, AICP  
Principal Planner

DATE: June 20, 2013

RE: MUPUD #12014 (Capstone), request to develop a mixed use planned unit development consisting of 289 multiple family residential and units in three buildings.

Capstone Collegiate Communities has submitted a proposal for the third phase of the Hannah Farms mixed use planned unit development (MUPUD), tentatively named Hannah Lofts. Application materials indicate the proposed project consists of 282 apartment units and 12,824 square feet of non-residential uses. A special use permit (SUP #13081) is also required for a group of buildings greater than 25,000 square feet in gross floor area. Based on Cover Sheet information, gross floor area consists of the four buildings totaling 378,240 square feet and the 176,000 square foot two-story parking structure for a total of 554,240 square feet. The Planning Commission will make recommendations to the Township Board on both requests.

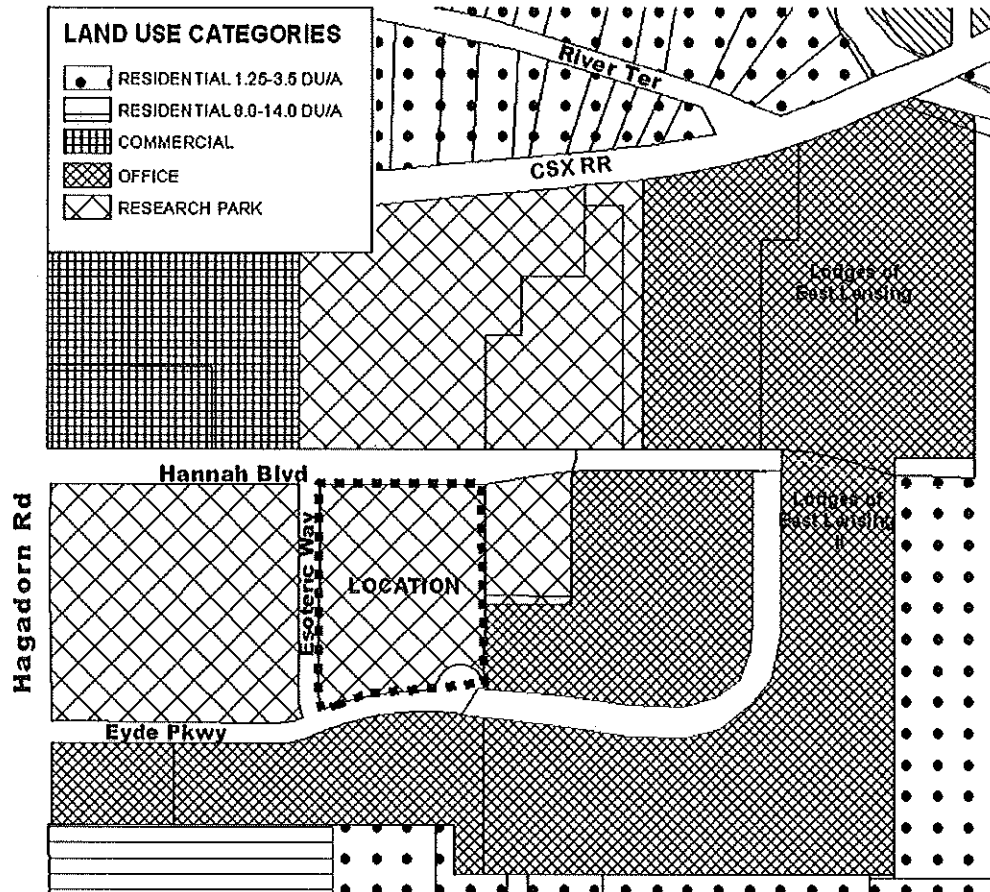
The approximate 7.9 acre site is located south of Hannah Boulevard, east of Esoteric Way, north of Eyde Parkway and west of the Marriott TownePlace Suites hotel. In June 2008, the Township Board rezoned the site from RP (Research Park) to \*C-2 (Commercial) as part of an 81-acre rezoning (REZ #08080). The rezoning was subject to the following conditions offered by the property owner: development of the entire 81 acres as a mixed use planned unit development; construction of maximum 1,010 to 1,159 residential units distributed throughout and/or on portions of the subject property; and, availability and adequate capacity of public utility services to serve the development.

The 282 student apartments consist of 120 one-bedroom units, 32 two-bedroom, units, 2 three-bedroom units and 128 four-bedroom units with a total of 702 beds. Each bedroom has its own bathroom. Proposed amenities include: recreational resources (pool, park, open space), street side planters, community center/clubhouse, a fountain plaza, open and covered bike racks, pedestrian sidewalks connecting to Township pathways. The site plan indicates 648 automobile and 306 bicycle parking spaces are proposed.

#### **Master Plan**

The 2005 Master Plan's Future Land Use Map designates the subject site in the Research Park category.

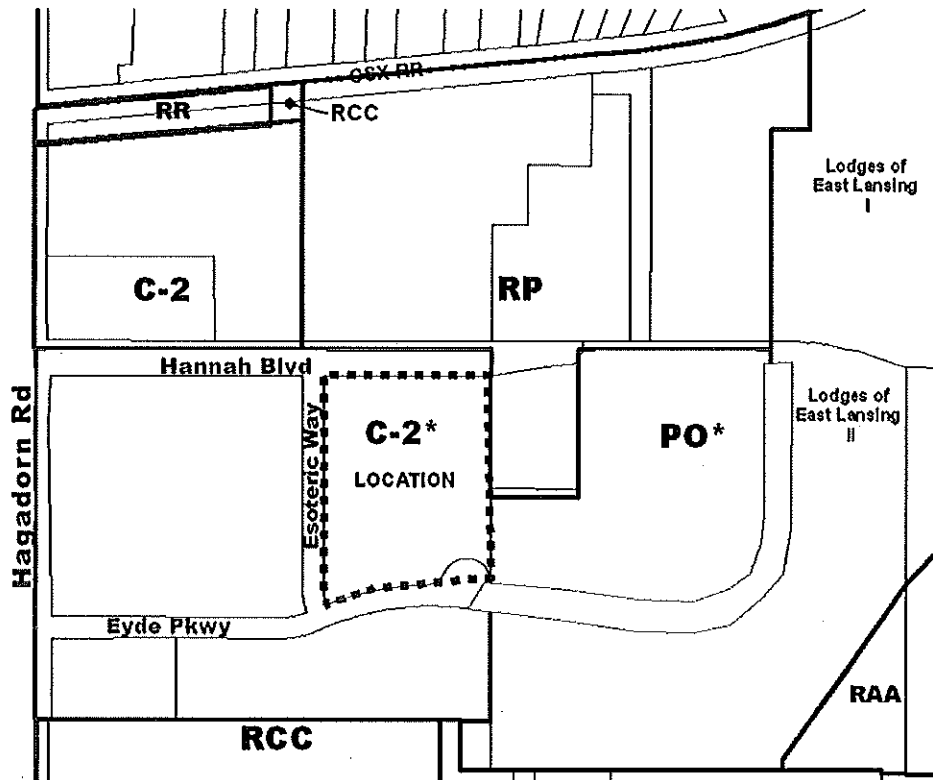
FUTURE LAND USE MAP



Zoning

The subject site is zoned C-2 (Commercial). The C-2 zoning district requires a minimum lot area of 4,000 square feet and 100 feet of lot width. At approximately 7.86 acres, the subject site exceeds the minimum lot area and also exceeds the minimum lot width with approximately 521 feet on Hannah Boulevard, approximately 706 feet on Esoteric Way and approximately 443 feet on Eyde Parkway.

### ZONING MAP



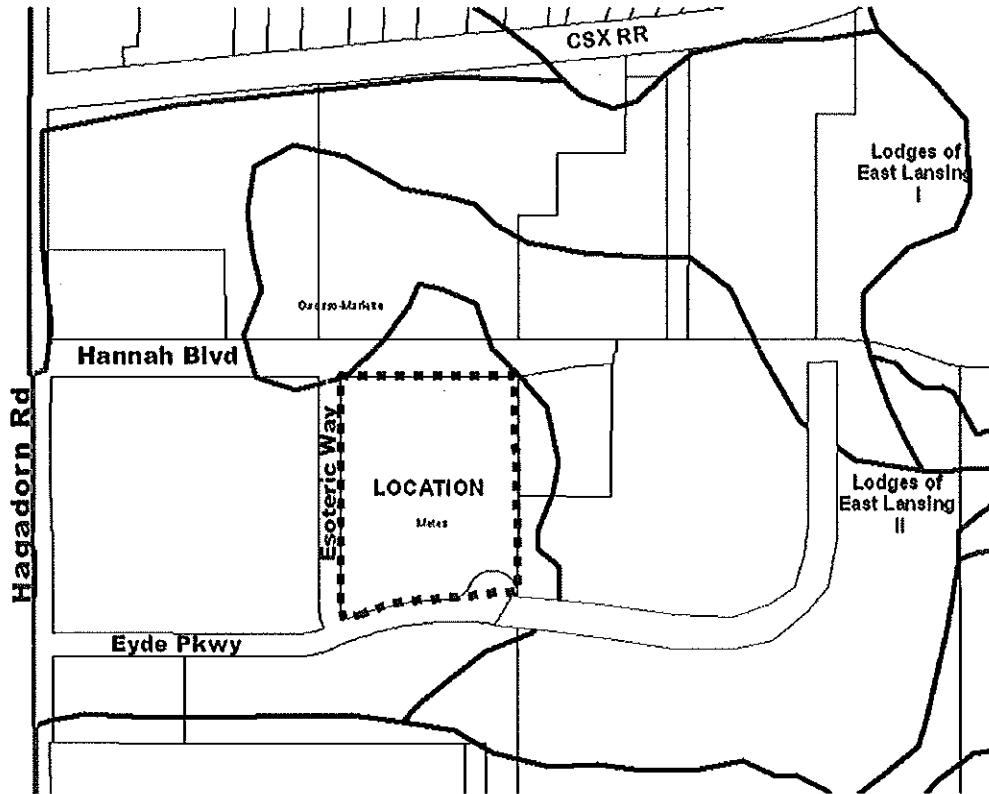
### Physical Features

The 7.86 acre parcel is undeveloped. The applicant has submitted the required Natural Features Assessment including a tree survey showing 324 trees with a dbh (diameter at breast height) 12 inches or larger. Terrain is relatively flat with a gentle downward slope toward the southwest corner. Spoils piles and some construction debris were observed on the site. Vegetation consists of "field/scrub" and "tree lines along the northern and eastern periphery."

Neither floodplain nor wetlands occur on the site according to the Flood Insurance Rate Map (FIRM) and Township Wetland Map respectively. The applicant's report states "the only significant remaining natural heritage on this site appears to be the original topography, soils and some of the trees along the northern tree line suggesting incorporating some of the larger or native trees into the landscape design would preserve the site's natural resource values. The site has no special designation on the Township Greenspace Plan.

**Soils**

**SOILS MAP**



The following chart summarizes soil information for the subject site:

SOIL ASSOCIATION	SEVERE BUILDING SITE LIMITATIONS
MtB (Metea loamy sand, 2 to 6% slope)	None
OwB(Owosso- Marlette sandy loam, 2 to 6% slope)	Shrink-swell potential

Source: Soil Survey of Ingham County, Michigan, 1992.

**Streets and Traffic**

Hannah Boulevard, Esoteric Way and Eyde Parkway will provide direct access to the site. All three are classified as local streets. Hannah Boulevard and Eyde Parkway provide access to Hagadorn Road.

Hagadorn Road is classified as a Minor Arterial in the 2005 Master Plan. It is a four lane roadway with a center median and curb and gutter. A seven foot wide pathway, part of the Township's Pedestrian-Bicycle Pathway Master Plan, exists on the east side of Hagadorn Road. Ingham County Road Commission's (ICRC) most recent traffic count for Hagadorn Road was taken on a weekday in April 2011 between Mt. Hope Road and Briarcliff. 17,324 vehicle trips were counted for the 24-hour period, 8,871 northbound and 8,453 southbound.

Hannah Boulevard is four lanes with a landscaped center median that terminates immediately east of the subject site. The road is constructed with curb and gutter. A five foot sidewalk has been constructed on the north side of Hannah Boulevard. A short segment of sidewalk is present on the south side of the street in front of the Marriott TownPlace Suites hotel. The most recent ICRC traffic count was taken in 2008 when vehicle trips totaled 10,243, 6,121 westbound and 4,122 eastbound trips in a twenty-four hour period.

Traffic counts are not available for Eyde Parkway or Esoteric Way. Both are two lane roads with curb and gutter. A five foot sidewalk is located along the south side of Eyde Parkway where buildings have been constructed and a short segment is located on the north side in front of the buildings at 2860 and 2852 Eyde Parkway. There are no sidewalks along Esoteric Way.

The applicant's traffic report provides level of service analysis for current, background and future traffic during the AM and PM peak hours at five intersection locations. The traffic signal recommended in the traffic report prepared for Lodges of East Lansing II to mitigate traffic delays at Hagadorn Road and Hannah Boulevard has been authorized and funded but an installation date is uncertain. The earliest possible date could be sometime later this year or as late as 2015. Lodges of East Lansing II is expected to open for occupancy in August, 2013.

The Township's traffic consultant reviewed the site plan and traffic study and commented:

- Recommendation to make the driveway from the Hannah Lofts to Hannah Boulevard near the eastern site boundary a right-turn in only access unless the median is partially removed and replaced by a left turn merge area for vehicles attempting to travel west on Hannah Boulevard from the site.
- Recommendation for bike lanes on Hannah Boulevard in conformance with the Complete Streets Ordinance.
- Recommendation to study all modes of transportation after Michigan State University's fall semester begins since there is no "land use code" in the Institute of Transportation Engineers "Trip Generation Manual" for this unique development style.
- Recommendation to separate, as soon as possible, pedestrians and bicycles on sidewalks.

Similar traffic concerns were made by the Township's Development Review Committee. Concerns were also raised regarding the function of the intersection of Esoteric Way and Hannah Boulevard. The applicant may be required to align its proposed driveway on Esoteric Way with the one used by the two office buildings on the west side of the street. The access opening on Esoteric Way must be designed to meet Ingham County Department of Transportation and Roads standards potentially requiring the removal of the eight abutting parallel parking spaces or a revision to the footprint of one of the proposed buildings.



Site Plan B1 shows the location of 13 "share the road" signs to improve bikeability along Hannah Boulevard, Esoteric Way and Eyde Parkway.

### **Utilities**

The Department of Public Works and Engineering has indicated that municipal water and sanitary sewer are available to serve the site.

The site plan shows a schematic layout for the stormwater management plan as required by ordinance for initial approval. A more thorough stormwater plan, including calculations will be required for review and approval by the Department of Public Works and Engineering.

### **Public Safety**

The Fire Department is working with the applicant's engineer to assure compliance with the fire code. Sprinkling of all attics is required.

### **Staff Analysis**

The site will be comprised of 282 apartment units, 12,824 square feet of first floor retail space including a clubhouse, and a 2-story parking deck. The applicant's traffic study anticipates the 128 four-bedroom/townhouse apartments will be occupied by college students and the remaining 1, 2, and 3-bedroom units will be attractive to professional non-students but could also be rented by students. The applicant has indicated the clubhouse is included in the calculation of retail space to allow maximum flexibility in design and use of the space.

Residential buildings are setback approximately ten feet from the parking structure. The first and second floors of the Type "A" residential units (3-story, 4- bedroom) look into the parking structure. On the unit's first floor a hallway window looks into the garage. On the second floor a bedroom window looks out into the structure. Enclosed hallways provide access to 60 apartment units on the second floor and 137 units on the fourth floor.

Following is a summary of the project's consistency with MUPUD ordinance standards. As part of this project analysis, standards for the underlying C-2 zoning district and other requirements applicable to development in the C-2 district will be compared to the proposed site plan.

The MUPUD ordinance generally waives the standard requirements for lot size, yards, frontage requirements, building, parking, wetland setbacks, maximum impervious surface regulations, and type and size of dwelling unit, provided the purpose and intent of the ordinance are incorporated into the overall development plan. The Hannah Lofts project design assumes waivers for building and parking setbacks and impervious surface coverage.

Building setbacks. The following chart compares typical setbacks for the C-2 zoning district and the setbacks shown on the project site plans. The design assumes a waiver for front setbacks on Esoteric Way and Eyde Pkwy.

**BUILDING**

	<b><u>Standard Setback (C-2)</u></b>	<b><u>Proposed Setback</u></b>
Front yard/Corner Lots Section 86-432(d)(3)a, d	25 feet (from ROW)	Building 1: Approx. 12 feet from the Hannah Blvd ROW  Building 2: Between 0 feet and 20 feet from the Eyde Pkwy. ROW Building 3: Between 23 feet and 65 feet from the Eyde Pkwy. ROW and 10 feet from the Esoteric Way ROW  Buildings 4: 10 feet from the Esoteric Way ROW and 84 feet from the Hannah Blvd. ROW

Impervious Surface. Generally, C-2 zoned sites may be 75 percent impervious. Proposed impervious surface coverage is 84.15 percent and a waiver is assumed.

Building Height. The maximum building height for an MUPUD project is 45 feet, building elevations show building height as 44'-8".

Building materials. Sample building materials have been provided by the applicant. The exterior finish materials will include vinyl siding, hardi board and brick veneer. The applicant has indicated at least 50 percent of the building's siding will be "cement-like" material—brick or hardi-board. Section 86-440(f) (2)a discourages the use of vinyl.

Architectural Design. Diversity and variety in architecture are encouraged as well as design and construction that blends with the facades of adjacent buildings (Section 86-440(f)(2)b.2.).

Section 86-440(f)(2)b of the MUPUD ordinance states that buildings wider than 50 feet shall be divided into increments of not more than 50 feet through articulation of the facade (Section 86-440(f)(2)b.2.). This standard has not been met.

Railings, benches, trash receptacles, or bicycle racks. These items shall be of commercial quality and complement the building design and style, per Section 86-440(f)(2)b.5. Bicycle racks, balconies and railings are planned however examples of designs and materials have not been provided for consideration.

The proposed location for trash dumpsters is the east side of each floor of the parking structure. Recycling containers are typically required for commercial and multiple family projects (86-376(g)(10)). Design details have not been provided.

Parking Requirements. The MUPUD ordinance states off-street parking shall comply with the standard parking regulations found in Section 86-755 however the MUPUD ordinance grants the Township Board authority to establish a reasonable number of off-street parking spaces based on the characteristics of the property and availability of other sources of parking or amenities in lieu of parking (Section 86-440(f)(3)b.).

Per Section 86-755, the standard parking requirements for multiple family uses are as follows:

**Motor Vehicle Parking:**

- Multiple Family Residential    2 spaces per unit plus 25 percent expansion
- Retail <25,000 sq. feet        No fewer than 5, no more than 5.5 per 1,000 sq. ft. of gross floor area

**Bicycle Parking:**

1 bicycle parking space for every 10 motor vehicle parking spaces required (not less than 2, not more than 50)

The following chart outlines the standard number of parking spaces (per Section 86-755) and the proposed number of parking spaces as noted on the plans.

	<u>Standard Number</u>	<u>Proposed Number</u>
<b>Multiple Family Residential</b>	<b>564 + 141 (Future)*</b>	
<b>Retail</b>	<b><u>65 - 71</u></b>	
	<b>629 - 635 + 145 (future)</b>	<b>651</b>
<b>Bicycle</b>	<b>58</b>	<b>306</b>

\*"Future" means an open area on the site where additional parking can be constructed if necessary. An applicant is only required to construct "future" parking if a parking problem arises. To date, "future" parking has never been built on any multiple-family site.

Actual parking on the site may be less than the 651 indicated. Parking data on the site plan states there are 262 parking spaces on the second floor of the parking structure which is 24 more than the first level. The site plans for both floors appear to be identical but the number of parking spaces (238) is only delineated for the first floor.

The 24 on-street parking spaces along the east side of Esoteric Way may not be counted as part of the Township's off-street parking requirement since the location in the road right-of-way means they are not dedicated for use by residents, patrons or employees of Hannah Lofts. Ingham County Department of Transportation staff has indicated they will not permit striping for on-street parking on Esoteric Way. If in the future on-street parking hinders travel or snow storage, the east side of Esoteric may be designated a "no parking" zone similar to the current status of the west side of Esoteric Way.

Parking setbacks. Setbacks for parking areas from the public street and adjoining properties are, by ordinance, established during the MUPUD review process. The following chart outlines the setbacks for the proposed parking lot areas compared to standard requirements.

**PARKING**

	<u>Standard Setback</u>	<u>Proposed Setback</u>
Parking adjacent to another non-residential use	15 foot landscape buffer	No landscape buffer*
Setback from Street	20 feet	5 to 10 feet from Eyde Pkwy. ROW 10 feet from the Hannah Blvd. ROW

\*A landscaped buffer is defined as a vertical screen consisting of a masonry wall, plant materials, a landscaped earth berm, or a combination thereof, as appropriate for the site and at least three or four feet in height depending on the use on the adjoining site or street.

Since the site is 84 percent impervious, snow removal plans should be evaluated at this time.

Location of parking areas. The MUPUD ordinance encourages parking to be located on the side or rear of a building, per Section 86-440(f)(3)c and the site plan is generally in compliance. Only the six parallel parking spaces near the Hannah Boulevard entrance are technically in a front yard.

Bicycle Parking. Bicycle parking is required for all new commercial and multiple family projects. Section 86-760(g)(1) requires the installation of one bicycle parking space for every ten motor vehicle spaces. The site plan indicates 306 covered and uncovered bicycle parking spaces will be provided exceeding the requirements of the Township ordinance. MUPUD Section 86-440(f)(3)d states bicycle parking shall be separated from automobile parking in visible locations. The site plan shows bicycle parking is located near each residential building and retail uses.

Landscaping. Section 86-440(f)(4) of the MUPUD ordinance states, landscaping shall generally comply with the provisions of the Code of Ordinances. Section 86-758 outlines the typical landscape requirements for off-street parking areas including: landscaped islands at least 10 feet in width, a minimum of 200 square feet of interior landscaping for every ten parking spaces and four feet of building perimeter landscaping. Section 86-473 requires street trees be located between the curbline and the right-of-way along Hannah Boulevard, Esoteric Way and Eyde Parkway. Section 86-756(12) requires a 15 foot landscaped strip between the surface parking lot and the Marriott Town Suites hotel to the east.

Preliminary landscape plans have been provided for consideration at this time and final plans will be reviewed during site plan review. Landscape islands are missing from the surface parking lot although interior trees are shown. Some landscaping is proposed for the upper level of the parking deck. The buffer strip between the surface parking lot and the Marriott TownPlace Suites is four feet wide increasing the six feet where trees are proposed. Street trees are shown along the three surrounding streets. Ground floor entries to residential units consist of patios enclosed with landscape materials.

Lighting. The MUPUD ordinance indicates site lighting shall comply with the Outdoor Lighting Ordinance, Section 38-371 and street lighting intended to provide illumination for pedestrians on the sidewalk shall not exceed 15 feet in height. The design and location of fifteen foot tall street lights are shown on Sheet PE1-1. No other lighting has been proposed for the site at this time. The design of building and site lighting should be consistent with the proposed building style. Specification sheets for all outdoor light fixtures and a true photometric plan must be submitted with the site plan review application.

Signs. A sign program is generally required as part of the MUPUD application showing the style, size, number and location of signs, as outlined in Section 86-440(f)(6) of the ordinance. The Director of Community Planning and Development may be authorized to approve the entire sign program, or any part of the sign program, as part of the site plan review process. Sheet A2-1 of the elevation plans shows "typical" wall signs proposed for the mixed use building including wall signs over each business entrance, square projecting signs for each business, two Hannah Lofts signs over shared entryways, and a sign positioned above the eave line on what appears to be a chimney. Although the location for a free-standing sign is shown on the site plan near the corner of Esoteric Way and Eyde Parkway, a detail of the sign has not been provided. Any sign not shown must be made part of the official sign program before final approval.

Sidewalks. Sidewalk standards are outlined in Section 86-440(f)(7). In general sidewalks should be a minimum of five feet in width. Seven foot wide sidewalks are required when a sidewalk is located immediately adjacent to an off-street parking area or when it is part of the Township's Pedestrian/Bicycle Pathway system. The site plan shows sidewalk widths are not consistent throughout the development. The sidewalk on Esoteric Way is seven feet, while others on Eyde Parkway and Hannah Boulevard are as narrow as two feet, four feet or missing altogether (Eyde Parkway).

Wider sidewalks are recommended for a project of this magnitude. On Esoteric Way, sidewalk width should take into consideration the potential for outdoor seating. In other locations the sidewalk should be continuous and at least seven feet in width based on the number of future residents.

Amenities. One or more amenities are required for every MUPUD project. A recent amendment to the MUPUD ordinance has grouped amenities into categories. If multiple amenities are shown, the ordinance suggests they should represent multiple categories from the list: Conservation; Environment; Accessibility; Parks, Recreation and Culture; Social Interaction; and Site and Building Design. Guidelines for acceptable amenities are found in Section 86-440(e)(2) of the MUPUD ordinance.

The site plan lists the following amenities grouped by category:

1. Parks, Recreation and Culture: pool, park and open space
2. Site and Building Design: fountain/plaza
3. Social Interaction: community center/clubhouse with wifi
4. Accessibility: bike racks and foot sidewalks that connect to Township pathways

Development Review Committee comments have been incorporated into this staff report.

**Planning Commission Options**

The Planning Commission may recommend approval, approval with conditions, or denial. A motion will be provided at a future meeting.

**Attachments**

1. Application and supporting materials
2. Letter from William Savage, P.E., dated June 20, 2013
3. Site plans, elevation plans, preliminary landscape plans and photometric plans dated received June 4, 2013

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

MIXED USE PLANNED UNIT DEVELOPMENT APPLICATION

Before submitting this application for review, an applicant shall participate in the pre-application conference with the Director of Community Planning and Development to discuss the requirements for a Mixed Use Planned Unit Development.

