

**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION
PUBLIC HEARING
JUNE 10, 2013
6:30 P.M.
AGENDA**

CALL TO ORDER:

PLEDGE OF ALLEGIANCE:

INTRODUCTIONS:

APPROVAL OF AGENDA:

CALL TO THE PUBLIC:

AGENDA ITEM #1*... Review of the draft Master Plan and request for submittal of the draft plan to the Township Board for distribution and public review pursuant to the Michigan Planning Enabling Act.

(*Please note that this agenda item is not a public hearing and as such will not be opened to public comment unless otherwise determined by the Chairman. An official public hearing on the Master Plan is required after the public review period.)

Planning Commission disposition

A. Authorize submittal of the Master Plan to the Township Board.

Administrative Business:

- *Staff report*
- *Approval of May 13, 2013 Planning Commission meeting minutes*
- *Member Discussion*
- *Adjournment*



2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

June 6, 2013

Planning Commission
Genoa Charter Township
2911 Dorr Road
Brighton, Michigan 48116

Re: Master Plan

Dear Planning Commission,

As you know the Township has been working on an update to the Master Plan for the past year. The process has been guided by the help of a steering committee consisting of the Township Supervisor, Clerk, Manager, Trustee Mortensen and Planning Commission Chairman Doug Brown. Township staff and consultants worked on updating maps, data, and text last year in preparation for public presentations in early 2013. On February 6th, 2013 the Township hosted a Master Plan Open House to present the rough draft of proposed changes to the plan. The feedback received from this workshop is attached hereto for your review.

As a result of the open house, the Township recognized a need for a more detailed review of the area south of the new Latson Road interchange. Many residents who live along Nixon Road expressed an interest in designating their property as a commercial future land use. To research this issue, the Township requested economic development reports from Ann Arbor SPARK, traffic and land use studies from LSL Planning, and conceptual utilities analysis from the Township Engineer. These studies were then reviewed by staff and used to facilitate meetings with the property owners along Beck and Nixon Roads south of the new ramps. These studies and the presentation for these meetings are included in this package for your review. The majority of these meetings went very well with support from those that attended for the proposed plan. There does, however, continue to be a segment of this population that would like to see high density development along Nixon Road.

Finally, the Township newsletter which was distributed in early May included a series of questions related to the Master Plan. The survey results are also included for your information. The response rate to the survey was 4.5% and the general opinion was that the Latson Road subarea should be kept rural followed in popularity by the campus concept.

SUPERVISOR

Gary T. McCririe

CLERK

Paulette A. Skolarus

TREASURER

Robin L. Hunt

MANAGER

Michael C. Archinal

TRUSTEES

H. James Mortensen

Jean W. Ledford

Todd W. Smith

Linda Rowell

In response to the efforts discussed above and with the support of the Steering Committee, you are being asked to review the draft Master Plan and authorize submittal of the draft plan to the Township Board for review and comment. The Township Board must then approve distribution of the proposed Master Plan. Following Board approval to distribute, Township staff will send the plan to adjacent municipalities and Livingston County for statutory required review. State law requires a forty-two (42) day review period for this entities. Following the review period, the Planning Commission shall hold at least one public hearing on the proposed plan. After the public hearing(s), the Planning Commission will then be asked to pass a resolution of approval the Master Plan. Finally, the Township Board will be asked to either approve or reject the Plan.

I look forward to discussing this matter with you at Monday's Planning Commission meeting. Please don't hesitate to contact me prior to the meeting if you have any questions or concerns.

Most sincerely,

A handwritten signature in blue ink that reads "Kelly VanMarter". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Kelly VanMarter
Assistant Township Manager/Community Development Director

**LETTERS RECEIVED PRIOR TO
FEBRUARY OPEN HOUSE**

February 1, 2013

Ms. Kelly VanMarter
Assistant Township Manager/Planning Director
2911 Dorr Road
Brighton, Michigan 48116

Re: Genoa Township Master Plan

Kelly,

As property owners in Genoa Township in excess of twenty years, we welcome with excitement, optimism, and appreciation the opening of the Latson Interchange and a north-south corridor (Nixon/South Latson Rd.) through our community. Both before and during the project's onset, we have cooperated with Genoa Township, Livingston County, and MDOT to provide any necessary, requested item within our ability. We look forward to continued cooperation with Genoa Township and other agencies to facilitate development opportunities as the entire community stands to benefit greatly from this important and historical public-private investment. The current effort to update Genoa Township's Master Plan is clearly warranted. That said, please note the following comments and consider the following changes to the Master Plan:

- The construction of the long awaited and much needed Latson Rd. Interchange and movement of over 16,000 vehicles per day anticipated along Nixon/South Latson Road will change the character of the area significantly. As such, an opportunity for vibrant growth presents itself.
- The area stands to be among the most significant areas of economic growth and commerce for Livingston County
- Commercial, mixed use, research, medical, and other similar uses are most appropriate and feasible along the Nixon/South Latson Road frontage properties.
- Extend the overall development area of the Latson Interchange and the Nixon/South Latson Road corridor significantly south of Sweet Road to at least Crooked Lake Road, east toward Fishbeck Road, and west to Chilson Road allowing more intensive development, utilizing the interchange's resources.
- We have been approached by interested parties over the last few years relating to significant, commercial uses for our property.
- Flexibility in the Master Plan is needed to allow reasonable use of the properties and allow for market demand to be met so as to accommodate broad ranges of development opportunities, including commercial, research & development, multi-family/higher density housing, office, and medical, among other similar uses, which are certain to occur along this major South Latson Road corridor.
- The Latson Road corridor, including Latson and South Latson Road, transects the center of Livingston County and will consist of an unbroken, heavily traveled thoroughfare.

We appreciate the opportunity to comment on the master planning process. Please contact us at your convenience with any questions or comments.

Regards,

FTAG Investments, LLC

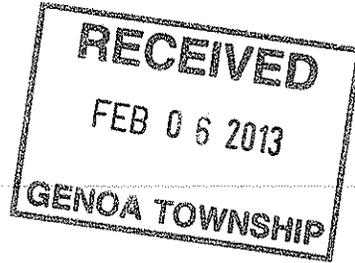
Rudolph C. Hauss

L H & M, LLC

Rudolph C. Hauss

February 4, 2013

Ms. Kelly VanMarter
Planning Director
2911 Dorr Road
Brighton, Michigan 48116



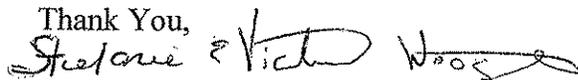
Re: Genoa Township Master Plan

Ms. VanMarter,

My husband and I have resided along Nixon Rd, south of Sweet Road for over 5 years. The effects of opening the Latson Interchange and a north-south corridor (Nixon/South Latson Rd.) through our neighborhood are clearly significant. Our home is located in very close proximity to what will soon be a paved, widened Nixon/South Latson Road. Riding a horse down the road will obviously no longer be remotely safe or appropriate. Initially, significant traffic, commerce, and activity associated with the new thoroughfare may appear challenging for both us and our animals. However, we none the less feel that our neighborhood and the overall community stands to benefit greatly from this tremendous public investment. Please know that we appreciate the opportunity to comment on this important Master Plan update. Please consider the following comments:

- With the construction of the long awaited and much needed Latson Rd. Interchange and over 16,000 vehicles per day expected along Nixon/South Latson Road speeding past our property, further significant growth is expected and should be welcomed in Genoa Twp
- Increased traffic of the above level often leads to increased noise, crime and refuse in a neighborhood. These, among other reasons, make commercial uses more appropriate and feasible along the Nixon/Latson Road frontage properties.
- In light of the Latson Interchange, we have been approached by interested parties over the last few years relating to commercial uses for our property.
- Flexibility in the Master Plan is needed to allow reasonable use of our property, to accommodate broad ranges of development opportunities, including commercial, research & development, office, and medical, among others which are certain to occur along this major corridor.

We appreciate the opportunity to comment on the planning process.

Thank You,

Stefanie and Victor Wooster
2209 Nixon Road

February 4, 2013

Ms. Kelly VanMarter
Genoa Township Planning Director
2911 Door Road
Brighton Michigan 48116

GENOA TOWNSHIP

FEB 04 2013

RECEIVED

Re: Proposed Property Usage and Rezoning Along Nixon Road

Dear Ms. VanMarter;

The building of the I-96 overpass at Latson Road has changed the rural aspect for the homeowners along Nixon Road and while we appreciate efforts made by the Planning Board and Genoa Township in the past to keep the area rural, our rural way of life had been permanently changed by the widening of Nixon Road and the huge increase in traffic to come. The proposed 2 to 3 homes per acre south of Sweet Road does not keep the current Country Estate zoning (i.e., rural) and does not provide for the best use of the property with the new interchange.

As one of the last large open spaces in Genoa Township the proposed Master Plan use should take advantage of this space for future development that requires a large space such as a hospital complex, research complex, office park, or other large development. Certainly your assessment that no new retail box store complex is needed holds true. The proposed zoning area should be from south of Sweet Road to Crooked Lake and east to Fishbeck and west to Chilson. The area should be zoned such that it could not be light industrial or large retail but conform to the above-proposed uses.

Developing south of Sweet Road to look like north Laston does not help the current homeowners who have permanently lost their rural setting and is not in the best interest of the Township in the long run.

Sincerely;

Bruce and Beth Baker
2150 Nixon Road

February 4, 2013



Ms. Kelly VanMarter
Asst. planning director
2911 Dorr rd.
Brighton, Michigan 48116

Sir,

We are writing today regarding the rezoning of properties on Nixon Rd. Our property is 2085 Nixon Rd. , we are right in the heart of the Construction project, just 1 house south of Sweet Road. It is my understanding that the Commercial zoning would stop at Sweet Rd.. I would very much like to see my property rezoned for commercial use as well. I would be in favor of extending the Commercial zoning area farther south towards Three Fires Elementary. There is already a business (Green Houses for Meier Flowerland) operating to the south of my property so I don't believe they would mind. I believe that our property combined with my neighbors property would be quite valuable on the commercial market being a corner lot of almost 5 acres. Our properties were a single parcel a few years ago. We have 4 children and several animals and feel the upcoming traffic that will be on our road will be a danger to the kids and animals, so we wish to move to a quieter road. Please consider stretching the commercial zoning area a little farther south.

Thanks for your hard work,

Dale and Rachel Buxton

2085 Nixon Rd.

Howell, Mi 48843

dalebuxton12@hotmail.com

February 3, 2013

Ms. Kelly VanMarter
Assistant Township Manager/ Planning Director
Genoa Charter Township
2911 Dorr Road
Brighton, MI 48116

GENOA TOWNSHIP

FEB 04 2013

RECEIVED

Re: Genoa Township Master Plan

Kelly,

Thank you so much for the opportunity to comment on the proposed Master Plan for the new 96 interchange, as it will directly affect the way we live. We understand the need for change, and see the interchange as a project that will greatly benefit our community. 26 years ago when we purchased our property, built our home, and began raising our family, we adored the country landscape and lifestyle. Our children, and now grandchildren, have been raised on this land and have had the opportunity to explore safely within the comforts of our own property. As we see the alterations take place to our once country environment, we welcome the changes, but would like the opportunity to grow with them. With the current proposed Master Plan, we feel that our ability to change with the community will be limited.

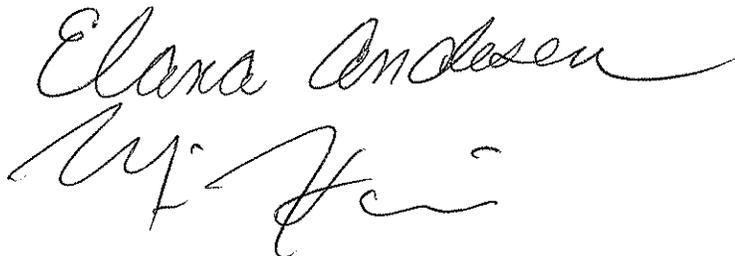
Again, we are in favor of change and can see the positive impact the new interchange will have. However, we would like to see the commercial zoned property be extended to, at least, Crooked Lake Rd. As property owners on Latson/Nixon Rd, approximately 1 mile away from Interstate 96, we would like the flexibility to adapt to this change as we feel fit.

After communicating with our surrounding neighbors, we all feel that adjustments to the proposed Master Plan need to be made. Adjustments that enhance the community and allow the township and the property owners near the new interchange the flexibility to adapt to our ever-changing community.

Thank you for taking our interests into consideration.

Property Owners of 2115 Nixon/Latson Rd.

Elana Andersen & Michael Howitt

The block contains two handwritten signatures in black ink. The first signature is 'Elana Andersen' and the second is 'Michael Howitt'. Both are written in a cursive, flowing style.

Jan. 31, 2013

Ms. Kelly VanMarter
Asst. Township Manager/Planning Director
2911 Dorr Road
Brighton, Michigan 48116

GENOA TOWNSHIP

FEB 01 2013

RECEIVED

Reg. Genoa Township Master Plan

Ms. VanMarter,

As you know, the Raether Trusts and Raether family members have been working with and within Genoa Township since 1966 to acquire and maintain open space for our family and community use. We have built and maintained a licensed public use airport, (which we have chosen not to remove from the tax rolls as provided by law,) numerous wildlife lakes and ponds, and pioneered the reduced tillage of our arable farmland. We desire to maintain this open space for ourselves, and our neighbors as long as viable. This area has provided the sustenance for our four families and numerous customers of our products and labors. Consequently, we are very concerned about the effects of opening a north-south corridor through our community and the Master Plan changes proposed in its wake. While our family dreams and goals may be different from others in the neighborhood, the path to a viable outcome may be the same. Having said the above, we realize that we must be cognizant of any turns that the economy and development path may throw at us. In the interest of preventing suburban sprawl, please consider the following changes to the Master Plan.

- Put flexibility in the Master Plan to allow consideration of a broad range of Opportunities, which are certain to occur along this corridor.
- Extend the influence/development area of the Nixon/South Latson Road corridor south at least to Crooked Lake Road, east to Fishbeck Road, and west to Chilson Road. Raether holdings are contiguous from Fishbeck Road to Nixon/Latson Road, perfect for many usages rather than two acres lots and the resulting suburban sprawl.

In closing, we appreciate the opportunity to comment on the planning process and would reiterate that we treasure our area and hope to remain here as a family, but need a viable strategy beneficial to us and the community, should our desires be frustrated.

Sincerely,

The Raether Family

Rod & Judy Raether

February 3, 2013

GENOA TOWNSHIP

FEB 04 2013

RECEIVED

Kelly VanMarter
Planning Director
Genoa Township
2911 Dorr Road
Brighton, MI 48116

Dear Kelly,

We are residents in the vicinity of the new Latson/Nixon Road interchange. We are writing to provide input for Genoa Township to consider our voice in updating the master plan.

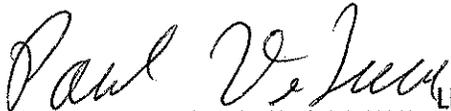
While the interchange will bring development opportunities to our county, it will also forever alter the character of the area for residents in this section of the township. We very much look forward to this development which could include business and job opportunities. With this in mind, we are asking the township to **not limit** the land use possibilities by zoning our property "high density residential" and keep it zoned "residential/agriculture" as it is now. This R/A plan will allow for potential development such as commercial, medical, recreational, office etc., as it does now.

We both appreciate the opportunity to offer our recommendations for consideration in determining future land use for the new Latson/Nixon Road interchange vicinity.

Thank you,

Paul and Lisa DeLuca
2573 Nixon Rd.
Howell, MI 48843

Paul DeLuca



Lisa DeLuca



31 Jan 2013

Ms. Kelly VanMarter
Asst. Genoa Township Manager/Planning Director
2911 Dorr Road
Brighton, MI 48116

GENOA TOWNSHIP

FEB 01 2013

RECEIVED

Kelly,

Thank you for the invitation to comment on the future of Nixon/Latson Road development. We have lived in our home for over 37 years, and have raised three children. One of the goals we had on moving to our property was to teach responsibility to our children, by raising animals and growing a garden for food and recreation. We have had and do have horses, with buggies and sleighs to ride on the road and our property. With the coming of Three Fires School and the new interchange, that will no longer be safely possible. So as one door opens and one door closes we all need to be prepared for the changes that will be coming to our area, and realize the need for these changes, due to the growth of population, traffic and the businesses that go with it. We no longer believe the area will be viable for the purpose which we originally purchased the property. We would ask that the township consider the following...

- . Having enough flexibility to accommodate a broad range of uses. For example research, medical, commercial, office, recreation or other according to market demand.
- . Extend the area of consideration east to Fishbeck Road and west to Chilson Road and south to Crooked Lake Road.
- . With the amount on rail road frontage allow industrial zoned areas for future demand.

We have talked to all our neighbors on Nixon Road and they all agree with the above recommendations.

Thank you again for the opportunity to share our views regarding the Master Plan.


Leo and Brenda Nicholas

FEB 04 2013

RECEIVED

Haralambos (Harry) Kovanis
5393 E. Grand River
Howell, MI 48843

2 Feb 2013

Ms. Kelly VanMarter
Asst. Genoa Township Manager/Planning Director
2911 Dorr Rd.
Brighton, MI 48116

Dear Ms. VanMarter,

In reference to the Nixon/Latson Road development, I ask that the township consider extending the commercial zone. The area to be considered extends east to Fishbeck Rd., west to Chilson Rd., and south to Crooked Lake Rd.

As a property owner on Nixon Rd. for the past forty years, this development changes the purpose of my property. In the past, my property has been used for farming wheat, alfalfa and trees. As the area becomes more developed, it is not feasible to continue to use the land in this manner.

I ask that consideration is given to this request so as to allow options for property use consistent with the changes this development will cause.

Respectfully,



Haralambos (Harry) Kovanis

GENOA TOWNSHIP

FEB 04 2013

January 30, 2013

RECEIVED

Ms. Kelly VanMarter
Assistant Township Manager/Planning Director
Genoa Charter township
2911 Dorr Road
Brighton, MI 48116

Reg: Genoa Township Master Plan

Kelly,

As you are aware the Latson Family Trust has been working in conjunction with Genoa Township and other jurisdictional agencies for many years on the new Latson road interchange. As this interchange is now becoming reality, we appreciate the fact that Genoa Township is undergoing a master plan update for the interchange area. With regards to this update, I would like to offer the following comments for your consideration:

1. Our family, along with many others in the area, have witnessed significant changes to this area which we have called home for many years, and for many like our family, several generations. With the construction of a new interchange, we realize that life as we knew it will soon be a distant memory and the time to embrace this change is upon us.
2. It is anticipated that future traffic counts on Latson Road south of the interchange will approach 16,000 vehicles per day. It seems apparent that with the new interchange this area is destined to become a significant growth area within the county.
3. In the past several years, we have been approached by several entities interested in development opportunities that the Latson interchange could make feasible. These included a large health care facility and a multi sport facility with significant venues. In each of these instances, the parties were interested in significant areas including all of my current property and in one instance several others in the area. These types of facilities in their own way offer unique opportunities which could be highly desirable for our community.

4. It is my understanding that the township has not performed a market study for the interchange area to determine what types of land uses will be most in demand within the forthcoming years. This is of particular concern because most of the area property owners want to see their lands designated with land use designations that are useful and viable in the very near future.

In consideration of the aforementioned items, we would hope that you would consider the following changes to your current master plan draft.

- Extend the influence/development area of the master plan farther south to Crooked Lake Road and west to Chilson Road to allow for more intensive development to utilize the resources that a new interchange will bring forth.
- Develop land use language within the master plan to allow for significant flexibility to accommodate a broader range of uses. While the terms "interchange commercial" and "interchange campus" sound viable, ultimately market demand will determine the viability of this area. As such, flexibility to allow such uses as commercial, office, research, medical, recreational, multi family/higher density housing will allow for creativity and flexibility to insure that land use can align with actual demand.
- This area contains significant frontage along a viable railway system. As most, if not all, of the easily accessible industrial zoned parcels within the township are built out, this area or portions of it should be considered for industrial use should the market warrant such use

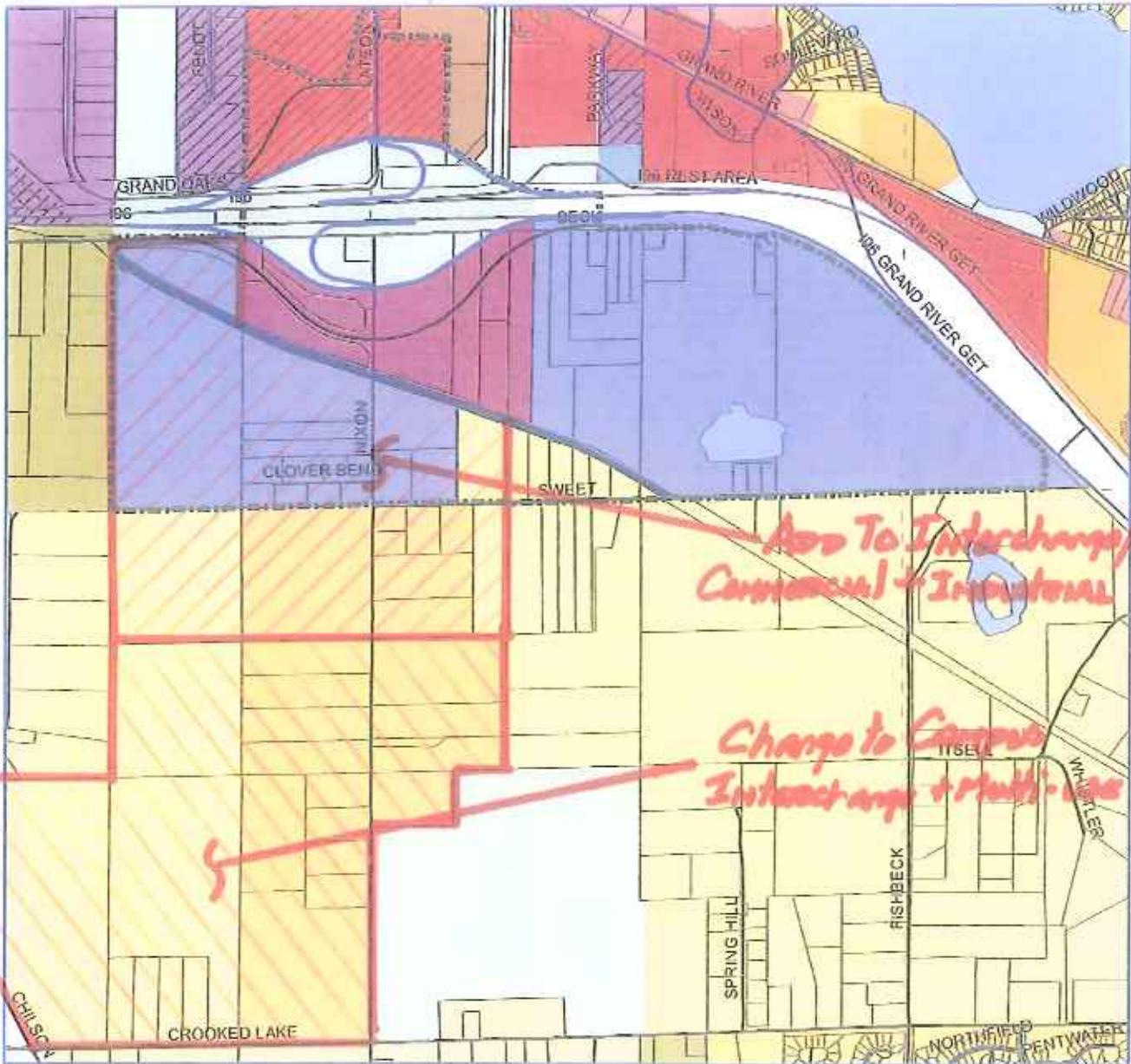
Again, I appreciate the opportunity to provide input into this process and hope that the aforementioned items will be considered. As the opportunity to plan for a significant new interchange has become quite rare in our state, our community and region as a whole can greatly benefit from this occurrence.

Please feel free to contact me directly should you have any questions regarding this matter.

