

**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION PUBLIC HEARING
JUNE 11, 2018
6:30 P.M.
AGENDA**

CALL TO ORDER:

PLEDGE OF ALLEGIANCE:

APPROVAL OF AGENDA:

CALL TO THE PUBLIC: (*Note: The Board reserves the right to not begin new business after 10:00 p.m.*)

OPEN PUBLIC HEARING # 1... Review of a request of a rezoning application and impact assessment to rezone approximately 61 acres from Agriculture (AG) to Low Density Residential (LDR) for the following parcels 11-33-400-003 and 11-34-300-005. The parcels are located on the east side of Chilson Road, south of Brighton Road along the southern Township boundary with Hamburg Township. This request is petitioned by Chestnut Development LLC.

- A. Recommendation of Rezoning
- B. Recommendation of Environmental Impact Assessment

OPEN PUBLIC HEARING #2... Review of a site plan and impact assessment requesting preliminary site condominium approval for a proposed 25 unit site condominium. The property in question is located on approximately 61 acres involving parcels 11-33-400-003 and 11-34-300-005 on the east side of Chilson Road, south of Brighton Road along the southern Township boundary with Hamburg Township. The request is petitioned by Chestnut Development LLC.

- A. Recommendation of Environmental Impact Assessment
- B. Recommendation of Preliminary Site Plan

OPEN PUBLIC HEARING #3... Consideration of Zoning Ordinance Text amendments to Article 10 of the Zoning Ordinance, entitled "Planned Unit Development" and Article 25, entitled "Definitions". The ordinance is proposed to be amended to add standards and definitions related to "Interchange Commercial PUD" and "Interchange Campus PUD".

- A. Recommendation of Text Amendments

ADMINISTRATIVE BUSINESS:

- *Staff Report*
- *Approval of May 14, 2018 Planning Commission meeting minutes*
- *Member discussion*
- *Adjournment*



GENOA CHARTER TOWNSHIP
Application for Re-Zoning

APPLICANT NAME: Chestnut Development LLC ADDRESS: 6253 Grand River Ave. Suite 700, Brighton, MI 48114

OWNER NAME: Applicant is the property owner ADDRESS: _____

PARCEL #(s): 4711-33-400-003 & 4711-34-300-005 PRIMARY PHONE: (810) 599-3984

EMAIL 1: steve@chestnutdev.com EMAIL 2: office@chestnutdev.com

We, the undersigned, do hereby respectfully make application to and petition the Township Board to amend the Township Zoning Ordinance and change the zoning map of the township of Genoa as hereinafter requested, and in support of this application, the following facts are shown:

A. REQUIRED SUBMITTAL INFORMATION

1. A legal description and street address of the subject property, together with a map identifying the subject property in relation to surrounding properties;
2. The name, signature and address of the owner of the subject property, a statement of the applicant's interest in the subject property if not the owner in fee simple title, and proof of consent from the property owner;
3. It is desired and requested that the foregoing property be rezoned from:

AG to LDR

4. A site plan illustrating existing conditions on the site and adjacent properties; such as woodlands, wetlands, soil conditions, steep slope, drainage patterns, views, existing buildings, sight distance limitations, relationship to other developed sites, and access points in the vicinity;
5. A conceptual plan demonstrating that the site could be developed with representative uses permitted in the requested zoning district meeting requirements for setbacks, wetland buffers access spacing, any requested service drives and other site design factors;
6. A written environmental assessment, a map of existing site features as described in Article 18 describing site features and anticipated impacts created by the host of uses permitted in the requested zoning district;
7. A written description of how the requested rezoning meets Sec. 22.04 "Criteria for Amendment of the Official Zoning Map."
8. The property in question shall be staked prior to the Planning Commission Public Hearing.

B. DESCRIBE HOW YOUR REQUESTED RE-ZONING MEETS THE ZONING ORDINANCE CRITERIA FOR AMENDING THE OFFICIAL ZONING MAP:

1. How is the rezoning consistent with the goals, policies and future land use map of the Genoa Township Master Plan, including any subareas or corridor studies. If not consistent, describe how conditions have changed since the Master Plan was adopted?

The re-zoning request is consistent with the current master plan.

2. Are the site's physical, geological, hydrological and other environmental features suitable for the host of uses permitted in the proposed zoning district?

Yes

3. Do you have any evidence that a reasonable return on investment cannot be received by developing the property with one (1) of the uses permitted under the current zoning?

The current AG zoning would not allow for a reasonable return with the required infrastructure.

4. How would all the potential uses allowed in the proposed zoning district be compatible with surrounding uses and zoning in terms of views, noise, air quality, the environment, density, traffic impacts, drainage and potential influence on property values?

The LDR zoning is compatible with the surrounding and is significantly less intensive than a previous PUD for the property.

5. Are infrastructure capacity (streets, sanitary sewer, water, and drainage) and services (police and fire protection, etc.) sufficient to accommodate the uses permitted in the requested district?

Yes, the 25 lots will not adversely affect such services.

6. Is there a demonstrated demand in Genoa Township or the surrounding area for the types of uses permitted in the requested zoning district? If yes, explain how this site is better suited for the zoning than others which may be planned or zoned to accommodate the demand.

Yes, single family home sites are in demand and this site has suitable soils, access and availability to utilities to service such.

7. If you have a particular use in mind, is another zoning district more appropriate? Why should the Township re-zone the land rather than amend the list of uses allowed in another zoning district to accommodate your intended use?

No

8. Describe any deed restrictions which could potentially affect the use of the property.
There are no current deed restrictions on the property.

C. AFFIDAVIT

The undersigned says that they are the Owner (owner, lessee, or other specified interest) involved in this petition and that the foregoing answers and statements herein contained and the information herewith submitted are in all respects true and correct to the best of his/her knowledge and belief.

BY: Steve Gronow

ADDRESS: 6253 Grand River Brighton 48114

[Signature]
SIGNATURE

The following contact should also receive review letters and correspondence:

Name: Jami Fyke Email: office@chestnutdev.com

Business Affiliation: Office Manager

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

PROJECT NAME: Chestnut Park Chestnut Springs

PROJECT LOCATON & DESCRIPTION: East side of Chilson Rd between Brighton Rd and Bishop Lake Rd. 25 Unit residential development.

SIGNATURE: _____ DATE: _____

PRINT NAME: Steve Gronow PHONE: 810 599-3984

COMPANY NAME & ADDRESS: Chestnut Development
6253 Grand River Brighton 48114



May 31, 2018

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Kelly Van Marter, AICP Assistant Township Manager and Planning Director
Subject:	Proposed rezoning from AG to LDR Review #2
Location:	East side of Chilson Road, south of Brighton Road (along Genoa/Hamburg Twp. Border)
Zoning:	AG Agricultural District

Dear Commissioners:

At the Township’s request, we have reviewed the revised submittal proposing rezoning of a 61-acre site along Chilson Road from AG Agricultural to LDR Low Density Residential. The intent of the proposed rezoning is for the development of 24 residential units on 1-acre minimum lots.

This proposal has been reviewed in accordance with the Genoa Township Zoning Ordinance and Master Plan.

A. SUMMARY

1. We find the proposed rezoning consistent with the review standards of Article 22; however, we defer to the Township Engineer, Utilities Director and Fire Department for any comments related to infrastructure compatibility or capacity.
2. The Master Plan Future Land Use map identifies the site as Low Density Residential, which is consistent with the proposed rezoning.
3. The residential areas surrounding the site are mostly zoned LDR, which is compatible with the proposed rezoning.
4. The host of uses permitted in LDR are compatible with the site and surrounding area.

B. PROCESS

As described in Article 22 of the Zoning Ordinance, the process to amend the Official Township Zoning Map is as follows:

1. The Township Planning Commission holds a public hearing on the rezoning and makes its recommendation to the Township Board;
2. The Livingston County Planning Commission reviews the request and makes its recommendation to the Township Board; and
3. The Township Board considers the recommendations and takes action to grant or deny the rezoning request.

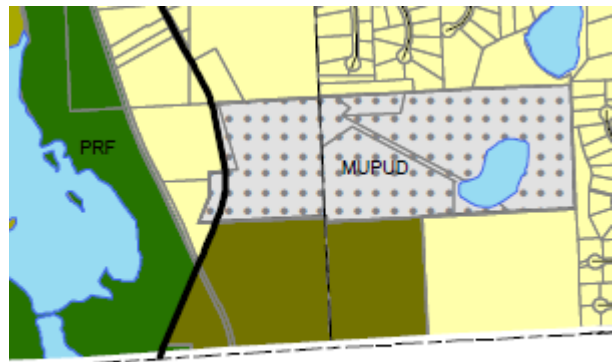
C. AREA OVERVIEW

The site is located on the east side of Chilson Road, south of Brighton Road, and on the border with Hamburg Township. Current zoning, as well as existing and planned land uses in the area are as follows:

Existing Land Use	
Site	Vacant
North	Single Family Housing
East	Single Family Housing
South	Brighton Recreation Area
West	Chilson Impoundment

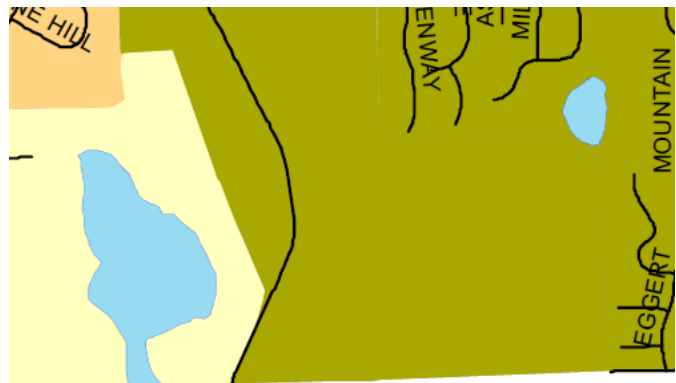


Zoning	
Site	AG
North	MUPUD
East	LDR
South	Hamburg Township
West	PRF and LDR



Hamburg Township

Master Plan	
Site	Low Density Residential
North	Low Density Residential
East	Low Density Residential
South	Hamburg Township
West	Agriculture/Country Estate and Low Density Residential



HAMBURG TOWNSHIP

D. REZONING REVIEW

- 1. Consistency with the goals, policies and future land use map of the Genoa Township Master Plan, including any subarea or corridor studies. If conditions have changed since the Master Plan was adopted, the consistency with recent development trends in the area.***

The Township Master Plan and Future Land Use map identify the site and much of the surrounding area as Low Density Residential. Single family residential uses in these areas will typically be located on lots with a minimum area of 1 acre.

This proposed rezoning to LDR is consistent with the Master Plan.

- 2. Compatibility of the site's physical, geological, hydrological and other environmental features with the host of uses permitted in the proposed zoning district.***

There are several wetlands on the site as shown on the preliminary site plan. The proposed development would preserve these wetlands and will generally be compatible with the natural features on site and in the surrounding area.

- 3. The ability of the site to be reasonably developed with one (1) of the uses permitted under the current zoning.***

The residential districts allow a similar set of permitted and special land uses. The agricultural uses currently permitted in the AG District would not be allowed in the Low Density Residential district, but such uses are not likely conducive to the sensitive natural features on the site.

- 4. The compatibility of all the potential uses allowed in the proposed zoning district with surrounding uses and zoning in terms of land suitability, impacts on the environment, density, nature of use, traffic impacts, aesthetics, infrastructure and potential influence on property values.***

The primary intent of the Single Family Residential districts is to provide for single family dwellings meeting a range of lot sizes and neighborhood character. Single family dwellings, their associated uses, and other uses of similar impact are allowed in the LDR District. These uses are all compatible with the surrounding areas, as there are other single-family neighborhoods nearby.

- 5. The capacity of Township infrastructure and services sufficient to accommodate the uses permitted in the requested district without compromising the "health, safety and welfare" of the Township.***

We defer to the Township Engineer, Utilities Director, and Brighton Area Fire Authority for any comments they may have under this criterion.

- 6. The apparent demand for the types of uses permitted in the requested zoning district in the Township in relation to the amount of land in the Township currently zoned to accommodate the demand.***

The development of other single-family housing in the surrounding area may be viewed as evidence of demand for this type of housing in this area of the Township. Rezoning to LDR would be consistent with the existing development pattern in the area.

7. *Where a rezoning is reasonable given the above criteria, a determination the requested zoning district is more appropriate than another district or amending the list of permitted or Special Land Uses within a district.*

Single family housing is also permitted in the AG District; however, agricultural uses are not overly compatible with the sensitive natural features of this site. As such, amending the list of uses is not appropriate in this case. In our opinion, rezoning to LDR is the more appropriate option in this case.

8. *The request has not previously been submitted within the past one (1) year, unless conditions have changed or new information has been provided.*

We are unaware of any rezoning applications associated with this site in the past year.

Should you have any questions concerning this matter, please do not hesitate to contact our office. We can be reached by phone at (248) 586-0505, or via e-mail at bborden@safebuilt.com and steve.hannon@safebuilt.com.

Respectfully,
SAFEBUILT STUDIO



Brian V. Borden, AICP
Planning Manager



Stephen Hannon, AICP
Planner



May 31, 2018

Ms. Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

Re: **Chestnut Springs**
(Parcels #4711-33-400-003, #4711-34-300-005)
Rezoning and Site Plan Review #2

Dear Ms. VanMarter:

As requested, we have performed a second review of the above-referenced rezoning request and site plan as prepared by Livingston Engineers on behalf of Chestnut Development LLC, last dated May 23, 2018. The 67 acre parcel is located on the east side of Chilson Road at the southern boundary of the Township. The Petitioner is proposing to rezone the site from Agriculture (AG) to Low Density Residential (LDR) and develop 25 single family home sites served by a private road.

The majority of our previous comments have been addressed by the revised plans, however several need input from the planning commission to resolve. Those have been repeated in this letter. In addition, the issue regarding the groundwater quality and impacts from the former Oak Pointe WWTP as detailed in the May 31, 2018, memorandum from Tesha Humphriss need further investigation as to the viability of on-site drinking water wells.

GENERAL NOTES

1. The rezoning from AG to LDR is fairly minimal. The parcel will need to provide on-site water and sanitary sewer systems plus stormwater management.
2. Given the groundwater quality concerns further delineation of the chloride plume needs to be performed prior to finalizing the individual well siting and construction. The Utility System Engineer has prepared a memorandum summarizing the status of the local groundwater monitoring performed by the Township and outlining a plan for further evaluation of the local aquifer to determine if individual wells will be impacted and if so, what can be done to limit these impacts. At this time, the petitioner is being asked to provide approvals for three monitoring wells on-site.
3. A final grading and site development plan needs to be submitted for review and approval.

TRAFFIC/ROADWAYS

1. The development will be served by a private road terminating in a cul-de-sac. The road is proposed to be 1900 feet long which exceeds the maximum length for a dead-end street of 1,000 feet. Given the natural features contained on the site it would be impossible to loop the road back to the entrance. The road will also have only 25 lots being served which generates a minimal amount of traffic. Subject to review by the Brighton Area Fire Authority, we would support a variance for the length of street.

Tetra Tech

401 South Washington Square, Suite 100, Lansing, MI 48933
Tel 517.316.3930 Fax 517.484.8140 www.tetrattech.com

Ms. Kelly VanMarter
Fillmore County Park
Rezoning and Site Plan Review
April 18, 2018
Page 2

2. The location of the private road intersection with Chilson Road should be reviewed and approved by the Livingston County Road Commission. Confirmation of this permit should be submitted for the Township's records.

DRAINAGE AND GRADING

1. All drainage, grading, and soil erosion control measures for future improvements to the property shall be designed in compliance with the regulations established by the Livingston County Drain Commissioner's office.
2. A final grading and road construction plan will need to be submitted for review and approval. The preliminary plan submitted is suitable for the rezoning approval.
3. The petitioner is proposing to use the interior regulated wetland as a detention pond. They indicated that a wetlands permit is in process with the MDEQ. Any action on the proposed site plan should be contingent on receipt of the wetlands permit and any mitigating measures shown on the plans. Also, a management plan should be prepared and submitted that restricts the use of road salts as these have been shown to create a cross contamination of the groundwater aquifer.
4. The petitioner is proposing end of pipe plunge pools to manage sediment discharge to the detention area. Since these are between lots and near the wetland a maintenance plan should be prepared or the pools relocated towards the roadway ditch line to facilitate future maintenance activities.

UTILITIES

1. The residential community is proposed to be served with individual on-site wells and septic systems. Documentation from the Livingston County Health Department verifying the suitability of the soils for these systems should be submitted for the Township's records.

The rezoning from AG to LDR presents minimal engineering issues and we therefore have no objections to the proposed rezoning with the 25 unit site plan as the concept.

Given the unknown limits of the groundwater contamination and its associated impact on the use of individual wells we recommend the site plan approval be delayed until the analysis is performed.

If you have any questions or comments, please call.

Sincerely,



Gary J. Markstrom, P.E.
Vice President



MHOG Utility Department

2911 Dorr Road
Brighton, MI 48116
810-227-5225
www.mhog.org

Memorandum

To: Kelly VanMarter, Genoa Township
From: Tesha Humphriss, Utility Engineer
Date: May 31, 2018
Re: Chestnut Springs Proposed Residential Wells

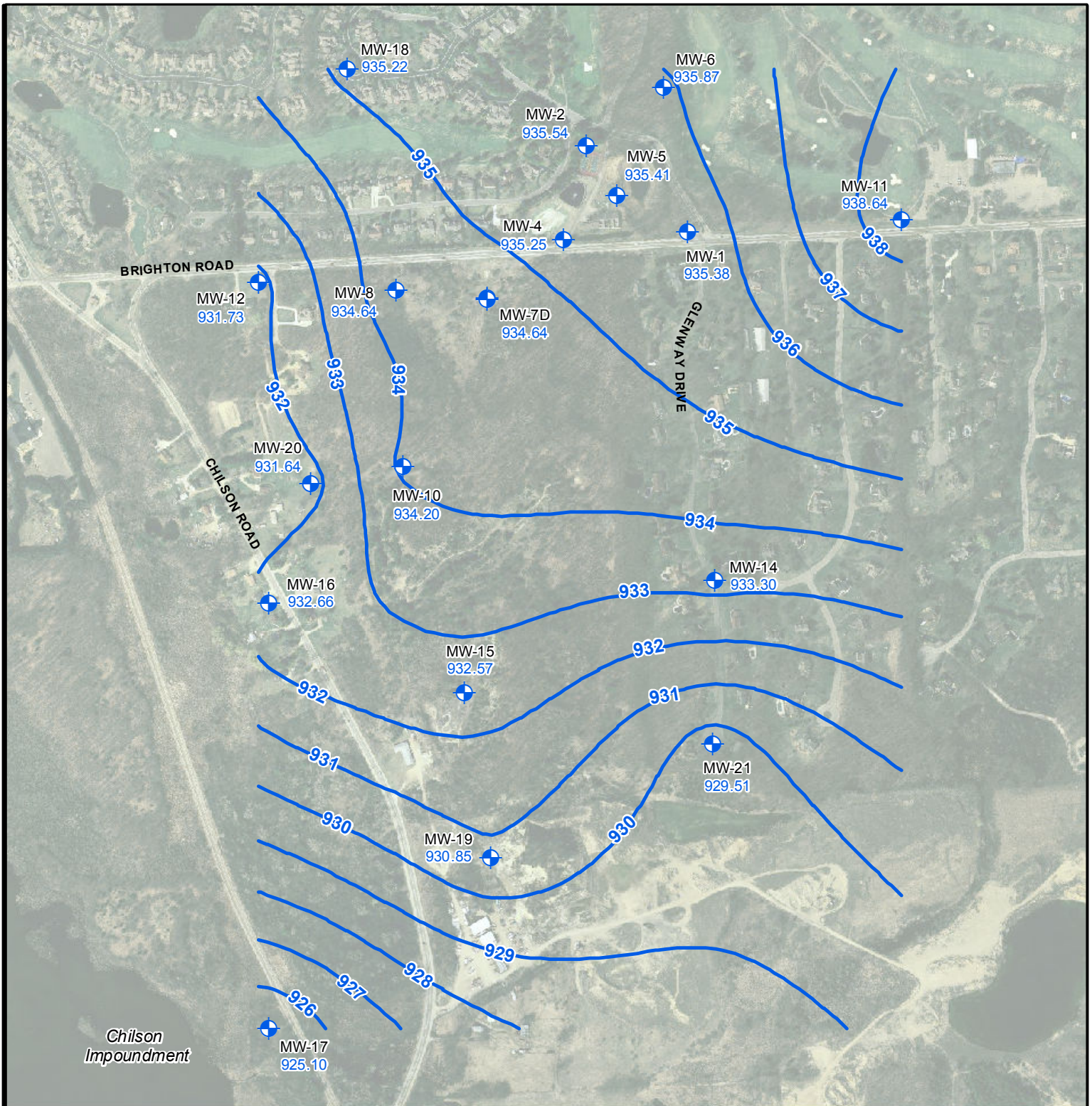
In 2000 Genoa Township entered into a Consent Agreement with the State of Michigan due to high levels of sodium and chloride (salt) in the effluent from the Oak Pointe wastewater treatment plant, located at the northwest corner of Brighton Road and Oak Pointe Drive. The effluent was discharged to groundwater, and was suspected of affecting downgradient drinking water wells. As a result, the Township installed numerous wells around the plant to delineate the extent of sodium and chloride exceeding drinking water standards. The remedial investigation determined that groundwater travels south and south westerly from the old plant site and is believed to discharge to the Chilson Impoundment. The highest effluent concentrations discharged from the plant peaked in 2002, and we have observed these high concentrations move downgradient and reduce with time. To mitigate impacts to downgradient residents, the Township has provided, maintained, and upgraded reverse osmosis units for homes in the impacted area.

In 2015, the customers of Oak Pointe sanitary sewer system paid over \$6,000,000 to cease discharge at the plant site and convert it to a pump station for treatment at a nearby WWTP. This has effectively reduced the groundwater concentrations directly downgradient of the plant site. No wells exceed the drinking water criteria for sodium; however, the highest concentrations of chloride have recently been detected north of the proposed Chestnut Springs development. Chloride does not have a health based limit concentration as sodium does; however, it has an aesthetic criteria concentration of 250 mg/L, above which water can taste salty.

Currently, the Township does not have any monitoring wells located between the southern limits of the chloride plume and the proposed Chestnut Springs Development due to the fact that there were no downstream receptors (private wells) between the limits of the plume and the Chilson Impoundment. Without a potential receptor, the Township planned to monitor the plume until it dissipated and discharged to the Chilson Impoundment.




The highest chloride concentrations are now located in the 15 year time of travel from the old plant site, which is directly north of the proposed development. Since the petitioner is proposing private wells at this development, each site is now a potential receptor and may need to be monitored. Further delineation of the chloride exceedances both vertically and horizontally can reduce future risk for the future residents in the development. As a result, we propose to have the Township work with the petitioner to further evaluate the groundwater at the Chestnut Springs site. Preliminarily, three monitoring wells would provide the necessary background data to further evaluate installation of private groundwater supply wells. We recommend a meeting be held with the petitioner to discuss the proposed monitoring wells and options available to move forward with this development and limit the impacts to future homeowners.

In addition, the Township has experience with cross contamination at its other two groundwater discharge sites, where stormwater systems have impacted the groundwater concentrations of sodium and chloride from winter salting activities. It is recommended the stormwater on this site be evaluated for the use of salt during the generation of the master deed and bylaws for the proposed development so that the Township does not assume the potential liability for these operations.



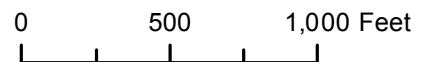
SOURCE: 2005 AERIAL IMAGERY OBTAINED FROM LIVINGSTON COUNTY

LEGEND

-  Monitoring Well
-  Groundwater Potentiometric Surface Elevation Contour
-  928.80 Groundwater Spot Elevation in feet above mean sea level

Notes:

1. Groundwater elevations were obtained from the monitoring wells on June 23, 2017.
2. Groundwater elevation contours were interpolated in Surfer 10 using Kriging default settings.

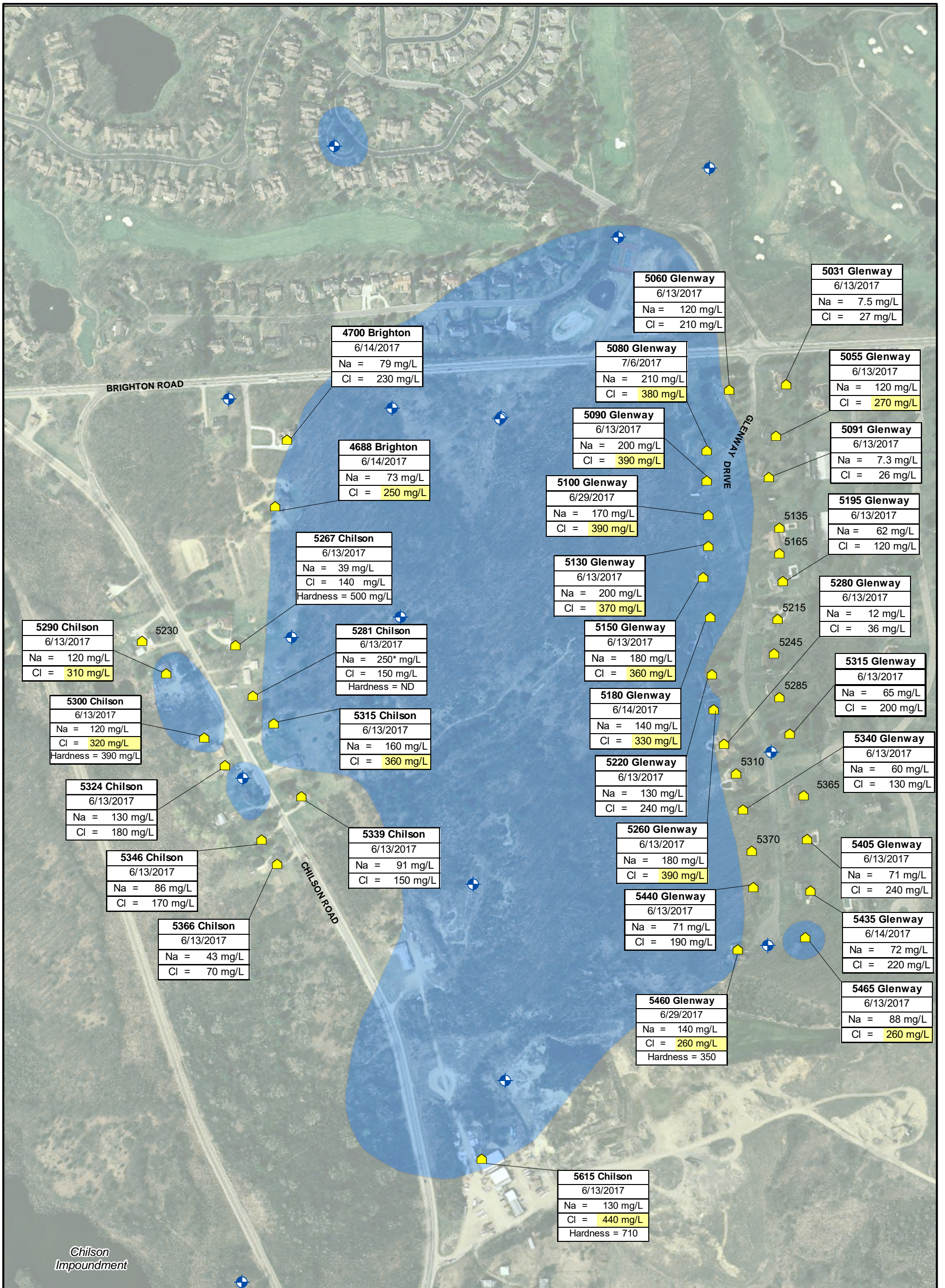


UPDATED: NLJ

DATE: 11/17/2017

OAK POINTE WWTP
GENOA TOWNSHIP, MICHIGAN
**2017 GROUNDWATER ELEVATION MAP
USING 2017 TOP OF CASING ELEVATIONS**

FIGURE
3



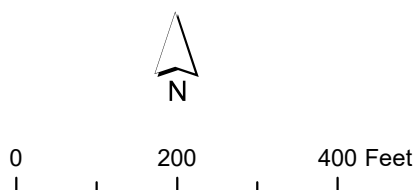
SOURCE: 2005 AERIAL IMAGERY OBTAINED FROM LIVINGSTON COUNTY

LEGEND

- Residential Well
- Monitoring Well
- Extent of Chloride Impacts (>250 mg/L)

Monitoring Location	5465 Glenway
Sample Date	6/13/2017
Sodium	Na = 88 mg/L
Chloride	Cl = 260 mg/L
Result	

Milligrams Per Liter



Notes:

1. Highlighted results exceed Part 201 Criteria.
2. * = Water softener contributes to elevated sodium result. At this residential location the sample was analyzed for hardness to determine on site softening.
3. Data for residential wells is presented for all locations that exceed Criteria.



OAK POINTE WWTP
GENOA TOWNSHIP, MICHIGAN
2017 SAMPLE RESULTS

FIGURE

4

UPDATED BY: NLJ | DATE: 7/20/2017



BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

June 4, 2018

Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: Chestnut Development
67.12 acre parcel E. of Chilson Rd. between Brighton Rd. & Bishop Lake Rd.
Genoa Twp., MI

Dear Kelly:

The Brighton Area Fire Department has reviewed the above mentioned site plan. The plans were received for review on May 24, 2018 and the drawings are dated May 2, 2018 with latest revisions dated May 23, 2018. The project is a 24 unit single family home development. The plan review is based on the requirements of the International Fire Code (IFC) 2018 edition.

There is no municipal water supply in this area of the township. This development is proposed with a single access point off of Chilson Road. There are three long shared driveways off of the primary road that each service between two and four lots.

The following comments should be addressed prior to a favorable recommendation from the fire department.

1. The primary access road shall be a minimum of 26' wide, not including gravel shoulders. The plan indicates a road width of 22' with a 5' gravel shoulder on either side. With a width of 26' wide, one side of the street shall be marked as a fire lane. Include the location of the proposed fire lane signage and include a detail of the fire lane sign in future submittals. **(Addressed in plans. Roads have been increased to 26 feet wide with a 3 foot shoulder.)**
IFC 503.2.2
IFC D103.6.1
2. The width of the three shared driveways is not indicated on the plan. The three shared driveway widths shall be a minimum of 20' wide. Based on the length of the shared driveways it is recommended to provide each drive with a means to turn around at each of the dead ends. Turn arounds may be provided using a 120' Hammerhead, 60' "Y" or 96' diameter cul-de-sac. **(Addressed in plans. In speaking with the developer, a compromise was made to allow the shared driveways to be 18 feet wide with the required turnarounds.)**
IFC D103.4
IFC Table D103.4
3. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds.
IFC 503.2.3
4. Provide details regarding fire flow requirements, and how they will be accomplished for the development. Fire flow requirements are outlined below.



June 4, 2018

Page 2

Chestnut Development

67.12 acre parcel E. of Chilson Rd. between Brighton Rd. & Bishop Lake Rd.

Site Plan Review

507.1 Required water supply. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction.

507.2 Type of water supply. A water supply shall consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed systems capable of providing the required fire flow. (Example: accessible pond, underground tank, well driven hydrant capable of flowing 250 gallons per minute.)

507.2.1 Private fire service mains. Private fire service mains and appurtenances shall be installed in accordance with NFPA 24.

507.2.2 Water tanks. Water tanks for private fire protection shall be installed in accordance with NFPA 22.

507.3 Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an approved method. **(A dry hydrant is being installed at the end of the shared driveway located on the east side of the property. The hydrant will provide access to the body of water on the east side of the property.)**

5. Provide names, addresses, phone numbers, emails of owner or owner's agent, contractor, architect, on-site project supervisor.

If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

A handwritten signature in black ink that reads "D Bunge".

Derrick Bunge
Lieutenant Fire Inspector

**Impact Assessment
for
Chestnut Springs
Genoa Charter Township
Livingston County, Michigan**

Prepared By

**Livingston Engineering
3300 S. Old US-23
Brighton, MI 48114
(810) 225-7100
May 2, 2018**

This impact assessment has been prepared in accordance with section 18.07 of the Genoa Township, Livingston County, Michigan Zoning Ordinance. This section states that developments of this nature shall include such a report for review as part of the site plan/re-zoning review and approval process. As such, this report has been prepared to provide the required information and project overview of the development, in accordance with current township requirements.

I. Party Responsible for preparation of Impact Statement

This impact assessment has been prepared by Livingston Engineering, a professional services company offering civil engineering, land surveying, and site planning services throughout southeast Michigan. Livingston Engineering is licensed to provide engineering and surveying services in Michigan, as well as engineering licenses in the states of Arizona, Colorado, New Mexico, Tennessee and Utah.

II. Site Location

The subject site contains approximately 67.12 acres located in the Southwest $\frac{1}{4}$ of section 33 and the Southwest $\frac{1}{4}$ of section 34 of Genoa Township, Livingston County, Michigan. This parcel is located on the east side of Chilson Rd between Brighton Rd and Bishop Lake Rd. It is bordered on all sides by vacant parcels, with similar land use to the North and Southeast. State land owned by the DNR borders the property on the East, West, and South. The only developed residential area adjacent to the site is the Pine Lake Subdivision located on the very Southeast corner of the site. A location map and aerial photograph of the subject site is included in this report as Exhibit “A” and Exhibit “B” respectively.

Currently, the site is zoned AG (Agricultural) and is to be re-zoned LDR (Low Density Residential). The site is bordered on the East LDR, to the West by PRF (Public and Recreational Facilities), and to the North by MUPUD (Mixed Use PUD) A copy of the Genoa Township Zoning Map is included in this report as Exhibit “C”.

The South property line of the subject parcel is the Geno/Hamburg Township border, and parcels to the south are DNR state land zoned PPRF (Public and Private Recreational Facilities) and RAA (Single Family Low Density Residential).

III. Impact on Natural Features

Currently, the site is vacant and consists of an open field with a small pond and several scattered trees, and several regulated wetlands. A wetland delineation map has been included as Exhibit “G”. The developer is currently in the process of acquiring a permit for the activities that impact the MDEQ regulated wetlands, including detention and grading activities.

Soils on the site consist primarily of Boyer-Oshtemo loamy sands. Miami loam is described as very deep, well drained soils. A soils map of the subject site is included as Exhibit “D”.

As depicted in Exhibit “E”, the site drains from North to South, and half of the site drains toward a draw through the Eastern wetland which ultimately outlets into the Huron river and the other half drains into onsite wetlands along the West and South side of the property. Storm water runoff will be collected and directed into an existing on-site wetland, with an outlet structure that outlets to the draw on the East side of the site. All regulated wetland impact activities are currently in the permitting process with the MDEQ.

Landscape treatments will be placed along the entrance, and canopy trees will be provided for individual lots. In general, the natural wetland features on site will be undisturbed and utilized as part of the natural aesthetic of the development.

IV. Impact on Storm Water Management

The proposed development will provide storm water quality and flood control treatment using an on-site existing wetland, located on the northwest corner of the site. The wetland detention is

designed to meet the current standards of the Livingston County Drain Commissioner's Office and those of Genoa Township. The wetland detention pond is designed to capture storm water runoff from the subject site. Water quality will be provided to storm runoff prior to release into the wetland detention area by utilizing a combination of sediment traps/pools, check dams, and vegetative buffers.

An outlet structure designed in accordance with the Livingston County Drain Commissioner's Office will be provided in the proposed wetland/detention area to control the release rate and provide an emergency overflow route for volume in exceedance of the 100-year storm volume.

Storm water runoff from the adjacent property located to the North of the subject site that currently drains to the existing wetland draw on the East side of the site will continue.

During construction, soil erosion and dust control measures will be implemented. Best management practices including silt fence, check dams, and inlet filter mechanisms will be utilized during this time. For dust control, soil watering to keep the site in a moisture optimum condition will be performed with a water truck on an as needed basis. Upon completion of mass grading and earthmoving operations, permanent restoration including topsoil, seed and mulch along with landscape installation will be performed.

A soil erosion and sedimentation control permit will be required prior to the start of any site grading or construction.

V. Impact on Surrounding Land Uses

As proposed, this development will be in conformance with the future land use map as part of the current township master plan. Re-zoning of the site to LDR will be similar to the adjacent properties.

Access to this site will be from Chilson Rd.

Noise levels are expected to be that of a typical single family residential neighborhood, within township standards.

No Site lighting is proposed for this development.

VI. Impact on Public Facilities and Services.

The development proposes 25 single family residential lots. The developers target demographic for buyers will be retirement aged individuals looking to downsize their home and reduce yard maintenance. As such, the project is not expected to have undesirable effects on local schools or recreation facilities.

As this project is consistent with the township's master plans future land use for this area along Chilson Rd, it is not anticipated that this facility will adversely affect emergency services such as fire and police.

VII Impact on Public Utilities

Each lot will be serviced by an individual well and septic system.

Electric and gas service will be extended on-site via underground installation.

VIII. Storage and Handling of Any Hazardous Materials

There is no plan for storage or handling of any hazardous materials on this site.

IX. Impact on Traffic

The location of the site is well suited for a development of this nature. It is located along Chilson Rd that has an existing two(2) lane cross section one eastbound lane, and one westbound lane. Using the ITE Trip Generation Manual, 7th ed., for Single-Family

Detached Housing based on number of dwelling units (see Exhibit F & G), we calculated the following trips using the average rate for the A.M. and P.M. peak hours of traffic:

A.M. peak hour:

$$0.70 \times (25 \text{ units}) + 12.05 = 29.55 \text{ trips} \times 74\% \text{ (exiting)} \\ = 21.87 \text{ directional trips}$$

P.M. peak hour:

$$\ln(T) = 0.89 \times \ln(25 \text{ units}) + 0.61 = 3.47 \\ e^{(3.47)} = 32.29 \text{ trips} \times 64\% \text{ (entering)} \\ = 20.67 \text{ directional trips}$$

As calculated above, the development, under the fully developed conditions shown in this site plan, will generate less than 22 directional trips in both the A.M. and P.M. peak hours of traffic. Therefore, a traffic impact assessment or traffic impact study is not required by the Township per the Township Zoning Ordinance for the subject development.

The Livingston County Road Commission Sight Distance Review has been applied for and is in process.

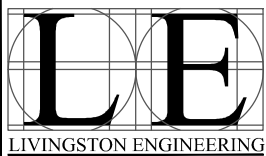
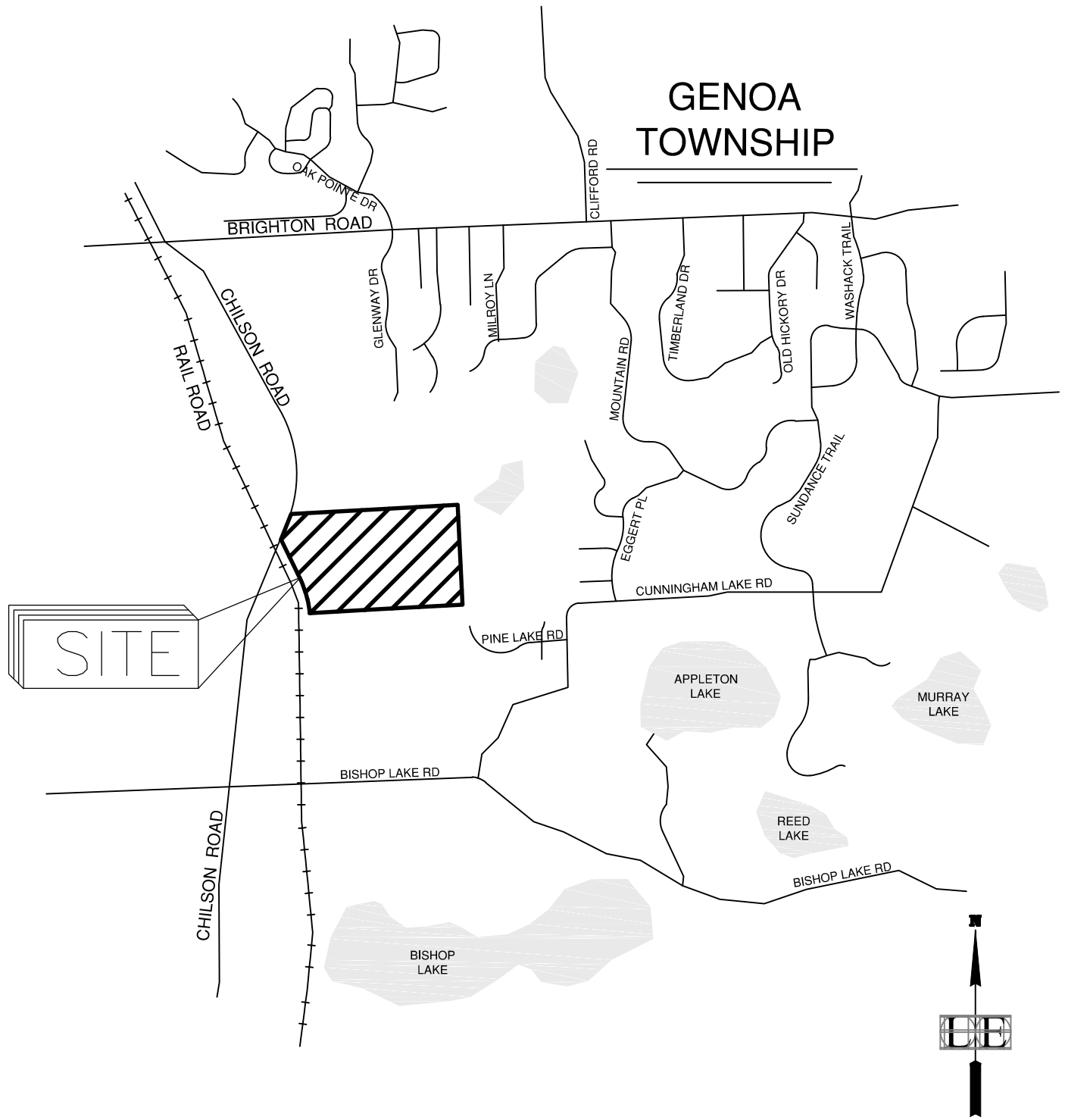
X. Historic and Cultural Resources

It is not believed that this development will have any impact on any historic and/or cultural resources pertaining to the subject parcel and no known historic and/or cultural resources exist on this site that will be affected by this development.

XI. Special Provisions

No special provisions are part of this project.