**Part I**

- A. Applicant CAPSTONE COLLEGIATE COMMUNITIES, LLC  
 Address of Applicant 431 OFFICE PARK DRIVE, SUITE 199, BIRMINGHAM, AL 35223  
 Telephone - Work (205) 414-6432 E-Mail JACKENE@CAPSTONEMLL.COM Fax (205) 414-6405  
 Interest in property (circle one): Owner Tenant Option Other \_\_\_\_\_  
 (Please attach a list of all persons with an ownership interest in the property.)
- B. Site address / location / parcel number ESTERIC # 33-02-02-20-302-001  
 Legal description (please attach if necessary) SEE ATTACHED  
 Current zoning C-2  
 Project name HANNAH LOFTS
- C. Developer (if different than applicant) SAME  
 Address \_\_\_\_\_  
 Telephone: Work \_\_\_\_\_ E-Mail \_\_\_\_\_ Fax \_\_\_\_\_
- D. Architect, Engineer Planner or Surveyor responsible for design of project if different from applicant:  
 Name KEBS INC - GREG PETRU  
 Address 2116 HASLETT ROAD, HASLETT MI 48840  
 Telephone(s) (517) 339-1014 E-Mail G.PETRU@KEBS.COM Fax (517) 339-8047
- E. Acreage of all parcels in the project: Gross 7.86 Net 7.86
- F. Proposed Uses and Site Amenities:
1. Non-residential uses:
    - a. Type RETAIL, CUMBUSE
    - b. Percent of project area 14.5% OF 1ST FLOOR
    - c. Total square feet for non-residential uses 12,824 SF (SEE PLANS)
    - d. Usable floor area 10,900
    - e. Number of employees FULL TIME 5, PART TIME ± 15
    - f. Hours of operation 9:00 AM - 5:00 AM (M-F) HOURS MAY CHANGE AS NEEDED  
 - RETAIL HOURS TO BE DETERMINED
  2. Residential Uses:
    - a. Percent of project area 85.5% OF 1ST FLOOR
    - b. Total dwelling units 282
    - c. Dwelling unit mix:
      - i. Number of single family detached: for Rent \_\_\_\_\_ Condo \_\_\_\_\_
      - ii. Number of duplexes: for Rent \_\_\_\_\_ Condo \_\_\_\_\_
      - iii. Number of townhouses: for Rent 150 Condo \_\_\_\_\_
      - iv. Number of garden style apartments: for Rent \_\_\_\_\_ Condo \_\_\_\_\_
      - v. Number of other dwellings: for Rent 132 Condo \_\_\_\_\_

3. Parking:
- a. Non-residential uses 32 (ADJACENT, ALSO CAN USE PARKING DECK)
- b. Residential uses 619

4. Proposed Amenities: Type GREEN SPACE / PARK AREA  
 (General) Type FOUNTAIN  
 Type PARKING DECK  
 Type OUTDOOR PLAZA

- Proposed Amenities: Type \_\_\_\_\_  
 (Density Bonus) Type \_\_\_\_\_  
 Type \_\_\_\_\_  
 Type \_\_\_\_\_

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

1. Nonrefundable fee.
2. Legal Description of the property. (A sealed survey may be required)
3. Evidence of fee or other ownership of the property or a letter from the owner authorizing the request including the owner's proof of ownership.
4. A written description of the project including, but not limited to: a site analysis; the principal factors which influenced the site plan and architectural elements; and, the proposed phasing program for non-residential and residential uses, installation and/or construction of amenities.
5. Fourteen copies (Thirteen (13) 24"x36" and one 8½" x11") of a Site Plan drawn to a readable scale containing the following (may be a set of plans for readability):
  - Total property, its location in the Township, its relationship to adjacent properties
  - Boundaries of subject property
  - Location and dimensions of all existing and proposed structures
  - Approximate location and distance of all structures within 100 feet of the subject property
  - Proposed means of vehicular and pedestrian ingress and egress to the subject property
  - Public and private roads and streets, rights-of-way and easements indicating names and widths of streets which abut or cross the site
  - Existing and proposed parking spaces and vehicular and pedestrian circulation patterns
  - Dimensions of setbacks from streets, property lines and between buildings on the site
  - Location of proposed amenities
  - Location and size of existing utilities including power lines and towers, both above and below ground
  - Amount and location and calculation of all impervious surfaces
  - Verified boundaries of all natural water features and required setback lines
6. A reproducible two foot contour topographic map based on United States Geological Survey (USGS) drawn at the same scale as the site plan and showing existing relief features on the site.
7. A schematic layout of the proposed storm sewer system.
8. Architectural sketches of all elevations of proposed buildings or structures, including the project entrances, as they will appear upon completion. The sketches should be accompanied by material samples or a display board of the proposed exterior materials and colors.
9. Floor plans of proposed residential units.



10. A Traffic Study (if the project will exceed 100 vehicle trips during the peak hours of the roadway(s), prepared by a qualified traffic engineer, based on the most current edition of *Evaluating Traffic Impact Studies: A Recommended Practice for Michigan Communities*, published by the State Department of Transportation.
11. Natural Features Study for previously undeveloped properties which includes a written description of natural features proposed to be retained, removed, or modified. Natural features shall include, but are not limited to, wetlands, floodways, floodway fringe, waterbodies, significant stands of trees or individual trees greater than 12 inches dbh, identified groundwater vulnerable areas, slopes greater than 20 percent.
12. Preliminary engineering reports in accordance with the adopted Township water and sewer standards, together with a letter of review from the Township Engineer.
13. A sign program illustrating size and location of each proposed sign type.
14. A lighting plan (see Chapter 38, Article VII).
15. Copies of comments from reviewing agencies such as, but not limited to, the following:
  - Ingham County Road Commission
  - Ingham County Drain Commission
  - Michigan Department of Transportation (if applicable)
  - Michigan Department of Environmental Quality (if applicable)
  - The appropriate school board (as applicable)


H. Any other information specified by the Director of Community Planning and Development which is deemed necessary to evaluate the application.

**Part II**

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

Yes     No    (Please check one)

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

  
 \_\_\_\_\_  
 Signature of Applicant

6/3/13  
 \_\_\_\_\_  
 Date

John Acker  
 \_\_\_\_\_  
 Type/Print Name

Fee: \_\_\_\_\_

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

Pre-Application Meeting Held: \_\_\_\_\_  
 Date

Application Complete: \_\_\_\_\_  
 Date

By: \_\_\_\_\_  
 Staff

## Hannah Lofts

Hannah Lofts embodies the best in Traditional Neighborhood Development design. The Lofts will exemplify the principles of the New Urbanism concept that so many communities are striving to achieve.

**Traditional Neighborhood:** The goal of the Lofts is to create not just more residential housing but a thriving neighborhood. The first floor along Esoteric Way will be approximately 7,500 sqft of retail which will become the hub of activity, allowing everyone to live, play, and relax together. Adjacent to the retail and facing Hannah Boulevard will be clubhouse of approximately 5,000 sqft with a fitness facility, tanning salon and a resort style spa and pool. A bus stop at the corner of Esoteric Way and Hannah Boulevard will allow for connection to MSU and East Lansing.

Connectivity within the development will also be one of the keys to creating the sense of community. The Lofts will further connect the pedestrian walkways within Hannah Farms allowing for easier access throughout the entire Hannah Farms development. The Lofts will also provide approximately 300 bicycle parking spaces.

The Lofts will host carefully designed parks and civic spaces that will serve as gathering places for the residents and the community. Each civic space has been carefully designed to create a "sense of place." The types of civic spaces range from a one acre natural park at the northern edge of the development, to a large civic square with fountain at the corner of Esoteric Way and Eyde Parkway, to small pocket parks scattered throughout. The development will also provide two unit types not yet developed in Hannah Farms: townhouses and apartments served with an internal hallway.

**Unit Types:** Almost 50% of the units will be three story townhouses. The Townhouses will provide a unique sense of privacy and convenience since the entrances will all be on the first floor. These units will also feature large first floor private patios. The top (fourth) floor of the development will consist primarily of studio, one bedroom, and two bedroom units. These units will be served by private elevators and the interior hallways will be heated and cooled. These unit types will also appeal to a broad range of residents and complement the existing residential units already built at the Lodges.

### **Unit finishes:**

Residents will find the Lofts are designed to feel warm and inviting, typically using a mixture of faux wood floors in the living room and kitchen, ceramic tile in the baths, and plush carpet flooring for bedrooms. The primary living areas embrace design elements consisting of 9 foot ceilings, two piece crown moldings, pre-wire for high speed internet access, and surround sound pre-wire to eliminate unsightly cords. Residents will enjoy a gourmet kitchen typically equipped with decorator cabinetry, Whirlpool stainless range, dishwasher, disposal, microwave hood, and refrigerator. The separate laundry areas typically include a full size washer and dryer. All appurtenances, including door knobs and lighting are typically oil rubbed bronze, adding charm to the old world influences throughout the interior design.



# TRAFFIC IMPACT STUDY

For The Proposed

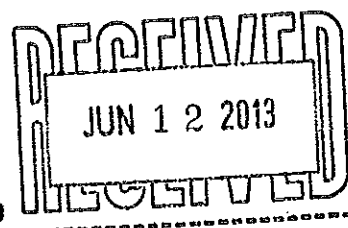
Hannah Lofts

Meridian Charter Township, Ingham County, MI

June, 2013

Prepared by:  
**Traffic Engineering  
Associates, Inc.**

PO Box 100 • Saranac, Michigan 48881  
517/627-6028 FAX: 517/627-6040



## Table of Contents

	Page
Executive Summary	
Introduction	1
Project Description	2
Scope of Work	3
Study Site Map	4
Aerial Site Map	5
Existing Conditions	6
Roadways & Intersections	7
Land Use	8
Existing Traffic Volumes	8
Level of Service Analysis for Existing Traffic	10
Level of Service Analysis for Mitigated Existing Traffic	15
Background Conditions	18
Background Traffic Volumes – Growth Related	19
Background Traffic Volumes – Development Related	19
Level of Service Analysis for Background Traffic	21
Future Conditions	23
Site Traffic Generation	24
Site Traffic Distribution	30
Level of Service Analysis for Future Traffic	33
Significant Findings	35
Design Considerations	36
Recommendations	37
Supplemental Information	38
Proposed Site Plan	
Timing Permits	
Vehicle Turning Movement Surveys	
Population Data	
LOS Computations	



## List of Tables

Table	Title	Page
1	Level of Service (LOS) Summary – Existing Traffic	12
2	Level of Service (LOS) Summary – SimTraffic Results for Existing Traffic	14
3	Level of Service (LOS) Summary – Mitigated Existing Traffic with Traffic Signal	17
4	Level of Service (LOS) Summary – Background Traffic with Traffic Signal	22
5	Vehicle Trip Generation Summary – Proposed Hannah Lofts Development Townhouse Apartments	26
6	Vehicle Trip Generation Summary – Proposed Hannah Lofts Development	29
7	Level of Service (LOS) Summary – Future Traffic with Traffic Signal	34

## List of Figures

Figure	Title	Page
1	Existing Traffic – Peak Hours	9
2	Background Traffic – Peak Hours	20
3	Site Traffic – Peak Hours	31
4	Future Traffic – Peak Hours	32



## List of Tables

Table	Title	Page
1	Level of Service (LOS) Summary – Existing Traffic	12
2	Level of Service (LOS) Summary – SimTraffic Results for Existing Traffic	14
3	Level of Service (LOS) Summary – Mitigated Existing Traffic with Traffic Signal	17
4	Level of Service (LOS) Summary – Background Traffic with Traffic Signal	22
5	Vehicle Trip Generation Summary – Proposed Hannah Lofts Development Townhouse Apartments	26
6	Vehicle Trip Generation Summary – Proposed Hannah Lofts Development	29
7	Level of Service (LOS) Summary – Future Traffic with Traffic Signal	34

## List of Figures

Figure	Title	Page
1	Existing Traffic – Peak Hours	9
2	Background Traffic – Peak Hours	20
3	Site Traffic – Peak Hours	31
4	Future Traffic – Peak Hours	32



The Hagadorn Road corridor shows a significant improvement with the installation of a new traffic signal at the intersection of Hagadorn Road and Eyde Parkway. Currently, the heavy traffic volumes along the Hagadorn Road corridor are making it difficult for the Eyde Parkway traffic to find appropriate gaps to complete their turning movements. Also, the heavy volume of traffic on Hagadorn Road is creating delays for the southbound to northbound crossover. The addition of the new traffic signal provides protected turning movements for Eyde Parkway traffic, and creates significant gaps at the crossover which greatly improves the level of service. This allows traffic to move much more efficiently.

The existing mitigated traffic operates at an acceptable level of service (LOS D or better) for all movements along the Hagadorn Road corridor between Hannah Boulevard and Eyde Parkway.

Background traffic represents future traffic without the traffic generated by the proposed Hannah Lofts development. The target year for completion of the development is fall of 2014. For background analysis, it was assumed that a new traffic signal was installed at the intersection of Hagadorn Road and Eyde Parkway. All background traffic movements will operate at an acceptable level of service (LOS D or better) except for the westbound right turn on Hannah Boulevard to northbound Hagadorn Road.

The future trip generation rates for the four-bedroom townhouse apartments were based on the Lodges of East Lansing – Phase I rates. The remaining one-bedroom two-bedroom and three-bedroom apartment units and the retail spaces trip generation rates were derived from the Institute of Traffic Engineering Trip Generation Manual, 9<sup>th</sup> Edition. It is projected that the proposed Hannah Lofts development will generate 196 vehicle trips during the AM peak hour and 293 vehicle trips during the PM peak hour.

All proposed driveways were analyzed as two (2) lanes with one (1) inbound and one (1) outbound lane. All surrounding roadway geometrics were the same as existing conditions.

Under future conditions, it is estimated that all movements will operate at an acceptable level of service (LOS D or better) except for two (2) movements at the intersection of Hagadorn Road and Hannah Boulevard, but overall, the intersection is expected to operate at LOS C.





## INTRODUCTION



## PROJECT DESCRIPTION

The purpose of this Traffic Impact Study is to determine the impact of new traffic to be generated by the proposed Hannah Lofts on the surrounding road system. The proposed development will be on the south side of Hannah Boulevard, east of Esoteric Way and north of Eyde Parkway.

Access to the site will be via three (3) entrances, one (1) on Hannah Boulevard, one (1) on Esoteric Way and one (1) on Eyde Parkway. All proposed driveways will allow full access to motorists entering and exiting the site.

The development will consist of 282 apartment units, which will include four-bedroom townhouse apartments, one-bedroom, two-bedroom and three-bedroom apartments, 7,390 square feet of retail space, a clubhouse and a parking deck. It is anticipated that townhouse units will attract college students, similar to the Lodges of East Lansing – Phase I and Phase II. The remaining one- bedroom, two-bedroom and three -bedroom apartments are designed to attract professional non-students, but could also be rented by students. For the purposes of this study, it was assumed that the four-bedroom townhouse units would be students and the remainder of the apartments would be non-students. The facility is expected to be occupied by August, 2014, in correlation to the beginning of classes at Michigan State University.

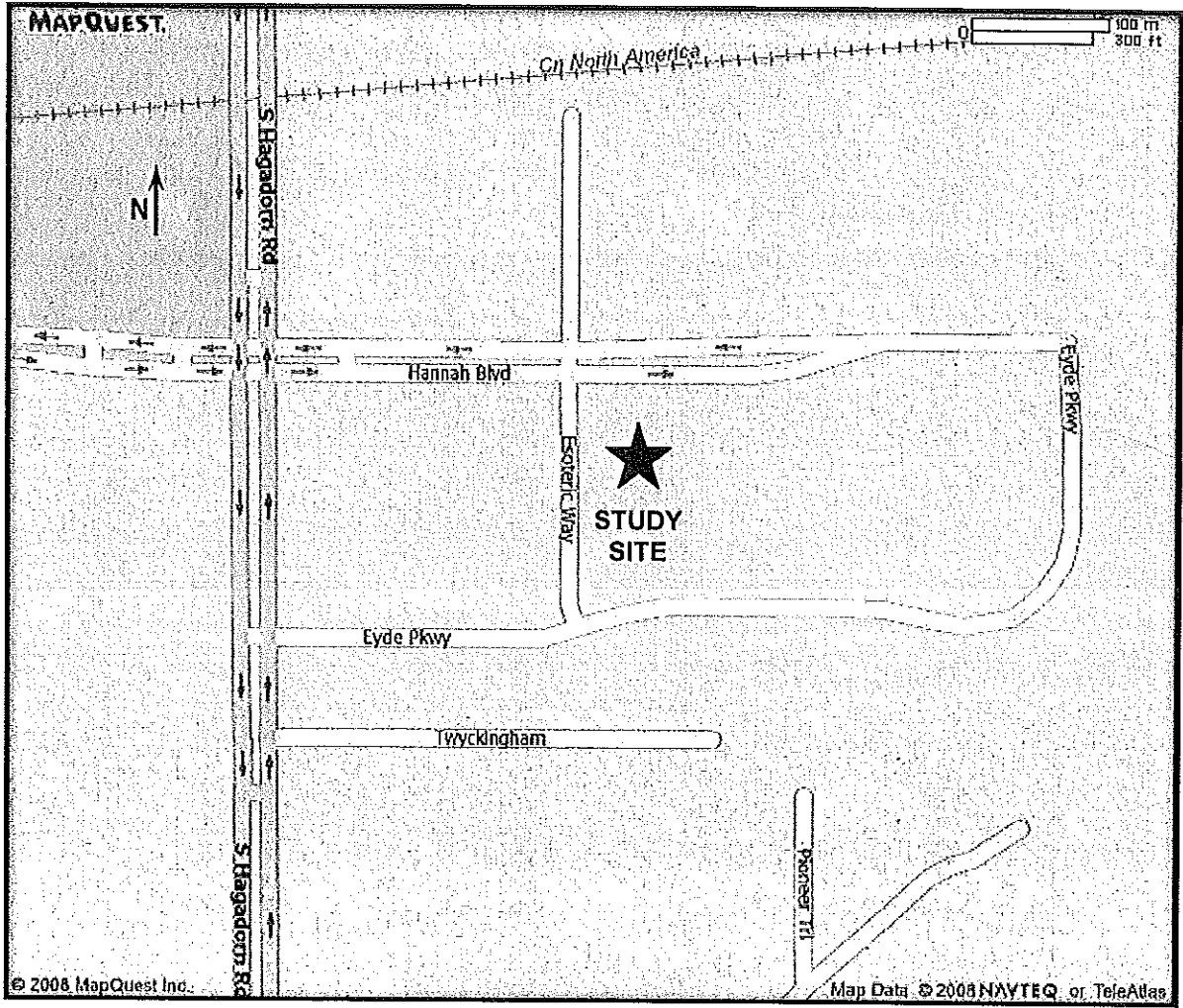


## SCOPE OF WORK

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

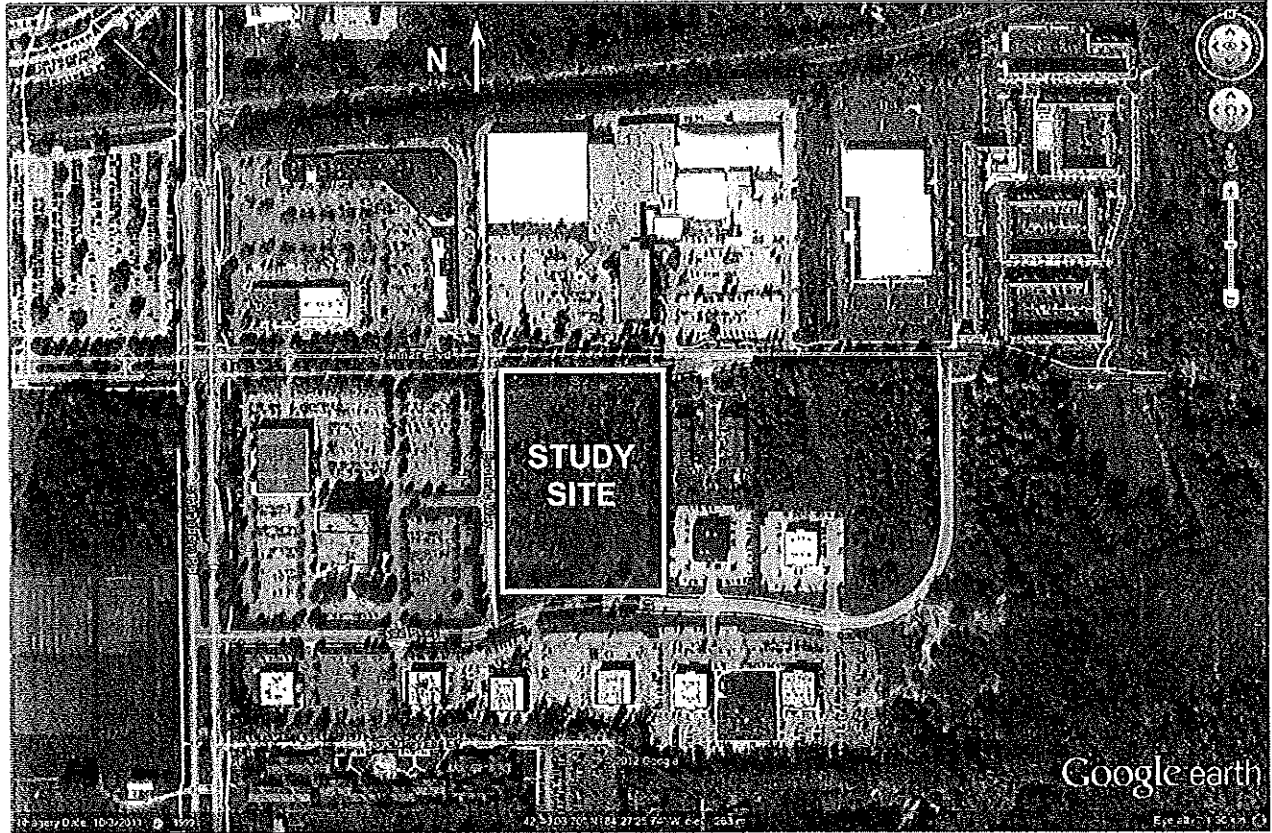
- Analysis of existing traffic conditions on the adjoining street system which will include the following locations:
  - Hagadorn Road and Hannah Boulevard
  - Hagadorn Road and Eyde Parkway
  - Hannah Boulevard and Esoteric Way
  - Esoteric Way and Eyde Parkway
- Analysis of background traffic conditions, which includes the new Lodges of East Lansing – Phase II development currently under construction located on Hannah Boulevard and east of Esoteric Way.
- Projection of future traffic volumes to be generated by the proposed Hannah Lofts development
- Evaluation of the impact of future traffic volumes at the aforementioned intersections and proposed driveways.
- Determination of what roadway and traffic control improvements, if any, will be needed to accommodate future traffic volumes.





Study Site Map





**Aerial Site Map**



# EXISTING CONDITIONS



## ROADWAYS AND INTERSECTIONS

Hagadorn Road is a four lane divided boulevard roadway in the project area. There are sidewalks on both sides of the roadway and the posted speed limit is 45 MPH. Hagadorn Road is under the jurisdiction of the Ingham County Department of Roads and Transportation.

Hannah Boulevard is a four lane divided roadway with a grass boulevard. There are sidewalks on the north side of Hannah Boulevard. There is no posted speed limit; therefore, the prima facie speed is 25 MPH. Hannah Boulevard is under the jurisdiction of the Ingham County Department of Roads and Transportation.

Esoteric Way is a two lane roadway with no sidewalk. There is no posted speed limit; therefore, the prima facie speed is 25 MPH. Esoteric Way is under the jurisdiction of the Ingham County Department of Roads and Transportation.

Eyde Parkway is a two lane roadway with sidewalk on the south side of the roadway. There is no posted speed limit; therefore, the prima facie speed is 25 MPH. Eyde Parkway is under the jurisdiction of the Ingham County Department of Roads and Transportation.

The intersection of Hagadorn Road and Hannah Boulevard is controlled by a two-phase traffic signal. The north and south approach on Hagadorn Road, and east approach on Hannah Boulevard are five (5) lanes; two (2) thru lanes, one (1) exclusive right turn lane with two (2) outbound lanes. The west approach on Service Road is four (4) lanes; one (1) thru lane, one (1) thru-right turn lane with two (2) outbound lanes. There are no left turns allowed at the intersection; rather, all left turn movements are made via the four (4) Michigan lefts.

The intersection of Hagadorn Road and Eyde Parkway forms a "T" intersection and is controlled by STOP control on westbound Eyde Parkway. The north approach on Hagadorn Road is five (5) lanes; two (2) thru lanes, one (1) exclusive left turn lane, and two (2) outbound lanes. The south approach on Hagadorn Road is four (4) lanes; one (1) thru lane, one (1) thru-right turn lane, and two (2) outbound lanes. The east approach on Eyde Parkway is two (2) lanes; one (1) left-right lane and one (1) outbound lane.

The intersection of Hannah Boulevard and Esoteric Way forms a "T" intersection and is controlled by STOP control on northbound Esoteric Way. The south approach is two (2) lanes with one (1) inbound and one (1) outbound lane. The east and west approach on Hannah Boulevard are two (2) lanes eastbound and two (2) lanes westbound with a grass median.



The intersection of Esoteric Way and Eyde Parkway forms a "T" intersection and is controlled by STOP control on southbound Esoteric Way. All approaches are two (2) lanes with one (1) inbound and one (1) outbound lane.

## LAND USE

The proposed residential development will be located on vacant property south of Hannah Boulevard, east of Esoteric Way and north of Eyde Parkway. The property to the west is existing commercial office buildings, to the north is the MAC Center and apartments, to the northwest is commercial retail, and to the east is office buildings and a hotel.

## EXISTING TRAFFIC VOLUMES

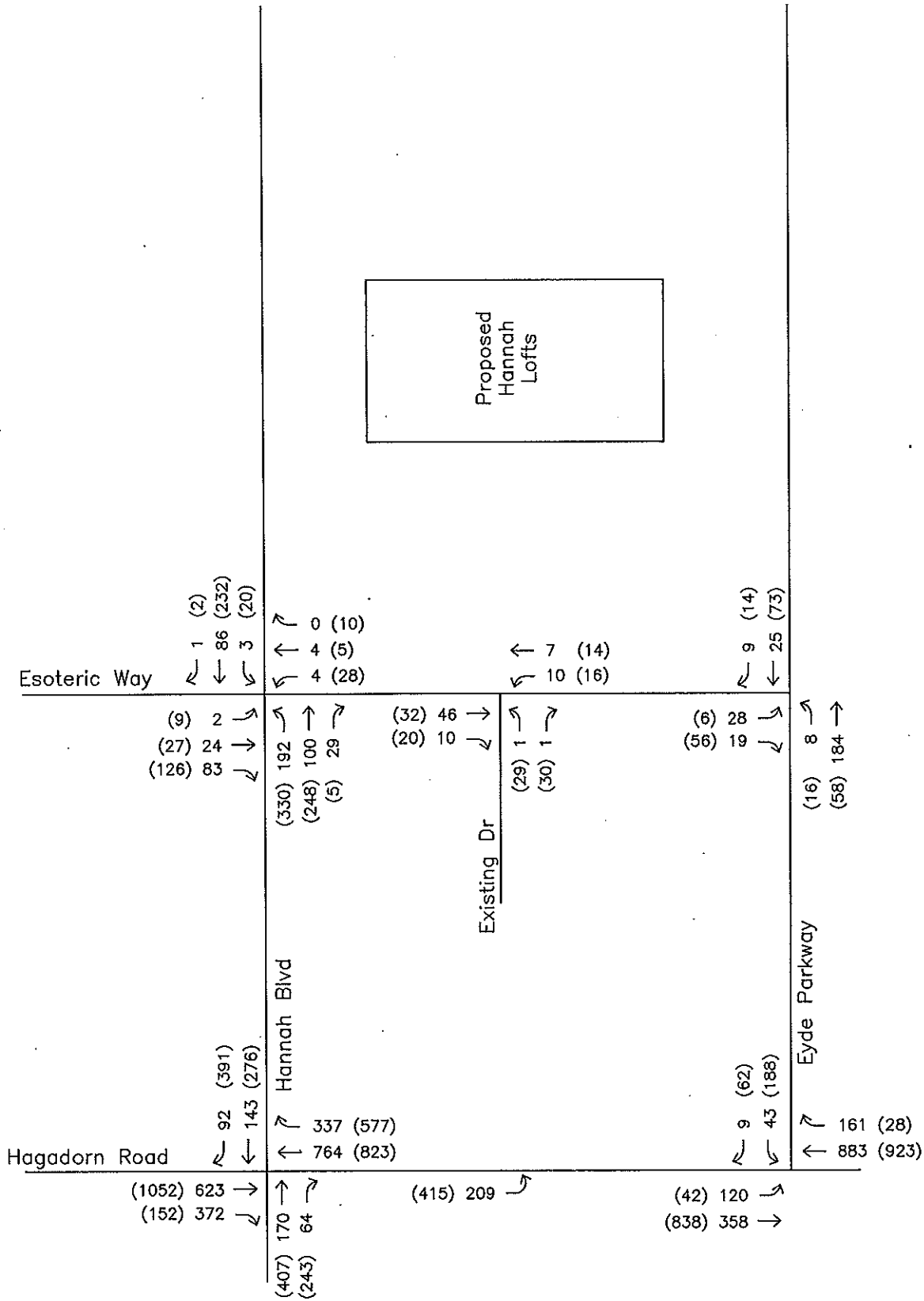
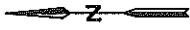
TEA, Inc. conducted vehicle turning movement surveys during the weekday, morning and afternoon peak hours in February of 2013, at the following intersections:

- Hannah Boulevard and Esoteric Way
- Eyde Parkway and Esoteric Way

The turning movement counts at the remainder of the intersections to be included in this study were taken in January of 2012 for the Lodges of East Lansing II traffic impact study.