Sincerely,



Charles G. Latson Trust
James L. Latson, Trustee
Genoa Charter Township
Livingston County Michigan



- | | | |
|---|--------------------------------|--------------------------------|
| AGRICULTURE/COUNTRY ESTATE - 5 acres per unit | NEIGHBORHOOD COMMERCIAL | INTERCHANGE CAMPUS |
| LARGE LOT RURAL RESIDENTIAL - 2 acres per unit | GENERAL COMMERCIAL | INTERCHANGE COMMERCIAL |
| LOW DENSITY RESIDENTIAL - 1 acre per unit | REGIONAL COMMERCIAL | |
| SMALL LOT SINGLE FAMILY RESIDENTIAL - 2 to 3 units per acre | MIXED-USE TOWN CENTER | |
| MEDIUM DENSITY RESIDENTIAL - 5 units per acre | OFFICE | Beck and Grand Oaks Relocation |
| HIGH DENSITY RESIDENTIAL - 8 units per acre | INDUSTRIAL | New Ramps |
| MANUFACTURED HOUSING | RESEARCH AND DEVELOPMENT | New Utility Service Area |
| | PUBLIC INSTITUTIONAL UTILITIES | |
| | PRIVATE RECREATION | |

I-96 Interchange Latson/Nixon Road Subarea Plan



Draft: Dec 2012

Data Sources:
Base Map: Genoa Township



NOTE :

The Latson Trust Property, 139 acres, which lies south of the CSX Rail Road right of way.

This portion of the property is L shaped with the access point being south of Sweet Road / the section line.

Per the Twp`s preliminary land use plan the access road for the suggested Campus Interchange portion would have to run through the suggested Residential neighborhood` ? Concern !

FEEDBACK FROM FEBRUARY OPEN HOUSE

Genoa MP Open House
2/6/13

Transportation

- I favor more extensive pedestrian and bikeways including some unpaved for people to hike on, unpaved is easier on the ankles
- Del Sher, Price, and South to Birkenstock interested in shared pathway on Hacker (cost share with Brighton Twp?) to carry folks to Brighton
- What about repaving Coon Lake Road? Add a bike lane?
- Pave roads before walks and paths
- We need more bike paths (I 2nd that!)
- When will Crooked Lake Road be paved all the way to Chilson Road?

Citywide Future Land Use

- Interested in retaining open-space park (like Rose Oaks in Oakland Cty.) at Fullmore Farm – instead of sports park. – Cross streets Kellogg and McClements
- Extend commercial zoning down Nixon Road. – x3
- How do we get Crooked Lake Road paved?
- I own 8 acres S.E. corner of Chilson & Brighton Road. I'm interested in seeing neighborhood commercial extended beyond the sliver there now. Probably intersection expanding there.
- Pave Seim Road.
- Pave Seim Road to private drive off Nixon going east.
- Utilize traffic lights

Latson-Nixon Interchange Land Use

- Why is there such a large area to be developed with the interchange? Why couldn't the integrity of agriculture and large lots have remained?
- Please let us know what mixed uses would be allowed in interchange commercial.
- It would be extremely nice to see a divided street with trees, plantings, etc. separating the commercial areas from residential – a boulevard or similar.
- Public utilities on Sweet Road.
- CA-BUS zoning on Crooked Lake Road
- Pave all of Crooked Lake Road -- x 5
- Need an east-west, paved connecting road south of 96 – like Crooked Lake Rd. – x3
- Why not some industrial along railroad tracks

- Add more commercial land on Sweet Road
- Extend interchange campus to Fishbeck – x2
- Extend freeway campus to Fishbeck
- Higher density commercial along Nixon Road
- Extend commercial to Crooked Lake Road then west to Chilson, mixed use to Fishbeck. – x 3
- Need map to extend south to Chilson Road
- Agree with keeping limited commercial south of 96
- Concern about road width being only 2 lanes on Nixon with extra residential traffic shifted to new interchange
- Does not perk (?), be flexible, future traffic, density shown is not practical

Need big box fuel station – I.E. Flying J

Need to drill new wells for Oak Pointe Water System and use existing three wells in Oak Pointe as back up

The two main wells are located less than a ¼ mile from Round Lake and W. Crooked Lake

Under new laws in the state of Michigan they would not be allowed this close to the lakes

Frank Castle – frankscastle@netzero.net

The township should participate in the Wally Rail (commuter rail) proposal and seek a stop in the township

Sanford Blanton – sanfordblanton@yahoo.com

Questions:

What would percent the milestones from the overpass from being started?

How much tax revenue will Genoa have to raise to pay for this development?

Lonnie Miller – lmiller6@ameritech.net

Please extend bike path south to Chilson – several families including Oak Pointe residents would be able to service it

Keep 5 AC min on parcels South of Crooked Lake Rd.

Carolyn Kerr – 517-546-8252

I would like to have our mailbox on our side of the road. We are worried with the increase in traffic and speed it will be dangerous to cross the street to get the mail. -- 3350 Nixon Road.

We would like to see shared pathway on Nixon Road from Crooked Lake to Chilson

Julie Hutchins – Julie.hutchins@yahoo.com

Great ideas. Love the info – no name given

I fee Nixon south off sweet at least until – no name given

LSL ANALYSIS



Memo

TO: Kelly Van Marter, Genoa Township

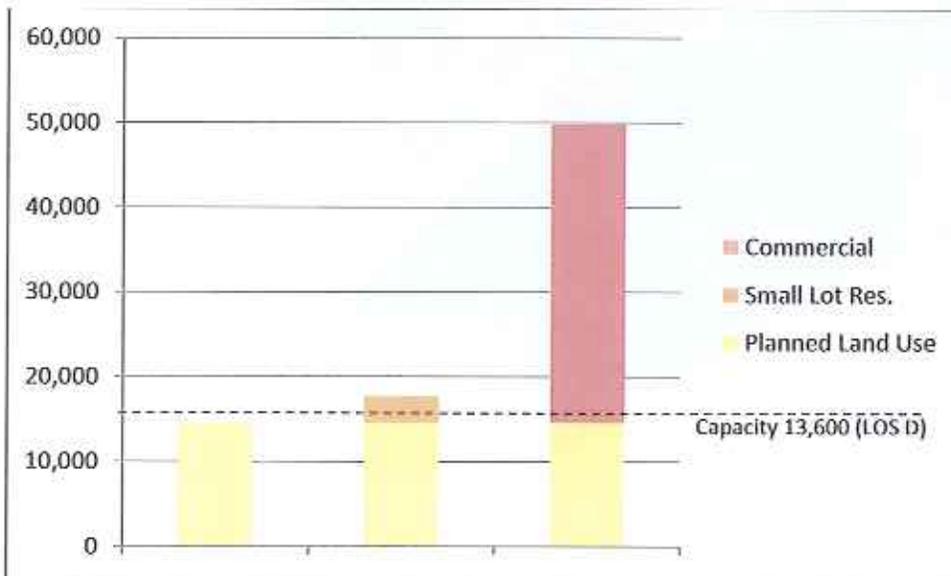
FROM: LSL Planning

Date: 3-29-13

RE: Latson/Nixon Interchange Analysis

Traffic Analysis

- Nixon Road south of the railroad, which will be built as a two-lane road, is designed for a planned land use of large-lot residential and will be at its capacity when built.
- Intensifying this land use to campus or commercial would result in gridlock on a two-lane road.
- To plan for potential future land use change and traffic needs, we suggest 60 feet of right-of-way be provided on both sides (i.e. 120 total feet of right-of-way).



Land Use Type	Acreage (Total/Buildable)	Daily Trips
Medical Campus*	235/157	30,040
Large Lot Residential	170	815
Small Lot Residential	170	3,250
Commercial	170/116	35,307

**This area, as shown below, is recommended to end at the 40 acre lots just south of Sweet, not extend all the way to Crooked Lake.*

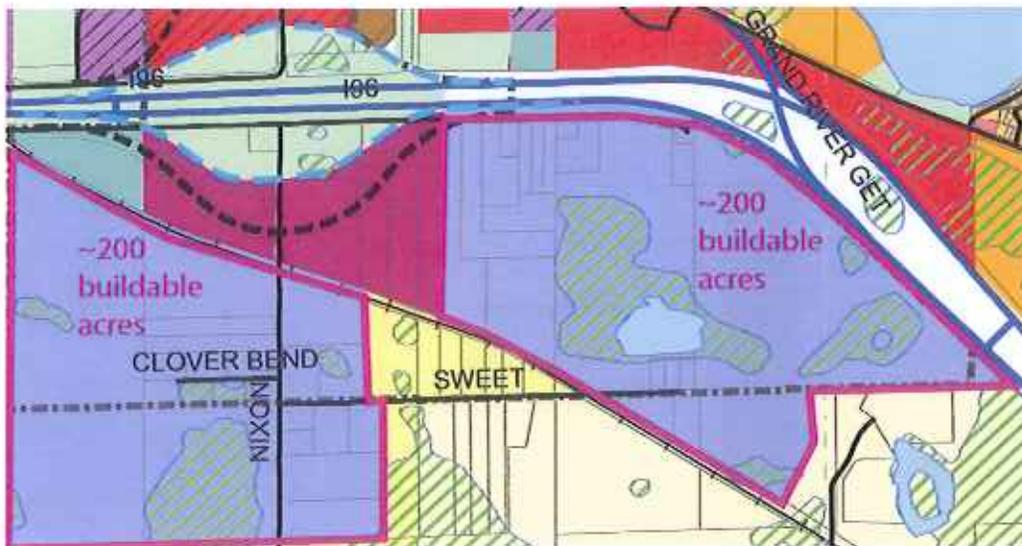
The attached maps show the above alternatives and their associated daily trips.

Similar Interchanges with Campuses

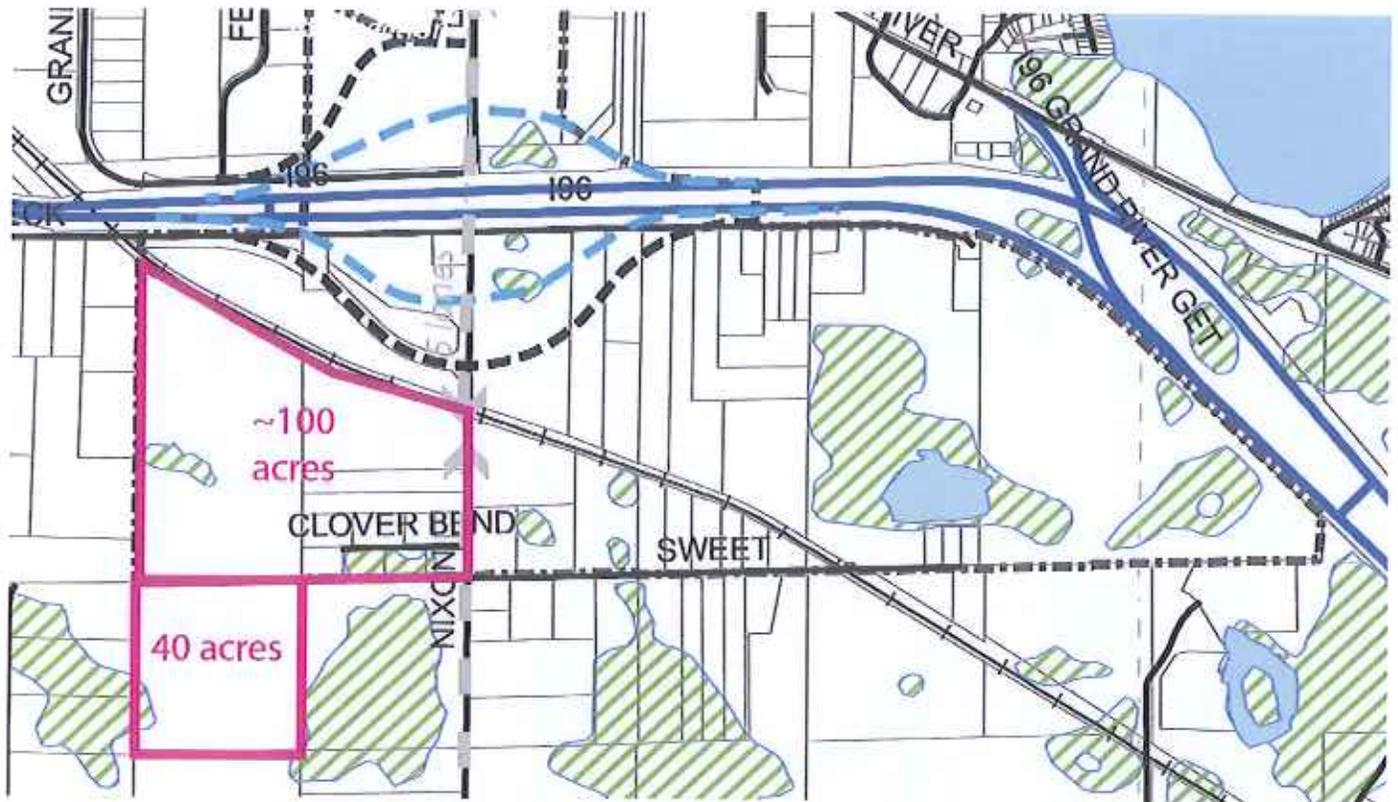
We examined the following interchanges that have characteristics similar to the future Latson/Nixon interchange subarea. The first three were per the suggestions of Ann Arbor SPARK. Okemos, Novi, and Holly had also been brought up in our subcommittee meetings.

- Lansing: MSU Federal Credit Union Headquarters (located away from an interchange)
- Okemos: Jackson National Life Headquarters
- Novi: Providence Park
- Holly/Grand Blanc: Genesys Medical Center

In the attached aerial diagrams, we outlined the general area of each campus on the sample site and placed that outline on an aerial of Latson/Nixon of the same scale. Each of these four campuses would fit neatly in the areas designated as Interchange Campus on the proposed Future Land Use map for the subarea. As a result, we recommend maintaining the campus designation as shown at the public open house with the additional extension south of the two 40-acre parcels on the west side of Nixon and those parcels fronting Nixon on the east side, as shown below.



Subtracting the wetlands, (shown as areas with green hatch), each area designated as Interchange Campus contains 200 buildable acres.



Recommendations from Ann Arbor SPARK:

- A 100,000 sq. ft. HQ (multi-story) would require at least 20-25 acres.
- Some of the recent medical facilities around the area (e.g. Brighton) are in the 75-80 acre range
- BAE Systems in Sterling Heights used 85 acres for their facility, including 20 acres for a test track.





Beck Rd/I-96



Providence Park in Novi

Latson/Nixon



Okemos/I-96



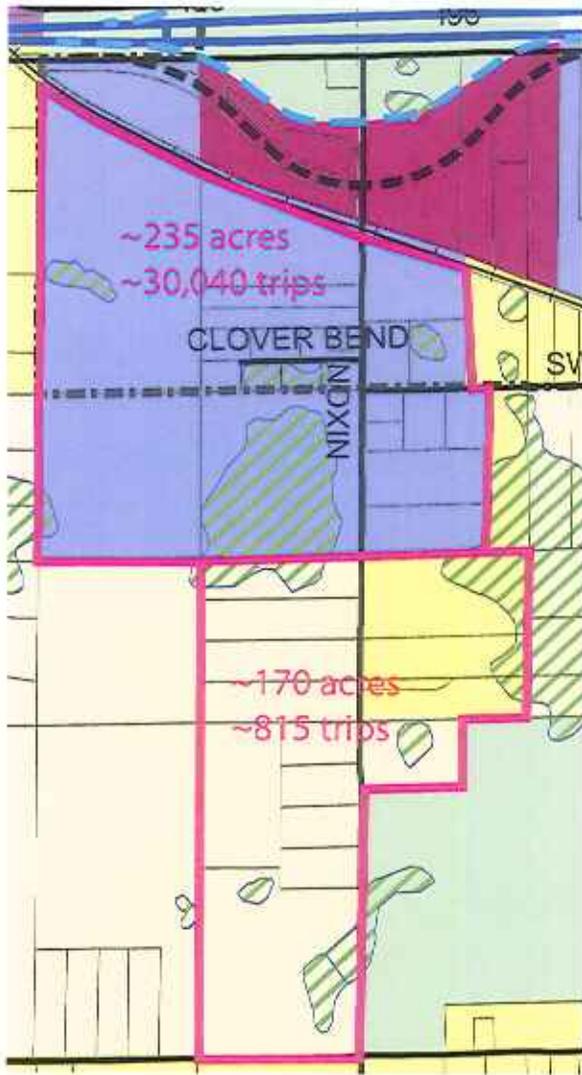


Holly/I-75

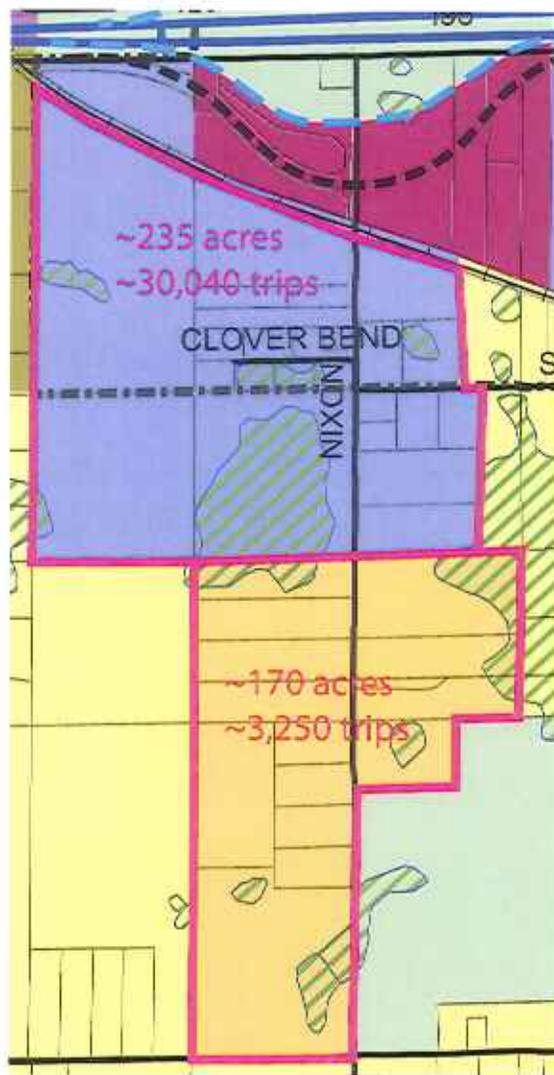


Genesys Medical Center at Holly Road

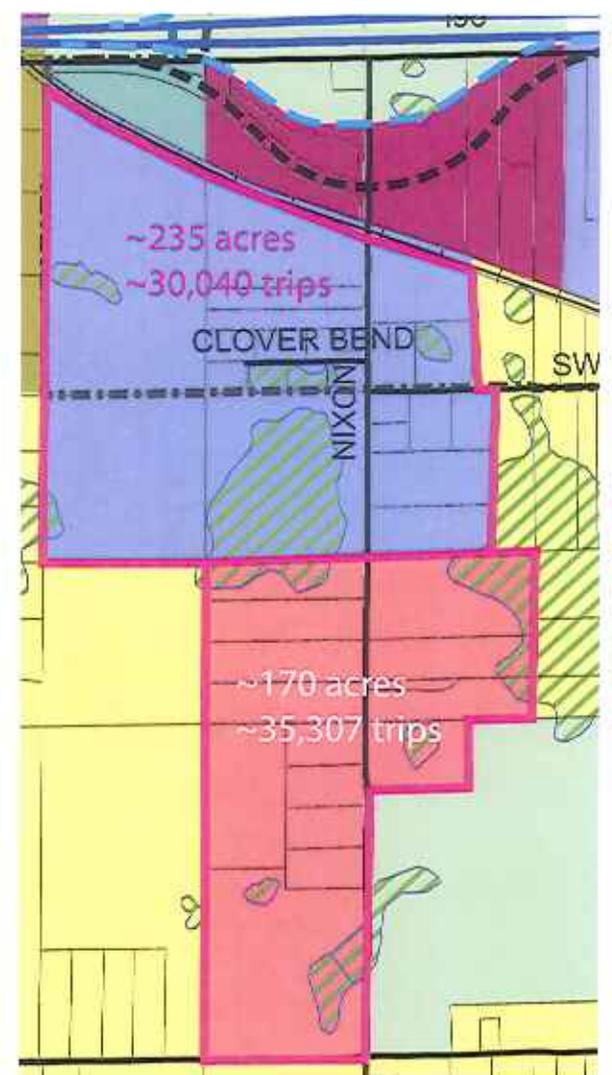
Latson/Nixon



Large-Lot Residential



Small-Lot Residential



Commercial

Traffic Generation Comparison

SPARK REPORTS (2)

March 5, 2013

Ms. Kelly VanMarter, AICP
Planning Director
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

RE: Latson Interchange & Development Opportunities

Mr. VanMarter:

The new Latson Interchange with I-96 represents a significant opportunity for development in the Ann Arbor region. We are excited that Genoa Township is currently considering a revision of the master plan to include growth opportunities for the new interchange, and look forward to working closely with the community on creating a plan that will encourage the type of development desired by the area.

Ann Arbor SPARK's mission is to advance the economy of the Ann Arbor Region by meeting the needs of businesses at every stage of development in industries that grow the regional economy. Through our work, we have encountered growth opportunities of all sizes and within a variety of industries. Our core competency is not master planning; however, the creation of a new interchange is uncommon and calls for consideration from a multitude of perspectives, including economic development.

Genoa Township has actively sought the input of residents and interested parties related to the I-96 interchange with Latson Road, publishing a draft master plan update and holding public meetings to describe the proposed updates.

Based on the draft proposal, a significant portion of the property south of the interchange would be classified as "Campus Interchange" in the revised master plan. "Campus Interchange" envisions large scale development, which includes uses like higher-education, a medical center, an indoor sports center, or a research & development/headquarters space.

Our experience in identifying growth opportunities for research & development centers and headquarters locations provides us with some insight into the needs of these opportunities. Based on this experience, we would recommend that the community consider the following factors during the planning and development stages associated with the new interchange:

- **Consider expanding the territory of the proposed "Campus Interchange."** Under the current draft, the corridor south of I-96 on the current Nixon Road to Crooked Lake will contain elements of Campus Interchange, as well as Small and Large Lot Residential extending to

Crooked Lake and Nixon. By extending the “Campus Interchange” development area further south and west, the area may become more attractive for large-scale users. The current development area is limited by potential setback requirements associated with “Campus Interchange” and the existence of wetlands on some sections of the draft. By extending the “Campus Interchange” coverage area, concerns associated with limited development area may be reduced.

- **Identify existing infrastructure and options available to extend infrastructure to the development area.** Infrastructure like sewer, water, gas and electricity are vital components in attracting a large-scale development like those sought in “Campus Interchange.” At a minimum, the Township should identify the existing location of these infrastructure elements for potential users. The Township should also consider developing options and plans to provide the new development area with access to these resources. Providing the market with an understanding of what is currently available, and how the Township plans to provide access to this infrastructure will encourage the type of development sought by the Township in the draft master plan update.
- **Consider broadening the definition of “Campus Interchange” to focus on the aspects of development, not industry focus.** Develop a clear “vision” for “Campus Interchange” which indicates the *type* of development the community would hope to attract the area, but do not limit the opportunities to one or two industries, which could discourage other opportunities. Consider utilizing a form based code regulation for the development area, which focuses on “the form of the built environment and not as much emphasis on what goes on inside the built environment.” More information can be found at the Form Based Code Institute (www.formbasedcodes.org).
- **Provide a clear means for amendment.** Establishing a clear mechanism to amend the master plan in this region that is clear and well documented. Consider including a provision that would allow administrative changes to the existing plan up to a defined point determined by the Township Board. This would allow the Township to remain responsive to appropriate development opportunities that present themselves over the course of time.
- **Post an online “Property Information Package” to Genoa Township’s website based on “development ready” best practices.** The information package would include the vision for the development area; a property survey; current and future zoning; traffic studies; available infrastructure and other elements. The “information package” may also have a draft site plan or information on the type of architectural elements desired by the community that could be used to market the site for location. More information on this type of package can be [found here](#).



- **Establish a one business day return call timeframe regarding any new development in the region.** The Township is already responsive to questions and needs under its purview, but by identifying a timeframe for a return call or email, potential development will understand the importance of this project to the Township.

As an attachment, we have also included a review of the new interchange area from Paul Fontaine of Fontaine Urban Design, who has an extensive experience in planning and development projects around the country. His review provides some more specific details on the property that may be of assistance to you during the planning process.