EXHIBIT A LOCATION MAP



SCALE
NOT TO SCALE

DESCRIPTION
CHESTNUT SPRINGS
Impact Assessment
Village of Fowlerville, Livingston County, MI

DRAWN MJB

DATE 5/2/2018

SHEET No. 1 of 6

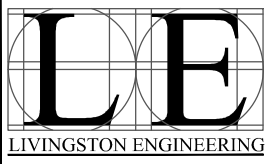
JOB No. 11216-2

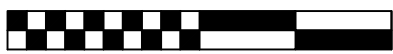
EXHIBIT B

AERIAL



FILE: C:\Users\User\Dropbox (Living)\Projects\2011\11216-2 Chestnut Genoa Chilson Rd\admin\DATA\Impact Assessment\11216-2_Impact Assessment_Exhibits.dwg

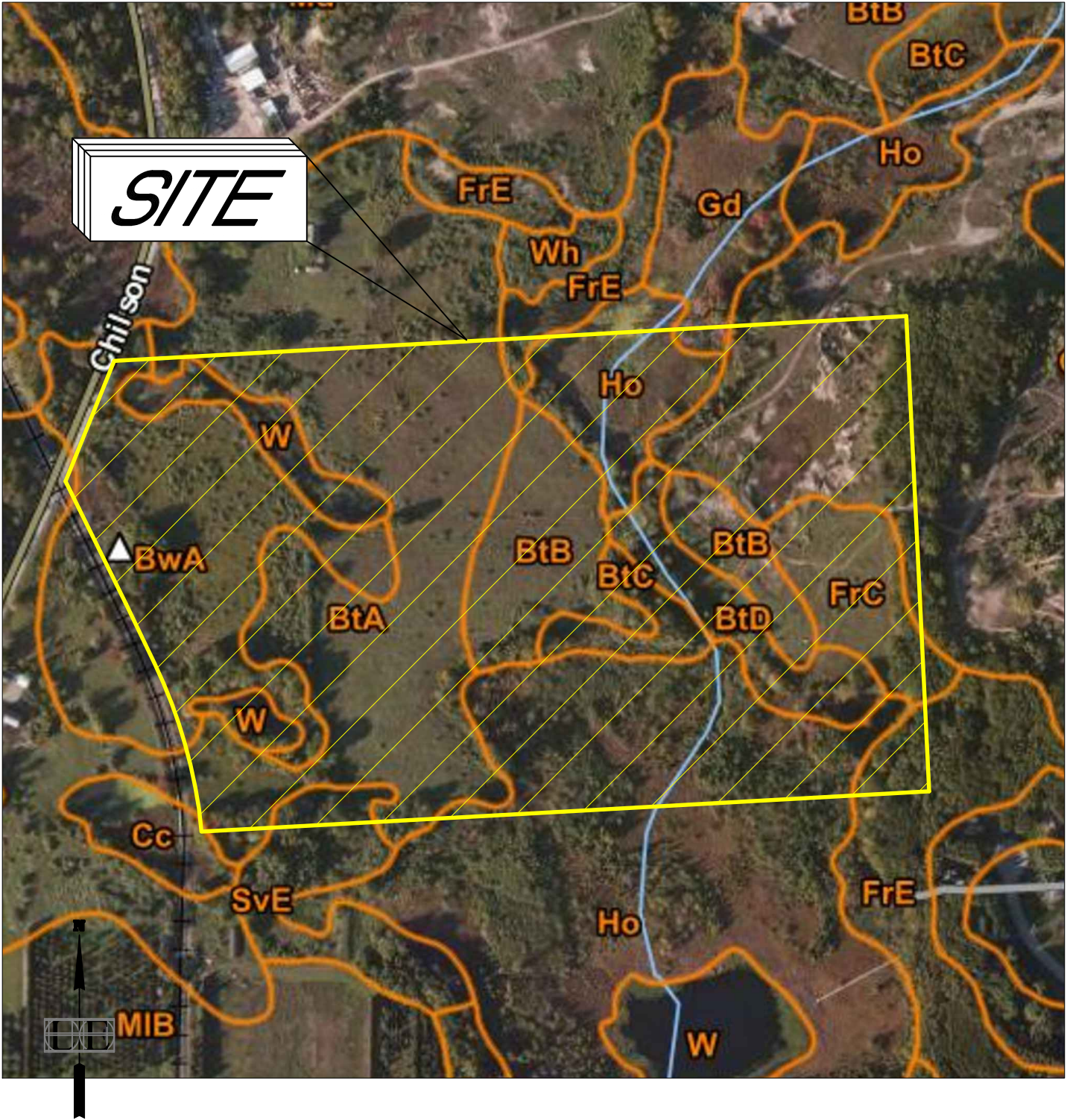


SCALE	0' 2,000' 4,000'		
			
	SCALE: 1"=2,000'		
DRAWN MJB	DATE 5/2/2018	SHEET No. 2 of 6	JOB No. 11216-2

DESCRIPTION
CHESTNUT SPRINGS
Impact Assessment
Village of Fowlerville, Livingston County, MI

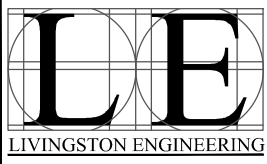
EXHIBIT C

SOIL MAP



SITE

FILE: C: \Users\User\Dropbox (Living)\Projects\2011\11216-2 Chestnut Genoa Chilson Rd\admin\DATA\Impact Assessment\11216-2_Impact Assessment_Exhibits.dwg

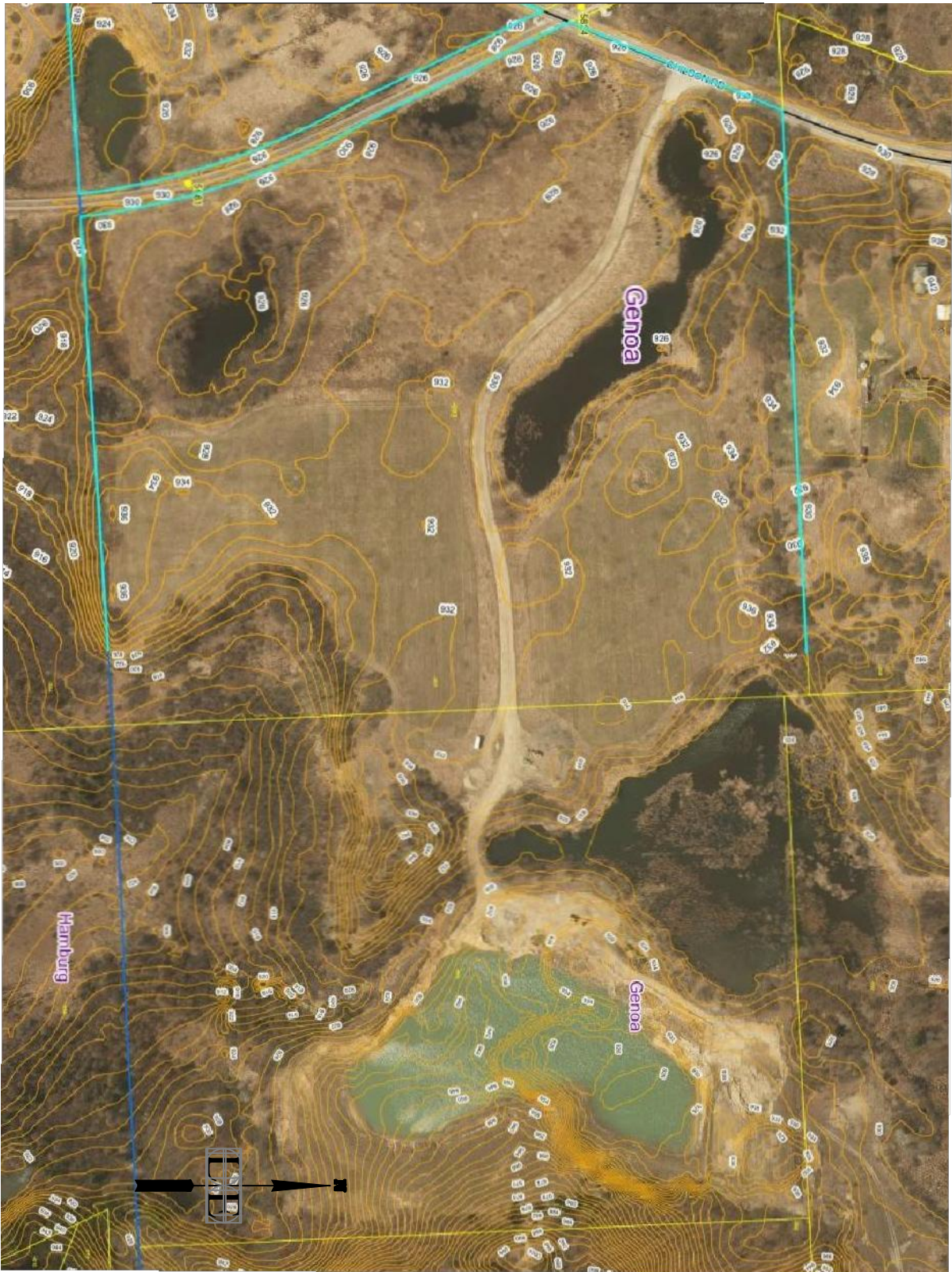


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DRAWN	MJB	DATE	5/2/2018
SHEET No.	3 of 6	JOB No.	11216-2

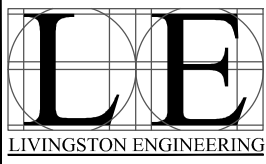
DESCRIPTION
 CHESTNUT SPRINGS
 Impact Assessment
 Village of Fowlerville, Livingston County, MI

EXHIBIT D

EXISTING DRAINAGE



FILE: C:\Users\User\Dropbox (Liveng)\Projects\2011\11216-2 Chestnut Genoa Chilson Rd\admin\DATA\Impact Assessment\11216-2_Impact Assessment_Exhibits.dwg



SCALE	0'	300'	600'
	SCALE: 1"=300'		
DRAWN	MJB	DATE	5/2/2018
SHEET No.	4 of 6	JOB No.	11216-2

DESCRIPTION
CHESTNUT SPRINGS
Impact Assessment
Village of Fowlerville, Livingston County, MI

EXHIBIT E

TRAFFIC AM

Single-Family Detached Housing (210)

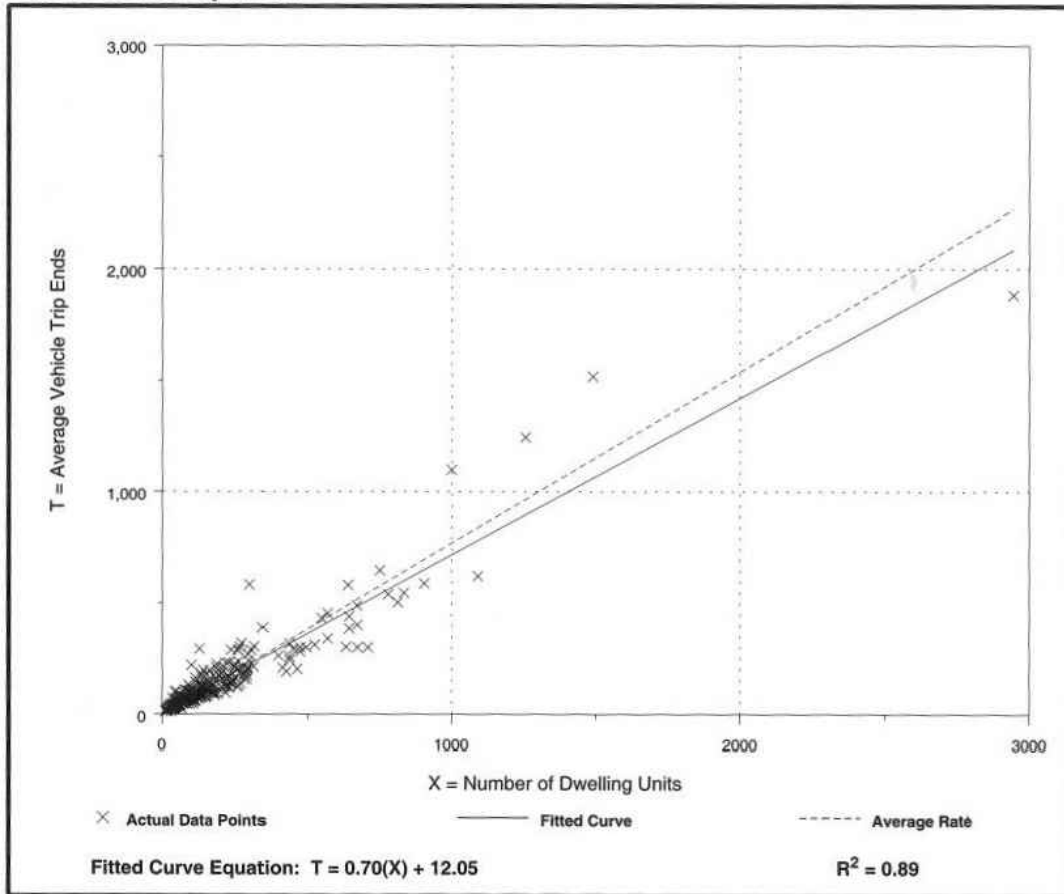
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
A.M. Peak Hour of Generator

Number of Studies: 335
Avg. Number of Dwelling Units: 183
Directional Distribution: 26% entering, 74% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.77	0.33 - 2.27	0.91

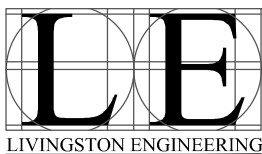
Data Plot and Equation



Trip Generation, 7th Edition

272

Institute of Transportation Engineers



SCALE
NOT TO SCALE

DESCRIPTION
CHESTNUT SPRINGS
Impact Assessment
Village of Fowlerville, Livingston County, MI

DRAWN MJB DATE 5/2/2018 SHEET No. 5 of 6 JOB No. 11216-2

EXHIBIT F

TRAFFIC PM

Single-Family Detached Housing (210)

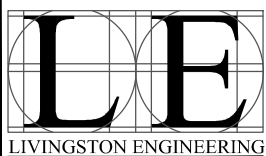
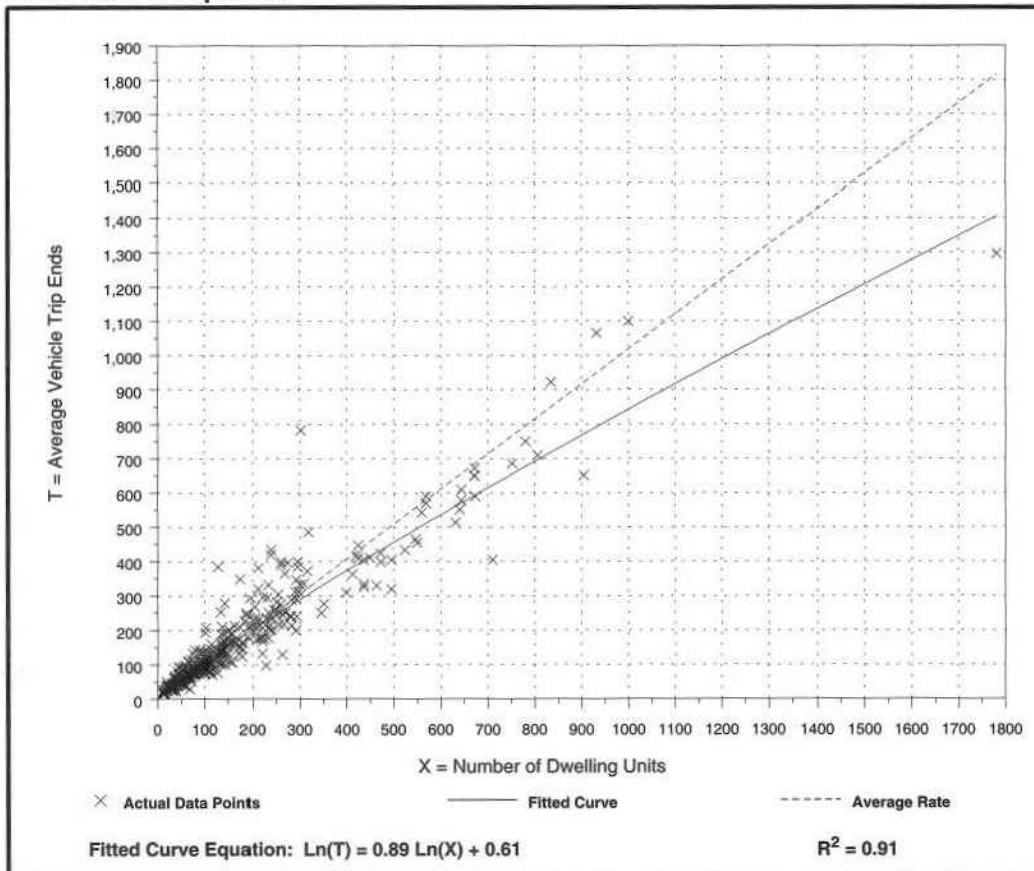
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
P.M. Peak Hour of Generator

Number of Studies: 354
Avg. Number of Dwelling Units: 176
Directional Distribution: 64% entering, 36% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
1.02	0.42 - 2.98	1.05

Data Plot and Equation



SCALE
NOT TO SCALE

DESCRIPTION
CHESTNUT SPRINGS
Impact Assessment
Village of Fowlerville, Livingston County, MI

DRAWN MJB

DATE 5/2/2018

SHEET No. 6 of 6

JOB No. 11216-2

EXHIBIT G

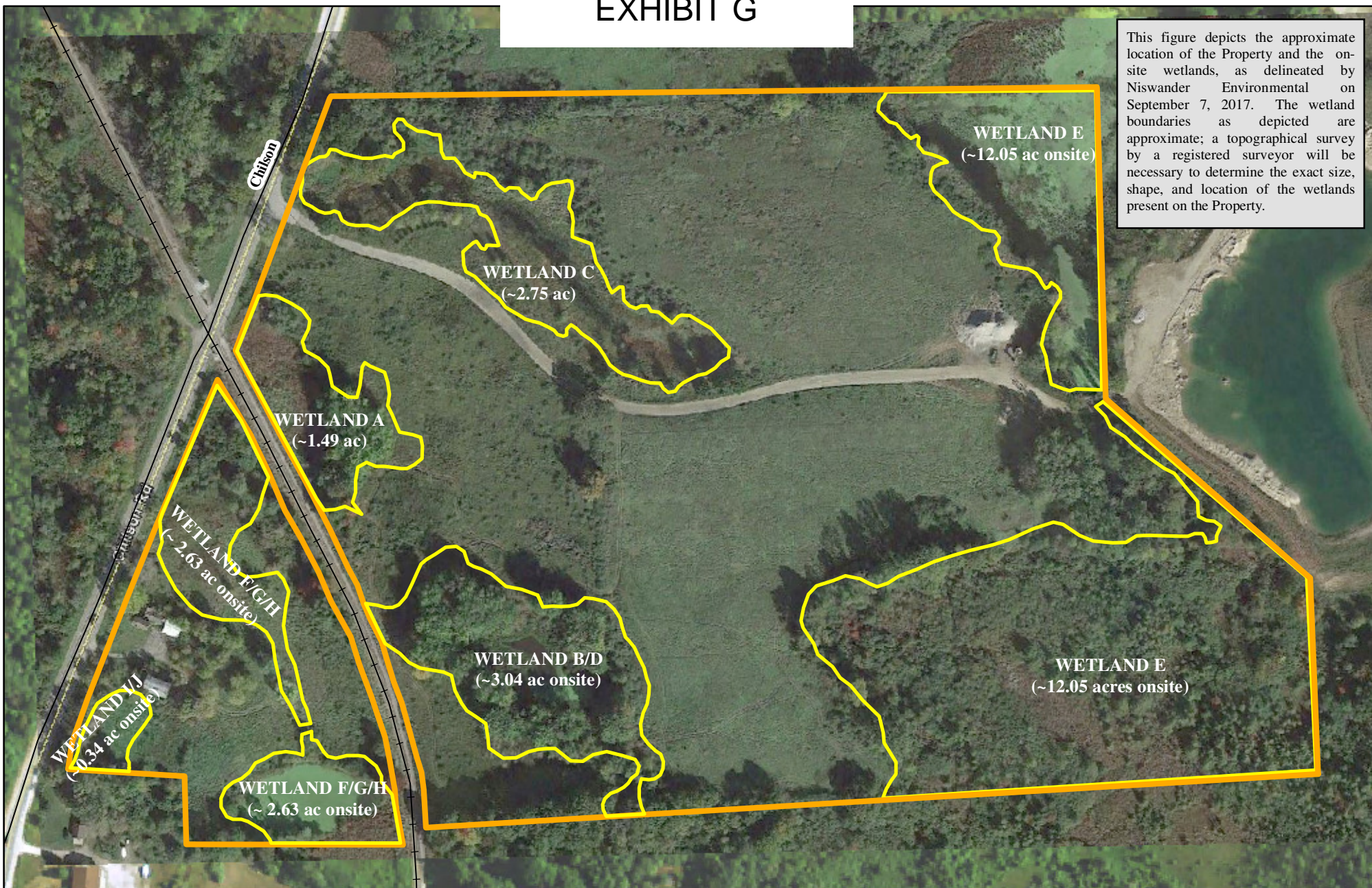
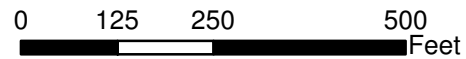


Figure 1. Overall Wetland Location Map

NE 1505 Chestnut Hill Delineation
Client: Chestnut Development
Sections 33 & 34 of Genoa Township
Livingston Co., MI (T02N,R05E)
Delineation Date: September 7, 2017
Map Created: September 8, 2017



NISWANDER ENVIRONMENTAL
9436 Maltby Road, Brighton, MI 48116
810.225.0539 office | 810.225.0653 fax

SITE PLAN FOR CHESTNUT SPRINGS CHILSON RD GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

SHEET INDEX

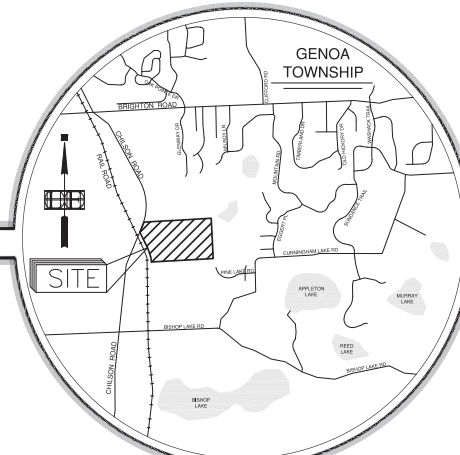
- 01 COVER SHEET
- 02 EXISTING CONDITIONS
- 03 OVERALL LAYOUT
- 04 PRELIMINARY GRADING PLAN
- 05 STORMWATER MANAGEMENT PLAN
- L1 LANDSCAPE PLAN & DETAILS

GENERAL NOTES

1. Property is zoned AG (Agricultural). Property is to be rezoned to LDR (Low Density Residential) concurrently with Site Plan Approval process.
2. Contractor is responsible for protecting all existing and proposed utilities from damage during all stages of construction.
3. The engineer and applicable agency must approve, prior to construction, any alteration, or variance from these plans.
4. All signs shall meet the requirements of the Genoa Township Zoning Ordinance.
5. Underground dry utilities shall be extended from existing locations to service this site as required by utility companies.
6. Soils are majority Boyer-Oakman loamy sands (U.S.D.A. "Soil Survey of Livingston Co.").
7. All construction shall be performed in accordance with the current standards and specifications of Genoa Township and Livingston County.
8. The contractor shall telephone Genoa Township 72 hours before beginning any construction.
9. Three working days prior to any excavation, the Contractor shall telephone MGS DIG (800-482-7171) for the location of underground utilities and shall also notify representatives of other utilities located in the vicinity of the work. It shall be the Contractor's responsibility to verify and/or obtain any information necessary regarding the presence of underground utilities which might affect this job.
10. On-site wetlands have been flagged as determined by Niswander Environmental on September 7, 2017 .
11. Site plan use: Residential
12. Site storm drainage will be detailed on site prior to being released to wetland.
13. Property to be serviced by individual well and septic.
14. Roadway within this development shall be private.

SITE DATA TABLE

	REQUIRED
LOT AREA	1 AC. (min)
LOT WIDTH	150 FT (min)
LOT COVERAGE	NA
FLOOR AREA (PER UNIT)	980 SF (min)
BUILDING SETBACKS:	REQUIRED
FRONT	50 FT (min)
SIDE	30 FT (min)
REAR	60 FT (min)
WETLAND	25 FT (min)



LOCATION MAP
NOT TO SCALE

LEGAL DESCRIPTION

Part of the Southeast 1/4 of Section 33 and the Southwest 1/4 of Section 34, T2N-R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: BEGINNING at the Southeast Corner of said Section 33, also being the Southwest Corner of said Section 34; thence along the South line of said Section 33, being the Hamburg-Genoa Township line, S 86°51'02" W, 1005.29 feet (previously surveyed as S 87°12'20" W);

Thence along the Eastern line of the Ann Arbor Railroad (66 foot wide), the following 4 courses on the arc of a curve left, 188.78 feet, said curve has a radius of 1233.00 feet, a central angle of 08°46'20" and a long chord which bears N 09°20'42" W, 188.59 feet (previously recorded as N 08°59'24" W);

Thence along the arc of a curve left, 300.68 feet, said curve has a radius of 1504.99 feet, a central angle of 11°26'49" and a long chord which bears N 19°27'17" W, 300.18 feet (previously surveyed as N 19°05'59" W);

Thence along the arc of a curve left, 184.66 feet, said curve has a radius of 9470.15 feet, a central angle of 01°07'02" and a long chord which bears N 25°44'13" W, 184.66 feet (previously surveyed as N 25°22'56" W);

thence N 26°17'44" W 382.92 feet, (previously surveyed as N 25°56'26" W);

thence along the centerline of centerline of Chilson Road (66 foot wide Right of Way), N 22°02'33" E, 363.80 feet (previously surveyed as N 22°23'51" E); thence along the North line of the South 1/2 of the Southeast 1/4 of said Section 33, S 86°50'49" E, 1189.30 feet (previously surveyed as N 87°12'07" E); thence along the North line of the South 1/2 of the Southwest 1/4 of said Section 34, N 86°41'47" E, 1028.59 feet (previously surveyed as N 87°03'09" E); thence along the East line of the West 30 acres of the Southwest 1/4 of the Southwest 1/4 of said Section 34, S 02°44'41" E, 1329.93 feet (previously surveyed as S 02°23'23" E); thence along the South line of said Section 34 and the Hamburg-Genoa Township line S 86°49'56" W, 1031.98 feet (previously surveyed as S 87°11'14" W to the Point of Beginning, Containing 67.12 acres, more or less and subject to the rights of the public over Chilson Road. Also subject to any other easements or restrictions of record.

Bearing are related to Grid North from RTK GPS observations using Brighton CORS station.

PERMITS & APPROVALS

AGENCY	REQUIRED	STATUS
GENOA TOWNSHIP	APPROVAL	
GENOA TOWNSHIP FIRE DEPARTMENT	APPROVAL	
LIVINGSTON COUNTY DRAIN COMMISSIONER	S.E.S.C. PERMIT	
LIVINGSTON COUNTY ROAD COMMISSION	APPROACH PERMIT	IN PROCESS
LIVINGSTON COUNTY ROAD COMMISSION	SITE DISTANCE APPROVAL	IN PROCESS
LIVINGSTON COUNTY HEALTH DEPARTMENT	WELL & SEPTIC PERMITS	
WEDC	WETLAND IMPACT PERMITS	IN PROCESS

UTILITY DISCLAIMER



Know what's below.
Call before you dig.

Utilities as shown indicate approximate location of facilities only, as described by the various companies and no guarantee is given either as to the completeness or accuracy thereof. Contractor shall call "MGS DIG" at 811 or 1-800-482-7171 prior to the start of construction. Electric, gas, phone and television companies should be contacted prior to the commencement of field activities.

OWNER / DEVELOPER



CHESTNUT DEVELOPMENT, LLC
6263 GRAND RIVER AVE. SUITE 700
BRIGHTON, MI 48114
PHONE: 810.698.3984

ENGINEER



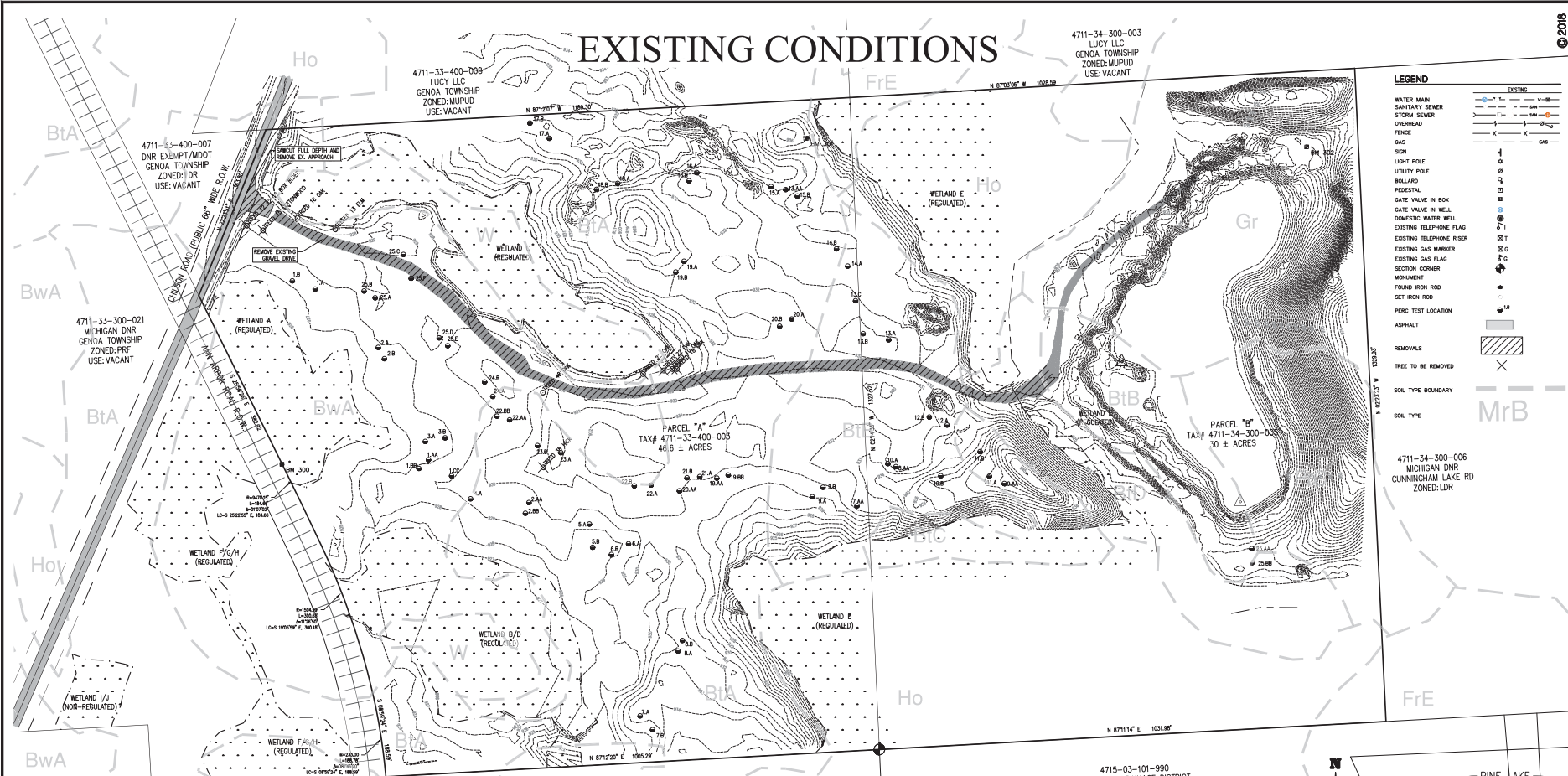
LIVINGSTON ENGINEERING
CIVIL ENGINEERING SURVEYING PLANNING
3300 S. OLD U.S.29, BRIGHTON, MI 48114
http://www.livingstoneng.com PHONE: (810) 225-7100 FAX: (810) 225-7899

**CHESTNUT SPRINGS
GENOA TOWNSHIP
LIVINGSTON COUNTY, MICHIGAN
SITE PLAN**

ENGINEER'S SEAL

REVISIONS	DATE	PROJECT NO.
PER TWP CONSULTANT REVIEW COMMENTS	5/23/18	11216-2
		SHEET 1 OF 6
		DATE: May 2, 2018

EXISTING CONDITIONS



LEGEND	
EXISTING	
WATER MAIN	—
SANITARY SEWER	—
STORM SEWER	—
OVERHEAD	—
FENCE	—
GAS	—
SIGN	—
LIGHT POLE	—
UTILITY POLE	—
ROLLING	—
PEDESTAL	—
DATE VALVE IN BOX	—
DATE VALVE IN WELL	—
DOMESTIC WATER WELL	—
EXISTING TELEPHONE FLAG	—
EXISTING TELEPHONE RISER	—
EXISTING GAS MARKER	—
EXISTING GAS FLAG	—
SECTION CORNER	—
MONUMENT	—
FOUND IRON ROD	—
SET IRON ROD	—
PERC TEST LOCATION	—
ASPHALT	—
REMOVALS	—
TREE TO BE REMOVED	—
SOIL TYPE BOUNDARY	—
SOIL TYPE	—

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CIVIL ENGINEERING SURVEYING PLANNING

5800 S. OLD LEE, BENTONVILLE, AR 72716
PHONE: (501) 255-7900 FAX: (501) 255-7909

www.livingstonengineering.com

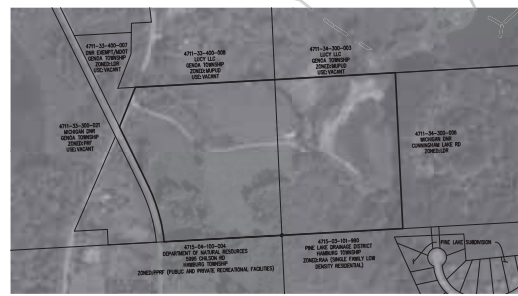
CHESTNUT SPRINGS
SIT E PLAN

CHILSON RD, GENOA TWP., LIVINGSTON COUNTY, MICHIGAN

EXISTING CONDITIONS

Drawn: MJB	DATE: 5/27/2018
Checked: JTB	DATE: 5/27/2018
Approved: [Signature]	DATE: 5/22/2018
Revised: [Signature]	DATE: 5/22/2018

File No: 11216-2
Scale: [Blank]
Notes: [Blank]



SITE AERIAL
SCALE: 1" = 500'

N.R.C.S. SOIL SURVEY - CLASSIFICATIONS

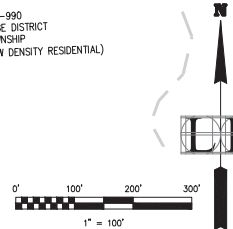
B/A	Boyer-Daklema loamy sands, 0 to 2 percent slopes
B/B	Boyer-Daklema loamy sands, 2 to 6 percent slopes
B/C	Boyer-Daklema loamy sands, 6 to 12 percent slopes
B/D	Boyer-Daklema loamy sands, 12 to 18 percent slopes
B/W	Bronson loamy sand, 0 to 2 percent slopes
C/F	Carfale muck, 0 to 2 percent slopes
F/C	Fox-Boyer complex, 6 to 12 percent slopes
F/E	Fox-Boyer complex, 18 to 25 percent slopes
Gr	Gravel pits
Ho	Houghton muck, 0 to 1 percent slopes
S/E	Spinks-Daklema loamy sands, 18 to 25 percent slopes
W	Water

GENERAL NOTES:

1. ALL UTILITY COMPANIES SHALL BE CONTACTED PRIOR TO CONSTRUCTION AND ALL UTILITIES LOCATED. ANY DISCREPANCIES OR CONFLICTS SHALL BE REPORTED TO ENGINEER FOR RESOLUTION PRIOR TO COMMENCING CONSTRUCTION.
2. ALL REMOVAL MATERIALS, INCLUDING TREES AND STUMPS, SHALL BE PROPERLY DISPOSED OF AT AN OFF-SITE LOCATION.

BENCHMARKS

BENCHMARK #300 SET IRON: 3,368 FT SE OF CHILSON RD ALONG THE RAILROAD ROW N370141.95' E13281141.39' ELEVATION= 924.70 NAVD88 DATUM	BENCHMARK #301 SET IRON: ±78' SOUTH OF NORTH PROPERTY LINE & ±91' WEST OF THE EAST LINE OF SECTION 33 N370055.98' E13262209.08' ELEVATION= 931.33 NAVD88 DATUM	BENCHMARK #302 SET IRON: ±154' SOUTH OF NORTH PROPERTY LINE & ±105' WEST OF THE EAST PROPERTY LINE N370788.47' E13263225.57' ELEVATION= 930.43 NAVD88 DATUM
--	--	---



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

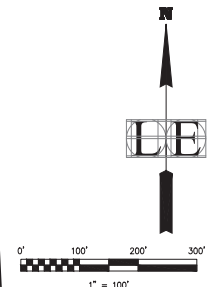
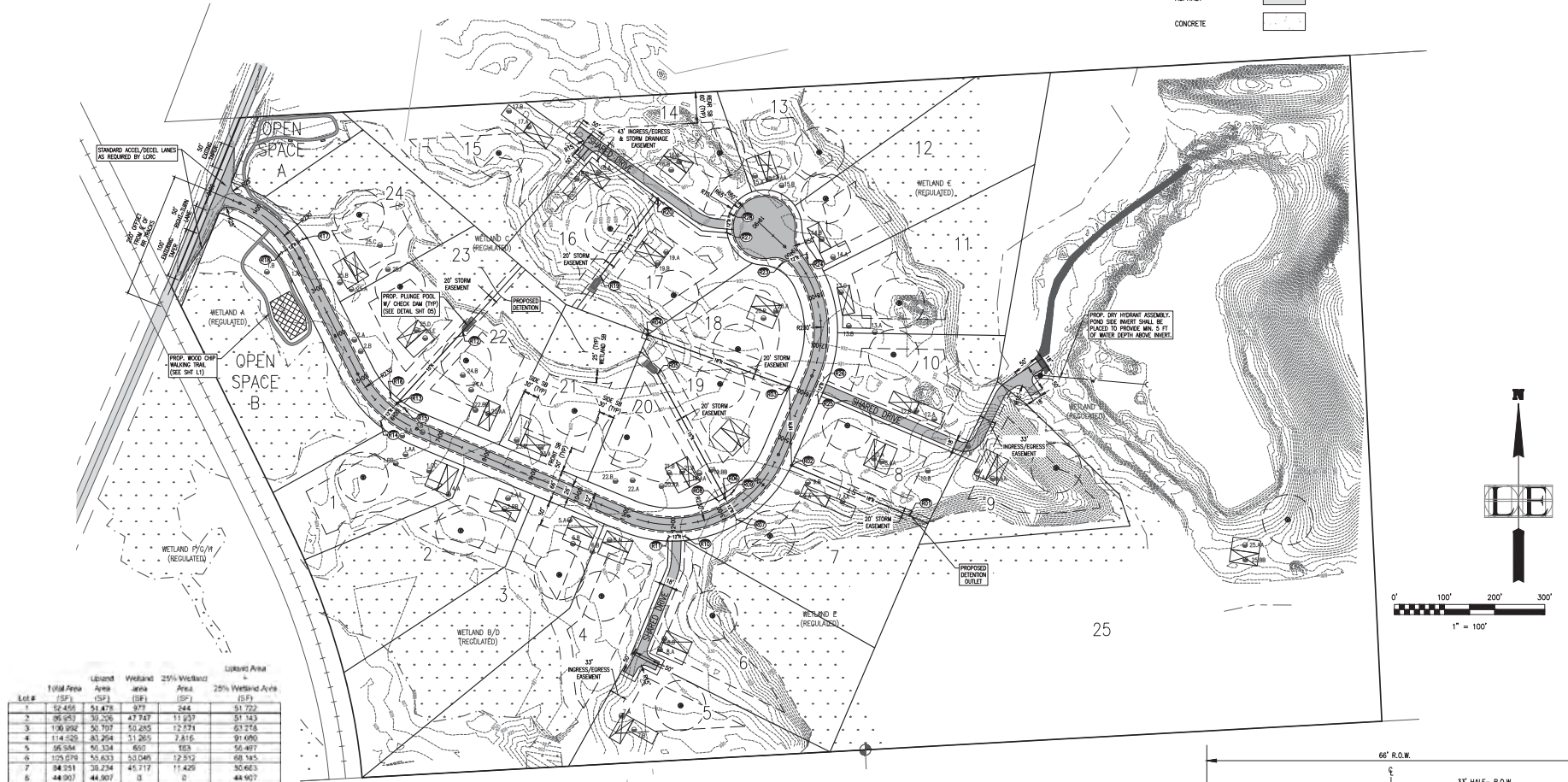


Know what's below.
Call before you dig.

OVERALL LAYOUT

LEGEND

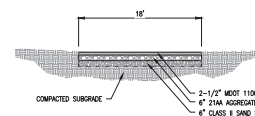
EXISTING		PROPOSED	
CONTOUR		CONTOUR	
WATER MAIN		WATER MAIN	
SANITARY SEWER		SANITARY SEWER	
STORM SEWER		STORM SEWER	
SIGN			
TREE			
ASPHALT			
CONCRETE			



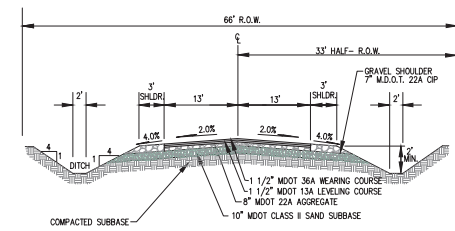
Lot #	Lot Area		Wetland		25% Wetland		Lot Area	
	Total Area	(SF)	Area	(SF)	Area	(SF)	25% Wetland Area	(SF)
1	52,456	51,478	977	244			51,722	
2	96,953	30,206	47,747	11,937			51,143	
3	130,892	30,707	50,285	12,771			83,716	
4	114,526	83,264	31,262	7,815			91,406	
5	96,534	50,334	650	183			56,497	
6	129,278	53,633	53,040	12,512			68,145	
7	94,931	30,234	45,717	11,429			35,463	
8	44,907	44,907	0	0			44,907	
9	72,041	53,247	18,794	4,699			57,946	
10	81,499	53,657	7,842	1,901			56,616	
11	89,426	30,051	46,377	11,534			50,645	
12	14,327	27,038	0	0			14,327	
13	57,830	37,413	20,412	7,803			45,017	
14	98,762	66,762	0	0			98,762	
15	89,211	40,666	17,215	4,394			53,316	
16	48,445	43,431	5,354	1,339			44,820	
17	47,091	42,861	4,160	1,040			43,901	
18	43,656	43,659	0	0			43,659	
19	43,407	43,238	548	137			43,385	
20	48,133	44,030	193	26			44,006	
21	57,040	36,466	17,214	4,394			43,900	
22	56,181	40,651	14,540	3,635			44,196	
23	59,512	34,529	20,988	5,247			43,776	
24	69,957	35,377	34,200	8,570			43,947	
25	24,973							

SITE DATA TABLE

REQUIRED	REQUIRED
LOT AREA	1 AC. (min)
LOT WIDTH	150 FT (min)
LOT COVERAGE	NA
FLOOR AREA (PER UNIT)	980 SF (min)
BUILDING SETBACKS:	REQUIRED
FRONT	50 FT (min)
SIDE	30 FT (min)
REAR	60 FT (min)
WETLAND	25 FT (min)



SHARED DRIVE CROSS SECTION
NOT TO SCALE



ROAD CROSS SECTION
NOT TO SCALE

FILE C:\Users\jason\OneDrive\Documents\Projects\2011\1216-2 Chestnut Springs\1216-2_03_Overall Layout.dwg

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CIVIL ENGINEERING
SURVEYING
PLANNING
8000 E. OLD LEE, TEBBENTON, MI 48381
PHONE: 616 255-7600
FAX: 616 255-7600



Client: **CHESTNUT SPRINGS**
MICHIGAN
MUNICIPALITY
1000 CHESTNUT SPRINGS RD
TEBBENTON, MI 48381

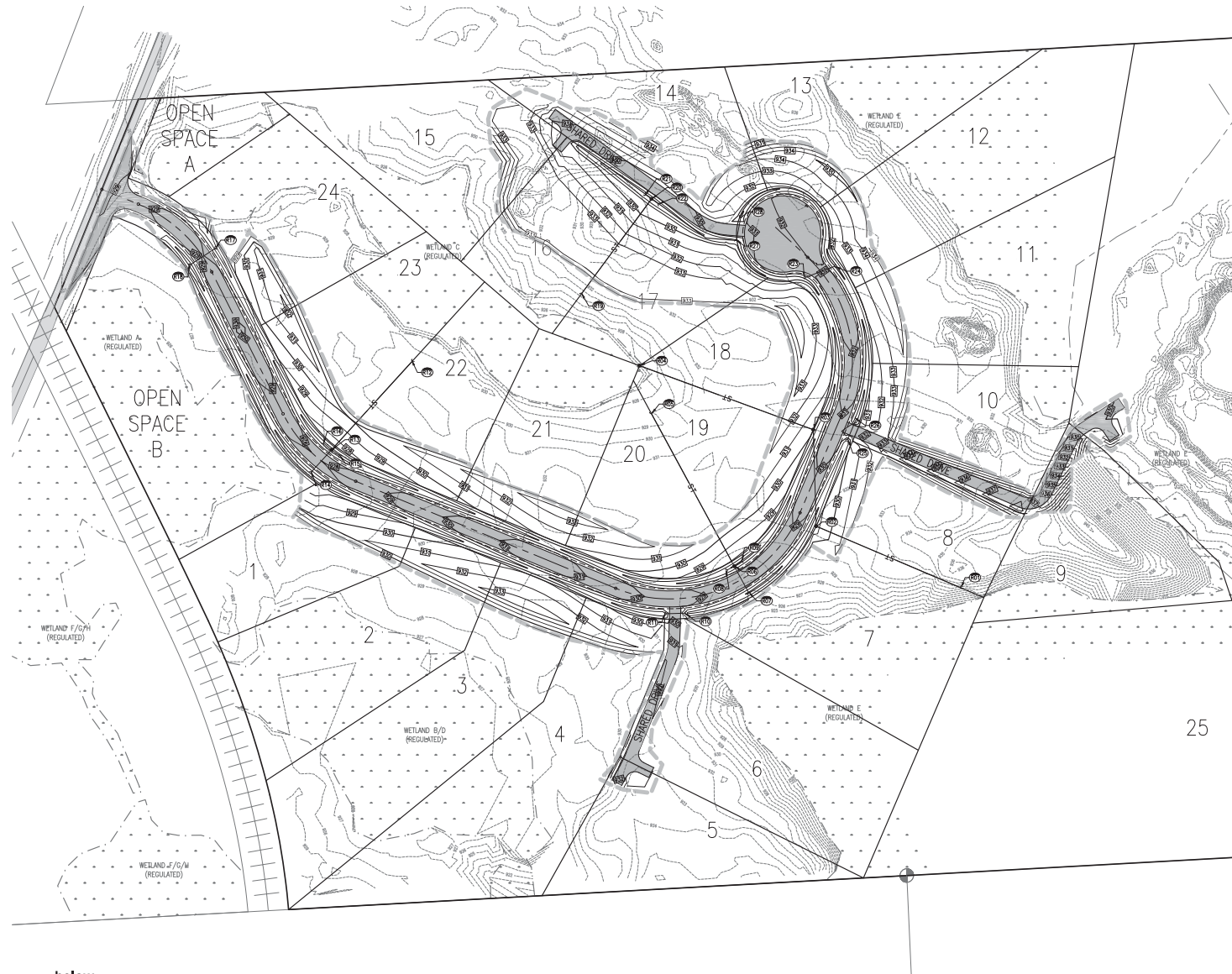
Client: **CHESTNUT SPRINGS**
MICHIGAN
MUNICIPALITY
1000 CHESTNUT SPRINGS RD
TEBBENTON, MI 48381

DATE	REVISION
3/27/2018	ADD TO EXISTING FLOOR COMMENTS

Drawn	Checked	Approved

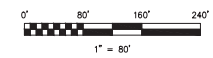
Job No.	Scale	Notes
11216-2	As Shown	1" = 100'

PRELIMINARY GRADING PLAN



LEGEND

- PR. SPOT GRADE
- PR. CONTOUR
- DRAINAGE ARROW
- PR. SILT FENCE
- LIMITS OF GRADING
- DANDY BAG LOW POINT INLET FILTER



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LIVINGSTON ENGINEERING
 CIVIL ENGINEERING SURVEYING
 PLANNING
 5800 S. OLD LEE, TEBBENTON, MI 48374
 PHONE: (810) 255-7900
 FAX: (810) 255-7909



Client:
 CHESTNUT SPRINGS LLC
 4000 CHESTNUT SPRINGS RD
 CHESTNUT SPRINGS, MI 48816

CHESTNUT SPRINGS
 SITE PLAN
 PRELIMINARY GRADING PLAN
 CHELSON RD, GENOA TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	REVISION	Drawn: MJB
5/27/2018	REV 10: CORRECT FENCE COMMENTS	Checked:
		Approved:
		Date: 5/22/2018

Job No. **11216-2**
 Scale:
 Vertical: **1" = 30'**
 Horizontal: **1" = 80'**

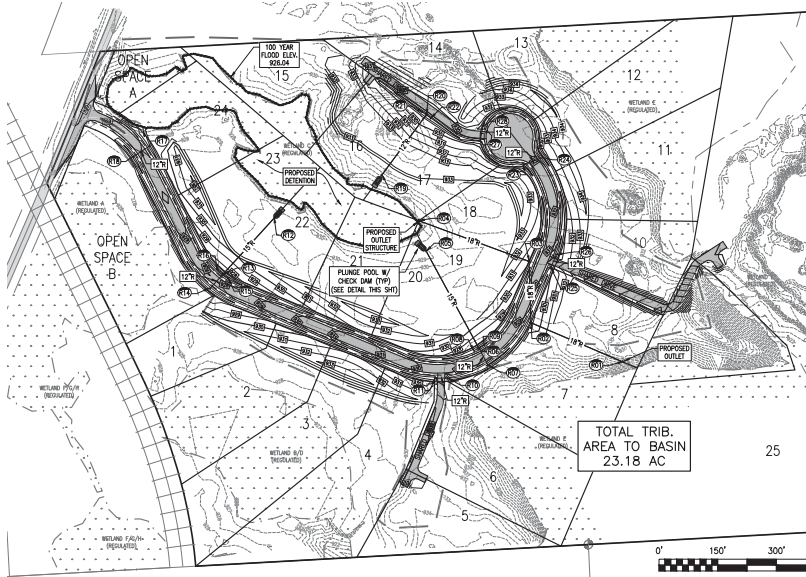


Know what's below.
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STORMWATER MANAGEMENT PLAN

LEGEND

- OVERALL DETENTION TREATMENT AREA
- STORM SEWER DRAINAGE DIVIDE LINE
- STORM STRUCTURE
- STORM SEWER DRAINAGE AREA



STORMWATER MANAGEMENT NARRATIVE

STORM CONVEYANCE CONSISTS OF A COMBINATION OF OPEN ROAD-SIDE DITCHES AND STORM SEWER TO CONVEY THE DETENTION AREA. THE DETENTION AREA WASHES USE OF AN ORANGE REGULATED WETLAND (WETLAND Q) FOR DETENTION PRIOR TO DUMPING INTO THE WETLAND/RETENTION AREA. A COMBINATION OF FLANGE POOLS WITH CHECK DAMS AND VEGETATIVE FILTERS WILL PROVIDE THE WATER QUALITY AND SEDIMENT DEPOSITION COMPONENTS OF THE SYSTEM.

AN IMPACT PERMIT IS CURRENTLY BEING PROCESSED FOR ALL WETLAND IMPACT ACTIVITIES INCLUDING THE DETENTION AREA.

RETENTION VOLUME WAS CALCULATED USING THE LIVINGSTON COUNTY DRAIN COMMISSIONERS METHOD FOR A 100 YEAR STORM. OUR CALCULATIONS SHOW THAT THE STATIC HIGH WATER ELEVATION IN THE POND WILL INCREASE APPROXIMATELY 6 INCHES WITH A 100-YEAR STORM VOLUME ADDED TO THE EXISTING WETLAND/RETENTION POND.