The weekday AM and PM peak hours of existing traffic on the adjoining road system are 7:45 – 8:45 AM and 5:00 – 6:00 PM respectively. The existing weekday AM and PM peak hour traffic volumes are illustrated in **Figure 1**.





**LEGEND**

XXX AM Pk Hr (7:45-8:45 AM) Volumes

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

**FIGURE 1: Existing Traffic - Peak Hours**

DATE: June, 2013      SCALE: NTS      PAGE: 9

TRAFFIC ENGINEERING ASSOCIATES, INC.  
 PO Box 1400  
 Sacramento, CA 95881  
 PHONE: (916) 627-6028  
 FAX: (916) 627-6040



## 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 8 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 an acceptable level of service (LOS D or better) during the AM, PM and Friday peak hours, except for;

- The northbound right turn movement on Hagadorn Road at Hannah Boulevard during the PM peak hour operates at a level of service (LOS) E with a vehicle delay of 57.9 seconds.



- The southbound to northbound crossover on Hagadorn Road south of Hannah Boulevard/Service Drive during the PM peak hour operates at a level of service (LOS) F with a vehicle delay of 99.1 seconds.
- The southbound left turn movement on Hagadorn Road at Eyde Parkway, during the AM peak hour operates at a level of service (LOS) F with a vehicle delay of 87.5 seconds.
- The westbound left-right movement on Eyde Parkway at Hagadorn Road during the PM peak hour operates at a level of service (LOS) F with a vehicle delay of 266.6 seconds.



**Table 1**  
**Level of Service (LOS) Summary**  
**Existing Traffic**

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Delay	LOS	Delay	LOS
Hagadorn Road and Hannah Boulevard/ Service Drive	EB Thru-Right	13.0	B	18.0	B
	WB Thru	17.4	B	14.9	B
	WB Right	10.4	B	35.1	D
	NB Thru	11.1	B	18.3	B
	NB Right	2.4	A	<u>57.9</u>	<u>E</u>
	SB Thru	9.9	A	22.3	C
	SB Right	3.1	A	2.9	A
	Intersection Overall	8.1	A	28.7	C
	SB to NB Crossover	20.4	C	<u>99.1</u>	<u>F</u>
Hagadorn Road and Eyde Parkway	WB Left-Right	30.3	D	<u>266.6</u>	<u>F</u>
	NB Thru	0.0	A	0.0	A
	NB Thru-Right	0.0	A	0.0	A
	SB Left	<u>87.5</u>	<u>F</u>	29.2	D
Hannah Boulevard and Esoteric Way	EB Left-Thru-Right	4.7	A	4.8	A
	WB Left-Thru-Right	0.2	A	0.6	A
	NB Left-Thru-Right	14.4	B	14.2	B
	SB Left-Thru-Right	15.1	C	27.7	D
Esoteric Way and Eyde Parkway	EB Left-Thru	0.4	A	1.7	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	10.2	B	9.3	A
Esoteric Way and Commercial Driveway	EB Left-Right	8.8	A	8.6	A
	NB Thru-Left	6.1	A	3.9	A
	SB Thru-Right	0.0	A	0.0	A

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



When determining level of service, the Synchro 8 software reverts to the Highway Capacity Manual (HCM) methodology for stop sign controlled intersections. The HCM generates estimated delay per vehicle per lane group. This information is based on statistical equations, and is considered the industry standard. In accordance with the Michigan Department of Transportation (MDOT) standards, the SimTraffic simulation software, which is part of the Synchro 8 software package, was also utilized to validate the HCM reports that were generated. The SimTraffic simulation software generates multiple runs of the peak hour in simulation and creates an average vehicle delay for the simulated vehicles on the network. Simulation results are reported by turning movement, as opposed to lane group as reported in the HCM analysis.

While the HCM report is the industry standard, the SimTraffic simulation information should also be utilized as a comparison when determining recommended improvements. Typically, the HCM report and SimTraffic simulation software generate similar results, and this occurs during the AM peak hour where the SimTraffic simulation shows a steady flow of traffic throughout the system. However, during the PM peak hour along the Hagadorn Road corridor, the SimTraffic simulation shows additional delays that do not appear in the HCM report and it is important to discuss their differences. The PM peak hour levels of service and delays for the Hagadorn Road corridor are summarized in **Table 2**.

There is a very heavy movement of southbound traffic on Hagadorn Road at the intersection of Hannah Boulevard. A large portion of this traffic utilizes the southbound to northbound Michigan left turn crossover just south of the intersection during the PM peak hour. Under existing conditions, 415 vehicles make that movement. During the PM peak hour the SimTraffic simulation shows that this movement has such a long delay that it causes a back-up north of the Hagadorn Road/Hannah Boulevard intersection. The simulation shows that the storage lane for the crossover is completely full during the majority of the PM peak hour.

The SimTraffic simulation reports show a delay of 82.3 seconds (LOS F) for the southbound thru movement with over 940 feet of queued vehicles, which equates to 40 vehicles stopped in one lane. The crossover has 93.6 seconds of delay (LOS F) with 375 feet of queued vehicles in the storage lane, which exceeds the 350 foot storage lane.

Also, the westbound Eyde Parkway left-right turn movements have 166.8 seconds of delay for the left turn movement, and 158.1 seconds of delay for the right turn movement both LOS F ratings. This approach is queued over 600 feet which correlates to 30 vehicles stopped during the maximum queue.



**Table 2**  
**Level of Service (LOS) Summary**  
**SimTraffic Results for Existing Traffic**

Location	Movement	Weekday PM Peak Hour		
		Delay	LOS	Queue
Hagadorn Road and Hannah Boulevard/ Service Drive	EB Thru	16.7	B	198
	EB Right	22.5	C	279
	WB Thru	14.7	B	323
	WB Right	15.5	B	105
	NB Thru	33.4	C	216
	NB Right	31.8	C	175
	SB Thru	<u>82.3</u>	<u>F</u>	942
	SB Right	39.1	D	214
	SB to NB Crossover	<u>93.6</u>	<u>F</u>	375
Hagadorn Road and Eyde Parkway	SB Left	9.5	A	52
	WB Left	<u>166.8</u>	<u>F</u>	608
	WB Right	<u>158.1</u>	<u>F</u>	--
	NB Thru	1.0	A	25
	NB Right	0.8	A	25

Note: Delay = Average vehicle delay in seconds.

LOS = Level of Service

Queue = Maximum Queue in feet



## LEVEL OF SERVICE ANALYSIS FOR MITIGATED EXISTING TRAFFIC

The intersection of Hagadorn Road and Hannah Boulevard has optimum laneage as it is currently designed. The largest delays for this intersection occur due to the extensive queue of vehicles just south of the intersection utilizing the southbound to northbound crossover. Also, the intersection of Hagadorn Road and Eyde Parkway shows lengthy delays for the westbound vehicles on Eyde Parkway. In order to mitigate these existing delays and lengthy queues, mitigation options were analyzed with only one option showing significant improvement.

The corridor shows a significant improvement with the installation of a new traffic signal at the intersection of Hagadorn Road and Eyde Parkway. Currently, the heavy traffic volumes along the Hagadorn Road corridor are making it difficult for the Eyde Parkway traffic to find appropriate gaps to complete turning movements. The heavy volume of traffic on Hagadorn Road is creating delays for both the southbound to northbound crossover and Eyde Parkway. The addition of the signal provides protected turning movements for Eyde Parkway and creates significant gaps at the crossover. This allows traffic to move much more efficiently.

The simulation shows that with this mitigation for existing traffic, there are no southbound queues that extend beyond the length of the storage lane for the southbound to northbound crossover, which in turn reduces the queues for southbound traffic at the Hagadorn Road/Hannah Boulevard intersection. This will also allow for better traffic flow at the northbound to southbound crossover north of the intersection.

The existing mitigated traffic operates at an acceptable level of service (LOS D or better) for all movements. The intersection of Hagadorn Road and Hannah Boulevard had two movements that originally operated poorly during the PM peak hour. With the new traffic signal the northbound right turn movement is improved to a 39.7 second delay (LOS D) with a reduction of 17.8 seconds of delay; and the southbound to northbound crossover will operate with 18.7 seconds of delay (LOS C), which is an 80.4 second reduction in vehicle delay.

The Hagadorn Road and Eyde Parkway intersection also had two movements that operated poorly under the existing stop control. With the installation of a new traffic signal, during the AM peak hour, the southbound left turn movement will operate with 31.2 seconds of delay (LOS C), which results in 56.3 seconds of reduced delay. Likewise, during the PM peak hour, there is a reduction of 219.9 seconds of delay (LOS F) for the westbound left-right turn movement to 46.7 seconds of delay (LOS D).

The Level of Service analysis for mitigated existing traffic at the Hagadorn Road intersections during the peak hours is summarized in **Table 3**. The other intersections are



too far from Hagadorn Road to see any impact by these mitigations and they already operate at a good level of service (LOS B or better) for both periods.

Working with the Ingham County Department of Roads and Transportation, federal funding was applied for and approved to provide for the new traffic signal at the intersection of Hagadorn Road and Eyde Parkway. The federal funding was approved for 2014. It is anticipated that Ingham County will install the new traffic signal to mitigate the excessive delays and queues in the Hagadorn Road corridor before the Hannah Lofts Apartments project is completed and occupied.



**Table 3**  
**Level of Service (LOS) Summary**  
**Mitigated Existing Traffic**

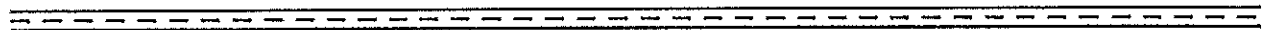
Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Delay	LOS	Delay	LOS
Hagadorn Road and Hannah Boulevard/ Service Drive	EB Thru-Right	16.1	B	19.0	B
	WB Thru	21.3	C	15.7	B
	WB Right	9.4	A	51.2	D
	NB Thru	2.5	A	7.4	A
	NB Right	1.1	A	39.7	D
	SB Thru	7.6	A	18.4	B
	SB Right	3.9	A	2.6	A
	Intersection Overall	4.7	A	17.3	B
	SB to NB Crossover	12.0	B	18.7	C
Hagadorn Road and Eyde Parkway	WB Left-Right	24.9	C	46.7	D
	NB Thru-Right	13.1	B	22.3	C
	SB Left	31.2	C	19.0	B
	Intersection Overall	15.3	B	27.6	C

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





## BACKGROUND CONDITIONS



## **BACKGROUND TRAFFIC VOLUMES – GROWTH RELATED**

Background traffic represents future traffic without the traffic generated by the proposed Hannah Lofts development. The target year for completion of the development is fall of 2014.

According to the most recent data from the US Census Bureau, from 2000-2010 Ingham County had an exponential growth rate of zero point zero six percent (0.06%) per year. Meridian Charter Township had a growth of zero point one four percent (0.14%), and the City of East Lansing had a growth of zero point four three percent (0.43%).

Given the development's close proximity to the City of East Lansing, the zero point four three percent (0.43%) growth rate was applied to determine background traffic volumes for the fall of 2014, which represents the most conservative estimate. To increase the existing 2012 traffic volume to the projected fall of 2014 build out date, the traffic volumes would be multiplied by a rate of 1.011. To increase the existing 2013 traffic volumes to the projected fall of 2014 build out date, the traffic volumes would be multiplied by a rate of 1.007.

## **BACKGROUND TRAFFIC VOLUMES – DEVELOPMENT RELATED**

A "Traffic Impact Study" for the Lodges of East Lansing – Phase II was completed by Traffic Engineering Associates, Inc. in March of 2012. This project is still under construction; therefore, the future traffic generation from this study will be included in this study as background traffic volumes for this study.

The background growth traffic, and the Lodges of East Lansing – Phase II traffic, are shown in **Figure 2**.



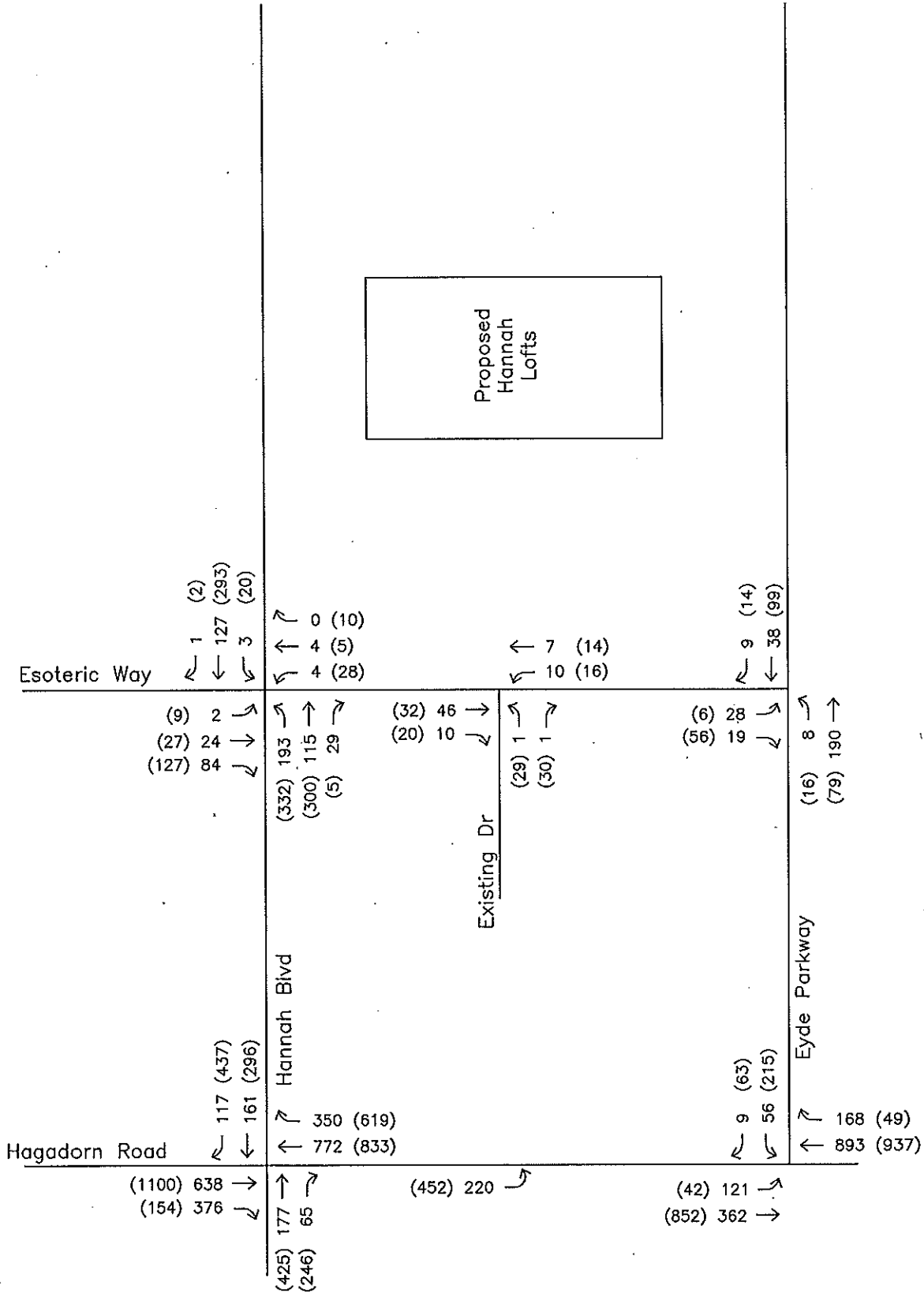
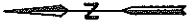


FIGURE 2: Background Traffic - Peak Hours

LEGEND

XXX AM Pk Hr (7:45-8:45 AM) Volumes

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

TRAFFIC ENGINEERING ASSOCIATES, INC.  
 PO Box 10  
 Southfield, MI 48081  
 PHONE (517) 627-6028  
 FAX (517) 627-6040

## LEVEL OF SERVICE ANALYSIS FOR BACKGROUND TRAFFIC

The level of service analysis for background traffic at the subject intersections during the peak hours is summarized in **Table 4**. For background analysis, it was assumed that a new traffic signal was installed at the intersection of Hagadorn Road and Eyde Parkway.

For background traffic, the signal cycle lengths at the two signalized intersections were increased from 60 seconds to 90 seconds during the PM peak hour, but remained at the 60 second cycle length for the AM peak hour.

All background turning movements at the studied intersections operate at an acceptable level of service (LOS D or better) during the AM, PM and Friday peak hours, except for;

- The westbound right turn movement on Hannah Boulevard at Hagadorn Road during the PM peak hour operates at a level of service (LOS) E with a vehicle delay of 74.2 seconds, a 23.0 second increase from the existing mitigated.



**Table 4**  
**Level of Service (LOS) Summary**  
**Background Traffic with Mitigated Traffic Signal**

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Delay	LOS	Delay	LOS
Hagadorn Road and Hannah Boulevard/ Service Drive	EB Thru-Right	16.3	B	26.1	C
	WB Thru	21.5	C	22.6	C
	WB Right	12.7	B	<u>74.2</u>	<u>E</u>
	NB Thru	2.6	A	17.6	B
	NB Right	1.2	A	48.8	D
	SB Thru	7.7	A	20.0	C
	SB Right	4.7	A	2.4	A
	Intersection Overall	6.0	A	25.7	C
	SB to NB Crossover	12.3	B	22.6	C
Hagadorn Road and Eyde Parkway	WB Left-Right	27.3	C	43.9	D
	NB Thru-Right	13.3	B	21.1	C
	SB Left	31.6	C	29.0	C
	Intersection Overall	15.7	B	26.6	C
Hannah Boulevard and Esoteric Way	EB Left-Thru-Right	6.1	A	6.0	A
	WB Left-Thru-Right	0.3	A	1.0	A
	NB Left-Thru-Right	15.0	C	14.9	B
	SB Left-Thru-Right	9.8	A	10.9	B
Esoteric Way and Eyde Parkway	EB Left-Thru	0.4	A	1.4	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	10.3	B	9.6	A
Esoteric Way and Commercial Driveway	EB Left-Right	8.6	A	8.6	A
	NB Thru-Left	5.6	A	3.9	A
	SB Thru-Right	0.0	A	0.0	A

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



**FUTURE CONDITIONS**



## SITE TRAFFIC GENERATION

The trip generation rates were derived from the existing traffic counts taken at the Lodges of East Lansing – Phase I site driveways and compared to the ITE TRIP GENERATION MANUAL (9th edition).

The existing peak hour traffic volumes for the Lodges of East Lansing – Phase I site driveways during the AM and PM peak hours are 8:00 – 9:00 AM and 4:00 – 5:00 PM, respectively. These site peak hours do not correspond with the surrounding roadway peak hours; however, they represent the highest trip generation volumes during the peaks and thus, make the most conservative estimates for the proposed site. The following information was obtained from existing traffic counts:

	AM Peak Hour	PM Peak Hour
<b>Enter</b>	28	102
<b>Exit</b>	76	120
<b>Total</b>	104	222

The Lodges of East Lansing – Phase I development consisted of 220 apartment units and 683 bedrooms, and TEA was informed that the occupancy was 99% leased out when counts were taken in January, 2012. For the purposes of this report, it was assumed that the data collected at the existing Lodges of East Lansing – Phase I driveways accounted for the entire site fully occupied. Given that information, the following rates were determined:

	AM Peak Hour	PM Peak Hour
<b>Units</b>	0.47	1.01
<b>Bedrooms</b>	0.15	0.325

These rates were applied to the proposed townhouse apartments for the Hannah Lofts development to determine future trip generation estimates.

In addition, a trip generation analysis was conducted utilizing the ITE Trip Generation Manual (9<sup>th</sup> Edition) for comparison purposes. The ITE trip generation rates for Apartment (Land Use Code 220) were selected as representing the 150 unit four-bedroom apartments in the Hannah Lofts development. The ITE description is as follows:

*Apartments are rental dwelling units located within the same building with at least three other dwelling units, for example, quadraplexes and all types of apartment buildings. The studies included in this land use did not identify whether the apartments were low-rise, or high-rise.*



Comparing the estimated rates from the data collected at the Lodges of East Lansing – Phase I site against the ITE Trip Generation Manual, the independent variable of apartment units has similar numbers. The widest variation occurs when you look at the trip distribution between entering and exiting traffic, as displayed below.

	Lodges of East Lansing Field Data	ITE Trip Generation Manual
<b>AM Peak Hour</b>		
Enter	27%	20%
Exit	73%	80%
<b>PM Peak Hour</b>		
Enter	46%	65%
Exit	54%	35%

During the AM peak hour, the distribution is fairly similar between the two sources. In the PM peak hour, however, the existing field data shows a more even split of entering and exiting traffic than the ITE Trip Generation Manual. This discrepancy may be due to the difference between a typical apartment facility where the occupants are more likely to leave for work in the AM peak hour and arrive home from work during the PM peak hour; whereas at a more college student oriented facility the entering and exiting trips would be more dependent on the student class hours.

For this study, the data collected at the Lodges of East Lansing – Phase I facility was utilized for trip generation and distribution of the four-bedroom townhouse apartments for the Hannah Lofts development given that the proposed townhouse apartments for the new development and the existing housing in East Lansing – Phase I are anticipated to be marketed to the same consumer audience, college students. Additionally, they are in the same area and would have extremely similar statistics. The projected traffic to be generated by the proposed four-bedroom townhouse apartments (student focus) for the Hannah Lofts development is summarized in **Table 5**.

Based on the Lodges of East Lansing – Phase I rates, and utilizing the number of bedrooms as the independent variable, it is projected that the proposed townhouse apartments for the Hannah Lofts development will generate 83 vehicle trips during the AM peak hour and 181 vehicle trips during the PM peak hour; data was not collected for the weekday daily total.





**Table 5**  
**Vehicle Trip Generation Summary**  
**Proposed Hannah Lofts Development Townhouse Apartments**

	Lodges of East Lansing Rate Estimates	Lodges of East Lansing Rate Estimates	Apartments (ITE Code 220)
<b>Size of Development</b>	150 Units	556 Bedrooms	150 Units
<b>AM Peak Hour Vehicle Trips</b>	71	83	<i>77</i>
<b>In</b>	19	22	<i>15</i>
<b>Out</b>	52	61	<i>62</i>
<b>PM Peak Hour Vehicle Trips</b>	152	181	<i>100</i>
<b>In</b>	70	83	<i>65</i>
<b>Out</b>	82	98	<i>35</i>
<b>Weekday Daily Vehicle Trips</b>	N/A	N/A	<i>1033</i>

Trip estimates in ITALICS were derived from fitted curve equations, per ITE standards



A trip generation analysis was conducted utilizing the ITE Trip Generation Manual (9<sup>th</sup> Edition) for the remaining non-student apartments. Apartment (Land Use Code 220) was selected as representing the 132 unit non-student apartments in the Hannah Lofts development. The ITE description is as follows:

*Apartments are rental dwelling units located within the same building with at least three other dwelling units, for example, quadraplexes and all types of apartment buildings. The studies included in this land use did not identify whether the apartments were low-rise, or high-rise.*

The ITE Trip Generation Manual (Land Use Code 220 – Apartments) estimates that the proposed remaining non-student apartments for the Hannah Lofts development will generate 68 vehicle trips in the AM peak hour, 90 vehicle trips in the PM peak hour, and 923 vehicle trips daily.

For the retail portion of this development, a trip generation analysis was conducted utilizing the ITE Trip Generation Manual (9<sup>th</sup> Edition) for a fast food restaurant for the larger (5,835 square feet) retail space, and coffee shop for the smaller (1,710 square feet) retail space.

Fast-Food Restaurant without Drive-Thru Window (Land Use Code 933) was selected as representing the 5,835 square foot larger retail space. The ITE description is as follows:

*This land use includes fast-food restaurants without drive-through windows. This type of restaurant is characterized by a large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours per day) and high turnover rates for eat-in customers. These limited-service eating establishments do not provide table service. Patrons generally order at a cash register and pay before they eat.*

Coffee/Donut Shop without Drive-Thru Window (Land Use Code 936) were selected as representing the 1,710 square foot smaller retail space in the Hannah Lofts development. The ITE description is as follows:

*This land use includes single-tenant coffee and donut restaurants without drive-through windows. Freshly brewed coffee and a variety of coffee-related accessories are the primary retail products sold at these sites. They may also sell other refreshment items, such as donuts, bagels, muffins, cakes, sandwiches, wraps, salads and other hot and cold beverages. Some sites may also sell newspapers, music CDs and books. The coffee and donut shops contained in this land use typically hold long store hours (over 15 hours) with an early morning opening. Also, limited indoor seating is generally provided for patrons; however, table service is not provided.*



The Hannah Lofts development retail spaces will be located in the Hannah Lofts apartment development. The Hannah Lofts development will be located in the center of the existing Hannah Boulevard commercial and retail development. The proposed fast food restaurant and coffee/donut shop will be catering primarily to the new and existing residents and the existing office buildings surrounding Hannah Lofts development. It is anticipated that the majority of the patrons who will frequent the fast food restaurant and the coffee/donut shop will be pedestrian traffic and not vehicle traffic. Therefore, the total AM and PM vehicle trips listed in the ITE Trip Generation Manual were reduced to 10% vehicles and 90% pedestrians.