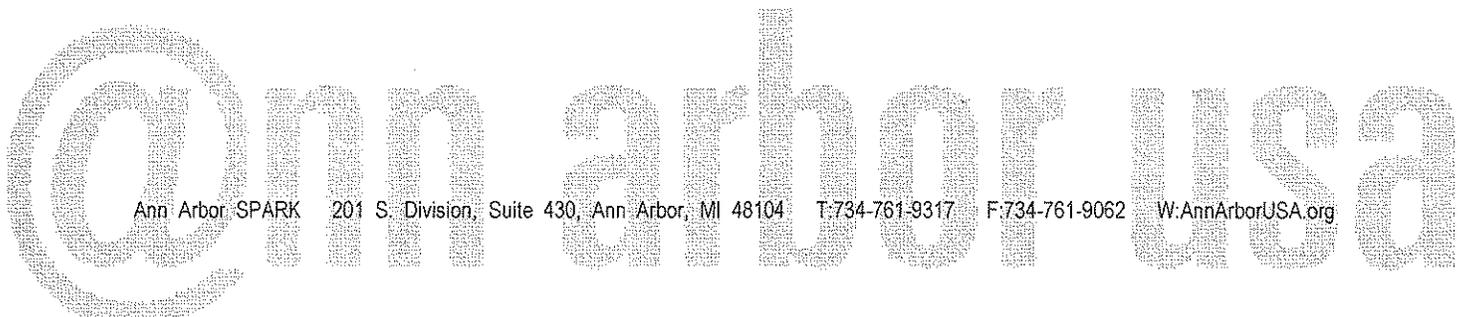
Please do not hesitate to contact me with any questions. We look forward to working with you on development near the new interchange.

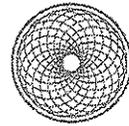
Thank you,



Phil Santer
Senior Business Development Manager
Ann Arbor SPARK

CC: Michael Archinal, Genoa Township
Luke Bonner, Ann Arbor SPARK
Gary McCririe, Genoa Township





Fontaine Urban Design

Report

Phil Santer
Ann Arbor SPARK
RE: Latson Interchange

February 28, 2013

1701 Arborview
Ann Arbor, MI 48103
T 734.834.6344

Hi Phil:

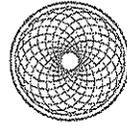
To maximize the Latson Interchange's Campus Zoning district, here are a few suggestions:

Goal:

To attract a Class A occupant(s) and developer(s) that establishes S Latson Road as a major employment center on par with the best research campuses in the Midwest. Such users will require high capacity access, the reassurance their investment will be protected by well thought out design standards that maintain a corporate rural character, and maintenance operations to ensure the streets are safe in all weather conditions and time of day.

Access:

South Latson Road: (currently named Nixon but recommend keeping the Latson name to avoid confusion) south of I 96 should be 4 lanes, including a bridge to allow continuous movement over the existing rail line. 4 lanes should be maintained for a minimum of 2500' to the south to allow for 2 major, aligned access points to parcels east and west. One access point should take advantage of the existing Sweet Road right of way and may allow for the construction of a connected loop network to Beck Road to the North on both sides of Latson (see image). Ideally, these major access points should be planned to both operate as signalized intersections. The second of the 2 major access points should be a minimum of 500' from the 3 Fires Elementary School to ensure peak hour traffic does not interfere with school operations.



Fontaine Urban Design

Report

1701 Arborview
Ann Arbor, MI 48103
T 734.834.6344

Chilson Road: 1 80' access easement tshould be identified to connects Chilson Road to an internal road system that services properties on the west side of S. Latson Road. The easement will help distribute Campus related traffic to adjacent streets while greatly increase emergency access.

Beck Road: Plan for Beck Road west of S. Latson to also have a bridge above existing rail lines to improve circulation for commuters and emergency vehicles as well. When a bridge is created, expand Beck from S. Latson to Chilson Road to the west to 4 lanes. Beck Road east of S. Latson will need to be extended to connect with an expanded Sweet Road / Fishbeck intersection to create a 2 corridor access network. This option will be challenging for it will also require a bridge above the existing rail line and will have to navigate the extensive wetlands that are present in this part of the community.

Crooked Lake Road: While extending the Campus zoning designation down to Crooked Lake Road will allow for a consistent corridor, no access points should be allowed to protect existing uses and traffic patterns.

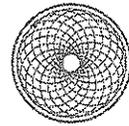
Design Guidelines:

Setbacks: consider implementing a setback that averages 150' adjacent to all non Campus uses. The setback serves 3 main purposes: to protect the existing rural character and residential values; to create an area for trails, recreation; and to protect wildlife by establishing habitat corridors and allow for more natural site drainage.

Signage: New language will be needed in the zoning ordinances to ensure the rural character is protected on all Campus zoning area edges.

Campus: Define look and feel of desired outcome - split rail fencing /college campus / high tech r and d?

Internal Roads: should be required to maintain existing rural character while ensuring safe, connected traffic patterns are created.



Fontaine Urban Design

Report

Green: have strict tree protection ordinances and consider energy use items as well. Green standards are the norm for the best Campus occupants and reassures them that others who follow will have similar values.

Zoning Configuration:

Extend Campus Zoning Designation to Crooked Lake Road on the west side of Latson Road, and to 500' of the 3 Fires School on the east side of Latson road to maximize investment in interchange and associated bridges.

Maintenance: Consider creating a BID to allow for the occupants to pay for their own shared maintenance areas and for snow removal. The best Campus occupants usually have standards far above most smaller civic entities. By allowing a BID designation, the occupants are free to meet their needs without undo financial burden on the community.

Please don't hesitate to contact me if you have any questions or concerns on these ideas/ observations on the Latson Interchange.

Sincerely,

Paul Fontaine

1701 Arborview
Ann Arbor, MI 48103
T 734.834.6344



FONTAINE URBAN DESIGN

1701 Arborview Blvd
Ann Arbor, MI 48103

T 734.834.6344

August 22, 2012
Phil Santer
Ann Arbor SPARK

RE: proposed Latson Interchange site / with attached pros and cons graphic

Dear Phil,

The Latson interchange site can easily accommodate a variety of large institutional users. The existing mature trees, minimal existing water features / wetlands, and relatively flat site offers site design flexibility. Large institutions can choose between a loop road campus layout, a modified grid, or a new neighborhood format. The primary limiting site factor for a higher density layout is vehicular access.

With an existing rail line separating the acreage that fronts I-96 from the majority of the site, a grade separated bridge is practically mandatory for the site to achieve a density that merits a new interstate interchange. In addition to a bridge over the rail line, additional access points will be necessary. To ensure Nixon Rd. does not become the sole traffic carrying route, connections to Chilson road should be required. With Chilson Rd. connections, a road network that has links to 2 inter-state interchanges can more evenly distribute traffic volumes generated by a large institutional user.

The only other significant issue in having a large institution locate on the Latson Road interchange site is adjacent land uses. With major changes in road capacity and traffic flows, there will be increase pressure to change the zoning on adjacent parcels to accept higher density, more commercial uses. One advantage the Latson site has over other large, unbuilt sites is the adjacency of an already regional commercial corridor along Grand River.

Recommendations:

1. Build grade separated rail bridge to maximize the public's return on investment in the Latson interchange
2. Update Master Plan to reflect anticipated traffic patterns
3. Apply design standards to all Latson interchange sites to ensure adequate buffering of adjacent residential homes, accommodate wildlife corridors, and implement cost effective sustainable strategies

Sincerely yours,

Athanas Fontaine

Pros:

- * Interchange connects retail to site
- * Few residential neighbors
- * Good natural features / value adding
- * Large contiguous areas suitable for building
- * Close to highly desirable lake areas
- * Within 5 miles of both Howell and Brighton downtowns
- * New upscale elementary school shows interest in area

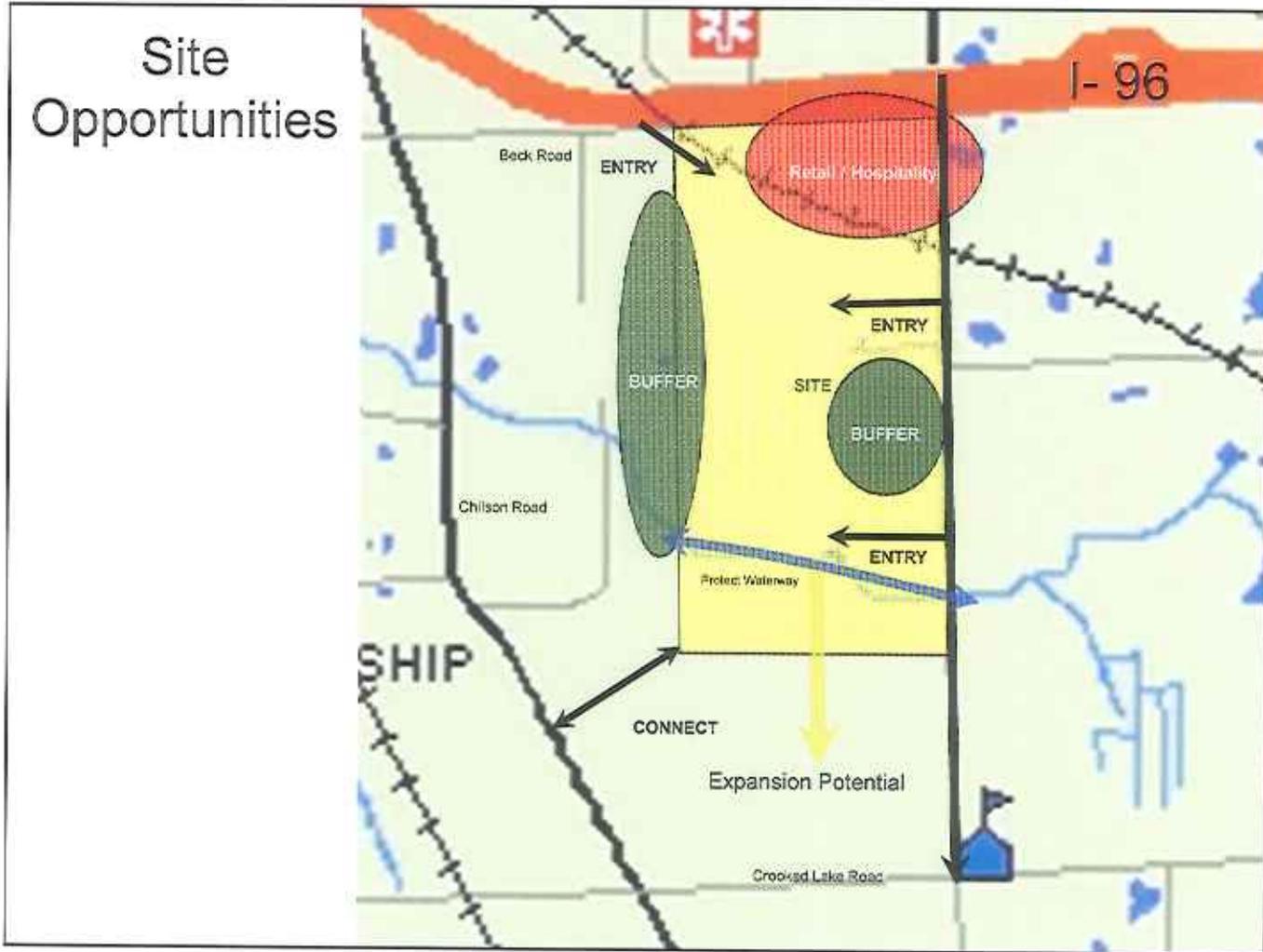
Cons:

- * Beck and Nixon Roads will require grade separation from existing rail line to handle expected traffic flow
- * The need for additional access beyond Nixon Road
- * Rail separates potential retail / hospitality area from rest of campus
- * Relatively wealthy area - NIMBY



Genoa Township

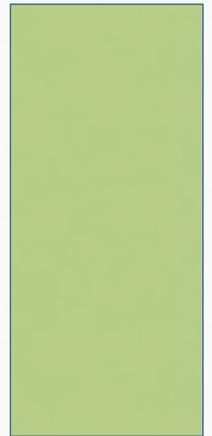
Nixon / Latson Interchange Site



**NIXON/BECK ROAD
PROPERTY OWNER MEETINGS
PRESENTATION**

LATSON INTERCHANGE FUTURE LAND USE

PROPERTY OWNER MEETINGS



FEBRUARY WORKSHOP COMMENTS

- Have meetings with small groups of property owners in the area directly affected
- Allow high density commercial along Nixon road, west to Chilson
- Extend campus classification east to Fishbeck
- Keep integrity of agriculture and large lots
- Bring public utilities
- Pave Crooked Lake Road
- Allow industrial along railroad
- Limit the amount of commercial south of I-96
- Nixon road cannot handle the traffic, density shown is not practical
- Add flexibility into the plan

ADDITIONAL STUDIES
AND RESEARCH

SPARK REPORT

(ECONOMIC DEVELOPMENT)

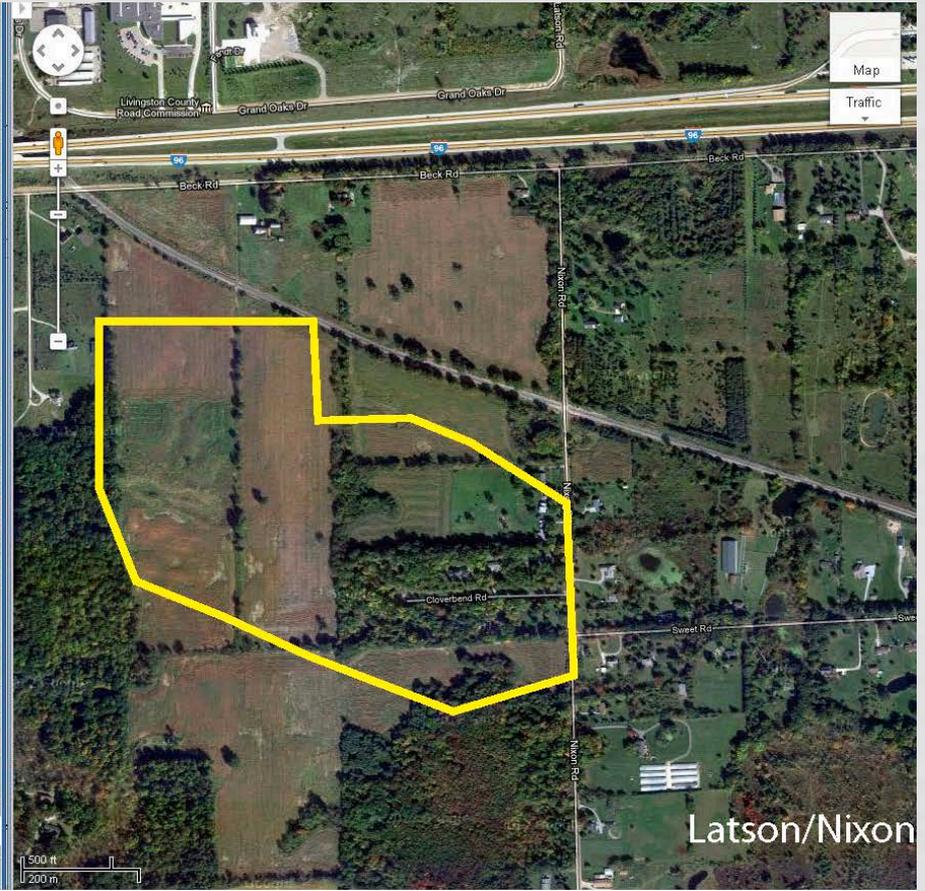
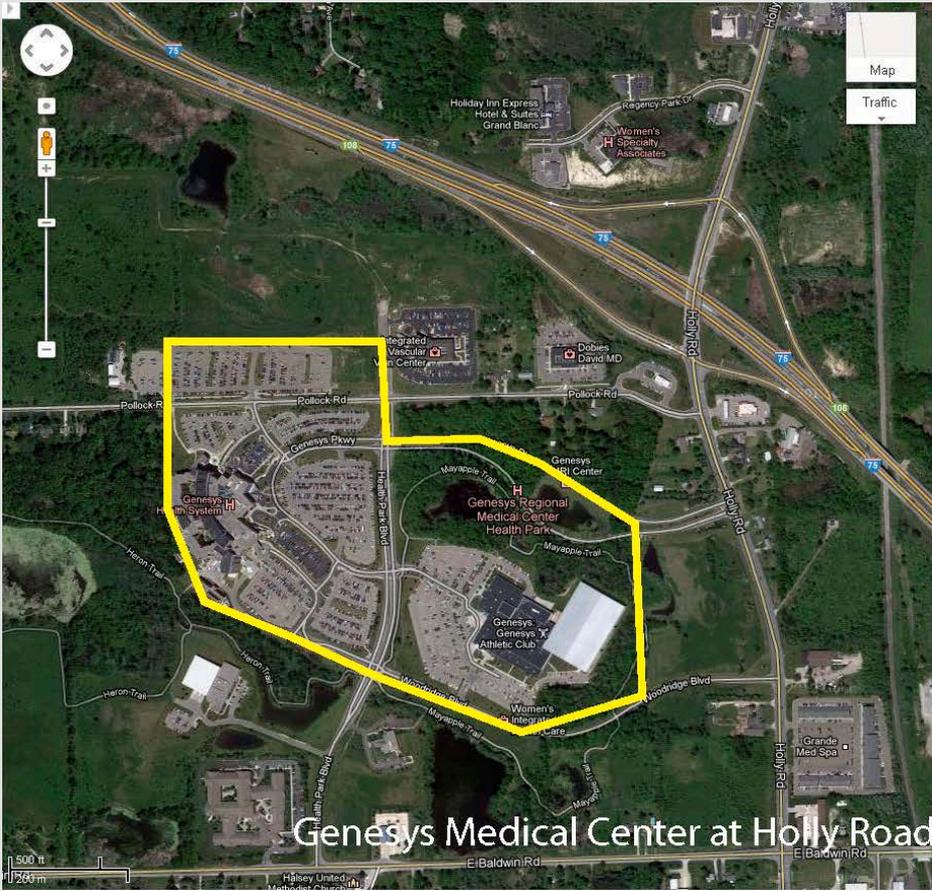
- Ensure campus area is large enough to attract a large user.
 - Corporate headquarters would be looking for 20-25 acres. Medical or research facilities may look for 75-100 acres.
 - Examples of similar developments that would fit this area include Genesys Medical Center at Holly Road, MSU Federal Credit Union north of Lansing, Jackson National near Okemos, and Providence Park Hospital in Novi.
- Identify Infrastructure
- Use Development Ready Best Practices
 - Property Information Package
 - Quick Response to New Development
- Provide clear means for amendment to plan.

FINAL ENVIRONMENTAL IMPACT STATEMENT AND EVALUATION

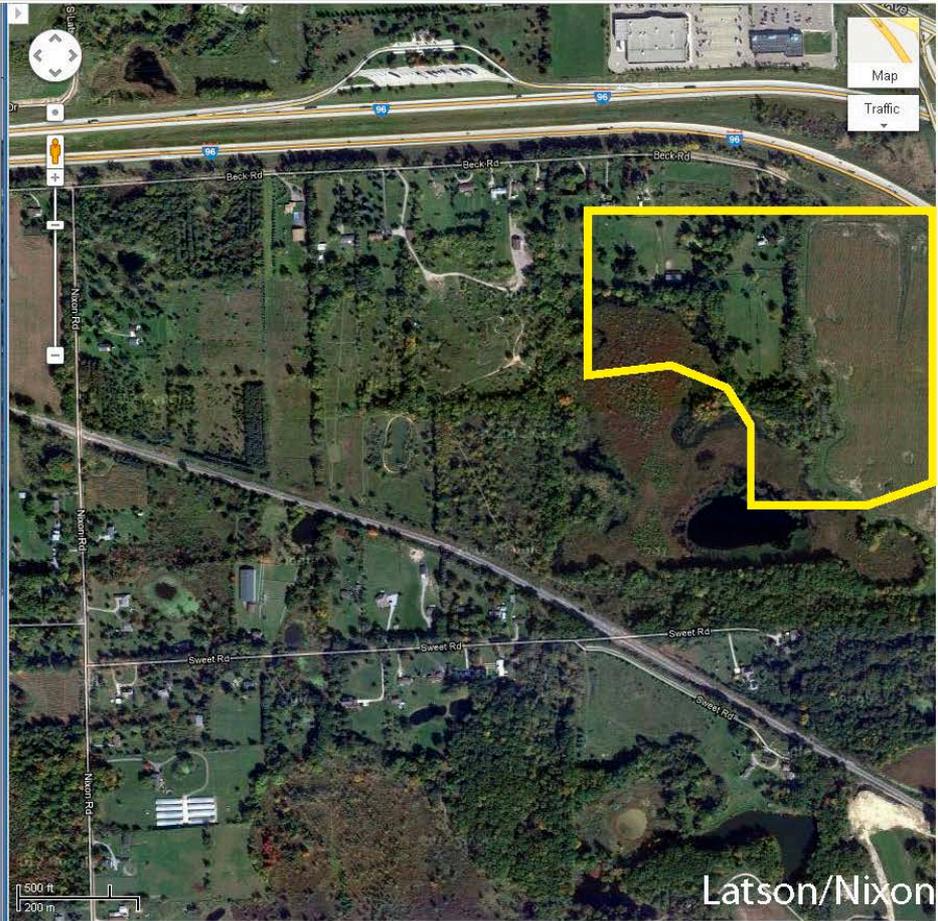
- Environmental Impact Statement approved on 6/21/2000 makes multiple references to “protect(ing) the character of the rural residential neighborhoods south of I-96 by preserving natural features, limiting density and preventing the intrusion of non-residential uses beyond the interchange area” .
- “While improvements to Beck and Nixon Roads must be designed to provide safe and efficient vehicular operations, the design will include efforts to maintain some of the rural character including a rural roadway cross section with side slopes and ditches.”

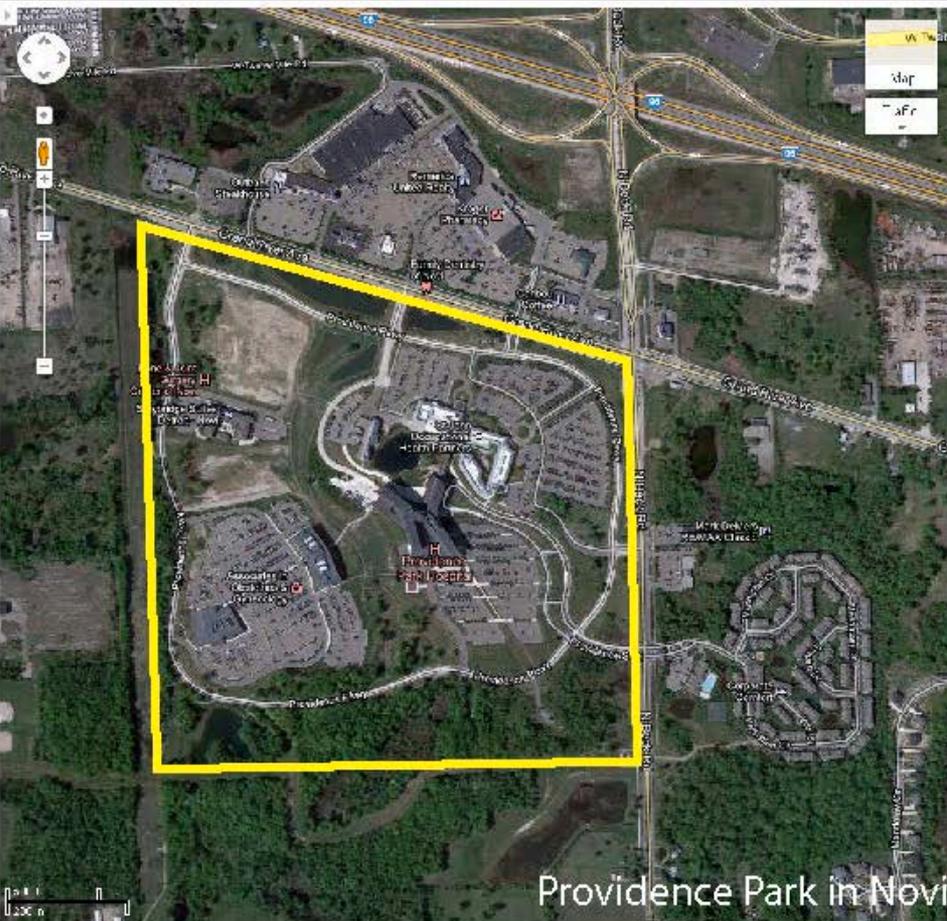
LSL PLANNING

- Nixon Road south of the railroad, which will be built as a two-lane road, is designed for the planned land use of large lot residential and will be at capacity when built.
- Extending commercial or campus to Crooked Lake Road would result in grid-lock.
- The campuses suggested by SPARK would fit neatly in the areas designated as Interchange Campus.