AN OUTLET STRUCTURE IS BEING PROVIDED TO OUTLET WATER ABOVE THE STATIC HIGH WATER ELEVATION AT A PRE-DEVELOPED RELEASE RATE OF 0.2 CFS PER ACRE INTO WETLAND "T" ON THE EAST SIDE OF THE DEVELOPMENT. WETLAND "T" CONNECTS TO SMALL CREEKS AND FLOW CHANNELS DOWNSTREAM FROM OUR PROJECT AS PART OF THE HURON RIVER WATERSHED.

THE OUTLET STRUCTURE WILL ALSO PROVIDE AN EMERGENCY OVERTLOW AT THE 100-YEAR FLOOD VOLUME TO ALLOW WATER TO FLOW FREELY PAST THE RESTRICTED ORIFICES, AND PREVENT WATER FROM EXCEEDING THE DESIGN FLOOD ELEVATION.

PIPE SIZING HAS BEEN APPROXIMATED AND DETAILED DESIGN CALCULATIONS WILL BE PROVIDED FOR FINAL SITE PLAN/CONSTRUCTION PLANS FOR BOTH THE OUTLET STRUCTURE AND THE STORM SEWER SIZING.

Required Detention Volume
 Livingston County Drain Commissioners's Office Detention Methodology
 Project: Chilson Park
 LE Job No: 1127-2

Area A = 23.18 AC
 C = 0.25 (see Runoff Coefficient)
 Kc = 0.94
 Allowable Q = 4.84 cfs (0.2 cfs per acre)

DURATION MINUTES	DURATION SECONDS	N RUSH INCHES	IN-HOUR FLOW IN	OUT-FLOW IN	STORAGE VOLUME IN
5	300	0.17	1530	1500.8	1746
10	600	7.86	4718	3276.6	3013
15	900	6.88	5107	4171.4	3887
20	1200	6.11	7332	5067.2	4844
30	1800	5.20	8009	6286	5421
50	3000	3.24	11864	8111.1	6462
60	3600	2.79	12086	8779	6474
120	7200	1.50	12060	8131	6172
180	10800	1.34	14472	10039	5959

Required Volume: V_r = 6474 cf

STORM WATER DETENTION POND CALCULATIONS
 Project: CHESTNUT SPRINGS
 Livingston Engineering Project No. 11216-2
 Livingston County Drain Commission Method

1. Common to this and Assumptions
 - A. First Flush = (0.7112) x 43,960 x area x developed C
 - B. Blanket Flood = 5.160 x area x developed C
 - C. Detention Volume = Elevation
2. V = (A₁ + A₂) x H + H
3. where: A₁ = Area at top of storage elevation
 A₂ = Area at bottom of storage elevation
 H = Depth of analysis

1. Detention Pond Volumes

1. Constructing Area =	23.18 AC			
2. Developed Runoff Coefficient				
RoofTop/Asphalt Area	2.87	Coefficient (C)	A x C	
Grass Area	5.44		0.75	0.38
Leaves/Landscaped Area	19.88		0.20	3.98
Totals	23.18		6.86	
Developed C =	6.86 / 23.18	=	0.3	

3. First Flush Volume
 $V = (0.7112) \times 43,960 \times C \times 10 \times 33.18 = 12629 \text{ CF}$
4. 100-year Flood Volume
 $V = (0.70) \times 23.18 = 4.04 \text{ CFS}$
 $V = 46714 \text{ CF}$

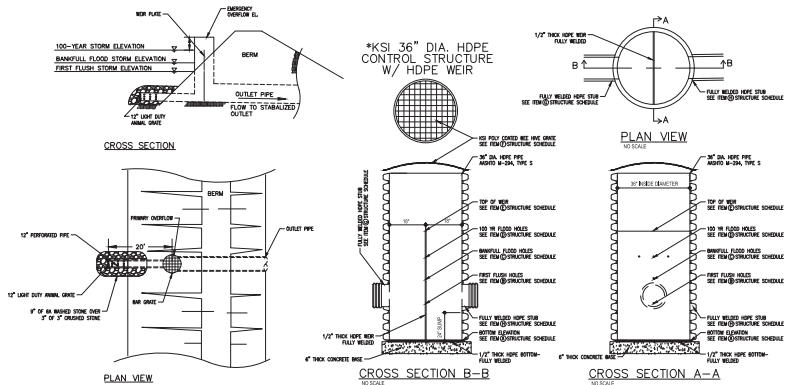
5. Detention Volume Proposed	AC		
Elev.	Area (ft ²)	Vol (cf)	Vol (ft ³)
925.5	109756		
926.0	121484	61122	60'22"
927.0	130028	130246	129'38"
Totals		190368 CF	

The following table determines the pond water elevations for the first 4 different storm events

100 Yr Flood	927.0	926.0	x =	926.5
190368	60122	64714	60'22"	

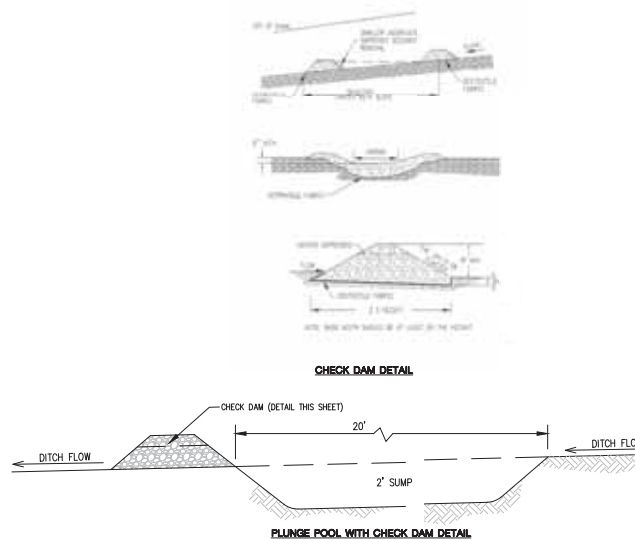
x = 58'04"

T_s is the pond water elevation of 926.04 for the 100 Yr Storm Event



OUTLET STRUCTURE DETAIL

NOT TO SCALE
 DETAIL PROVIDED BY THE FOLLOWING SUPPLIER:
 KENNEDY SYSTEMS INC.(KSI) • 2111 SAGE LAKE ROAD • PRESCOTT, MICHIGAN 48756 • 800-899-4046
 FOR ENGINEER APPROVED EQUAL.



FILE:G:\Users\james\Documents (Livingst)\Projects\2011\11216-2 Chestnut Springs\Chilson Park\11216-2_2011_0407.dwg
 DATE: 5/27/2016
 TIME: 10:00:00 AM
 USER: james
 PLOT: 11216-2_2011_0407.dwg
 PLOT DATE: 5/27/2016
 PLOT TIME: 10:00:00 AM
 PLOT USER: james
 PLOT DEVICE: HP DesignJet 500



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LIVINGSTON ENGINEERING
 CIVIL ENGINEERING SURVEYING
 5800 S. OGDON BLVD., TROY, MI 48068
 PHONE: (313) 252-7000
 FAX: (313) 252-7000



Know what's below.
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LANDSCAPE PLAN & DETAILS

LEGEND

- PROPOSED**
- CANOPY TREE
 - EVERGREEN TREE
 - ORNAMENTAL TREE
 - PLANTING TAG
- QTY
TYPE

NOTES

- The contractor(s) shall verify the location of all underground utilities prior to construction.
- Plants shall conform to the sizes as shown on the drawings and shall be of sound health. All measurements such as spread, ball size, height, caliper and quality designations shall be in conformance to the latest edition of the American Standards for Nursery Stock.
- All evergreen tree species are to be full, dense plants branched fully to the ground.
- Prune all dead and broken branches from all plants immediately after installation.
- Planting soil mixture shall be prepared on-site by mixing 3 parts topsoil to 1 part existing site soils to 1 part peat, adding 5 lbs. of superphosphate to each cubic yard of the mixture.
- Organic mulch requirements: shade trees, ornamental trees and evergreen trees - 6" of shredded bark; shrubs and shrub beds - 4" of shredded bark; ground cover beds and perennial flowers - mulch with 1" of peat.

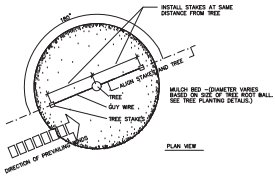
LANDSCAPE REQUIREMENTS:

GENDA TOWNSHIP ZONING ORDINANCE
ARTICLE 12: SITE DEVELOPMENT REGULATIONS
SECTION 12-22: GREENBELT/LANDSCAPE MATERIALS & SCREENING

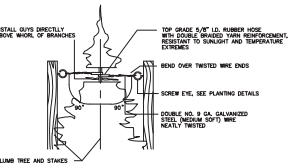
REQUIREMENT	REQUIRED	PROVIDED
12.02.02. RESIDENTIAL STREET TREES	2 CANOPY TREES SHALL BE PROVIDED ALONG A PUBLIC STREET OR PRIVATE ROAD FOR EACH RESIDENTIAL UNIT. (TOTAL UNITS ALONG PRIVATE ROAD = 19)	38 CANOPY TREES
12.02.05. DETENTION/RETENTION POND LANDSCAPING	DETENTION/RETENTION PONDS SHALL BE LANDSCAPED TO PROVIDE A NATURAL SETTING IN OPEN SPACE AREAS.	REQUESTING WAIVER FROM REQUIREMENTS BASED ON EXISTING WETLAND BOUNDARY & VEGETATION AROUND THE PROPOSED DETENTION POND.

Planting List

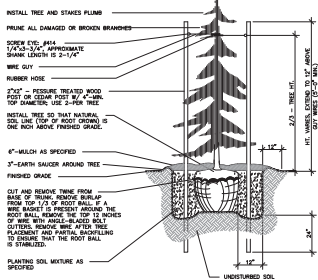
Key	Qty	Genus	Common Name	Min. Size	
				Caliper Height	Root
Canopy Trees					
AC	12	Acer rubrum	Red Maple	2.5"	B & B
QU	13	Quercus alba	White Oak	2.5"	B & B
TI	17	Tilia cordata	Little Leaf Linden	2.5"	B & B
Evergreen Trees					
PA	4	Picea abies	White Spruce	6"	B & B
PG	4	Picea glauca	White Spruce	6"	B & B
Ornamental Trees					
MP	7	Malus Prunifera	Prunifera Flowering Crab	2"	B & B
MS	3	Malus Sibirica	Siberian Crab	2"	B & B



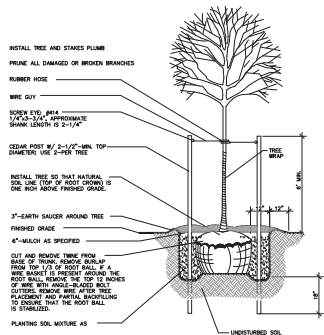
Stake Placement Detail
FOR EVERGREEN AND DECIDUOUS TREES



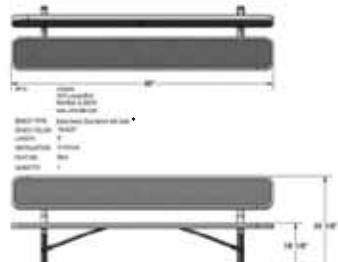
Guy Installation Detail
FOR EVERGREEN AND DECIDUOUS TREES



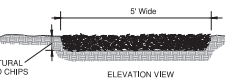
Evergreen Tree Planting/
Staking Detail



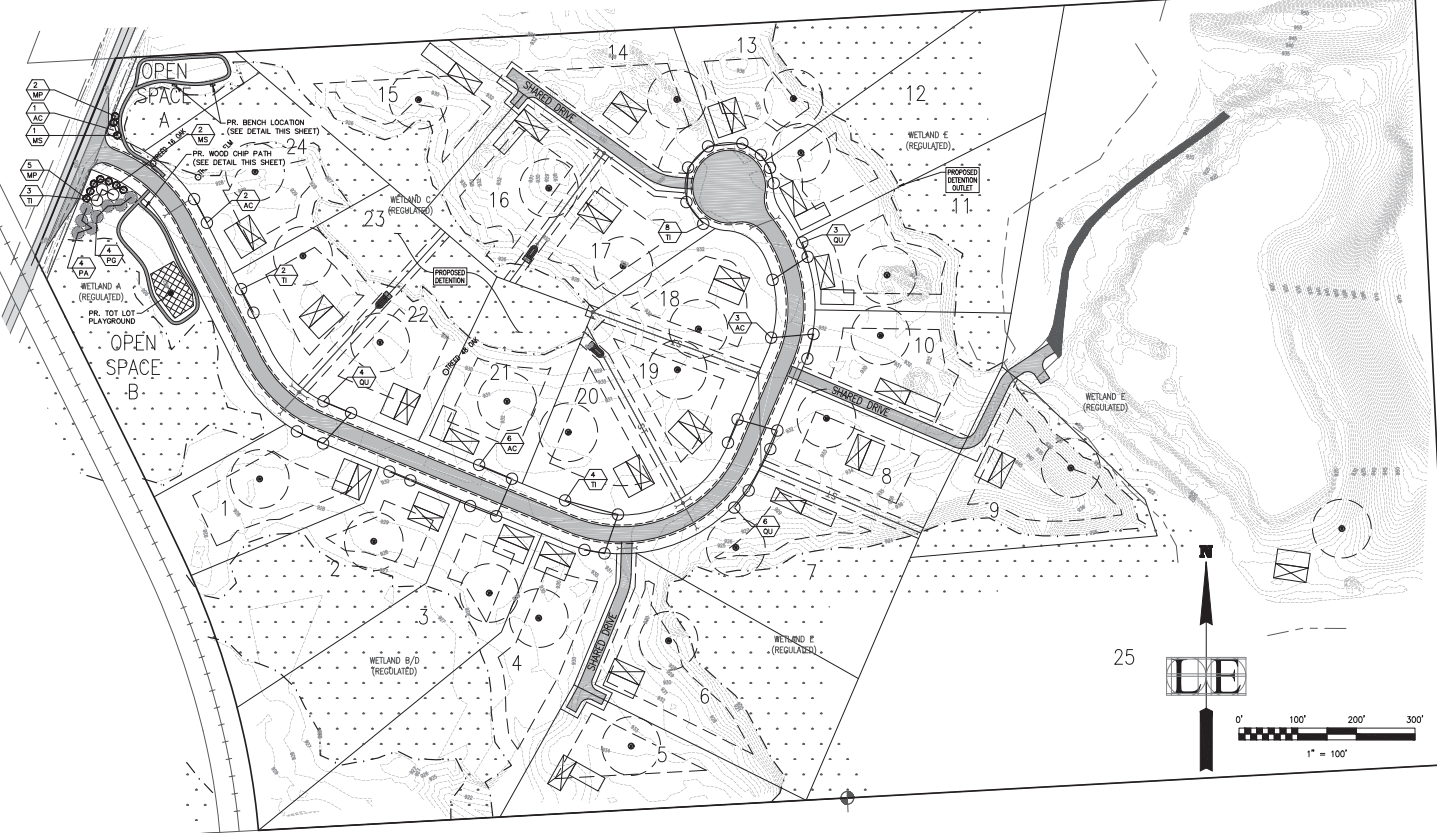
Deciduous Tree Planting/
Staking Detail



BENCH DETAIL
(NOT TO SCALE)



WOOD CHIP WALKING PATH
(NOT TO SCALE)



FILE: C:\Users\jva\OneDrive\Documents (Landscape)\Projects\2011\1216-2 Chestnut Springs\Site Plan\1216-2_L1_Landscape_Plan.dwg

2018

LIVINGSTON ENGINEERING
PLANNING
CIVIL ENGINEERING
SURVEYING
5000 S. OGDEN BLVD., BERTSHAM, MI 48406
PHONE: 616 255-7600
FAX: 616 255-7608



Client
CHESTNUT SPRINGS
MICHIGAN

CHILSON RD., GENDA TWP., LIVINGSTON COUNTY, MICHIGAN
SITE PLAN
LANDSCAPE PLAN & DETAILS

DATE: 3/27/2018
REVISION: 1/17/2018
BY: JVA

Scale: 1/8\"/>

L1



GENOA CHARTER TOWNSHIP
Application for Site Plan Review

TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:

APPLICANT NAME & ADDRESS: Chestnut Development LLC, 6253 Grand River Ave. Suite 700, Brighton, MI 48114

If applicant is not the owner, a letter of Authorization from Property Owner is needed.

OWNER'S NAME & ADDRESS: Applicant is the property owner

SITE ADDRESS: _____ PARCEL #(s): 4711-33-400-003 & 4711-34-300-005

APPLICANT PHONE: (810) 599-3984 OWNER PHONE: (____) _____

OWNER EMAIL: office@chestnutdev.com

LOCATION AND BRIEF DESCRIPTION OF SITE: 61 acres of undeveloped land,
located on the East side of Chilson Rd between Brighton Rd and
Bishop Lake Rd. Site is generally described as open grassland
with very few trees. Several wetlands exist on site.

BRIEF STATEMENT OF PROPOSED USE: 25 unit residential development to be re-zoned
LDR and designed to meet LDR standards. Minimum 1 acre lot sizes with additional
common open space provided. Site access by construction of a paved,
open ditch, private road. All lots to be serviced by well and septic.

THE FOLLOWING BUILDINGS ARE PROPOSED: 25 single family residential homes.

**I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE
PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY
KNOWLEDGE AND BELIEF.**

BY: _____

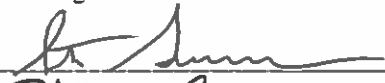
ADDRESS: 6253 Grand River Brighton 48114

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

(.) Michael Bearman of Livingston Engineering at mike@livingstoneng.com
Name Business Affiliation E-mail Address

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE  DATE 5.2.18
PRINT NAME Steve Gronow PHONE 8105995147
ADDRESS 6253 Grand River Brighton 48114



June 1, 2018

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Kelly Van Marter, AICP Planning Director and Assistant Township Manager
Subject:	Chestnut Springs – Site Plan Review #2
Location:	East side of Chilson Road, south of Brighton Road (along Genoa/Hamburg Twp. Border)
Zoning:	AG Agricultural District

Dear Commissioners:

At the Township’s request, we have reviewed the revised preliminary condominium plan (dated 5/23/18) submitted for Chestnut Springs, a 67-acre site along Chilson Road south of Brighton Road. The applicant proposes a 25-unit residential development with minimum 1-acre lot sizes and common open space.

This project also entails a request to rezone the site to LDR, which is reviewed in a separate letter.

We have reviewed the proposal in accordance with the applicable provisions of the Genoa Township Zoning Ordinance.

A. SUMMARY

1. If favorable action is considered, it should be contingent upon Township Board approval of the proposed rezoning to LDR.
2. Condominium documents will be required with the final condominium plan submittal. We suggest these documents clearly note the areas that are to be undisturbed and remain natural and make it clear that residents cannot encroach into said areas.
3. Additional details are needed for Unit 25.
4. The plans must include a clear delineation of the natural feature setback line, particularly with respect to walking trails and roads/drives.
5. Once obtained, we request the applicant provide a copy of their MDEQ permit to the Township.
6. The applicant must provide a Private Road Maintenance Agreement, which includes the financial and maintenance assurances required by the Ordinance.
7. The applicant must demonstrate that the park/open space requirements are met and provide for their preservation via deed restriction or within the condominium documents.
8. The applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority.

B. PROPOSAL/PROCESS

The applicant proposes to build 25 single-family residences on minimum 1-acre lots. The proposal is for each house to have a separate owner, but for the rest of the area on the lot to be kept in common ownership (site condominium).

Section 12.07 requires both preliminary and final approval for condominium plans. Procedurally, both reviews go through the Planning Commission for a recommendation to the Township Board, who has final approval authority.



Aerial view of site and surroundings (looking north)

C. SITE PLAN REVIEW

- 1. Submittal Requirements.** Provided the preliminary condominium plan is approved, the applicant will need to include the condominium documents (master deed and by-laws) with their final condominium plan submittal.

We suggest the condominium documents reference the wetland areas, depict the natural feature setbacks and identify the areas to be preserved as “to remain natural and undisturbed.” Association rules must also be clear that the natural feature areas and buffer cannot be converted into manicured lawn.

The revised plan does not provide sufficient details for Unit 25. Of note are the lack of a building envelope, a lack of depiction of the natural features on the south side and no indication of the sizes of the wetland/upland areas or the pond.

Lastly, once obtained, we request the applicant provide the Township with a copy of their MDEQ permit.

- 2. Dimensional Requirements.** The LDR District requires minimum lot sizes of 1-acre (area) and 150 feet (width). Based on the plan and table on Sheet 03, Units 1-24 meet or exceed these standards; however, as noted above, additional information is needed for Unit 25.

Additionally, Units 1-24 depict a building envelope in accordance with minimum LDR setback requirements; however, as noted above, such detail is not provided for Unit 25.

- 3. Pedestrian Circulation.** The plan includes woodchip walking trails within the open spaces near Chilson Road. These trails appear to be within the natural feature setback; however, given the scale of the plans, we are unable to confirm that there is an encroachment. As noted in our initial review letter, the applicant must include a clear delineation of the 25-foot natural feature setback line as it relates to these walking trails.

- 4. Vehicular Circulation.** The project includes a private road with 3 separate shared driveway extensions. Similar to the comment above, there appear to be locations where the road and/or drives encroach into the natural feature setback. As such, the applicant must provide a clear delineation of the natural feature setback line as it relates to the road/drives.

Section 15.04 requires 16-foot wide shared driveways within a 33-foot easement and restricts access to no more than 4 residences. The proposal complies with these standards.

Driveway construction must also be suitable for emergency vehicles. The plans include a cross-section noting the use of asphalt; however, we defer to the Fire Authority to ensure their needs are met.

Private roads are regulated under Section 15.05. We defer to the Township Engineer for a detailed review of the proposed road design.

Additionally, a Private Road Maintenance Agreement must be provided demonstrating the financial and maintenance assurances.

- 5. Landscaping and Environment.** The landscape plan provides 42 canopy trees, 8 evergreen trees and 10 ornamental trees.

Of note, the plan proposes 2 canopy trees for each of the 19 lots along the proposed private road and 4 canopy trees, 8 evergreen trees and 10 ornamental trees at the entrance to the neighborhood.

The proposed detention pond does not include the required landscaping given that this area is part of the existing wetlands. The applicant requests a waiver from these planting requirements. Section 12.02.13 allows the Planning Commission to waive the landscaping provisions based on factors including existing wetland, floodplain, and poor soils areas.

Existing wetlands on the site must be protected according to both MDEQ regulations and the Genoa Township Wetland Protection Standards in Section 13.02.04.

- 6. Park/Open Space.** Section 12.06 requires that residential developments with more than 20 units provide a playground area and/or pedestrian trail system with an area of at least 1,500 square feet per unit.

The plan identifies two open space areas (A and B) near the Chilson Road frontage. These areas include woodchip walking trails (both), a tot lot playground (B) and park benches (A).

As noted in our initial review letter, the applicant must identify the land area encompassed by the two open spaces. The Ordinance requires a minimum recreational area of 37,500 square feet. These areas must also be protected via deed restriction or dedication in the condo documents.

- 7. Lighting.** The applicant has stated that street lighting is not proposed as part of this project.
- 8. Buildings.** Our initial review letter suggested that the applicant could submit example building elevations and floor plans for the Commission's consideration; however, the applicant notes that they do not plan to provide such information at this time.
- 9. Signs.** The applicant has stated that a residential identification sign is not proposed at this time. If one is proposed in the future, the applicant must obtain a sign permit prior to installation.
- 10. Grading, Drainage, and Utilities.** We defer to the Township Engineer for review/comment.

Should you have any questions concerning this matter, please do not hesitate to contact our office. We can be reached by phone at (248) 586-0505, or via e-mail at bborden@safebuilt.com and steve.hannon@safebuilt.com.

Respectfully,
SAFEBUILT STUDIO



Brian V. Borden, AICP
Planning Manager



Stephen Hannon, AICP
Planner



May 31, 2018

Ms. Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

Re: **Chestnut Springs**
(Parcels #4711-33-400-003, #4711-34-300-005)
Rezoning and Site Plan Review #2

Dear Ms. VanMarter:

As requested, we have performed a second review of the above-referenced rezoning request and site plan as prepared by Livingston Engineers on behalf of Chestnut Development LLC, last dated May 23, 2018. The 67 acre parcel is located on the east side of Chilson Road at the southern boundary of the Township. The Petitioner is proposing to rezone the site from Agriculture (AG) to Low Density Residential (LDR) and develop 25 single family home sites served by a private road.

The majority of our previous comments have been addressed by the revised plans, however several need input from the planning commission to resolve. Those have been repeated in this letter. In addition, the issue regarding the groundwater quality and impacts from the former Oak Pointe WWTP as detailed in the May 31, 2018, memorandum from Tesha Humphriss need further investigation as to the viability of on-site drinking water wells.

GENERAL NOTES

1. The rezoning from AG to LDR is fairly minimal. The parcel will need to provide on-site water and sanitary sewer systems plus stormwater management.
2. Given the groundwater quality concerns further delineation of the chloride plume needs to be performed prior to finalizing the individual well siting and construction. The Utility System Engineer has prepared a memorandum summarizing the status of the local groundwater monitoring performed by the Township and outlining a plan for further evaluation of the local aquifer to determine if individual wells will be impacted and if so, what can be done to limit these impacts. At this time, the petitioner is being asked to provide approvals for three monitoring wells on-site.
3. A final grading and site development plan needs to be submitted for review and approval.

TRAFFIC/ROADWAYS

1. The development will be served by a private road terminating in a cul-de-sac. The road is proposed to be 1900 feet long which exceeds the maximum length for a dead-end street of 1,000 feet. Given the natural features contained on the site it would be impossible to loop the road back to the entrance. The road will also have only 25 lots being served which generates a minimal amount of traffic. Subject to review by the Brighton Area Fire Authority, we would support a variance for the length of street.

Tetra Tech

401 South Washington Square, Suite 100, Lansing, MI 48933
Tel 517.316.3930 Fax 517.484.8140 www.tetrattech.com

Ms. Kelly VanMarter
Fillmore County Park
Rezoning and Site Plan Review
April 18, 2018
Page 2

2. The location of the private road intersection with Chilson Road should be reviewed and approved by the Livingston County Road Commission. Confirmation of this permit should be submitted for the Township's records.

DRAINAGE AND GRADING

1. All drainage, grading, and soil erosion control measures for future improvements to the property shall be designed in compliance with the regulations established by the Livingston County Drain Commissioner's office.
2. A final grading and road construction plan will need to be submitted for review and approval. The preliminary plan submitted is suitable for the rezoning approval.
3. The petitioner is proposing to use the interior regulated wetland as a detention pond. They indicated that a wetlands permit is in process with the MDEQ. Any action on the proposed site plan should be contingent on receipt of the wetlands permit and any mitigating measures shown on the plans. Also, a management plan should be prepared and submitted that restricts the use of road salts as these have been shown to create a cross contamination of the groundwater aquifer.
4. The petitioner is proposing end of pipe plunge pools to manage sediment discharge to the detention area. Since these are between lots and near the wetland a maintenance plan should be prepared or the pools relocated towards the roadway ditch line to facilitate future maintenance activities.

UTILITIES

1. The residential community is proposed to be served with individual on-site wells and septic systems. Documentation from the Livingston County Health Department verifying the suitability of the soils for these systems should be submitted for the Township's records.

The rezoning from AG to LDR presents minimal engineering issues and we therefore have no objections to the proposed rezoning with the 25 unit site plan as the concept.

Given the unknown limits of the groundwater contamination and its associated impact on the use of individual wells we recommend the site plan approval be delayed until the analysis is performed.

If you have any questions or comments, please call.

Sincerely,



Gary J. Markstrom, P.E.
Vice President



MHOG Utility Department

2911 Dorr Road
Brighton, MI 48116
810-227-5225
www.mhog.org

Memorandum

To: Kelly VanMarter, Genoa Township
From: Tesha Humphriss, Utility Engineer
Date: May 31, 2018
Re: Chestnut Springs Proposed Residential Wells

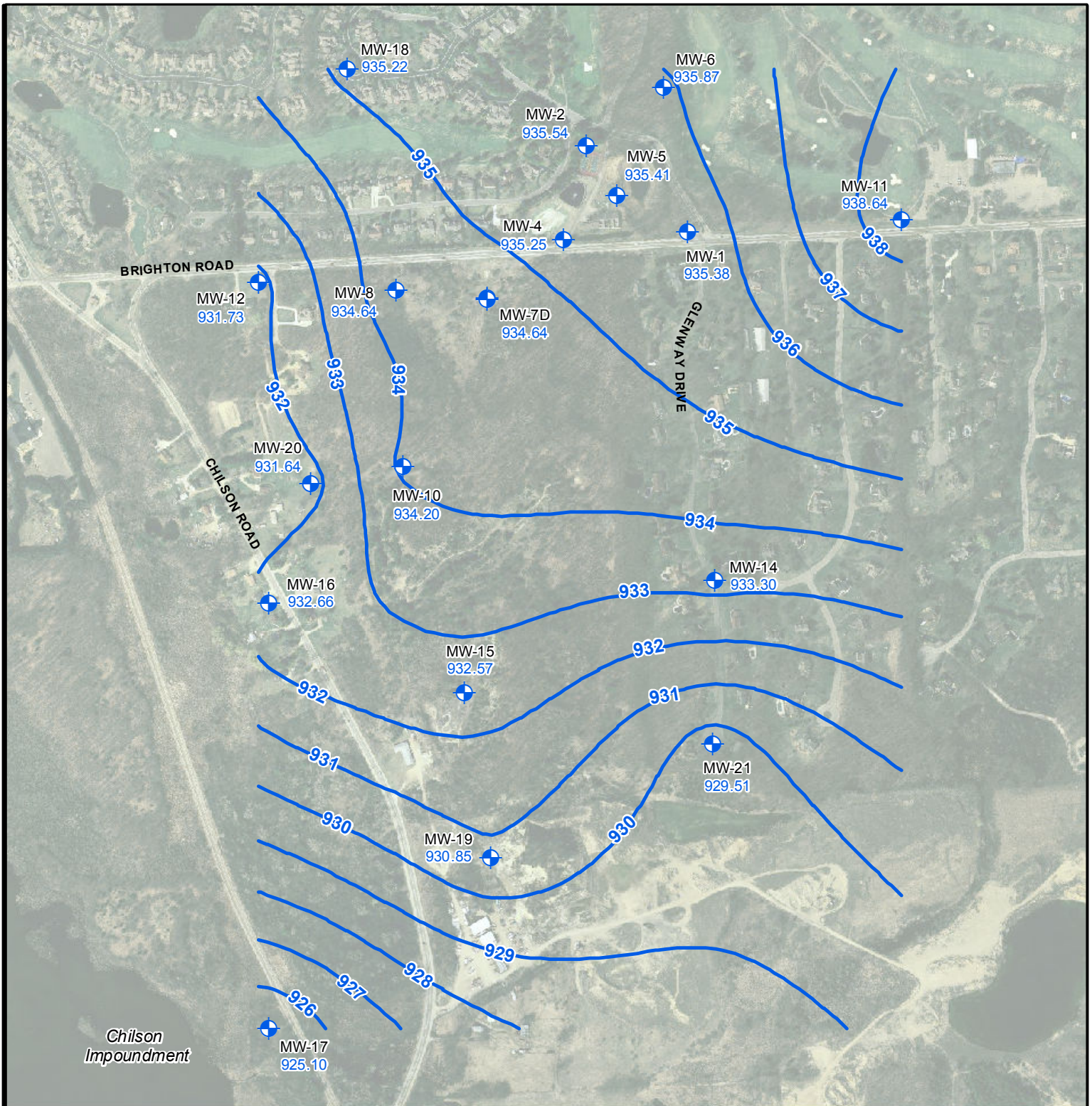
In 2000 Genoa Township entered into a Consent Agreement with the State of Michigan due to high levels of sodium and chloride (salt) in the effluent from the Oak Pointe wastewater treatment plant, located at the northwest corner of Brighton Road and Oak Pointe Drive. The effluent was discharged to groundwater, and was suspected of affecting downgradient drinking water wells. As a result, the Township installed numerous wells around the plant to delineate the extent of sodium and chloride exceeding drinking water standards. The remedial investigation determined that groundwater travels south and south westerly from the old plant site and is believed to discharge to the Chilson Impoundment. The highest effluent concentrations discharged from the plant peaked in 2002, and we have observed these high concentrations move downgradient and reduce with time. To mitigate impacts to downgradient residents, the Township has provided, maintained, and upgraded reverse osmosis units for homes in the impacted area.

In 2015, the customers of Oak Pointe sanitary sewer system paid over \$6,000,000 to cease discharge at the plant site and convert it to a pump station for treatment at a nearby WWTP. This has effectively reduced the groundwater concentrations directly downgradient of the plant site. No wells exceed the drinking water criteria for sodium; however, the highest concentrations of chloride have recently been detected north of the proposed Chestnut Springs development. Chloride does not have a health based limit concentration as sodium does; however, it has an aesthetic criteria concentration of 250 mg/L, above which water can taste salty.

Currently, the Township does not have any monitoring wells located between the southern limits of the chloride plume and the proposed Chestnut Springs Development due to the fact that there were no downstream receptors (private wells) between the limits of the plume and the Chilson Impoundment. Without a potential receptor, the Township planned to monitor the plume until it dissipated and discharged to the Chilson Impoundment.




The highest chloride concentrations are now located in the 15 year time of travel from the old plant site, which is directly north of the proposed development. Since the petitioner is proposing private wells at this development, each site is now a potential receptor and may need to be monitored. Further delineation of the chloride exceedances both vertically and horizontally can reduce future risk for the future residents in the development. As a result, we propose to have the Township work with the petitioner to further evaluate the groundwater at the Chestnut Springs site. Preliminarily, three monitoring wells would provide the necessary background data to further evaluate installation of private groundwater supply wells. We recommend a meeting be held with the petitioner to discuss the proposed monitoring wells and options available to move forward with this development and limit the impacts to future homeowners.

In addition, the Township has experience with cross contamination at its other two groundwater discharge sites, where stormwater systems have impacted the groundwater concentrations of sodium and chloride from winter salting activities. It is recommended the stormwater on this site be evaluated for the use of salt during the generation of the master deed and bylaws for the proposed development so that the Township does not assume the potential liability for these operations.



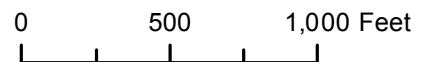
SOURCE: 2005 AERIAL IMAGERY OBTAINED FROM LIVINGSTON COUNTY

LEGEND

-  Monitoring Well
-  Groundwater Potentiometric Surface Elevation Contour
-  Groundwater Spot Elevation in feet above mean sea level

Notes:

1. Groundwater elevations were obtained from the monitoring wells on June 23, 2017.
2. Groundwater elevation contours were interpolated in Surfer 10 using Kriging default settings.

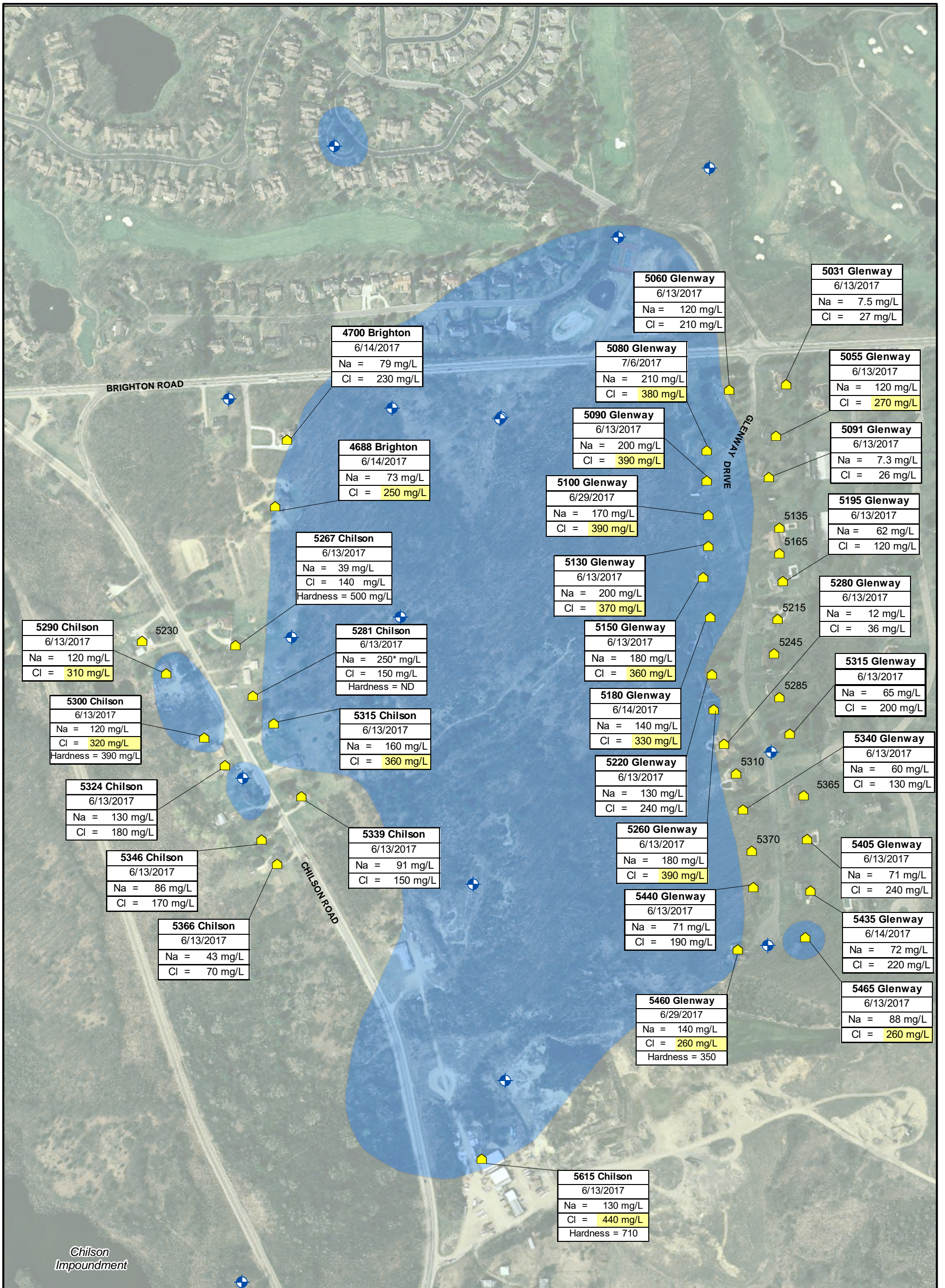


UPDATED: NLJ

DATE: 11/17/2017

OAK POINTE WWTP
GENOA TOWNSHIP, MICHIGAN
**2017 GROUNDWATER ELEVATION MAP
USING 2017 TOP OF CASING ELEVATIONS**

FIGURE
3



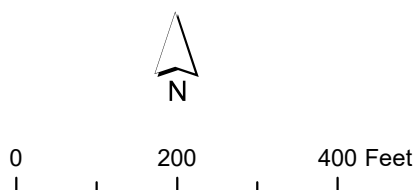
SOURCE: 2005 AERIAL IMAGERY OBTAINED FROM LIVINGSTON COUNTY

LEGEND

- Residential Well
- Monitoring Well
- Extent of Chloride Impacts (>250 mg/L)

Monitoring Location	5465 Glenway
Sample Date	6/13/2017
Sodium	Na = 88 mg/L
Chloride	Cl = 260 mg/L
Result	

Milligrams Per Liter



Notes:

1. Highlighted results exceed Part 201 Criteria.
2. * = Water softener contributes to elevated sodium result. At this residential location the sample was analyzed for hardness to determine on site softening.
3. Data for residential wells is presented for all locations that exceed Criteria.



OAK POINTE WWTP
GENOA TOWNSHIP, MICHIGAN
2017 SAMPLE RESULTS

FIGURE

4

UPDATED BY: NLJ | DATE: 7/20/2017



BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

June 4, 2018

Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: Chestnut Development
67.12 acre parcel E. of Chilson Rd. between Brighton Rd. & Bishop Lake Rd.
Genoa Twp., MI

Dear Kelly:

The Brighton Area Fire Department has reviewed the above mentioned site plan. The plans were received for review on May 24, 2018 and the drawings are dated May 2, 2018 with latest revisions dated May 23, 2018. The project is a 24 unit single family home development. The plan review is based on the requirements of the International Fire Code (IFC) 2018 edition.

There is no municipal water supply in this area of the township. This development is proposed with a single access point off of Chilson Road. There are three long shared driveways off of the primary road that each service between two and four lots.

The following comments should be addressed prior to a favorable recommendation from the fire department.

1. The primary access road shall be a minimum of 26' wide, not including gravel shoulders. The plan indicates a road width of 22' with a 5' gravel shoulder on either side. With a width of 26' wide, one side of the street shall be marked as a fire lane. Include the location of the proposed fire lane signage and include a detail of the fire lane sign in future submittals. **(Addressed in plans. Roads have been increased to 26 feet wide with a 3 foot shoulder.)**
IFC 503.2.2
IFC D103.6.1
2. The width of the three shared driveways is not indicated on the plan. The three shared driveway widths shall be a minimum of 20' wide. Based on the length of the shared driveways it is recommended to provide each drive with a means to turn around at each of the dead ends. Turn arounds may be provided using a 120' Hammerhead, 60' "Y" or 96' diameter cul-de-sac. **(Addressed in plans. In speaking with the developer, a compromise was made to allow the shared driveways to be 18 feet wide with the required turnarounds.)**
IFC D103.4
IFC Table D103.4
3. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds.
IFC 503.2.3
4. Provide details regarding fire flow requirements, and how they will be accomplished for the development. Fire flow requirements are outlined below.



June 4, 2018

Page 2

Chestnut Development

67.12 acre parcel E. of Chilson Rd. between Brighton Rd. & Bishop Lake Rd.

Site Plan Review

507.1 Required water supply. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction.

507.2 Type of water supply. A water supply shall consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed systems capable of providing the required fire flow. (Example: accessible pond, underground tank, well driven hydrant capable of flowing 250 gallons per minute.)

507.2.1 Private fire service mains. Private fire service mains and appurtenances shall be installed in accordance with NFPA 24.

507.2.2 Water tanks. Water tanks for private fire protection shall be installed in accordance with NFPA 22.

507.3 Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an approved method. **(A dry hydrant is being installed at the end of the shared driveway located on the east side of the property. The hydrant will provide access to the body of water on the east side of the property.)**

5. Provide names, addresses, phone numbers, emails of owner or owner's agent, contractor, architect, on-site project supervisor.

If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

A handwritten signature in black ink that reads "D Bunge".

Derrick Bunge
Lieutenant Fire Inspector

**Impact Assessment
for
Chestnut Springs
Genoa Charter Township
Livingston County, Michigan**

Prepared By

**Livingston Engineering
3300 S. Old US-23
Brighton, MI 48114
(810) 225-7100
May 2, 2018**

This impact assessment has been prepared in accordance with section 18.07 of the Genoa Township, Livingston County, Michigan Zoning Ordinance. This section states that developments of this nature shall include such a report for review as part of the site plan/re-zoning review and approval process. As such, this report has been prepared to provide the required information and project overview of the development, in accordance with current township requirements.

I. Party Responsible for preparation of Impact Statement

This impact assessment has been prepared by Livingston Engineering, a professional services company offering civil engineering, land surveying, and site planning services throughout southeast Michigan. Livingston Engineering is licensed to provide engineering and surveying services in Michigan, as well as engineering licenses in the states of Arizona, Colorado, New Mexico, Tennessee and Utah.

II. Site Location

The subject site contains approximately 67.12 acres located in the Southwest $\frac{1}{4}$ of section 33 and the Southwest $\frac{1}{4}$ of section 34 of Genoa Township, Livingston County, Michigan. This parcel is located on the east side of Chilson Rd between Brighton Rd and Bishop Lake Rd. It is bordered on all sides by vacant parcels, with similar land use to the North and Southeast. State land owned by the DNR borders the property on the East, West, and South. The only developed residential area adjacent to the site is the Pine Lake Subdivision located on the very Southeast corner of the site. A location map and aerial photograph of the subject site is included in this report as Exhibit “A” and Exhibit “B” respectively.

Currently, the site is zoned AG (Agricultural) and is to be re-zoned LDR (Low Density Residential). The site is bordered on the East LDR, to the West by PRF (Public and Recreational Facilities), and to the North by MUPUD (Mixed Use PUD) A copy of the Genoa Township Zoning Map is included in this report as Exhibit “C”.

The South property line of the subject parcel is the Geno/Hamburg Township border, and parcels to the south are DNR state land zoned PPRF (Public and Private Recreational Facilities) and RAA (Single Family Low Density Residential).

III. Impact on Natural Features

Currently, the site is vacant and consists of an open field with a small pond and several scattered trees, and several regulated wetlands. A wetland delineation map has been included as Exhibit “G”. The developer is currently in the process of acquiring a permit for the activities that impact the MDEQ regulated wetlands, including detention and grading activities.

Soils on the site consist primarily of Boyer-Oshtemo loamy sands. Miami loam is described as very deep, well drained soils. A soils map of the subject site is included as Exhibit “D”.

As depicted in Exhibit “E”, the site drains from North to South, and half of the site drains toward a draw through the Eastern wetland which ultimately outlets into the Huron river and the other half drains into onsite wetlands along the West and South side of the property. Storm water runoff will be collected and directed into an existing on-site wetland, with an outlet structure that outlets to the draw on the East side of the site. All regulated wetland impact activities are currently in the permitting process with the MDEQ.

Landscape treatments will be placed along the entrance, and canopy trees will be provided for individual lots. In general, the natural wetland features on site will be undisturbed and utilized as part of the natural aesthetic of the development.

IV. Impact on Storm Water Management

The proposed development will provide storm water quality and flood control treatment using an on-site existing wetland, located on the northwest corner of the site. The wetland detention is

designed to meet the current standards of the Livingston County Drain Commissioner's Office and those of Genoa Township. The wetland detention pond is designed to capture storm water runoff from the subject site. Water quality will be provided to storm runoff prior to release into the wetland detention area by utilizing a combination of sediment traps/pools, check dams, and vegetative buffers.

An outlet structure designed in accordance with the Livingston County Drain Commissioner's Office will be provided in the proposed wetland/detention area to control the release rate and provide an emergency overflow route for volume in exceedance of the 100-year storm volume.

Storm water runoff from the adjacent property located to the North of the subject site that currently drains to the existing wetland draw on the East side of the site will continue.

During construction, soil erosion and dust control measures will be implemented. Best management practices including silt fence, check dams, and inlet filter mechanisms will be utilized during this time. For dust control, soil watering to keep the site in a moisture optimum condition will be performed with a water truck on an as needed basis. Upon completion of mass grading and earthmoving operations, permanent restoration including topsoil, seed and mulch along with landscape installation will be performed.

A soil erosion and sedimentation control permit will be required prior to the start of any site grading or construction.

V. Impact on Surrounding Land Uses

As proposed, this development will be in conformance with the future land use map as part of the current township master plan. Re-zoning of the site to LDR will be similar to the adjacent properties.

Access to this site will be from Chilson Rd.

Noise levels are expected to be that of a typical single family residential neighborhood, within township standards.

No Site lighting is proposed for this development.

VI. Impact on Public Facilities and Services.

The development proposes 25 single family residential lots. The developers target demographic for buyers will be retirement aged individuals looking to downsize their home and reduce yard maintenance. As such, the project is not expected to have undesirable effects on local schools or recreation facilities.

As this project is consistent with the township's master plans future land use for this area along Chilson Rd, it is not anticipated that this facility will adversely affect emergency services such as fire and police.