The future trip generation rates for the four-bedroom townhouse apartments were based on the Lodges of East Lansing – Phase I rates. The remaining apartment units and the retail spaces trip generation rates were derived from the Institute of Traffic Engineering Trip Generation Manual, 9<sup>th</sup> Edition. It is projected that the proposed Hannah Lofts development will generate 194 vehicle trips during the AM peak hour and 293 vehicle trips during the PM peak hour. The projected traffic to be generated by the entire proposed Hannah Lofts development is summarized in **Table 6**.



Table 6

**Vehicle Trip Generation Summary  
Hannah Lofts Development**

Land Use	Size	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	
Townhouse Apartments (field data)	556 Bedrooms	22	61	83	83	98	181	N/A
Apartments (Land Use Code 220)	132 Units	14	54	68	58	32	90	923
Fast-Food Restaurant without Drive-Through (Land Use Code 933)	5,835 Sq. Ft.	16	10	26	8	7	15	418
Coffee/Donut Shop without Drive-Through (Land Use Code 936)	1,710 Sq. Ft.	10	9	19	3	4	7	N/A
<b>Total Trips</b>		<b>62</b>	<b>134</b>	<b>196</b>	<b>152</b>	<b>141</b>	<b>293</b>	<b>1,341</b>



## SITE TRAFFIC DISTRIBUTION

The distribution of traffic volumes to be generated by the proposed Hannah Lofts development during the future AM and PM peak hours is illustrated in **Figure 3**.

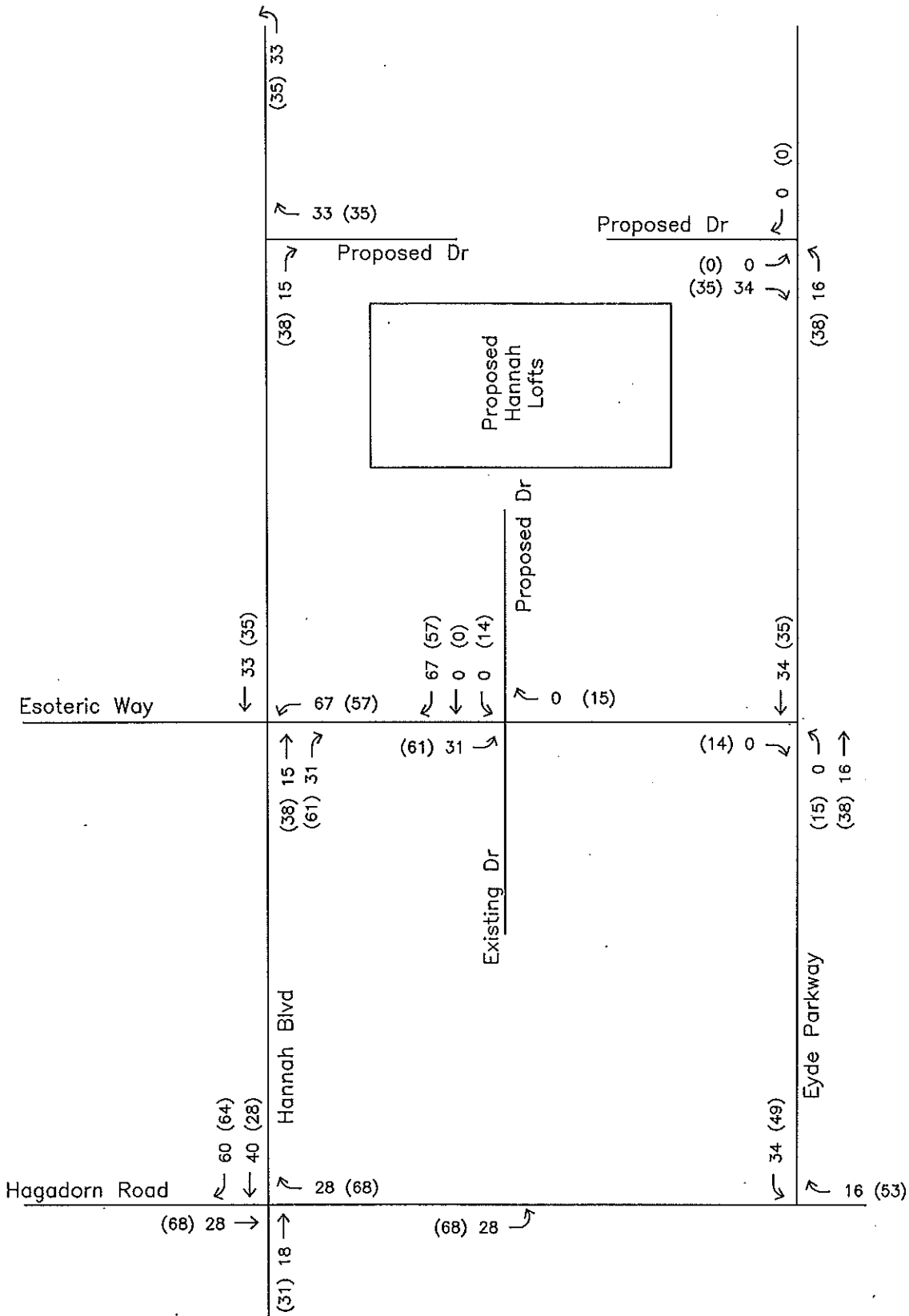
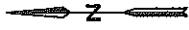
Traffic distribution was based on existing traffic patterns on the surrounding roadways. Typically, a residential facility has people exiting in the morning and entering in the evening; therefore, the traffic exiting the roadway system during the morning and entering during the evening generated the distribution for this study. There are very similar traffic patterns between the two peak hours, as displayed below.

Direction of Approach and Departure	AM Peak Hour Distribution	PM Peak Hour Distribution
To/From the SOUTH on Hagadorn Road	25%	35%
To/From the NORTH on Hagadorn Road	45%	45%
To/From the WEST on Service Drive	30%	20%

Traffic was then further distributed by driveway. Based on the proposed site plan, it appears that the west driveway on Esoteric Way is the main driveway. It will provide access to the parking deck and connects to the entire site. This driveway was estimated to carry half of the site traffic. The other two driveways provided less accessibility; therefore, it was estimated that twenty five percent (25%) would utilize the south driveway on Eyde Parkway and twenty five percent (25%) would utilize the northern driveway on Hannah Boulevard.

Adding the site generated traffic volumes to the background volumes yielded the total future traffic volumes. Total traffic volumes for the future AM and PM peak hours are illustrated in **Figure 4**.





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

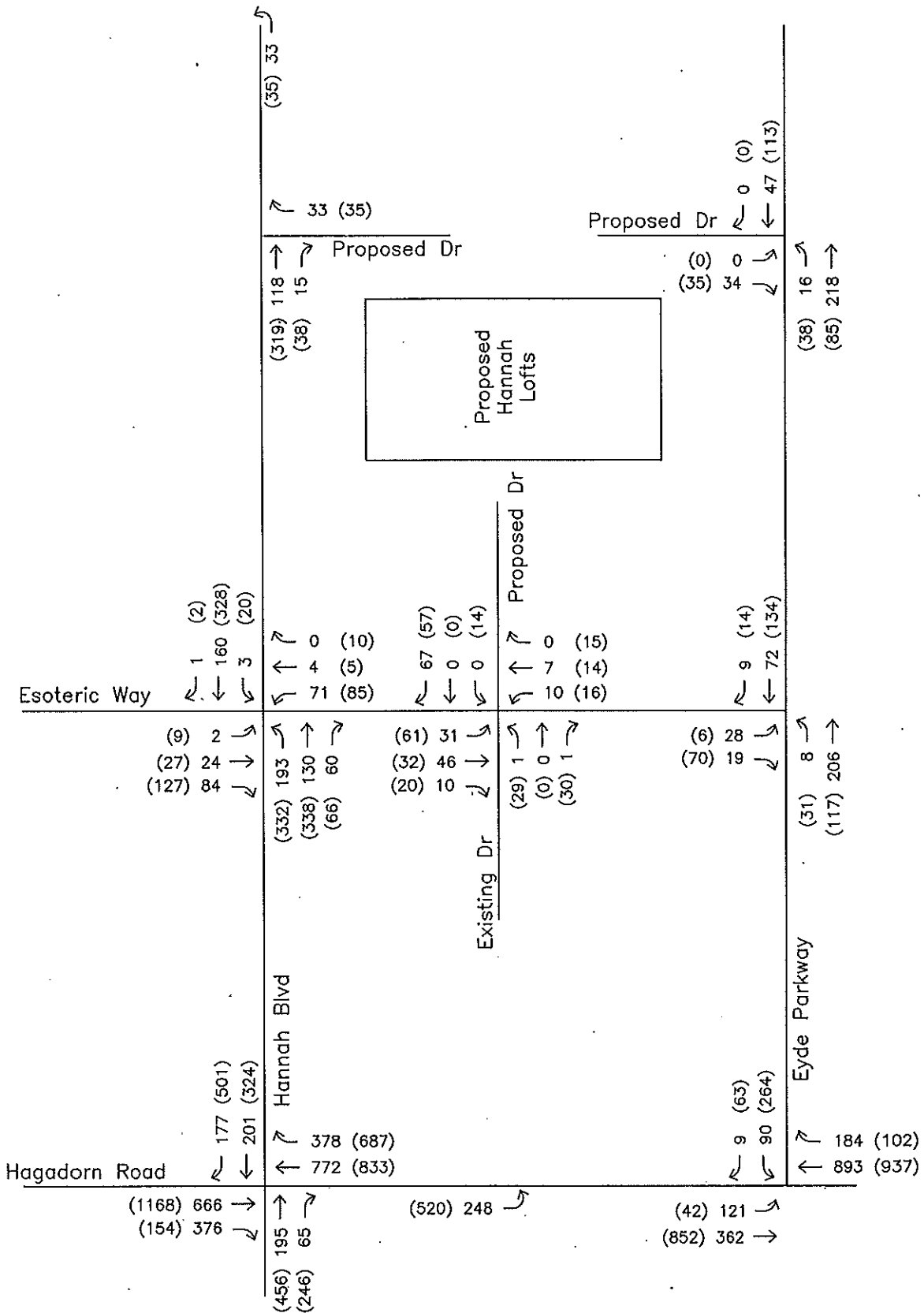
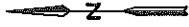
**LEGEND**

XXX AM Pk Hr (7:45-8:45 AM) Volumes  
 (XXX) PM Pk Hr (5:00-6:00 PM) Volumes

**FIGURE 3: Site Traffic - Peak Hours**

DATE: June, 2013

SCALE: NTS



TRAFFIC ENGINEERING  
ASSOCIATES, INC.  
PO Box 140  
Sarasota, FL 34231  
PHONE: (941) 527-6028  
FAX: (941) 527-6040

**LEGEND**

XXX AM Pk Hr (7:45-8:45 AM) Volumes  
 (XXX) PM Pk Hr (5:00-6:00 PM) Volumes

**FIGURE 4: Future Traffic - Peak Hours**

DATE: June, 2013      SCALE: NTS      PAGE: 32

## LEVEL OF SERVICE ANALYSIS FOR FUTURE TRAFFIC

The level of service analysis for future traffic is summarized in **Table 7**. All proposed development driveways were analyzed as two (2) lanes with one (1) inbound and one (1) outbound lane. All surrounding roadway geometrics were the same as existing conditions. The cycle lengths for the signalized intersections were maintained at 60 seconds during the AM peak hour and changed to 90 seconds during the PM peak hour. The traffic signals at Eyde Parkway and Hannah Boulevard were analyzed as coordinated signals.

Under future conditions, it is estimated that all movements will operate at an acceptable level of service (LOS D or better) except for the following:

- The westbound right turn movement on Hannah Boulevard at Hagadorn Road during the PM peak hour operates at a level of service (LOS) F with a vehicle delay of 125.1 seconds.
- The northbound right turn movement on Hagadorn Road south of Hannah Boulevard during the PM peak hour operates at a level of service (LOS) F with a vehicle delay of 82.0 seconds.

Overall, the intersection is expected to operate at LOS D with 40.6 seconds of delay.





**Table 7**  
**Level of Service (LOS) Summary**  
**Future Traffic with Mitigated Traffic Signal**

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Delay	LOS	Delay	LOS
Hagadorn Road and Hannah Boulevard/ Service Drive	EB Thru-Right	17.2	B	27.0	C
	WB Thru	22.2	C	23.0	C
	WB Right	20.8	C	<u>125.1</u>	<u>F</u>
	NB Thru	2.9	A	9.5	A
	NB Right	1.5	A	<u>82.0</u>	<u>F</u>
	SB Thru	8.0	A	21.5	C
	SB Right	6.3	A	2.8	A
	Intersection Overall	7.9	A	40.6	D
	SB to NB Crossover	12.9	B	35.0	C
Hagadorn Road and Eyde Parkway	WB Left-Right	35.9	D	43.9	D
	NB Thru-Right	13.5	B	25.8	C
	SB Left	31.4	C	28.3	C
	Intersection	16.8	B	30.4	C
Hannah Boulevard and Esoteric Way	EB Left-Thru-Right	4.0	A	5.8	A
	WB Left-Thru-Right	0.1	A	0.9	A
	NB Left-Thru-Right	19.2	C	46.8	E
	SB Left-Thru-Right	10.0	B	11.1	B
Esoteric Way and Eyde Parkway	EB Left-Thru	0.3	A	1.8	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	10.7	B	10.1	B
Esoteric Way and Commercial Driveway	EB Left-Thru-Right	8.6	A	8.7	A
	WB Left-Thru-Right	8.6	A	9.2	A
	NB Left-Thru-Left	5.6	A	2.7	A
	SB Left-Thru-Right	2.8	A	4.5	A

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



**SIGNIFICANT FINDINGS**



## DESIGN CONSIDERATIONS

Under existing conditions, there are significant delays at the southbound to northbound crossover south of the Hagadorn Road and Hannah Boulevard intersection during the PM peak hour. Also, the westbound approach on Eyde Parkway at Hagadorn Road has lengthy delays during the same time interval. This area is significantly improved with the addition of a new traffic signal at the intersection of Hagadorn Road and Eyde Parkway.

With the installation of a new traffic signal at Eyde Parkway under existing conditions, the background and future conditions operate at an acceptable level of service, except the westbound right turn movement from Hannah Boulevard to northbound Hagadorn Road during the PM peak hour, and the northbound right turn movement from Hagadorn Road to Hannah Boulevard during the PM peak hour. Both of these right turn movements have a large vehicle delay due to the short right turn storage lanes for both movements. The Synchro simulation software has all of the westbound right turn movements in the right turn lane; however, motorists have the option to go straight through the intersection and use the Service Drive turn around to complete their westbound to southbound movement rather than use the Hagadorn Road north turn around to go south.

When the new traffic signal is installed there will be significant improvement at the Hagadorn Road south turn around under the existing and background traffic conditions; however, the southbound to northbound turn around will increase from a LOS C to a LOS D. The Hagadorn Road-Eyde Parkway intersection will see not significant changes between the background and future traffic conditions.

The Ingham County Department of Roads and Transportation has obtained federal funding for 2014 to design and construct the new traffic signal at the intersection of Hagadorn Road and Eyde Parkway.



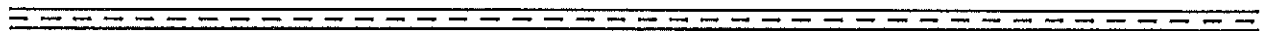
## RECOMMENDATIONS

The findings of this study give rise to the following recommendations;

- Given that the development is anticipated to draw college students, sidewalks should be constructed to connect with the existing sidewalk systems to accommodate the anticipated increase in pedestrian traffic.
- All driveways should be constructed in accordance with the Ingham County Department of Roads and Transportation.



**SUPPLEMENTAL INFORMATION**



## **Supplemental Information**

Proposed Site Plan  
Timing Permits  
Vehicle Turning Movement Surveys  
Population Data  
LOS Computations



**NATURAL FEATURES ASSESSMENT**

*for the*

**Hannah Lofts  
Hannah Boulevard and Esoteric Way  
SW ¼ Section 20, Meridian Township, Michigan**

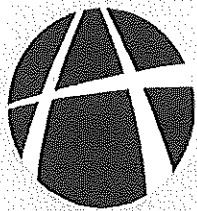
*Prepared for:*

**Capstone Companies  
431 Office Park Drive  
Birmingham AL 35223**

*Prepared by:*

**Atwell, LLC - Project No. 13000168**

**March 12, 2013**



**ATWELL**

[www.atwell-group.com](http://www.atwell-group.com)  
866.850.4200

**TABLE OF CONTENTS**

Section	Page
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
<b>2.0 SITE LOCATION AND PROJECT DESCRIPTION.....</b>	<b>1</b>
<b>3.0 METHODS.....</b>	<b>2</b>
<b>4.0 RESULTS, FINDINGS, AND DISCUSSION.....</b>	<b>2</b>
4.1 Existing Structures, Materials, and Adjacent Landuse .....	2
4.2 Topography .....	3
4.3 Vegetation .....	3
4.4 Significant Tree Inventory .....	6
4.5 Wetlands .....	6
4.6 Special Flood Hazard Area .....	7
4.7 Floodways .....	7
4.8 Water Bodies.....	8
4.9 Soils.....	8
4.10 Identified Areas of Groundwater Vulnerability .....	8
4.11 Slopes Greater than 20 Percent .....	9
4.12 Wildlife .....	9
<b>5.0 CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>10</b>

**APPENDICES**

- I. Figure 1: Site Location Map
- Figure 2: Aerial Imagery Map
- Figure 3: Presettlement Vegetation/MNFI ca. 1800 map
- Figure 4: Township Wetland Map
- Figure 5: National Wetland Inventory Map
- Figure 6: Flood Insurance Rate Map
- Figure 7: Identified Areas of Groundwater Vulnerability
- Figure 8: County Soils Survey Map
- II. Vegetation Lists and FQA
- III. Tree Survey Results



## 1.0 INTRODUCTION

Atwell, LLC (Atwell) was contracted by Capstone Companies to perform a natural features assessment for an approximately 3-acre parcel in Meridian Township, Ingham County, Michigan.

As part of a Special Use Permit Application, the Charter Township of Meridian Department of Community Planning and Development requires a "Natural Features Assessment," which is to include "a written description of the anticipated impacts on the natural features at each phase and at project completion that contains the following:

- a. An inventory of natural features proposed to be retained, removed, or modified. Natural features shall include, but are not limited to, wetlands, significant stands of trees or individual trees greater than 12 inches dbh, floodways, floodplains, water bodies, identified groundwater vulnerable areas, slopes greater than 20 percent, ravines, and vegetative cover types with potential to sustain significant or endangered wildlife.
- b. Description of the impacts on natural features.
- c. Description of any proposed efforts to mitigate any negative impacts."

After obtaining site location information, Atwell conducted desktop information reviews, site assessments, a tree survey, and information analysis in order to help address the Township's natural features assessment requirements. This report provides results of Atwell's natural features assessment.

## 2.0 SITE LOCATION AND PROJECT DESCRIPTION

The approximately 8-acre subject site (hereafter referred to as the *Site*) is located along the east side of Esoteric Way, between Hannah Boulevard and Eyde Parkway in the southwest corner of Section 20, Meridian Charter Township, Ingham County, Michigan. Capstone Companies (Developer) is proposing to construct apartments or mixed use units on the Site. The proposed structures and parking facilities on this parcel will be completed in one phase. Prior to site clearing and grading, soil erosion and sediment control measures will be installed and will be inspected and maintained during the construction project. All soil erosion and sedimentation control measures will be removed upon completion of construction and stabilization. Please refer to *Figure 1: Site Location Map* in **Appendix 1**.

The Site is +/- 8 acres in size and is currently vacant. It is bordered by Hannah Blvd, Esoteric Way, Eyde Parkway, and privately owned developed lands. The topography of the Site is relatively flat, with perhaps a gentle lowering of grade toward the southwest corner. The southeastern portion of the Site contains several spoil or dirt piles. There are a small number of construction waste items on the Site. The Site contains field vegetation, scattered trees, and tree rows. Refer to the *Figure 2: Aerial Imagery Map* in **Appendix I**.

### 3.0 METHODS

Atwell conducted a desktop review for the Site using existing information and imagery, including the United States Geological Service (USGS) topographic map, aerial photographs, Meridian Township's Wetland Inventory Map, National Wetland Inventory (NWI) map, USDA county soil survey map, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), and the Township's groundwater vulnerability map.

On February 26 and March 1, 2013 Atwell conducted an on-Site assessment and a tree survey. The on-Site assessment consisted of a site walkthrough to conduct a current and prior land use evaluation, habitat type determination, habitat quality evaluation, preliminary wetland assessment, wildlife observations, and floodplain or other special concern observations.

The tree survey consisted of identifying the species, general health status, and dbh (diameter-breast-height) of each tree on the subject site with a dbh of 12 inches or larger, and to these affixing a uniquely numbered metal tag and collecting a GPS location point. An additional small number of trees with dbh less than 12 inches were also marked and recorded based upon their good quality level.

The findings from the desktop review, site assessment, and tree survey were combined to help interpret the subject Site's natural features and evaluate potential project impacts upon those natural features.

### 4.0 RESULTS, FINDINGS, AND DISCUSSION

#### *4.1 Existing Structures, Materials, and Adjacent Land use*

Other than an electric box near the corner of Hannah Blvd and Esoteric Way, there are no existing structures on the site.

Most of the lands immediately surrounding the Site are already developed. The nearest structure is a Marriott Suites building just to the east. To the north of Hannah Blvd are Michigan Athletic Club/Sparrow Medical Science Pavilion complex and parking areas. To the west of Esoteric Way, south of Eyde Pkwy, and to the south of the hotel suites are office buildings and their associated parking areas. Refer to *Figure 2: Aerial Imagery Map* in **Appendix I**.

The southeastern portions of the Site contain spoil piles or soil piles that range in height from about three to seven feet (see *Photograph 7*). The age of the piles is unclear, though from vegetation growth patterns they do not appear to have been placed recently (within the last year or two). The Site contains a handful of miscellaneous debris items such as the concrete curb shown in *Photograph 8*. Otherwise, the Site contains small amounts of scattered windblown trash.



Photograph 1. Subject Site as viewed from adjacent vacant property to south.



Photograph 2. Subject Site as viewed from west of Esoteric Way.

#### 4.2 Topography

The Site is at an elevation of about 860 feet MSL. Excluding spoil piles, the Site is relatively flat, with perhaps a gentle drop in elevation towards its western and southern sides (refer to *Figure 1: Site Location Map* in **Appendix I**).

#### 4.3 Vegetation

A vegetation assessment was conducted during the Site survey. Atwell found two distinct community types present on the Site. The majority of the Site contains Field/Scrub, which is characterized by herbs, grasses, shrubs, and scattered trees or clusters of trees. Along its northern and eastern periphery, the Site contains Tree Lines, or rows of planted pines and scattered native hardwood trees. The number of identifiable species was limited by the winter season, although the lack of deep snow cover allowed identification of numerous species and did not prevent an evaluation of the ecological stage and value of the two areas. The species identified in these two areas during the field investigation are provided in tables (refer to **Appendix II**).

The Field/Scrub area is dominated by species which are associated with disturbed lands in the Great Lakes region. These include non-native species, invasive species, native species that are tolerant of human land uses, and native pioneer species that normally colonize land after activities are abandoned. Examples of these species present on the Site include English plantain and orchard grass (non-native), multiflora rose (invasive), tall goldenrod and wild strawberry (native but tolerant of human land uses), and bigtooth aspen (pioneer species recolonizing an abandoned site). The Vegetation ca. 1800 map produced by the Michigan Natural Features Inventory shows the Site to be part of an extensive beech-maple forest that extended many miles southward from the Red Cedar River (refer to *Figure 3: Presettlement Vegetation/MNFI ca. 1800 map* in **Appendix I**). Prior to extensive land clearing these shady forests were common on the flatter till plains of mid-Michigan. They often contained a wide variety of tree species, such as sugar maple, red maple, red oak, white oak, American beech, white ash, basswood, tulip tree, walnut, and hop hornbeam. These forests were commonly cleared to enable agricultural production, and it is likely that most of the Site was cleared many decades ago for this purpose;

notice the lighter color indicating open land in the 1970 USGS Topographic map (refer to Figure 1 in **Appendix I**). As twentieth century commercial development began to fill in lands between East Lansing and Okemos, the Site was probably eventually left idle due to commercial property expectations and to the infeasibility of continuing agriculture on a small scale. Whether the Site had been used for hay or crops, the cessation of this use would have spurred numerous plant species to colonize (or recolonize) from field edges and the surrounding landscape. The resulting native and non-native plants currently present are adept at this type of recolonization. There is evidence that as this recolonization progressed the Site became brushier. Much of this brushy growth was mechanically cleared, however, as evidenced by scattered woodchips and branches and re-sprouting shrubs and saplings. The larger trees in the field at the time of clearing were left standing though, and the final result is a field with grasses, sedges, herbaceous plants, shrubs, and scattered trees and tree clusters. The Field/Scrub habitat's low native mean Coefficient of Conservatism of 2.0 is an overall indicator that this Site was heavily disturbed in the past.

The Tree Lines are dominated by planted pines, native hardwood forest trees, and relatively weedy shrubs and groundcover plants. This assemblage includes both native and non-native species. Examples of the species present on the Site include planted red pine, planted white pine, naturally established sugar maple and black walnut, and non-native smooth brome and Eurasian honeysuckle. Again, the Site was apparently once part of an extensive beech-maple forest that extended many miles southward from the Red Cedar River. The areas where the Tree Lines are now would normally have been cleared for agriculture, except that they occurred on the quarter-section and quarter-quarter section lines bordering 160-acre and 40-acre areas. Oftentimes, these border areas were left with standing trees or were replanted with trees after initial clearing. In the case of the Tree Line along Hannah Blvd, it appears that a small line or patch of actual remnant forest remained until recently. Some of the mature maple and hickory trees from this patch still survive in the wide median of Hannah Blvd. A few of the trees from this remnant patch also survive or reseeded themselves south of Hannah Blvd where the northern Tree Line now occurs. Perhaps in the 1960s or 1970s, the Tree Lines on the Site were planted with pines—this was a common practice at the time, intended to mark property boundaries and limit wind and erosion. The planted pine trees are now mature, and along the northern Tree Line are mixed with native forest hardwoods. The changes on this Site over the last two-hundred years have left no remaining true remnant forest, though some of the maple, walnut, oak, hickory, and hop hornbeam trees and saplings in the northern Tree Line are probably directly descendent and/or residual from the original beech maple forest in this location. Because the Tree Lines include previous disturbances of habitat fragmentation, full or partial prior clearing, Hannah Blvd construction, etc., they contain a relatively weedy understory, rather than a native forest understory. The Tree Line's habitat's low native mean Coefficient of Conservatism of 3.3 is an overall indicator that this site was modified in the past but does retain some native remnant species.