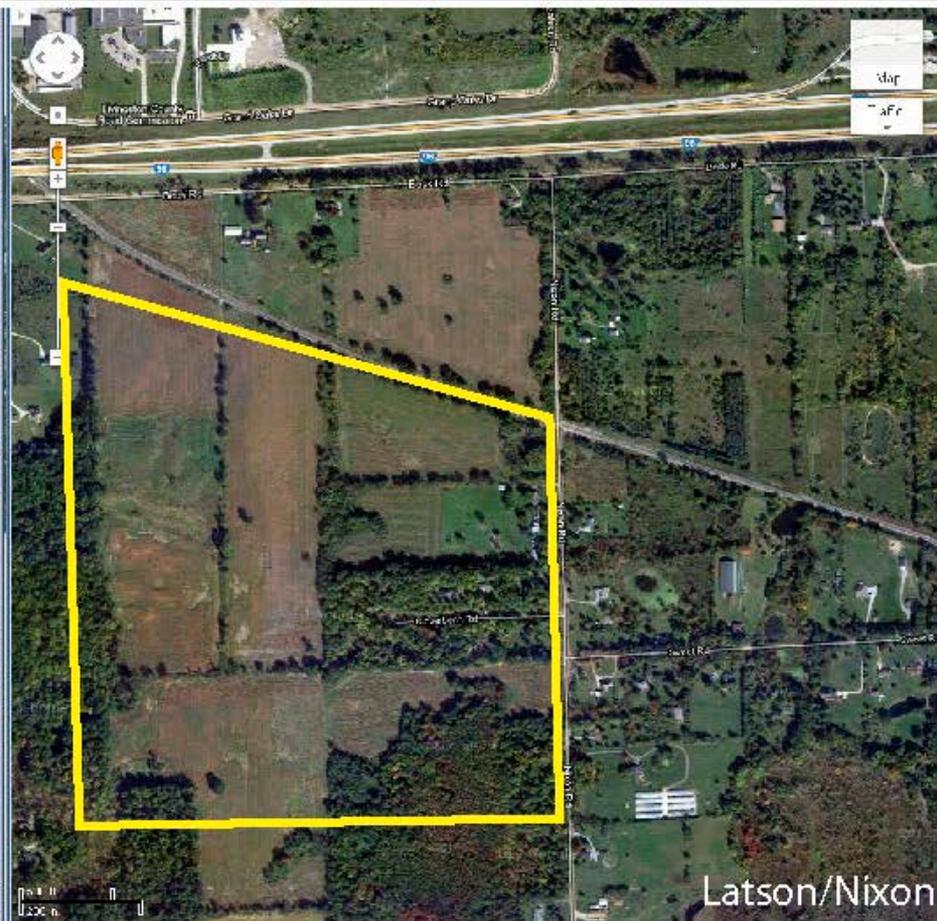








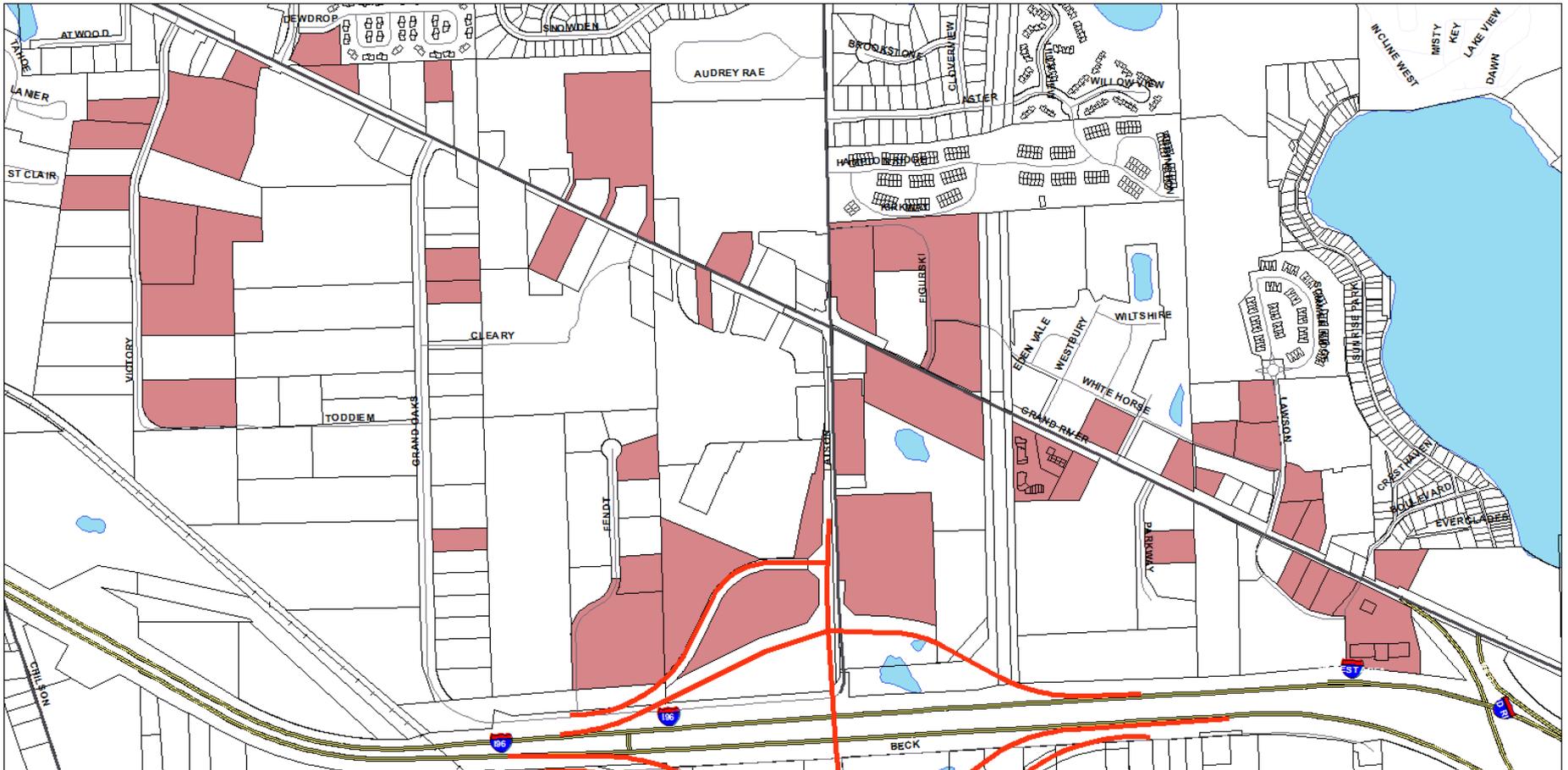
Providence Park in Novi



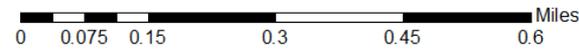
Latson/Nixon

CONCERN FOR GRAND RIVER

- An extension of commercial land uses south of the railroad tracks on Nixon Road could exacerbate the struggles of current Grand River businesses and property owners.
- Numerous vacancies exist in the Grand River Corridor near Latson Road and allowing a new development area prior to saturation of the current market could lead to blight and increased vacancies within the corridor.
- We don't want to promote "leap-frog" commercial development



Commercial/Industrial Vacancy Locations



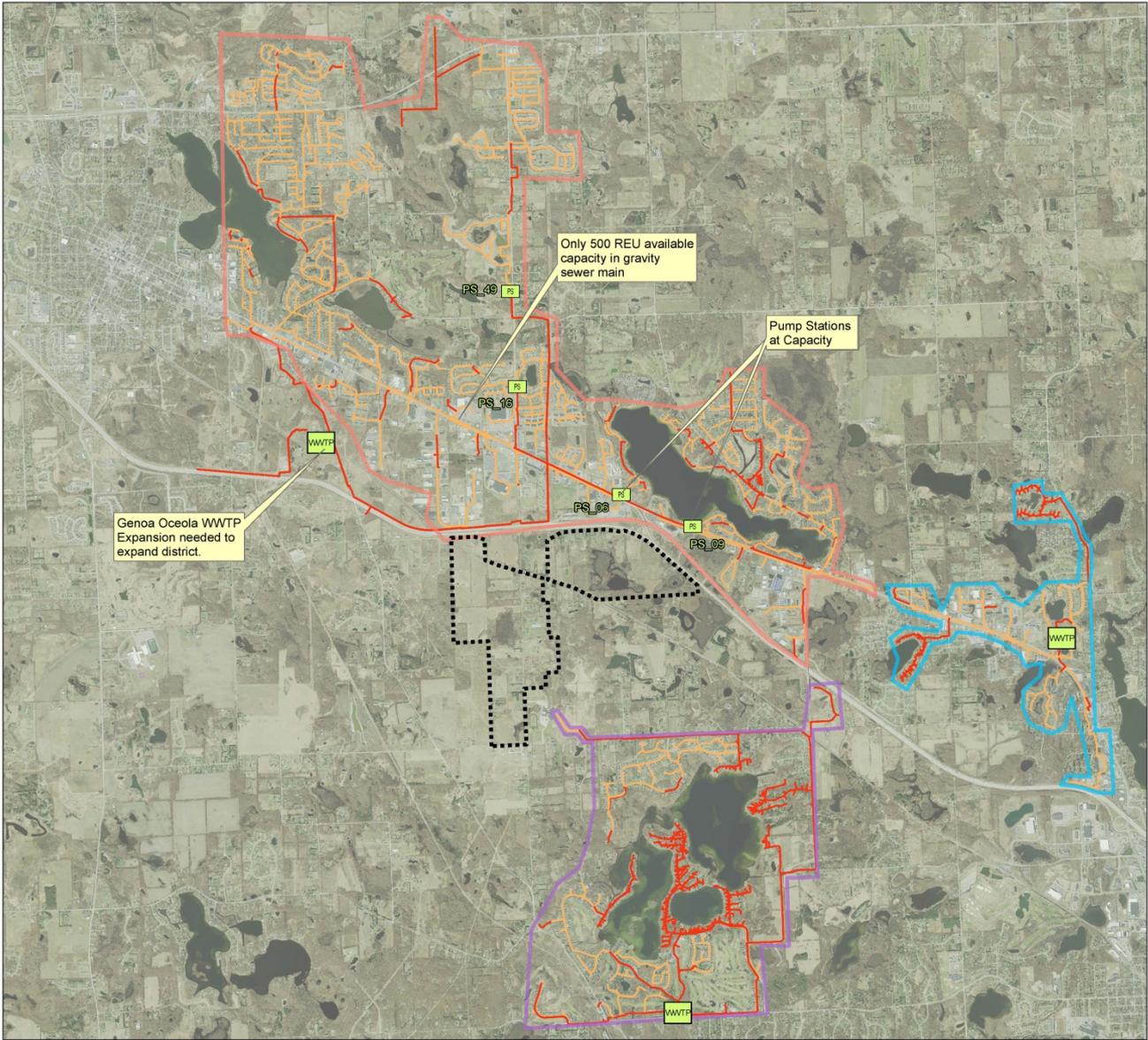
Legend	
Genoa_roads	 Vacancies
CartoClass	 Parcels
 IN	 Lakes
 MJ	 Ramps_LatsonRd
 MN	
 NR	



UTILITIES

MUNICIPAL WATER AND SANITARY SEWER

MHOG Existing Sanitary Sewer Service Areas



Legend

-  Wastewater Treatment Plant
-  Pump Stations
-  Gravity
-  Force Main
-  Possible District Expansion
-  Genoa-Oceola Existing Service Area
-  Lake Edgewood Existing Service Area
-  Oak Pointe Existing Service Area

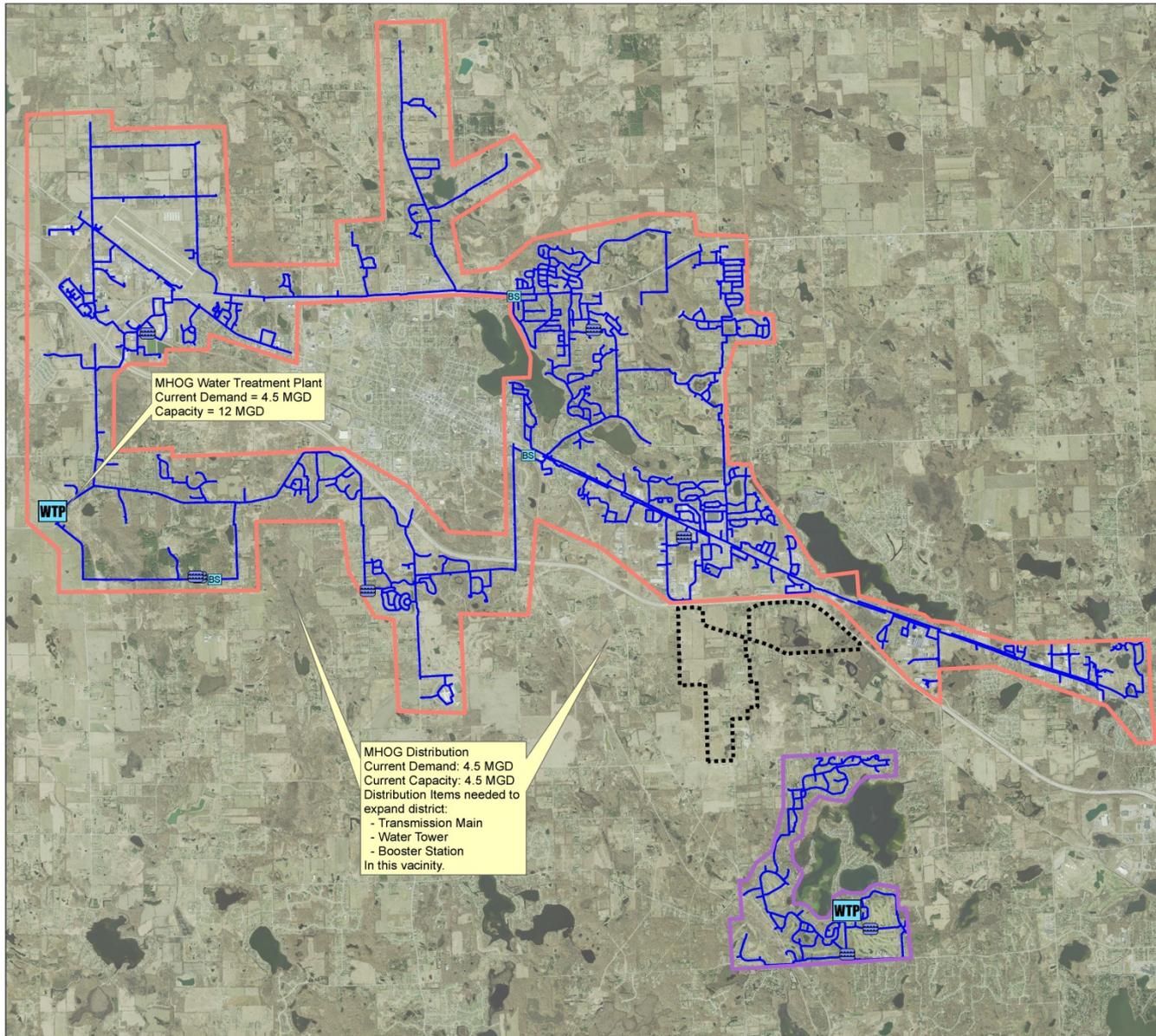


MHOG Existing Water Service Areas



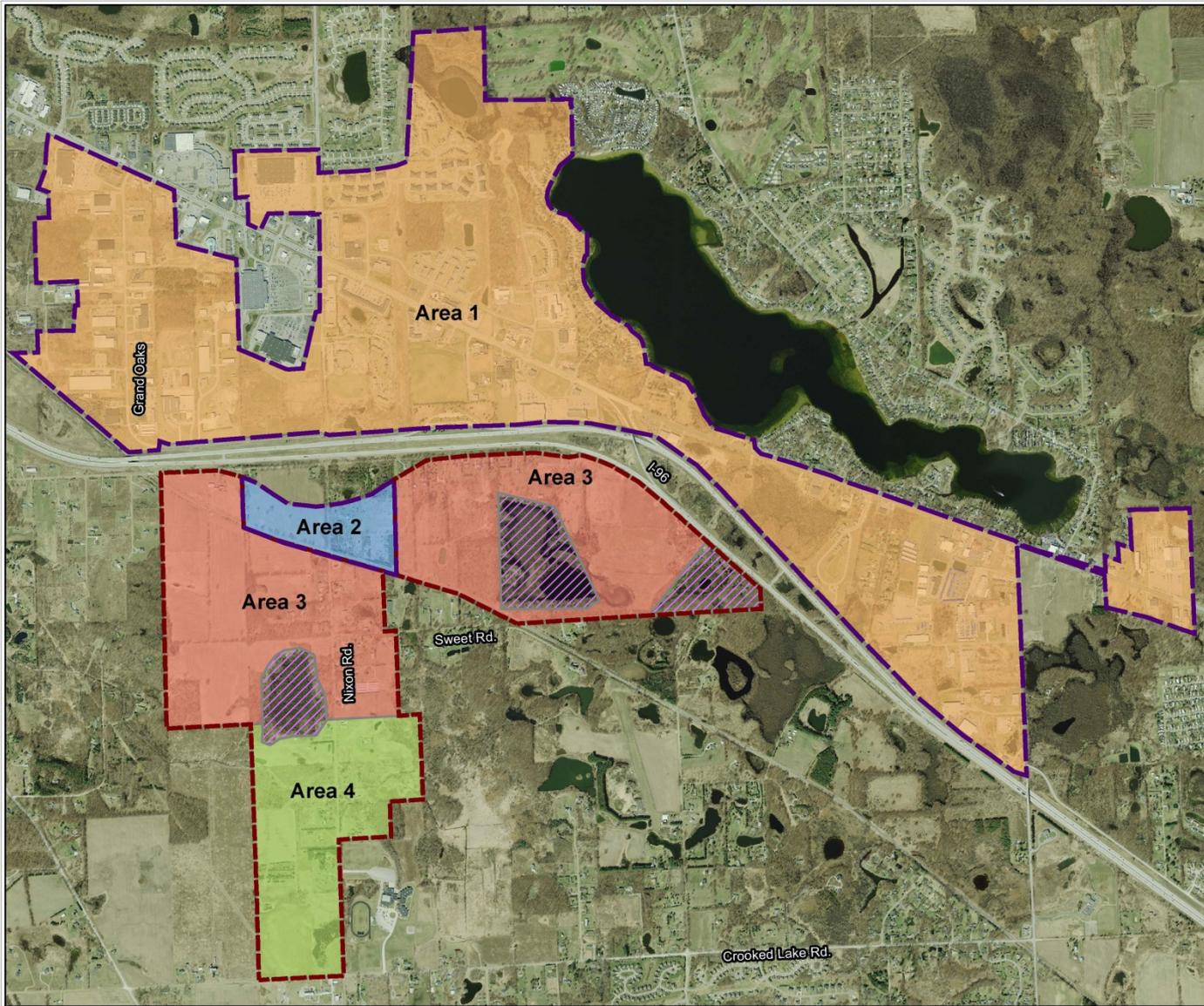
Legend

-  Water Main
-  Water Treatment Plant
-  Water Towers
-  Booster Station
-  Possible District Expansion
-  MHOG Existing Service Area
-  Oak Pointe Existing Service Area



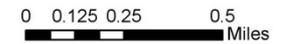


I-96/Latson Rd Potential Service Area



Legend

- Phase 1
- Phase 2
- Non-Developable Land



Latson Road Utility Master Plan
Conceptual Estimate to Serve Additional Flow from the Latson Interchange Area
April 3, 2013

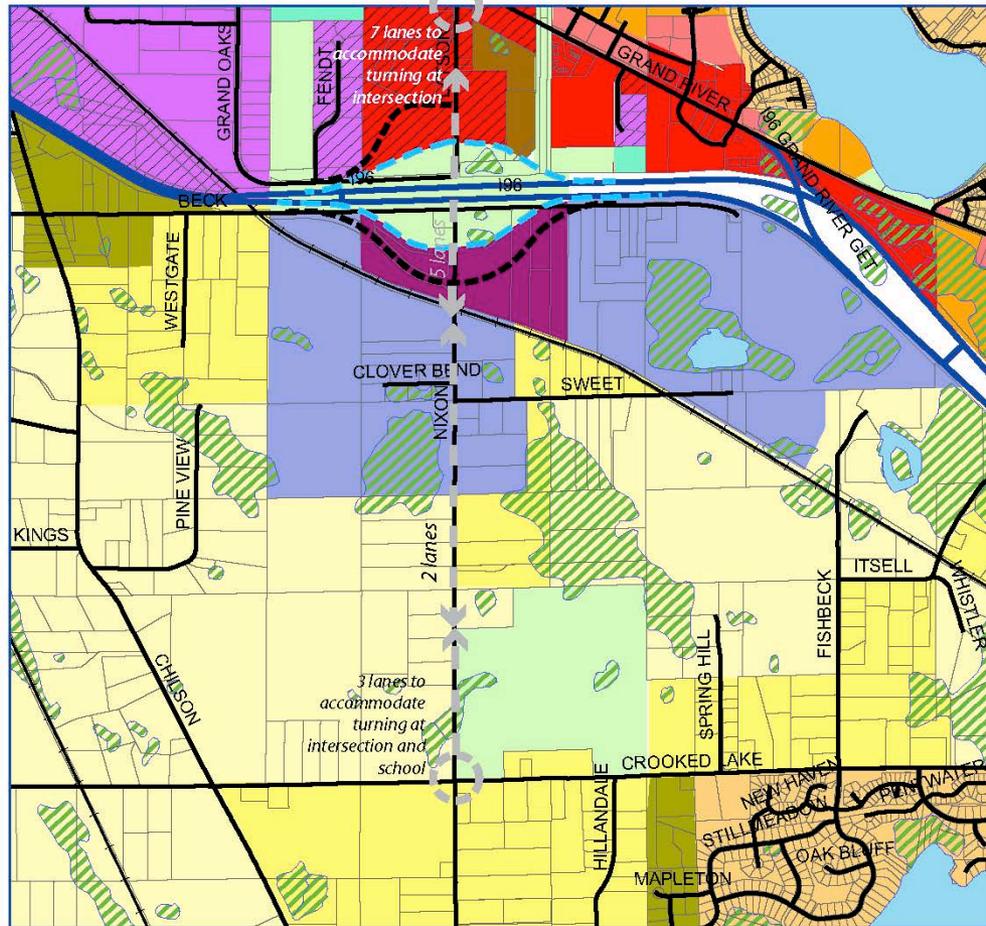
Phase 2					
Wastewater: Extend District South of Highway					
Water: Extend District South of Highway					
General Description of Improvement	Required for Which Scenario?	Water or Wastewater	Need for Improvement	Conceptual Cost (Wastewater)	Conceptual Cost (Water)
Plant Expansion	Area 3 & 4 (~570 Acres)	Wastewater	current WWTP has capacity for Phase 1 only	\$10,000,000	
Regional Pump Station South of Highway in Area 3	Area 3 (~400 Acres)	Wastewater	no existing service south of highway	\$4,000,000	
Core System Buildout South of Highway in Area 3	Area 3 (~400 Acres)	Wastewater	no existing service south of highway	\$2,000,000	
Core System Buildout South of Highway in Area 4	Area 4 (~170 Acres)	Wastewater	no existing service south of highway	\$4,000,000	
Booster Station and/or Tower	Area 3 & 4 (~570 Acres)	Water	current MHOG distribution system at capacity		\$7,000,000
Core System Buildout South of Highway in Area 3	Area 3 (~400 Acres)	Water	no existing service south of highway		\$2,000,000
Core System Buildout South of Highway in Area 4	Area 4 (~170 Acres)	Water	no existing service south of highway		\$2,000,000
Administrative/Legal/Engineering		Both		\$4,000,000	\$2,000,000
Total Conceptual Estimate				\$24,000,000	\$13,000,000
Plus Purchase of Water Capacity					\$6,000,000
Per Acre cost (assuming 570 Acres)				\$42,105	\$33,333

STEERING COMMITTEE RECOMMENDATIONS

WHERE WE ARE TODAY

CHANGES TO THE PROPOSED PLAN

- Extend the Interchange Campus designation to include all of the Latson Farm and those parcels fronting Nixon on the east side of the property.
- Rename Interchange Commercial to Gateway Mixed Commercial/Institutional to allow more variety in uses.
- Revert the Nixon Road properties south of Sweet Road to previous master plan classification (large lot residential).
- Add language into the Plan that provides flexibility so that land uses can be re-evaluated if supported by infrastructure and demand.