VII Impact on Public Utilities

Each lot will be serviced by an individual well and septic system.

Electric and gas service will be extended on-site via underground installation.

VIII. Storage and Handling of Any Hazardous Materials

There is no plan for storage or handling of any hazardous materials on this site.

IX. Impact on Traffic

The location of the site is well suited for a development of this nature. It is located along Chilson Rd that has an existing two(2) lane cross section one eastbound lane, and one westbound lane. Using the ITE Trip Generation Manual, 7th ed., for Single-Family

Detached Housing based on number of dwelling units (see Exhibit F & G), we calculated the following trips using the average rate for the A.M. and P.M. peak hours of traffic:

A.M. peak hour:

$$0.70 \times (25 \text{ units}) + 12.05 = 29.55 \text{ trips} \times 74\% \text{ (exiting)} \\ = 21.87 \text{ directional trips}$$

P.M. peak hour:

$$\ln(T) = 0.89 \times \ln(25 \text{ units}) + 0.61 = 3.47 \\ e^{(3.47)} = 32.29 \text{ trips} \times 64\% \text{ (entering)} \\ = 20.67 \text{ directional trips}$$

As calculated above, the development, under the fully developed conditions shown in this site plan, will generate less than 22 directional trips in both the A.M. and P.M. peak hours of traffic. Therefore, a traffic impact assessment or traffic impact study is not required by the Township per the Township Zoning Ordinance for the subject development.

The Livingston County Road Commission Sight Distance Review has been applied for and is in process.

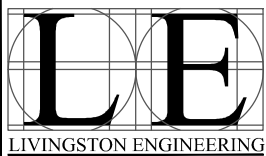
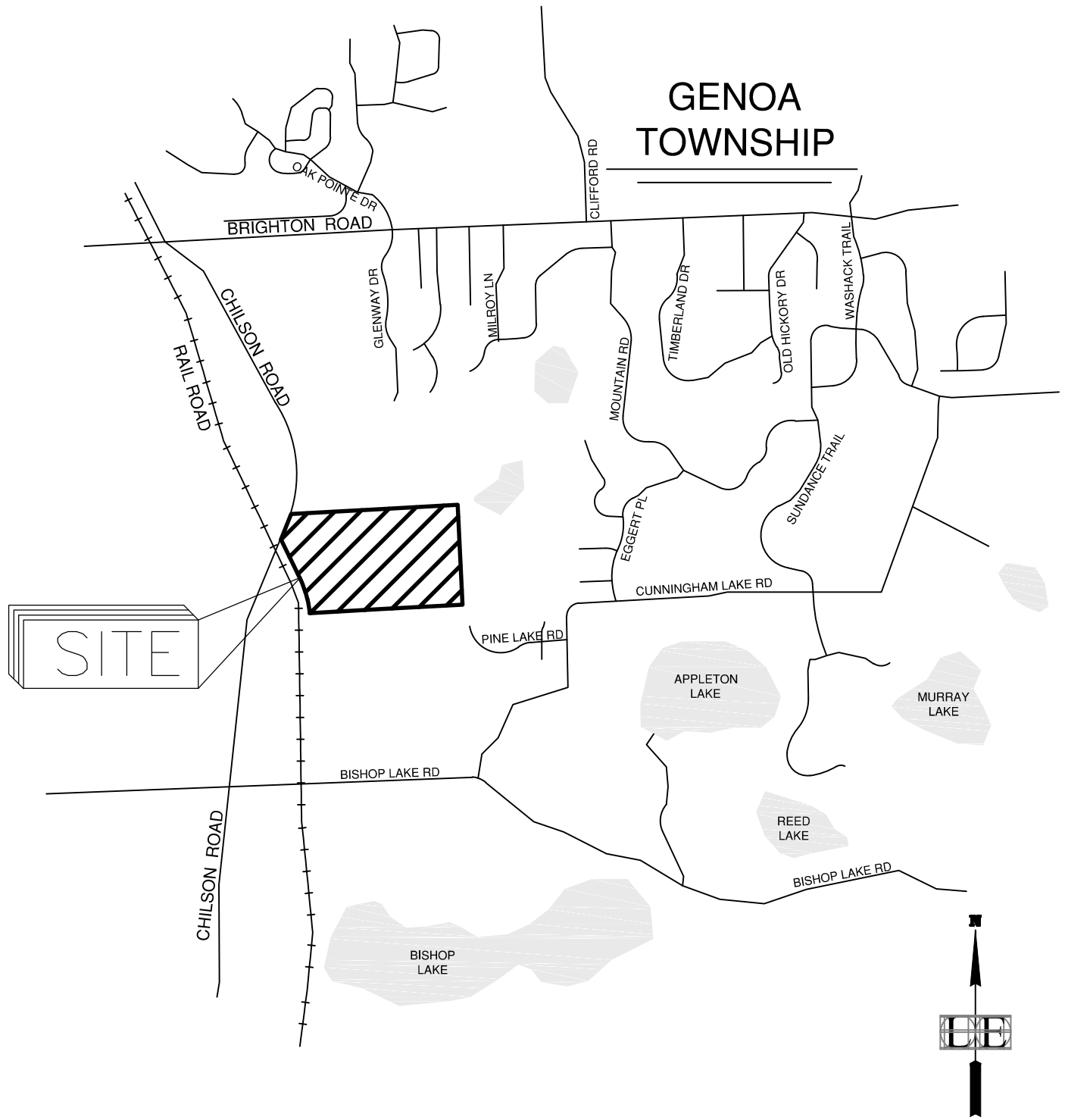
X. Historic and Cultural Resources

It is not believed that this development will have any impact on any historic and/or cultural resources pertaining to the subject parcel and no known historic and/or cultural resources exist on this site that will be affected by this development.

XI. Special Provisions

No special provisions are part of this project.

EXHIBIT A LOCATION MAP



SCALE
NOT TO SCALE

DESCRIPTION
CHESTNUT SPRINGS
Impact Assessment
Village of Fowlerville, Livingston County, MI

DRAWN MJB

DATE 5/2/2018

SHEET No. 1 of 6

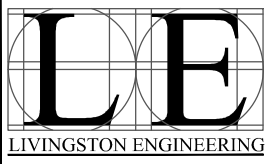
JOB No. 11216-2

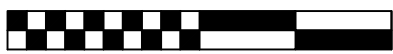
EXHIBIT B

AERIAL



FILE: C:\Users\User\Dropbox (Living)\Projects\2011\11216-2 Chestnut Genoa Chilson Rd\admin\DATA\Impact Assessment\11216-2_Impact Assessment_Exhibits.dwg

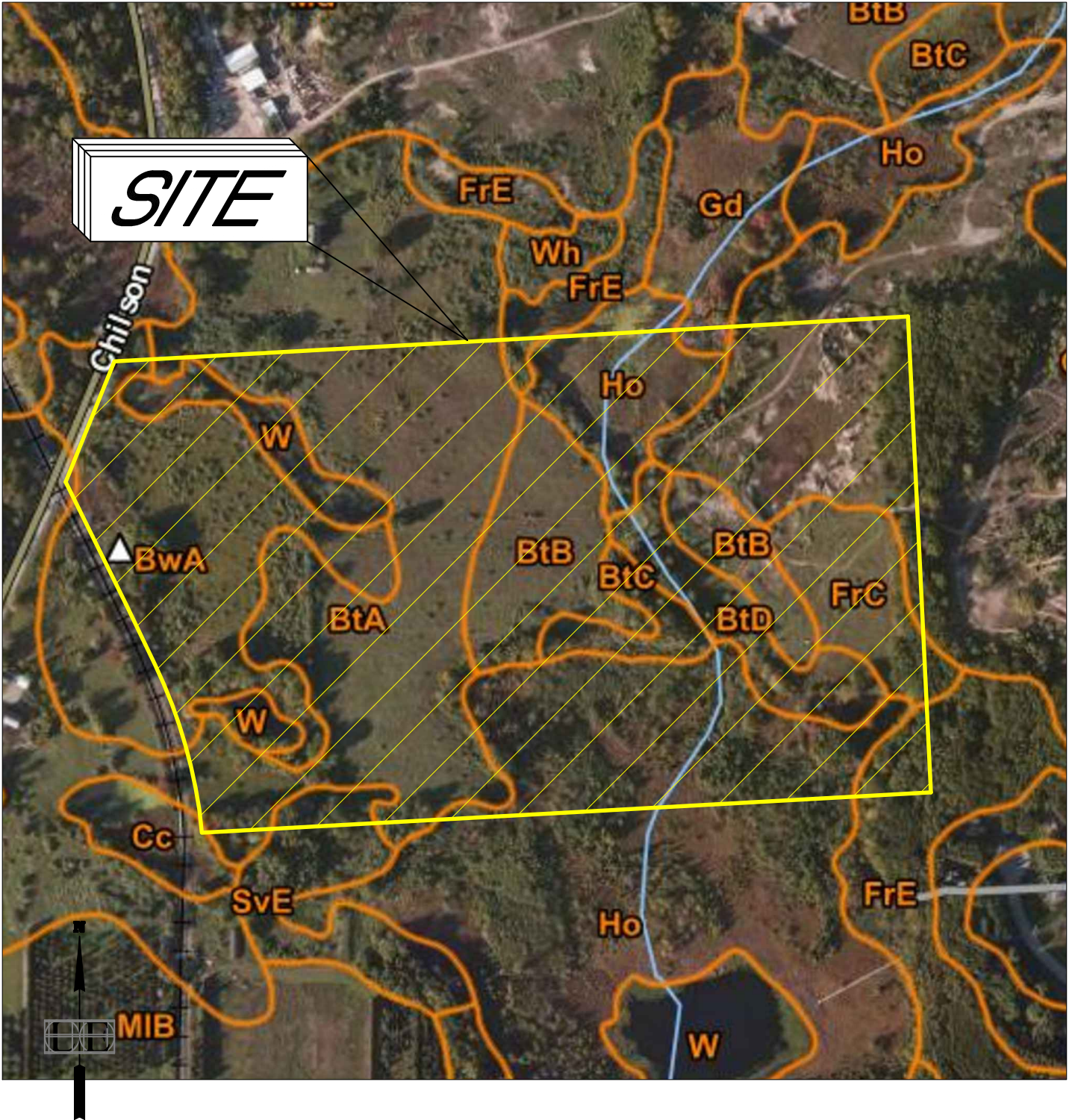


SCALE	0' 2,000' 4,000'  SCALE: 1"=2,000'	DESCRIPTION
DRAWN MJB	DATE 5/2/2018	SHEET No. 2 of 6
		JOB No. 11216-2

DESCRIPTION
 CHESTNUT SPRINGS
 Impact Assessment
 Village of Fowlerville, Livingston County, MI

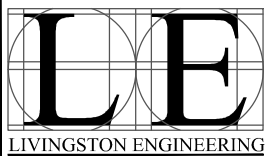
EXHIBIT C


SOIL MAP



SITE

FILE: C: \Users\User\Dropbox (Liveng) \Projects\2011\11216-2 Chestnut Genoa Chilson Rd\admin\DATA\Impact Assessment\11216-2_Impact Assessment_Exhibits.dwg

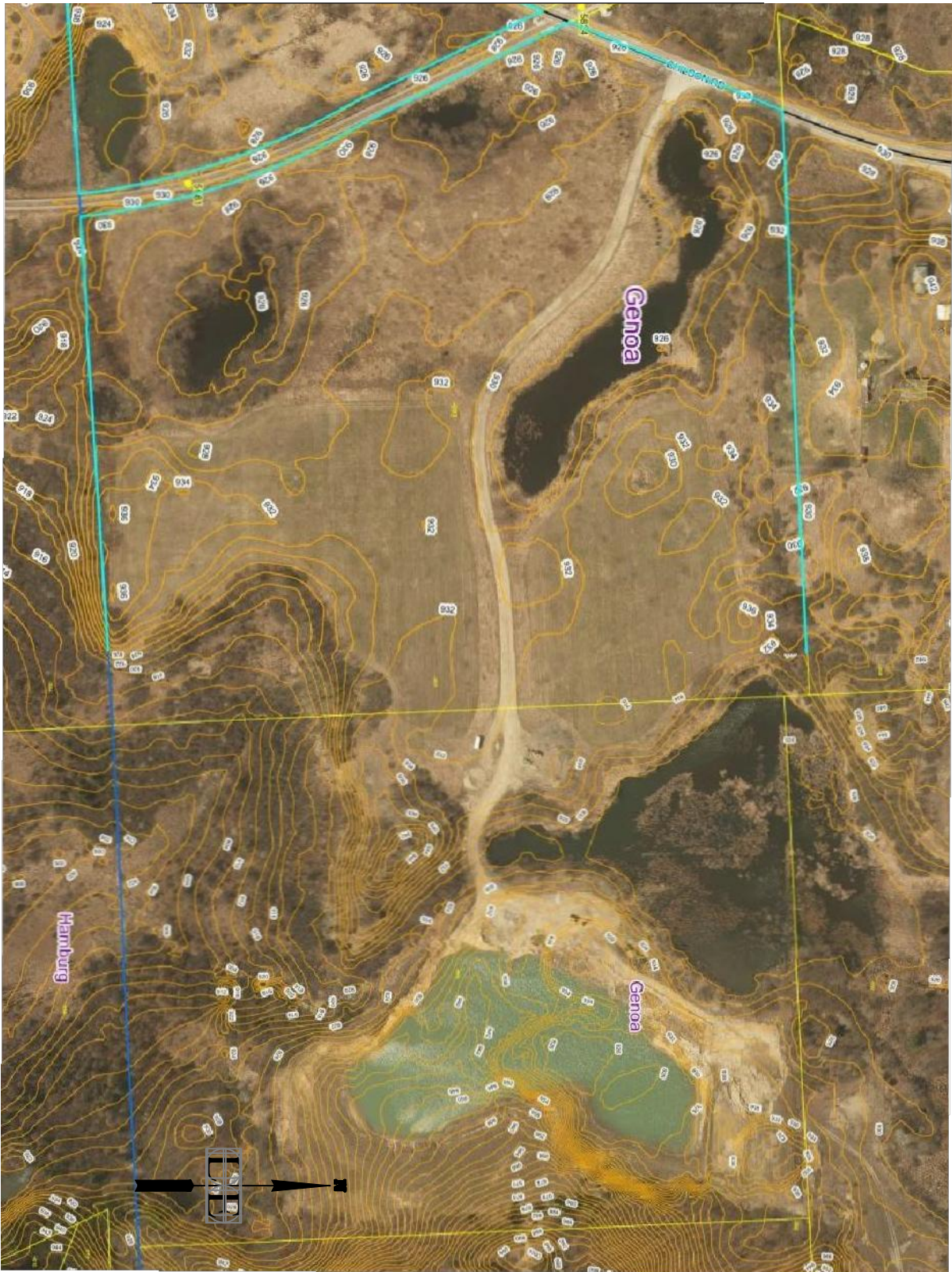


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DRAWN MJB	DATE 5/2/2018	SHEET No. 3 of 6 JOB No. 11216-2

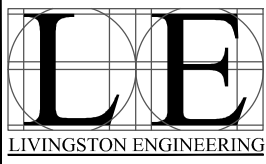
DESCRIPTION
 CHESTNUT SPRINGS
 Impact Assessment
 Village of Fowlerville, Livingston County, MI

EXHIBIT D

EXISTING DRAINAGE



FILE: C:\Users\User\Dropbox (Liveng)\Projects\2011\11216-2 Chestnut Genoa Chilson Rd\admin\DATA\Impact Assessment\11216-2_Impact Assessment_Exhibits.dwg



SCALE	0'	300'	600'
	SCALE: 1"=300'		
DRAWN	MJB	DATE	5/2/2018
SHEET No.	4 of 6	JOB No.	11216-2

DESCRIPTION
CHESTNUT SPRINGS
Impact Assessment
Village of Fowlerville, Livingston County, MI

EXHIBIT E

TRAFFIC AM

Single-Family Detached Housing (210)

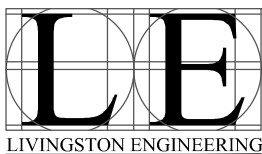
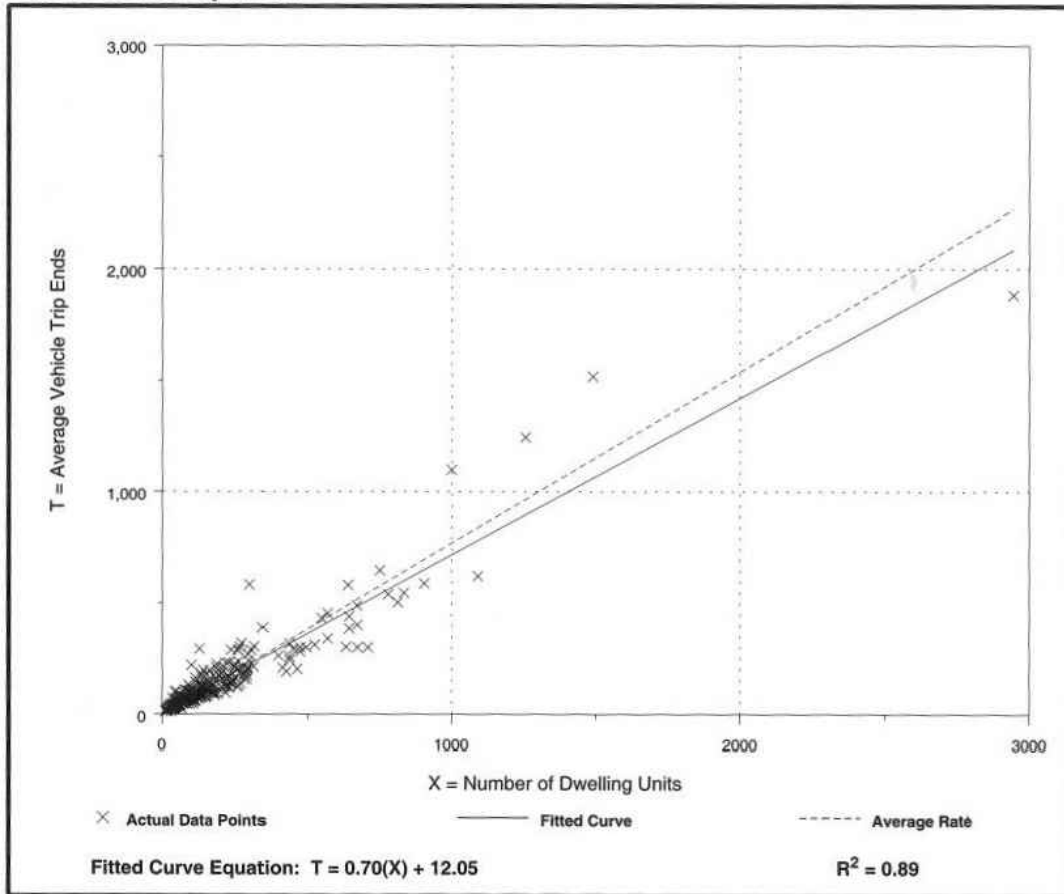
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
A.M. Peak Hour of Generator

Number of Studies: 335
Avg. Number of Dwelling Units: 183
Directional Distribution: 26% entering, 74% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.77	0.33 - 2.27	0.91

Data Plot and Equation



SCALE
NOT TO SCALE

DESCRIPTION
CHESTNUT SPRINGS
Impact Assessment
Village of Fowlerville, Livingston County, MI

EXHIBIT F

TRAFFIC PM

Single-Family Detached Housing (210)

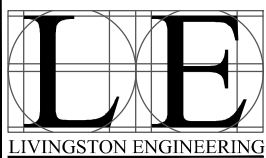
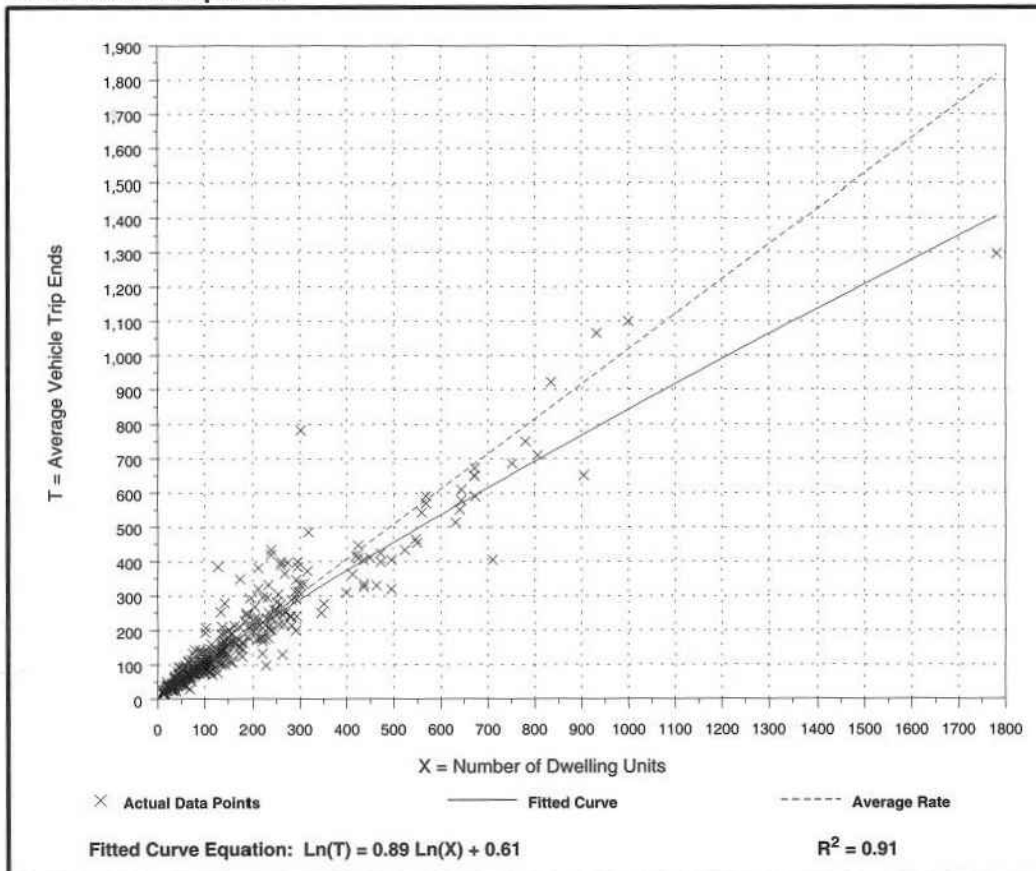
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
P.M. Peak Hour of Generator

Number of Studies: 354
Avg. Number of Dwelling Units: 176
Directional Distribution: 64% entering, 36% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
1.02	0.42 - 2.98	1.05

Data Plot and Equation



SCALE
NOT TO SCALE

DESCRIPTION
CHESTNUT SPRINGS
Impact Assessment
Village of Fowlerville, Livingston County, MI

DRAWN MJB

DATE 5/2/2018

SHEET No. 6 of 6

JOB No. 11216-2

EXHIBIT G

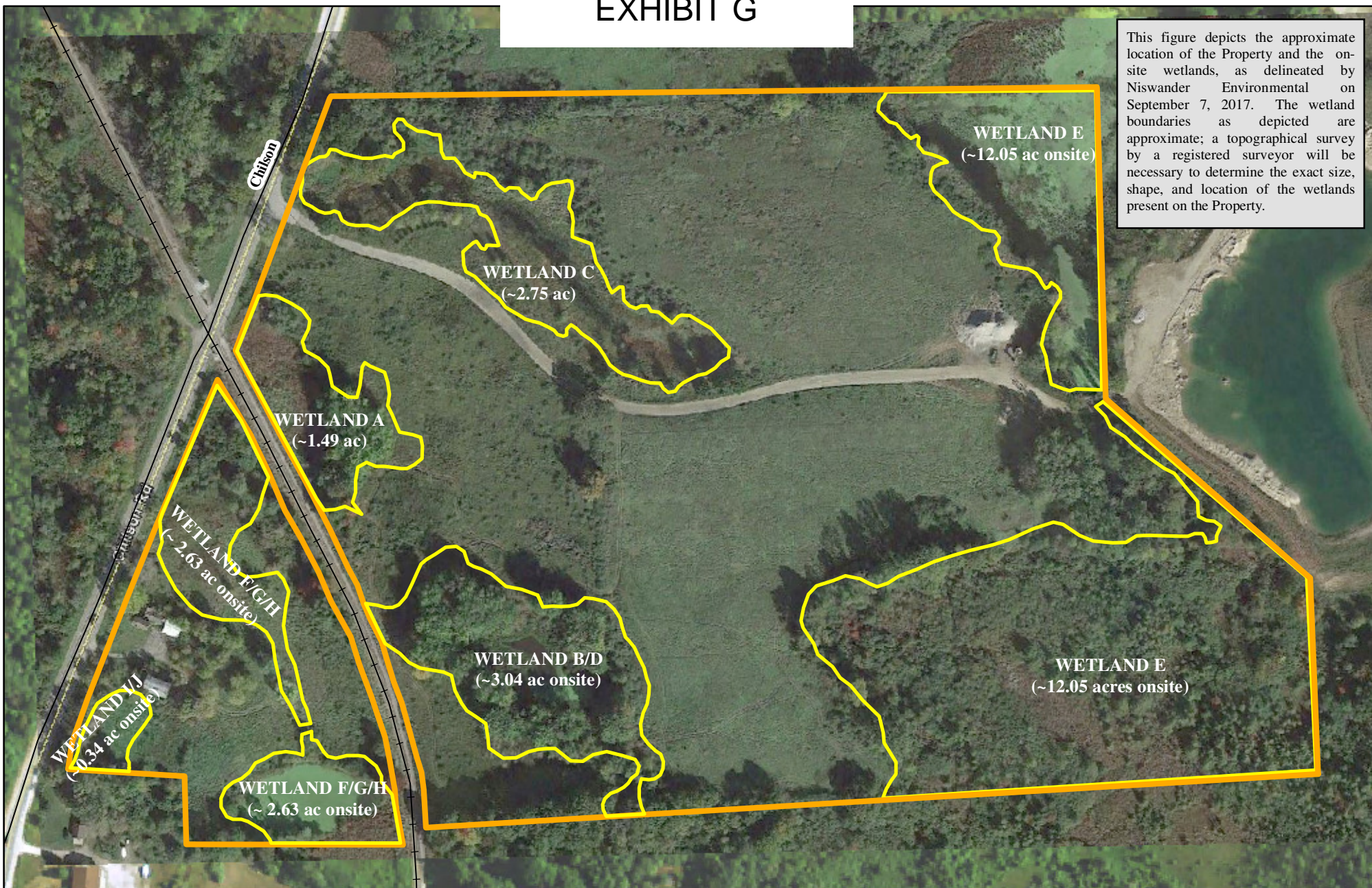
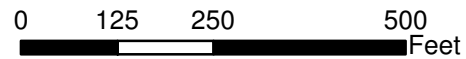


Figure 1. Overall Wetland Location Map

NE 1505 Chestnut Hill Delineation
Client: Chestnut Development
Sections 33 & 34 of Genoa Township
Livingston Co., MI (T02N,R05E)
Delineation Date: September 7, 2017
Map Created: September 8, 2017



NISWANDER ENVIRONMENTAL
9436 Maltby Road, Brighton, MI 48116
810.225.0539 office | 810.225.0653 fax

SITE PLAN FOR CHESTNUT SPRINGS CHILSON RD GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

SHEET INDEX

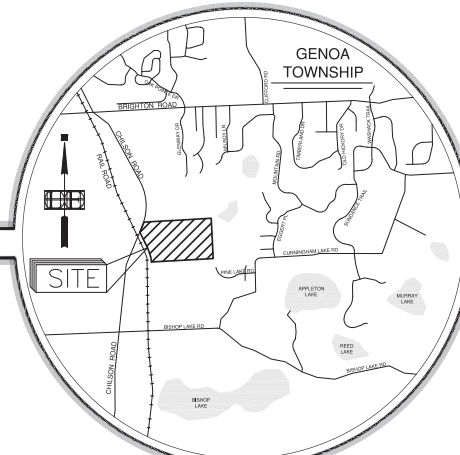
- 01 COVER SHEET
- 02 EXISTING CONDITIONS
- 03 OVERALL LAYOUT
- 04 PRELIMINARY GRADING PLAN
- 05 STORMWATER MANAGEMENT PLAN
- L1 LANDSCAPE PLAN & DETAILS

GENERAL NOTES

1. Property is zoned AG (Agricultural). Property is to be rezoned to LDR (Low Density Residential) concurrently with Site Plan Approval process.
2. Contractor is responsible for protecting all existing and proposed utilities from damage during all stages of construction.
3. The engineer and applicable agency must approve, prior to construction, any alteration, or variance from these plans.
4. All signs shall meet the requirements of the Genoa Township Zoning Ordinance.
5. Underground dry utilities shall be extended from existing locations to service this site as required by utility companies.
6. Soils are majority Boyer-Oakman loamy sands (U.S.D.A. "Soil Survey of Livingston Co.,").
7. All construction shall be performed in accordance with the current standards and specifications of Genoa Township and Livingston County.
8. The contractor shall telephone Genoa Township 72 hours before beginning any construction.
9. Three working days prior to any excavation, the Contractor shall telephone MGS DIG (800-482-7171) for the location of underground utilities and shall also notify representatives of other utilities located in the vicinity of the work. It shall be the Contractor's responsibility to verify and/or obtain any information necessary regarding the presence of underground utilities which might affect this job.
10. On-site wetlands have been flagged as determined by Niswander Environmental on September 7, 2017 .
11. Site plan use: Residential
12. Site storm drainage will be detailed on site prior to being released to wetland.
13. Property to be serviced by individual well and septic.
14. Roadway within this development shall be private.

SITE DATA TABLE

	REQUIRED
LOT AREA	1 AC. (min)
LOT WIDTH	150 FT (min)
LOT COVERAGE	NA
FLOOR AREA (PER UNIT)	980 SF (min)
BUILDING SETBACKS:	REQUIRED
FRONT	50 FT (min)
SIDE	30 FT (min)
REAR	60 FT (min)
WETLAND	25 FT (min)



LOCATION MAP
NOT TO SCALE

LEGAL DESCRIPTION

Part of the Southeast 1/4 of Section 33 and the Southwest 1/4 of Section 34, T2N-R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: BEGINNING at the Southeast Corner of said Section 33, also being the Southwest Corner of said Section 34; thence along the South line of said Section 33, being the Hamburg-Genoa Township line, S 86°51'02" W, 1005.29 feet (previously surveyed as S 87°12'20" W);

Thence along the Eastern line of the Ann Arbor Railroad (66 foot wide), the following 4 courses on the arc of a curve left, 188.78 feet, said curve has a radius of 1233.00 feet, a central angle of 08°46'20" and a long chord which bears N 09°20'42" W, 188.59 feet (previously recorded as N 08°59'24" W);

Thence along the arc of a curve left, 300.68 feet, said curve has a radius of 1504.99 feet, a central angle of 11°26'49" and a long chord which bears N 19°27'17" W, 300.18 feet (previously surveyed as N 19°02'59" W);

Thence along the arc of a curve left, 184.66 feet, said curve has a radius of 9470.15 feet, a central angle of 01°07'02" and a long chord which bears N 25°44'13" W, 184.66 feet (previously surveyed as N 25°22'56" W);

thence N 26°17'44" W 382.92 feet, (previously surveyed as N 25°56'26" W);

thence along the centerline of centerline of Chilson Road (66 foot wide Right of Way), N 22°02'33" E, 363.80 feet (previously surveyed as N 22°23'51" E); thence along the North line of the South 1/2 of the Southeast 1/4 of said Section 33, S 86°50'49" E, 1189.30 feet (previously surveyed as N 87°12'07" E); thence along the North line of the South 1/2 of the Southwest 1/4 of said Section 34, N 86°41'47" E, 1028.59 feet (previously surveyed as N 87°03'09" E); thence along the East line of the West 30 acres of the Southwest 1/4 of the Southwest 1/4 of said Section 34, S 02°44'41" E, 1329.93 feet (previously surveyed as S 02°23'23" E); thence along the South line of said Section 34 and the Hamburg-Genoa Township line S 86°49'56" W, 1031.98 feet (previously surveyed as S 87°11'14" W to the Point of Beginning, Containing 67.12 acres, more or less and subject to the rights of the public over Chilson Road. Also subject to any other easements or restrictions of record.

Bearing are related to Grid North from RTK GPS observations using Brighton CORS station.

PERMITS & APPROVALS

AGENCY	REQUIRED	STATUS
GENOA TOWNSHIP	APPROVAL	
GENOA TOWNSHIP FIRE DEPARTMENT	APPROVAL	
LIVINGSTON COUNTY DRAIN COMMISSIONER	S.E.S.C. PERMIT	
LIVINGSTON COUNTY ROAD COMMISSION	APPROACH PERMIT	IN PROCESS
LIVINGSTON COUNTY ROAD COMMISSION	SITE DISTANCE APPROVAL	IN PROCESS
LIVINGSTON COUNTY HEALTH DEPARTMENT	WELL & SEPTIC PERMITS	
WEDC	WETLAND IMPACT PERMITS	IN PROCESS

UTILITY DISCLAIMER



Know what's below.
Call before you dig.

Utilities as shown indicate approximate location of facilities only, as described by the various companies and no guarantee is given either as to the completeness or accuracy thereof. Contractor shall call "888 DIG" or 811 or 1-800-482-7171 prior to the start of construction. Electric, gas, phone and television companies should be contacted prior to the commencement of field activities.

OWNER / DEVELOPER



CHESTNUT DEVELOPMENT, LLC
6263 GRAND RIVER AVE. SUITE 700
BRIGHTON, MI 48114
PHONE: 810.698.3984

ENGINEER



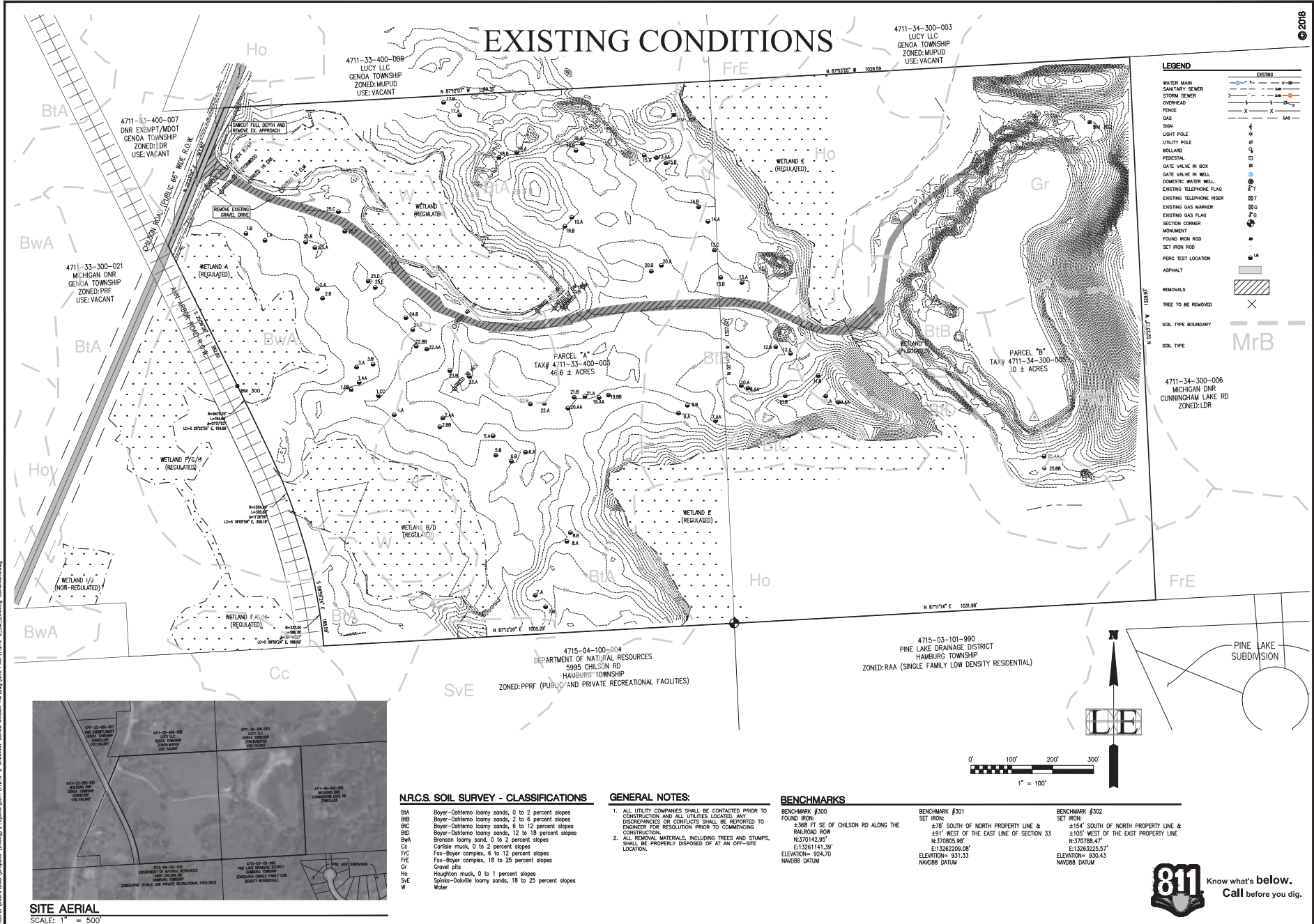
LIVINGSTON ENGINEERING
CIVIL ENGINEERING SURVEYING PLANNING
3300 S. OLD U.S.29, BRIGHTON, MI 48114
http://www.livingstoneng.com PHONE: (810) 225-7100 FAX: (810) 225-7899

**CHESTNUT SPRINGS
GENOA TOWNSHIP
LIVINGSTON COUNTY, MICHIGAN
SITE PLAN**

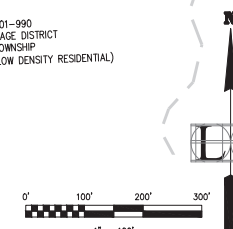
ENGINEER'S SEAL

REVISION	DATE	PROJECT NO.
PER TWP CONSULTANT REVIEW COMMENTS	5/23/18	11216-2
		SHEET 1 OF 6
		DATE: May 2, 2018

EXISTING CONDITIONS



LEGEND	
EXISTING	
Water Main	—
Sanitary Sewer	—
Storm Sewer	—
Overhead	—
Fence	—
Gas	—
Sign	⊥
Light Pole	⊕
Utility Pole	⊕
Rolling	⊕
Pedestal	⊕
Date Valve in Box	⊕
Date Valve in Well	⊕
Domestic Water Well	⊕
Existing Telephone Flag	⊕
Existing Telephone Riser	⊕
Existing Gas Marker	⊕
Existing Gas Flag	⊕
Section Corner	⊕
Monument	⊕
Found Iron Rod	⊕
Set Iron Rod	⊕
Peric Test Location	⊕
Asphalt	▨
Removals	▨
Tree to be Removed	X
Soil Type Boundary	—
Soil Type	MrB



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CHESTNUT SPRINGS
 CHILSON RD, GENOA TWP., LIVINGSTON COUNTY, MICHIGAN
 SITE PLAN
 EXISTING CONDITIONS

DATE: 5/27/2018
 DRAWN BY: J. BOYD
 CHECKED BY: J. BOYD
 APPROVED BY: J. BOYD
 DATE: 5/22/2018

FILE NO.: 11216-2
 SCALE: AS SHOWN
 SHEET NO.: 02



SITE AERIAL
SCALE: 1" = 500'

N.R.C.S. SOIL SURVEY - CLASSIFICATIONS

B/A	Boyer-Dalhemo loamy sands, 0 to 2 percent slopes
B/B	Boyer-Dalhemo loamy sands, 2 to 6 percent slopes
B/C	Boyer-Dalhemo loamy sands, 6 to 12 percent slopes
B/D	Boyer-Dalhemo loamy sands, 12 to 18 percent slopes
B/W	Bronson loamy sand, 0 to 2 percent slopes
C/F	Carlisle muck, 0 to 2 percent slopes
F/C	Fox-Boyer complex, 6 to 12 percent slopes
F/E	Fox-Boyer complex, 18 to 25 percent slopes
G	Gravel pits
H	Houghton muck, 0 to 1 percent slopes
Ho	Spirks-Oakville loamy sands, 18 to 25 percent slopes
W	Water

- GENERAL NOTES:**
1. ALL UTILITY COMPANIES SHALL BE CONTACTED PRIOR TO CONSTRUCTION AND ALL UTILITIES LOCATED. ANY DISCREPANCIES OR CONFLICTS SHALL BE REPORTED TO ENGINEER FOR RESOLUTION PRIOR TO COMMENCING CONSTRUCTION.
 2. ALL REMOVAL MATERIALS, INCLUDING TREES AND STUMPS, SHALL BE PROPERLY DISPOSED OF AT AN OFF-SITE LOCATION.