**Photograph 3. Subject Site as viewed from just south of northern Tree Line. The Field/Scrub habitat is visible, including faint old plow line.**



**Photograph 4. North Tree Line as viewed from west of Esoteric Way.**



**Photograph 5. East Tree Line as viewed from within Site. Bigger trees are white pine.**



**Photograph 6. North Tree Line (left) and Hannah Blvd median (right) showing remnant beech maple forest trees.**



**Photograph 7. Spoils piles in southeastern portion of Site.**



**Photograph 8. An example of the infrequent debris on Site, here a cement curb section.**

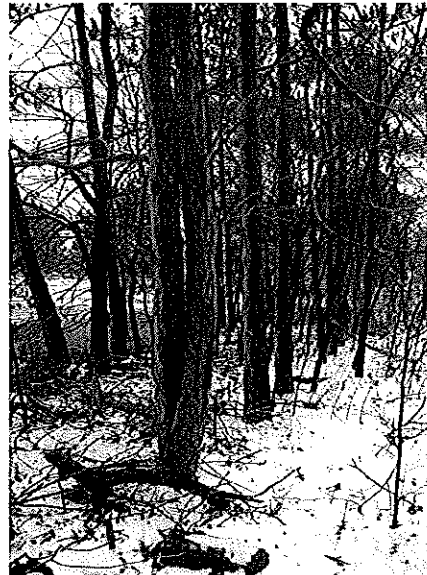
Development of the Site will require clearing most vegetation that is present. While no formal mitigation for vegetation removal has been planned, traditional landscape grass, shrub, and tree plantings are expected. Existing vegetation, particularly some of the large or remnant trees on the northern or eastern Site periphery, may be incorporated into the traditional landscaping to the extent possible.

#### ***4.4 Significant Tree Inventory***

As part of the vegetation assessment, a tree survey was also conducted. The survey included trees considered “significant” or deserving special protection because of their size, relative rarity, or historical importance. During the inventory, trees with a diameter at breast height (DBH) (the standard measure for tree size) of 12 inches or greater were located on the Site and mapped. The trees were identified to species and their size recorded (**Appendix III**). Results of the inventory identified 324 significant trees of 15 different species on the parcel. Of the 324 trees, 20 were larger than 30 inches in diameter, the largest being a red oak (*Quercus rubra*) with a diameter of 41 inches. Fifty five of the trees were between 20 and 30 inches and 249 were between 12 and 20 inches DBH. One hop hornbeam (*Ostrya virginiana*) was included in the survey due to its being a fairly large specimen of this species, a native understory tree in this region.



**Photograph 9.** North Tree Line, viewing west. Here a sugar maple grows among pines.



**Photograph 10.** North Tree Line, viewing west. Here a native hop hornbeam and planted red pine are near each other.

#### ***4.5 Wetlands***

Atwell conducted a preliminary review for wetlands while on the Site. In accordance with the *Midwestern Interim Regional Supplement to the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual*, wetland are defined by the presence of three basic parameters: 1) the presence of hydrophytic vegetation (plants adapted to living in saturated soils), 2) hydric soils (distinctive soil types that develop under saturated conditions), and 3) wetland hydrology (the

presence of water at or near the surface for a specific period of time). The above parameters are virtually always inter-related and normally present in wetland systems. Atwell's site visit occurred during relatively wet late winter conditions. These conditions allowed pockets of ice/water to develop in scattered fashion throughout the Field/Scrub habitat, and in the southwestern portion of the Site, which may be slightly lower. Atwell's inspection of these lower icy/wet areas did not yield a simultaneous predominance of hydrophytic vegetation. Delineations are not typically conducted in late winter due to plant dormancy, although several plant species remained and were identifiable in dormant form. Thus Atwell believes the Site contains no wetlands. This finding is supported by the Township's Wetland Inventory Map and the National Wetland Inventory Map, which show no wetlands within or immediately adjacent to the Site (refer to *Figure 4: Township Wetland Map* and *Figure 5: National Wetland Inventory Map* in **Appendix I**). Perhaps the nearest wetland to the Site in Section 20 is Wetland 20-18, roughly one-quarter mile eastward of the Site.

#### ***4.6 Special Flood Hazard Area***

Flood Hazard Areas are those which are most likely to be inundated during flood events. Flood Hazard Areas are regulated by local, state, and federal regulations designed to reduce the damage to structures during floods. The regulations apply to areas within 100-year floodplains, which are defined by a one percent (1%) annual probability of flood occurrence. These areas are mapped by the Federal Emergency Management Agency on Flood Insurance Rate Maps, or FIRMs. These maps were developed using flow modeling and the existing USGS topographic maps. The modeling produces an elevation associated with 100-year flood events, and areas below these elevations are designated as the 100-year floodplains.

The FIRM for the subject area shows that none of the Site is included within the 100-year floodplain, which means that it is unregulated pursuant to the floodplain regulatory statutes (refer to *Figure 6: Flood Insurance Rate Map* in **Appendix I**). Areas more than 1,000 feet further east of the Site associated with Heron Creek are designated "A," "AE," or "X500" indicating risk areas of 100-year floodplain or lesser. If an area on the Site were within the floodplain, a permit would have to be obtained to allow construction within the floodplain, and the project designed to the flood proofing standards that would minimize the risk of flood damage.

Sometimes FIRM maps can incorrectly show areas of 100-year floodplain. In such cases, a site's topography can be surveyed using modern techniques. When such studies show that the mapped floodplain is above the determined flood elevation or that the FIRM is otherwise inaccurate, this information can be sent to the National Flood Insurance Program to obtain a Letter of Map Amendment (LOMA) which officially changes the area included within the floodplain. It does not appear that this site will require such additional work.

#### ***4.7 Floodways***

A *floodway* is the portion of the floodplain that is required to carry and discharge flood waters during a flood event. They have more rapidly moving water during flood events. They include river channels, upper banks, and adjacent areas that effectively become part of the water transit process during a flood. The FIRM for Meridian Township shows that there are no floodway areas on the subject property. Again, areas more than 1,000 feet further east of the Site, associated with Heron Creek, are designated as floodways indicating their water transit role

during flood events. No activities at the Site will have any impact upon these floodway areas, nor will these floodway areas have any impact on development at the Site.

#### ***4.8 Water Bodies***

Streams, rivers, lakes, and many ponds are afforded legal protection under a combination of Township, county, state, and federal regulations pertaining to wetlands, flood prone areas, and water bodies. Any filling or alteration of these areas would typically require one or more permits from state agencies, county agencies, federal agencies, or Meridian Township.

There are no open water bodies on or directly adjacent to the Site. This includes ponds, lakes, creeks, rivers, sloughs, or stormwater detention basins. Again, the Site was originally part of a large beech-maple forest, and local land use changes for agriculture and commercial development have not fundamentally changed its hydrologic state. The nearest water body appears to be Heron Creek, which has associated wetlands about 1,000 feet east of the Site. Activities on the Site are not expected to directly impact this water body or any others.

#### ***4.9 Soils***

The NRCS digital county soils map identifies the soils on the Site. The map identifies two soil types—Owosso-Marlette sandy loams, 2 to 6 percent slopes (<5% of the Site) and Metea loamy sand, 2 to 6 percent slopes (>95%). Owosso-Marlette sandy loams are formed from loamy fluvial deposits over loamy till plains, and Metea loamy sands are formed from sandy or loamy morainic till (refer to *Figure 8: County Soils Survey Map* in **Appendix I**).

Both Owosso-Marlette sandy loams and Metea loamy sand are listed as well drained with no likelihood of flooding or ponding and a surface more than 80 inches above the water table. This suggests that they are not likely to contain wetlands or hydric soil conditions.

Site balancing, filling, and subsurface excavation activities will take place within the limits of disturbance which are contained within the areas of these well drained soil types. The most suitable soils will be utilized on the Site during parking lot, driveway, and building construction. Unsuitable and excess soil will be trucked to authorized off-site areas.

Soil erosion and sedimentation control (SESC) measures will be installed and maintained by the developer throughout the construction period, as required by the State of Michigan, Meridian Township, and the Ingham County Drain Commissioner, and will be removed once the entire Site has been stabilized. These measures will significantly reduce the possibility of soil erosion and the water transport of these soil materials, which could cause the degradation of areas receiving the Site's stormwater.

#### ***4.10 Identified Areas of Groundwater Vulnerability***

Areas of groundwater vulnerability are those areas where the hydrologic and geologic surface and subsurface setting makes the groundwater more vulnerable to contamination than in other areas. The 2005 Meridian Township Master Plan groundwater vulnerability map shows areas identified as being vulnerable (refer to *Figure 7: Identified Areas of Groundwater Vulnerability* in **Appendix I**). This map is based upon the aggregation of four different vulnerability assessments or estimates. The subject Site falls outside of all four designated areas. Therefore all



construction activity on the Site will be outside the bounds of Identified Areas of Groundwater Vulnerability. Stormwater on the site will be collected and treated in accordance with local regulations designed to protect water quality and runoff volumes.

#### **4.11 Slopes Greater than 20 Percent**

Slopes of greater than 20% are highly susceptible to soil erosion which can lead to sedimentation in other on and off-site areas such as ponds, streams and lakes. On the Site, slopes steeper than 20% exist only very locally on the sides of dirt spoil piles. These "slopes" are not natural features, and they pose little erosion hazard since their maximum hillside length (a controlling factor in erosion) is limited by the pile heights of no more than seven feet.

The development project will observe the structure and grading setbacks provided in Meridian Township ordinances. During construction, the spoils piles will be removed. Any slopes created by the project that are over 20% will be intentionally designed and stabilized with appropriate landscaping materials. Soil erosion and sedimentation measures will be placed and maintained in the areas necessary to control any erosion that may occur during construction.

#### **4.12 Wildlife**

Evidence of wildlife presence has been observed throughout the Site in the form of tracks, droppings, and holes, although the amount of animal usage is naturally limited by the size of the Site and the surrounding urbanized context. Evidence of white tailed deer (*Odocoileus virginiana*), eastern cottontail rabbit (*Sylvilagus floridanus*), gray squirrels (*Sciurus carolinensis*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), and paper wasps (species undetermined) were observed. Squirrel evidence was mainly in the Tree Line habitats. Deer usage seemed most concentrated near spoil piles. One freshly dug animal den which was found may be used by raccoon or woodchuck (*Marmota monax*), though this was not certain. It is highly likely that the Site also serves as foraging or resting ground for numerous other insects and birds, such as Monarch butterflies (*Danaus plexippus*), honeybees (*Apis mellifera*), robins (*Turdus migratorius*), mourning doves (*Zenaida macroura*), and black capped chickadees (*Poecile atricapillus*). Overall, the fauna at the Site can be viewed as urban and suburban wildlife. Urban and suburban wildlife species are common across the Midwest. Urban and suburban wildlife are mainly generalists species that have wide tolerance in diet and behavioral flexibility. They are very unlike threatened and endangered species, which are almost all specialized and intolerant of numerous human disturbances. Some urban and suburban wildlife species have become so common that they are actually reducing the populations of less common native species (e.g. raccoons that feed on human food waste and garbage are believed to be a factor behind a widespread decline in turtle numbers). Therefore the decline in certain very abundant wildlife species should not be assumed to bear negative consequences. Wildlife will be displaced to a degree by the proposed development, but even after the development is completed, some of these common urban and suburban wildlife species will continue to use the Site.



Photograph 11. Animal usage of Site. Here a possible raccoon den in the east Tree Line.



Photograph 12. Animal usage of Site. Here is an old paper wasp nest on a fallen branch.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

The proposed Site was reviewed for remnant and existing natural resources and features. A majority of the Site contains an open Field/Scrub habitat, and Tree Line habitat is on the northern and eastern sides. The Site is vacant, but incidentally contains an electrical box, small amounts of trash and debris, and some spoil piles. The Site apparently contains no wetlands, water bodies, floodplains, or floodways. The Site is rather flat (other than spoil piles), a result of its glacial moraine past. The soils are likely original to the Site, and are upland loamy sands and sandy loams that formed under what was once a beech maple forest. This Site was once a small portion of that forest which covered thousands of acres, but was cut down to make way for agriculture. Within the last few decades this particular Site has been surrounded by roads and growing commercial development. Wildlife that use the site are common in the urban and suburban landscape and their populations won't be significantly affected by the development of this site. Vegetation on the Site includes planted pines, native trees, and relatively common native and non-native groundcover species. The loss of vegetation due to development on the Site will occur, though the species lost are very unlikely to include any that are locally rare (i.e. rare county-wide) or state threatened and endangered. There are numerous trees on the Site which are in good condition, including both planted pines and unplanted hardwoods. The only significant remaining natural heritage on this Site appears to be the original topography, soils, and some of the trees along the northern Tree Line. The commercialized land use context, vehicle access, and economic valuation might limit some design options, but for this Site the primary likelihood of preserving natural resource values would be associated with incorporating some of the larger or native trees into the landscape design, and thereby preserving them on the post development landscape.

Should you have any questions regarding this or any other matter, please feel free to contact our office at (248) 447-2000.

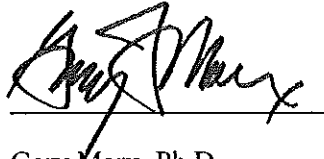
Sincerely,

ATWELL, LLC



---

Steve Thomas  
Ecologist  
Natural Resources Group



---

Gary Marx, Ph.D.  
Project Manager  
Natural Resources Group

**APPENDIX I**

**Figure 1: Site Location Map**

**Figure 2: Aerial Imagery Map**

**Figure 3: Presettlement Vegetation/MNFI ca. 1800 map**

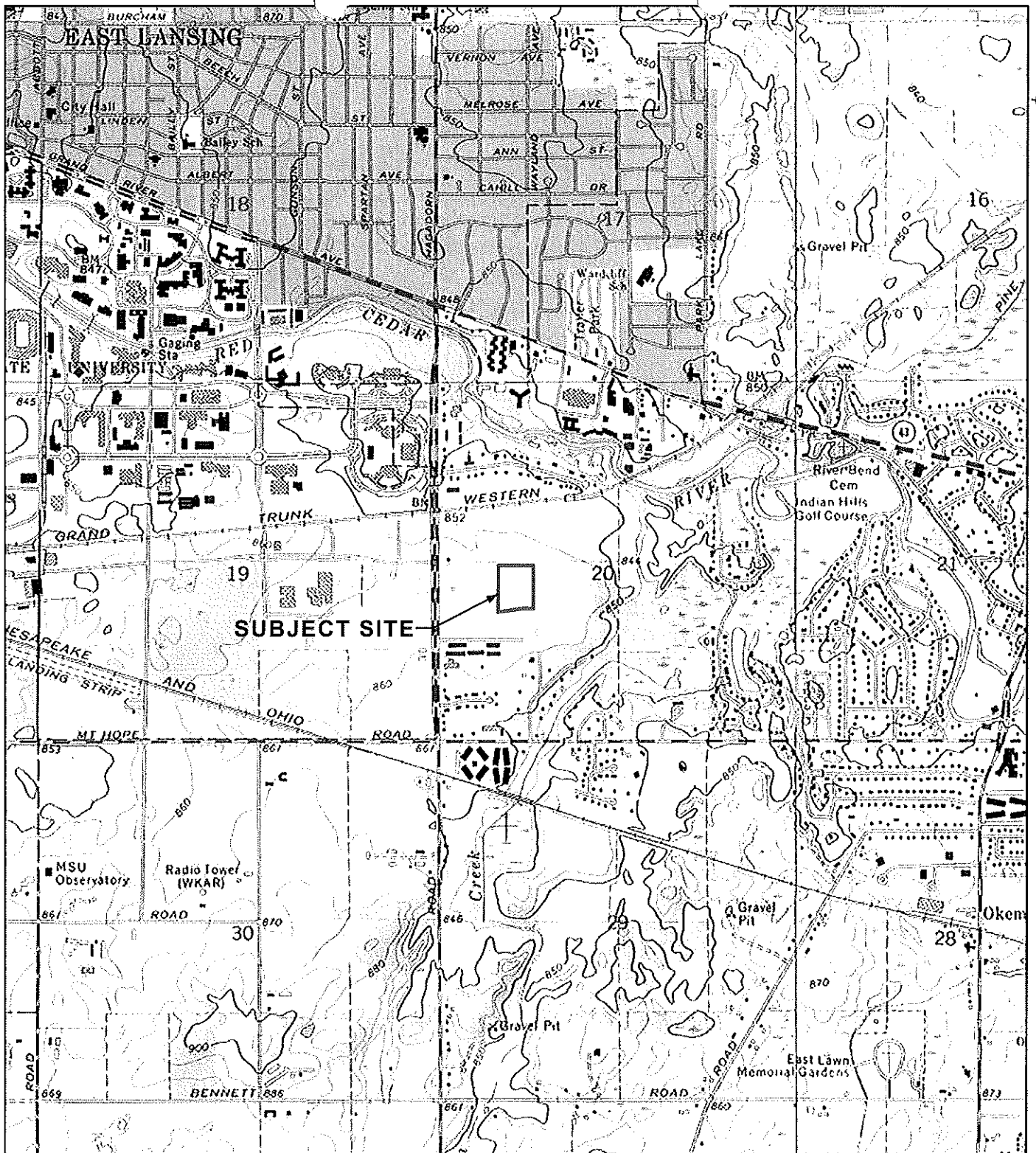
**Figure 4: Township Wetland Map**

**Figure 5: National Wetland Inventory Map**

**Figure 6: Flood Insurance Rate Map**

**Figure 7: Identified Areas of Groundwater Vulnerability**

**Figure 8: County Soils Survey Map**



REFERENCE: USGS 7.5 MIN TOPOGRAPHIC QUADRANGLE, EAST LANSING, MICHIGAN

FIGURE 1: SITE LOCATION MAP  
 MERIDIAN TOWNSHIP  
 T04N R01W SEC. 20  
 INGHAM COUNTY, MICHIGAN

PROJECT NO.: 13000168  
 DATE: MAR 04, 2013  
 DR: LWP  
 GIS FILE: 13000168\_SITE

0 1,000 2,000  
 Feet  
 1" = 2,000 FEET



**ATWELL**

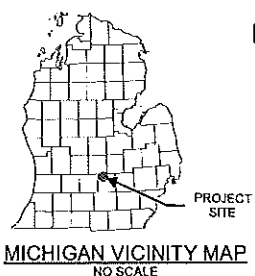
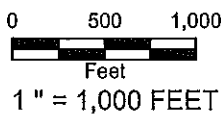
866.850.4200 | www.atwell-group.com



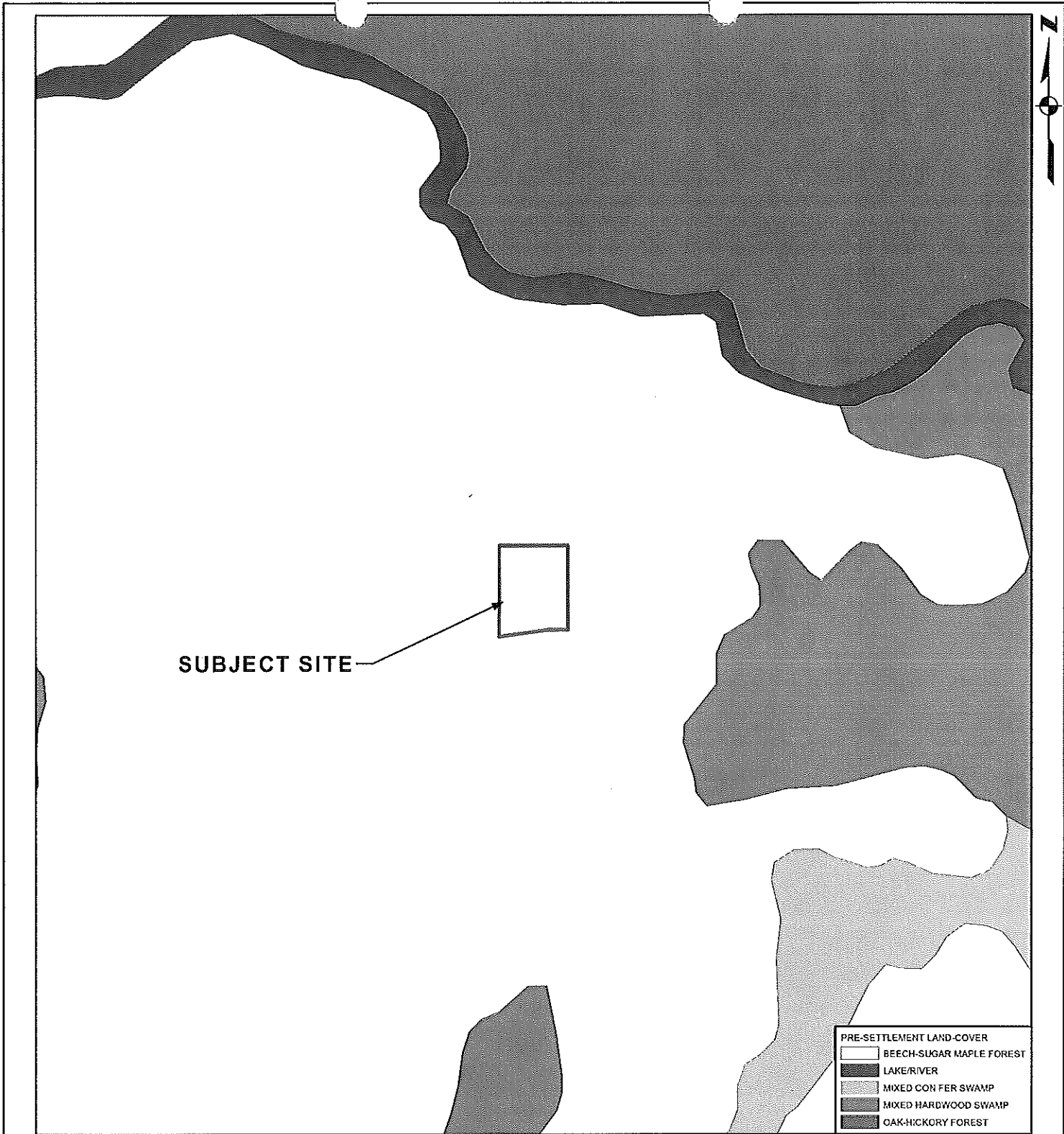
REFERENCE: USDA 2012  
NATIONAL AGRICULTURE  
IMAGERY PROGRAM

**FIGURE 2: 2012 AERIAL IMAGERY MAP**  
MERIDIAN TOWNSHIP  
T04N R01W SEC. 20  
INGHAM COUNTY, MICHIGAN

PROJECT NO.: 13000168  
DATE: MAR 04, 2013  
DR: LWP  
GIS FILE: 13000168\_AERIAL




**ATWELL**  
866.850.4200 | [www.atwell-group.com](http://www.atwell-group.com)



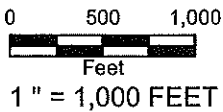
SUBJECT SITE

PRE-SETTLEMENT LAND-COVER	
	BEECH-SUGAR MAPLE FOREST
	LAKE/RIVER
	MIXED CONIFER SWAMP
	MIXED HARDWOOD SWAMP
	OAK-HICKORY FOREST

REFERENCE: USDA 2012 NATIONAL AGRICULTURE IMAGERY PROGRAM

FIGURE 3: PRE-SETTLEMENT VEGETATION/MNFI ca. 1800  
 MERIDIAN TOWNSHIP  
 T04N R01W SEC. 20  
 INGHAM COUNTY, MICHIGAN

PROJECT NO.: 13000168  
 DATE: MAR 04, 2013  
 DR: LWP  
 GIS FILE: 13000168\_1800LC



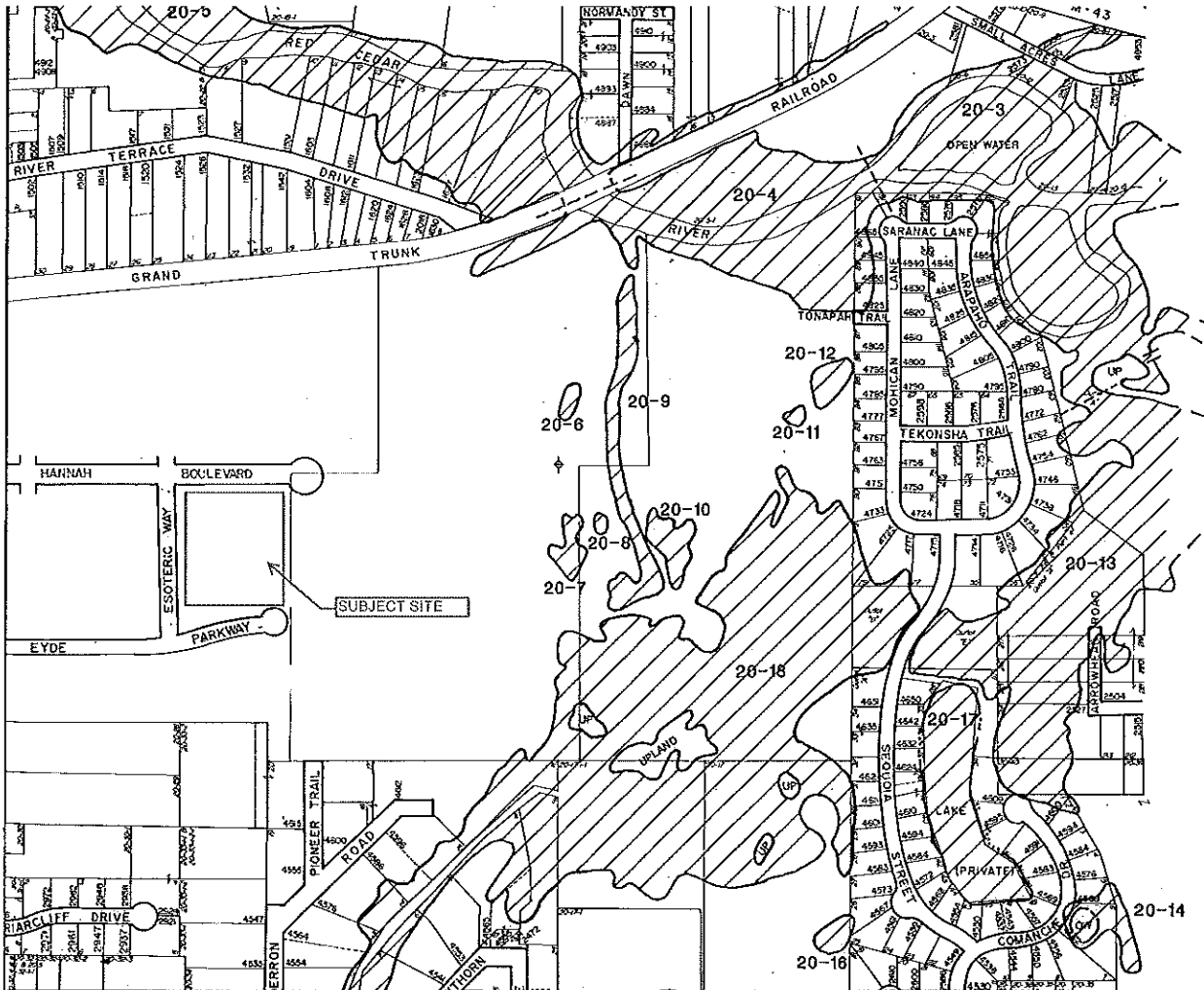
**ATWELL**  
 866.850.4200 | www.atwell-group.com