- | | | |
|---|--------------------------------|--|
| AGRICULTURE/COUNTRY ESTATE - 5 acres per unit | NEIGHBORHOOD COMMERCIAL | INTERCHANGE CAMPUS |
| LARGE LOT RURAL RESIDENTIAL - 2 acres per unit | GENERAL COMMERCIAL | GATEWAY MIXED COMMERCIAL/INSTITUTIONAL |
| LOW DENSITY RESIDENTIAL - 1 acre per unit | REGIONAL COMMERCIAL | |
| SMALL LOT SINGLE FAMILY RESIDENTIAL - 2 to 3 units per acre | MIXED-USE TOWN CENTER | Beck and Grand Oaks Relocation |
| MEDIUM DENSITY RESIDENTIAL - 5 units per acre | OFFICE | New Ramps |
| HIGH DENSITY RESIDENTIAL - 8 units per acre | INDUSTRIAL | I-96 |
| MANUFACTURED HOUSING | RESEARCH AND DEVELOPMENT | Wetlands |
| | PUBLIC INSTITUTIONAL/UTILITIES | |
| | PRIVATE RECREATION | |

**I-96 Interchange
Latson/Nixon Road Subarea Plan**



Draft: Mar 2013
Data Sources:
Base Map: Genoa Township



WHAT'S NEXT

TOWNSHIP WIDE SURVEY

- The spring newsletter for the Township will include a seven question survey about the Master Plan and Future Land Uses in the Interchange Area.



LATSON INTERCHANGE FUTURE LAND USE

Public input is very important and your opinions are of great value. Please help us to further improve a community we are all proud to call home by filling out the survey regarding future land use. In addition to the workshops and public meetings, this survey is a way to gain feedback related to the Master Plan. The survey consists of 7 questions which should take you approximately 10 minutes to complete. We encourage you to complete the survey on-line at the Township homepage www.genoa.org or you can fill it out below and mail or drop-off at the Township Hall.

1) Please check all that apply to you:

- I am a homeowner in Genoa Township.
- I am a business owner in Genoa Township.
- I rent the home where I live in Genoa Township.
- I rent/lease a commercial property or space in Genoa Township.

2) Please indicate the name of the street associated with the answer to the previous question (ex. Chilson Rd.):

3) For how long have you owned property in Genoa Township?

- Less than 5 years.
- 5 to 10 years.
- More than 10.
- Does not apply to me.

4) How large is the property you own in Genoa Township?

- Less than 1 acre.
- 1 to 4.9 acres.
- 5 to 9.9 acres.
- 10+ acres.
- Does not apply to me.

5) How important are or were the following factors when deciding to live or own property and remain in Genoa Township?

	Very Important	Important	Not Important	Other
Living near water				
Living near woods				
Access to highway				
Access to hunting & fishing				
Open space				
Good soil for crops				
Rural atmosphere				
Small community atmosphere				
Retail/commercial is concentrated on the main street				
Job location				
Family nearby				
Schools				
Recreational amenities such as sidewalks, bike paths and parks				

6) Do you support or oppose paying additional taxes or fees for any of the following public services or facilities?

	Rank 1-9 (1 being the most important and 9 being the least important)	Support	Neither Support nor Oppose	Oppose
Public Drinking Water				
Public Sanitary Water				
Increased Police Protection				
Increased Fire Protection				
Emergency Medical Services				
Road Paving/ Maintenance				
Bike Paths/Walking Paths/ Sidewalks				
Parks and recreation (picnic areas, playgrounds, play fields, tennis courts etc.)				
Senior Citizen Center				

7) Latson Road Interchange

The Latson Road interchange is currently under construction. Once completed we anticipate demand for development south of the interchange. Through a public open house, meetings with property owners, discussions with the township's planners, and input from economic development professionals, we have been presented a number of different scenarios for how this area could develop. We are considering a concept described as Interchange Campus, which would allow a planned development for a medical campus, research park, or similar as described below. We would like to know what our residents would like the area south of the new interchange along Nixon Road to look like in the future.



	Support	Neither Support nor Oppose	Oppose	Don't Know
Keep it Rural This area should remain in agricultural use, or develop as single-family residential on lots no less than 5 acres. This area is prime farmland or has significant natural limitations such as wetlands. This area should not be planned for sanitary sewer or public water.				
Residential Subdivision This area should be developed with new small lot, single-family subdivisions and/or multiple family condominiums and served with public water and sanitary sewer.				
Commercial Corridor This area should be developed as a commercial corridor similar to Grand River Avenue. This area would need to be served with public water and sanitary sewer.				
Interchange Campus This area should be developed with a large scale user to serve as an economic development engine for the area. Land uses in this category would include hospitals, corporate headquarters, universities, sports centers, and research and development facilities. This would require public water and sanitary sewer.				
Mixed Use A blend of residential, commercial, cultural, institutional or industrial uses whose functions are integrated. This would require public water and sanitary sewer.				

Please leave your comments or questions below:



Genoa Charter Township
2911 Dorr Road, Brighton, MI 48116

PS-927
U.S. POSTAGE PAID
PERMIT NO. 296
BRIGHTON, MI 48116
E00055

RESIDENTIAL CUSTOMER

Survey Continued...

Please provide your contact information if you would like to be included on future plan updates:

Name: _____
Email: _____
Address: _____

The Planning staff and Genoa Township would like to personally thank you for taking the time to complete the survey. We encourage you to complete the survey on-line, however if you are filling out a printed version, it can be dropped in the Township drop box along the parking lot of the Township Hall or mailed to 2911 Dorr Rd, Brighton, Michigan 48116. If you would like for us to send you a survey with a self-addressed return label please contact us and we will mail it to the address provided. If you have any questions please feel free to contact us at (810) 227-5225. Our hours are Monday-Friday 9AM to 5PM.

Completed surveys will be accepted through May, 1st, 2013.

The Spring Cleanup

The collection of yard waste is scheduled for the following dates: Sunday, April 20th and Saturday, May 18th. Residents may drop-off their yard waste from 9:00 a.m. until noon at the Genoa Township Hall. Deodorous and confusable tree seedlings will be distributed to Genoa residents on a first come first serve basis.



DRAFT PLAN REVIEW, APPROVAL, & DISTRIBUTION

- Final steering committee meeting to review results of survey and make any revisions to the plan. (May)
- Planning Commission Meeting - present draft Plan to the Commission for review and recommendation to the Township Board for distribution. (June)
- Township Board – review the Planning Commission recommendation and consider distribution of draft. (July)
- Copy of draft Master Plan submitted for review and comment to local governments and agencies (63 days for comments).

FINAL PLAN REVIEW & APPROVAL

- Review comments received, make revisions if needed, and publish notice of public hearing. (August)
- Planning Commission Meeting - public hearing. (September)
- Review comments received at the public hearing and modify plan accordingly or explain why master plan is not changed.
- Planning Commission – approval of plan and recommendation to the Township Board for Adoption. (October)
- Township Board - final review and adoption of the plan. (November)

QUESTIONS



COMMENT LETTERS RECEIVED SINCE
APRIL NIXON/BECK OWNER MEETINGS



BOSS ENGINEERING

3121 E. Grand River
Howell, MI 48843

April 23, 2013

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

Re: Latson Road Interchange Master Plan Revisions

Dear Kelly,

Thank you for allowing the opportunity for concerned and impacted residents to voice their opinions on your upcoming master plan revisions.

Although submitting this letter on behalf of FTAG and Carl and Rudy Hauss, I have been a Genoa Township resident and business owner for over 40 years and have been proud to call it my home. I have only the best interests of our community as my core belief so I felt it might be good to put some of the issues we discussed in writing. The following are some of our thoughts:

1) You mentioned one of your goals was to “maintain the integrity of the rural character” shown on the previous master plans by use of the Agriculture/Country Estates zoning and large lot rural residential along Nixon Road. Our position is that 5 acre lot sizes have been shown to be one of the biggest contributors to “urban sprawl” where they have been incorporated and more importantly there has been virtually no development of 5 acres lots in Livingston County over the last 15 years. Land values are too high and development costs are too costly for development of this nature. Suggesting 5 acres lots along the busiest north – south road in Genoa Township within 3/4 mile of a major interstate interchange and considering it “rural” in character is more dreaming than planning.

2) You mentioned Nixon Road will be at capacity as soon as it is paved due to the expected high traffic volumes to the south. That is consistent with what the Livingston County Road Commission has indicated and is why they have been looking to do all required organic removal and sub-base preparation for the likelihood of expanding it to 4 or 5 lanes in the near future. They are well aware of what happened on the north side of Grand River with Latson Road and do not want to face that same situation. The correct planning approach is to plan for road improvements to match the likelihood of growth and not to artificially limit the timing of the growth potential by suggesting the road can’t handle it. We should get in front of the expected needs, not always behind, reacting to what we should have known would happen.

3) During the first public input meeting and in the meeting we just had with 5 or 6 property owners, there were numerous comments reflecting the owners’ desires to have their property included in the growth area, fully understanding they have lost their rural character along Nixon Road that drew them here. Your response was that you also had comments that supported leaving the area “as is” to minimize impact. We did not recall seeing or hearing any

517.546.4836
Fax: 517.548.1670
e-mail: be@bosseng.com
www.bosseng.com

of those comments and if they were made, were outnumbered tremendously by the opposite viewpoint. The feelings and desires of the overwhelming majority do not seem to coincide with your position that you made the changes in support of the public opinion. In all of the discussions I've heard, I have never heard anyone say the area should remain large lot country estates. This is a throwback to the 20+ year old plan which is obsolete in terms of its approach to the existing conditions.

4) You mentioned the steering committee evaluated the comments received and came up with the plan revisions. Who was on the steering committee and how can the results be so far from everything we saw and heard? What is the purpose of holding these meeting, if the majority of what you are hearing is ignored? This is more than a political talking point to these residents and your decisions have tremendous social and economic impact on each of them.

5) In your presentation, you gave examples (suggested by SPARK) of Interchange Campus uses and how your plan accommodates typical uses. On the examples you gave, you simply showed how a hospital or credit union headquarters can fit on the areas you set aside. You failed to allow for expansion of those uses and subsequent ancillary uses such as doctors offices, rehabilitation facilities, professional offices, etc. You seem to be offering the smallest footprint possible. The areas you used by example are all part of larger development areas that have been planned for such expansion. This plan fails to do that.

6) The sewer and water costs needed to make this happen are high and seem to be a formidable hurdle. The more you can encourage desirable growth with uses requiring less of a demand on services, the better off the Township is. If you can encourage, through progressive master planning, more high end users, you can reduce the per user cost for sewer and water services and not have to piecemeal your systems together. Incorporate good public utility service plans and you will attract more of the users you want. Don't use lack of these utilities as an excuse to limit the area.

7) We did not talk about this but where do you propose to put the expanded need for housing to support the types of facilities you would like to attract? This will be a need that follows many of the uses you talked about. I don't see the plan addressing this issue.

Regarding Ann Arbor SPARK, it their cogent and equivocal recommendation to "Extend Campus Zoning Designation to Crooked Lake Road, on the west side of Latson Road, and to 500 feet north of the Three Fires School on the east side of Latson Road to maximize investment in interchange and associated bridges". By extending the Campus Interchange development area further south and west, the area may become more attractive to large-scale users. The current development area is limited by potential setback requirements associated with Campus Interchange and the existence of wetlands on some sections of the draft. By extending the Campus Interchange coverage area, concerns associated with limited development area may be reduced."

In addition, SPARK candidly recommends: “Consider broadening the definition of Campus Interchange to focus on the aspects of development, not industry focus. Develop a clear vision for Campus Interchange which indicates the type of development the community would hope to attract to the area, but do not limit opportunities to one or two industries, which could discourage other opportunities. Consider utilizing a form based code regulation for the development area, which focuses on “the form of the built environment and not as much emphasis on what goes on inside the built environment””.

In summary, our observations and recommendations are consistent with and in agreement with those of SPARK. You already have existing conditions that override your desire to artificially create a “rural character” along Nixon Road. A major interchange, the biggest north-south surface connector road in the Township and County, the Three Fires School and the industrial use of the Panhandle plant south of Crooked Lake Road are all negating factors towards your approach. It makes absolute sense to include a much larger area between Chilson and Nixon Road and east of Nixon Road all the way south to Crooked Lake Road in your Interchange Campus type planning. Please make this a community endeavor that actually includes the community since they are the biggest stakeholders.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael T. Boss", is written over a horizontal line.

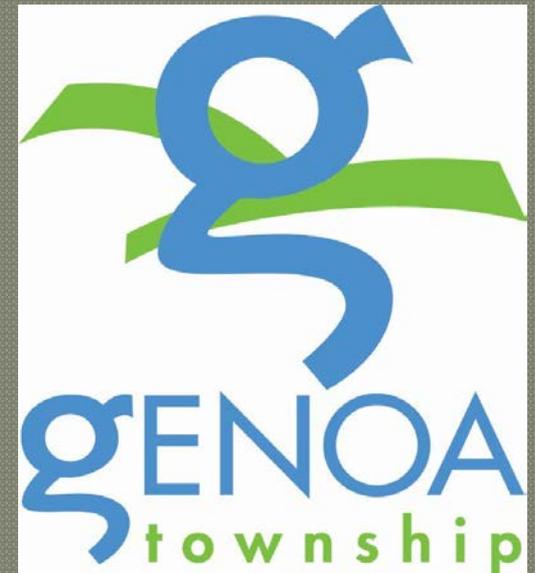
Michael T. Boss P.E.