BENCHMARKS

BENCHMARK #300 SET IRON: 3.568 FT SE OF CHILSON RD ALONG THE RAILROAD ROW N:370141.95' E:13281141.39' ELEVATION= 924.70' NAVD88 DATUM	BENCHMARK #301 SET IRON: ±78' SOUTH OF NORTH PROPERTY LINE & ±91' WEST OF THE EAST LINE OF SECTION 33 N:37085.96' E:13262209.08' ELEVATION= 931.33' NAVD88 DATUM	BENCHMARK #302 SET IRON: ±154' SOUTH OF NORTH PROPERTY LINE & ±105' WEST OF THE EAST PROPERTY LINE N:370788.47' E:13263225.57' ELEVATION= 930.43' NAVD88 DATUM
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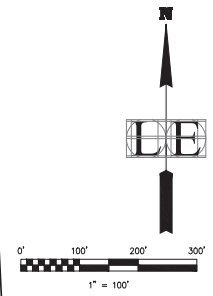
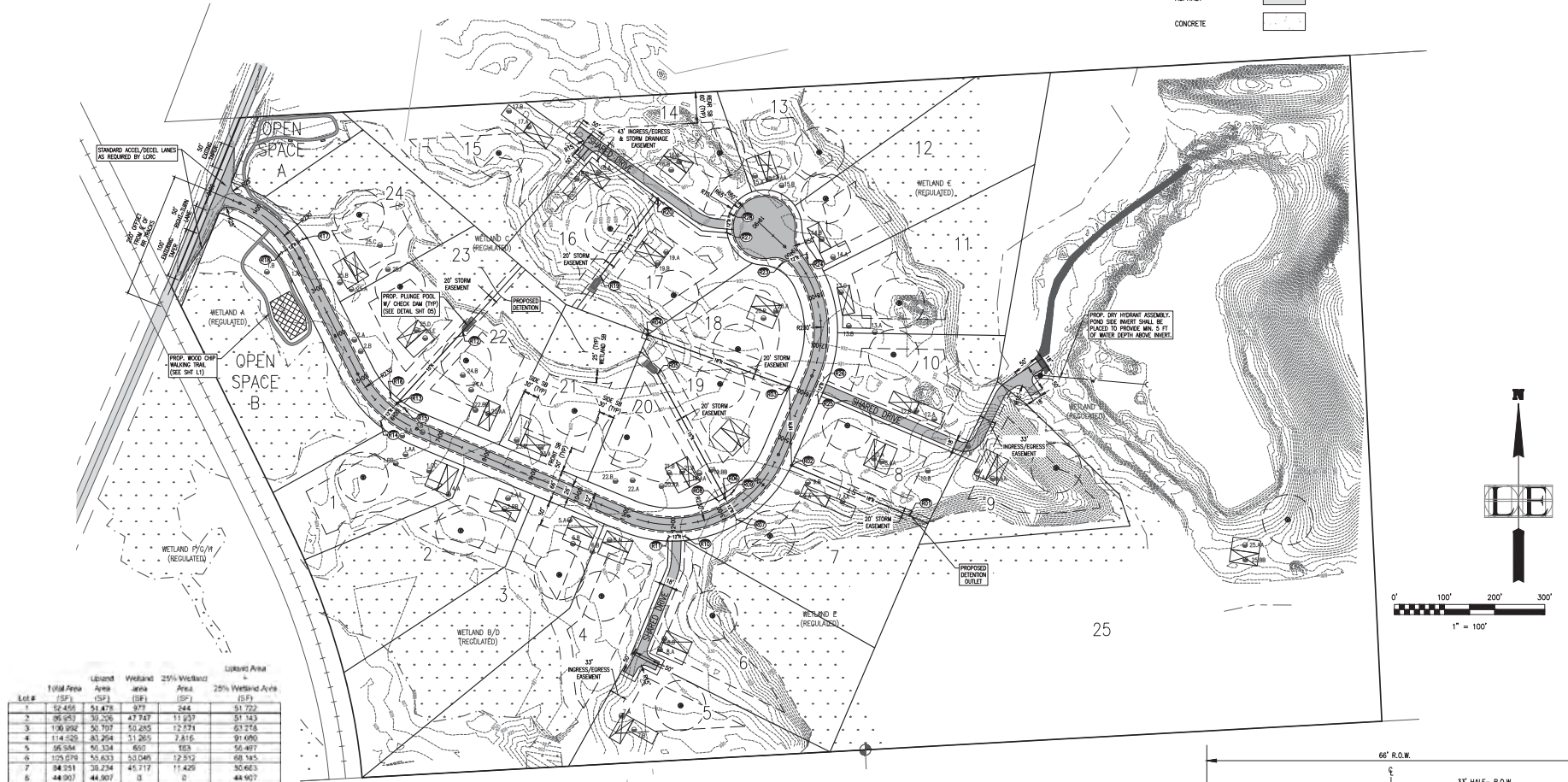


Know what's below.
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OVERALL LAYOUT

LEGEND

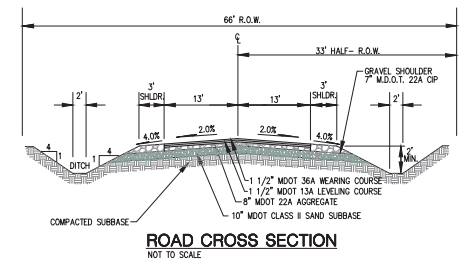
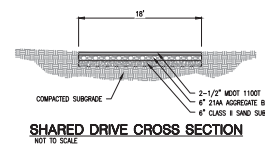
EXISTING		PROPOSED	
CONTOUR		CONTOUR	
WATER MAIN		WATER MAIN	
SANITARY SEWER		SANITARY SEWER	
STORM SEWER		STORM SEWER	
SIGN			
TREE			
ASPHALT			
CONCRETE			



Lot #	Lot Area		Wetland Area		25% Wetland Area		Lot Area	
	Total Area	Wetland Area	Wetland Area	25% Wetland Area	25% Wetland Area	Lot Area		
1	52,456	51,478	977	244	51,722			
2	96,953	30,206	47,747	11,937	51,143			
3	130,892	30,707	50,285	12,571	83,716			
4	114,226	83,264	31,265	7,815	91,406			
5	96,534	50,334	650	163	56,497			
6	125,078	53,633	53,040	12,512	68,545			
7	94,051	30,234	45,717	11,429	56,463			
8	44,907	44,907	0	0	44,907			
9	72,041	53,247	18,794	4,699	57,946			
10	81,499	53,657	7,842	1,961	56,616			
11	89,426	30,051	46,377	11,589	50,645			
12	14,327	27,038	07,209	1,622	43,600			
13	57,830	37,413	20,412	7,803	45,021			
14	98,762	66,762	0	0	98,762			
15	89,211	40,666	17,215	4,304	53,316			
16	48,445	43,431	5,354	1,339	44,820			
17	47,051	42,361	4,163	1,040	43,911			
18	43,656	43,659	0	0	43,651			
19	43,407	43,238	148	37	43,385			
20	48,133	44,030	193	26	44,006			
21	57,040	36,466	17,214	4,394	43,980			
22	26,181	40,651	14,540	3,635	44,196			
23	59,512	34,529	20,988	5,247	43,776			
24	69,957	35,377	34,290	8,570	43,947			
25	24,973							

SITE DATA TABLE

REQUIRED	REQUIRED
LOT AREA	1 AC. (min)
LOT WIDTH	150 FT (min)
LOT COVERAGE	NA
FLOOR AREA (PER UNIT)	980 SF (min)
BUILDING SETBACKS:	REQUIRED
FRONT	50 FT (min)
SIDE	30 FT (min)
REAR	60 FT (min)
WETLAND	25 FT (min)



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FAX: 616 255-7600



Client
CHESTNUT SPRINGS LLC
11216-2 CHESTNUT SPRINGS
MICHIGAN

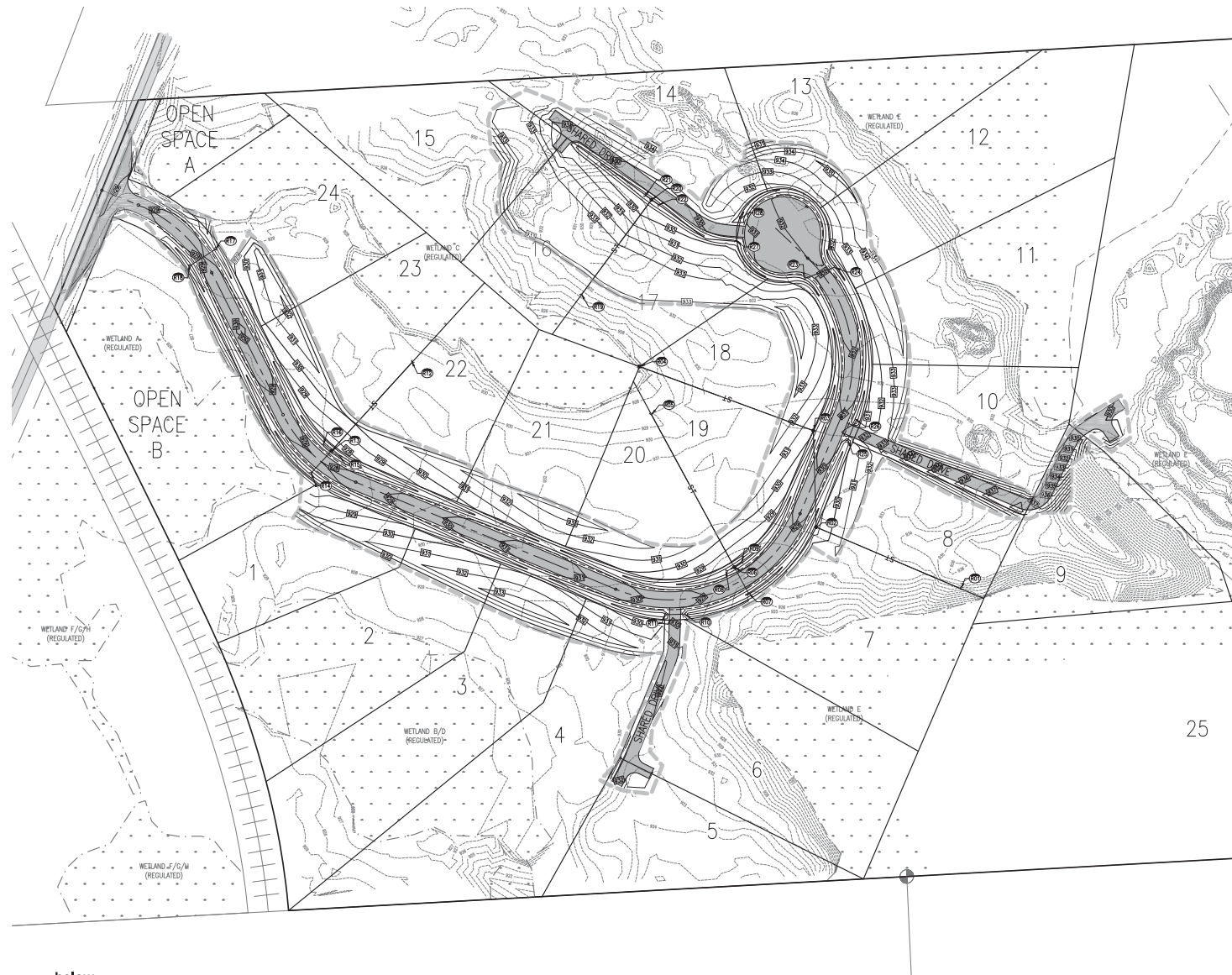
Client
CHESTNUT SPRINGS LLC
11216-2 CHESTNUT SPRINGS
MICHIGAN

Project
11216-2
11216-2 CHESTNUT SPRINGS
MICHIGAN

Date
3/27/2018

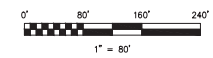
Scale
As Shown

PRELIMINARY GRADING PLAN



LEGEND

- PR. SPOT GRADE
- PR. CONTOUR
- DRAINAGE ARROW
- PR. SILT FENCE
- LIMITS OF GRADING
- DANDY BAG LOW POINT INLET FILTER



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 FAX: (981) 255-7000



Client
 CHESTNUT SPRINGS LLC
 4000 CHESTNUT SPRINGS RD
 CHESTNUT SPRINGS, MI 48816

CHESTNUT SPRINGS
 SITE PLAN
 PRELIMINARY GRADING PLAN
 CHELSON RD, GENOA TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	REVISION	Drawn: MJB
5/27/2018	REV 10: CORRECT FENCE COMMENTS	Checked:
		Approved:
		Date: 5/22/2018

Job No. **11216-2**
 Scale:
 Vertical: **F = 10'**
 Horizontal:

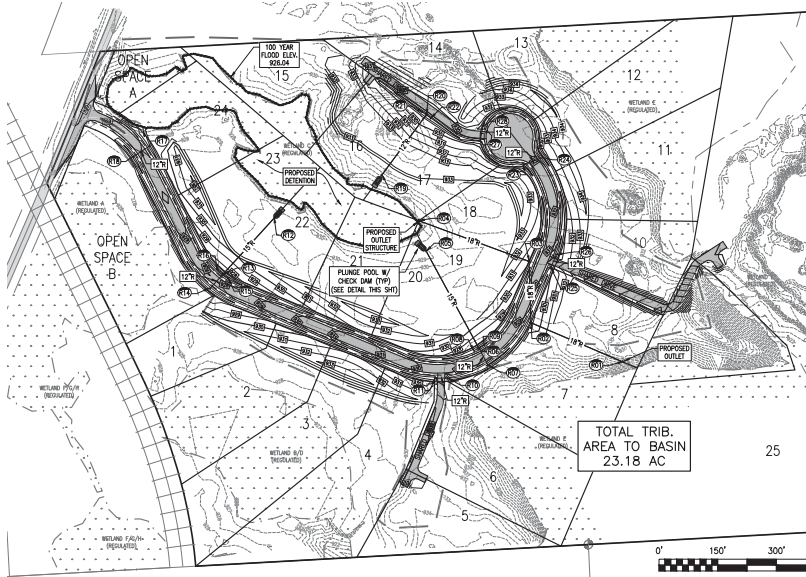


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STORMWATER MANAGEMENT PLAN

LEGEND

- OVERALL DETENTION TREATMENT AREA
- STORM SEWER DRAINAGE DIVIDE LINE
- STORM STRUCTURE
- STORM SEWER DRAINAGE AREA



TOTAL TRIB. AREA TO BASIN 23.18 AC

STORMWATER MANAGEMENT NARRATIVE

STORM CONVEYANCE CONSISTS OF A COMBINATION OF OPEN ROAD-SIDE DITCHES AND STORM SEWER TO CONVEY THE DETENTION AREA. THE DETENTION AREA WASHES USE OF AN ORANGE REGULATED WETLAND (WETLAND O) FOR DETENTION PRIOR TO DUMPING INTO THE WETLAND/RETENTION AREA. A COMBINATION OF FLANGE POOLS WITH CHECK DAMS AND VEGETATIVE FILTERS WILL PROVIDE THE WATER QUALITY AND SEDIMENT DEPOSITION COMPONENTS OF THE SYSTEM.

AN IMPACT PERMIT IS CURRENTLY BEING PROCESSED FOR ALL WETLAND IMPACT ACTIVITIES INCLUDING THE DETENTION AREA.

RETENTION VOLUME WAS CALCULATED USING THE LIVINGSTON COUNTY DRAIN COMMISSIONERS METHOD FOR A 100 YEAR STORM. OUR CALCULATIONS SHOW THAT THE STATIC HIGH WATER ELEVATION IN THE POND WILL INCREASE APPROXIMATELY 6 INCHES WITH A 100-YEAR STORM VOLUME ADDED TO THE EXISTING WETLAND/RETENTION POND.

AN OUTLET STRUCTURE IS BEING PROVIDED TO OUTLET WATER ABOVE THE STATIC HIGH WATER ELEVATION AT A PRE-DEVELOPED RELEASE RATE OF 0.2 CFS PER ACRE INTO WETLAND "T" ON THE EAST SIDE OF THE DEVELOPMENT. WETLAND "T" CONNECTS TO SMALL CREEKS AND FLOW CHANNELS DOWNSTREAM FROM OUR PARCEL AS PART OF THE HURON RIVER WATERSHED.

THE OUTLET STRUCTURE WILL ALSO PROVIDE AN EMERGENCY OVERTOP AT THE 100-YEAR FLOOD VOLUME TO ALLOW WATER TO FLOW FREELY PAST THE RESTRICTED ORIFICES, AND PREVENT WATER FROM EXCEEDING THE DESIGN FLOOD ELEVATION.

PIPE SIZING HAS BEEN APPROXIMATED AND DETAILED DESIGN CALCULATIONS WILL BE PROVIDED FOR FINAL SITE PLAN/CONSTRUCTION PLANS FOR BOTH THE OUTLET STRUCTURE AND THE STORM SEWER SIZING.

Required Detention Volume
 Livingston County Drain Commissioners's Office Detention Methodology
 Project: Chilson Park
 LE Job No: 1127-2

Area A = 23.18 AC
 C = 0.25 (see Runoff Coefficient)
 Kc = 0.94
 Allowable Q = 4.84 cfs (0.2 cfs per acre)

DURATION MINUTES	DURATION SECONDS	N RUSH INCHES	IN-HOUR FLOW IN	OUT-FLOW IN	STORAGE VOLUME IN-HOUR
5	300	0.17	1519	1500.8	1776
10	600	7.86	4718	3275.6	3013
15	900	6.88	5107	4171.4	3887
20	1200	0.11	7332	5067.2	4844
30	1800	5.20	8009	6286	5421
50	3000	3.24	11664	8111.1	6462
60	3600	2.79	12086	8779	6474
120	7200	1.50	17060	11131	6175
180	10800	1.34	14472	10039	5959

Required Volume: V_r 6474 cf

STORM WATER DETENTION POND CALCULATIONS
 Project: CHESTNUT SPRINGS
 Livingston Engineering Project No. 11216-2
 Livingston County Drain Commission Method

1. Common to this and Assumption:
 - A. First Flush = (0.712) x 43,960 x area x developed C
 - B. Blanket Flood = 5.160 x area x developed C
 - C. Detention Volume = Elevation
2. V = (A₁ + A₂ + A₃) x H
 where: A₁ = Area at top of storage elevation
 A₂ = Area at bottom of storage elevation
 H = Depth of analysis
3. Detention Pond Volume

1. Detention Pond Volume

A. First Flush Blanket Flood and 10-year Storm Event

1. Controlling Area = 23.18 AC

2. Developed Runoff Coefficient

3. First Flush Volume

V = (0.712) x 43,960 x C x 10 x 33.18 = 12629 CF

4. 100-year Flood Volume

V_f = (0.70) x 23.18 = 4.04 CFS

V_t = 6474 CF

B. Detention Volume Proposed

Elev. Area: V₁(cfs) V₂(cfs)

Elev. = 923.5 109756

928.0 121484 61122 60'22"

937.0 130028 130245 129368

Total 190368 CF

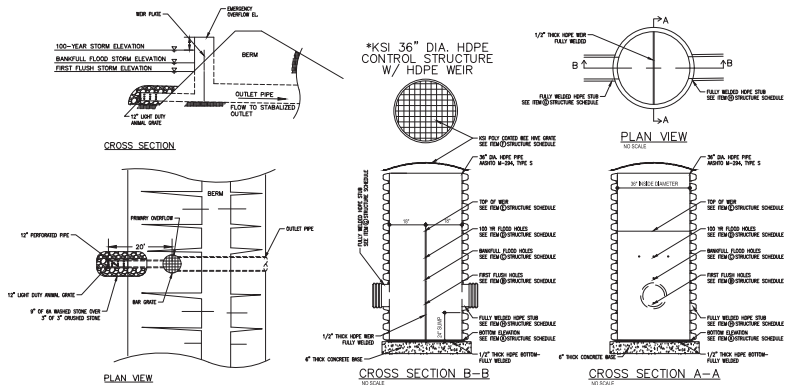
The following table determines the pond water elevations for the first 4 different storm events

100-Yr Flood 927.0 = 928.0 - x = 1025.0

190368 60122 64714 60'22"

x = 5.8704

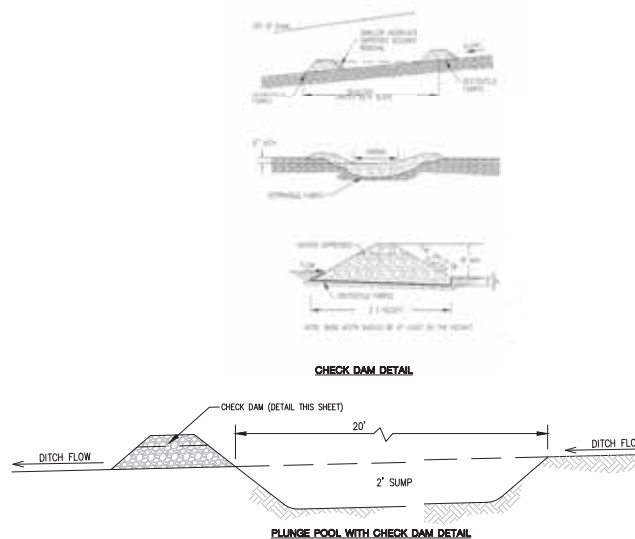
T₁ yields a pond water elevation of 932.84 for the 100-Yr Storm Event



OUTLET STRUCTURE DETAIL

NOT TO SCALE

DETAIL PROVIDED BY THE FOLLOWING SUPPLIER:
 KENNEDY SYSTEMS INC.(KSI) • 2111 SAGE LAKE ROAD • PRESCOTT, MICHIGAN 49756 • 800-899-4046
 FOR ENGINEER APPROVED EQUAL.



FILE:G:\Users\james\Documents (Living)\Projects\2011\11216-2 Chestnut Springs\Chilson Park\11216-2_2011_0407.dwg
 DATE: 5/27/2016
 TIME: 10:00:00 AM
 USER: james
 PROJECT: 11216-2
 SHEET: 11216-2-2011_0407.dwg
 DATE: 5/27/2016
 TIME: 10:00:00 AM
 USER: james
 PROJECT: 11216-2
 SHEET: 11216-2-2011_0407.dwg



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CHESTNUT SPRINGS
 CHILSON RD., GRAND TWP., LIVINGSTON COUNTY, MICHIGAN
 SITE PLAN
 STORMWATER MANAGEMENT PLAN

Drawn: JMB	DATE: 5/27/2016
Checked: JMB	TIME: 10:00:00 AM
Approved: JMB	
Scale: 1"=50'	
Version: 1.0	
Revised: 5/27/2016	

Job No. 11216-2
 Scale: 1"=50'
 Version: 1.0
 Revises: 5/27/2016

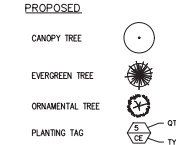
05



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LANDSCAPE PLAN & DETAILS

LEGEND



NOTES

- The contractor(s) shall verify the location of all underground utilities prior to construction.
- Plants shall conform to the sizes as shown on the drawings and shall be of sound health. All measurements such as spread, ball size, height, caliper and quality designations shall be in conformance to the latest edition of the American Standards for Nursery Stock.
- All evergreen tree species are to be full, dense plants branched fully to the ground.
- Prune all dead and broken branches from all plants immediately after installation.
- Planting soil mixture shall be prepared on-site by mixing 3 parts topsoil to 1 part existing site soils to 1 part peat, adding 5 lbs. of superphosphate to each cubic yard of the mixture.
- Organic mulch requirements: shade trees, ornamental trees and evergreen trees - 6" of shredded bark; shrubs and shrub beds - 4" of shredded bark; ground cover beds and perennial flowers - mulch with 1" of peat.

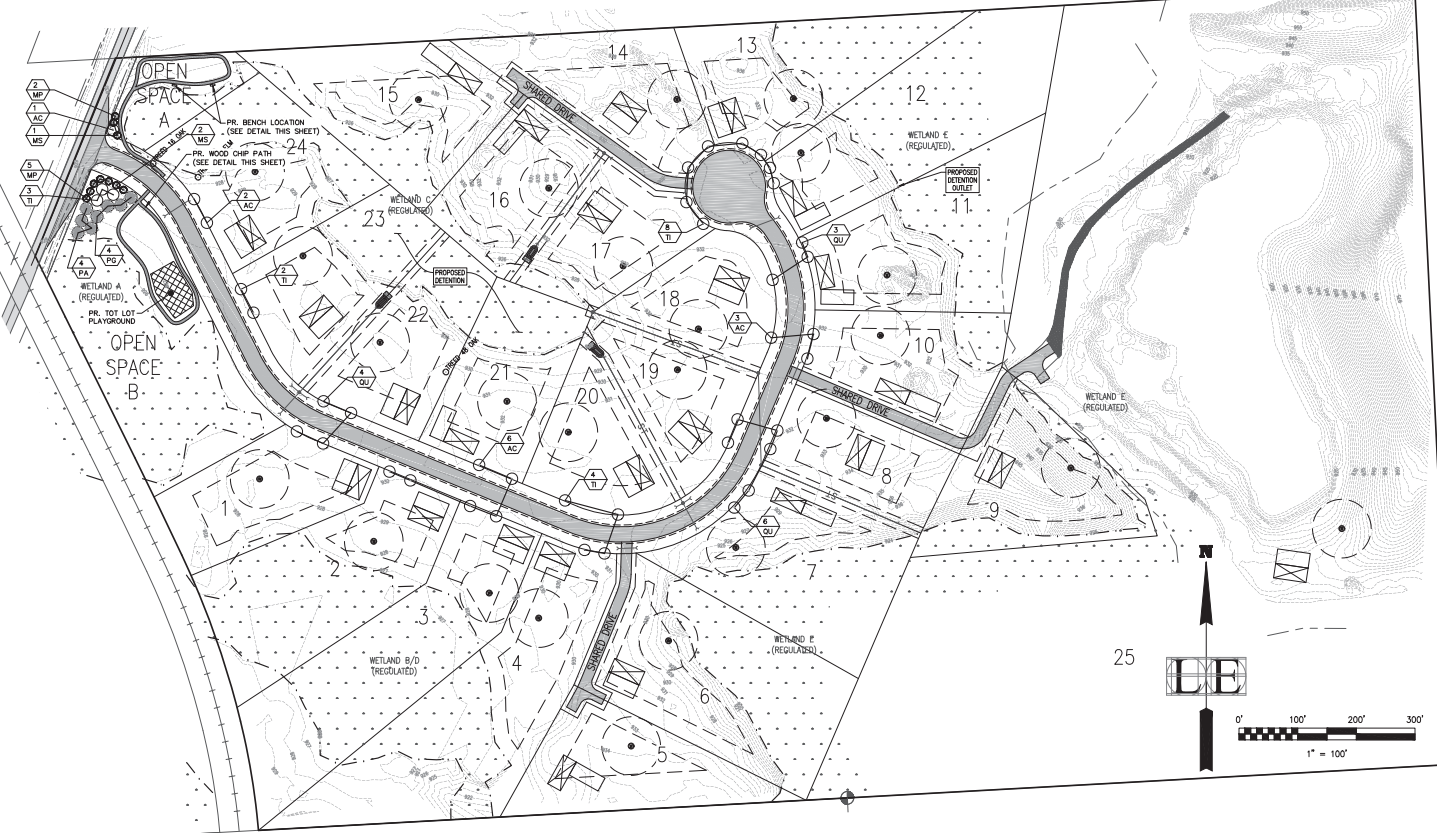
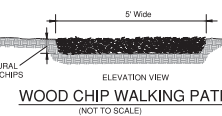
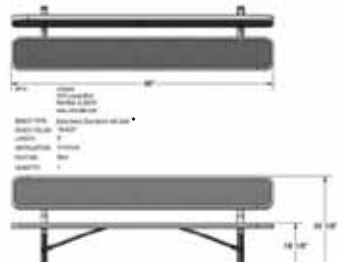
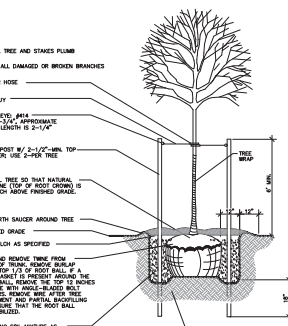
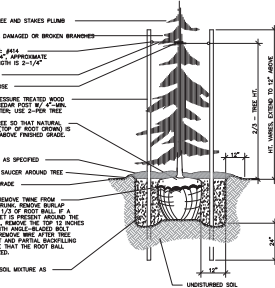
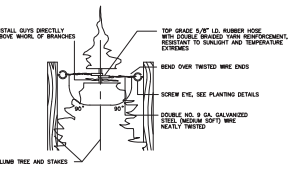
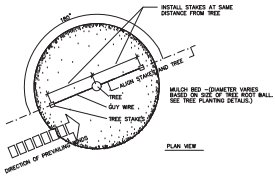
LANDSCAPE REQUIREMENTS:

GENDA TOWNSHIP ZONING ORDINANCE
ARTICLE 12: SITE DEVELOPMENT REGULATIONS
SECTION 12-22: GREENBELT/LANDSCAPE MATERIALS & SCREENING

REQUIREMENT	REQUIRED	PROVIDED
12.02.02. RESIDENTIAL STREET TREES	2 CANOPY TREES SHALL BE PROVIDED ALONG A PUBLIC STREET OR PRIVATE ROAD FOR EACH RESIDENTIAL UNIT. (TOTAL UNITS ALONG PRIVATE ROAD = 19)	38 CANOPY TREES
12.02.05. DETENTION/RETENTION POND LANDSCAPING	DETENTION/RETENTION PONDS SHALL BE LANDSCAPED TO PROVIDE A NATURAL SETTING IN OPEN SPACE AREAS.	REQUESTING WAIVER FROM REQUIREMENTS BASED ON EXISTING WETLAND BOUNDARY & VEGETATION AROUND THE PROPOSED DETENTION POND.

Planting List

Key	Qty	Genus	Common Name	Min. Size	
				Caliper Height	Root
Canopy Trees					
AC	12	Acer rubrum	Red Maple	2.5"	B & B
QU	13	Quercus alba	White Oak	2.5"	B & B
TI	17	Tilia cordata	Little Leaf Linden	2.5"	B & B
Evergreen Trees					
PA	4	Picea abies	White Spruce	6"	B & B
PG	4	Picea glauca	White Spruce	6"	B & B
Ornamental Trees					
MP	7	Malus Prunifera	Prunella Flowering Crab	2"	B & B
MS	3	Malus Sibirica	Siberian Crab	2"	B & B



FILE: C:\Users\jason\OneDrive (Landscape)\Projects\2011\1216-2 Chestnut Springs\Site Plan\1216-2_L1_Landscape_Plan.dwg

2018

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PHONE: 616 255-7600
FAX: 616 255-7608

www.livingstoneng.com

CHESTNUT SPRINGS
SITE PLAN
LANDSCAPE PLAN & DETAILS

CLIENT: CHESTNUT SPRINGS TWP., LIVINGSTON COUNTY, MICHIGAN
MAY 2018

DATE:	12/27/2018
REVISION:	1) BY: GREGORY RICE COMMENTS
DATE:	12/27/2018
DESIGNER:	JM
CHECKED:	JK
DATE:	12/27/2018
PROJECT:	1216-2
SCALE:	AS SHOWN
DATE:	12/27/2018
PROJECT:	1216-2

L1



Memorandum

TO: Planning Commissioners
FROM: Kelly VanMarter, Assistant Township Manager
DATE: June 7, 2018
RE: **Article 10 & Article 25 Amendments- S. Latson Area**

In the following pages you will find an updated version of the text amendments for the new S. Latson PUD districts (Art. 10) as well as an amended Definitions section (Art. 25) to support the new PUD language. Revisions have been made in response to comments received at the joint meeting and also by input received from the primary land owner in the interchange campus area located west of Latson Road. The most recent changes are depicted in a dark red and gray to help track the progression of the amendments.

One of the primary changes I hope to discuss Monday reflects a possible trend to allow “light industrial” type uses in this area. Often the industrial term has negative connotations which may not accurately reflect the nature of today’s high tech uses so I’ve created new definitions in an attempt to clarify intent. In addition to the full Article, a summary of the new definitions is provided on the following page for easy reference.

In addition to review and comment on the proposed text amendments, I request your consideration of discussing the following items at Monday’s meeting:

1. What are thoughts on providing “light industrial” land uses as a special use within the Campus PUD (CAPUD) district?
2. In the CAPUD, I have changed the requirement for Special Land Use approval for a building exceeding 50,000 square foot to a 40,000 square foot building limit to be consistent with the current ordinance requirement for industrial. Would the Commission support an increase to allow larger buildings by right?
3. What is the Commission’s opinion on a truck terminal/distribution center use in the CAPUD? This use is not currently provided, but interest from this type of facility has been speculated.
4. Do you support the added discretion to allow alternative high quality building materials such as metal in the CAPUD?
5. Are there any other uses you believe should be considered for either the Commercial or the Campus areas?

I look forward to discussing this with you on Monday. Please let me know if you have any questions.

911 Dorr Road
Brighton, MI 48116
10.227.5225
10.227.3420 fax
enoa.org

SUPERVISOR

Bill Rogers

CLERK

Maquette A. Skolarus

TREASURER

Robin L. Hunt

TRUSTEES

Sean W. Ledford

James Mortensen

Berry Croft

Diana Lowe

TOWNSHIP MANAGER

Michael C. Archinal

Article 25 – New Definitions

Industrial: Land uses which primarily accommodate research, wholesale and warehouse activities, manufacturing, compounding, processing, packaging, fabrication, assembly and/or treatment of finished or semi-finished products from previously prepared material and the extraction or processing of raw material for shipment in bulk form, to be used in an industrial operation at another location.

Industrial, light: Those enterprises engaged in the processing, manufacturing, compounding, assembly, packaging, treatment, or fabrication of materials and products, from processed or previously manufactured materials to form a non-combustible and non-explosive product. Light industry is capable of operation in such a manner as to control the external effects of the manufacturing process, such as smoke, noise, soot, dirt, vibration, odor, etc. A machine shop is included in this category. Also included is the manufacturing of apparel, electrical appliances, electronic equipment, camera and photographic equipment, ceramic products, cosmetics and toiletries, business machines, fish tanks and supplies, food, paper products (but not the manufacture of paper from pulpwood), musical instruments, medical appliances, tools or hardware, plastic products (but not the processing of raw materials), pharmaceuticals or optical goods, bicycles, and any other product of a similar nature. Warehousing, wholesaling, and distribution of the finished products produced at the site is allowed as part of the use.

Laboratory, research: A facility for scientific laboratory research in technology-intensive fields. Examples include biotechnology, pharmaceuticals, genetics, plastics, polymers, resins, coatings, fibers, fabrics, films, heat transfer, and radiation research facilities.

Laboratory, support: A facility for scientific laboratory analysis of natural resources, medical resources, and manufactured materials. The scientific analysis is generally performed for an outside customer, to support the work of that customer. This category includes environmental laboratories for the analysis of air, water, and soil; medical or veterinary laboratories for the analysis of blood, tissue, or other human medical or animal products. Forensic laboratories for analysis of evidence in support of law enforcement agencies would also be included in this category.

Microbrewer: A brewer that produces in total less than 60,000 barrels of beer per year and that may sell the beer produced to consumers at the licensed brewery premises for consumption on or off the licensed brewery premises and to retailers as provided by State Law.

Multimedia production facility: Land, buildings, or structures used as a media production facility. Typically, structures involved in or with the production of (but not limited to): motion pictures; radio and television shows or movies; recording or broadcasting facilities; and other motion picture production and distribution service offices.

Office: A building or portion of a building wherein services are performed involving predominantly administrative, professional, or clerical operations.

Prototype manufacturing: Research and development activities that lead to the development of a new product or a new manufacturing and assembly process. The products developed, manufactured or assembled are not intended to be mass-produced.

Research and development: A land use that engages in research, development, or controlled production of high-technology electronic, industrial, or scientific products or commodities. Examples include computer hardware and software, electronics and instrumentation, communications and information technology, biotechnology, pharmaceuticals, agricultural technology, medical instrumentation or supplies, transportation, geographic information systems, defense and aerospace technology, multimedia and video technology and other emerging high technology industries. Activities associated with these uses may include development, testing, assembly, repair, manufacturing, prototype construction, office, warehousing, wholesaling, and distribution of the finished products produced at the site.

Small distiller: A manufacturer of spirits annually manufacturing in Michigan not exceeding 60,000 gallons of spirits, of all brands combined.

**ARTICLE 10
PLANNED UNIT DEVELOPMENT**

Sec. 10.01 PURPOSE

- 10.01.01 **Purpose.** The purpose of this Section is to permit the coordinated development on larger sites, protect significant natural features present which the property owner and Township wish to preserve, to provide the opportunity to mix compatible uses or residential types, or allow clustering of residential units to preserve common open space and natural features.
- 10.01.02 **Innovation in Land Use.** The PUD standards are provided as a design option to permit flexibility in the regulation of land development; to encourage innovation in land use, form of ownership and variety in design, layout, and type of structures constructed; to preserve significant natural features and open space; to promote efficient provision of public services and utilities; to minimize adverse traffic impacts; to provide adequate housing and employment; to encourage development of convenient recreational facilities; and to encourage the use and improvement of existing sites when the uniform regulations contained in other zoning districts alone do not provide adequate protection and safeguards for the site or its surrounding areas. The PUD standards are not intended to avoid the imposition of standards and requirements of other zoning classifications rather than to achieve the stated purposes herein set forth.
- 10.01.03 **Flexibility in Design.** For properties approved for PUD designation, these PUD standards provide the developer with flexibility in design and permit variation of the specific bulk, area, and in some specified situations the density requirements of this Ordinance on the basis of the total PUD plan, subject to the approval of the PUD plan by the Planning Commission and Township Board in accordance with the requirements as herein set forth.
- 10.01.04 **Types of PUD's.** This article provides for ~~five-seven~~ (57) types of PUD: a residential overlay, a planned industrial/corporate district, a mixed use PUD district, a redevelopment PUD, ~~and~~ a non-residential PUD District, and two separate PUD Districts for the S. Latson Road interchange area. The residential PUD, planned industrial PUD and redevelopment PUD are overlay districts that include supplementary standards, which apply simultaneously, or replace, standards of the underlying residential zoning district. The mixed use PUD, ~~and~~ non-residential PUD, and two interchange PUDs are separate zoning districts.

(as amended 12/31/06)

Sec. 10.02 QUALIFYING CONDITIONS

The following provisions shall apply to all planned unit developments:

- 10.02.01 **Single Ownership.** The planned unit development site shall be under the control of one owner or group of owners and shall be capable of being planned and developed as one integral unit.
- 10.02.02 **Initiated by Petition.** A PUD zoning classification may be initiated only by a petition.
- 10.02.03 **Minimum Site Area.** The site shall have a minimum area of twenty (20) acres of contiguous land, provided such minimum may be reduced by the Township Board as follows:
- (a) The minimum area requirement may be reduced to five (5) acres for sites served by both public water and sanitary sewer.
 - (b) The minimum lot area may be waived for sites zoned for commercial use (NSD, GCD or RCD) where the site is occupied by a nonconforming commercial, office or industrial building, all buildings on the site are proposed to be removed or rehabilitated and a use permitted within the underlying zoning district is proposed. The Township Board shall only permit the PUD on the smaller site where it finds that the flexibility in dimensional standards is necessary to allow for innovative design in redeveloping the site and an existing blighted situation will be eliminated. (as amended 12/31/06)
 - (c) [Interchange Commercial and Campus PUDs: the Township Board may waive the minimum lot area where the design elements of a proposed development are integrated into and consistent with the broader Latson Road Subarea Plans with compatible land uses](#)
- 10.02.04 **Benefits.** The PUD site plan shall provide one or more of the following benefits not possible under the standards of another zoning district, as determined by the Planning Commission:
- (a) preservation of significant natural or historic features;
 - (b) a complementary mixture of uses or a variety of housing types;
 - (c) common open space for passive or active recreational use;
 - (d) mitigation to offset impacts; or,
 - (e) redevelopment of a nonconforming site where creative design can address unique site constraints. (as amended 12/31/06)
- 10.02.05 **Sewer and Water.** The site shall be served by public sewer and public water. The Township may approve a residential PUD that is not served by public sewer or water, provided all lots shall be at least one (1) acre in area and the requirements of the County Health Department shall be met.

Sec. 10.03 TYPES OF PUD ZONING DESIGNATION

A property meeting the qualifying conditions may be rezoned to an appropriate PUD District, based on the standards shown in the following table and appropriate standards contained elsewhere in this Zoning Ordinance. The rezoning shall be concurrent with the approval of a PUD Conceptual Plan. The PUD designation shall be noted in the application, and on the Official Zoning Map upon approval.

District Name	Type of District	Permitted Uses	Special Land Uses	Additional Provisions
Residential Planned Unit Development (RPUD)	Overlay of a residential district	Open space or cluster housing projects with one or more types of residential uses	Same as underlying residential district	Sec. 10.03.01
Planned Industrial Parks (PID)	Overlay district of an Industrial District	Uses permitted in the Industrial and Office-Service Districts	Special land uses of the Industrial and Office-Service District	Sec. 10.03.02
Mixed Use Planned Unit Development (MU-PUD)	Separate zoning district	A mixture of public, residential, commercial, recreational or open space uses.	Special land uses of the zoning districts applicable to each PUD component.	Sec. 10.03.03
Redevelopment Planned Unit Development (RDPUD)	Overlay of a commercial district	Same as underlying district	Same as underlying district	Sec. 10.03.04
Non-residential Planned Unit Development (NR-PUD)	Separate zoning district	A mixture of public, office, commercial, light industrial, recreational and open space uses. See Sec. 10.03.05(c).	Special land uses of the zoning districts applicable to each PUD component.	Sec. 10.03.05
Interchange Commercial PUD (ICPUD)	Separate zoning district	See Sec. 10.03.06 c	Special land uses of the General Commercial or Regional Commercial District, as may be approved by the Township, except those specifically listed in Sec. 10.03.06 c	Sec. 10.03.06
Interchange Campus PUD (CAPUD)	Separate zoning district	See Sec. 10.03.067 c	See Sec. 10.03.067 c	Sec. 10.03.067

(as amended 12/31/06)

10.03.01 Residential PUD

- (a) **Density:** Residential density shall be determined by a parallel plan that illustrates how the site could be developed as a conventional subdivision or site plan, meeting all applicable township and county zoning and subdivision requirements. The Township shall review the design and determine the number of buildable lots that could be feasibly constructed, taking into consideration any wetlands or other non-buildable land. This number shall be the maximum number of dwelling units allowable for the RPUD. Where the underlying zoning is multiple family, density shall be determined based upon the underlying zoning district and the definition of density. Where the Township Master Plan recommends a different zoning district than the current zoning, a rezoning of the underlying zoning district consistent with the Master Plan may be considered concurrently with the Residential PUD overlay.
- (b) **Dimensional Standards:** The dimensional standards of the underlying zoning district shall be complied with, provided the lot area, lot width and setback requirements may be reduced with the resultant area preserved as open space. A table shall be provided on the site plan indicating the cumulative reduction in lot areas and the corresponding

amount of open space being preserved. Wetland setbacks may not be reduced. The Planning Commission may approve an RPUD without public water and sewer provided all lots shall be at least one (1) acre in area and the requirements of the County Health Department are met.

- (c) **Open Space:** All land within an RPUD that is not devoted to a residential unit, roadway or other improvement shall be set aside as common open space for recreation or conservation. The amount of open space shall be at least equal to the total area that proposed lots are reduced below the underlying zoning's minimum lot area; provided a minimum of twenty five percent (25%) of the site shall be open space. Common open space shall be planned in locations that are visible and accessible. The open space shall contain some form of active recreational facility such as a play-area. The common open space shall be located to preserve significant natural features, central to the residents of the development, along the county road frontage, adjacent to adjoining residential or to connect open spaces throughout the development. The open space along the exterior public roads shall generally have a depth of at least one hundred (100) feet, either landscaped or preserved in a natural wooded condition. The PUD agreement shall set forth open space protection measures as provided for in section 10.05.04.

10.03.02 Planned Industrial District (PID)

- (a) **Dimensional Standards:** All buildings, structures, accessory structures and parking areas shall meet the minimum setback standards of the Industrial District, as specified in the Table of Dimensional Standards, along the exterior boundaries of the PID site. Internal setbacks shall be determined by the Planning Commission during review of the PID concept plan. Maximum building height shall be consistent with the standards for the Industrial District.
- (b) **Lot Areas:** Minimum lot area shall be two (2) acres except up to twenty five percent (25%) of the total number of lots may be between one and one-half (1-1/2) and two (2) acres in area.
- (c) **Design Standards:** Buildings shall utilize high quality architecture and landscaping that create a research and office-park environment with primary use of masonry material, such as brick, stone or split face block, and glass on buildings and landscaping along internal roadways and around the perimeter of the PID. Metal paneling and plain concrete masonry units shall constitute no more than twenty-five percent (25%) of the facades of buildings visible from the internal roadway or any adjoining public roadway. (as amended 12/31/06)

10.03.03 Mixed Use PUD

- (a) **Uses:** A mixed use PUD shall include a mixture of uses that are considered by the Planning Commission to be consistent with the Master Plan. A concept plan shall be prepared for the PUD that divides the PUD into components for various uses. Each component of the PUD shall be designated as a specific zoning district (e.g. Medium Density Residential or Office-Service). Areas devoted to each type of use shall be designated on the PUD Concept Plan. The concept plan may provide for vertical mixture of uses, such as office or residential above commercial. The mixed use PUD can be a mixture of housing types such as single family and multiple family or a mixture of uses such as residential and non-residential. The Planning Commission

shall determine the appropriate mixture of uses and how much of the PUD land area shall be occupied by residential uses, nonresidential uses, recreational area, or open space. The Planning Commission shall make this determination based upon the concept plan's ability to provide an integrated mixture of uses, maintain compatibility with surrounding uses, and meet the standards of section 10.07. The list of permitted uses shall be established by the Planning Commission in the PUD agreement. Not more than fifty percent (50%) of the PUD acreage shall be devoted to commercial, office or industrial and not less than fifty percent (50%) of the PUD acreage shall be devoted to open space, preserved natural features or residential use.

- (b) **Open Space:** A minimum twenty five percent (25%) of the site shall be open space. Such open space shall be dispersed throughout the site and linked through greenway or pedestrian corridors or located along road frontages. A minimum of 50% of the required open space shall be usable upland area.
- (c) **Dimensional Requirements:** All area and bulk dimensional standards shall comply with the dimensional standards for the associated zoning district designated on the PUD concept plan. To encourage flexibility and creativity consistent with the intent of the PUD, the Township may permit specific departures from the requirements of the Zoning Ordinance as a part of the approval process. Any regulatory modification shall be approved through a finding by the Township that the deviation shall result in a higher quality of development than would be possible using conventional zoning standards. Residential portions of a PUD shall comply with section 10.03.01.
- (d) **Parking.** To encourage a true integration of mixed uses and improved efficiency in land use, the Planning Commission may permit the overlap in parking requirements between uses that have alternating peak-parking demands or where the mixture of uses on a site would result in multi-purpose trips. Approval for the parking reduction shall be based upon documentation submitted by the applicant indicating the types of uses, intensity and characteristics of the parking demands for such uses.

10.03.04 **Redevelopment PUD**

- (a) A redevelopment PUD overlay shall only be applied to sites that have been previously developed for the purpose of a commercial, office, or industrial use, where redevelopment of the site will be an enhancement to the site and surrounding area, where all buildings on the site are proposed to be removed or renovated and a use permitted within the underlying zoning district is proposed. The redevelopment PUD shall only be applied to a site where the Township determines that flexibility in dimensional standards is necessary to allow for innovative design in redeveloping a site with constraints and where a clear public benefit is being derived.
- (b) To encourage flexibility and creativity consistent with the intent of the PUD, the Township may permit specific departures from the requirements of the Zoning Ordinance as a part of the approval process. Any regulatory modification shall be approved through a finding by the Township that the deviation shall result in a higher quality of development than would be possible using conventional zoning standards. A parallel plan shall be provided showing how the site could be redeveloped without the use of the PUD to allow the Planning Commission to evaluate whether the modifications to dimensional standards are the minimum necessary to allow redevelopment of the site, while still meeting the spirit and intent of the ordinance.

- (c) A table shall be provided on the site plan that specifically details all deviations from the zoning regulations. This specification should include ordinance provisions from which deviations are sought, the reasons the deviations are necessary and mechanisms to be utilized to mitigate any impacts. Only those deviations consistent with the intent of this ordinance shall be considered. As a condition of approving such deviations, the Township may attach such additional conditions deemed necessary for the protection of the public health, safety, and welfare in lieu of the regulations. (as amended 12/31/06)

10.03.05 Non-residential Planned Unit Developments

- (a) Size of Uses:
 - (1) A maximum sixty percent (60%) of the site, exclusive of public rights of way shall contain retail commercial uses such as shopping centers or freestanding retail/department stores including areas required for storm water, setbacks, parking and landscaping associated with such uses. The remainder of the site shall include open space, manufacturing, research and development, office, lodging, restaurants and/or entertainment related uses.
 - (2) No more than two retail uses shall have an individual floor area of 100,000 square feet or more, and no other individual commercial use shall have a floor area over 60,000 square feet.
- (b) A minimum twenty five percent (25%) of the site shall be open space. Such open space shall be dispersed throughout the site and linked through greenway or pedestrian corridors. Open space is defined as undisturbed areas of key natural features, landscaped open space or pedestrian plaza areas, which commonly include outdoor seating and gathering areas. Detention areas shall comprise no more than 50% of the required open space and if visible from the roadway, parking lot, residential dwellings, primary entrances to buildings or other predominant views shall only be counted toward this requirement if designed to provide a natural appearance as described below.
- (c) Permitted Uses: All uses permitted by right or by special land use approval in the Commercial, Office and Public and Recreational Facilities Districts (NSD, OS, GCD, RCD and PRF) are permitted by right or special use under the PUD. Permitted uses shall also include Manufacturing Research or Research and Development Uses, defined as low intensity industrial uses that include a large office or laboratory component and that manufacture, package, assemble or treat finished or semi finished products from previously prepared material but do not process raw materials. The following are exceptions to the list of permitted uses:
 - (1) Auto sales, new and used
 - (2) Auto/gasoline service stations of any type, principal or accessory
 - (3) Auto maintenance or repair establishment of any type
 - (4) Automobile wash, automatic or self serve

- (5) Banquet halls, assembly halls, dance halls, private clubs, fraternal order halls, lodge halls or similar places of assembly except where accessory to a permitted office or lodging use
 - (6) Carnivals, fairs, commercial cider mills and amusement parks
 - (7) Churches
 - (8) Convenience stores with gasoline sales
 - (9) Permanent or temporary dome structures
 - (10) Fruit stands (outdoor sales of fruit and nursery goods) except when accessory to a permitted use
 - (11) Kennels, of any kind
 - (12) Laundromats
 - (13) Leasing or sales or display of trucks, trailers, boats, recreational vehicles, construction equipment and similar vehicles
 - (14) Mini storage warehouses
 - (15) Outdoor commercial display, sales, storage or temporary staging of items as a principal or accessory use, unless screened from public view
 - (16) Outdoor private recreation facilities such as, but not limited to, miniature golf, driving ranges, batting cages, go cart tracks, and in line skating rinks
 - (17) Restaurants with drive through facilities, except Township Board may approve up to one upon determination that the project shall be integrated into the design concept for the overall PUD
 - (18) Educational establishments including public schools, parochial schools, vocational trade schools, colleges, universities and commercial schools such as dance academies or martial arts studios
 - (19) Industrial uses, except for a research and development uses, and micro breweries associated with a restaurant
 - (20) Any other use not specifically authorized under the appropriate zoning district
- (d) Traffic Circulation, Operations and Access
- (1) A traffic impact study shall be provided as described in Article 18. Such study shall evaluate the impact of the project at each access point and existing major intersections where volumes from the PUD are projected increase daily or hourly volumes by 5% or more. The traffic study shall include methods to mitigate impacts, and describe timing and responsibility for funding such improvements.

- (2) Access shall be limited to one major entrance along any arterial, excluding an entrance designed solely for truck traffic. Additional access points shall only be considered if spaced at least 500 feet apart and a traffic impact study demonstrates overall traffic operations and safety will be improved.
 - (3) Access points shall be at least 600 feet from the intersection of arterial roadways or interchange ramps provided the spacing may be modified by the Township, with input from road agency staff, to minimize conflicts with traffic operations at intersections or existing access points, or to meet signal spacing standards if it is determined the access may require signalization.
 - (4) Main access points shall be spaced from existing signalized intersections to ensure proper spacing and progression if the main access point is signalized in the future. The site design shall direct traffic flow to use the main access points.
 - (5) Interior drives shall provide circulation between uses.
 - (6) Stacking or queuing depth at site access points shall be sufficient to accommodate expected peak hour volumes without conflict to inbound or internal circulation.
 - (7) Additional right of way shall be provided to accommodate improvements to the existing arterial roadway system that are planned or required to mitigate traffic associated with the PUD.
 - (8) A pedestrian circulation system shall be provided throughout the site and along existing arterials.
- (e) Site Design. The following site elements shall be provided:
- (1) An extensively landscaped greenbelt shall be provided along existing public streets. Said greenbelt shall include closely spaced street trees and hedge rows to screen the parking lot. Low, undulating (horizontal and vertical) berms or an architectural feature (decorative stone or brick wall, wrought iron fencing, or combination) may be permitted.
 - (2) Site design and landscaping shall diminish the prominence of parking lots as viewed from public streets
 - (3) A Township entranceway landmark shall be provided near the intersection of any arterial streets or expressway ramps. The type and design of said landmark shall be determined as part of the conceptual plan approval.
 - (4) Pedestrian gathering and seating plazas, greenways and tree lined drives shall be within parking lots and throughout the site to provide an inviting pedestrian environment, protection of the pedestrian from vehicular circulation for improve traffic operations and views.
 - (5) One parking lot tree shall be provided for each 2000 square feet of paved parking, including aisles, service areas, driveways and drives. At least 1/2 of

the parking lot trees shall be within the parking lot inside islands or medians. A majority of the islands shall be a minimum 18 feet wide. Landscape areas shall be irrigated.