# MERIDIAN CHAR

T4N, 1

## INGHAM COUNTY

FIGURE 4: Township Wetland Map



Scale  
1" = 400'

SECTION

WETLAND NUMBER	WETLAND ACRES	TYPE OF WETLAND	REGULATED BY MDNR
20-1	1.82	BS	X
20-2	2.34	FO/SL/OW	X
20-3	17.37	FO/SL/OW	X
20-4	20.44	FO/OW	X
20-5	0.46	SS/EM	X
20-6	0.47	FO/SS	X
20-8	0.73	FO/SS	X
20-9	2.95	SS/SL/OW	X
20-10	0.97	FO/SS	X
20-11	0.73	SS	X
20-12	0.19	SS/EM	X
20-13	21.35	FO/SL/OW	X
20-14	1.94	FO/SL/OW	X
20-15	1.96	FO/SL/OW	X
20-16	0.61	SS/EM	X
20-17	5.51	OW/SS	X
20-18	60.50	FO/SS/EM/OW	X


This map was compiled including aerial photographs, the Ingham County Planning and Wildlife X

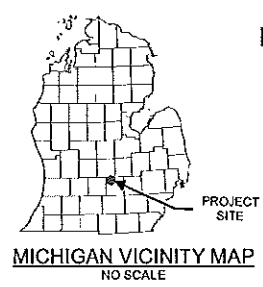
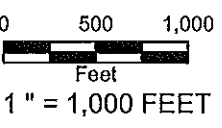




REFERENCE: USDA 2012  
NATIONAL AGRICULTURE  
IMAGERY PROGRAM

**FIGURE 5: NATIONAL WETLAND INVENTORY MAP**  
MERIDIAN TOWNSHIP  
T04N R01W SEC. 20  
INGHAM COUNTY, MICHIGAN

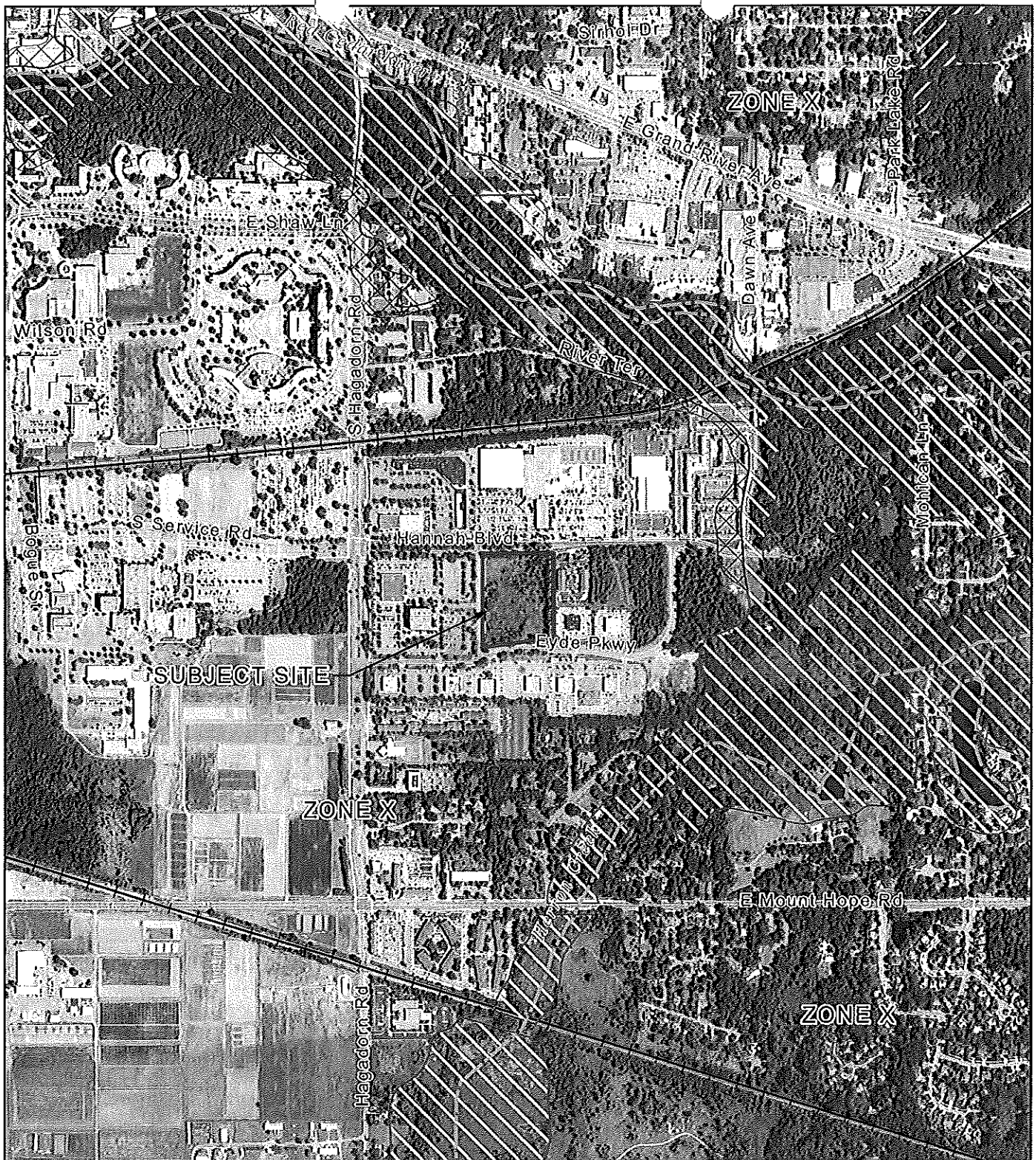
NOTE: ON SOURCE APPROXIMATE WATERCOURSE  
 NATIONAL WETLAND INVENTORY



PROJECT NO.: 13000168  
DATE: MAR 04, 2013  
DR: LWP  
GIS FILE: 13000168\_NWI



**ATWELL**  
866.850.4200 | www.atwell-group.com

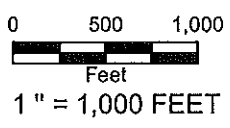


REFERENCE: USDA 2012 NATIONAL AGRICULTURE IMAGERY PROGRAM

**FIGURE 6: FLOOD INSURANCE RATE MAP**  
**MERIDIAN TOWNSHIP**  
**T04N R01W SEC. 20**  
**INGHAM COUNTY, MICHIGAN**

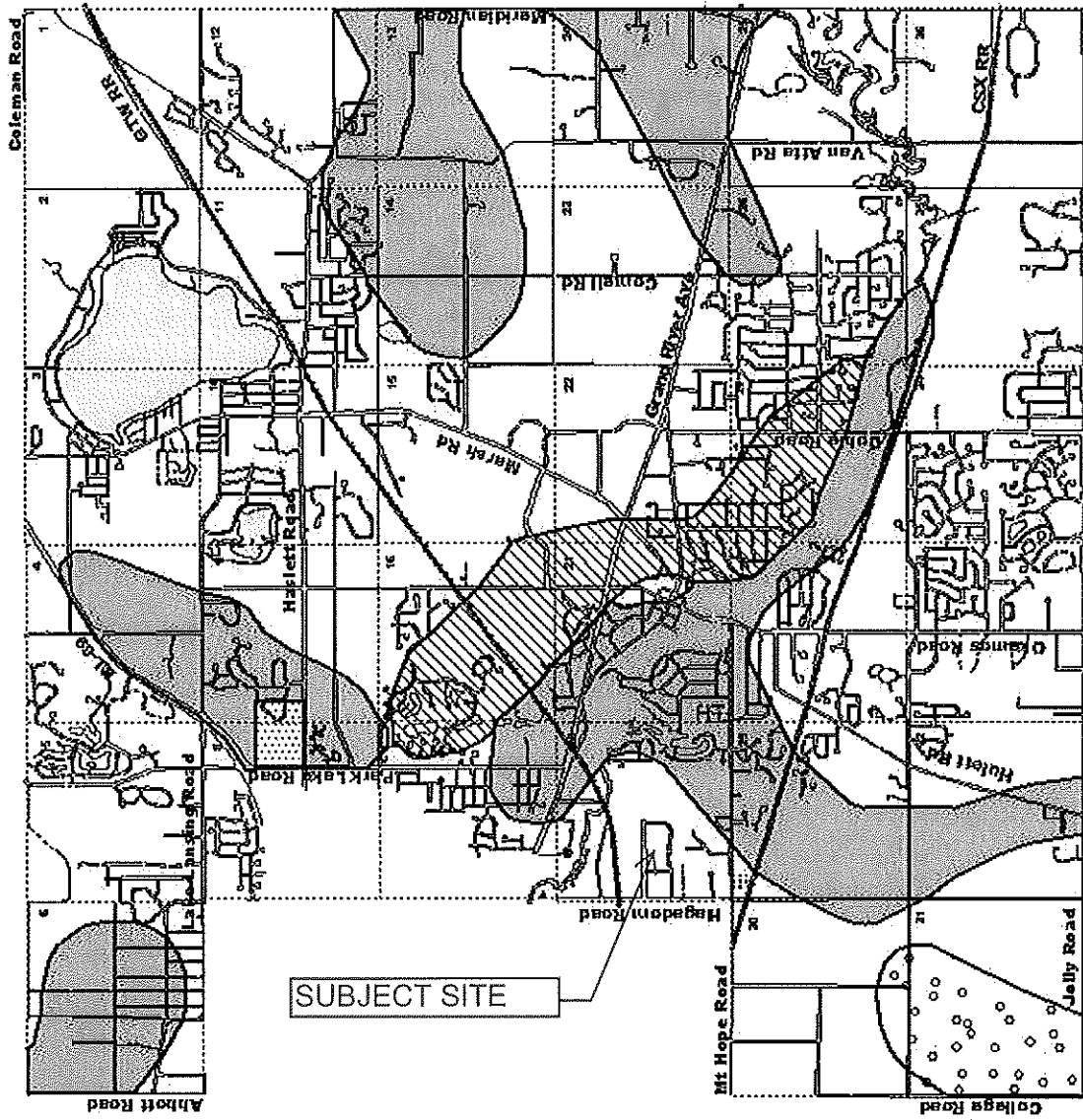
- ZONE X: OUTSIDE 100- AND 500-YEAR FLOODPLAIN
- ZONE A: 100-YEAR FLOODPLAIN FOR WHICH NO BFES HAVE BEEN DETERMINED
- ZONE AE: 100-YEAR FLOODPLAIN FOR WHICH BFES HAVE BEEN DETERMINED
- ZONE X500: 0.2% ANNUAL CHANCE OF FLOODING

PROJECT NO.: 13000168  
 DATE: MAR 04, 2013  
 DR: LWP  
 GIS FILE: 13000168\_FIRM




**ATWELL**  
 866.850.4200 | www.atwell-group.com

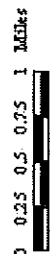
Map 7-3  
GROUNDWATER VULNERABILITY



Source: Ingham County Health Department (1987)

**Source of Groundwater Vulnerability Information**

- Keck Consultants on Site Studies
- Monaghan and Larson,
- Michigan State University
- Soil Conservation Service, USDA
- Southwest Michigan Groundwater Survey and Monitoring Program.



May 2003

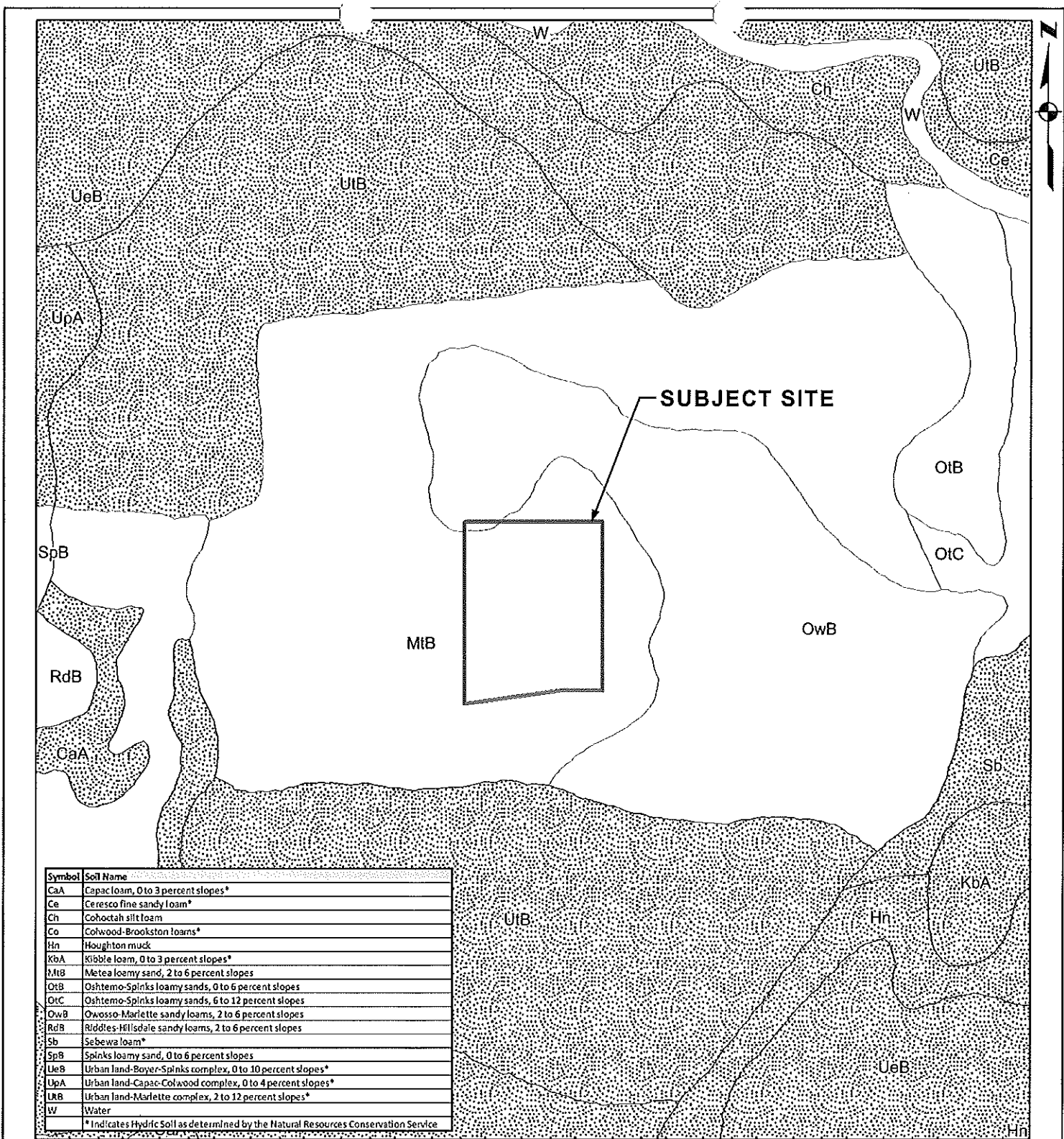


FIGURE 8: COUNTY SOILS SURVEY MAP  
 MERIDIAN TOWNSHIP  
 T04N R01W SEC. 20  
 INGHAM COUNTY, MICHIGAN

 HYDRIC SOIL

PROJECT NO.: 13000168  
 DATE: MAR 04, 2013  
 DR: LWP  
 GIS FILE: 13000168\_SOIL

0 250 500  
 Feet  
 1" = 500 FEET



**ATWELL**

866.850.4200 | www.atwell-group.com

**APPENDIX II**  
**Vegetation Lists and FQA**

Site: Meridian Township "Local Lofts- East Lansing"  
 Locale: Tree Line  
 By: S. Thomas  
 Date: February 26, 2013

FLORISTIC QUALITY DATA		Native	25	Adventive	9
NATIVE SPECIES	25	Tree	16	Tree	5
Total Species	34	Shrub	4	Shrub	1
NATIVE MEAN C	3.3	W-Vine	3	W-Vine	0
W/Adventives	2.4	H-Vine	0	H-Vine	0
NATIVE FQI	16.6	P-Forb	2	P-Forb	0
W/Adventives	14.2	B-Forb	0	B-Forb	2
NATIVE MEAN W	1.3	A-Forb	0	A-Forb	0
W/Adventives	1.9	P-Grass	0	P-Grass	1
Faculative (-)	AVG	A-Grass	0	A-Grass	0
		P-Sedge	0	P-Sedge	0
		A-Sedge	0	A-Sedge	0
		Fern	0		

SCIENTIFIC NAME	COMMON NAME	WETNESS	PHYSIOG-NOMY	C
Acer negundo	BOX ELDER	FACW-	Nt Tree	0
Acer rubrum	RED MAPLE	FAC	Nt Tree	1
Acer saccharum	SUGAR MAPLE	FACU	Nt Tree	5
ALLIARIA PETIOLATA	GARLIC MUSTARD	FAC	Ad B-Forb	0
ARCTIUM MINUS	COMMON BURDOCK	UPL	Ad B-Forb	0
BROMUS INERMIS	SMOOTH BROME	UPL	Ad P-Grass	0
Carya ovata	SHAGBARK HICKORY	FACU	Nt Tree	5
Cornus florida	FLOWERING DOGWOOD	FACU-	Nt Tree	8
Crataegus crus-galli	COCKSPUR THORN	FAC	Nt Tree	5
Fraxinus americana	WHITE ASH	FACU	Nt Tree	5
Geum canadense	WHITE AVENS	FAC	Nt P-Forb	1
Juglans nigra	BLACK WALNUT	FACU	Nt Tree	5
Juniperus virginiana	RED CEDAR	FACU	Nt Tree	3
LONICERA MORROWII	MORROW HONEYSUCKLE	UPL	Ad Shrub	0
MALUS PUMILA	APPLE	UPL	Ad Tree	0
MORUS ALBA	WHITE MULBERRY	FAC	Ad Tree	0
Ostrya virginiana	IRONWOOD; HOP HORNBEAM	FACU-	Nt Tree	5
Parthenocissus quinquefolia	VIRGINIA CREEPER	FAC-	Nt W-Vine	5
Pinus resinosa	RED PINE	FACU	Nt Tree	6
Pinus strobus	WHITE PINE	FACU	Nt Tree	3
PINUS SYLVESTRIS	SCOTCH PINE	UPL	Ad Tree	0
Populus deltoides	COTTONWOOD	FAC+	Nt Tree	1
PRUNUS AVIUM	SWEET CHERRY	UPL	Ad Tree	0
Prunus serotina	WILD BLACK CHERRY	FACU	Nt Tree	2
Prunus virginiana	CHOKE CHERRY	FAC-	Nt Shrub	2
Quercus macrocarpa	BUR OAK	FAC-	Nt Tree	5
RHAMNUS CATHARTICA	COMMON BUCKTHORN	FACU	Ad Tree	0
Rubus occidentalis	BLACK RASPBERRY	UPL	Nt Shrub	1
Rubus strigosus	WILD RED RASPBERRY	FACW-	Nt Shrub	2
Sambucus canadensis	ELDERBERRY	FACW-	Nt Shrub	3
Solidago altissima	TALL GOLDENROD	FACU	Nt P-Forb	1
Sorbus americana	AMERICAN MOUNTAIN ASH	FAC+	Nt Tree	4
Toxicodendron radicans	POISON IVY	FAC+	Nt W-Vine	2
Vitis riparia	RIVERBANK GRAPE	FACW-	Nt W-Vine	3

Site: Meridian Township "Local Lofts- East Lansing"  
 Locale: Field/Scrub  
 By: S. Thomas  
 Date: February 26, 2013

FLORISTIC QUALITY DATA		Native	17	Adventive	18
NATIVE SPECIES	17	Tree	6	Tree	1
Total Species	35	Shrub	3	Shrub	2
NATIVE MEAN C	2	W-Vine	1	W-Vine	0
W/Adventives	1	H-Vine	0	H-Vine	0
NATIVE FQI	8.2	P-Forb	6	P-Forb	5
W/Adventives	5.7	B-Forb	0	B-Forb	5
NATIVE MEAN W	1.1	A-Forb	0	A-Forb	0
W/Adventives	2.2	P-Grass	1	P-Grass	5
Faculative (-)	AVG	A-Grass	0	A-Grass	0
		P-Sedge	0	P-Sedge	0
		A-Sedge	0	A-Sedge	0
		Fern	0		

SCIENTIFIC NAME	COMMON NAME	WETNESS	PHYSIOG-NOMY	C
Acer negundo	BOX ELDER	FACW-	Nt Tree	0
AGROSTIS GIGANTEA	REDTOP	FAC	Ad P-Grass	0
ARCTIUM MINUS	COMMON BURDOCK	UPL	Ad B-Forb	0
Aster pilosus	HAIRY ASTER	FACU+	Nt P-Forb	1
BROMUS INERMIS	SMOOTH BROME	UPL	Ad P-Grass	0
CHRYSANTHEMUM LEUCANTHEMUM	OX EYE DAISY	UPL	Ad P-Forb	0
DACTYLIS GLOMERATA	ORCHARD GRASS	FACU	Ad P-Grass	0
DAUCUS CAROTA	QUEEN ANNE'S LACE	UPL	Ad B-Forb	0
DIPSACUS LACINIATUS	CUT LEAVED TEASEL	UPL	Ad B-Forb	0
Fragaria virginiana	WILD STRAWBERRY	FAC-	Nt P-Forb	2
Geum canadense	WHITE AVENS	FAC	Nt P-Forb	1
Hackelia virginiana	BEGGAR'S LICE	FAC-	Nt P-Forb	1
HESPERIS MATRONALIS	DAME'S ROCKET	UPL	Ad P-Forb	0
Juglans nigra	BLACK WALNUT	FACU	Nt Tree	5
LONICERA MORROWII	MORROW HONEYSUCKLE	UPL	Ad Shrub	0
NEPETA CATARIA	CATNIP	FAC-	Ad P-Forb	0
Phalaris arundinacea	REED CANARY GRASS	FACW+	Nt P-Grass	0
Pinus resinosa	RED PINE	FACU	Nt Tree	6
PINUS SYLVESTRIS	SCOTCH PINE	UPL	Ad Tree	0
PLANTAGO LANCEOLATA	ENGLISH PLANTAIN	FAC	Ad P-Forb	0
POA COMPRESSA	CANADA BLUEGRASS	FACU+	Ad P-Grass	0
POA PRATENSIS	KENTUCKY BLUEGRASS	FAC-	Ad P-Grass	0
Populus deltoides	COTTONWOOD	FAC+	Nt Tree	1
Populus grandidentata	BIG TOOTHED ASPEN	FACU	Nt Tree	4
Potentilla simplex	OLD FIELD CINQUEFOIL	FACU-	Nt P-Forb	2
Prunus serotina	WILD BLACK CHERRY	FACU	Nt Tree	2
ROSA MULTIFLORA	MULTIFLORA ROSE	FACU	Ad Shrub	0
Rubus occidentalis	BLACK RASPBERRY	UPL	Nt Shrub	1
Rubus pensylvanicus	DEWBERRY	FAC-	Nt Shrub	2
Rubus strigosus	WILD RED RASPBERRY	FACW-	Nt Shrub	2
RUMEX CRISPUS	CURLY DOCK	FAC+	Ad P-Forb	0
Solidago altissima	TALL GOLDENROD	FACU	Nt P-Forb	1
VERBASCUM BLATTARIA	MOTH MULLEIN	FACU-	Ad B-Forb	0
VERBASCUM THAPSUS	COMMON MULLEIN	UPL	Ad B-Forb	0
Vitis riparia	RIVERBANK GRAPE	FACW-	Nt W-Vine	3
Carex spp.	SEDGE SPECIES, MULTIPLE		Nt P-Sedge	

**APPENDIX III**  
**Tree Survey Results**



TREE #	TAG NO.	SPECIES	SCIENTIFIC NAME	DBH (in)	CONDITION	COMMENTS
1	301	red pine	<i>Pinus resinosa</i>	15.6	Good	
2	302	white pine	<i>Pinus strobus</i>	22.4	Good	
3	303	red pine	<i>Pinus resinosa</i>	12	Good	
4	305	red pine	<i>Pinus resinosa</i>	12	Excellent	
5	306	red pine	<i>Pinus resinosa</i>	12.8	Excellent	
6	307	red pine	<i>Pinus resinosa</i>	12	Excellent	
7	308	red pine	<i>Pinus resinosa</i>	13.5	Good	
8	309	red pine	<i>Pinus resinosa</i>	12	Excellent	
9	310	red pine	<i>Pinus resinosa</i>	12.8	Good	
10	311	red pine	<i>Pinus resinosa</i>	12.3	Good	
11	312	red pine	<i>Pinus resinosa</i>	13.5	Excellent	
12	313	red pine	<i>Pinus resinosa</i>	12	Good	
13	314	red pine	<i>Pinus resinosa</i>	12.7	Fair	
14	315	red pine	<i>Pinus resinosa</i>	13.5	Good	
15	316	American hophornbeam	<i>Ostrya virginiana</i>	8.8	Good	large specimen for this species
16	317	red pine	<i>Pinus resinosa</i>	16	Excellent	
17	318	red pine	<i>Pinus resinosa</i>	13.5	Excellent	
18	319	red pine	<i>Pinus resinosa</i>	13.6	Good	
19	320	red pine	<i>Pinus resinosa</i>	13.5	Excellent	
20	321	red pine	<i>Pinus resinosa</i>	13.4	Excellent	
21	322	white pine	<i>Pinus strobus</i>	14.7	Excellent	
22	323	white mulberry	<i>Morus alba</i>	12.8	Good	
23	324	red pine	<i>Pinus resinosa</i>	12	Good	
24	325	red pine	<i>Pinus resinosa</i>	13.3	Fair	
25	326	red pine	<i>Pinus resinosa</i>	15	Good	
26	327	red pine	<i>Pinus resinosa</i>	13	Excellent	
27	328	red pine	<i>Pinus resinosa</i>	12.4	Good	
28	330	red pine	<i>Pinus resinosa</i>	15.8	Fair	
29	331	black walnut	<i>Juglans nigra</i>	16.5	Excellent	
30	333	red pine	<i>Pinus resinosa</i>	16	Good	
31	334	red pine	<i>Pinus resinosa</i>	15.8	Good	
32	335	red pine	<i>Pinus resinosa</i>	14	Excellent	
33	336	red pine	<i>Pinus resinosa</i>	15	Excellent	
34	337	sugar maple	<i>Acer saccharum</i>	19	Excellent	
35	338	black cherry	<i>Prunus serotina</i>	18.8	Good	
36	341	red pine	<i>Pinus resinosa</i>	11.8	Good	
37	342	bitternut hickory	<i>Carya cordiformis</i>	11.5	Excellent	
38	343	red pine	<i>Pinus resinosa</i>	12.5	Excellent	
39	344	sugar maple	<i>Acer saccharum</i>	12.3	Good	
40	345	red pine	<i>Pinus resinosa</i>	12	Fair	
41	347	red pine	<i>Pinus resinosa</i>	13.8	Good	
42	348	red pine	<i>Pinus resinosa</i>	15	Good	
43	349	black walnut	<i>Juglans nigra</i>	12	Good	
44	350	shagbark hickory	<i>Carya ovata</i>	12.6	Good	
45	351	red pine	<i>Pinus resinosa</i>	16.3	Excellent	
46	352	red pine	<i>Pinus resinosa</i>	14.2	Fair	
47	353	red pine	<i>Pinus resinosa</i>	17.5	Excellent	
48	354	red pine	<i>Pinus resinosa</i>	14.3	Excellent	
49	355	red pine	<i>Pinus resinosa</i>	16	Good	
50	356	red pine	<i>Pinus resinosa</i>	12	Good	
51	357	box elder	<i>Acer negundo</i>	17	Good	
52	358	eastern cottonwood	<i>Populus deltoides</i>	15	Excellent	