Cc: Carl Hauss
File G:/04116/docs/FTAGBossmasterplan

SURVEY RESULTS

Future Land Use Survey: Latson Interchange

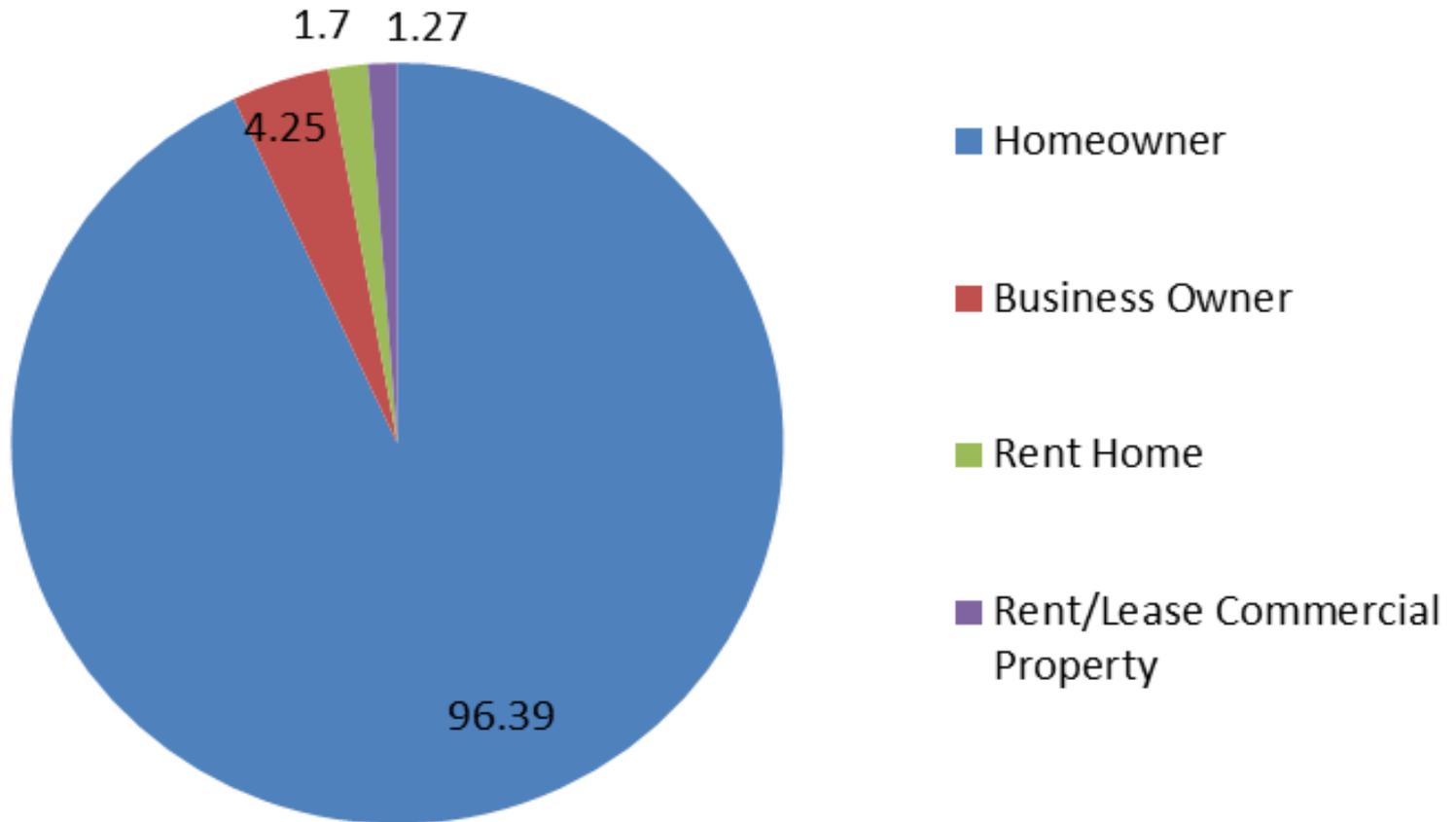
Survey Results



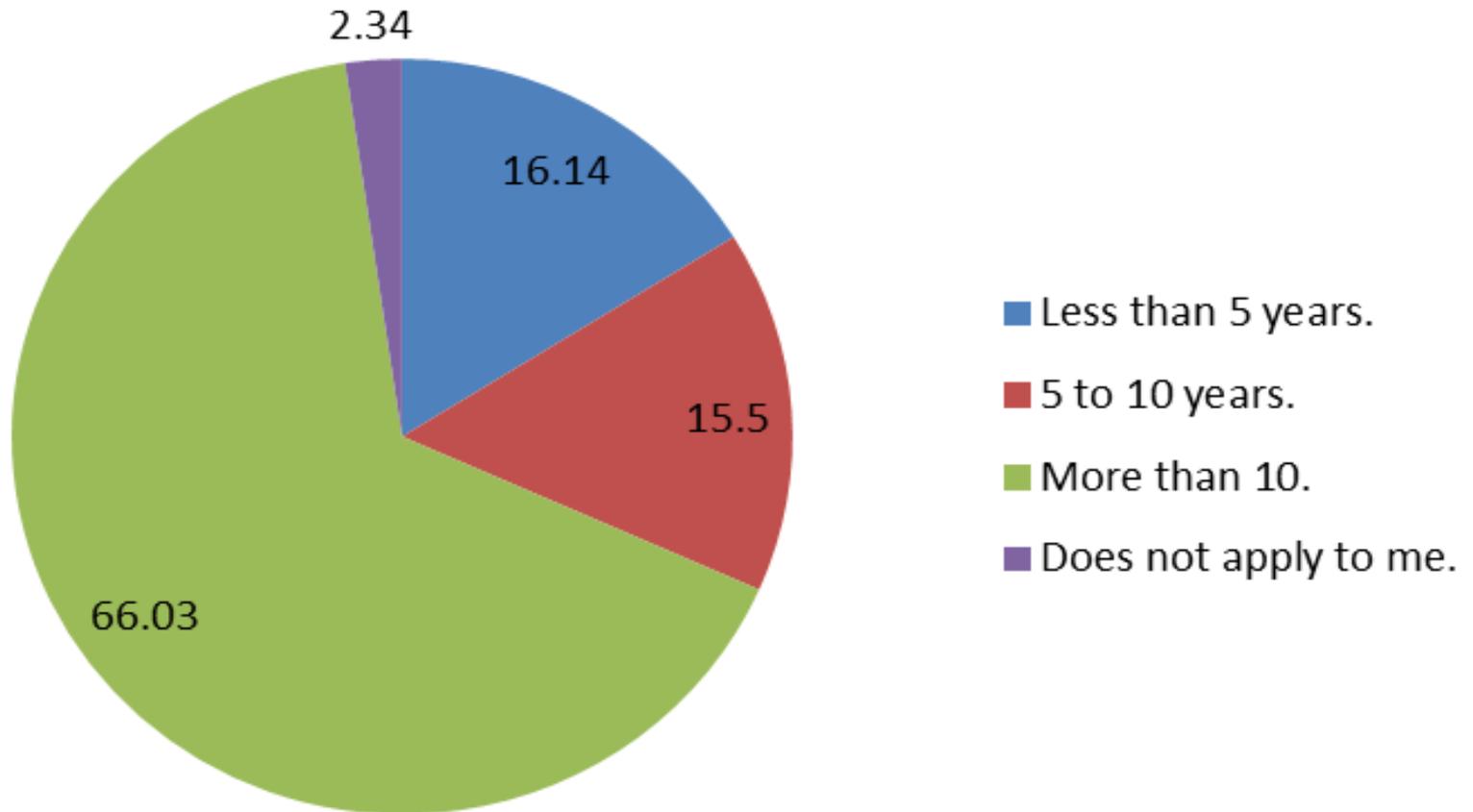
Survey Responses

- 10,589 newsletters mailed
- 472 responses received
- 4.5% response

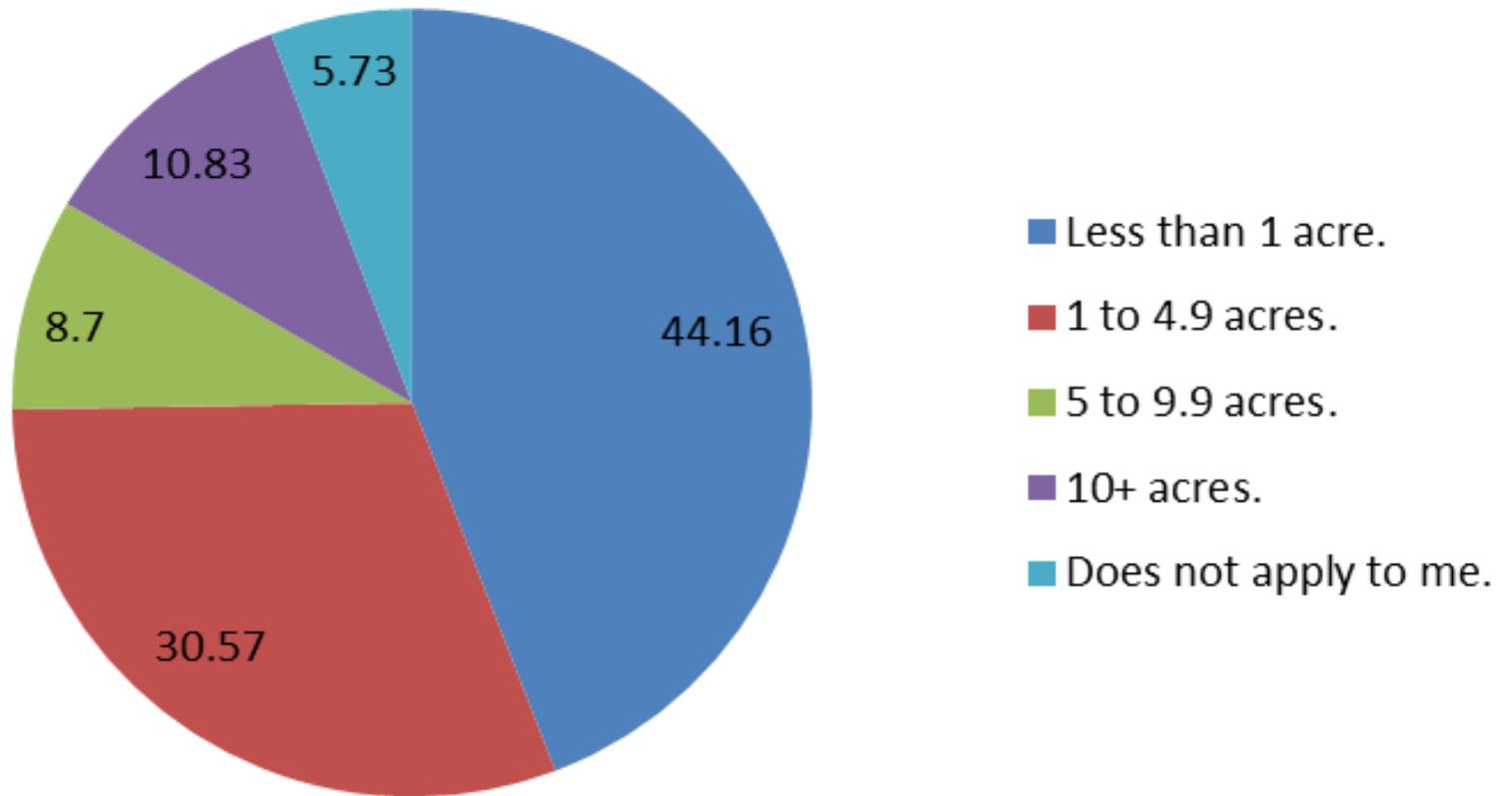
Survey Respondent Types



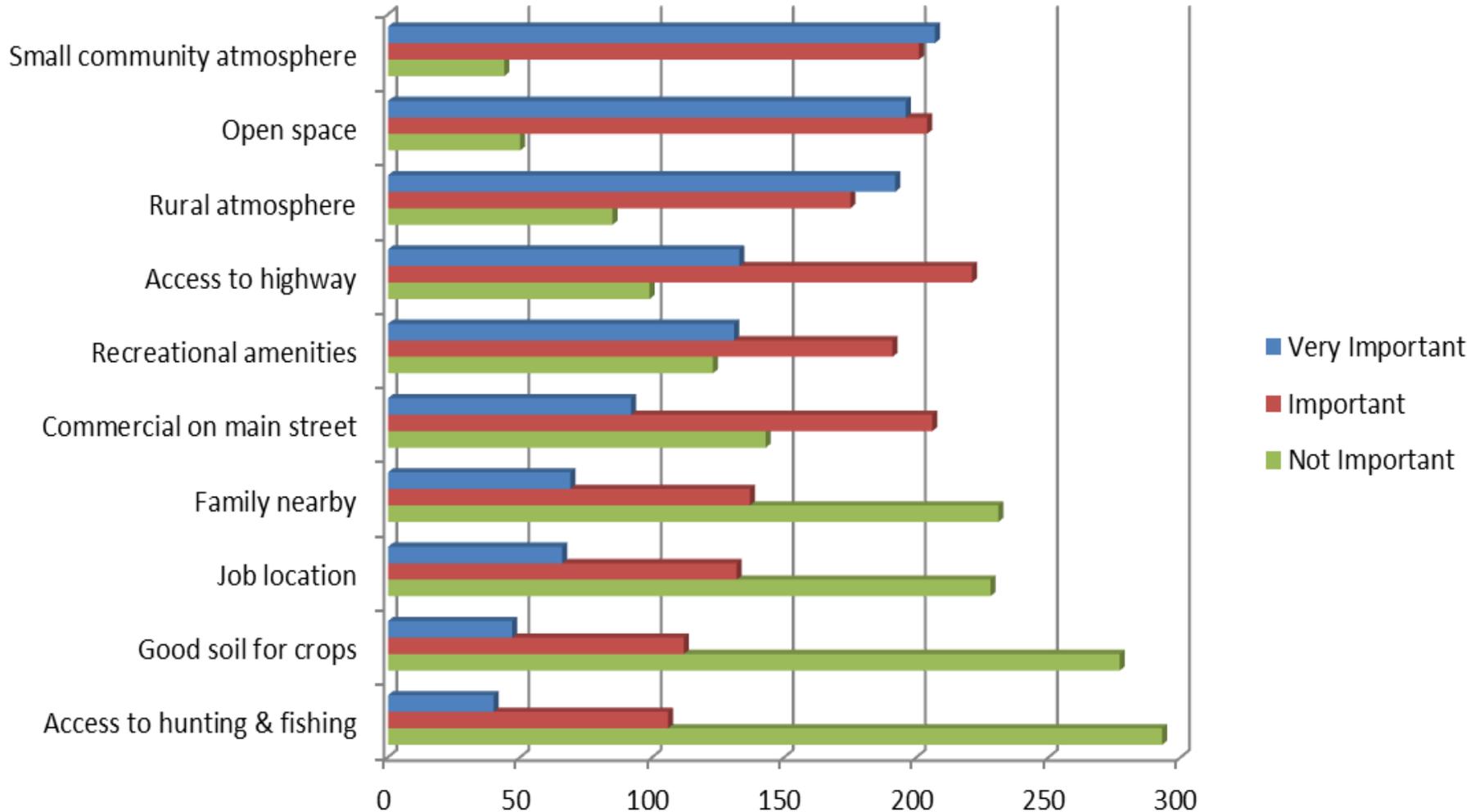
Length of Residency



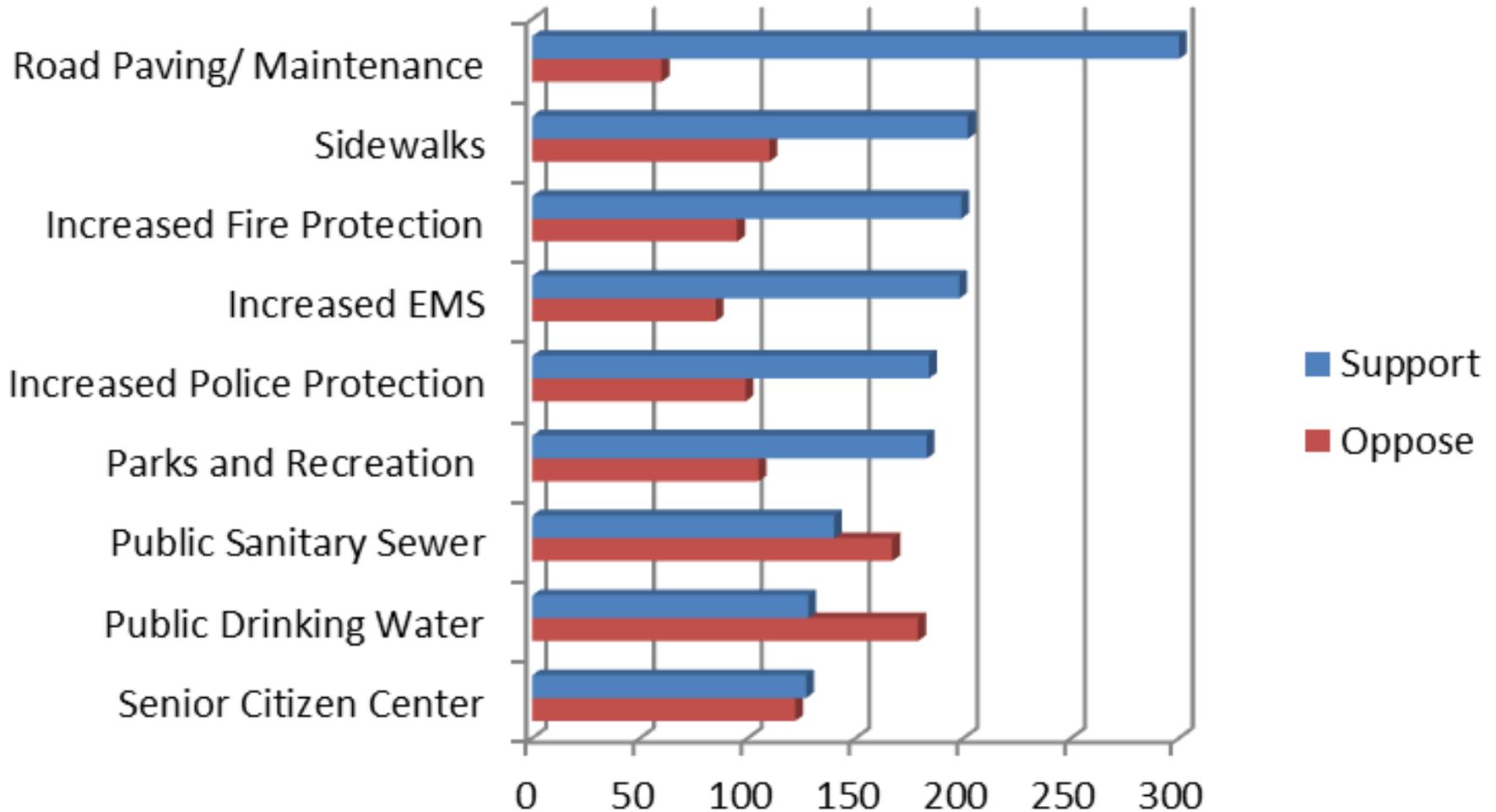
Property Size



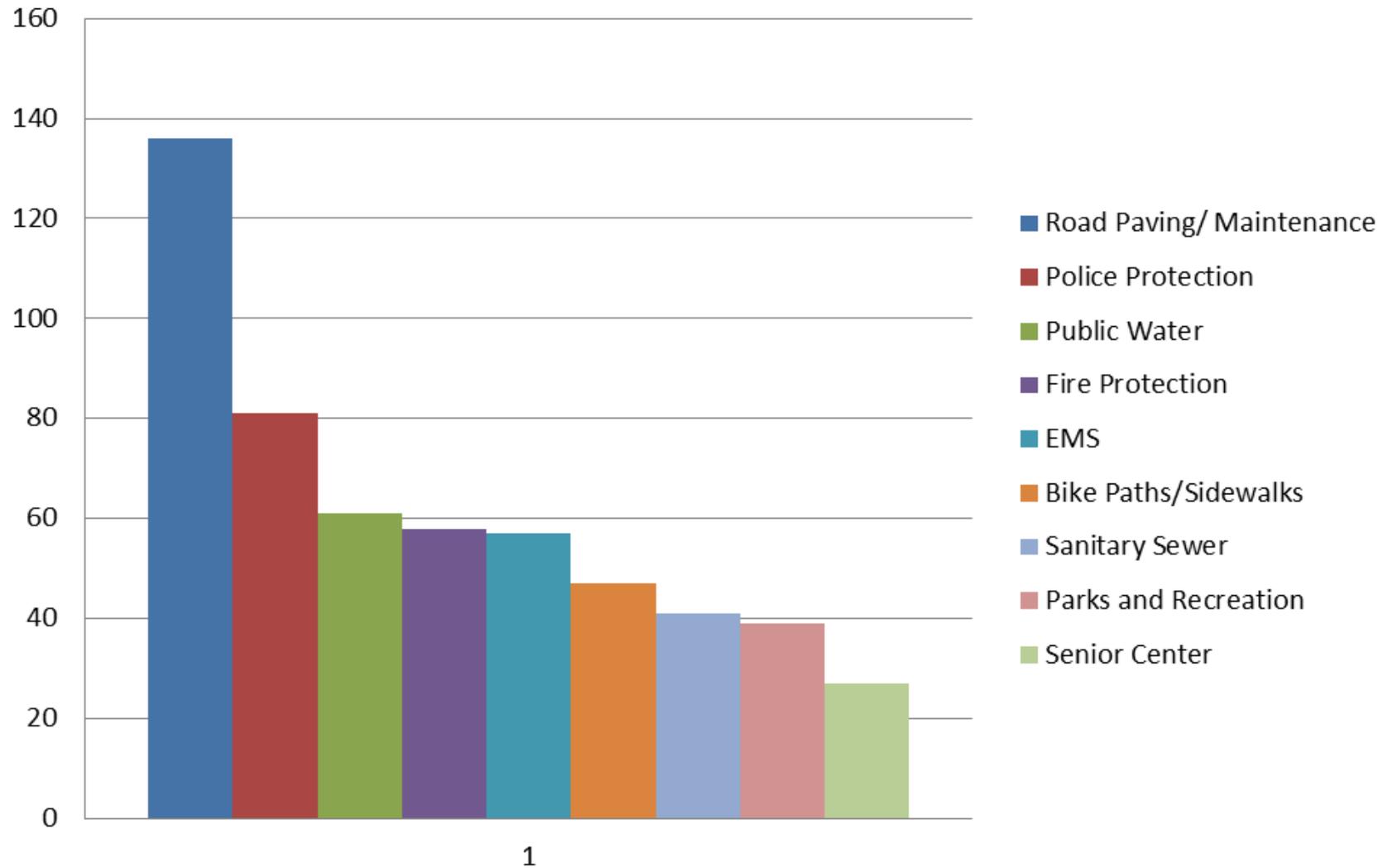
What factors are important?



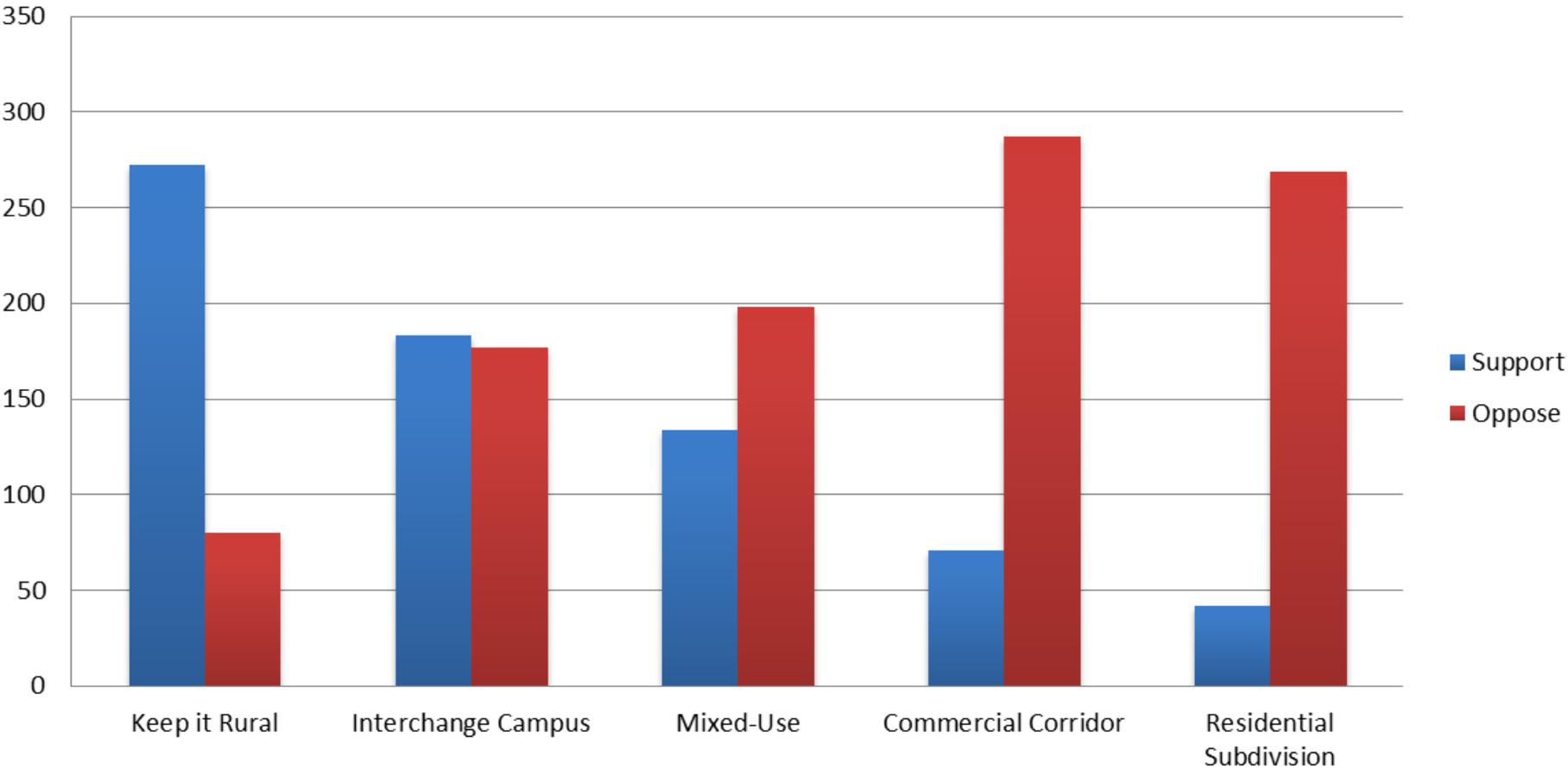
What additional taxes would be supported?



Public services ranked most important



What do the residents of Genoa Township want to see south of the new interchange?



2013 MASTER PLAN UPDATE

Genoa Charter
Township
Livingston County, Michigan



Draft June 2013

Master Plan

Genoa Charter Township Livingston County, Michigan

Adopted by the Genoa Township Planning Commission
xxxx, 2013

Adopted by the Genoa Township Board
xxx 2013

2911 Dorr Road
Brighton, MI 48116
(810) 227-5225

This Master Plan represents over a year of dedicated work by the elected, and appointed officials of Genoa Township, Township staff, Township consultants and the Livingston County Planning Department. In addition, a number of citizens provided input at public workshops. This plan updates the previous plan adopted in 2006.

Township Board

Gary McCririe, Supervisor
Paulette Skolarus, Clerk
Robin Hunt, Treasurer
Jean Ledford
Jim Mortensen
Linda Rowell
Todd Smith

Planning Commission

Doug Brown, Chairman
Dean Tengal, Vice Chairman
Barb Figurski, Secretary
Jim Mortensen, Board Liason
Diana Lowe
John McManus
Lauren Brookins

Township Manager

Michael Archinal, AICP

Township Asst. Manager/Community Development Director

Kelly VanMarter, AICP

Township Engineer

Tetra-Tech MPS

Township Attorney

Frank Mancuro



TABLE OF CONTENTS

EXECUTIVE SUMMARY

I. INTRODUCTION

A. Introduction	1-1
B. Goals	1-3

II. DEMOGRAPHICS

A. Population Trends	2-1
B. Economics	2-4

III. ENVIRONMENTAL CONDITIONS

Geology	3-2
Topography	3-2
Soils	3-2
Farmland.....	3-3
Key Vistas	3-4
Woodlands	3-4
Wetlands	3-6
Lakes.....	3-7
Drainage	3-8
Groundwater	3-8
Potential Environmentally Impacted Sites.....	3-9
Natural Resources Management Strategies	3-9

IV. EXISTING LAND USE

A. Growth Trends	4-1
B. Existing Land Use	4-2
C. Land Use Patterns	4-4
D. Utility Service Areas.....	4-5

V. FUTURE LAND USE

Determining Factors5-1
Future Land Use Categories5-3
Growth Management Boundary5-8
Genoa Town Center5-10
I-96/Latson Road Subarea Plan.....5-14
Planned Unit Development.....5-15
Residential Design Standards5-16

VI. TRANSPORTATION

Introduction6-1
Complete Streets6-2
Existing Traffic Conditions6-3
Improvements6-7
Other Modes of Transportation6-12

VII. BIKEPATHS AND GREENWAYS 71

Greenways Defined7-1
Greenways.....7-7
Pathways7-8

VIII. IMPLEMENTATION

Tenets of Successful Implementation8-1
Zoning Recommendations8-3
Action Plan
Township Implementation Funding Sources.....

I. INTRODUCTION



2013 Master Plan Update

A. Introduction

The master plan presented herein is a document created by Genoa Township to guide the future of this community. The intent of this master plan is to provide growth management strategies that help ensure a logical development pattern while maintaining community character and protecting natural resources. The plan also provides policies and actions for community leaders to consider. Some of the master plan recommendations will be implemented through amendments to the zoning ordinance text and map.

The implementation of the policies and actions in this plan will help ensure that Genoa Township remains a desirable community in which to live, work or visit by allowing residents, business owners and developers to make investments with a reasonable expectation of what will happen in the future. It is of extreme importance to emphasize those qualities of the Township identified by residents, businesses and property owners as highly desired. Recent development and population trends in Genoa Township make it easy to understand the need for a Township master plan update. Among the many reasons for the master plan are the following:

- Present a future land use map that illustrates how the Township should develop logically over time.
- Provide a legal basis for zoning and other regulations for the type, intensity and timing of development.
- Provide that, as development occurs, the most significant natural features are preserved or enhanced.
- Outline specific strategies to address situations where one land use is not compatible with an adjacent land use.
- Recommend traffic management tools to preserve roadway capacity and ensure traffic circulation harmonizes with land uses and neighborhoods.
- Address the changing desires and needs of residents.
- Provide a sustainable community with a land use pattern that translates into a diversified tax base to support the desired facilities and services with reasonable tax rates.
- Provide specific recommendations for access management, road improvements and site design along the Grand River Avenue Corridor and new Latson interchange area.
- Coordinate land use recommendations with anticipated land use changes and infrastructure improvements with the surrounding communities.

The development of this plan involved a process of identification and analysis of physical and socio-economic conditions affecting Genoa



Township. The impact of each physical and socio-economic factor on the community in the coming years results in a series of goals and policies for the Township. The master plan goals and future land use plan will assist Township leaders in substantive, thoughtful decisions which consider the long term implications for the community. These community-wide implications may not be immediately apparent to the individual property owner or citizen, but the impacts of each decision are linked and become visible over time. Poor planning decisions are difficult to eliminate, most linger forever. The master plan can be viewed as a community blueprint for the future, a mechanism to help ensure each decision fits as part of the whole.

This master plan represents a continual effort by the Planning Commission and Township Board. A series of joint public meetings were held by the Board and Planning Commission to discuss the recommendations of the plan. Citizens, landowners and interested members of the general public also attended meetings and were involved with the discussion on the plan. A public hearing to present the draft plan was conducted prior to its adoption by the Township Board.

Genoa Township's last comprehensive master plan was completed in 1998, with amendments made in 2000, 2003, 2006, and 2013.

The Township regularly refines its zoning ordinance and subdivision regulations in response to changing conditions, goals, and the law. Thus, this master plan represents the latest in a series of documents and ordinances which will help to ensure that the Township maintains its desired community character.



B. Goals

A key element in the preparation of the Master Plan is the development of community goals, which reflect the community's desires to respond to various issues. The goals must all be considered concurrently and within the overall context of the plan, as opposed to individually. The Master Plan provides guidance and direction towards the achievement of Township goals.

Land Use

- Accommodate a variety of land uses that are located in a logical pattern and complement community goals, the surrounding land uses, environment, capacity of roads and the sanitary sewer, and public water system capabilities.
- Provide land owners with reasonable use of their land in a manner that is compatible with adjacent land uses and the overall land use plan for the Township and the capacity of infrastructure.
- Promote harmonious and organized development consistent with adjacent land uses.
- Provide a variety of housing styles, types, and densities to support needs of residents.
-
- Support “aging in place” by providing housing, recreation, and transportation options for seniors.
- Achieve well-planned, safe, balanced, and pleasant residential neighborhoods.
- Provide employment, shopping and recreational opportunities for current and future residents of the Township.
- Achieve high quality site and building design that contributes to strong neighborhoods, vital shopping districts, and desirable employment centers.
- Encourage quality industrial and technology-based development in appropriate areas of the township to diversify the tax base with room for future expansion, where not in conflict with surrounding land uses.
- Manage development by maintaining a growth boundary to encourage efficient use of land, protect farmland and natural features, and allow the efficient provision of public services, utilities, and infrastructure.
- Promote the development of a mixed-use town center along Grand River Avenue that creates a strong sense of community identity for Genoa.
- Create outlots in underutilized parking lots to provide locations for infill commercial development.

- Work with economic development agencies, such as Ann Arbor Spark, to attract new businesses and jobs, and encourage entrepreneurship.
- Preserve and encourage growth and sustainability of existing Grand River commercial after the construction of the Latson interchange.
- Promote neighborhood commercial nodes, where appropriate.
- Develop and maintain flexible codes and ordinances to meet the needs of current and future residents.
- Provide an integrated and phased design with careful consideration for new development at the Latson interchange.