- (6) Ornamental lighting shall be provided along arterials and throughout major circulation drive within the site.
 - (7) Other site amenities to create a pedestrian scale environment shall be provided such as bike racks, benches, information kiosks, art, planters or streetscape elements to separate mainline buildings from the parking lots.
 - (8) Any detention areas visible from the roadway, parking lot, residential dwellings, primary entrances to buildings or other predominant views shall have a maximum 6:1 slope and be designed to have a natural appearance, such as variable shape, natural arrangement of landscape materials, aerated fountains, and use of boulder accent walls or other similar design features.
 - (9) Unless otherwise provided in the PUD agreement, Signs shall comply with the standards of Article 16, provided sign types and materials shall be consistent with the overall architectural design of the PUD, and all freestanding signs shall be monument type with a base to match the building materials and landscaping around the sign integrated into the overall landscape plan. Wall and monument signs shall be channel cut letters on non illuminated background panels. Temporary window signs shall be prohibited.
- (f) Architecture. Information on architecture and building design (elevations or perspectives, materials and description of design standards) shall be submitted with the concept plan and comply with the following:
- (1) Architecture throughout the development shall be compatible based on a design theme established with the Concept Plan and described in the PUD Agreement.
 - (2) Buildings shall utilize high quality architecture with variable building lines, peaked roofs, architectural accents, and brick facades. Peaked roof lines shall not be designed to create false, parapet style facades.
 - (3) The depth of the front building line shall be varied to break up the building massing.
 - (4) The predominant material utilized on facades that are visible from a public right of way or parking lots shall be brick. Other materials may be used for architectural accents, provided such materials shall have the appearance of wood or cut or cast stone.
 - (5) A building or buildings shall face (front facade or side elevation with appearance of a front facade) the intersection of existing arterial streets. The building(s) shall have distinct architecture that creates a prominent landmark at the intersection, with no loading or utility areas that face the intersection. There shall be a landscaped plaza in front of the building or between buildings. Parking shall be behind this building where practical.

- (g) Utilities. The Concept Plan shall include a Utility Master Plan, based on guidelines provided by the Township Engineer. The Utility Master Plan shall show connection points to existing utilities, and concepts for the layout, size and phasing of utilities.

10.03.06 Interchange Planned Unit Developments (Commercial and Campus)

(a) Intent. The intent of the Interchange PUDs is to promote comprehensive and long-term planning of appropriate land uses, innovative architectural design, high quality building materials, and a walkable environment for ~~visitors and travelers~~ pedestrians.

(b) Master Plan and Subarea Plans. All Interchange PUD proposals shall demonstrate conformance to the land use, site design, and access management strategies and recommendations contained within ~~of~~ the Genoa Township Master Plan and Subarea Plans.

(c) Land Use.

(1) ICPUD: permitted land uses include restaurants (fast food, sit-down, and take out), auto/gasoline service stations, retail/service, hotels, entertainment (movie theaters, indoor commercial recreation, etc.), conference centers, financial institutions, and offices. The Township may permit additional compatible uses as part of the approval process. The list of permitted uses proposed for a development shall be included in the PUD Agreement for review and approval by the Township. All proposed uses shall comply with the conditions of Section 7.02.02.

(2) CAPUD: The intent of the CAPUD district is to provide locations in the Township to accommodate offices, laboratories, and related "high tech" uses, involved in such activities as engineering, design, research and development, robotics research, prototype development, demonstration and display laboratories, testing laboratories, and other research and high technology activities of similar character and intensity.

It is intended that such uses be located in attractive buildings on amply landscaped, carefully planned sites, and preserving significant natural features. The activities of such uses do not generate offensive external impacts and oOperations that generate high levels of noise, heat or glare, air pollution, odors, wastewater, or truck traffic, are not considered appropriate in this district. The list of permitted uses proposed for a development shall be included in the PUD Agreement for review and approval by the Township.

The district is designed to provide sites for large-scale offices that provide a scientific and educational research function or directly serve manufacturing uses or other industrial or commercial enterprises (and not the general public). Provision is also made for small- and medium-scale industrial uses within the context of business parks that will maintain the campus-like setting. On a limited basis, complementary uses are permitted, such as restaurants that primarily serve employees in the immediate area.

The list of permitted uses proposed for a development shall be included in the PUD Agreement for review and approval by the Township.

a. Principal permitted uses include :

~~i. Research and development, development, design, testing, technical training, and related activities for industrial, scientific, educational, and business enterprises.~~

~~ii. Research and support laboratories for research, development and testing.~~

~~iii. Prototype manufacturing.~~

~~iv. Offices for the following occupations: executive, medical, dental, administrative, and professional, including architecture, planning, engineering and engineering sales.~~

~~Offices for the following occupations: Executive, administrative, and professional, including architecture, planning, engineering and engineering sales, but excluding medical and dental offices.~~

~~v. Hospitals, clinics and medical research facilities.~~

~~vi. Colleges, universities, and other institutions of higher learning.~~

~~vii. Corporate and technical education and training facilities.~~

~~viii. Multimedia production facilities.~~

~~ix. Microbrewer or small distiller.~~

~~Data processing and computer centers, including computer programming and software development, training, and service of electronic data processing equipment.~~

~~Telecommunications companies engaged in electronic transfer, routing, and processing of information.~~

~~Prototype manufacturing facilities for engineering, laboratory, scientific, electronic, and research instruments and equipment.~~

~~Light industrial uses which have as an accessory function light manufacturing, assembly, fabrication, or machining from processed materials, where such activities involve high technology industrial uses such as, but not limited to: Agricultural technology, biological or pharmaceutical research, software technology, telecommunications, biomedical~~

~~technology, fluid transfer and handling, defense and aerospace technology, and other emerging high technology industries.~~

- x. Essential public services and structures, not including buildings and storage yards.
- xi. Accessory uses, buildings, and structures customarily incidental to any of the above. Examples include security work, administration offices, and storage and distribution incidental to the primary use of the site.

b. Special land uses include:

- i. Any permitted use over 540,000 square feet.
- ii. Light Industrial uses including wholesale and warehousing uses as well as those enterprises engaged in the processing, manufacturing, compounding, assembly, packaging, treatment, or fabrication of materials and products, from processed or previously manufactured materials to form a non-combustible and non-explosive product.
- iii. Indoor commercial recreation or fitness centers (excluding dome structures).
- iv. Wireless communication facilities.
- v. Accessory restaurants, personal and business service uses that are intended to primarily serve the occupants and patrons of the principal use; provided that, any such uses shall be an incidental use. Permitted accessory restaurant and service uses shall be limited to the following:
 - 1. Personal and business service establishments as identified in Table 7.02 that are intended to serve workers and visitors in the district, such as dry cleaning establishments, travel agencies, tailor shops, and similar establishments.
 - 2. Restaurants, cafeterias, and other places serving food and beverages ~~for consumption within the building,~~ which are permitted by right in the NSD.

c. A use having the same character and intensity as those uses listed in this district as either principal permitted uses or special land uses, upon finding by the Township Board that any such proposed use, if permitted, would be consistent with the purpose and intent of the development agreement and would not impair the use and development of other nearby properties.

d. Required conditions. Except as otherwise noted, buildings and uses in the CAPUD shall comply with the following requirements:

- i. All uses and business activities shall comply with the use conditions of 7.02.02, 8.02.02, and the performance standards in article 13.05.
- ii. All business activity shall be conducted within a completely enclosed building, unless otherwise specified. Outdoor storage shall be prohibited, and any storage must be clearly accessory to the principal permitted use.
- iii. Notwithstanding the limitations on outside storage, commercially used or licensed vehicles used in the normal operation of a permitted use may be parked on the site in the rear only.

~~medical and dental offices, hospitals, professional office, colleges, universities and specialized training, and indoor commercial recreation.~~

~~Special land uses shall include indoor commercial recreation (excluding dome structures) and manufacturing research or research and development uses, defined as low intensity industrial uses that include a large office or laboratory component and that manufacture, package, assemble or treat finished or semi finished products from previously prepared material, but do not process raw materials.~~

~~Restaurants (those permitted by right in the NSD) and professional and business service establishments (as identified in Table 7.02) are allowed, but must be ancillary to a principal permitted use or special land use.~~

(d) Dimensional Standards: All buildings, structures, accessory structures and parking areas shall meet the minimum setback standards of the Industrial District for the CAPUD and the Regional Commercial District for the ICPUD as specified in the Table of Dimensional Standards, along the exterior boundaries of the site. Internal setbacks and maximum building height shall be determined by the Planning Commission during review of the PUD concept plan. To encourage flexibility and creativity consistent with the intent of the PUD, the Township may permit specific departures from the dimensional requirements of the Zoning Ordinance as a part of the approval process. Any regulatory modification shall be approved through a finding by the Township that the deviation shall result in a higher quality of development than would be possible using conventional zoning standards.

(e) Site Design. All Interchange PUD proposals shall comply with the standards of Section 10.03.05 e above.

(f) Architecture. All Interchange PUD proposals shall comply with the standards of Section 10.03.05 f above. The Planning Commission may allow for alternative innovative high quality exterior façade materials such as fiber cement and metal panels for buildings in the CAPUD district to create a research and office-park environment provided that the materials proposed to be used are found by the Planning Commission to be in keeping with the intent and purpose of this Section, in consideration of the character of surrounding uses and the design recommendations of the master plan.

~~Architecture. All Interchange PUD proposals shall comply with the standards of Section 10.03.05 f above.~~

(g) Access Management and Connectivity.

(1) ICPUD:

- a. No access points other than Beck Road are permitted along South Latson Road between the interchange and the rail line.
- b. Development shall incorporate shared access points to limit the number of driveways along Beck Road and shall comply with Section 15.06 Access Management.
- c. Acceptable road levels of service (LOS) shall be maintained by careful access management strategies and road improvements.
- a-d. Sites shall be designed to incorporate cross-access easements and connectivity for vehicular, bicycle, and foot traffic.

(2) CAPUD:

- a. The primary access to the area west of South Latson Road, south of the railroad, shall be aligned with Sweet Road.
- b. Secondary access points shall be limited and/or restricted. Restricted driveways shall be designed to be intuitive with minimal signage. All access points shall be aligned with access points across the road and shall be separated from other intersections and access points on the same side of the road by at least 500 feet.
- c. Sites shall be designed to incorporate frontage roads, service roads, and cross-access easements to allow connectivity for vehicular, bicycle, and foot traffic. The use of landscaped boulevards is encouraged.

(h) Utilities. The Concept Plan shall include a Utility Master Plan, based on guidelines provided by the Township Engineer. The Utility Master Plan shall show connection points to existing utilities, and adjacent properties where appropriate and concepts for the layout, size, and phasing of utilities, which shall include water, sanitary sewer and stormwater controls.

(i) Future Transition Area. Appropriately timed incremental southward expansion of the CAPUD is anticipated. Evaluation factors for expansion include the following considerations:

- (1) ~~The amount and capacity of undeveloped land remaining within the growth framework areas shall be analyzed and a determination shall be made that additional land area is needed to justify, which shall be used to satisfy the demand for development prior to expanding boundaries.~~
- (2) Projected population growth within the Township and demand for additional land areas for development.
- (3) Present and planned sanitary sewer capacity.

- (4) The capacity and condition of the road system.
- (5) The ability of the Township, County and other public agencies to provide necessary services to the new growth areas and the additional resulting population.
- (6) Impact on public health, safety and welfare.
- (7) Changes to conditions considered at the time of the subarea plan.
- (8) Inclusion of integrated open space for active and passive recreation.
- (9) Environmental constraints and sensitivity.
- (10) Adverse impact to adjacent or nearby property.
- (11) Sensitive transitions to residential and agricultural land can be achieved.
- (12) Other relevant criteria deemed appropriate by the Township.

Sec. 10.04 APPLICATION AND REVIEW PROCEDURE

10.04.01 Process for rezoning to appropriate PUD designation, Conceptual PUD Plan, Environmental Impact Statement and PUD Agreement.

- (a) An optional pre-application workshop with the Planning Commission may be requested by the applicant to discuss the appropriateness of a PUD concept, solicit feedback and receive requests for additional materials supporting the proposal. An applicant desiring such a workshop shall request placement on the Planning Commission agenda.
- (b) The applicant shall prepare and submit to the Zoning Administrator a request for rezoning to the appropriate PUD designation. The application shall include all Conceptual Submittal items listed in Section 10.05 and shall be submitted in accordance with the procedures and requirements set by resolution of the Township Board.
- (c) The Planning Commission shall review the rezoning request, the Conceptual PUD Site Plan, the Impact Statement and PUD Agreement, conduct a public hearing, and make a recommendation to the Township Board and Livingston County Planning Commission based on the review standards of Section 10.07. Notice of public hearing shall be provided for in accordance with section 21.05.
- (d) Within thirty (30) days following receipt of a recommendation from the Planning Commission, the Livingston County Planning Commission shall conduct a public hearing on the requested PUD rezoning and make a recommendation for approval or denial to the Township Board.
- (e) The applicant shall make any revisions to incorporate conditions noted by the Planning Commission and submit the required copies to the Zoning Administrator to provide sufficient time for review prior to the Township Board meeting.

- (f) Within ninety (90) days following receipt of a recommendation from the Planning Commission and Livingston County, the Township Board shall conduct a public hearing on the requested PUD rezoning, Conceptual PUD Site Plan and PUD Agreement and either approve, deny or approve with a list of conditions made part of the approval. Notice of public hearing shall be provided for in accordance with section 21.05. The Township Board may require a resubmittal of the application reflecting the conditions for approval by the Zoning Administrator, and Township consultants if appropriate. (as amended 12/31/06)

10.04.02 **Expiration:** Approval of the Conceptual PUD Site Plan by the Township Board shall confer upon the owner the right to proceed through the subsequent planning phase for a period not to exceed two (2) years from date of approval. If application for Final PUD Site Plan approval is not requested within this time period, resubmittal of a new PUD concept plan and application shall be required. The Township Board may extend the period up to an additional two (2) years, if requested in writing by the applicant prior to the expiration date.

10.04.03 **Process for Final PUD Site Plan(s)**

- (a) The applicant shall submit the required copies of all necessary information meeting the requirements of Section 10.06 of this ordinance to the Zoning Administrator at least thirty (30) days prior to the Planning Commission meeting at which the Planning Commission shall first review the request. If the PUD involves a platted subdivision, the Final Site Plan may be processed concurrently as a Preliminary Plat.
- (b) Upon submission of all required materials and fees, the Planning Commission shall review the Final PUD Plan, the Impact Statement, and PUD Agreement and make a recommendation to the Township Board based on the review standards of Section 10.08.
- (c) The applicant shall make any revisions to incorporate conditions noted by the Planning Commission and submit the required copies to the Zoning Administrator to provide sufficient time for review prior to the Township Board meeting.
- (d) Within ninety (90) days following receipt of a recommendation from the Planning Commission, the Township Board shall conduct a public hearing on the requested Final PUD Plan, the Environmental Impact Statement, and PUD Agreement and either approve, deny or approve with a list of conditions made part of the approval. The Township Board may require a resubmittal of the application reflecting the conditions for approval by the Zoning Administrator, and Township consultants if appropriate. (as amended 3/5/10)
- (e) If the Final PUD Site Plan was approved with conditions, the applicant shall submit a revised site plan to the Zoning Administrator for approval prior to the issuance of any building permits.

Sec 10.05 CONCEPTUAL SUBMITTAL REQUIREMENTS

The purpose of the conceptual review is to provide a mechanism whereby the applicant can obtain a substantial review of the proposed project in order to prepare final site engineering and architecture plans, and to execute necessary agreements between the applicant and the Township. The required number of copies of each of the following items shall be submitted by the applicant or as required by the Township:

- 10.05.01 Current proof of ownership of the land to be utilized or evidence of a contractual ability to acquire such land, such as an option or purchase agreement.
- 10.05.02 A completed application form, supplied by the Zoning Administrator, and an application fee. A separate escrow deposit may be required for administrative charges to review the PUD submittal.
- 10.05.03 An Impact Assessment meeting the requirements of Article 18. A traffic impact study may be required at the discretion of the Township or as otherwise stated in this ordinance which meets the requirements of Article 18.
- 10.05.04 A complete PUD Agreement for review which shall:
- (a) Set forth the conditions upon which the approval is based, with reference to the approved Site Plan or Plat Plan and Impact Statement and a description of all deviations from Township regulations that have been requested and approved.
 - (b) When open space or common areas are indicated in the PUD plan for use by the residents, the open space or common areas shall be conveyed in fee, placed under a conservation easement or otherwise committed by dedication to an association of the residents, and the use shall be irrevocably dedicated in perpetuity and retained as open space for park, recreation, conservation or other common uses.
 - (c) Set forth a program and financing for maintaining common areas and features, such as walkways, signs, lighting and landscaping.
 - (d) Assure that trees and woodlands will be preserved as shown on the site plan, or replaced on a caliper for caliper basis.
 - (e) Assure the construction, improvement and maintenance of all streets and necessary utilities (including public water, wastewater collection and treatment) to mitigate the impacts of the PUD project through construction by the developer, bonds or other satisfactory means, for any and all phases of the PUD. In the case of phased PUD's this requirement shall be reviewed at the time of any final site plan approval.
 - (f) Address any other concerns of the Township regarding construction and maintenance.
- 10.05.05 Sheet size of submitted drawings shall be at least 24-inches by 36 inches, with graphics at an engineer's scale.
- 10.05.06 Cover Sheet providing:
- (a) the applicant's name;
 - (b) the name of the development;
 - (c) the preparer's name and professional seal of architect, engineer, surveyor or landscape architect indicating license in the State of Michigan;
 - (d) date of preparation and any revisions;

- (e) north arrow;
- (f) property lines and dimensions;
- (g) complete and current legal description and size of property in acres;
- (h) small location sketch of the subject site and area within one-half mile; and scale;
- (i) zoning and current land use of applicant's property and all abutting properties and of properties across any public or private street from the PUD site;
- (j) lot lines and all structures on the property and within one-hundred (100) feet of the PUD property lines;
- (k) location of any access points on both sides of the street within one-hundred (100) feet of the PUD site along streets where access to the PUD is proposed.

10.05.07 A Plan Sheet(s) labeled Existing Site Conditions, including the location of existing buildings and structures, rights-of-way and easements, significant natural and historical features, existing drainage patterns (by arrow), surface water bodies, floodplain areas, wetlands over two acres in size, the limits of major stands of trees and a tree survey indicating the location, species and caliper of all trees with a caliper over eight (8) inches, measured four feet above grade. This sheet shall also illustrate existing topography of the entire site at two (2) foot contour intervals and a general description of grades within one-hundred (100) feet of the site. A reduced copy of this sheet may be included in the Impact Statement.

10.05.08 For projects with a residential component, a concept plan that illustrates how the site could be practically developed under current zoning standards. This drawing may be used to determine the base density of the project.

10.05.09 A Conceptual PUD Site Plan Sheet including:

- (a) Conceptual layout of proposed land use, acreage allotted to each use, residential density overall and by underlying zoning district (calculations shall be provided for both overall and useable acreage), building footprints, structures, roadways, parking areas, drives, driveways, pedestrian paths, gathering areas and identification signs. Calculations of the size of uses to confirm compliance with Section 10.03.04 for the Non-residential PUD option.

Note: Useable area is total area less public road rights-of-way, year-round surface water bodies, and MDNR regulated wetlands.

- (b) Building setbacks and spacing.
- (c) General location and type of landscaping proposed (evergreen, deciduous, berm, etc.) noting existing trees over eight inches in caliper to be retained, and any woodlands that will be designated as "areas not to be disturbed" in development of the PUD.
- (d) A preliminary layout of contemplated storm water drainage, detention pond location, water supply and wastewater disposal systems, any public or private easements, and a note of any utility lines to be removed.

- (e) Calculations to demonstrate compliance with minimum open space requirements shall be provided.
- (f) Preliminary architectural design information shall be provided to the satisfaction of the Township.
- (g) If a multi-phase Planned Unit Development is proposed, identification of the areas included in each phase. For residential uses identify the number, type, and density proposed by phase.
- (h) A Utility Master Plan shall be required based on guidelines provided by the Township Engineer. The Utility Master Plan shall show connection points to existing utilities, and concepts for layout, size and phasing of utilities.

Sec. 10.06 FINAL PUD SITE PLAN SUBMITTAL REQUIREMENTS

The final submittal shall include the required number of copies of each of the following items:

- (a) All materials required by Article 18, Site Plan Review, including an Impact Statement and Traffic Impact Statement as required.
- (b) A hydrologic impact assessment describing the existing ground and surface water resources including, but not limited to, a description of the water table, direction of groundwater flow, recharge and discharge areas, lake levels, surface drainage, floodplains, and water quality as well as the projected impact of the proposed development on such resources, in particular impacts associated with water supply development, wastewater disposal, and storm water management.
- (c) A final copy of the approved PUD Agreement that meets the requirements outlined in Section 10.05.04.
- (d) Non-Residential Projects: Additional information required for a complete review under the standards of Section 10.03.04.
- (e) Any other additional information deemed appropriate by the Township.

Sec. 10.07 STANDARDS FOR APPROVAL OF CONCEPTUAL PUD SITE PLAN

10.07.01 **Standards for Approval.** Based upon the following standards, the Planning Commission may recommend denial, approval, or approval with conditions, and the Township Board may deny, approve, or approve with conditions the proposed planned unit development.

- (a) The planned unit development meets the qualification requirements.
- (b) The uses proposed shall have a beneficial effect, in terms of public health, safety, welfare, or convenience, on present and future potential surrounding land uses. The uses proposed will not adversely affect the public utility and circulation system, surrounding properties, or the environment. The public benefit shall be one which could not be achieved under the regulations of the underlying district alone, or that of any other zoning district.

- (c) The planned unit development is generally consistent with the goals, objectives and land use map of the Master Plan.
- (d) Judicious effort has been used to preserve significant natural and historical features, surface and underground water bodies and the integrity of the land.
- (e) Public water and sewer facilities are available or shall be provided for by the developer as part of the site development. The Planning Commission may approve an RPUD without public water and sewer, provided all lots shall be at least one (1) acre in area and the requirements of the County Health Department are met.
- (f) Safe, convenient, uncongested, and well-defined vehicular and pedestrian circulation within and to the site is provided. Roads and driveways shall comply with the Township Subdivision Control Ordinance, Livingston County Road Commission standards and the private road regulations of Article 15, as applicable. Drives, streets and other elements shall be designed to discourage through traffic, while promoting safe and efficient traffic operations within the site and at its access points. The site shall provide for inter-connection of roads and the future integration of circulation between adjacent sites.
- (g) Common open space shall be provided including natural areas, community greens, plazas and recreation areas. The open space and all other elements shall be in an appropriate location, suitably related to each other, the site and surrounding lands. The common open space may either be centrally located along the road frontage of the development, located to preserve significant natural features, or located to connect open spaces throughout the development. Connections with adjacent open space, public land or existing or planned pedestrian/bike paths may be required by the Township. Grading in the open space shall be minimal, with the intent to preserve existing significant topographic features, where such resources exist.
- (h) Any deviations from the applicable zoning regulations are reasonable and meet the intent of this Article.

10.07.02 **Conditions.** The Township Board may impose additional reasonable conditions to: 1) insure that public services and facilities affected by a Planned Unit Development will be capable of accommodating increased service and facility loads caused by the Planned Unit Development, 2) protect the natural environment and conserve natural resources and energy, 3) insure compatibility with adjacent uses of land, and 4) promote the use of land in a socially and economically desirable manner.

Sec. 10.08 FINAL PUD SITE PLAN APPROVAL STANDARDS

Based upon the following standards, the Planning Commission may recommend denial, recommend approval, or approval with conditions, and the Township Board may deny, approve with conditions the proposed planned unit development.

10.08.01 **Consistency with Preliminary PUD.** The Final PUD Plan and associated documents shall be reviewed for consistency with the approved Conceptual PUD Plan, PUD Agreement and associated documents and any conditions required by the Township.

- 10.08.02 **Final Site Plan Review.** The Final PUD Plan and associated documents shall be reviewed in accordance with Article 18 Site Plan Review, Township Subdivision Regulations, Township Condominium Ordinance and any other applicable regulatory document.
- 10.08.03 **Non-residential.** Non-residential PUD projects shall be reviewed for compliance with the standards set forth in Section 10.03.04.
- 10.08.04 **Conditions.** The Township may impose additional reasonable conditions to: 1) insure that public services and facilities affected by a Planned Unit Development will be capable of accommodating increased service and facility loads caused by the Planned Unit Development, 2) protect the natural environment and conserve natural resources and energy, 3) insure compatibility with adjacent uses of land, and 4) to promote the use of land in a socially and economically desirable manner.
- 10.08.05 **Phases.** For a PUD that is being developed in phases, final site plan approval for each phase shall be conditioned upon continued compliance of all phases with the Conceptual PUD Plan and PUD Agreement, as may be amended by the Township. The Township Board may postpone the approval of any final site plan for subsequent phases until previously approved phases of the PUD are brought into compliance with the requirements of the Conceptual PUD Plan and PUD Agreement.

Sec. 10.09 SCHEDULE OF CONSTRUCTION

- 10.09.02 **Construction.** Final site plan approval of a PUD, PUD phase or a building within a PUD shall be effective for a period of three (3) years. Further submittals under the PUD procedures shall be accepted for review upon a showing of substantial progress in development of previously approved phases, or upon a showing of good cause for not having made such progress.
- 10.09.04 **Residential Phasing.** In the development of a PUD, the percentage of one-family dwelling units under construction, or lots sold, shall be at least in the same proportion to the percentage of multiple family dwelling units under construction at any one time, provided that this Section shall be applied only if one-family dwelling units comprise twenty-five (25%) percent or more of the total housing stock proposed for the PUD. Non-residential structures designed to serve the PUD residents shall not be built until the PUD has enough dwelling units built to support such non-residential use. The Planning Commission may modify this requirement in their conceptual or final submittal review process.

Sec. 10.10 APPEALS AND VIOLATIONS

- 10.10.01 **Zoning Board of Appeals:** The Zoning Board of Appeals shall have the authority to hear and decide appeal requests by individual lot owners for variances from the Genoa Township Zoning Ordinance following final approval of the PUD. However, the Zoning Board of Appeals shall not have the authority to reverse the decision of the Township Board on a PUD concept, or final site plan, change any conditions placed by the Planning Commission, or Township Board or grant variances to the PUD site plan, written PUD agreement or the requirements of this article.
- 10.10.02 **Violations:** A violation of the PUD plan or agreement shall be considered a violation of this Ordinance.

Sec. 10.11 AMENDMENTS AND DEVIATIONS FROM APPROVED FINAL PUD SITE PLAN

- 10.11.01 **Deviations following approval:** Deviations following approval of the Final PUD Site Plan may occur only when an applicant or property owner who was granted Final PUD Site Plan approval notifies the Zoning Administrator of the proposed amendment to such approved site plan in writing, accompanied by a site plan illustrating the proposed change. The request shall be received prior to initiation of any construction in conflict with the approved Final PUD Site Plan.
- 10.11.02 **Procedure:** Within fourteen (14) days of receipt of a request to amend the Final PUD Site Plan, the Zoning Administrator shall determine whether the change is major, warranting review by the Planning Commission, or minor, allowing administrative approval, as noted below.
- 10.11.03 **Minor changes:** The Zoning Administrator may approve the proposed revision upon finding the change would not alter the basic design nor any conditions imposed upon the original plan approval by the Planning Commission. The Zoning Administrator shall inform the Planning Commission of such approval in writing. The Zoning Administrator shall consider the following when determining a change to be minor.
- (a) For residential buildings, the size of structures may be reduced; or increased by five percent (5%), provided the overall density of units does not increase and the minimum square footage requirements are met.
 - (b) Gross floor area of non-residential buildings may be decreased; or increased by up to five percent (5%) or 10,000 square feet, whichever is smaller.
 - (c) Floor plans may be changed if consistent with the character of the use.
 - (d) Horizontal and/or vertical elevations may be altered by up to five percent (5%).
 - (e) Relocation of a building by up to five (5) feet, if consistent with required setbacks and other standards.
 - (f) Designated "Areas not to be disturbed" may be increased.
 - (g) Plantings approved in the Final PUD Landscape Plan may be replaced by similar types of landscaping on a one-to-one or greater basis. Any trees to be preserved which are lost during construction may be replaced by at least two (2) trees of the same or similar species.
 - (h) Improvements or slight relocation of site access or circulation, such as inclusion of deceleration lanes, boulevards, curbing, pedestrian/bicycle paths, etc.
 - (i) Changes of building materials to another of higher quality, as determined by the Zoning Administrator.
 - (j) Slight modification of sign placement or reduction of size.
 - (k) Internal rearrangement of parking lot which does not affect the number of parking spaces or alter access locations or design.
 - (l) Changes required or requested by the Township, County or state for safety reasons.

- 10.11.04 **Major Changes:** Where the Zoning Administrator determines the requested amendment to the approved Final PUD Site Plan is major, resubmittal to the Planning Commission shall be required. Should the Planning Commission determine that the modifications to the Final PUD Site Plan significantly alter the intent of the Conceptual PUD Site Plan, a revised conceptual PUD Site Plan shall be submitted according to the procedures outlined in Section 10.04 illustrating the modification shall be required.

**ARTICLE 25
DEFINITIONS**

Sec. 25.01 CONSTRUCTION OF LANGUAGE

The following rules of construction apply to the text of this Ordinance:

- a. The particular shall control the general.
- b. In the case of any difference of meaning or implication between the text of this ordinance and any caption or illustration, the text shall control.
- c. The word "shall" is always mandatory and not discretionary. The word "may" is permissive, with the decision made by the Township Zoning Administrator, Planning Commission, Township Board or Zoning Board of Appeals; as indicated.
- d. Words used in the present tense shall include the future and words used in the singular number shall include the plural, and the plural the singular, unless the context clearly indicates the contrary.
- e. The word "building" includes the word "structure." The word "build" includes the words "erect" and "construct." A "building" or "structure" includes any part thereof.
- f. The phrase "used for" includes "arranged for," "designed for," "intended for," "maintained for," or "occupied for."
- g. The term "including" means "including, but not limited to" and the term "such as" means "such as, but not limited to" unless otherwise noted.
- h. The word "person" includes an individual, a corporation, a partnership, an incorporated association, or any other similar entity recognizable as a "person" under the laws of Michigan.
- i. Unless the context clearly indicates the contrary, where a regulation involves two or more items, conditions, provisions or events connected by the conjunction "and," "or," "either...or," the conjunction shall be interpreted as follows:
 - 1) "And" indicates that all the connected items, conditions, provisions or events shall apply.
 - 2) "Or" indicates that the connected items, conditions, provisions, or events may apply singly or in any combination (i.e. "or" also means "and/or").
 - 3) "Either...or" indicates that the connected items, conditions, provisions or events shall apply singly but not in combination.
- j. The terms "abutting" or "adjacent to" include property along the lot lines of the subject site including those in another community, but do not include lands separated by a public street right-of-way.
- k. The word "days" shall mean calendar days and include all weekend days and holidays.
- l. Terms not herein defined shall have the meaning customarily assigned to them.

Sec. 25.02 **DEFINITIONS**

Access Management: A technique to improve traffic operations and safety along a major roadway through the control of driveway locations and design; consideration of the relationship of traffic activity for properties adjacent to, and across from, one another; and the promotion of alternatives to direct access.

Accessory Building Or Structure: A detached structure on the same lot with, and of a nature customarily incidental and subordinate to, a principal structure, and occupied or devoted exclusively to an accessory use.

Accessory Use: A use which is clearly incidental to, customarily found in connection with and located on the same zoning lot, unless otherwise specified, as the principal use to which it is related.

When "accessory" is used in this Zoning Ordinance, it shall have the same meaning as accessory use.

An accessory use includes, but is not limited to, the following:

- a. Domestic or agricultural storage in a barn, shed, stable, tool room, garage or similar accessory building or other structure.
- b. Decks, whether attached or detached from a principal structure, porches, gazebos and playground equipment.
- c. Residential accommodations for servants or caretakers, when exclusively permitted.
- d. Swimming pools for the use by occupants of a residence, or their guests; and change rooms.
- e. A newsstand primarily for the convenience of the occupants of a building, which is located wholly within such building and has no exterior signs or displays.
- f. Storage of merchandise normally carried in stock in connection with a business or industrial use, and storage of goods used in or produced by commercial or industrial uses, unless such storage is excluded in the applicable district regulations. Outdoor display, sales and storage in a commercial or industrial district requires a Special Use Permit, as described in Article 12.
- g. Accessory off-street parking spaces, open or enclosed, subject to the accessory off-street parking regulations for the district in which the zoning lot is located (Article 14).
- h. Accessory off-street loading, subject to the off-street loading regulations for the district in which the zoning lot is located.
- i. Signs, subject to the standards contained in Article 16.
- j. Fences when constructed and located in accordance with the requirements of this Ordinance.
- k. Uses customary and clearly incidental to a principal use such as, offices of a manufacturing or warehousing use contained in the same principal structure. Where two or more activities take place within a principal building, the accessory use shall generally be the use occupying the least square footage or generating the least amount of traffic or other external impacts. Interpretation of accessory v. principal use shall be made by the Zoning Administrator.

Adult Day Care: A facility which provides care for over twelve (12) adults for less than 24 hours.

Adult Care Facilities: A facility for the care of adults, over eighteen (18) years of age, as licensed and regulated by the State under Michigan Public Act 218 of 1979, and rules promulgated by the State Department of Social Services. Such organizations shall be defined as follows:

- a. **Adult Foster Care Facility:** means a governmental or nongovernmental establishment that provides foster care to adults. It includes facilities and foster care homes for adults who are aged, mentally ill, developmentally disabled, or physically handicapped who require supervision on an ongoing basis but who do not require continuous nursing care. An adult foster care facility does not include nursing homes, homes for the aged, hospitals, alcohol or substance abuse rehabilitation center, or a residential center for persons released from or assigned to a correctional facility.
- b. **Adult Foster Care Small Group Home:** means a private home with the approved capacity to receive 12 or fewer adults who are provided supervision, personal care, and protection in addition to room and board, for 24 hours a day, 5 or more days a week, and for 2 or more consecutive weeks for compensation.
- c. **Adult Foster Care Large Group Home:** means a private home with approved capacity to receive at least 13 but not more than 20 adults to be provided supervision, personal care, and protection in addition to room and board, for 24 hours a day, 5 or more days a week, and for 2 or more consecutive weeks for compensation.
- d. **Adult Foster Care Family Home:** means a private home with the approved capacity to receive 6 or fewer adults to be provided with foster care for 5 or more days a week and for 2 or more consecutive weeks. The adult foster care family home licensee must be a member of the household and an occupant of the residence.
- e. **Congregate Facility:** Residence for more than twenty (20) adults.

Adult Regulated Use: for the purpose of this ordinance, the following definitions shall be classified as adult regulated uses (adult entertainment use or establishment):

- a. **Adult Book Or Video Store:** An establishment that has a substantial portion of its stock in trade and offers for sale, for any form of consideration, any one or more of the following: a.) books, magazines, periodicals, or other printed matter, or photographs, films, movies, motion pictures, video cassettes, compact disks, slides, or other visual representations that are characterized by an emphasis on matter depicting, describing or related to specified sexual activities or specific anatomical areas, as hereinafter defined.
- b. **Adult Smoking Or Sexual Paraphernalia Store:** An establishment having, as a substantial portion of its stock in trade and offers for sale, for any form of consideration, paraphernalia designed or usable for sexual stimulation or arousal or for smoking, ingesting or inhaling marijuana, narcotics or other stimulating or hallucinogenic drug-related substances.
- c. **Adult Theater or Entertainment Center:** An establishment used for live performances or presenting material by means of motion pictures, films, video tapes or receivers, photographic slides or other similar means of projection or display, which performances or material is distinguished or characterized by an emphasis on matter depicting, describing or related to specified anatomical areas or specified sexual activities, as hereinafter defined for observation by patrons therein, including an establishment which features any of the following: topless dancers and/or bottomless dancers, strippers, waiters, waitresses or employees.

- d. **Host or Hostess Establishment:** An establishment or club offering socialization with a host or hostess for a consideration to the host or hostess or for an admission or membership fee.
- e. **Massage Parlor:** An establishment having a substantial portion of its space devoted to massages of the human body or parts thereof by means or pressure, imposed friction, stroking, kneading, rubbing, tapping, pounding, vibrating or otherwise stimulating the same with hands, other parts of the human body, mechanical devices, creams, ointments, oils, alcohol or any other means of preparations to provide relaxation or enjoyment to the recipient. The following uses shall not be included in the definition of a massage parlor:
 - 1. establishments which routinely provide such services by a licensed physician, a licensed chiropractor, a licensed osteopath, a licensed physical therapist, a licensed nurse practitioner, a therapeutic massage practitioner as defined in this Ordinance or any other similarly licensed medical professional;
 - 2. fitness center;
 - 3. electrolysis treatment by a licensed operator of electrolysis equipment; and
 - 4. hospitals, nursing homes, medical clinics or medical offices.
- f. **Sauna, Hot Tub or other Similar Health or Body Improvement or Enjoyment Enterprise:** An establishment having a substantial portion of its space devoted to saunas, hot tubs, whirlpools, sun lamps and similar body relaxing, soothing or improving facilities which are available for male and female customers with or without supervision or participation by employees or independent contractors of the business, excluding retail establishments which provide for the sale of new saunas, hot tubs or other similar health or body improvement or enjoyment items.
- g. **Specified Anatomical Areas:** Specified anatomical areas means and includes any one or more of the following: a) less than completely covered human genitals, pubic region, buttocks, anus, or female breasts below a point immediately above the top of the areola; or b) human male genitals in a discernible turgid state, even if completely and opaquely covered.
- h. **Specified Sexual Activities:** Specified sexual activities means and includes any one or more of the following: a) the fondling or erotic touching of human genitals, pubic region, buttocks, anus, or female breasts; b) human sex acts, normal or perverted, actual or simulated, including but not limited to intercourse, oral copulation, or sodomy; c) human masturbation, actual or simulated; d) human excretory functions as part of, or as related to, any of the activities described above; and e) physical violence, bondage, mutilation, or rape, actual or simulated, as part of or as related to, any of the activities described above.
- i. **Substantial Portion:** Substantial portion means a use or activity accounting for more than twenty (20%) percent of any one or more of the following: stock-in-trade, display space, floor space, or viewing time, movie display time, or entertainment time measured per month.

Alteration: Any change, addition or modification in construction or type of occupancy, or in the structural members of a building, such as walls or partitions, columns, beams or girders, the consummated act of which may be referred to herein as "altered" or "reconstructed".

Animal, Domesticated (Pet): An animal that is commonly considered capable of being trained or is capable of adapting to living in a human environment and being of use to human beings, and which is not likely to bite without provocation nor cause death, maiming or illness to human beings, including by way of example: bird (caged), fish, rodent (bred, such as a gerbil, rabbit, hamster or guinea pig), cat (domesticated), lizard (non-poisonous), and dog. Wild, vicious, or exotic animals shall not be considered domesticated. Animals bred, raised or boarded for commercial purposes are not considered pets.

Animal, Non-Domesticated, Vicious Or Exotic: Any animal that attacks, bites, or injures human beings or domesticated animals without adequate provocation, or which because of temperament, conditioning, or training, has a known propensity to attack, bite, or injure human beings or domesticated animals. Or, an animal from a species which is not commonly domesticated or kept as livestock, or which is not native to the State of Michigan, or a species which, irrespective of geographic origin, is of wild or predatory character, or which because of size, aggressive or vicious characteristics would constitute an unreasonable danger to human life or property if not kept, maintained or confined in a safe and secure manner, including any hybrid animal that is part exotic animal.

Animal Shelter: A facility operated by a licensed individual, humane society, a society for the prevention of cruelty to animals or any other similar institutions. A facility where animals are housed for an extended period of time and are available for adoption/placement.

Apartments: A suite of rooms or a room in a multiple-family building arranged and intended for a place of residence of a single-family or a group of individuals living together as a single housekeeping unit.

Arcade: The use of a building or a portion of a building for the location, operation, and placement of five (5) or more mechanical amusement devices. Mechanical amusement devices shall mean any device, apparatus, mechanical equipment or machine operated as amusement for required compensation. The term does not include vending machines used to dispense foodstuffs, toys, or other products for use and consumption.

As-built plans: Revised construction plans in accordance with all approved field changes.

Auto repair establishment, major: An automotive repair establishment which may conduct, in addition to activities defined below as "minor repairs," one or more of the following: general repair, engine rebuilding, rebuilding or reconditioning of motor vehicles, collision service, such as body, frame, or fender straightening and repair; overall painting and undercoating of automobiles, major overhauling of engine requiring removal of cylinder-head or crank casepan, recapping or retreading of tires, steam cleaning and similar activities.

Auto repair establishment, minor: An automotive repair establishment that conducts maintenance and minor repair, including one or more of the following: oil change, tire and brake service, exhaust system repair, glass repair and audio, and alarm installation.

Automobile Body Repair Station: includes buildings and premises where, along with the sale of engine fuels, the following services may be carried out: general repair, engine rebuilding, rebuilding or reconditioning of motor vehicles; collision service, such as body, frame or fender straightening and repair; overall painting and undercoating of automobiles.

Automobile (Gasoline) Service Station: includes buildings and premises for the primary purpose of the retail sales of gasoline (stored only in underground tanks), oil, grease, batteries, tires and other operational fluids and accessories for the automobile, and the installation of such commodities, and for other minor automobile repair not to include: auto refinishing, body work, dismantling of automobiles for the purpose of reuse or resale of parts, or storage of automobiles other than those in for immediate repair or service. Sales of convenience items shall be considered an accessory use when occupying no more than twenty-five percent (25%) of the gross floor area.

Automobile Wash: includes any building or structure or portion thereof containing facilities for washing motor vehicles using production line methods with a conveyor, blower, steam cleaning device or other mechanical washing devices; and shall also include coin and attendant operated drive-through, automatic

self-serve, track mounted units and similar high volume washing establishments, but shall not include hand washing operations in an "Automobile service station."

Bar/lounge/tavern: A bar or lounge is a type of restaurant which is operated primarily for the dispensing of alcoholic beverages, although the sale of prepared food or snacks may also be permitted. If a bar or lounge is part of a larger dining facility, it shall be defined as that part of the structure so designated or operated.

Basement: The portion of a building which is partially or wholly below grade but so located that the vertical distance from the mean grade to the floor is greater than the vertical distance from the mean grade to the ceiling (see Figure 25.1). A basement shall not be counted as a story.

Bed and Breakfast Inn: Shall mean any dwelling in which overnight accommodations are provided or offered for transient guest for compensation, including provision for a morning meal only for the overnight guest only. A bed and breakfast is distinguished from a motel in that a bed and breakfast establishment shall have only one set of kitchen facilities, employ only those living in the house or up to one (1) additional employee, and have facade style consistent with surrounding homes.

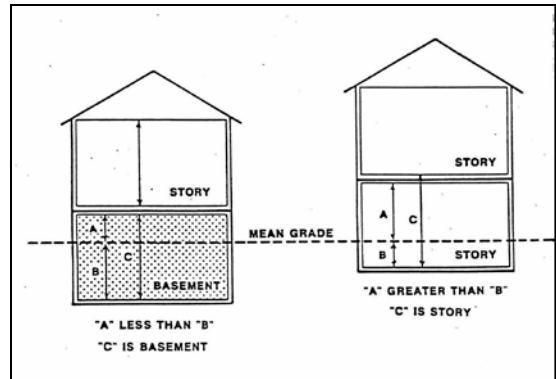


Figure 25.1 Basement

Block: The property abutting one side of a street and lying between the two nearest intersecting streets, crossing or terminating) or between the nearest such street and railroad right-of-way, unsubdivided acreage, lake, river or live stream; or between any of the foregoing and any other barrier to the continuity of development, or corporate boundary lines of the Municipality.

Block Face: Defined as and consists of those properties fronting along an existing right-of-way and located between the intersections of existing streets, or between intersections and dividers such as rivers, rail-roads, and other similar natural or man-made features.

Board of Appeals: (also referred to in this Zoning Ordinance as the Board of Zoning Appeals). The body established by the Township Board to exercise the authority granted by the Michigan Zoning Enabling Act (Public Act 110 of 2006). The jurisdiction of the Board of Appeals is described in Article 23. (as amended 12/31/06)

Buffer Zone: A strip of land with landscaping, berms or walls singularly or in combination required between certain zoning districts based on the landscaping standards of this zoning ordinance. The intent of the required buffer zones is to lessen visual and noise impacts.

Building: Any structure (excluding fences) either temporary or permanent, having a roof supported by columns or walls, and intended for the shelter, or enclosure of persons, animals, chattels, or property of any kind. A building shall include mobile homes, manufactured housing, sheds, garages, greenhouses, pole barns and used for the purposes of a building and similar structures. A building shall not include such structures as signs, fences or smokestacks, but shall include structures such as storage tanks, produce silos, coal bunkers, oil cracking towers, or similar structures.

Building Envelope: The ground area of a lot which is defined by the minimum setback and spacing requirements within which construction of a principal building and any attached accessory structures (such as a garage) is permitted by this Ordinance. For condominium developments, the building envelope shall be illustrated on a site plan.

Building Height: The vertical distance from the grade at the center of the front of the building to the highest point of the roof surface in a flat roof, to the deck line for mansard roofs, and to the beam height level between eaves and ridge for gable, hip and gambrel roofs (see Figure 25.2).

Building Line: A horizontal line parallel to a front, side or rear lot line which is located at the point of principal exterior wall or structural feature nearest the front, side or rear lot line, not including permitted yard projections. (See Figure 25.3)

Building Permit: An authorization issued by the Livingston County Building Department to move, erect or alter a structure within the Township.

Business: A company, enterprise or similar organization designed to provide goods or services to consumers. A business may provide goods or services to the public or cliental on-site, such as with retail sales, or be involved in the administration, production, distribution or storage of goods to be provided at another location, such as with manufacturing. A business may include any commercial, office, institutional or industrial use (see "Use"). (as amended 3/5/10)

Caliper: The diameter of a deciduous (canopy) tree trunk measured as follows:

- a. Existing trees are measured at four and one-half (4.5) feet above the average surrounding grade; and,
- b. Trees which are to be planted shall be measured twelve (12) inches above the average surrounding grade if the tree caliper is more than four (4) inches, or if the tree caliper is less than four (4) inches, it shall be measured at six (6) inches above the average surrounding grade.

Caretaker (living quarters): An independent residential dwelling unit or living area within a principal building designed for and occupied by no more than two (2) persons, where at least one (1) is employed to provide services or to look after goods, buildings, or property on the parcel on which the living quarters are located.

Cemetery: Land used or intended to be used for burial of the human dead and dedicated for such purposes. Cemeteries include accessory columbaria and mausoleums, but exclude crematories.