"MT" = multi-trunk

Local Lofts of East Lansing Tree Survey  
Atwell Project No. 13000168

TREE #	TAG NO.	SPECIES	SCIENTIFIC NAME	DBH (in)	CONDITION	COMMENTS
53	360	black cherry	<i>Prunus serotina</i>	13	Excellent	
54	361	red pine	<i>Pinus resinosa</i>	17	Excellent	
55	362	box elder	<i>Acer negundo</i>	19.5	Excellent	
56	363	black cherry	<i>Prunus serotina</i>	12.5	Excellent	
57	364	red pine	<i>Pinus resinosa</i>	13	Excellent	
58	365	white pine	<i>Pinus strobus</i>	24.5	Excellent	
59	366	white pine	<i>Pinus strobus</i>	24	Excellent	
60	367	white pine	<i>Pinus strobus</i>	17.5	Excellent	
61	368	white pine	<i>Pinus strobus</i>	26	Excellent	
62	369	white pine	<i>Pinus strobus</i>	25	Excellent	
63	370	white pine	<i>Pinus strobus</i>	20.5	Excellent	
64	371	white pine	<i>Pinus strobus</i>	24.5	Excellent	
65	372	black cherry	<i>Prunus serotina</i>	12.5	Good	
66	373	red pine	<i>Pinus resinosa</i>	13.0	Excellent	
67	374	white pine	<i>Pinus strobus</i>	23.0	Fair	
68	375	red pine	<i>Pinus resinosa</i>	12.0	Excellent	
69	376	white pine	<i>Pinus strobus</i>	24.0	Excellent	
70	377	white pine	<i>Pinus strobus</i>	14.0	Excellent	MT
71	377	white pine	<i>Pinus strobus</i>	11.0	Excellent	MT
72	378	scotch pine	<i>Pinus sylvestris</i>	21.5	Fair	
73	379	white pine	<i>Pinus strobus</i>	20.0	Excellent	
74	380	white pine	<i>Pinus strobus</i>	20.5	Excellent	
75	381	norway spruce	<i>Picea abies</i>	20.5	Good	
76	382	white pine	<i>Pinus strobus</i>	23.0	Fair	
77	383	white pine	<i>Pinus strobus</i>	17.0	Good	
78	384	white pine	<i>Pinus strobus</i>	19.0	Good	
79	385	white pine	<i>Pinus strobus</i>	18.0	Good	
80	386	white pine	<i>Pinus strobus</i>	17.5	Good	
81	387	white pine	<i>Pinus strobus</i>	23.5	Good	
82	388	white pine	<i>Pinus strobus</i>	16.5	Good	
83	389	white pine	<i>Pinus strobus</i>	24.0	Good	
84	390	white pine	<i>Pinus strobus</i>	13.5	Good	
85	391	white pine	<i>Pinus strobus</i>	13.5	Fair	
86	392	white pine	<i>Pinus strobus</i>	27.0	Excellent	
87	393	white pine	<i>Pinus strobus</i>	19.0	Good	
88	394	red pine	<i>Pinus resinosa</i>	12.0	Fair	
89	395	red pine	<i>Pinus resinosa</i>	27.5	Good	
90	400	white pine	<i>Pinus strobus</i>	17.0	Good	
91	401	white pine	<i>Pinus strobus</i>	23.5	Good	
92	402	white pine	<i>Pinus strobus</i>	16.5	Good	
93	404	white pine	<i>Pinus strobus</i>	13.5	Fair	
94	405	white pine	<i>Pinus strobus</i>	12.0	Fair	
95	406	white pine	<i>Pinus strobus</i>	15.0	Fair	
96	407	white pine	<i>Pinus strobus</i>	20.0	Excellent	
97	408	white pine	<i>Pinus strobus</i>	21.5	Good	
98	409	red pine	<i>Pinus resinosa</i>	24.0	Excellent	
99	410	white pine	<i>Pinus strobus</i>	23.0	Fair	
100	411	red pine	<i>Pinus resinosa</i>	23.5	Fair	
101	412	white pine	<i>Pinus strobus</i>	17.5	Excellent	
102	413	white pine	<i>Pinus strobus</i>	22.0	Good	
103	414	white pine	<i>Pinus strobus</i>	16.0	Good	
104	415	red pine	<i>Pinus resinosa</i>	17.0	Good	
105	416	white pine	<i>Pinus strobus</i>	13.0	Good	

"MT" = multi-trunk

TREE #	TAG NO.	SPECIES	SCIENTIFIC NAME	DBH (in)	CONDITION	COMMENTS
106	417	white pine	<i>Pinus strobus</i>	12.0	Good	
107	419	white pine	<i>Pinus strobus</i>	20.5	Good	
108	420	white pine	<i>Pinus strobus</i>	15.0	Fair	
109	421	red pine	<i>Pinus resinosa</i>	17.5	Excellent	
110	422	white pine	<i>Pinus strobus</i>	18.5	Good	
111	423	red pine	<i>Pinus resinosa</i>	28.0	Good	
112	424	white pine	<i>Pinus strobus</i>	23.5	Excellent	MT
113	424	white pine	<i>Pinus strobus</i>	19.0	Excellent	MT
114	425	white pine	<i>Pinus strobus</i>	14.5	Good	
115	426	red pine	<i>Pinus resinosa</i>	17.5	Excellent	
116	428	white pine	<i>Pinus strobus</i>	20.0	Excellent	
117	429	white pine	<i>Pinus strobus</i>	12.5	Excellent	
118	430	white pine	<i>Pinus strobus</i>	12.0	Excellent	
119	431	white pine	<i>Pinus strobus</i>	21.0	Excellent	
120	432	red pine	<i>Pinus resinosa</i>	16.5	Good	
121	433	scotch pine	<i>Pinus sylvestris</i>	17.0	Good	
122	434	white pine	<i>Pinus strobus</i>	20.0	Good	
123	435	white pine	<i>Pinus strobus</i>	15.0	Good	
124	436	white pine	<i>Pinus strobus</i>	13.5	Good	MT
125	436	white pine	<i>Pinus strobus</i>	14.5	Good	MT
126	437	white pine	<i>Pinus strobus</i>	24.0	Good	
127	438	box elder	<i>Acer negundo</i>	13.0	Fair	
128	439	eastern cottonwood	<i>Populus deltoides</i>	17.0	Excellent	
129	440	eastern cottonwood	<i>Populus deltoides</i>	12.0	Excellent	
130	441	white pine	<i>Pinus strobus</i>	19.0	Good	
131	442	white pine	<i>Pinus strobus</i>	16.0	Excellent	
132	443	white pine	<i>Pinus strobus</i>	17.5	Excellent	
133	444	white pine	<i>Pinus strobus</i>	21.0	Excellent	
134	445	white pine	<i>Pinus strobus</i>	20.5	Excellent	
135	446	white pine	<i>Pinus strobus</i>	18.5	Excellent	
136	447	white pine	<i>Pinus strobus</i>	21.0	Excellent	
137	448	white pine	<i>Pinus strobus</i>	17.0	Excellent	
138	449	white pine	<i>Pinus strobus</i>	13.6	Excellent	
139	450	white pine	<i>Pinus strobus</i>	16.5	Excellent	
140	451	white pine	<i>Pinus strobus</i>	20.0	Excellent	
141	452	tree of heaven	<i>Ailanthus altissima</i>	24.5	Excellent	
142	453	white pine	<i>Pinus strobus</i>	22.5	Good	
143	454	bigtooth aspen	<i>Populus gradidentata</i>	13.0	Excellent	

"MT" = multi-trunk



# KEBS, INC

Engineering • Surveying

June 3, 2013

Mr. David Love  
Ingham County Drain Commission ("ICDC")  
P.O. Box 220  
Mason, Michigan 48854-0220

Re: Hannah Lofts – MUPUD Submittal

Dear Mr. Love:

We have prepared MUPUD Plans for Hannah Lofts for submittal to Meridian Township. One of the Township requirements for the MUPUD is that we submit to the ICDC for written comments. Please find enclosed 2 copies of the proposed site plan for Hannah Lofts for your preliminary review and comment. Your written comment back to Meridian Township would be greatly appreciated.

If you should have any questions regarding the plans please do not hesitate to contact me at (517) 339-1014, or you can email me at [gpetru@kebs.com](mailto:gpetru@kebs.com).

Sincerely,

Gregory A. Petru, P.E.  
KEBS, Inc.

Enclosures: 2 Site Plans

Cc: Mark Kiesselbach



# KEBS, INC

Engineering • Surveying

June 3, 2013

Mr. Bob Peterson, P.E.  
Ingham County Department of Transportation and Roads ("ICDTR")  
301 Bush Street  
P.O. Box 38  
Mason, Michigan 48854-0038

Re: Hannah Lofts – MUPUD Submittal

Dear Mr. Peterson:

We are preparing MUPUD Plans for submittal to Meridian Township, I had previously emailed you an overall plan for a very preliminary glance. One of the Township requirements is written comments from ICDTR. Please find enclosed 2 copies of the proposed site plan for Hannah Lofts for your review and comment. Your written comment back would be greatly appreciated.

If you should have any questions regarding the plans please do not hesitate to contact me at (517) 339-1014; or you can email me at [gpetru@kebs.com](mailto:gpetru@kebs.com).

Sincerely,

Greg Petru, P.E.  
KEBS, Inc.

Enclosures: 2 Site Plans

Cc: Mark Kieselbach



# KEBS, INC

Engineering • Surveying

June 3, 2013

Mr. Younes Ishraidi, P.E.  
Meridian Township Engineering Department  
5151 Marsh Road  
Okemos, Michigan 48864-1104

Re: Hannah Lofts – MUPUD Submittal

Dear Mr. Ishraidi:

We have prepared MUPUD Plans for our submittal to Meridian Township. One of the Township requirements requests comments from the Township Engineering Department. Please find enclosed a proposed site plan for Hannah Lofts for your preliminary review and comment. Your written comment back would be greatly appreciated.

If you should have any questions regarding the plans please do not hesitate to contact me at (517) 339-1014, or you can email me at [gpetru@kebs.com](mailto:gpetru@kebs.com).

Sincerely,

Gregory A. Petru, P.E.  
KEBS, Inc.

Enclosures: Site Plan

Cc: Mark Kieselbach



# KEBS, INC

Engineering • Surveying

June 3, 2013

Mr. Steve Schlachter  
Meridian Township Fire Department ("MTFD")  
5151 Marsh Road  
Okemos, MI 48864

Re: Hannah Lofts – MUPUD Submittal

Dear Mr. Schlachter

We are preparing MUPUD Plans for submittal to Meridian Township. One of the Township requirements is written comments from MTFD. Please find enclosed 2 copies each of the proposed site plan and the preliminary utility plan, for Hannah Lofts for your preliminary review and comment. We have shown preliminary fire hydrant locations as well as the proposed fire department connection. Your written comment back would be greatly appreciated.

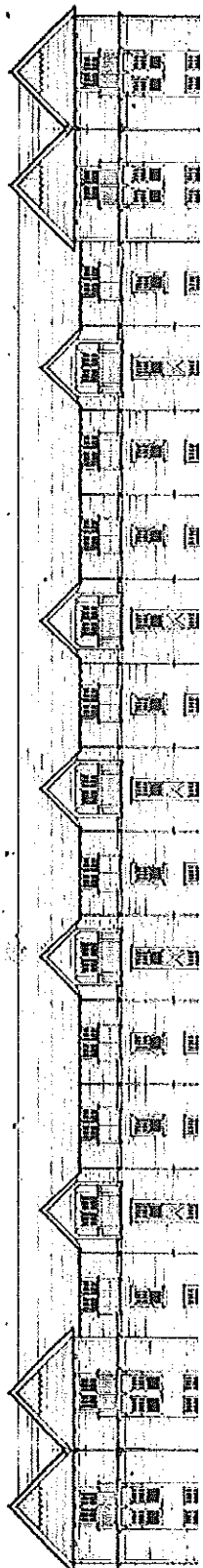
If you should have any questions regarding the plans please do not hesitate to contact me at (517) 339-1014, or you can email me at [gpetru@kebs.com](mailto:gpetru@kebs.com).

Sincerely,

Greg Petru, P.E.  
KEBS, Inc.

Enclosures: 2 Site plans and preliminary utility plans

Cc: Mark Kieselbach



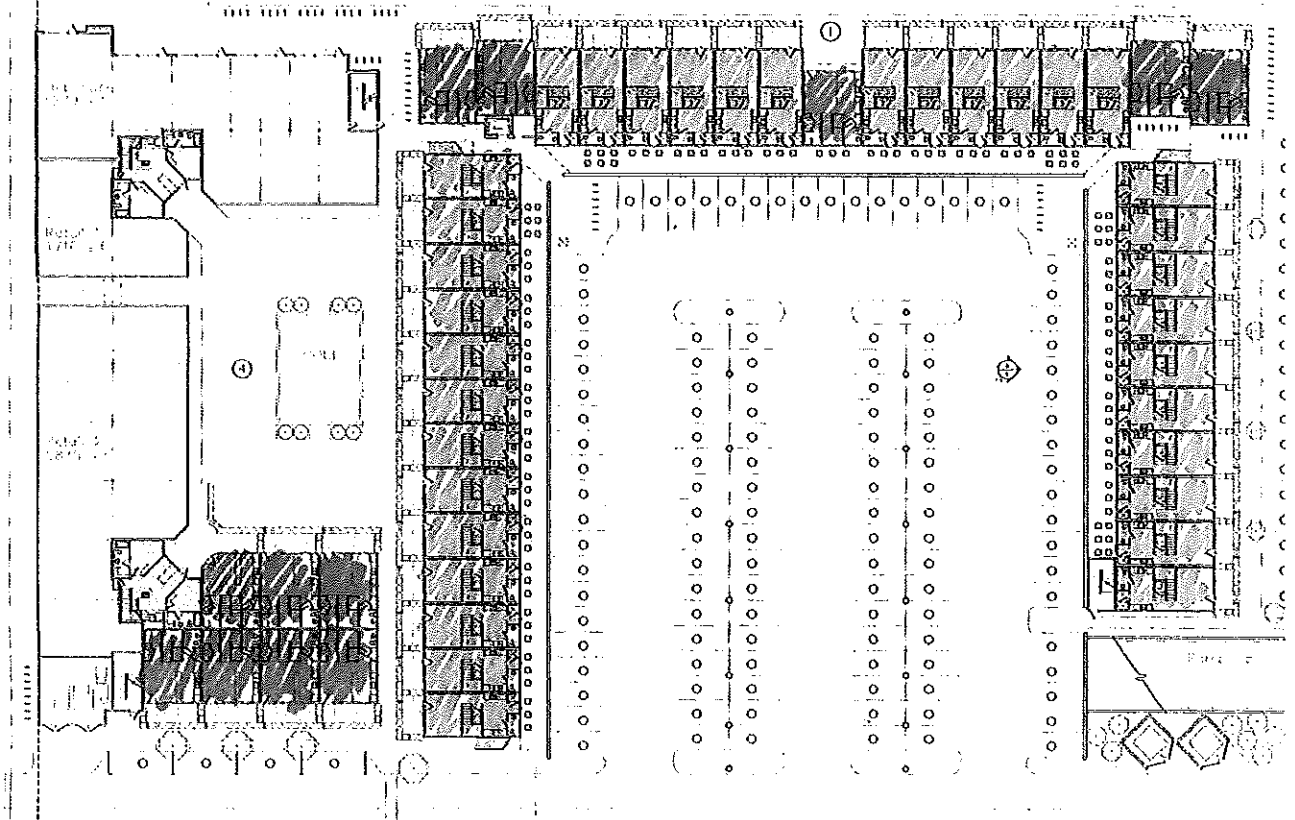


## UNIT MATRIX

BEDS/ UNIT	UNIT TYPE	# OF UNITS	ON FLOOR	#FLRS	SQ. FT.	TOTAL BEDS
1	1 BED FLAT B	47	4	1	515	47
	1 BED FLAT B ALT	6	4	1	502	6
	1 BED STUDIO A	65	4	1	483	65
	1 BED DELUX	2	4	1	737	2
2	2 BED FLAT TYPE 1	4	4	1	721	8
	2 BED FLAT TYPE 2	2	4	1	874	4
	2 BED DELUX FLAT	4	4	1	1138	8
	2 BED TOWNHOUSE B	19	2	2	1030	38
	2 BED TOWNHOUSE B ALT	3	2	2	1004	6
3	3 BED DELUX FLAT	2	4	1	1475	6
4	4 BED TOWNHOUSE A	73	1	3	1680	292
	4 BED TOWNHOUSE B	41	1	3	1665	164
	4 BED TOWNHOUSE B ALT	5	1	3	1627	20
	4 BED TOWNHOUSE C	1	1	3	1665	4
	4 BED 2-STORY CORNER 1	6	2 OR 4	2	1526	24
	4 BED 2-STORY CORNER 2	2	2 OR 4	2	1692	8
TOTALS		282				702