Preservation of Natural Features

- Preserve the "quality of life" in Genoa Township by retaining significant, sensitive natural amenities such as water bodies, wetlands, slopes, mature trees and natural ecosystems.
- Encourage integration of natural features such as woodlands and wetlands into site development as aesthetic and functional features.
- Protect the quality of the community's lakes and water resources from overcrowding and overuse.
- Preserve the existing landscaping and natural features viewed along Township roads.
- Encourage and utilize best management practices for preservation of sensitive natural features.

Transportation

- Assure a multi-modal transportation network is available to support the current population and support managed growth through future improvements.
- Preserve the capacity and safety of arterial streets through access management.
- Evaluate impacts of traffic generated by development and work toward improvements concurrent with new development.
- Coordinate transportation improvements with county and state agencies.
- Promote "complete streets" through a non-motorized network to provide the opportunity for walking, jogging, and bicycling in a safe and comfortable environment.
- Consider transit-oriented development on former Zeeb/Preserves of Genoa property for future passenger rail train to Ann Arbor.
- Coordinate with MDOT to pursue the possibility of a narrow median along Grand River Avenue from the exit 141 Lake

Chemung interchange west to the Howell city limits to improve pedestrian safety, reduce vehicular conflicts, and to beautify the corridor.

Public Facilities and Services

- Coordinate with the adjacent townships and the cities of Brighton and Howell to provide area residents with high quality community services and facilities.
- Provide utility improvements only in locations best suited for development to support managed growth and provide a growth boundary to ensure development is consistent with infrastructure planning.
- Provide high-quality centralized parks, recreation facilities and open space to meet the needs of Township residents.
- Provide public spaces that meet the needs of Township residents and can expand or adapt to meet the needs of the future population.
- Establish a unique identity for Genoa Township through entry signage and streetscape design that provides a unique sense of place.

II. DEMOGRAPHICS



2013 Master Plan Update

A. Population Trends

Genoa Township has historically been a rural community, with development along Lake Chemung, the Tri-Lakes, and the Township's other 15 lakes. The once dominant rural/lake resort character of Genoa Township has been changing since the early 1970's, when suburban migration began to spread into Livingston County. Cities like Brighton and Howell also played a pivotal role in attracting residents, businesses and small industries to the region.

Accompanying residential growth has been supportive commercial and public facilities. Gradually, the area began to establish a healthy employment base. Population growth in Genoa Township, as well as many of the surrounding Townships, has been substantial since 1960. Review of census and building permit information has revealed the following trends:

- The growth rate from 1960-1980 for Genoa Township was consistently greater than the total growth rate for Livingston County. The Township's population doubled every decade between 1950 and 1980.
- In 1990 the Township had 10,820 people and was the fourth largest municipality in Livingston County.
- The 2000 Census indicated Genoa Township had 15,901 people; making it the third largest community in Livingston County.
- In 2010, Genoa Township's population had reached 19,821, growing 24.7% from 2000, and making it the second largest community in Livingston County.
- According to SEMCOG, the population of the Township is projected to reach 23,061 people by 2040.

The most apparent reasons for the Township's growth are its quality of life, availability of sewers, abundance of vacant/agricultural land, accessibility to employment centers in metropolitan areas and the establishment of its own healthy employment base. The importance of convenient access is evidenced by 2000 Census figures which indicated that over 51% of the Township's work force commuted to employment centers outside Livingston County.

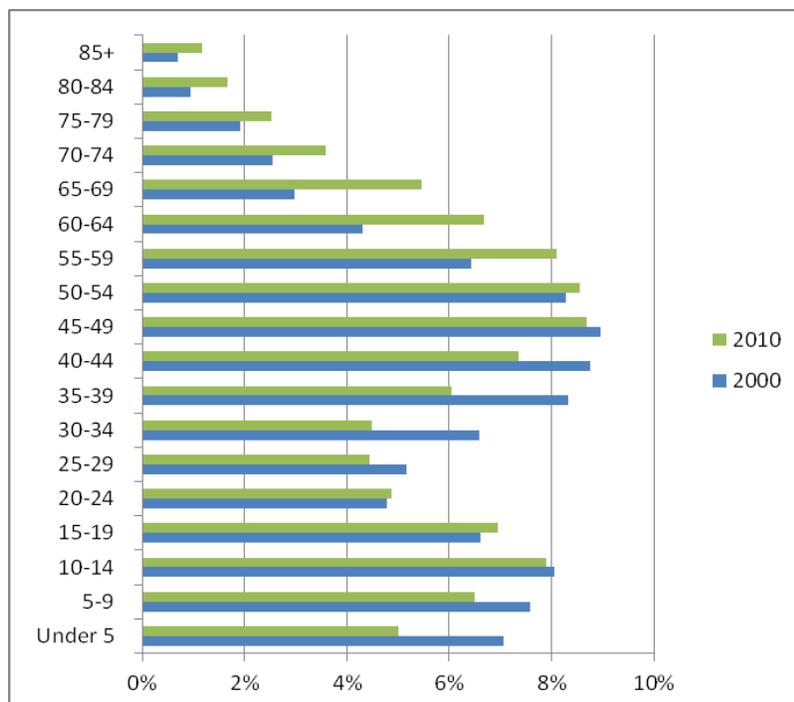
Growth in Genoa Township has also been influenced by development in its two neighboring cities, Howell and Brighton. Since available land is limited in those cities, developers have sought locations in Genoa Township.

POPULATION TRENDS									
	1950	1960	1970	1980	1990	2000	2010	% Change 1970-2010	% Change 2000-2010
Genoa Twp.	901	1,066	4,800	9,261	10,820	15,901	19,821	313%	24.7%
City of Brighton	1,861	2,282	2,457	4,268	5,686	6,701	7,444	203%	11.1%
Brighton Township	1,645	2,875	5,882	11,222	14,815	17,673	17,791	202%	0.7%
Green Oak Township	1,837	4,631	7,598	10,802	11,604	15,618	17,476	130%	11.9%
Hamburg Township	1,713	3,189	5,481	11,318	13,083	20,627	21,165	286%	2.6%
City of Howell	4,353	4,861	5,224	6,976	8,147	9,232	9,489	82%	2.8%
Oceola Township	1,030	1,453	2,496	4,175	4,866	8,362	11,936	378%	42.7%
Livingston County	26,725	38,233	58,967	100,289	115,645	156,951	180,967	207%	15.3%

Demographics

A review of general population characteristics is important to assist in determining future land use, community facilities and service needs. The distribution of population by age for 2000 to 2010 is shown in the chart below.

Young adult age groups (25-44) decreased as a percentage of the population from 2000 to 2010, while senior age cohorts (while 55+) increased.



Education

The educational attainment for Genoa Township is somewhat mixed when compared to the county and region. Genoa Township has higher percentages of students graduating high school and attending college, but lower percentages of students who complete four-year and advanced degrees, as shown in the table below.

EDUCATIONAL ATTAINMENT			
	Township	County	SE Mich
Graduate or Professional Degree	8.5%	17.6%	11.5%
Bachelor's Degree	15.8%	24.6%	17.0%
Associate Degree	8.8%	7.4%	7.7%
Some College, No Degree	25.6%	21.3%	23.2%
Graduated High School	30.9%	21.4%	28.5%
Did Not Graduate High School	10.4%	7.8%	12.2%

Household Size

There has been a decrease in the average household size, as shown in the table below. This is similar to the national trend of single young professionals, married couples with fewer children, and the aging of the baby boomer generation.

The average household size in Genoa Township has consistently been smaller than the county and region, and all three locations have seen a similar decline in household size in the last decade.

AVERAGE HOUSEHOLD SIZE		
	2000	2010
Genoa Twp.	2.72	2.54
Livingston County	2.80	2.67
SE Michigan	2.58	2.51

Housing Construction

For the first half of the 2000s, hundreds of new housing units were being built in Genoa Township each year. Due to the financial difficulties of the second half of the 2000s, only a handful of new housing units were being built per year. Even though the rate of construction has slowed considerably, the impacts of the first half of the 2000s has contributed to higher traffic levels on the township's local roads and the shift from a rural to suburban character throughout the township.

BUILDING PERMITS	
Year	New Units
2000	466
2001	302
2002	442
2003	340
2004	241
2005	126
2006	47
2007	18
2008	8
2009	4
2010	6
2011	6
2012	6

B. Economics

Income

Household incomes in Genoa Township tend to be slightly lower than most other communities within Livingston County. In 2000, Household incomes in Genoa Township were just over \$90,000, while most of the surrounding communities were closer to \$100,000 with the exception of Brighton and Howell. From 2000-2010, every community in the area saw significant decreases in median income (15% or more in each community). Median income in Genoa Township decreased the most of any community, dropping from \$93,450 to \$67,548, a 27.7% decrease.

MEDIAN INCOME COMPARISONS			
	2000	2010	Change 00-10
Genoa Twp.	\$93,450	\$67,548	-27.7%
City of Brighton	\$62,690	\$46,731	-25.5%
Brighton Township	\$109,866	\$93,327	-15.1%
Green Oak Township	\$98,391	\$75,881	-22.9%
Hamburg Township	\$99,421	\$84,648	-14.9%
City of Howell	\$57,535	\$43,094	-25.1%
Oceola Township	\$99,655	\$80,996	-18.7%
Livingston County	\$88,217	\$72,129	-18.2%

Employment

The largest employer in Genoa Township continues to be the management/business sector, at just under 40% of the total occupation. Service and sales sectors combine to contribute 45% of the total occupation share.

OCCUPATION (what they do)				
	2000		2010	
	#	%	#	%
Management, business, science, and arts occupations	3,270	38.0%	3,655	38.1%
Service occupations	1,032	12.0%	1,875	19.5%
Sales and office occupations	2,237	26.0%	2,417	25.2%
Natural resources, construction, and maintenance occupations	860	10.0%	681	7.1%
Production, transportation, and material moving occupations	1,119	13.0%	973	10.1%
Civilian employed population 16 years and over	8,604		9,601	

III. ENVIRONMENT



2013 Master Plan Update

Much of Genoa Township retains a rural or natural character. The western and northeastern portions of the Township contain some agricultural uses. There is an abundance of natural features including lakes, woodlands and rolling terrain, which make an important contribution to the quality of life in the Township. Retention of these rural/natural resources is of primary importance to many residents.

In terms of development, these features provide both constraints and opportunities. Natural features have a significant influence on future land use patterns for the Township in conjunction with other factors such as existing land use, infrastructure, market factors, transportation and community regulations.

The natural environment is a critical element of the physical basis upon which the Township develops. The various components of the natural environment function, change and interact as part of an ecosystem. An ecosystem is a biological energy system made up of food chains along which energy is passed from one group of organisms to another. It is important to understand the interaction between these components and that alteration to one element will inevitably affect all others.

Alteration to the fragile natural features needs to be carefully considered to minimize impact and insure mitigation where necessary to maintain the natural balance. Not doing so will alter the system and possibly result in such things as increased erosion and sedimentation, decreased ground water recharge and increased surface runoff to the Township's various lakes and streams. To ensure that community development is compatible with the natural features of the Township, all new developments need to make every effort to maintain the natural functions of the environment.

In Genoa Township, limitations on the type and extent of future development occur in areas that are unsuitable for septic systems, unstable for building foundations, poorly drained and not well suited for road construction. While these factors place restrictions on development, other natural resource factors present opportunities for development. The scenic and recreational attractiveness of the lakes, hills and woodlands offer a unique residential setting. It is helpful to examine these natural resource factors in detail to determine both the opportunities and constraints. Examination involves an inventory of resource factors and a determination of the capability of the natural resource base to support future development.

The following is an overview of some of the major natural features that are prevalent throughout the Township. As development occurs, the following features should be considered in addition to other site specific conditions that may be pertinent to each individual location.

Environmental Conditions:

- *Geology*
- *Topography*
- *Soils*
- *Drainage*
- *Groundwater*
- *Surface Water*
- *Wetlands*
- *Floodplains*
- *Woodlands*
- *Fish & Wildlife*
- *Farmland*
- *Scenic Features*
- *Contamination Sites*

GEOLOGY

The soils and geology in the township are characteristic of glacially formed landscapes consisting mainly of moraines (hills of glacially deposited sands and gravel) and till plains (mixed soil materials deposited by glacier advance and retreats). The underlying bedrock is a grey shale known as the Coldwater Formation. The surface geology of the Township was formed 10,000 to 12,000 years ago when glacial activity deposited rock, soil and large blocks of ice. The glacial drift is a very thick layer of soil material that has been deposited by the advance and retreat of the Wisconsin glacier during the last ice age. The ice blocks embedded within the soil eventually melted and left depressions, which today are lakes.

Since the last ice age the soils in Genoa Township have formed as a result of a number of soil forming factors. These include water drainage, wind, slopes, climate, biological activity and human activity.

TOPOGRAPHY

Slope is an important development consideration associated with topographic features. There are areas of significant topography in the southern and eastern portions of the Township.

Excessive slope presents constraints to development. Areas with slopes greater than 12% have been mapped to identify constraints to development (Map 1). There are three general problems with steep slopes:

- Mechanical cut and fill and placement of structures on slopes result in a significant change in the natural functions of the hillside. Drainage flow can be altered, diverted and possibly increased. This can alter the function of the hillside and increase erosion and sedimentation.
- The root system of trees and vegetation helps to stabilize the soils on the hillside. Removal of natural vegetation by agricultural operations and development causes a weakening of the slope, increased surface runoff rates and eventually erosion.

Steep slopes require sensitive site planning prior to development and during construction. Care should be taken to insure that grading is minimized and vegetation, and top soil are protected.

Along the edges of many stream courses and wetlands there are steep banks or bluffs which separate field, the lowland and the upland. These will generally have steep slopes and be heavily vegetated. Disruption of the vegetative cover on these bluff areas may cause significant erosion problems and affect stream ecology.

SOILS

Construction costs and risks to the environment can be minimized by developing areas with suitable soils. Poor soils present problems

The suitability of soil for various types of development is influenced by factors such as:

- *Drainage*
- *Foundation Stability*
- *Septic Suitability*

such as poor foundation stability and septic limitations. The three major soil characteristics considered in the analysis of soil conditions are drainage, foundation stability and septic suitability. Each of these factors have been inventoried and mapped by the Livingston County Soil Survey, prepared by the Soil Conservation Service. (See Map 2.)

Drainage: Development on poorly drained soils increases development costs, maintenance costs, and will lead to sanitary problems. Development costs are increased due to additional foundation, road and septic preparation. Maintenance costs and problems will be associated with septic field failures, flooded basements and impact to roads from frost action.

Foundation Stability: Soil areas that do not provide stable foundations may experience shifting building foundations, cracked walls and cracked pavement and roadways. These problems often result in increased development and maintenance costs or, in extreme cases, structural failure.

Septic Suitability: Because there are many areas of Genoa Township that rely on individual septic systems, the location of septic systems on proper soils is extremely important. Inspection and approval for use of a septic system is under Livingston County's jurisdiction and ultimately their responsibility to maintain high standards of review to prevent system complications or failures. Septic field failures are often the result of poor soil permeability, high water table or excessive slope. Soils such as compacted clays and silts will not allow wastewater to percolate, a high water table prohibits adequate filtering and excessive slope does not provide adequate percolation.



Soils Poorly Suitable for Development:

- Areas with little topographic relief, which does not allow proper drainage.
- Areas with excessive slopes which are susceptible to erosion.
- Mucks or soils with high organic materials.
- Silts and clays.
- Areas with high water tables.
- Generally along lakes, creeks and wetlands.

Soils Well Suited for Development:

- Topographic relief that provides for drainage but not excessively steep.
- Loamy and sandy soils.
- Areas sufficiently above groundwater table.

FARMLAND

Genoa Township was historically a resort and farming community. Over the years, much of the farmland has been converted to

residential, commercial and industrial uses. There is still active farmland in the northeast corner of the Township and in the western portion of the Township. The prime farmland is in the northern portion of the Township.

KEY VISTAS

The lakes, topography, vegetation and cultural resources are components in the overall scenic attractiveness of the Township. Scenic vistas are places which afford expansive views of Township visual resources. These are located on top of hills and high elevations or along roadways. Roadways are important visual corridors because they unfold a rapid sequence of vistas. Lakes, fields, homes, buildings and signs are common sites which are presented to the roadside viewer. The combination of curves in the roadway and sections of densely vegetated areas along the roadway provide departures and entrances to a sequence of changing view sheds along the road.

There are a number of areas of the Township, particularly in the west along Chilson Road, which have views characteristic of a rural/open space community. These are topographically high or open agricultural areas. These areas provide a wide panoramic view of the surrounding hills and are characteristic of an open, rural agricultural area.

Other areas of the Township have characteristic views due to topography and natural features. Many of the roadways in the Township pass through rolling topography and are lined by dense woodlands. Woodlands along roadways contribute to a natural/rural atmosphere in a number of ways. The impact of vegetation on the person within the public right-of-way will be greater because of the close proximity. A greater mass of vegetation will be within the forward view of the person within the public right-of-way. Other features outside of the public right-of-way, such as buildings, will have a less dominant impact on the streetscape because they fall behind the vegetative foreground. Taller trees provide a sense of enclosure, providing a well defined public space bounded by vegetation.

Landmarks are important visual resources. There are a number of historic farm homes which lend an important character and identity to the Township. The cultural or man built landmarks should be preserved and managed in a sensitive manner. New development should compliment unique landmarks and should not detract from the scenic vistas of Genoa Township's lakes, hills and open areas.

WOODLANDS

While the Township has been experiencing rapid development, there are still significant areas of natural woodlands. The most significant woodland areas are found in the southwestern corner of the Township. This area is the most isolated portion of the Township.

The rolling topography and large forested wetlands limit development in this area and contribute to the natural character. (See Map 3)

The Township currently protects woodlands through provisions in the Zoning Ordinance that restrict clearing of woodlands on a site prior to site plan approval. During site plan review, woodlands are required to be inventoried and the design is required to demonstrate preservation of natural features. As a condition of site plan approval, trees are required to be protected during construction with root-zone fencing. The Township also has landscaping regulations that require the planting of greenbelts and street trees for any new development. Landscape materials used should be native to Michigan and a variety of species should be used for street trees to minimize the impact of disease.

Woodlands provide the following community benefits, which serves as a basis for these regulations:

- **Quality of life:** The woodlands of Genoa Township contribute to the quality of life for Township residents. The abundant woodlands and trees help create the peaceful, rural atmosphere. Trees provide a visual barrier between individual properties and neighboring properties, an essential factor for preserving the rural atmosphere and property values.
- **Influence on micro-climate:** Woodlands play an important role in moderating ground-level temperatures. Tree canopies buffer the ground surface from the sun's heat and wind. Temperature extremes during winter months can also be moderated with the help of trees.
- **Reduction in air pollution:** Woodlands absorb carbon dioxide and return oxygen to the air. Tree leaves filter pollutants from the air, removing ozone, chlorine, hydrogen fluoride, sulfur dioxide and other pollutants. Large and dense stands of trees serve as a noise buffer as well.
- **Reduction in soil erosion:** Woodlands and other vegetation stabilize soils and help prevent soil erosion. The vegetation absorbs the energy of falling rain and the web of roots of all types help hold soil particles in place. Tree leaves reduce the impact of raindrops on the soil surface and give soil a chance to absorb water. Fallen leaves minimize the loss of soil moisture, help prevent erosion and enrich the soil to support later plant growth. Wooded wetlands provide the additional benefit of trapping and holding storm water runoff. Dense vegetation can help slow flood surges and flows.
- **Wildlife habitat:** Woodlands provide essential shelter and food for deer, raccoon, rabbits, pheasants and other birds and animals. The opportunity to observe wildlife in a natural setting has educational benefits for Township residents.
- **Township's natural character:** There is a significant amount of mature vegetation along many of the road corridors that pass



through the Township. Woodlands located near the roadway contribute to a natural/rural atmosphere in a number of ways. The impact of vegetation on the motorist will be greater because of the close proximity to the roadway. A greater mass of vegetation will be within the forward view of the motorist. Other features such as buildings will have a less dominant impact on the streetscape because they fall behind the vegetative foreground. Taller trees will provide a sense of enclosure, providing a defined space bounded by vegetation. There is also a significant amount of vegetation along most lakes and streams throughout the area.

WETLANDS

Wetlands are transitional areas between the aquatic ecosystems and the surrounding upland areas. They are low areas which are intermittently covered with shallow water and underlined by saturated soils. Vegetation which is adapted to wet soil conditions, fluctuation in water levels and periodic flooding can be found in wetlands. Wetlands are linked with the hydrologic system, and as a result, these wetland systems are vital to the environmental quality of Genoa Township.

Wetlands serve a variety of important functions which not only benefit the natural environment but also the community. Some of the primary values which wetlands contribute are as follows:

- Mitigate flooding by detaining surface runoff.
- Control soil erosion and sedimentation loading in rivers and lakes.
- Provide links with groundwater.
- Improve water quality which is degraded by such things as:
 - nutrients and chemicals from fertilizers and pesticides used in agriculture and landscaping/lawn care;
 - polluted urban run off from roads, parking lots, industrial and other commercial activities;
 - treated effluent from waste water treatment facilities;
 - erosion and sedimentation resulting from agricultural and construction activities.
- Function as highly productive ecosystems in terms of wildlife habitat and vegetation.
- Serve a variety of aesthetic and recreational functions.

The largest interconnected series of wetlands are located along the Chilson Creek corridor in the western portion of the Township. There are also numerous kettle depressions scattered throughout the Township. (See Map 4)

There are four types of wetlands predominate within the boundaries of Genoa Township: (1) emergent wetlands with rooted cattails, bulrushes and sedge grasses; (2) Scrub/shrub wetlands, (3) bogs; and (4) forested wetlands with an over-story of trees and an under-

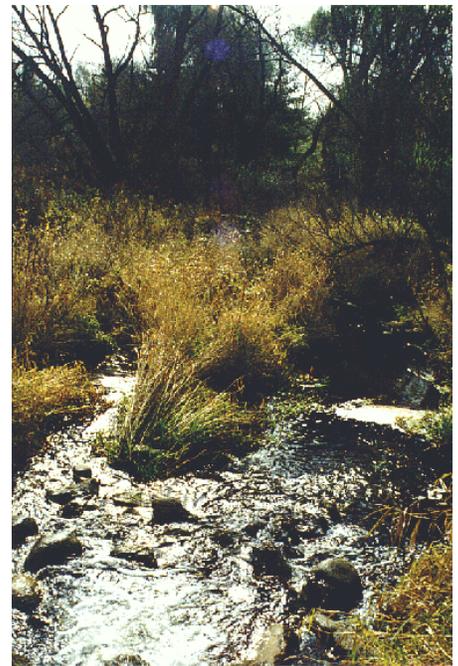
Wetlands play a very important part in the hydrological and ecological systems. In addition to providing fish and wildlife habitat, wetlands maintain and stabilize groundwater supplies, reduce the dangers of flooding and improve water quality.

story of shrubs. As water levels rise and fall from year to year, some ecological succession may be occurring as the wetlands shift from emergent marsh to forested wetlands.

Future development in areas surrounding these wetlands could significantly impact wetland resources. Therefore, developers and Township officials should evaluate alternative designs to minimize any potential for impact. This is best done by initially considering wetland resources as constraints to development. The relative weight of these constraints must also account for other environmental and socio-economic constraints. Minimization of impacts to these resources should take into account the cost of avoidance and the property rights of the individual. If impact is unavoidable, then mitigation should include an analysis of retaining or enhancing the wetland values to be lost.

Wetland areas are valuable as natural buffers between residential and commercial land uses. They contribute significantly to the aesthetic character of the community. By incorporating wetlands as part of the future development, they will continue to maintain open and green space as well as contribute to retaining the rural setting.

Any wetlands greater than five acres in size or contiguous with a waterway are regulated by the Michigan Department of Environmental Quality (MDEQ) through the Goemaere-Anderson Wetland Protection Act, Public Act 203, as amended. Any activity which requires these regulated wetlands be filled or drained requires a permit from the MDEQ. Permits will generally not be granted unless the issuance is in the public interest and necessary to realize the benefits derived from the activity. If a wetland fill permit is granted, mitigation should be required such as creating new wetlands within the same drainage way or enhancement of existing wetlands. In addition to this, Genoa Township Zoning Ordinance contains wetland standards that provide local reinforcement of State regulated wetlands.