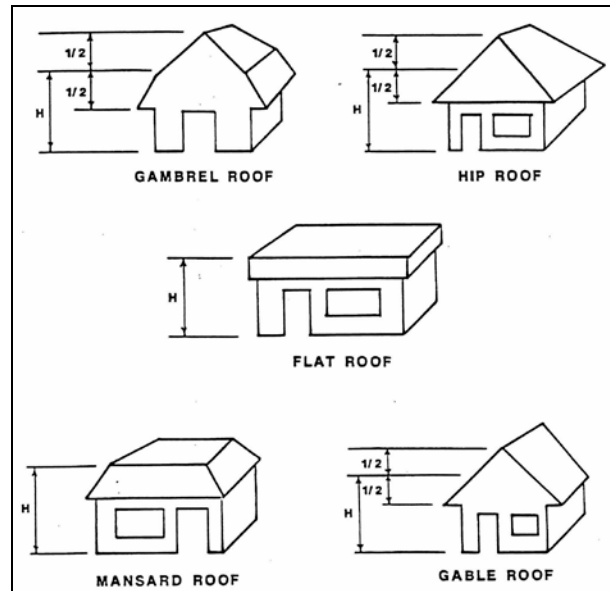


Figure 25.2 Building Height

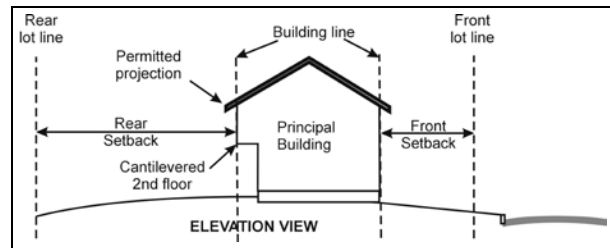


Figure 25.3 Building Line

Child Care Facility: A facility for the care of children under eighteen (18) years of age, as licensed and regulated by the State under Michigan Public Act 116 of 1973 and the associated rules promulgated by the State Department of Social Services. Such organizations shall be further defined as follows:

- a. **Child Care or Day Care Center:** A facility, other than a private residence, receiving more than six pre-school or school age children for group care for periods of less than 24 hours a day, and where the parents or guardians are not immediately available to the child. It includes a facility which provides care for not less than two consecutive weeks, regardless of the number of hours of care per day.

The facility is generally described as a child care center, day care center, day nursery, nursery school, parent cooperative preschool, play group, or drop-in center. "Child care center" or "day care center" does not include a Sunday school conducted by a religious organization where children are cared for during short periods of time while persons responsible for such children are attending religious services.

- b. **Child Caring Institution:** A child care facility which is organized for the purpose of receiving minor children for care, maintenance, and supervision, usually on a 24 hour basis, in a building maintained for that propose, and operates throughout the year. It includes a maternity home for the care of unmarried mothers who are minors, an agency group home, and institutions for mentally retarded or emotionally disturbed minor children. It does not include hospitals, nursing homes, boarding schools, or an adult foster care facility in which a child has been placed.
- c. **Foster Family Home:** A private home in which one but not more than four minor children, who are not related to an adult member of the household by blood, marriage, or adoption, are given care and supervision for 24 hours a day, for four or more days a week, for two or more consecutive weeks, unattended by a parent or legal guardian.
- d. **Foster Family Group Home:** A private home in which more than four but less than seven children, including children related to the caregiver by blood, marriage, or adoption, are provided care for 24 hours a day, for four or more days a week, for two or more consecutive weeks, unattended by a parent or legal guardian.
- e. **Family Day Care Home:** A private home in which up to six (6) minor children are received for care and supervision for periods of less than 24 hours a day, including children related to the caregiver by blood, marriage, or adoption. It includes a home that gives care to an unrelated child for more than four weeks during a calendar year.
- f. **Group Day Care Home:** A private home in which more than six but not more than 12 children are given care and supervision for periods of less than 24 hours a day unattended by a parent or legal guardian, including children related to the caregiver. It includes a home that gives care to an unrelated child for more than four weeks during a calendar year.

Church or temple: Any structure wherein persons regularly assemble for religious activity.

Clear Vision Area: An area of each lot near any street intersection or commercial driveway which shall remain clear of obstructions between a height of two (2) feet and six (6) feet to ensure safe sight distance for motorists (see figure 25.4).

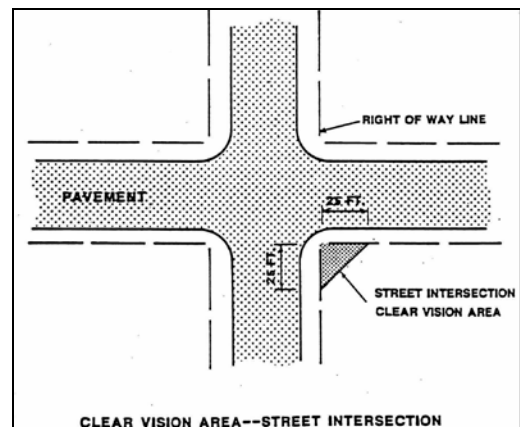


Figure 25.4 Clear Vision Area

Clinic, medical: An establishment where human patients who are not lodged overnight are admitted for examination and treatment by a group of physicians, dentists, or similar professionals. A medical clinic may incorporate customary laboratories and pharmacies incidental to or necessary for its operation or to the service of its patients, but may not include facilities for overnight patient care or major surgery.

Club or fraternal organization: An organization of persons for special purposes or for the promulgation of sports, arts, sciences, literature, politics, or the like, but not operated for profit or to espouse beliefs or further activity that is not in conformance with the constitution of the United States or any laws or ordinances. The facilities owned or used by such organization may be referred to as a "club" in this ordinance.

Coffee Shop: An establishment serving coffee beverages as its primary product to a customer in a ready-to-consume state. The preparation and sale of food or snacks to customers may also be permitted. The method of operation may include indoor and/or outdoor seating and may be characteristic of a carryout or drive-through restaurant or combination thereof. (as amended 3/5/10)

Commercial vehicle: Any vehicle bearing or required to bear commercial license plates and which falls into one or more of the categories listed below:

- a. truck tractor;
- b. semi-trailer, which shall include flat beds, stake beds, roll-off containers, tanker bodies, dump bodies and full or partial box-type enclosures;
- c. vehicles of a type that are commonly used for the delivery of ice cream, milk, bread, fruit or similar vending supply or delivery trucks. This category shall include vehicles of a similar nature which are also of a type commonly used by electrical, plumbing, heating and cooling, and other construction oriented contractors;
- d. tow trucks;
- e. commercial hauling trucks;
- f. vehicle repair service trucks;
- g. snow plowing trucks;
- h. any other vehicle with a commercial license plate having a gross vehicle weight in excess of ten thousand (10,000) pounds or a total length in excess of 22 feet.

Condominium Act: Michigan Act 59 of 1978, as amended.

Condominium, Contractible: A condominium project from which any portion of the submitted land or building may be withdrawn in pursuant to express provisions in the condominium documents and in accordance with the Genoa Township Code of Ordinances and the Condominium Act, Act 59 of the Public Acts of 1978, as amended.

Condominium, Detached: A residential condominium project designed to be similar in appearance to a conventional single-family subdivision.

Condominium, General Common Element: The common elements other than the limited common elements.

Condominium, Limited Common Element: A portion of the common elements reserved in the master deed for the exclusive use of less than all of the co-owners.

Condominium, Master Deed: The condominium document recording the condominium project as approved by the Township Board to which is attached as exhibits and incorporated by reference the approved bylaws for the project and the approved condominium subdivision plan for the project.

Condominium Setbacks: Shall be measured as follows:

- a. **Front Yard Setback** - the minimum distance required between the public street right-of-way or private road easement line and the foundation of the unit site. Where there is not public right-of-way or access easement, the front yard setback shall be measured from the nearest pavement edge to the foundation of the unit site.
- b. **Side Yard Setback** - the minimum distance required between the limits of the development and the side of a unit or the distance between the side boundary of a site condominium and the side of a unit or half the distance between the sides of any adjacent units where there are no condominium sites.
- c. **Rear Yard Setback** - the minimum distance required between the limit of the development and the rear of the unit or the distance between the rear boundary of a site condominium and the rear of a unit or half the distance between the rear of any two adjacent units. Note: where the rear of a detached condominium faces the side of an adjacent condominium unit, the units shall be spaced a distance equal to the combined rear and side setbacks.

Condominium, Site: A condominium project containing or designed to contain structures or other improvements for residential commercial, office, industrial or other uses permitted in the zoning district in which it is located and in which each co-owner owns exclusive rights to a volume of space within which a structure or structure may be constructed as a condominium unit as described in a master deed.

Condominium Unit: The portion of the condominium project designed and intended for separate ownership as described in the Master Deed, regardless of whether it is intended for residential, office, industrial, business, recreational, use as a time-share unit, or any other type of use.

Condominium Unit Site: The area designating the perimeter within which the condominium unit must be built. After construction of the condominium unit, the balance of the condominium unit site shall become a limited common element. The term "condominium unit site" shall be equivalent to the term "lot," for purposes of determining compliance of a site condominium subdivision with provisions of this Ordinance pertaining to minimum lot size, minimum lot width, maximum lot coverage and maximum floor area ratio.

Conference Center: A multi-purpose facility whose primary purpose is to accommodate meetings, seminars, social and civic events, and conferences. Such a facility offers a total meeting environment which typically consists of meeting rooms, conference rooms, and catering uses that comprise continuous space. A conference center may include lodging facilities. A hotel/motel with at least 10,000 sq. ft of conference room facilities shall also be considered a conference center. Accessory uses may include dining areas, recreational facilities, specialty shops, that cater to conference center guests.

Convalescent or Nursing Home: A structure with sleeping rooms, where persons are housed or lodged and are furnished with meals, nursing and limited medical care.

Day: A calendar day unless otherwise stated.

Day Care Center, Commercial: see "Child Care Facility"

Day Care Home: see "Child Care Facility"

Density: The number of dwelling units situated on or to be developed per net acre of land. The following calculation shall be utilized in determining maximum density:

- a. The acreage exclusive of paragraphs (b) and (c) below shall be calculated at one-hundred percent (100%) toward the total site acreage.
- b. The acreage comprised of land within the 100-year floodplain elevation, or wetlands protected by the Goemaere-Anderson Wetland Protection Act, PA 203 of 1979, shall be calculated at twenty five percent (25%) toward the total site acreage.
- c. All open bodies of water and public rights-of-way are excluded from density calculation.

Development: The proposed construction of a new building or other structure on a zoning lot, the relocation of an existing building on another zoning lot, or the use of open land for a new use. A development may include a site plan, a plot (building) plan, a condominium plan, a plat or a mobile home park.

Dog Run: A fenced in area designed specifically to enclose pets. (as amended 3/5/10)

Drive-In Business: A business establishment so developed that its retail or service character is dependent on providing a driveway approach or parking spaces for motor vehicles so as to serve patrons while in the motor vehicle rather than within a building or structure, including customer communication facilities for banks or other uses. A drive-in restaurant is distinct from a drive-through restaurant in that the majority of drive-in patrons consume food and beverages while in the vehicle and parked on the premises.

Drive-in Restaurant: See "Restaurant, Drive-in."

Drive-through Business: A business establishment so developed that its retail or service character is wholly or partly dependent on providing a driveway approach and service windows or facilities for vehicles in order to serve patrons food and beverages in a ready-to-consume state from a drive-through window to patrons in motor vehicles. A drive-through restaurant may or may not also have indoor seating.

Dwelling: Any building, or part thereof, containing sleeping, kitchen, and bathroom facilities designed for and occupied by one family. In no case shall a travel trailer, motor home, automobile, tent or other portable building not defined as a recreational vehicle be considered a dwelling. In the case of mixed occupancy where a building is occupied in part as a dwelling unit, the part so occupied shall be deemed a dwelling unit for the purposes of the Zoning Ordinance.

- a. **Manufacture Dwelling Unit:** A dwelling unit which is substantially built, constructed, assembled, and finished off the premises upon which it is intended to be located.

- b. **Site Built Dwelling:** A dwelling unit which is substantially built, constructed, assembled, and finished on the premises upon which it is intended to serve as its final location. Site built dwelling units shall include dwelling units constructed of precut materials, and panelized wall roof and floor sections when such sections require substantial assembly and finishing on the premises upon which it is intended to serve as its final location.
- c. **One-Family or Single-Family Detached Dwelling:** An independent, detached residential dwelling designed for and used or held ready for use by one family only.
- d. **Two-Family or Duplex Dwelling:** A detached building, designed exclusively for and occupied by two families living independently of each other, with separate housekeeping, cooking, and bathroom facilities for each.
- e. **Townhouse:** A self-contained single dwelling unit attached to a similar single dwelling unit with party or common walls, designed as part of a series of three (3) or more dwelling units, each with:
 - 1. a separate entryway with direct access to the outdoors at ground level,
 - 2. a separate basement, if applicable,
 - 3. a separate garage,
 - 4. separate utility connections, and,
 - 5. defined front and rear yards.

Townhouses may also be known as attached single family dwelling units, row houses, clustered single family dwellings or stack ranches. Any three or more attached dwellings not meeting the above criteria shall be considered an apartment or multiple family dwelling. (as amended 12/31/06)

- f. **Multiple-Family Dwelling:** A building designed for and occupied by three (3) or more families living independently, with separate housekeeping, cooking, and bathroom facilities for each. Multiple-family dwelling units may also be known as apartments, which have common entrances.
- g. **Apartment Dwelling:** An apartment is an attached dwelling unit with party or common walls, contained in a building with other dwelling units or sharing the occupancy of a building with other than a residential use. Apartments are commonly accessed by a common stair landing or walkway. Apartments are typically rented by the occupants, but may be condominiums. Apartment buildings often may have a central heating system and other central utility connections. Apartments typically do not have their own yard space. Apartments are also commonly known as garden apartments or flats. (as amended 12/31/06)

Easement: A right-of-way granted, but not dedicated, for limited use of private land for private, public or quasi-public purpose, such as for franchised utilities, a conservation easement or an access easement for a private road or service drive, and within which the owner of the property shall not erect any permanent structures.

Engineering Standards: Engineering Design Standards regulating storm water management systems site grading and soil erosion control, sanitary sewer, municipal water, parking lot design, private road design, and construction processes. The design standards are adopted by the Township Board and may be amended from time to time. (as amended 3/5/10)

Essential Public Service: The erection, construction, alteration, or maintenance by public utilities or any governmental department or commission of underground or overhead gas, electrical, steam, or water transmission or communication, supply or disposal systems, including poles, wires, drains, sewers, pipes, conduits, cables, fire alarm boxes, police call boxes, railroad rights-of-way, traffic signals, hydrants, and other similar equipment and accessories in connection with, but not including, buildings. Non-governmental towers, radio and television towers, and cellular phone antennas are not considered to be essential public services.

Essential Public Service Building: A building or structure principal to an essential public service, such as a drop-off stations for residential recyclables, vehicle garages, telephone exchange buildings, electricity transformer stations or substations, and gas regulator stations. .

Excavation: Any breaking of ground, except farming or common household gardening and ground care.

Family: means either of the following:

- a. A domestic family which is one or more persons living together and related by the bonds of blood, marriage or adoption, together with servants of the principal occupants and not more than one additional unrelated person, with all of such individuals being domiciled together as a single, domestic, housekeeping unit in a dwelling.
- b. The functional equivalent of the domestic family which is persons living together in a dwelling unit whose relationship is of a permanent and distinct character and is the functional equivalent of a domestic family with a demonstrable and recognizable bond which constitutes the functional equivalent of the bonds which render the domestic family a cohesive unit. All persons of the functional equivalent of the domestic family must be cooking and otherwise operating as a single housekeeping unit. This definition shall not include any society, club, fraternity, sorority, association, lodge, coterie, organization or group where the common living arrangement and/or the basis for the establishment of the functional equivalency of the domestic family is likely or contemplated to exist for a limited or temporary duration.

Farm: All of the contiguous neighboring or associated land, buildings, and machinery operated as a single unit on which the production of farm products is carried on directly by the owner- operator, manager or tenant farmer, by his own labor or with the assistance of members of his household or hired employees; provided, however, that a farm operation shall follow generally accepted agricultural and management practices as defined by the Michigan Commission of Agriculture for farming activities which include: 1) tree fruit production, 2) small fruit production, 3) field crop production, 4) forage and sod production, 5) livestock and poultry production, 6) fiber crop production, 7) apiary production, 8) maple syrup production, 9) mushroom production and 10) greenhouse production; but unless otherwise permitted, the following shall not be considered a farm: establishments involved in industrial like processing of agricultural products, keeping fur-bearing animals or game or operating as fish hatcheries, dog kennels, stockyards, slaughterhouses, stone quarries, gravel or sand pits or the removal and sale of topsoil, fertilizer works, boneyards or the reduction of animal matter, or for the disposal of garbage, sewage, rubbish, junk or offal.

Farm Labor Housing: A dwelling or lodging unit that is used exclusively by agricultural employees employed full-time or seasonally in the agricultural use of the property.

Fence: A structure of definite height and location constructed of wood, masonry, stone, wire, metal, or any other material or combination of materials serving as a physical barrier, marker, or enclosure, (see also "Wall").

Fence, privacy: A fence which is over ninety (90%) percent solid or impervious and serves as an opaque screen. (as amended 3/5/10)

Floodplain. That area which would be inundated by storm runoff or flood water equivalent to that which would occur with a rainfall or flood of one hundred (100) year recurrence frequency after total development of the watershed.

Floor Area, Gross. The sum of all gross horizontal areas of all floors of a building or buildings, measured from the outside dimensions of the outside face of the outside wall. Unenclosed courtyards or patios shall not be considered as part of the gross floor area except where they are utilized for commercial purposes, such as the outdoor sale of merchandise. (see Figure 25.5)

Floor Area, Residential: For the purpose of computing the minimum allowable floor area in a residential dwelling unit, the sum of the horizontal areas of each story of the building shall be measured from the exterior faces of the exterior walls or from the centerline of walls separating two dwellings. The floor area measurement is exclusive of areas of basements, unfinished attics, attached garages, breezeways, and enclosed and unenclosed porches.

Floor Area, Usable: That area used for or intended to be used for the sale of merchandise or services' or for use to serve patrons, clients or customers. Such floor area which is used or intended to be used principally for the storage or processing of merchandise, hallways, or for utilities or sanitary facilities, shall be excluded from this computation of "Usable Floor Area." Measurement of usable floor area shall be the sum of the horizontal areas of the several floors of the building, measured from the interior faces of the exterior walls. (see Figure 25.5)

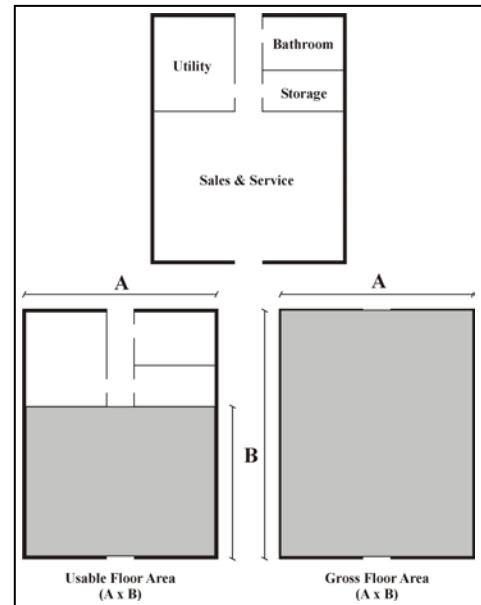


Figure 25.5 Floor Area

Freeboard: for storm water retention or detention ponds it is the vertical distance between the design high water elevation and the top of the pond elevation. (as amended 3/5/10)

Frontage. The linear dimension of a lot measured along the public road right-of-way line, private road access easement, or shared driveway.

Funeral Home or Mortuary Establishment: An establishment where the dead are prepared for burial or cremation and where wakes or funerals may be held. A funeral home or mortuary establishment shall not include crematoria.

Garage: Part of a principal building or an accessory building or structure used primarily for the parking or storage of vehicles in connection with a permitted use of the principal building, where there is no vehicle servicing or storage for compensation.

Garden Center: An establishment with retail sales of trees, fruits, vegetables, shrubbery, plants, landscaping supplies, lawn furniture, playground equipment and other home garden supplies and equipment.

Gazebo: A freestanding, roofed, usually open-sided structure offering a place for shade or rest. (as amended 12/17/10)

Grade, Mean: The arithmetic average of the lowest and highest grade elevations in an area within five (5) feet of the foundation line of a building or structure, or in the area between the foundation line and the lot line, where the foundation line is less than five (5) feet from the lot line. (see Figure 25.6).

Greenbelt: See “Landscaping, Greenbelt”

Hazardous uses and materials: Any use which involves the storage, sale, manufacture, or processing of materials which are dangerous, combustible and/or produce either poisonous fumes or explosions in the event of fire. These uses include all high hazard uses listed in the State Building Code.

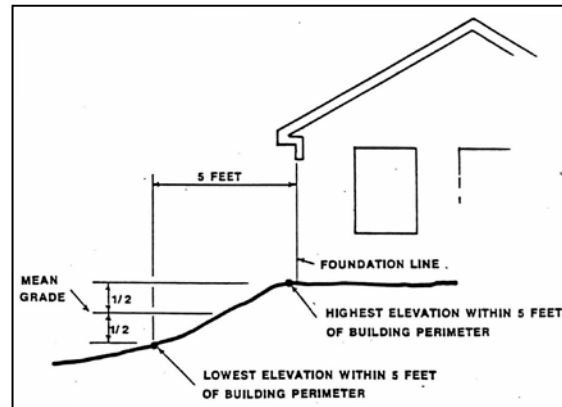


Figure 25.6 Measurement of Mean Grade

Hazardous or toxic waste: Waste or a combination of waste and other discarded material (including but not limited to solid, liquid, semisolid, or contained gaseous material) which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to the following if improperly treated, stored, transported, disposed of, or otherwise managed: an increase in mortality, or an increase in serious irreversible illness, or serious incapacitating but reversible illness, or substantial present or potential hazard to human health or the environment.

Home Occupation: An occupation or profession conducted entirely within a dwelling by the inhabitants thereof, such use being clearly incidental to the principal use of the dwelling as a residence.

Hospital: A facility offering primarily inpatient care, and services for observation, diagnosis, and active treatment of patients with a medical, surgical, obstetric, chronic, or rehabilitative condition requiring the daily care and supervision of a physician(s) and medical support staff. A hospital may or may not also have a clinic offering outpatient services.

Hotel: A building or part of a building, with a common entrance or entrances, in which the dwelling units or rooming units are used primarily for transient occupancy, and/or in which one or more of the following services are offered: maid service, furnishing of linen, telephone, secretarial or desk service, and bellboy service. A hotel may include a restaurant or cocktail lounge, public banquet halls, or meeting rooms.

Housing For The Elderly: Housing constructed for the exclusive use of an individual fifty five (55) years of age or older, or for a couple where at least one (1) of the individuals is over the age of fifty five (55). Housing for the elderly may include the types of facilities listed below.

- a. **Senior Apartments:** multiple-family dwelling units where occupancy is restricted to persons fifty five (55) years of age or older.
- b. **Congregate Or Interim Care Housing:** A semi-independent or assisted care housing facility containing congregate kitchen, dining, and living areas, but with separate sleeping rooms. Such facilities typically provide special support services, such as transportation and limited medical care.

- c. **Dependent Housing Facilities:** Extended care facilities such as convalescent homes and nursing homes which are designed for older persons who need a wide range of health and support services, including personal nursing care.

Impact Assessment: An assessment of the ecological, social, economic, and physical impacts of a project on and surrounding the development site.

Improvements: Any additions to the natural state of land which increases its value, utility or habitability. Improvements include but are not limited to street pavements, with or without curbs and gutters, sidewalks, water mains, storm and sanitary sewers, trees and other appropriate and similar items.

Industrial: Land uses which primarily accommodate research, wholesale and warehouse activities, manufacturing, compounding, processing, packaging, fabrication, assembly and/or treatment of finished or semi-finished products from previously prepared material and the extraction or processing of raw material for shipment in bulk form, to be used in an industrial operation at another location.

Industrial, light: Those enterprises engaged in the processing, manufacturing, compounding, assembly, packaging, treatment, or fabrication of materials and products, from processed or previously manufactured materials to form a non-combustible and non-explosive product. Light industry is capable of operation in such a manner as to control the external effects of the manufacturing process, such as smoke, noise, soot, dirt, vibration, odor, etc. A machine shop is included in this category. Also included is the manufacturing of apparel, electrical appliances, electronic equipment, camera and photographic equipment, ceramic products, cosmetics and toiletries, business machines, fish tanks and supplies, food, paper products (but not the manufacture of paper from pulpwood), musical instruments, medical appliances, tools or hardware, plastic products (but not the processing of raw materials), pharmaceuticals or optical goods, bicycles, and any other product of a similar nature. Warehousing, wholesaling, and distribution of the finished products produced at the site is allowed as part of the use.

Intensive Livestock Operation: An agricultural operation in which many livestock are bred and/or raised within a confined area, either inside or outside an enclosed building. While the density of confined livestock varies, it significantly exceeds that of traditional farming operations and includes both the number of confined livestock in the confined area and the amount of land which serves as the waste disposal receiving area.

Junk Yard: (see Salvage Yard).

Kennel, Commercial: Any premise on which more than the below specified number cats or dogs, (but not including wild, vicious or exotic animals) of more than six (6) months of age are either permanently or temporarily kept for the purposes of breeding, boarding, training, sale, protection, hobby, pets or transfer. Lots less than ten (10) acres with more than three (3) cats or three (3) dogs or more than a total of five (5) in combination (e.g. 3 dogs and 2 cats) shall be considered a kennel. Lots of ten (10) acres or more with more than five (5) cats or five (5) dogs or more than a total of seven (7) in combination (e.g. 5 dogs and 2 cats) shall be considered a kennel. (as amended 12/31/06)

Laboratory, research: A facility for scientific laboratory research in technology-intensive fields. Examples include biotechnology, pharmaceuticals, genetics, plastics, polymers, resins, coatings, fibers, fabrics, films, heat transfer, and radiation research facilities.

Laboratory, support: A facility for scientific laboratory analysis of natural resources, medical resources, and manufactured materials. The scientific analysis is generally performed for an outside customer, to support the work of that customer. This category includes environmental laboratories for the

analysis of air, water, and soil; medical or veterinary laboratories for the analysis of blood, tissue, or other human medical or animal products. Forensic laboratories for analysis of evidence in support of law enforcement agencies would also be included in this category.

Land Use Permit: An authorization issued by the Township Zoning Administrator to erect, move or alter a structure within the Township or to approve a change in use of land or structure. For certain uses, the land use permit is issued following site plan approval by the Planning Commission or special land use approval by the Township Board.

Lake. A permanent water body that has definite banks, a bed, visible evidence of a continued occurrence of water, and a surface area of water that is ten (10) acres or more in size.

Landscaping: The treatment of the ground surface with live plant materials normally grown in Livingston County such as, but not limited to, grass, ground cover, trees, shrubs, vines, and other live plant material. In addition, a landscape design may include other decorative natural or processed materials, such as wood chips, crushed stone, boulders or mulch. Structural features such as fountains, pools, statues, and benches shall also be considered a part of landscaping if provided in combination with live plant material. Various landscaping related terms are defined below.

- a. **Berm:** A continuous, raised earthen mound comprised of non-toxic materials with a flattened top and sloped sides, capable of supporting live landscaping materials.
- b. **Buffer Zone:** (see "Buffer Zone").
- c. **Grass:** Any of a family of plants with narrow leaves normally grown as permanent lawns.
- d. **Greenbelt:** A strip of land of definite width and location reserved for the planting of a combination of shrubs, trees, and ground cover to serve as an obscuring screen or buffer for noise or visual enhancement.
- e. **Ground Cover:** Low-growing plants that form a dense, extensive growth after one complete growing season, and tend to prevent weeds and soil erosion.
- f. **Hedge:** A two (2) to three (3) foot tall row of evergreen or deciduous shrubs that are planted close enough together to form a solid barrier.
- g. **Parking lot landscaping:** Landscaped areas located in and around a parking lot in specified quantities to improve the safety of pedestrian and vehicular traffic, guide traffic movement, improve the environment and improve the appearance of the parking area and site.
- h. **Planting:** A young tree, vine or shrub that would be placed on or in the ground.
- i. **Screen or screening:** A wall, wood fencing or combination of plantings of sufficient height, length, and opacity to form a visual barrier. If the screen is composed of non-living material, such material shall be compatible with materials used in construction of the main building, but in no case shall include wire fencing.
- j. **Shrub:** A self-supporting, deciduous or evergreen woody plant, normally branched near the base, bushy, and less than fifteen (15) feet in height.

- k. **Tree:** A self-supporting woody, deciduous or evergreen plant with a well-defined central trunk or stem which normally grows to a mature height of at least fifteen (15) feet.
- l. **Ornamental tree:** A deciduous tree which is typically grown because of its shape, flowering characteristics, or other attractive features, and which grows to a mature height of twenty five (25) feet or less.

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

Livestock: Any of various bird or animal breeds, long ago domesticated by man so as to live and breed in a tame, docile, tractable condition useful to man, including horses, ponies, mules, donkeys, cattle, sheep, goats, buffaloes, llama, ostriches, chickens, ducks, geese turkeys and swine.

Loading Space, Off-Street: Space logically and conveniently located for bulk pick-ups and deliveries, designed to accommodate the maneuvering area needed by expected sizes of delivery vehicles when all off-street parking spaces are filled.

Lot: An undivided portion of land of at least sufficient size to meet minimum zoning requirements for use, buildings, structures, lot coverage, yards, and other open spaces as may be present or required under provisions of this Ordinance and having frontage on an improved public street, or on an approved private road, or shared driveway. A lot may consist of either: a single lot of record, a portion of a lot of record, a combination of contiguous lots of record that have been combined into one tax ID number, or a parcel of land described by metes and bounds. (as amended 12/31/06)

Lot Area: The total horizontal area within the lot lines of a lot, exclusive of any submerged area of any lake, stream or canal (below the shoreline or ordinary high water mark).

Lot, Corner: A lot where the interior angle of two adjacent sides at the intersection of two streets is less than one hundred and thirty-five (135) degrees. A lot abutting upon a curved street or streets shall be considered a corner lot for the purposes of this Ordinance if the arc is of less radius than one hundred fifty (150) feet and the tangents to the curve, at the two points where the lot lines meet the curve or the straight street line extended, form an interior angle of less than one hundred and thirty-five (135) degrees. (See Figure 25.7)

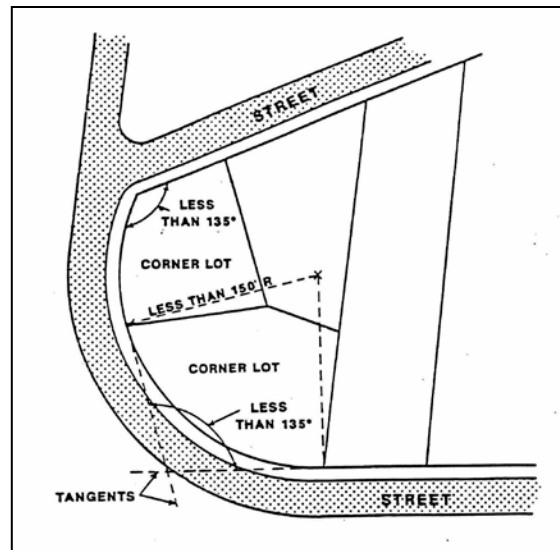


Figure 25.7 Lot, Corner Measurements

Lot Coverage: The part or percent of a lot occupied by buildings, structures and accessory buildings.

Lot Coverage, Impervious Surface: The part or percent of a lot occupied by building, structures, uses, accessory buildings, accessory structures and paved areas.

Lot Depth: The arithmetic mean of the shortest and longest distances from the front lot line to the rear lot line (see figure 25.8).

Lot, Flag: A lot that has access to a public right-of-way or private road access easement by means of a narrow strip of land (see figure 25.9).

Lot, Interior: Any lot other than a corner lot.

Lot Line: The lines bounding a lot or parcel and listed below and illustrated on Figure 25.10.

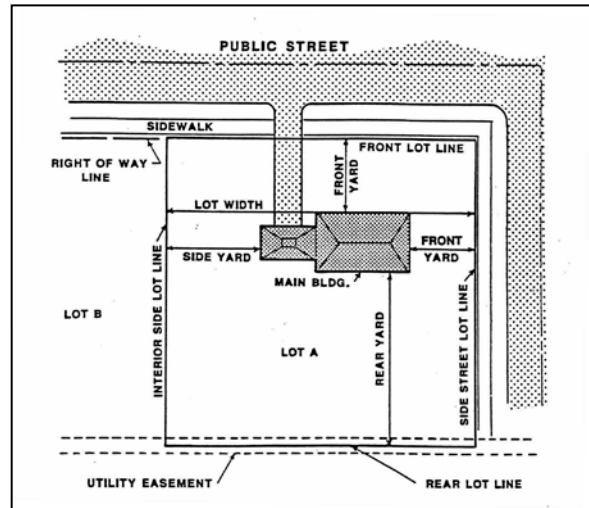


Figure 25.10 Lot Lines and Yards Measurement (Note: Yards May Not Always Equal Required Setbacks)

- a. **Front Lot Line:** The lot line(s) abutting a public street or private road easement that separates the lot from such right-of-way or easement; typically measured along the right-of-way line. Corner lots or through lots are considered to have two front lot lines and shall provide the minimum required front yard setback at both front lot lines. In the case of a flag lot, the front lot line shall be that lot line that abuts the public street right-of-way or private road easement and the lot line that is roughly parallel to the street right-of-way (See figure 25.10). (as amended 12/31/06)

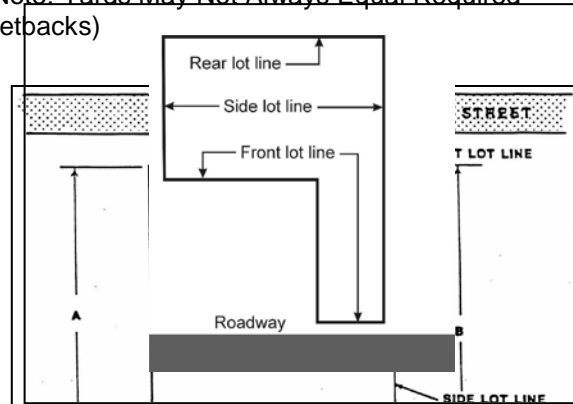


Figure 25.9 Flag-lot Lot Lines

- b. **Rear Lot Line:** The lot line opposite and most distant from the front lot line. For an irregular or triangular shaped lot, a line at least ten (10) feet in length, entirely within the lot, parallel to and most distant from the front lot line (See figure 25.11). (as amended 12/31/06)

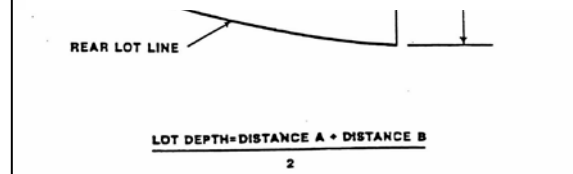


Figure 25.8 Lot Depth Measurement

- c. **Side Lot Line:** Any lot line not a front or rear lot line.
- d. **Waterfront Lot Line:** The boundary of a lot that follows the shoreline of a lake or stream. (Also see "shoreline.")

- e. In the case where the above definitions are not sufficient to designate lot lines, the Zoning Administrator shall designate the front, rear and side lot lines in consideration of the orientation of the building(s) on the lot, the address of the lot, the orientation of other

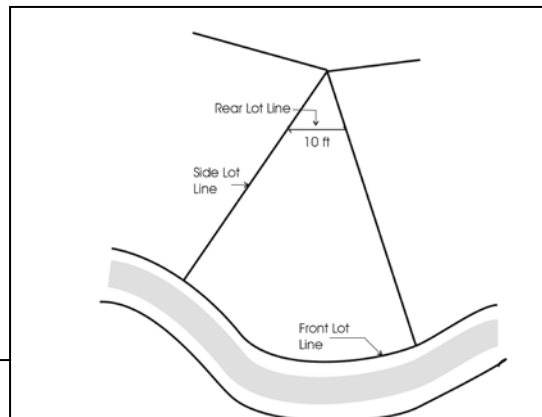


Figure 25.11 Rear Lot Line on Triangular Lot

buildings along the block, and natural features affecting site design.

Lot of Record: A parcel of land, the dimensions of which are shown on a document or map on file with the County Register of Deeds or in common use by Municipal or County Officials, and which actually exists as so shown, or any part of such parcel held in a record ownership separate from that of the remainder thereof.

Lot, Through: Any interior lot having frontage on two more or less parallel streets as distinguished from a corner lot. In the case of a row of double frontage lots, all yards of said lots adjacent to streets shall be considered frontage, and front yard setbacks shall be provided as required.

Lot, Width: The horizontal distance between side lot lines measured parallel to the front lot line at the minimum required front setback excluding private road access easement. For irregularly shaped lots with access easements or "flag lots" connecting to a public street, the minimum lot width shall be measured at the point where the narrow access connects to the main section of the parcel. This determination shall be made by the Zoning Administrator. Figure 25.12 illustrates calculation of minimum lot width for lots along curvilinear streets.

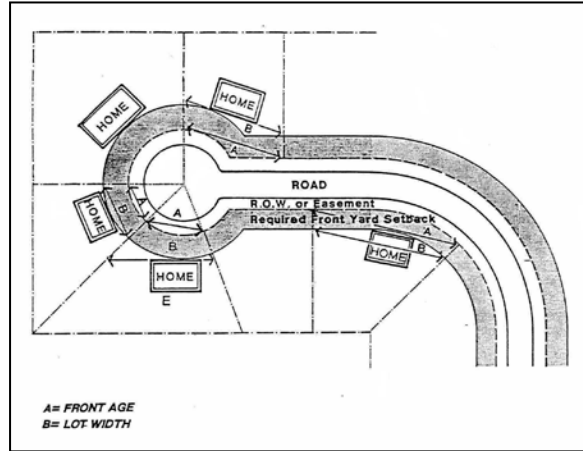


Figure 25.12 Lot Width on Curvilinear Streets

Major Thoroughfare: An arterial street, state trunkline, or roadway classified as a Primary Road by the Livingston County Road Commission, which is intended to service as a large volume of traffic, generally within a right-of-way at least eighty six (86) feet wide.

Manufactured Home: A dwelling unit which is designed for long-term residential use and is wholly or substantially constructed at an off-site location.

Master Plan: The Comprehensive Community Plan, sub area plans or corridor plans including graphic and written proposals for future land use, zoning, site design, physical development and or capital improvements.

Mezzanine: An intermediate floor in any story occupying a maximum one-third (1/3) of the story's floor area.

Microbrewer: [A brewer that produces in total less than 60,000 barrels of beer per year and that may sell the beer produced to consumers at the licensed brewery premises for consumption on or off the licensed brewery premises and to retailers as provided by State Law.](#)

Mini or Self Storage Warehouse: A building or group of buildings in a controlled-access and fenced compound that contains varying sizes of individual, compartmentalized, and controlled-access stalls or lockers for the storage of customer's goods or wares.

Manufactured Housing Park: A parcel or tract of land under the control of a person, group or firm upon which two (2) or more mobile homes are located on a continual non-recreational basis and which is offered to the public for that purpose regardless of compensation, including any building, structure,

enclosure, street, drive, equipment or facility used or intended for use incidental to the occupancy. Mobile home parks are licensed and regulated by the Michigan Mobile Home Commission.

Mobile Home or Manufactured Home Subdivision: Individually owned lots subdivided according to the provisions of Act 288 of the Public Acts of Michigan of 1967 intended as a site for the placement for dwelling purposes of mobile or modular homes.

Motel: A series of attached, semidetached or detached rental units containing a bedroom, and sanitary facilities. Units shall provide for overnight lodging and are offered to the public for compensation, and shall cater primarily to the public traveling by motor vehicle.

Multimedia production facility: Land, buildings, or structures used as a media production facility. Typically, structures involved in or with the production of (but not limited to): motion pictures; radio and television shows or movies; recording or broadcasting facilities; and other motion picture production and distribution service offices.

Non-Conforming Building or Structure: A building or structure portion thereof lawfully existing at the effective date of this Ordinance, or amendments thereto, and that does not conform to the provisions of the Ordinance in the district in which it is located.

Non-Conforming Lot: A lot of record, lawfully in existence on the effective date of this Ordinance and any amendments thereto, which no longer meets the dimensional requirements of this Ordinance for the district in which it is located.

Non-Conforming Site. A development on a site which met Ordinance requirements for site design elements at the time the site was developed, such as the amount of parking, parking lot pavement or landscaping; but which does not meet the current site standards of the Township.

Non-Conforming Use: A use which lawfully occupied a building or land at the effective date of this Ordinance, or amendments thereto, and that does not conform to the use regulations of the district in which it is located.

Nursery, Plant Materials: A space, building or structure, or combination thereof, for the storage of live trees, shrubs or plants offered for retail sale on the premises including products used for gardening or landscaping. The definition of nursery within the meaning of this Ordinance does not include any space, building or structure used for the sale of fruit, vegetables or Christmas trees.

Nuisance Factors: An offensive, annoying, unpleasant or obnoxious thing or practice, a cause or source of annoyance, especially a continuing or repeating invasion of any physical characteristics of activity or use across a property line which can be perceived by or affects a human being, or the generation, of an excessive or concentrated movement of people or things, such as, but not limited to: (a) noise, (b) dust, (c) smoke, (d) odor, (e) glare, (f) fumes, (g) flashes, (h) vibration, (i) shock waves, (l) heat, (k) electronic or atomic radiation, (m) objectionable effluent, (n) noise of congregation of people, particularly at night, (o) passenger traffic, (p) invasion of non-abutting street frontage by traffic.

Office: A building or portion of a building wherein services are performed involving predominantly administrative, professional, or clerical operations.

Offset: The distance between the centerlines of driveways or streets across the street from one another.

Off-Street Parking Lot: See "Parking Lot."

Open Air Business: Business and commercial uses conducted solely outside of any building unless otherwise specified herein. Examples of open air businesses include:

- a. Retail sales of garden supplies and equipment, including but not limited to, trees, shrubbery, plants, flowers, seed, topsoil, trellises, and lawn furniture;
- b. Roadside stands for the sale of agricultural products, including fruits, vegetables and Christmas trees.
- c. Various outdoor recreation uses, including but not limited to: tennis courts, archery courts, shuffleboard, horseshoe courts, miniature golf, golf driving ranges, and amusement parks.
- d. Outdoor display and sale of automobiles, recreational vehicles, garages, swimming pools, playground equipment, and similar goods.

Open Space. That part of a lot, which is open and unobstructed by any built features from its lowest level to the sky, and is accessible to all residents upon the site. This area is intended to provide light and air or is designed for environmentally, scenic, or recreational purposes. Open space may include, but is not limited to lawns, decorative plantings, walkways, active and passive recreation areas, playgrounds, fountains, swimming pools, living plant materials, wetlands and water courses. Open space shall not be deemed to include driveways, parking lots or other surfaces designed or intended for vehicular travel.

Open Front Store: A business establishment so developed that service to the patron may be extended beyond the walls of the structure, not requiring the patron to enter the structure. The term " Open Front Store" shall not include automobile repair or gasoline service stations.

Outdoor storage: The keeping, in an unroofed area, of any goods, junks, material, merchandise or vehicles in the same place for more than twenty four hours.

Outside Vendor: Any person firm or corporation, whether as owner, agent, consignee or employee selling or offering to sell, displaying for sale, demonstrating, distributing samples of or soliciting or taking orders for any goods or services or offering merchandise or services from a place at which they do not formally own, lease or occupy space in a principal building on the same property. (added 6/2/14)

Parking Lot: A facility providing vehicular parking spaces along with driveways, aisles and other paved areas for vehicular maneuvering. For the purpose of determining setbacks, parking lots shall not include driveways providing access to a roadway or dedicated service drives providing cross-access to adjacent lots. (as amended 12/31/06)

Parking Space: An area of definite length and width, said area shall be exclusive of drives, aisles or entrances giving access thereto, and shall be fully accessible for the parking of permitted vehicles.

Peak Hour: A one hour period representing the highest hourly volume of traffic flow on the adjacent street system during the morning (a.m. peak hour), during the afternoon or evening (p.m. peak hour), or representing the hour of highest volume of traffic entering or exiting a site (peak hour of generator).

Performance guarantee: A financial guarantee to ensure that all improvements, facilities, or work required by this Ordinance will be completed in compliance with the ordinance, regulations and the approved plans and specifications of a development.

Pergola: A horizontal trellis or framework, supported on posts, that carries climbing plants and may form a covered walk. (as amended 12/17/10)

Planned Unit Development: An integrated and coordinated development of various residential land uses, and in some cases non-residential uses, comprehensively planned and approved as an entity via a unitary site plan which permits additional flexibility in building sitting, usable open spaces and preservation of natural features meeting the intent of the Planned Unit Development section of this Ordinance.

Planning Commission: The Genoa Township Planning Commission as established by the Genoa Township Board of Trustees under provisions of the Michigan Zoning Enabling Act (Public Act 110 of 2006).

Pond. A permanent water body that has definite banks, a bed, visible evidence of a continued occurrence of water, and a surface area of water that is less than ten (10) acres in size.

Principal Building, Structure or Use: The main building, structure or use to which the premises are devoted and the principal purpose for which the premises exist. In cases where there is more than one use, the use comprising the greatest floor area shall generally be considered the Principal Use, except in cases where a use comprising a secondary amount of floor area is considered to have greater impact in terms of traffic generated, noise levels, disruption of views and similar impacts.

Prototype manufacturing: Research and development activities that lead to the development of a new product or a new manufacturing and assembly process. The products developed, manufactured or assembled are not intended to be mass-produced.

Public Utility: A person, firm or corporation, municipal department, board or commission duly authorized to furnish and furnishing under federal, state or township regulations to the public through transmission lines: gas, steam, electricity, sewage disposal, communication, telegraph, transportation or water. Cellular communication facilities are not considered a public utility.

Reception Antenna: An exterior apparatus capable of receiving communications for radio or television purposes including satellite dishes and other satellite reception antennae but excluding facilities considered to be essential public services or those preempted from township regulation by applicable state, Federal Communication Commission (FCC), or federal laws or regulations.

Recognizable and substantial benefit: A clear benefit, both to the ultimate users of the property in question and to the community, which would reasonably be expected to accrue, taking into consideration the reasonably foreseeable detriments of the proposed development and uses(s). Such benefits may include: long-term protection or preservation of natural resources and natural features, historical features, or architectural features; and elimination of or reduction in the degree of nonconformity of a nonconforming use or structure.

Recreational Vehicle or Unit: Includes a tent or vehicular-type structure designed primarily as temporary living quarters for recreational, camping or travel use, which either has its own motive power or is mounted on or drawn by another vehicle which is self-powered. Recreational units of this type shall include, but shall not be limited to, the following: travel trailers, camping trailers, tent trailers, motor homes and truck campers. Recreational units shall also include, but shall not be limited to, the following: boats, boat trailers, snowmobiles, snowmobile trailers, all terrain vehicles, dune buggies, horse trailers and similar equipment.

Recycling Center: A facility in which used material, such as paper, glass, plastic or motor oil, is separated and processed prior to shipment to other locations for processing or manufacturing into new products. A recycling center is distinct from a junkyard or salvage yard.

Research and development: A land use that engages in research, development, or controlled production of high-technology electronic, industrial, or scientific products or commodities. Examples include computer hardware and software, electronics and instrumentation, communications and information technology, biotechnology, pharmaceuticals, agricultural technology, medical instrumentation or supplies, transportation, geographic information systems, defense and aerospace technology, multimedia and video technology and other emerging high technology industries. Activities associated with these uses may include development, testing, assembly, repair, manufacturing, prototype construction, office, warehousing, wholesaling, and distribution of the finished products produced at the site.

Residential Zoning District. RR, LDR, SR, UR, LRR, MDR, HDR, AND MHP Districts.