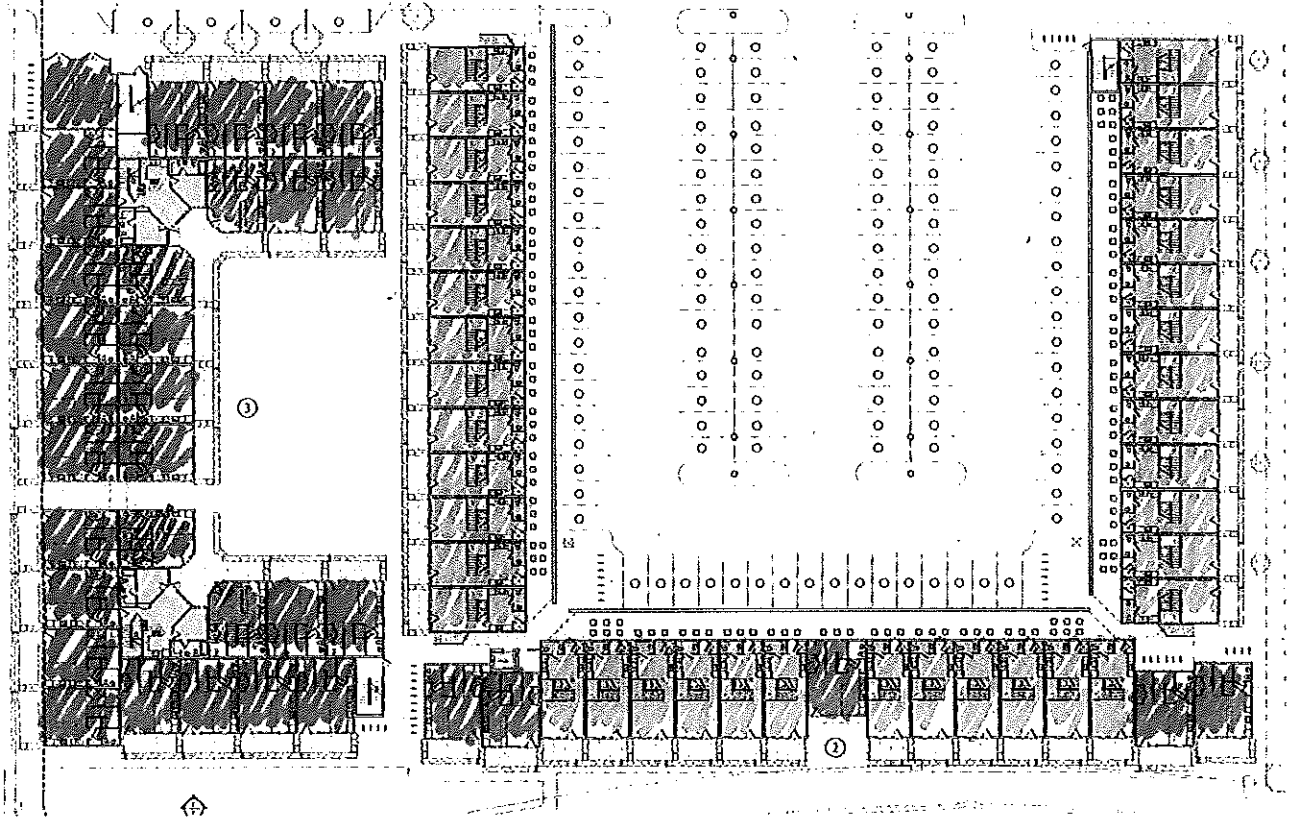
BUILDING 4

BUILDING 1



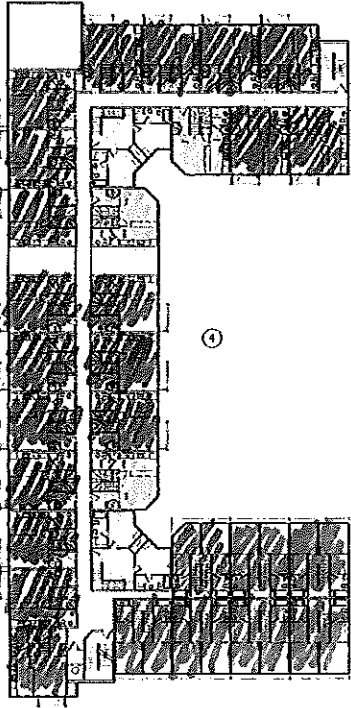
BUILDING 3

BUILDING 2

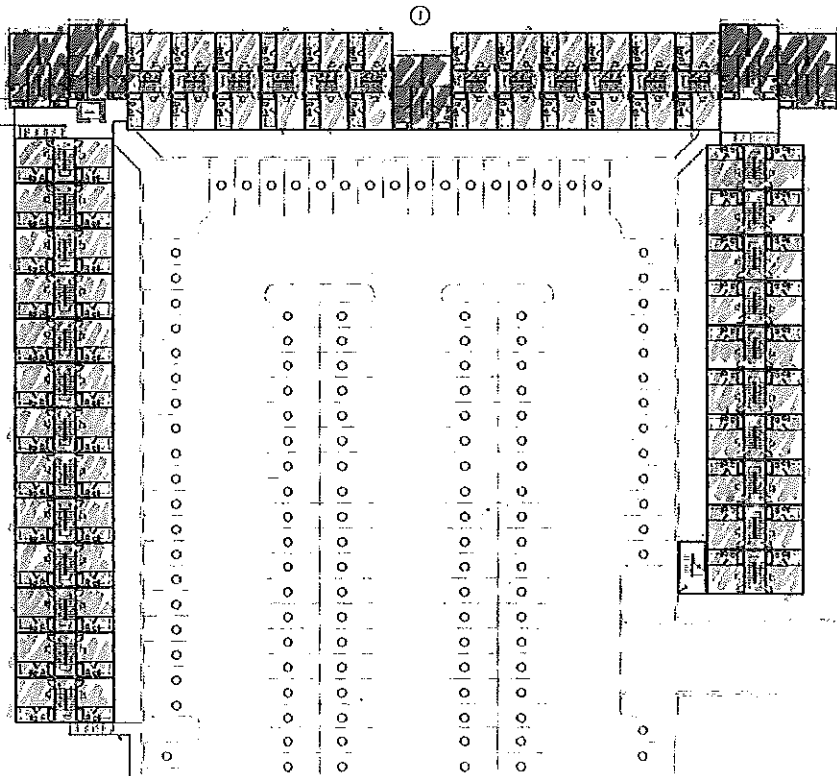


MAIN LEVEL PLAN

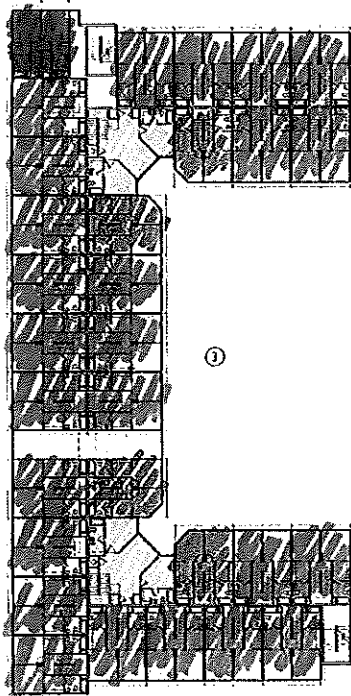
BUILDING 4



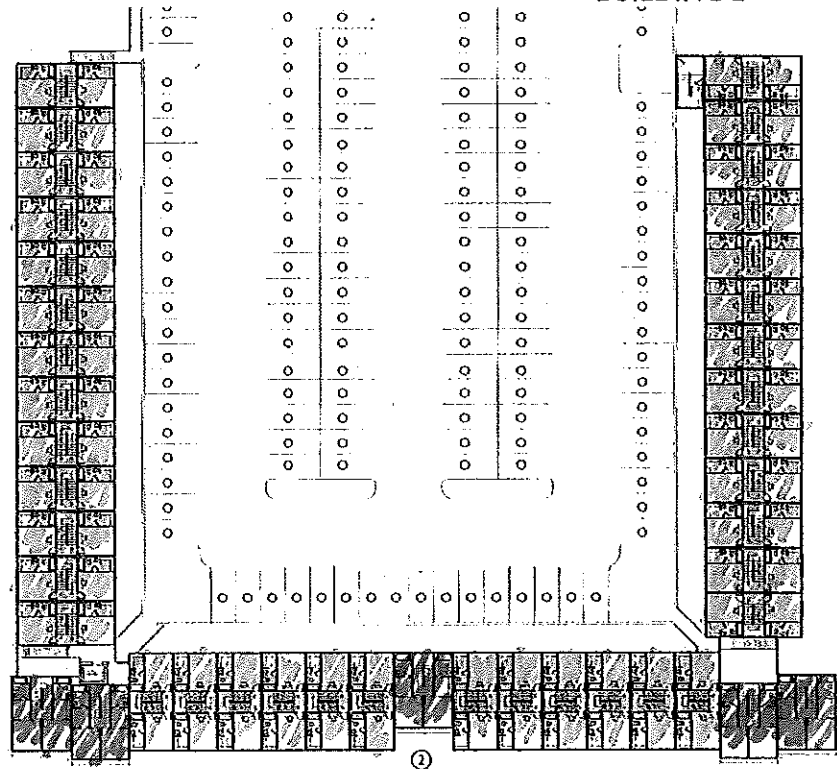
BUILDING 1



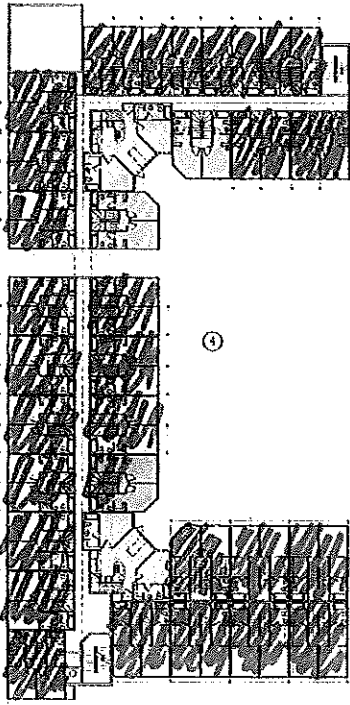
BUILDING 3



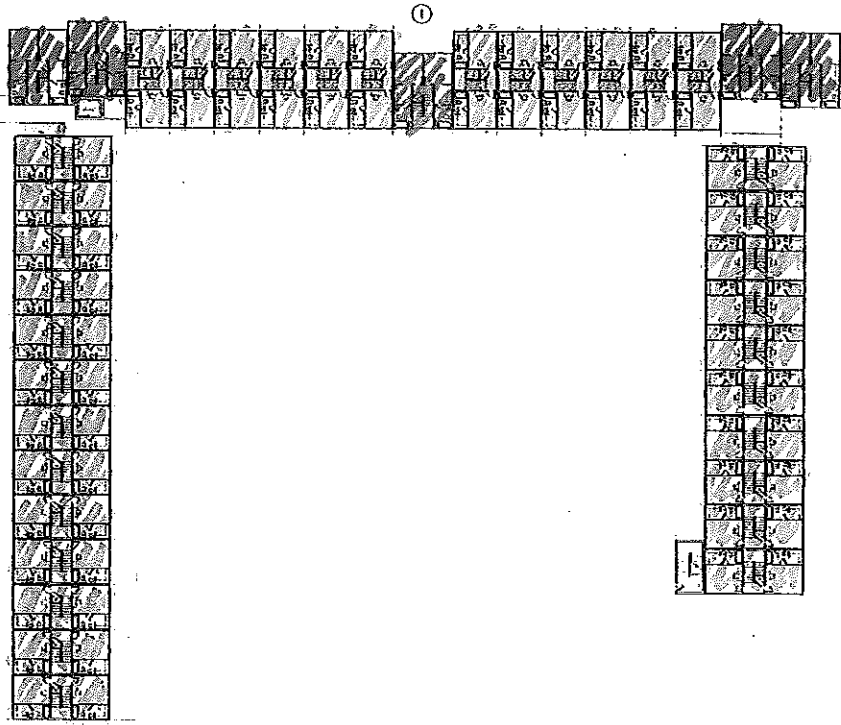
BUILDING 2



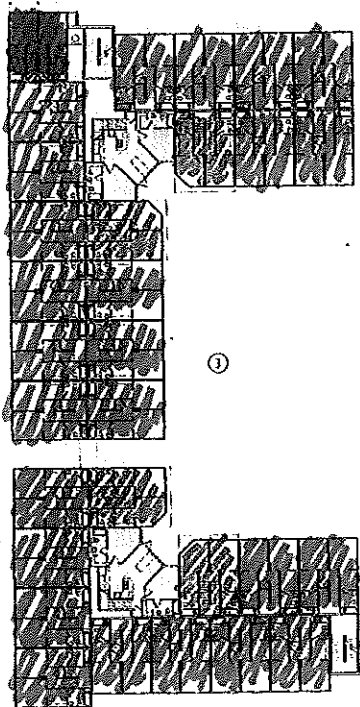
BUILDING 4



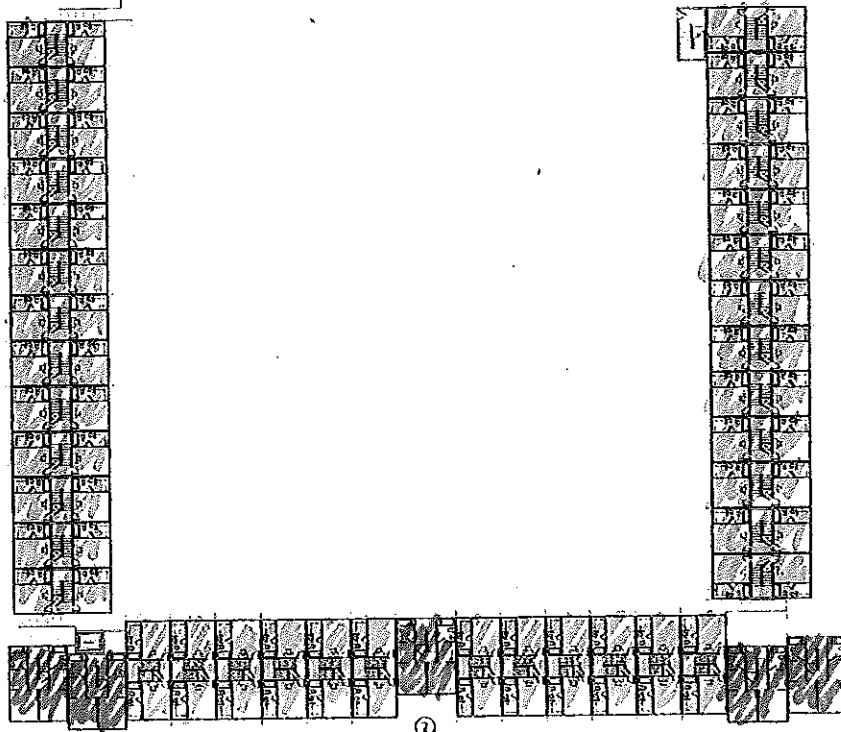
BUILDING 1



BUILDING 3



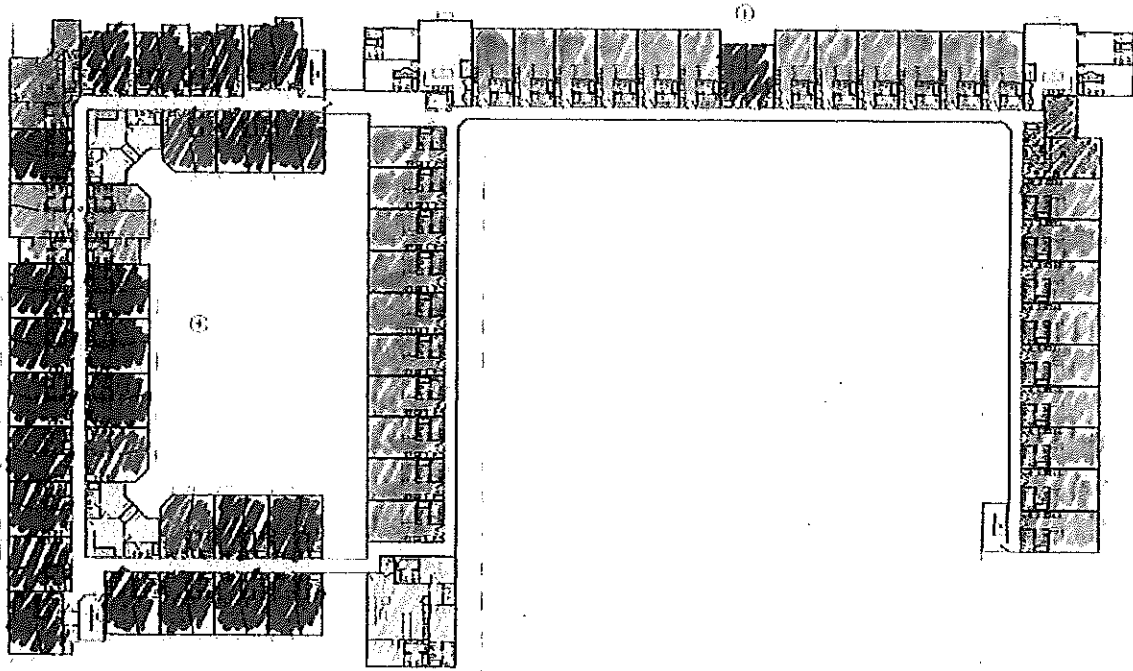
BUILDING 2



THIRD LEVEL PLAN

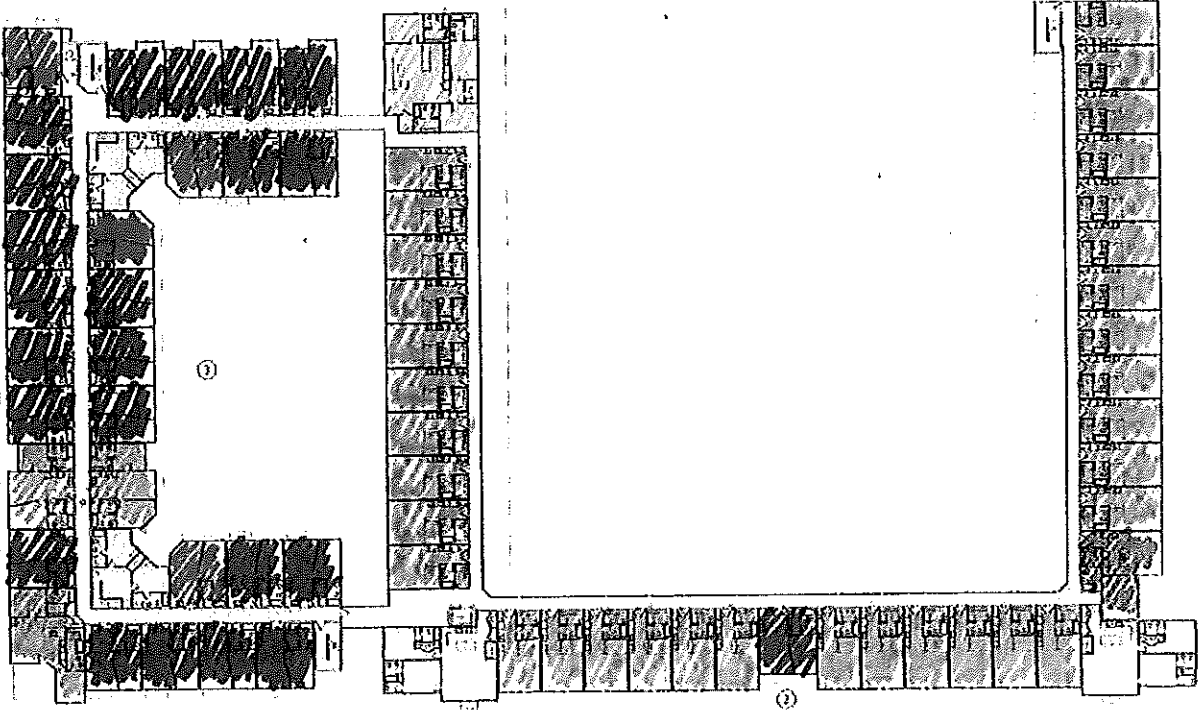
BUILDING 4

BUILDING 1

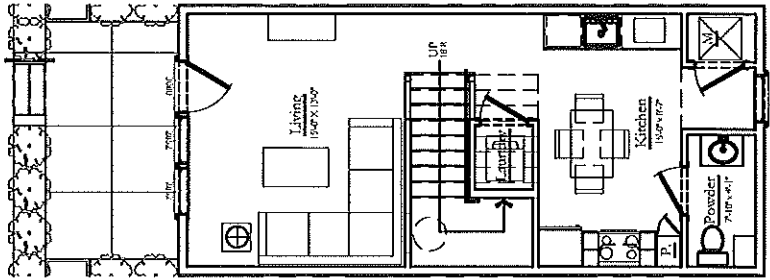


BUILDING 3

BUILDING 2

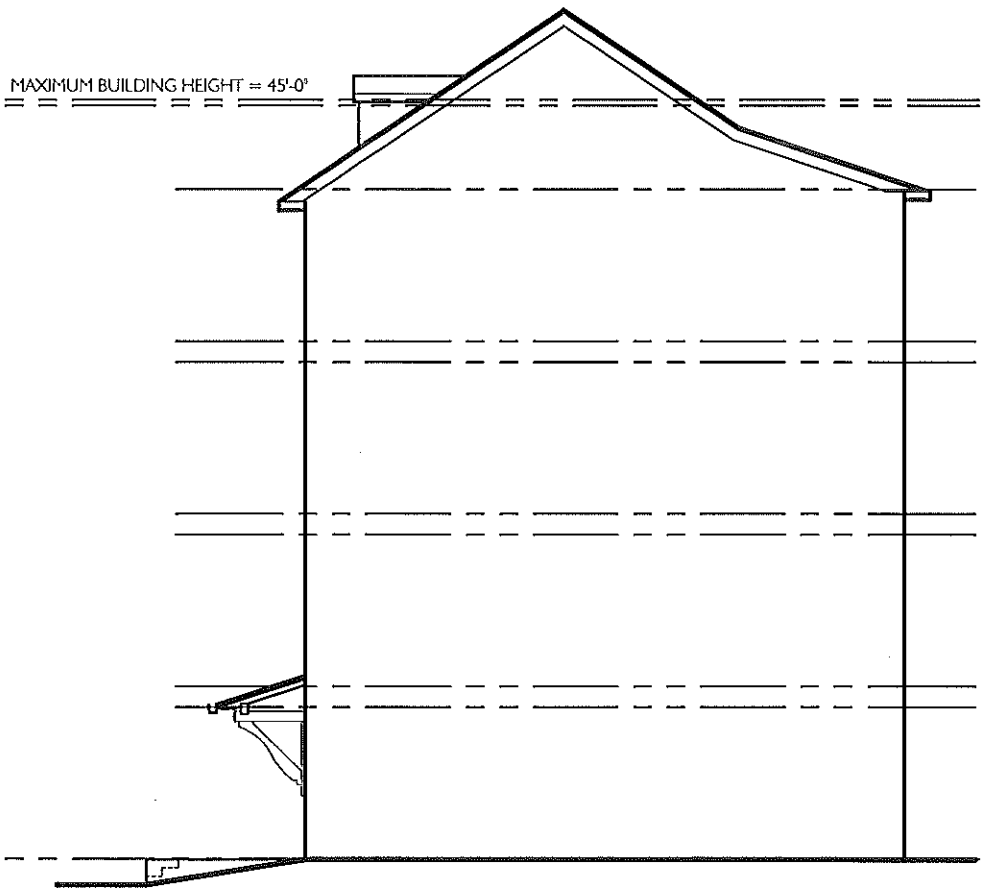


FOURTH LEVEL PLAN



44'-7 7/8" BUILDING HEIGHT

MAXIMUM BUILDING HEIGHT = 45'-0"



① FRONT UNIT ELEVATION

② SIDE ELEVATION/SECTION

William F. Savage, P.E.  
Savage Traffic Engineering, Inc.

Summer Address

6401 Timber Ridge Trail  
East Lansing, MI 48823  
Phone & Fax: 517-339-3933

e-mail: [MSUSavage@aol.com](mailto:MSUSavage@aol.com)

Winter Address

6611 Stone River Road, #206  
Bradenton, FL 34203  
Phone & Fax: 941-755-4681

June 20, 2013

Gail Oranchak, Principal Planner  
Charter Township of Meridian  
5151 Marsh Road  
Okemos, MI 48864

RE: Hannah Lofts

Dear Gail:

My comments on the "Hannah Lofts" Traffic Impact Study are as follows:

1. To improve the capacity of the intersection of Hagadorn at Hannah, the addition of an eastbound "right turn lane" on Service Drive at Hagadorn, Also, the right turn lanes should be lengthened on westbound Hannah, and on northbound Hagadorn. These improvements were recommended by the T.E.A. consultants, and I concur with the need.
2. The proposed "Lofts" driveway onto Hannah could provide left turning traffic by providing left turn merging lane through the median. If this cannot be done, it is suggested that the driveway be limited to "inbound only", because there is no good way to send the exiting traffic easterly without a good place to make a U-turn.
3. On Tuesday, June 18, 2013, I conducted a 90 minute "bike and pedestrian study" on westbound Hannah @ Hagadorn. The result showed 28 bicycles and 17 pedestrians during this period. Assuming that Lodges I was half occupied, the fully occupied Lodges & Lofts would be about six times that, or 168 bicycles and 102 pedestrians. The 5-foot sidewalk along Hannah cannot safely handle that amount of traffic. A solution is to provide a bike lane on Hannah, in conformance with the Complete Streets Ordinance.
4. There is no accurate "Land Use Code" listed in the Institute of Transportation Engineers "Trip Generation Manual" to describe this unique development. Therefore I suggest that a full study (including bicycles and pedestrians) be conducted this Fall, after the beginning of the semester.
5. It is suggested the "bikes and pedestrians" be separated as soon as practical, since bicycles riding on sidewalks are over five times more likely to be involved in an accident. This does not include bike-pedestrian accidents.
6. The "Lofts" are installing 306 bike parking racks for the students. Both of the Lodge's units are also providing for bicycle parking.
7. An immediate improvement can be made by re-striping the lane markings on Service Drive westerly one-quarter mile, to line up with the MSU portion of Service Drive. This will result in both segments having two 10-foot traffic lanes, and one 5-foot bicycle lane. Bicycle lanes provide the safest environment for bicycles. The Ingham County Department of Transportation and Roads must first approve this recommendation.

Sincerely,

*WFSavage*

William F. Savage, P.E.

**Special Use Permit #13081  
(Capstone)  
June 20, 2012**

**APPLICANT:** Capstone Collegiate Communities  
431 Office Park Drive  
Birmingham AL 35223

**STATUS OF APPLICANT:** Option to purchase

**REQUEST:** Construct a mixed use planned unit development project

**CURRENT ZONING:** \*C-2 (Commercial)

**LOCATION:** S. of Hannah Blvd., E. of Esoteric Way, N. of Eyde Pkwy.

**AREA OF SUBJECT SITE:** Approximately 7.86 acres

**EXISTING LAND USE:** Undeveloped

**EXISTING LAND USES  
IN AREA:** North: Hannah Boulevard  
South: Eyde Parkway  
East: Marriott Town Suites Hotel  
West: Esoteric Way

**CURRENT ZONING IN AREA:** North: C-2 Commercial  
South: \*C-2 Commercial  
East: RE (Research Park) and \*C-2 (Commercial)  
West: \*C-2 (Commercial)

**FUTURE LAND USE  
DESIGNATION:** Research Park

**FUTURE LAND USE MAP:** North: Research Park  
South: Office\  
East: Research Park and Office  
West: Research Park


\* Denotes Conditional Rezoning



## CHARTER TOWNSHIP OF MERIDIAN

### MEMORANDUM

**TO:** Planning Commission

**FROM:**   
Gail Oranchak, AICP  
Principal Planner

**DATE:** June 20, 2013

**RE:** Special Use Permit #13081 (Capstone), request to construct a group of buildings totaling more than 25,000 square feet in gross floor area

In conjunction with MUPUD #130q4, a special use permit is being requested to construct four buildings and a two-story parking structure consisting of 282 units for occupancy by 702 persons totaling more than 25,000 square feet in area (approximately 554,240 square feet). The project location is the approximate 7.9 acres zoned \*C-2 (Commercial) located south of Hannah Boulevard, east of Esoteric Way and north of Eyde Parkway

A synopsis of background information provided in the staff report associated with MUPUD #13014 dated June 20 follows.

#### **Master Plan and Zoning**

The Master Plan's Future Land Use Map designates the subject site in the Research Park category and it is zoned \*C-2 (Commercial). The parcel exceeds the lot area (approximately 7.9 acres) and lot width requirements (approximately 521 feet on Hannah Boulevard, approximately 706 feet on Esoteric Way and approximately 443 feet on Eyde Parkway).

#### **Physical Features**

The 7.86 acre parcel is undeveloped. The applicant has submitted the required Natural Features Assessment including a tree survey showing 324 trees with a dbh (diameter at breast height) 12 inches or larger. Terrain is relatively flat with a gentle downward slope toward the southwest corner. Spoils piles and some construction debris were observed on the site. Incorporating some of the larger or native trees into the landscape design would preserve the site's natural resource values. Vegetation consists of "field/scrub" and "tree lines along the northern and eastern periphery." Neither floodplain nor wetlands occur on the site according to the Flood Insurance Rate Map (FIRM) and Township Wetland Map respectively. The site has not special designation on the Township's Greenspace Plan..

---

\*C-2(Commercial) zoning conditioned on development as a MUPUD

### **Streets and Traffic**

Hannah Boulevard, Esoteric Way, and Eyde Parkway will provide direct access to the site. Both streets, classified as local streets, terminate at Hagadorn Road. Concerns have been raised regarding the access drives on Hannah Boulevard and Esoteric Way.

### **Utilities**

The Department of Public Works and Engineering has indicated that municipal water and sanitary sewer are available to serve the site.

The site plan shows a schematic layout for the stormwater management plan as required by ordinance for initial approval. Additional information is required for final approval by the Township

### **Staff Analysis**

The purpose of the special use permit for structures or groups of structures greater than 25,000 square feet in size is to consider potential impacts such development may have on adjacent land uses. The Planning Commission should take into consideration issues related to the use of the mixed use project including potential hours of operation, number of employees, lighting, and noise. The Commission may recommend appropriate conditions be placed on an approval to address these topics.

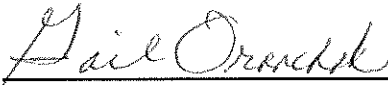
### **Planning Commission Options**

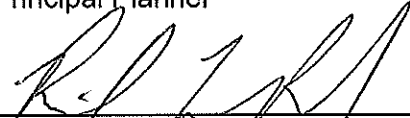
The Planning Commission has the option to recommend approval, approval with conditions, or denial of the special use permit for structures greater than 25,000 square feet in size based on the standards listed in Section 86-126 of the Code of Ordinances. A resolution will be provided for a future meeting.

CHARTER TOWNSHIP OF MERIDIAN

MEMORANDUM

TO: Planning Commission

FROM:   
Gail Oranchak, AICP  
Principal Planner

  
Richard F. Brown, Jr., AICP  
Associate Planner

DATE: June 20, 2013

RE: Special Use Permit #13071 (AT&T), request to permit utility cabinets with a total footprint exceeding 50 square feet on the southwest corner of 2258 Bennett Road.

The public hearing for Special Use Permit #13071 was held at the Planning Commission's June 10, 2013, meeting. AT&T is requesting a special use permit to add two utility cabinets and replace a power pedestal at an existing equipment installation at the southwest corner of 2258 Bennett Road. The changes will increase the total area of all equipment on the site from approximately 40 square feet to approximately 60 square feet. Installations of 50 square feet or greater require a special use permit.

The issues of screening visual impacts to neighboring properties and the color tone of the cabinets were discussed during the meeting. Conditions to address these issues have been included in the resolution.

**Planning Commission Options**

The Planning Commission may approve, approve with conditions, or deny Special Use Permit #13071. A resolution to approve with conditions has been provided for consideration.

**Attachments**

1. Resolution to approve

RESOLUTION

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 24th day of June 2013, at 7:00 p.m., Local Time.

PRESENT: \_\_\_\_\_  
\_\_\_\_\_

ABSENT: \_\_\_\_\_

The following resolution was offered by \_\_\_\_\_ and supported by \_\_\_\_\_.

WHEREAS, AT&T requested a special use permit to install up to two new VRAD video cabinets and replace the existing power pedestal, increasing the total footprint of all equipment at the site from approximately 40 square feet to approximately 60 square feet; and

WHEREAS, the Planning Commission held a public hearing regarding Special Use Permit #13071 on June 10, 2013 and discussed the request at its June 10, 2013 and June 24, 2013 meetings; and

WHEREAS, the Planning Commission reviewed the staff material forwarded under cover memorandums dated June 6, 2013 and June 20, 2013; and

WHEREAS, pursuant to Section 86-343 and Section 86-654(f)(4) of the Code of Ordinances, utility cabinet installations with a total footprint exceeding 50 square feet in area are permitted by special use permit as a nonresidential use in a residential zoning district; and

WHEREAS, installation of the new cabinets conforms to the site location standards for non-residential structures in residential districts contained in Section 86-654(e) including that the installation is located on the site of an existing non-residential use, it is situated adjacent to Bennett Road, and the installation will not require the uneconomic extension of utility services; and

WHEREAS, the location of the existing installation and new cabinets will not impact the sight triangles for nearby roads and driveways pursuant to the requirements of Section 86-474; and

WHEREAS, it is preferred to cluster utility equipment installations at existing sites to limit the number of freestanding individual cabinets along roadways in the Township; and

WHEREAS, Special Use Permit #13071 is consistent with the review criteria for the granting of a special use permit contained in Section 86-126 as the project will not change the character of the general vicinity and will not adversely affect, be hazardous to, or impact the economic welfare of neighboring uses or of the community.

**Resolution to Approve  
SUP #13071 (AT&T)  
Page 2**

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby approves Special Use Permit #13071 (AT&T) a request to add two utility cabinets to an existing equipment installation at 2258 Bennett Road with the following conditions:

1. Approval is based on the site plan prepared by Mid-State Consultants, dated May 2, 2013, subject to revisions as required.
2. The applicant shall obtain site plan approval from the Department of Community Planning and Development and a utility permit from the Department of Public Works and Engineering prior to installing the new cabinets.
3. The applicant shall prepare a landscape plan and submit it with their application for site plan review.
4. An evaluation of visual impacts to surrounding properties shall be conducted during site plan review and if deemed necessary, all of the utility cabinets shall be repainted a suitable color to limit their visual impact.

ADOPTED: YEAS: \_\_\_\_\_  
\_\_\_\_\_  
NAYS: \_\_\_\_\_

STATE OF MICHIGAN     )  
  ) ss  
COUNTY OF INGHAM    )

I, the undersigned, the duly qualified Chairperson of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, DO HEREBY CERTIFY that the foregoing is a true and a complete copy of a resolution adopted at a regular meeting of the Planning Commission on the 24th day of June 2013.

\_\_\_\_\_  
Patricia Herring-Jackson  
Planning Commission Chair