Restaurants: An establishment serving foods and/or beverages to a customer in a ready-to-consume state. The method of operation may be characteristic of a carry-out, drive-in, drive-through, fast food, standard restaurant, or lounge/tavern, or combination thereof, as defined below:

- a. **Restaurants with Outdoor Seating.** A use that involves the sale or delivery of any prepared food or beverage for consumption in a defined area on premises but outside of the building in which it is prepared. Examples of defined areas include an external deck, patio, mall, garden, balcony or sidewalk. (as amended 12/31/06)
- b. **Carry-Out Restaurant.** A use that involves the sale of food, beverages, and/or desserts in disposable or edible containers or wrappers in a ready-to-consume state for consumption mainly off the premises. A carry out restaurant differs from a drive through restaurant in that a customer must park and walk up to the restaurant or an employee must exit the restaurant and deliver the food to a customer in a parked car.
- c. **Drive-In Restaurant.** A use that involves delivery of prepared food so as to allow its consumption within a motor vehicle while parked on the premise.
- d. **Drive-Through Restaurant.** A use that involves the delivery of prepared food to the customer within a vehicle, typically passing through a pass-through window, for consumption off of the premises.
- e. **Standard Restaurant.** A standard restaurant is a use that involves either of the following:
 1. The delivery of prepared food by waiters and waitresses to customers seated at tables within a completely enclosed building.
 2. The prepared food is acquired by customers at a cafeteria line and is subsequently consumed by the customers within a completely enclosed building.
- f. **Bar/Lounge/Tavern.** A bar, lounge or tavern is a type of restaurant that is operated primarily for the dispensing of alcoholic beverages. The preparation and sale of food or snacks to customers may be permitted.

Road-Private: (See Article 15.)

Roof: The impervious cover of a building or a portion of a building, permanently attached, but excluding chimneys, antennas, vents, mechanical equipment and other rooftop structures permitted as exceptions to building height. (as amended 12/31/06)

Salvage Yard: An area where waste, used or secondhand materials are bought and sold, exchanged, stored, baled, packed, disassembled, or handled including but not limited to: scrap iron and other metals, paper, rags, rubber tires and bottles. A "Salvage Yard" includes junk yards and similar facilities including automobile wrecking yards and any open area of more than two hundred (200) square feet for storage, keeping or abandonment of junk.

Service drive: An access drive which parallels the public right-of-way in front of or behind a building or buildings, or may be aligned perpendicular to the street between buildings, which provides shared access between two or more lots or uses.

Setback, Required: The minimum horizontal distance between the building line and a front, rear, or side lot line, a natural feature or a shoreline. Procedures for measuring setbacks for site condominium projects are listed under the definition of condominium setback. (required setbacks are distinct from actual yard, see definitions for yards, setbacks measurements are illustrated on Figure 25.13).

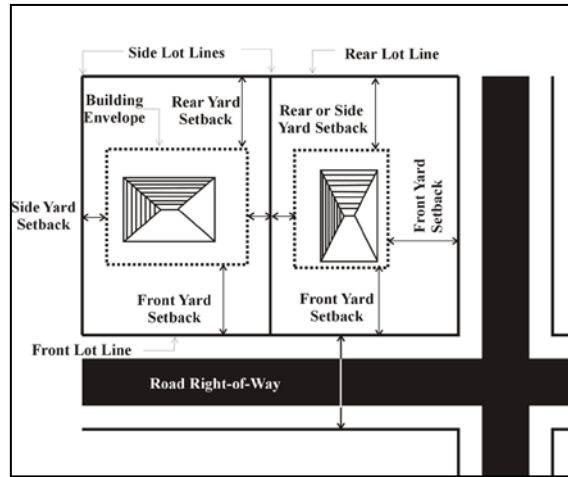


Figure 25.13 Setbacks

Sanitary sewer, public: A sanitary sewer system owned and operated by a municipal government or a utility authority consisting of multiple municipal governments used for the collection and transportation of sanitary sewage for treatment or disposal.

Shelters and rehabilitation centers: Centers operated by philanthropic or non-profit institutions that assist individuals with social needs. These centers may provide temporary housing, meals, counseling, health services, education, job placement assistance and leisure-time activities. Adult care facilities, community centers, hospitals, medical centers, medical/psychiatric offices, shelters for abused women, and children and county/state health/social services facilities are not regulated as “shelters and rehabilitation centers.” Churches or other places of worship that provide community outreach services are also not regulated under this definition, unless they also operated an onsite homeless shelter. (as amended 12/31/06)

Shopping Center: A grouping of two (2) or more business establishments developed in accordance to an overall plan and designed and built as an interrelated project. Buildings constructed on outlots shall not be considered part of the shopping center unless access and parking easements are provided.

Shoreline: The ordinary high water mark which is the line between upland and bottomland which persists through successive changes in water levels, below which the presence and action of the water is so common or recurrent that the character of the land is marked distinctly from the upland and is apparent in the soil, the configuration of the soil surface and the vegetation.

Sign: Definitions for signs are listed separately in Article 16, Sign Standards.

Site plan: A plan, prepared to scale, showing accurately and with complete dimensions, the boundaries of a site and the location of all buildings, structures, uses, and principal site development features proposed for a specific parcel of land, and conforming to the standards of this Ordinance.

Small distiller: A manufacturer of spirits annually manufacturing in Michigan not exceeding 60,000 gallons of spirits, of all brands combined.

Special land use: A use of land for an activity which, under usual circumstances, could be detrimental to other land uses permitted within the same district but which may be permitted because of circumstances unique to the location of the particular use and which use can be conditionally permitted without jeopardy to uses permitted within such district. Such uses are defined as "Special Land Uses" in the Michigan Zoning Enabling Act (Public Act 110 of 2006).

Stable, Commercial: A facility for the rearing and housing of horses, mules and ponies or for riding and training academies.

Stable, Private: A facility for the rearing and training of horses, ponies and mules which are owned by the occupant of the dwelling unit.

Story: That part of a building included between the surface of any floor and the surface of the floor, or roof, next above. When the distance from the average established grade to the ceiling of a story partly below such grade exceeds five (5) feet, then the basement or cellar constituting the story partially below grade shall be counted as a story (refer to Figure 25.14).

Story, Half: An uppermost story lying under a sloping roof having an area of at least two hundred (200) square feet with a clear height of seven feet six inches (7' - 6"). For the Purposes of this Ordinance, the usable floor area is only that area having at least four (4) feet clear height between floor and ceiling.

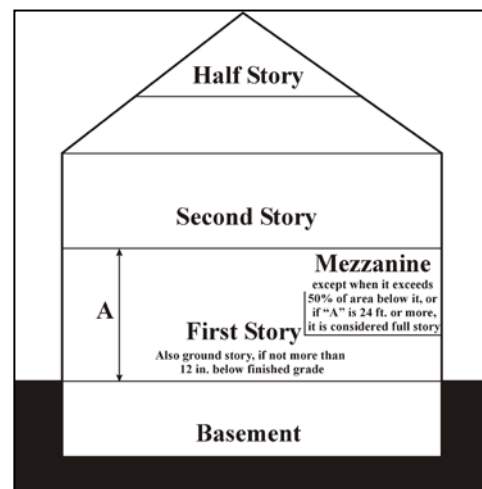


Figure 25.14 Story

Street: A dedicated public right-of-way, other than an alley which affords the principal means of access to abutting property. Various types of streets are defined below.

- a. **Arterial Street or Roadway:** A street or roadway which carries high volumes of traffic at relatively high speeds, and serves as an avenue for circulation of traffic onto, out of, or around the Genoa Township area. An arterial roadway may also be defined as a major thoroughfare, major arterial or minor arterial roadway. Since the primary function of the regional arterial roadway is to provide mobility, access to adjacent land uses may be controlled to optimize capacity along the roadway. Arterial roadways are listed in the Township Master Plan.
- b. **Collector Street:** A street or road whose principal function is to carry traffic between minor and local roads and arterial roadways but may also provide direct access to abutting properties. Collector streets are classified in the Township Master Plan.
- c. **Cul-de-Sac:** A street or road that terminates in a vehicular turnaround.

- d. **Expressway:** Limited access interregional arterial routes, including I-96, designed exclusively for unrestricted movement, have not private access, and intersect only with selected arterial roadways or major streets by means of interchanges engineered for free-flowing movement.
- e. **Highways:** Streets and roadways which are under the jurisdiction of the Michigan Department of Transportation. Highways may also be classified as expressways or arterial roadways.
- f. **Local or Minor Street:** A street or road whose principal function is to provide access to abutting properties and is designed to be used or is used to connect minor and local roads with collector or arterial roadways. Local streets are designed for low volumes and speeds of twenty-five (25) mph or less, with numerous curb cuts and on-street parking permitted.
- g. **Private Road:** Any road or thoroughfare for vehicular traffic which is to be privately owned and maintained and has not been accepted for maintenance by the City, Livingston County, the State of Michigan or the federal government, but which meets the requirements of this Ordinance or has been approved as a private road by the Township under any prior ordinance.
- h. **Public Street:** Any road or portion of a road which has been dedicated to and accepted for maintenance by a municipality, Livingston County, State of Michigan, or the federal government.

Structure: Anything constructed or erected, the use of which requires location on ground or attachment to something having location on the ground. Structures include, but are not limited to, principal and accessory buildings, radio, television and cellular phone towers, decks, fences, privacy screens, walls, antennae, swimming pools, signs, gas or liquid storage facility, mobile homes, street directional or street name sign and billboards.

Substance abuse center or treatment facility: A facility offering counseling, care and treatment for individuals addicted to drugs and alcohol licensed by the Michigan Department of Mental Health, Office of Substance Abuse Services. Such a facility may include or detoxification services. A generally recognized pharmacy or licensed hospital dispensing prescription medicines shall not be considered a substance abuse treatment facility.

Swimming Pool: Any artificially constructed portable or non-portable pool; capable of being used for swimming or bathing, having a depth of two (2) feet or more at any point and having a surface area of two hundred fifty (250) square feet or more.

Tattoo Parlor: An establishment whose principal business activity is the practice placing designs, letters, figures, symbols, or other marks upon or under the skin of any person, using ink or other substances that result in the permanent coloration of the skin by means of the use of needles or other instruments designed to contact or puncture the skin.

Temporary Building or Structure. A building or structure which is not permanently affixed to the property, and is permitted to exist for a specific reason for a specific period of time. An example of a temporary building is a trailer used on a construction site or a tent.

Temporary outdoor sales and Temporary outdoor events: Those accessory outdoor business activities which are intended to occur outside the primary structure on a developed lot and are established

for a fixed period of time with the intent to discontinue such use upon the expiration of such time and which does not involve the construction or alteration of any permanent structure.

- a. **Temporary outdoor sales:** Those outdoor business activities which sell or offer for sale, barter or exchange any goods, wares, service, merchandise or food stuff of any kind on private and public property and include but are not limited to seasonal sale of merchandise related to holidays, sidewalk sales, or promotional events. Any merchandise sold or service provided shall be that of the regular use in the principal building of the site for which proof of tenant occupancy has been provided.
- b. **Temporary outdoor events:** Non-commercial, non-profit events which do not involve sales and can include but are not limited to motor vehicle shows, animal shows and other activities open to the general public. (added 6/2/14)

Temporary Use. A use which is not permanent to the property and is permitted to exist for a specific reason for a specific period of time.

Therapeutic Massage: The application of various techniques to the muscular structure and soft tissues of the human body performed by a massage practitioner. A massage practitioner must satisfy two (2) or more of the following requirements:

- a. The person is a member of the current Professional Level in the American Massage Therapy Association (AMTA), Associated Bodywork and Massage Professionals (ABMP), International Myomassethics Federation (IMF) or other recognized massage association with equivalent professional membership standards consisting of at least five-hundred (500) hours of training including: theory, practice and techniques of massage (minimum three-hundred (300) hours); human anatomy and physiology (minimum one-hundred (100) hours); and professionalism (minimum one-hundred (100) hours). Instruction in this area shall include training in contraindications, benefits, ethics and legalities of massage, building and marketing a practice and other electives as appropriate.
- b. The person is a graduate of a school of massage licensed by the State of Michigan or holder of a current license from another state which requires, at a minimum, the training set forth in paragraph a. above.
- c. The person has completed a massage training program at a community college, college, university or technical school located in the United States, where such program requires at a minimum, the training set forth in a. above.
- d. The person has passed the National Certification Exam for Massage and Bodywork Practitioners.

Townhouse: See “Dwelling, Townhouse.

Traffic Impact Study: The analysis of the potential traffic impacts generated by a proposed project. This type of study and level of analysis will vary dependent upon the type and size of the project.

- a. **Rezoning Traffic Impact Study:** a traffic impact study which contrasts typical uses permitted under the current and requested zoning or land use classification. This study usually includes a trip generation analysis and a summary of potential impacts on the street system.

- b. **Traffic Impact Assessment:** a traffic impact study for smaller projects which are not expected to have a significant impact on the overall transportation system but will have traffic impacts near the site. This type of study focuses on the expected impacts of a development at site access points and adjacent driveways.
- c. **Traffic Impact Statement:** a traffic impact study which evaluates the expected impacts at site access points and intersections in the vicinity.

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

Tree, Measurement of Height: Where a minimum height is specified for a deciduous or evergreen tree, the height shall be measured from the top of the tree to the surrounding ground elevation or top of the ball (location where fabric containing root system meets the exposed trunk).

Use: The principal purpose for which land or a building is arranged, designed or intended, or for which land or a building is or may be occupied. Uses are classified under the following categories

- a. Residential, which includes single family, two family, multiple family, manufactured homes.
- b. Agriculture, which includes all farming and forestry.
- c. Commercial, which includes all retail trade uses, motor vehicle service, lodging accommodation, food services, other services, arts, and entertainment and recreational businesses.
- d. Office, which includes administrative offices and buildings, used for finance, insurance, legal, real estate, professional, scientific, technical, health care, and social assistance uses.
- e. Institutional, which includes all religious, civic, social, and similar organizations, educational services and public uses.
- f. Industrial, which includes all manufacturing, transportation, warehousing, utilities, waste disposal, construction and mining/mineral extraction uses. (as amended 3/5/10)

Variance: An authorization by the Board of Appeals permitting modification to the regulations and standards of this Ordinance in situations where the literal enforcement would result in a practical difficulty not present on other properties typical of the zoning district.

Veterinary Clinic: A facility providing diagnosis, treatment, surgery and similar veterinary care for small domestic animals.

Veterinary Hospital: A facility which provides diagnosis, treatment, surgery and other veterinary care for domestic animals, horses and livestock. A veterinary hospital may include outdoor boarding incidental to treatment.

Wall: A structure of definite height and location to serve as an opaque screen in carrying out the requirements of this Ordinance.

Waste Receptacle (i.e. dumpster): Any accessory exterior container used for the temporary storage of rubbish, pending collection, having a capacity of at least one (1) cubic yard. Recycling stations and exterior compactors shall be considered to be waste receptacles.

Watercourse: Any natural or manmade body of water including but not limited to a lake, pond, river, canal, channel, swamp, creek, marsh, or outcropping of water.

Wetland: Land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life and is commonly referred to as a bog, swamp, or marsh, and which is any of the following:

- a. contiguous to an inland lake or pond, or a river or stream;
- b. not contiguous to an inland lake or pond, or a river or stream; and more than 5 acres in size;
- c. not contiguous to an inland lake or pond, or a river or stream; and five (5) acres or less in size if the Michigan Department of Natural Resources (MDNR) determines that the protection of the area is essential to the preservation of the natural resources of the state from pollution, impairment, or destruction and the MDNR has so notified the owner. (definition taken directly from the Goemaere-Anderson Wetland Protection Act, P.A. 203, 1979).

Wetland, Contiguous: Contiguous wetlands are wetlands connected to other wetlands or waterways as follows:

- a. A permanent surface water connection or other direct physical contact with any lake, pond, river or stream, including surface or ground water connections.
- b. A seasonal or intermittent direct surface water connection with any lake, pond, river or stream.
- c. Located within 500 feet of the ordinary high water mark of any lake, pond, river or stream.
- d. Separated only by man made barriers, such as dikes, roads, berms, or other similar features.

Wireless Communication Facilities. All structures and accessory facilities relating to the use of the radio frequency spectrum for the purpose of transmitting or receiving radio signals. This may include, but shall not be limited to, radio towers, television towers, telephone devices, personal communication transmission equipment and exchanges, microwave relay towers, telephone transmission equipment building and commercial mobile radio service facilities. This definition does not include “reception antenna” for an individual lot as otherwise defined and regulated in this Ordinance.

- a. **Attached Wireless Communication Facilities.** Wireless communication facilities affixed to existing structures, including but not limited to existing buildings, towers, water tanks, or utility poles.
- b. **Wireless Communication Support Structures.** Structures erected or modified to support wireless communication antennas. Support structures within this definition include, but shall not be limited to, monopoles, lattice towers, light poles, wood poles and guyed towers, or other structures which appear to be something other than a mere support structure.

Yard: The open spaces on the same lot with a main building unoccupied and unobstructed from the ground upward except as otherwise provided in this Ordinance. A yard may be equal to the setback, but may also be larger, such as where a building is farther from the street than the required setback. Yards are defined below and illustrated in Figure 25.15:

a. **Front Yard:** An open space extending the full width of the lot, the depth being the minimum horizontal distance between the front lot line or public street right-of-way line/private road easement and the nearest point of building line. A front yard shall be maintained on each side of a corner lot or through lot. For lots along a shoreline of a lake, river, stream or channel the yard facing a public street or private road shall be considered the front yard for zoning purposes and the yard adjoining the shoreline shall be considered the waterfront yard, as defined below. (as amended 12/31/06)

b. **Rear Yard:** An open space extending the full width of the lot, the depth being minimum horizontal distance between the rear lot line and the nearest point of the principal building line. In the case of a corner lot the rear yard may be opposite either street frontage and there shall only be one (1) rear yard.

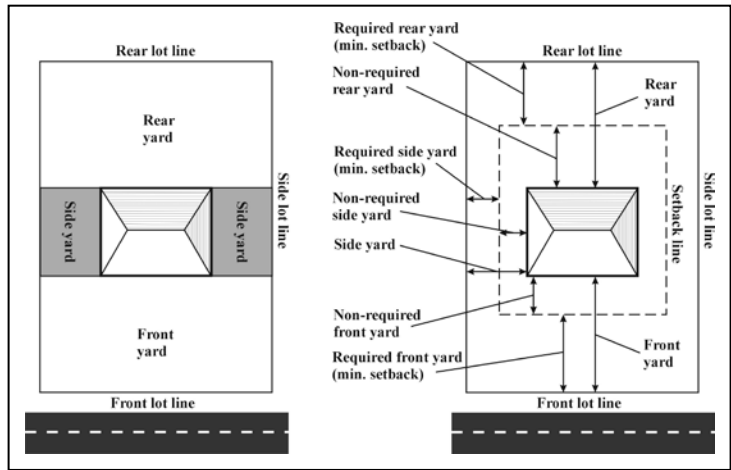


Figure 25.15 Yards

c. **Side Yard:** A yard between the building line of the principal building or structure and the side lot line extending from front yard to the rear yard, or, in the absence of any clearly defined rear lot line, to the point on the lot farthest from the intersection of the lot line involved with the public street.

d. **Waterfront Yard:** An open space extending the length of the shoreline of a lake, pond or stream, the depth being the minimum horizontal distance between the shoreline and the nearest point of the principal building line.

e. **Required Yard:** The open space between the lot line and the minimum setback line. The required yard corresponds to the minimum setback requirement for the district. (as amended 12/31/06)

f. **Non-required Yard:** The open space between the minimum setback line and the main building. The non-required yard is the additional yard area that the building is setback beyond the minimum setback requirement for the district. (as amended 12/31/06)

Zero Lot Line: The location of a building on a lot in such a manner that one or more of the buildings sides rests directly on a lot line, separated only by fire walls.

Zoning Act: The Michigan Zoning Enabling Act (Public Act 110 of 2006). (as amended 12/31/06)

**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION PUBLIC HEARING
MAY 14, 2018
6:30 P.M.
MINUTES**

CALL TO ORDER: The meeting of the Genoa Charter Township Planning Commission was called to order at 6:30 p.m. Present were Chairman Doug Brown, Eric Rauch, Chris Grajek, Jill Rickard and Marianne McCreary. Absent was Jim Mortensen. Also present was Kelly VanMarter, Community Development Director/Assistant Township Manager, Brian Borden of LSL Planning, Gary Markstrom of Tetra Tech, and an audience of approximately 20 people.

PLEDGE OF ALLEGIANCE: The pledge of allegiance was recited.

APPROVAL OF AGENDA: Moved by Commissioner Grajek, seconded by Commissioner McCreary, to approve the agenda as presented.

CALL TO THE PUBLIC: The call to the public was made at 6:34 pm with no response.

OPEN PUBLIC HEARING # 1... Review of request for rezoning of approximately 198 acres from Agricultural (AG) to Parks and Recreational Facilities (PRF). The property in question is located north of McClements Road both the east and west of Kellogg Road. The rezoning involves parcels 4711-02-400-004, 4711-01-300-005 and 4711-01-300-006. The request is petitioned by the Livingston County Planning Department.

Kathleen Kline-Hudson, Director of the Livingston County Planning Department and Mike Arens, member of the County Parks and Open Space Committee were present on behalf of the petitioner. In 2006 the County was bequeathed the nearly 199 acres of land. Since then, the County has been working to get clear title and to create a master plan the property. They have a small project they would like to implement this summer. They are asking to rezone to the PRF zoning designation in keeping with the intended use. The planning of this property was occurring at around the same time as the current Master Plan was created so the park use is not reflected in the existing Master Plan.

Brian Borden reviewed his letter dated May 7, 2018. The rezoning requires a legislative action following a recommendation from the Planning Commission. This request has been found to be generally compatible with the Master Plan. The plan identifies the site as Agricultural/Country Estate. The current zoning is most compatible with the plan, but PRF is more suitable for the proposed use. This is a predominately rural and agricultural area. Public and recreational uses are allowed in the agricultural district but since this parcel is restricted by the trust agreement to only be used for recreational purchases the PRF zoning makes the most sense.

Gary Markstrom has no concerns with the proposed rezoning. The site has good access and although they existing roads are gravel they are suitable for the proposed use.

Chairman Brown reviewed the fire department letter which indicated all concerns have been addressed.

There are no comments or questions on the Impact Assessment.

Commission McCreary questioned if they had thought about combining the existing 3 parcels into one. Ms. Kline-Hudson responded that they have not considered this and indicated that the property on the west side of Kellogg will not likely be development for some time.

A call to the public was made at 6:46pm with no response.

A. Recommendation of Rezoning

Moved by Commissioner Grajek, seconded by Commissioner Rickard, to recommend to the Township Board approval of the rezoning of approximately 198 acres involving parcels 4711-02-400-004, 4711-01-300-005 and 4711-01-300-006 from Agricultural (AG) to Parks and Recreational Facilities (PRF). **The motion carried unanimously.**

OPEN PUBLIC HEARING # 2... Review of an environmental impact assessment and site plan for the proposed phase 1 of the Fillmore County Park located at on the north side of McClements Road east of Kellogg Road on parcels 11-01-300-005 and 11-01-300-006. Phase 1 includes a driveway, parking area, vault restroom, multi-purpose field, and 5k trail. The request is petitioned by the Livingston County Planning Department.

Kathleen Kline-Hudson, Director of the Livingston County Planning Department and Mike Arens, member of the County Parks and Open Space Committee were present on behalf of the petitioner. Ms. Kline-Hudson reviewed the proposed park improvement project. The County received a Land and Water Conservation Grant from the MDNR which covers 50% of development costs. The other 50% comes from donations from local communities and the County. She thanked Genoa and the other communities including Marion and Howell Township that have helped to fund the park and help provide the matching grant amount.

In response to comments received from consultants, they have increased the drive width and added a hammer head turn around. They have attempted to add everything that was requested but there is concern about the funding because these changes represent cost over-runs from the initial project.

Brian Borden reviewed his site plan review letter dated May 7, 2018. He suggested that the commission condition any action tonight on the approval of the rezoning since the PRF zoning was used as the basis for this review. The Planning Commission can allow use of gravel parking lots as a low impact alternative. Since it is not expected to be high traffic generating use and the project is low impact the Planning Commission, with a recommendation by the Township Engineer, can allow the gravel surface.

In regard to parking, Mr. Borden states that the zoning ordinance does not contain a standard for a public park facility. As a basis, they used PM peak trip generation in ITE manual to come up

with an estimated parking demand. They are required to have one paved barrier free space to meet ADA standards which is provided. The signage is proposed as a ground sign and it complies with the ordinance. They will need to get sign permits from the Township.

Gary Markstrom reviewed his letter dated May 1, 2018. The applicant has made corrections suggested in the first review. Due to the size of the proposed facility and plans for future expansion the use of gravel is appropriate. The Livingston County Road Commission shall approve the new driveway cut and a copy of the LCRC permit shall be provided to the Township for the file. Regarding storm drainage the applicant should consider adding the ditching around the field and should show the total limits of grading on the site plan. They should consider crowning the fields to avoid standing water on the fields. A location for a detention pond that is normally required should be defined on the plans. There is a long ditch along the property line along McClements Road. It is suggested that they add check dams inside the ditches to slow the water down. It should be noted that if the driveway and parking area are paved in the future, they will be required to install a detention pond.

Mike Arens responds that there is a 1.5% slope on the field and they share the concern with ponding. They added a note to the plans to address the ponding concerns. This is only phase 1 and as the park develops they hope to expand the playing field. They don't know the future plans for the property they don't want to spend too much on grading now if there is a chance it would need to be redone in the future.

Mr. Markstrom suggested they crown over the 1.5% slope based on his experience, but indicated it is just a recommendation and not a requirement. Mr. Markstrom clarified that since the park is not proposed to be used in the winter the gravel driveway and parking area can be allowed since snow plowing won't impact the gravel.

Chairman Brown reviewed the fire department letter and indicated all concerns have been addressed.

There were no questions or comments on the Impact Assessment.

Commissioner Rauch asked if the Drain Commissioners office has signed off on the lack of detention. Mike Arens responded that Brian Jonckheere is familiar with the project and supports the existing plan.

Commissioner Rickard questioned when they might pave the driveway and parking area. Mr. Arens indicated that it is unknown when the next phase will occur, but it is likely that it will be some time.

Kathleen Kline-Hudson added that there would be no user fees for the proposed park.

The call to the public was made at 7:04pm with the following response:

Mora Wilkevicz at 485 S. Kellogg Road wants to know the intention of the 5k path. Her property is open and she wants to know how they will protect the private property. She is also concerned with the noise and traffic. She doesn't want strangers or noisy people in her backyard.

Mike Arens responded that the land is planned for passive recreation. They may have recreation play but there are no plans at this time for league level athletics. They propose to mark the property lines and intend to create a buffer from the existing residential. There were public hearings with the neighbors to apply for the grant and they have heard these concerns and intent to keep this park as an amenity to the adjacent landowners. The trail is going to be a wood chip naturalized trail and will be at least 50-100 feet from the property lines. The overall project concerns they recognize are with noise, lighting and traffic. They intend to keep this a passive facility.

The call to the public was closed at 7:10pm.

1) Recommendation of Environmental Impact Assessment

Moved by Commissioner Rauch, supported by Commissioner Grajek to recommend approval of the environmental impact assessment for the proposed phase 1 of the Fillmore County Park located on parcels 11-01-300-005 and 11-01-300-006. The recommendation is conditioned on the rezoning to PRF. **The motion carried unanimously.**

B. Disposition of Site Plan.

Moved by Commissioner Rauch, supported by Commissioner Grajek to approve the site plan dated May 1, 2018 for the proposed phase 1 of the Fillmore County Park located on parcels 11-01-300-005 and 11-01-300-006 with the following conditions:

1. The subject property shall be rezoned to PRF.
2. The parking based on ITE trip generation peak is reasonable.
3. The signage requires a sign permit.
4. The Livingston County Road Commission shall issue a driveway permit.
5. In lieu of detention ponds, check dams shall be installed in the ditch along McClements Road to help control sedimentation.

The motion carried unanimously.

OPEN PUBLIC HEARING # 3... Review of a special use, site plan and environmental impact assessment for a proposed 30,000 sq. ft. automotive assembly building including outdoor storage and storage of hazardous materials for Truck and Trailer Specialties. The property in question is located on a vacant 10-acre parcel located on the west side of Grand Oaks Drive, south of Grand River Avenue (Parcel# 11-05-300-051). The request is petitioned by ACS Build Inc.

Ken and Brian McQuade with ACS Build, Jesse Parkinsen, civil engineer with Greentech Engineering, Al Valentine, architect with GAV & Associates, and Dan and Brian Bouman owners of Truck and Trailer Specialties are present on behalf of the petitioner.

Ken McQuade reviewed the project. Truck and Trailer is an existing business in the Township on Victory Drive. They are proposing a 30,000 square foot crane building with 3 bays. The building

is 200 feet deep and there would be 2 crane weights inside the building. The business takes production heavy duty chassis to make snow plow trucks. They add boxes, blades, plows, etc. to the trucks. Cranes are needed to lift up the heavy plow equipment.

Items needing special consideration this evening include asking for gravel to accommodate the large parts. The large parts include shipments of truck beds and plow blades. These items are not on pallets and are maneuvered on-site using a mobile yard crane.

Additional consideration is requested from the requirement for masonry exterior building materials. Since this is crane building the walls need to move and the masonry doesn't work with the movement of the building. In addition, the new energy code requires more energy efficiency and it is very difficult to do with a masonry building. They are requesting approval to allow an insulated metal panel.

Brian Borden reviews his letter dated May 9, 2018. The request involves special land use and site plan review. The Township Board has authority so the Planning Commission makes recommendations this evening. In general, they have found that the special land use conditions are met with the following caveats:

- 1.) The applicant will need to confirm that no loosely packaged material will be used in the outdoor storage and display areas.

Mr. Ken McQuade responded that there are no loose materials. Only heavy components are stored outside.

- 2.) They are proposing a gravel storage area on the west of the site which must be approved by the Planning Commission following a recommendation by the Township Engineer.
- 3.) They are showing a vehicle display area in the northeast corner of the property which does not meet setbacks and is a bit unusual for a non vehicle sales use. Also, outdoor display is not allowed in the front yard and the building setback would need to be met. Commissioner Rauch questioned if they could move the vehicle display to the area southeast of the building to meet the setback requirements.

Ken McQuade responded that they could move the area to meet the setback. The purpose of the display area is to park the new trucks that are ready for pick-up in a position of prominence. This area would only be used when a client is coming to pick up their vehicle order. Kelly VanMarter asked for the applicant to clarify the use of the display area as discussed this evening in the impact assessment.

- 4.) The applicant is requesting approval to allow 6 foot tall privacy screening in lieu of the landscaping. They are proposing a chain link fence with privacy slats. Mr. Borden has concerns with both aesthetics and maintenance of a vinyl slat chain link fence. The slats can end up in disrepair and are unattractive and may not age well. The applicant may consider a mesh backing similar to a wind screen.

Mr. Brian McQuade distributed hand-outs to the Commissioners showing the proposed fence.

Commissioner Rauch requests consideration for the fence facing Grand Oaks Drive to be made of a nicer product. Since this fence runs parallel with the front of the building it will be part of the look of the building. Perhaps they could they eliminate the fence along the rear (west) in exchange for a nicer fence along the front. They should screen the rear outdoor storage area.

Mr. Ken McQuade states that there is a 3' berm in the front and then it drops off. There is around 5 feet from the edge of asphalt to the back of gravel so you won't see the storage area. The fence material needs to be able to hold up on the proposed 26' rolling gate.

Commissioner Rickard would like to see a decorative fence instead of the chain link fence. The Township Planner could approve the upgraded fence material.

Commissioner Grajek expressed concern with the durability of a vinyl fence on a rolling gate that is moving in the cold. He asked if there is something more substantial that could be decorative but not have maintenance issues.

Mr. Ken McQuade states that the fence they are proposing is the new generation. It is a heavy duty PVC two layer slat that is stronger and resistant to fade. They would like to use this produce because it is low maintenance and durable.

Chairman Brown would like to see the fence product in place somewhere. Mr. McQuade indicated that Etna Industries in Wixom and Detroit Axel on west 8 mile has it.

Commissioner Rauch appreciates the comments and discussion. He understands the maintenance concerns and appreciates its value for that but it is a look that he would like to stay away from.

Mr. Ken McQuade suggests that they submit something for approval between the Planning Commission action and the Township Board.

Mr. Borden suggests that just the fence component comes back. The project can move forward but the fence materials should come back for a Planning Commission review.

Jesse Parkinson adds to the discussion that the proposed landscaping will soften the look of the proposed fence. He suggests that they could change the landscaping plan to provide arborvitae rather than juniper to further help break up the look of the fence.

Commissioner Grajek is not as concerned with the fence. There are a number of other similar type fences along Grand Oaks Drive.

Mr. Borden notes that the gates will be open during business hours.

- 5.) The applicant shall confirm that outdoor storage does not exceed the height of screening. Mr. Ken McQuade confirmed there will not be materials stored taller than the 6' fence.

- 6.) The PIP Plan for the use of hazardous materials is outdated and it is unclear what types of materials will be stored or handled. We need a little more information of what the hazardous materials are to determine if the standards are met. Secondary containment shall be provided for all hazardous materials. Mr. Ken McQuade states there will not be any fuel tanks and they did provide an update PIP Plan which Mr. Borden did not receive. They will provide the necessary information.
- 7.) The building design and materials must be reviewed and approved by the Planning Commission.
- 8.) The applicant is asking for relief from having to landscape the detention pond because the site is so large and is well screened from adjacent properties due to existing woodlands and wetlands. None of the Commissioners expressed any concern with that.

Chairman Brown requested that the applicant talk about the stress of the machines inside the building that is dictating the building materials. Mr. Ken McQuade explained that industrial buildings with cranes typically have metal siding because as the cranes move it racks the steel of the building. The building needs to be able to flex and move. In addition, the new energy code which has been on the books for a couple of years requires that buildings be more energy efficient which is another reason why the insulated metal panel system is preferred. The cranes in the building are 5 ton.

Mr. Al Valentine stated that because of the crane this must be a steel frame building. Steel that is attached to masonry will cause the masonry to crack because of the shifting. The building needs to be insulated to R25 and the roof must be insulated to R38 value.

The applicant distributes the building materials and brochures to the Commission members.

Commissioner Grajek asked if they can't build this building to comply with the ordinance standards to meet the energy code. Mr. Valentine responds that is correct.

Gary Markstrom indicates he has no issues with the gravel storage and he suggests that the applicant use asphalt millings to keep the dust down. Mr. Ken McQuade stated that millings are preferred and would be a cost savings.

Commissioner Grajek questions if there are any concerns with elevation on the site for drainage? Mr. Markstrom responds that there are no drainage concerns due to the elevation and all surface water drains to the back of the property. They have sized the basin for the area.

Commissioner Rickard questioned the 1:3 slopes on the pond and if there is 33% ditch going back. Mr. Markstrom responded to the affirmative and stated that it meets the ordinance. He added that they raised their finish floor elevation to get gravity.

Commissioner Rickard asked if the outlet for the pond would be better directed towards the wetland rather than off-site and she suggested the outlet be turned to the north. Mr. Markstrom agreed that is a good suggestion.

Chairman Brown reviewed the Fire Department review letter and Mr. Ken McQuade responded that they will meet the requirements.

In regard to the Impact Assessment, Chairman Brown asked if trucks will unload on the property and not Grand Oaks. Mr. Ken McQuade responded that all truck loading and unloading will occur on site.

Commission Grajek asked if the outdoor storage for staging equipment is temporary. Mr. Bouman responded that all of the equipment on site has been sold and is temporarily stored until it is placed on the vehicle.

Commissioner Rickard questioned if they really need that much area for storage? Mr. Bouman responded that yes it is necessary for our business.

Chairman Brown reviewed the PIP Plan and offered the following suggested corrections:

Page 2 – misspelled truck;

Page 4 - correct fire department to Brighton;

Page 5 - change “should” to “will” for emergency response coordinator;

Page 7 - fence storage year should be yard; 2 references to no floor drain;

Page 10 – reference to no floor drains;

Page 11 - reference to open drains should be removed, - the plan needs to be consistent in regard to the floor drains.

Page 11 - storage area to be inspected regularly and frequently.

Page 13 - employers should be employees.

Chairman Brown asked if the floor would be sealed and Mr. Ken McQuade responded that the floor would be sealed. Chairman Brown asked that language about the sealed floor be added to the Impact Assessment.

Gary Markstrom questioned if there will be floor drains in the building and if so where do they drain. Mr. McQuade responded that they do have floor drains and they will be tied to the sanitary sewer. Mr. Markstrom indicates that the floor drains cannot drain to sanitary sewer and there will need to be details shown on the plans to confirm there is external tank for pump and haul.

The call to the public was made at 8:21pm with the following response:

Bob Kubinec owns the business directly across the street. He asked if there are components that need to be painted as part of the process. Mr. Bouman states that some components are pre-painted but there are also some that are painted on-site. The on-site paint shop mostly does touch up because the material used is mostly stainless steel. Mr. Kubinec asked how many components are delivered each day and he wanted to know where the trucks will park. Mr. Bouman responded that the component deliveries are not every day and they trucks making the deliveries will park in the back.

Dave Howard with Cleary University has concern of hazardous material and airborne particulates. Mr. Bouman stated that they use hydraulic oils mostly and a little bit of paint for touch up. The OSHA tests for air quality are well above standards. They will have 800 gallons of oil. Everything

else is maybe a case of spray lubricant or other small items like that. They have paint in an approved container.

Matt Bennett with Cleary University adds that the University is trying to provide a center of performance and health in the area and Grand Oaks Drive is a main artery for these elements. There will be lots of students and events happening so there is some concern for this.

Chairman Brown asked if all truck movements will be on-site. Mr. Bouman states that all trucks are maneuvered on site and they get 2 trucks each day.

The call to the public was closed at 8:29pm

A. Recommendation of Special Use Application.

Moved by Commissioner Grajek, supported by Commissioner Rauch to recommend approval of the special use permit corresponding to the impact assessment and site plan for automotive assembly, outdoor storage, and storage of hazardous material for a proposed 30,000 sq. ft. building for Truck and Trailer Specialties located on Grand Oaks Drive on parcel 11-05-300-051 with the following conditions:

- 1) The special land uses include automotive assembly, gravel outdoor storage area, and hazardous material storage as identified in the PIP Plan;
- 2) The Special Land Uses have been found to comply with the criteria established in Section 19.03.
- 3) The 6' screen fence is allowed in lieu of the buffer zone or berm requirements.
- 4) This recommendation is contingent on approval of the site plan and impact assessment by the Township Board.

The motion carried unanimously.

B. Recommendation of Environmental Impact Assessment

Moved by Commissioner Grajek, supported by Commissioner Rickard to recommend approval of the environmental impact assessment corresponding to the special land use and site plan for a proposed 30,000 sq. ft. building for Truck and Trailer Specialties located on Grand Oaks Drive on parcel 11-05-300-051 with the following conditions:

- 1.) A revised PIP Plan as discussed this evening will be provided prior to the Township Board.
- 2.) Dust control measures shall be added.
- 3.) A description regarding the use of the relocated vehicle display pod shall be added.
- 4.) This recommendation is contingent on approval of the special use and site plan by the Township Board.

The motion carried unanimously.

C. Recommendation of Site Plan

Moved by Commissioner Grajek, supported by Commissioner McCreary to recommend approval of the site plan corresponding to the special land use and environmental impact assessment for a proposed 30,000 sq. ft. building for Truck and Trailer Specialties located on Grand Oaks Drive on parcel 11-05-300-051 with the following conditions:

- 1.) The detention outlet will be relocated towards the north wetland on their site.
- 2.) The applicant shall return to the Planning Commission for fence material review and approval related to the front section of the fence which would be visible from Grand Oaks Drive.
- 3.) The fence along the western side of the storage yard can be eliminated.
- 4.) The gravel outdoor storage area can be constructed with asphalt millings to reduce dust.
- 5.) The floor drains in the shop area shall be eliminated from the plans.
- 6.) The alternative building materials are recommended for approval because of the nature of the business. The commission recommends allowing high quality metal panels because of the inability of masonry to satisfy the energy code requirements and the incompatibility of the cranes to flex on a masonry structure.
- 7.) The requirements of the Brighton Area Fire Authority shall be met
- 8.) Construction plan review and easements shall be provided.
- 9.) The vehicle display pod shall be relocated to comply with the setback requirements.
- 10.) The required detention pond landscaping shall be relocated to the front of the site in a matching quantity.
- 11.) This recommendation is contingent on approval of the special use and site plan by the Township Board.

The motion carried unanimously.

OPEN PUBLIC HEARING # 4... Review of an amendment to a previously approved Planned Unit Development and a material change from previously approved site plan for the Athletic fields located at 3575 Cleary Drive, Howell (11-05-400-070). The request is petitioned by Cleary University.

Matt Bennett and Dave Howard with Cleary University and Brent LaVanway with Boss Engineering were present on behalf of the petitioner.

Brent LaVanway gave a brief land history and reviewed the process of creating the Planned Unit Development (PUD) for the University a number of years ago. The signage for the stadium was not well addressed as part of the initial PUD so they are requesting amendments in that regard. The other item requested is building material changes for the stadium site plan project. The site plan was previously approved and they are asking for approval to change some the approved materials.

Matt Bennett with Cleary University addressed the Commission and presented the requested material changes for the site given the use. The proposed new building materials will also accommodate self-contained advertising. The change in materials is to a more decorative sturdy brick material. They are also requesting to install brick with a smooth finish to brand the stadium. Mr. Bennett reviewed presentation renderings and samples of the proposed brick material. He introduced Lake Trust Credit Union as the stadium sponsor. The press box and concession stand will be the "Manchester" cast brick. The stadium will be fully enclosed and the Manchester brick will be carried to the dug outs to keep the consistent theme. The proposed wall will be smooth block to allow for branding to "collegiate up" the facilities.

The previously approved building materials were a cement hardy board on the press box and bleachers. They have found that hardy board is not the best material to be used where there is potential for impacts from athletic materials such as baseballs, lacrosse balls, etc. They have researched other materials options and they would like to propose a "smart side" product which is more durable and appropriate for this application. In studies, the "smart side" product could withstand baseballs at 77 mph where the hardy board failed.

The PUD Amendment for the signage is related to stadium signage that would only be visible on-site and would not be exposed to the public. Cleary University has been actively seeking corporate and community sponsorship of the facility and these partnerships will be essential to enable the facility to be sustainable. The signs won't be visible from off campus.

Brian Borden reviewed his letter dated May 8, 2018. This project involves the Planning Commission making a recommendation to the Township Board for action. There are two components to the request this evening. The first is a site plan amendment for building materials and the second is a PUD amendment for the signs. The building material changes as described this evening make sense and he has no issues with what is being requested.

There is some concern with the proposed wind screen fences due to the fact that there is 1200 linear feet of fencing which means they could have over 150 signs. He feels there should be a limitation on the number of signs.

Matt Bennett responds that approximately 100-150 feet of fencing in center field will not be signs because it will be a backdrop for baseball. Any signage on the fence will have similar colors and there will be a consistent looks for the stadium. He anticipates that primary visibility will be given to the 8 main sponsors. The University wants consistency and they want it to look good.

Chairman Brown supports the advertising for sponsor signs but doesn't want to get involved in product signage. Mr. Bennett indicates that they will not have product signs. They are looking to promote community and corporate sponsors.

Mr. Borden discussed the foul pole signage which is listed as 15' tall. The Township does not allow pole signs so there is concern with this being a pole sign. Mr. Bennett responded that the foul pole signs would be local community partners. He presented a hand out showing what the signage could look like. In the Universities research, they have seen these types of signs in other stadiums and they are only visible from inside the stadium or by walking the perimeter. You will only see the signs from inside the stadium because the signs will only be placed on the seating side.

Commissioner Grajek suggested wayfinding signage. Mr. Bennett indicated that it is planned.

Mr. Borden suggested they eliminate the vehicle display shown on the rendering. Chairman Brown agrees. He views this as a product display and should not be allowed. Maxey Ford could advertise but they don't need to have a product on display. Mr. Borden indicated that this would need to be included in the PUD Amendment if they intend to provide a product display area.

Mr. Bennett responded that they intend to provide exclusivity to sponsors so if you get one sponsor there will not be competing sponsors. They want the option to provide for a special event sponsor and display area as shown. The exterior signage would be limited to 4-5 corporate sponsors.

Mr. Borden cautions that the Township cannot regulate content. We can regulate numbers and sizes but not the message. Mr. Bennett indicates that the University has to appeal to students and families and we ask for a little faith in our team that we want this to look good and we will manage it appropriately. Chairman Brown responds that the Township does have faith in the current team, but we cannot know who the team will be in the future and the Township wants to ensure that the facility will look its best.

Commissioner Rauch questions if all the roads are privately owned by the University. There are 2 access drives currently and you have entry signs at this time. In addition to the entrance signs, the only sign that is visible from off site is the Johnson Center and the water tower. He is inclined to view this as if it's the interior of Lowe's. What is inside your property is inside your property and as long as you can't see it from a public space he is comfortable with it. The visibility is only within a close proximity to the stadium. Commissioner Grajek agrees.

Commissioner Rickard likes the branding of the university. She worries about the clutter but she feels they will self-regulate it. Commissioner Grajek states that this is nothing new for this type of facility. Ball parks have advertising. Mr. Bennett states this will be a community facility. This will be a place that local students will be welcome at and they want the stadium to appeal to them.

Commissioner Rauch suggests a limitation on the fence signs to be calculated as the outfield fence area divided by 10. Mr. Bennett agrees if they foul pole signs can be included in the approval.

Commissioner McCreary asks if there will they be lit signs and if the proposed foul pole signs stick out. Mr. Bennett indicates that only the Lake Trust sign will be back lit and that the foul pole signs will not stick out because they are a vinyl wrap.

Mr. Bennett states that he can add some language about the vehicle or special sponsor display area. He will add some location and duration language.

Commissioner Rauch would like to approve the light pole banner signs.

Call to the public at 9:50pm with no response.

A. Recommendation of PUD Amendment.

Moved by Commissioner Grajek, seconded by Commissioner Rickard to recommend approval of the site plan amendment for building and wall material changes as submitted for the Cleary University Athletic Facility located at 3575 Cleary Drive on parcel 4711-05-400-070 with the condition that the building materials samples become Township property.

The motion carried unanimously

B. Recommendation of Site Plan amendment.

Moved by Commissioner Grajek, seconded by Commissioner Rauch to recommended approval of the proposed amendment to a previously approved Planned Unit Development located at 3575 Cleary Drive, Howell (11-05-400-070) with the following conditions:

1. The PUD Amendment shall be revised to limit the amount of signage on the wind screen fence to the linear feet between foul poles.
2. The vehicle display/special event area in front of the stadium west entrance shall be added to the PUD including terms of location, frequency, and duration.
3. The PUD Amendment shall be approved by the Township Attorney.

Motion carried unanimously.

ADMINISTRATIVE BUSINESS:

Staff Report: Ms. VanMarter stated at Commissioner McManus has resigned from the Planning Commission. They are working on finding a replacement and are considering Jeff Dhaenens from the Zoning Board of Appeals.

There will be two items on the June Planning Commission agenda.

Approval of the April 9, 2018 Planning Commission meeting minutes:

Moved by Commissioner McCreary, seconded by Commissioner Rauch, to approve the minutes with minor corrections as noted from Commissioner McCreary.

The motion carried unanimously.

Member Discussion: There was no member discussion.

Adjournment

Moved by Commissioner Grajek, seconded by Commissioner McCreary, to adjourn the meeting at 10:12 pm. **The motion carried unanimously.**

Respectfully Submitted,

Kelly VanMarter