LAKES

Lakes are among the Township's most valuable natural resources of the community. The largest and most significant lakes in the Township are Lake Chemung, East Crooked Lake and West Crooked Lake. The numerous lakes provide recreational opportunities such as boating, fishing and swimming. The quality of these water features enhances the value of adjacent property for residential opportunities. Areas surrounding many of the larger lakes in the Township have been developed for smaller lot resort and residential uses. These areas were initially developed with resort cottages on small lots with individual septic drain fields. Over time these areas have been converted to year-round homes. Areas surrounding the lakes have soil conditions that are not well suited for drain fields due to poor soil texture and a high water table. The combination of the natural soil characteristics and increased residential use of the lake

areas led to significant problems with septic tank systems. The septic tank leakage began affecting the quality of wells and the lakes. In response to these problems, Genoa Township has provided sanitary sewer to serve the most intensely developed areas around Lake Chemung and the Tri-Lakes.

DRAINAGE

Upland areas drain to the low lying wetlands, lakes and streams that pass through the Township. Soil permeability of most upland areas is moderate to moderately rapid. As these areas become developed, the amount of water infiltrating the surface will decrease and the surface runoff will increase. This will be caused by clearing of natural vegetation, addition of impervious material to the land (buildings and pavement) and installation of storm drains. These will have the cumulative effect of increasing the peak discharge to the area's drains, streams and lakes while reducing the amount of water infiltrating to ground water. Minimization of these impacts may involve protecting native vegetation, on-site storm water retention and clustered development.

While many of the lakes and wetlands within the Township are located within isolated potholes, there are some significant creeks, drains and streams that interconnect some of the wetlands and lakes. Chilson Creek is the major stream in the Township that flows from the north down to the Huron River in Hamburg Township in the south. Ore Creek in the southeastern corner of the Township, near the city of Brighton also drains to the Huron River in the south. Associated with the creeks are corridors of adjacent wetlands. The creeks and wetlands are important for surface drainage, groundwater recharge and wildlife habitat. Alteration of the creeks and wetlands can contribute to flooding, poor water quality, insufficient water supply and loss of valuable wildlife habitat.

GROUNDWATER

Important factors in the evaluation of groundwater are the quantity and quality of the water. Quantity or yield standards for a typical residential or commercial use range from 7 gallons per minute to 20 gallons per minute. Water is generally available in sufficient quantity and will not likely be a factor in limiting growth.

Water quality is a more important factor than water availability. Water hardness, iron content, salinity and septic field contamination are hazards encountered in Genoa Township. Potential sources of groundwater contamination can result from all of the various land uses within Genoa Township. The level of threat of groundwater contamination will vary based on 1) the susceptibility of groundwater to contamination due to geologic features, 2) contamination loading rates based upon land use and hazardous materials management and 3) the amount and type of hazardous materials utilized within the Township.

Sources of groundwater contamination:

- ***Landfills***
- ***Agricultural fertilizers and pesticides***
- ***Urban storm water runoff***
- ***Septic drainfields***
- ***Spill of hazardous materials***
- ***Leaking underground storage tanks***

Major sources of groundwater contamination are as follows:

- Buried wastes in landfills discharge liquids referred to as leachate which can enter groundwater.
- Agricultural fertilizers and pesticides often infiltrate the soil surface and enter groundwater.
- Urban storm water run-off from buildings, streets and parking lots contains contaminants that infiltrate the soil and enter waterways.
- Septic drainfields release sewage effluent into the soil through seepage beds.
- Spills and leakage of hazardous materials such as underground storage tanks and spills of hazardous materials will infiltrate the soil surface and enter groundwater if not properly contained.

State and county requirements will need to be adhered to for any facility within the Township that involves the use, storage or disposal of hazardous materials. Facilities for storing hazardous materials should have secondary containment and a pollution incident prevention plan.

POTENTIAL ENVIRONMENTALLY IMPACTED SITES

According to Livingston County Health Department records, there are a few contaminated sites within the Township which pose environmental problems. Michigan Public Act 307 provides for identification, risk assessment, evaluation and cleanup of sites of environmental contamination in the State. Sites are identified through information from concerned citizens, environmental groups, industry, local health departments, MDEQ staff and others. From this process a priority list was and will continually be, updated. This list is used in part to develop funding recommendations to undertake response activities utilizing state funds when the parties responsible for the contamination are unwilling or unable.

Six Act 307 Sites have been identified in Genoa Township. These are located in industrial and commercial areas, with the majority in the northwest corner of the Township near the city of Howell. These locations are planned to remain in industrial, commercial or public land uses.

A closed landfill is located on the south side of Brighton Road, east of Chilson Road.

NATURAL RESOURCE MANAGEMENT STRATEGIES

This Plan consistently emphasizes the importance of the natural resource base. The correlation of land use density in the Future Land Use Plan to natural resource capability described in this chapter will help promote preservation of natural amenities.

The Master Plan must address both the quality and the quantity of land use within the Township. Protection of Township resources

Natural features to be preserved:

Wetlands:

- *Regulated Wetlands*
- *Non-regulated Wetlands*
- *Wetland Buffers*
- *Restoration of Wetlands*

Slopes Greater than 12%

Bluffs/Setbacks along Waterways

Soils That Are Not Well Suited for Development

Woodlands:

- *Along Public Thoroughfares*
- *Along Greenways*
- *High Quality Woodlands*
- *Individual Mature Trees*

Fish & Wildlife Habitat

Scenic Views and Open Space Along Roads

Connections to Adjacent Open Space

requires the adoption of policies directed toward the specific resource problem including drainage, and groundwater quality, natural topography and vegetation. Resource protection regulations can be incorporated in subdivision, zoning and other special purpose regulations. High-quality natural areas have been mapped by the Livingston County Planning Department and are shown on Map 5.

Lower Density Zoning Districts: The interrelation of the environmental component of the Master Plan with the land use component is most visible with the establishment of land use categories. Within areas identified as having significant and fragile natural resources, lower impact/density development is recommended. This is based upon the natural capability analysis.

Certain portions of the Township are characterized by significant natural features such as extreme topography, large wetland complexes and extensive wildlife habitat. These, in combination with other factors such as existing land use patterns and transportation areas with critical natural features, are identified in the future land use map for Country Estate and Rural Residential Districts.

Natural Feature Setback Standards: The Township has enacted general zoning standards for setbacks from wetlands, lakes and ponds that apply to all zoning districts. There is a strong basis for this type of requirement. Development surrounding water features, particularly wetlands, affects the function of the water feature. Development immediately adjacent to a water feature may have the effect of increasing the disturbance to this natural ecosystem and reducing the water feature's ability to perform its natural function.

For example, wetlands are dependent on an interaction between the wetland and the surrounding upland. In terms of hydrology, water enters a wetland from the surrounding upland area in a number of ways- overland flow, through the upper layers of the soil and through groundwater. The upland soil and vegetation surrounding the wetland affect the amount, the means and the rate at which water enters the wetland following a storm or snow melt. Development of the surrounding upland will alter the relative balance between the overland (surface) flow and infiltration, resulting in a greater peak discharge to the wetland. In other instances, physical improvements such as structures, roads and storm sewer systems can intercept surface flow to the wetlands. These alterations to hydrology can result in much greater fluctuations in water levels between wet and dry seasons. The undisturbed soil between the site improvements and the wetlands acts as a buffer to try to maintain the natural upland/wetland interaction that existed prior to development.

In addition to the hydrologic function, waterways are natural open space corridors which serve as wildlife habitat. Animals move

through suburban areas along remaining undeveloped natural corridors, such as the numerous drainage ways that cross the Township. Development immediately adjacent to these natural features has a detrimental impact on wildlife habitat by moving structures and disturbance further into natural corridors and increasing constriction of development on these habitats. Protection of areas that line natural features is important to wildlife because this is the interface between the aquatic and terrestrial (upland) ecosystems system. This interface is important to animals such as land mammals that need water or birds which perch on trees to hunt for fish.

Streambank & Slope Protection: Steep slopes require sensitive site planning prior to development. Above many drainage ways of the Township there are steep banks or bluffs separating the lowlands and the uplands. These generally have steep slopes and are heavily vegetated. Disruption of the vegetative cover on these bluff areas may cause significant erosion problems and adversely affect stream ecology. Care should be taken to insure extensive grading is minimized and natural features such as vegetation and top soil are protected. This applies not only to bluffs that line waterways, but also other areas of the Township where there is significant topography.

There are a number of means for the Township to protect steeply sloped areas:

- Maintain setback requirements for all waterways. The current requirement could be revised to be variable based on the extent of the slope.
- Use flexibility offered by the Planned Unit Development regulations to cluster the development away from steep slopes. The Planned Unit Development regulations could be amended to require areas with steep slopes be preserved as natural open space.
- Adopt slope-related regulations where the density of development would be reduced on sites that contain steep slopes. Lots that are located in areas with severe topography would have to be larger. While this may add complexity to conventional development, it may also serve as an incentive for clustered development under the Planned Unit Development regulations.

Storm water Management: Increase in development activity will place additional burden on existing natural drainage systems unless preventive measures are adopted. The overtaxing of drainage systems could lead to localized flooding, environmental damage and costly storm drainage improvements to be borne by taxpayers.

By prompting preservation of natural drainage ways and providing storm water retention basins, the impact of development on drainage systems can be minimized. The Township should take a comprehensive approach to storm water management by encouraging the preservation of existing natural features that perform storm water management functions, minimization of impervious surface, direction of storm water discharge to open grassed areas and careful design of erosion control mechanisms. Wet ponds and storm water marsh systems should be required for detention in new developments. Storm water basins, wet ponds and storm water marsh systems need to be landscaped. Plantings should be adapted to hydric conditions and installed to create a system that emulates the functions of natural wetlands and drainage ways both in terms of hydrology and natural habitat.

Septic Disposal: Ground water and surface water contamination from septic drain fields is a serious concern in the Township. This issue was particularly a concern in areas surrounding the lakes that developed prior to current zoning and health regulations. Many of these neighborhoods developed as cottage communities at higher densities than currently allowed and within areas where the soils are not suitable for septic disposal. The continued growth of the community and the conversion of many of these cottages into year-round homes lead to contamination problems. In response, the Township has established public sanitary sewer districts to serve these areas, which has been effective in improving water quality in

the Tri-Lakes and Lake Chemung. Through working with the Livingston County Health Department, the Township can continue to manage the problem of ground water and surface water contamination from septic drain fields.

- Continue providing public sanitary sewer to higher density areas, including high density areas around the lakes that are currently within the utility districts.
- Restrict the density of future development in areas where the threat to ground water and surface water contamination is highest. This would include areas along waterways and areas with poor soil suitability for septic drain fields.

Restoration of Wetlands: Prior to current wetland regulations, many wetlands within the Township have been filled, drained and/or otherwise altered. Wetlands along the various lakes have been filled for the purpose of development. In other areas, drains and agricultural tiles may have been installed to drain surface water from wetlands so the land could be farmed.

The location of these altered wetlands can be identified. Although the hydrology of the site has been altered, the native soils will still exhibit coloration and textures associated with hydric conditions. Also, the Michigan Department of Natural Resources has mapped pre-settlement land cover (vegetation) based on historic survey records. Maps are available for Genoa Township that show the historic natural land cover.

Where development of agricultural lands is proposed, these wetlands can be restored as part of the drainage and open space design of the development. Hydrologic restoration may involve the removal of fill material and/or closing (or slowing) man-made drainage ways. Restoration may also involve covering the soil surface with peat and re-establishing hydrophytes (wetland vegetation). Within Planned Unit Developments where there are damaged or filled wetlands, a condition of approval may be the restoration of the natural system.

Lake Access & Use Regulations: Increased population in Genoa Township and lake front development have continued to place pressures on the many lakes of the Township for recreational use. The Township has regulations that govern the creation of "keyhole" development. A keyhole, also referred to as a common use access site, is a waterfront lot that is used to provide lake access for non-riparians (non lake front lot owners). There are many existing subdivisions that contain these keyhole lots and predate the ordinance. These keyholes are generally waterfront parks owned in common by all lot owners within the subdivision.

When used for access and dockage for numerous boats, these can increase the density of boat usage on the lakes and contribute to the following problems, particularly from power boats:

- Shore erosion.
- Damage to lake bottom and stirring-up sediment.
- Oil and gas spillage.
- Noise.
- Conflicts and safety problems between users (power boats, sail boats, personal water crafts, canoes and swimmers).

As the Township continues to grow, problems associated with lake overcrowding could worsen. It is important to point out that keyholes are only one part of the problem. Impacts to the safety and quality of the Township's waterways is impacted by recreational use by riparian and waterfront lot owners, as well as through public access sites. While the current keyhole ordinance can help manage the problem, the Township should consider a more comprehensive approach to managing lake usage. Any policy needs to balance the rights of riparian owners with the right of the general public to have access to public navigable waters, and with the need to protect the quality of the state's natural resources.

The Township may adopt a lake access ordinance that restricts the number of boats that can access each lake based on water frontage. This ordinance would apply both to keyhole access and lake front lot owners. Under this ordinance, each lake front lot (keyhole or private) would be allowed one power boat plus one additional boat for each specified amount of shore length. The specified amount of shore length would need to be established for each lake based on the carrying capacity of the lakes determined by the following:

- Lake characteristics including lake size, shoreline perimeter, amount of shallow vs. deep lake area, water quality, bank and soil characteristics and turnover rate.
- Land use characteristics including the number of platted lots along waterfront, ownership patterns, zoning minimum lot sizes/widths and common use/keyhole/public access sites.
- An inventory of the number of power boats stored on the lake, the number of boats gaining access through common use/keyhole/public access sites and the total number of boats using the lake on peak days.

Preservation of Natural Topography and Vegetation: Due to the scarcity of large tracts with woods or rolling topography, those that still exist are highly valuable. The land use densities proposed by the Land Use Plan will promote the preservation of existing vegetation and topography. Specific standards can be applied to subdivision plat regulations and site plan review to require preservation of tree cover, the provision of landscaping and buffer strips and the minimization of site grading. The Planned Unit Development regulations should continue to be utilized to encourage preservation of open space, vegetative cover and natural topography.



IV. EXISTING LAND USE



2013 Master Plan Update

A. Growth Trends

Historical Perspective

Historically Genoa Township was characterized by rural agricultural land uses, with resort-type development around Lake Chemung and the other 15 lakes in the region. In the early 1970's the rural character began to change. Suburbanites from the Detroit and Ann Arbor areas began looking at Livingston County as a convenient commute between this quiet lifestyle and metro area employment. Following the residential growth have been supportive commercial and public facilities. The small town atmosphere associated with the cities of Brighton and Howell attracted residents, businesses and small industries to this area. Gradually the area began to establish its own healthy employment base. Providing sanitary sewer service in parts of Genoa Township has contributed to the rapid pace and intensity of its growth. According to Livingston County and Genoa Township figures, most of the recent development in Genoa Township has been residential.

Regional Context

Genoa Township lies within Livingston County, Michigan. The urbanization of Livingston County is part of the trend of outward migration from the Detroit Metropolitan area. Situated between Brighton and Howell, with easy access to Detroit, Ann Arbor, Lansing and Flint via freeways, Genoa Township falls in a crossroads of growth.

Genoa has experienced a large amount of residential development and has developed a stable, self-sustaining employment base comprised of a variety of industries. The element that sets Genoa apart from many communities in the County is the opportunity to appreciate a rural lifestyle without the long commute.

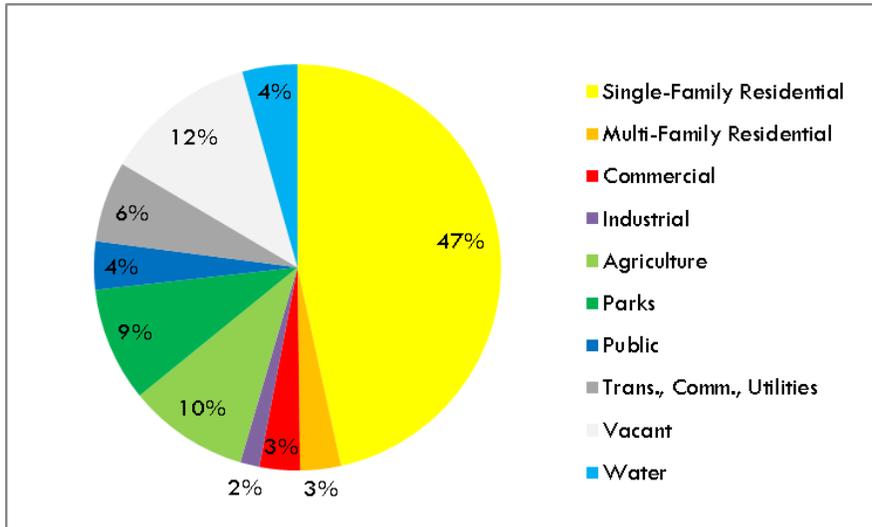
The outward growth of Brighton and Howell has directly affected the development of Genoa Township, which is apparent along the Grand River Avenue corridor, accentuated by interchange facilities with I-96. Grand River Avenue is the major roadway that links the cities of Howell and Brighton and generally parallels I-96. This corridor gradually has been developed with a variety of uses, particularly during the past decade. Some regional scale commercial establishments began to develop in part due to sanitary sewer service becoming available in 1991. The installation of public utilities has resulted in the substantial growth of industrial uses in the Grand River corridor area.

A number of factors can be cited for growth in the southeastern Livingston County area:

- *Interstate 96 and U.S. 23 increasing accessibility from Genoa Township to the major places of employment in the metropolitan region.*
- *The availability of relatively inexpensive large tracts of land suitable for subdivision development.*
- *People's desire to live in a community with a rural atmosphere.*
- *The attractiveness of lake front or rural estate home sites.*
- *Public sanitary sewer becoming available.*

B. Existing Land Use

An inventory of existing land use was conducted using current aerial photographs and verified by field observation. Existing land uses were classified and the extent of their acreage determined as depicted below. The following pages describe the existing land use characteristics of the Township when the land use update for the plan was done in 2012.



EXISTING LAND USE (2012)		
	Acres	%
Single-Family Residential	10,738	47%
Multi-Family Residential	744	3%
Commercial	742	3%
Industrial	351	2%
Agriculture	2,213	10%
Parks	2,097	9%
Public	886	4%
Trans., Comm., Utilities	1,483	6%
Vacant	2,797	12%
Water	1,008	4%
Total:	23,058	

Agricultural

Agricultural includes lands actively used for agricultural purposes totaling 2,213 acres.

Single-Family Residential

Single-Family residential is the most prevalent land use in the Township. This type of residential development is dispersed throughout the area. Some of this single-family development has

resulted from gradual divisions of agricultural land. This land use is comprised 10,738 acres in 2012.

Multiple-Family Residential

Although multiple-family housing, historically has been limited to the cities of Howell and Brighton, there has been significant multiple family development in Genoa Township since public water and sanitary sewer were introduced. This category includes attached town homes, multiple family condominiums and apartments, and manufactured housing parks. There are 744 acres of multiple-family residential development in the Township in 2012.



Commercial

Commercial uses in the Township are located primarily along the Grand River Avenue frontage. Grand River Avenue is the most heavily traveled roadway in Genoa Township. As a result, small regional shopping centers, individual business establishments and small offices have developed along this segment. Commercial/office use comprises 742 acres.



Industrial

Existing industrial uses are located on the south side of Grand River Avenue between Chilson and Latson. There are a number of small to medium sized industrial uses dispersed along the Grand River Avenue corridor. The largest industrial area is the partially developed 200 acre Grand Oaks Industrial Park just west of Latson Road between I-96 and Grand River Avenue. In total, 351 developed acres of industrial land exist in the Township.

Public/Quasi-Public

Areas designated as Public/Quasi-Public include public uses such as Township Hall, governmental buildings, churches and schools. These are dispersed throughout the Township with a high concentration of government facilities in the northwest corner towards the City of Howell. There is a total of 886 acres of public land in the Township.



Parks

This classification includes areas such as golf courses, miniature golf centers, recreational vehicle campgrounds, parks, ski areas, MDNR lake access sites, playgrounds, trails, athletic fields, and the Brighton Recreation Area which total 2,097 acres.

C. LAND USE PATTERNS

The pattern of development reflects the urban influences of the cities of Brighton and Howell, combined with easy access to Detroit, Ann Arbor, Lansing and Flint via freeways. As illustrated on the Existing Land Use Map, the more intensive development is along the Grand River Avenue corridor, which is contrasted by residential development and agricultural activities away from this axis of development.

Grand River Avenue is the major roadway linking the cities of Howell and Brighton and generally parallels I-96. The installation of public utilities and accessibility has resulted in substantial growth of commercial and industrial uses southeast of the City of Howell. This area has been developing toward serving as a principal regional commercial center for Genoa Township and surrounding communities.

Residential areas north and south of the corridor historically were large lot development. In the last 20 years some of these lands have evolved to large planned residential communities. Some of these developments have utilized innovative design techniques to capitalize on precious environmental resources in the Township while preserving their natural condition. As a result smaller, more clustered subdivisions have emerged.

Much of the land along Grand River Avenue is less rolling and contains more buildable soils. It is the area most readily accessible and, therefore, feasible to sewer. Away from this corridor lands are characterized by more rolling topography, some areas with steep slopes, wetlands, problem soils, wooded areas and less intensive suburban rural-agricultural development.

D. UTILITY SERVICE AREAS

The availability of utilities has made a significant impact on development patterns. Most older developments use individual septic systems. A high density of septic systems in areas with unsuitable soils, high groundwater or near bodies of water can have significant impact on the quality of the Township's water resources. The septic tank leakage from older systems has affected the quality of the Township's wells, lakes, wetlands, and groundwater and limits development potential. In response to these problems, Genoa Township developed several public sanitary sewer systems for certain areas. The provision of sanitary sewer has helped to overcome some of the problems associated with septic tank systems.

Northwest portion of Township

Genoa and Oceola Townships jointly developed a sanitary sewer system with the assistance of the engineering firm of Tetra-Tech MPS back in the early 1990's. This system, the Genoa-Oceola sanitary sewer system, serves much of the Township from the area around Lake Chemung to the City of Howell, north of I-96. The treatment plant is located on Chilson Road, just north of the railroad.

The plant was designed to accommodate future development of vacant land within the presently defined service district. The system is designed to accommodate the land uses indicated in the Master Plan. Only sanitary wastewater is accepted at the waste water treatment plant. No industrial process flows are permitted.

The Township also has a public water supply system for the northwestern portion of the Township. The system serves areas north of I-96 between Lake Edgewood and the western Township border. The water system was developed as part of MHOG Water Authority, a four Township system that includes Marion, Howell, Oceola and Genoa Township. There is a 500,000 gallon water tower located by Cleary University in Genoa Township.



Oak Pointe/Tri-Lakes

Sanitary sewer service was provided in the central portion of the Township around the Tri-Lakes area as a part of the Oak Pointe PUD. The treatment plant was constructed by the developer and dedicated to the Township. This system is being combined with the Genoa-Oceola system with the Oak Pointe treatment plant being taken off-line and wastewater routed to the treatment plant on Chilson Road. The system serves the ultimate build-out of Oak Pointe, Northshore and the existing residential areas surrounding the Tri-Lakes. This system provided a benefit by not only serving the future development within the Oak Pointe PUD, but by also providing sanitary sewer service to the older lakefront subdivisions in the area.

This has had a significant benefit for the water quality within the Tri-Lakes.

As part of the Oak Pointe PUD, a public water system was also developed. The system serves the Oak Pointe development and has been extended around to the north end of Crooked Lake to serve the Northshore PUD. The system has an Iron removal facility and a 150,000 gallon elevated storage tank in the Oak Pointe Golf Course.

Brighton

The Pine Creek PUD, adjacent to the City of Brighton, has public water and sanitary sewer service through a P.A. 425 agreement with the City. Water has also been extended to serve existing homes on Dillon Street that had contamination problems with individual wells. There are currently no plans to extend Brighton water and sanitary sewer service to other areas of the Township.

There is also a public water supply system at the eastern edge of the Township. This system was originally developed to serve the Lake Edgewood condominium development and the Brighton Village Mobile home park. This system has been extended southward along Grand River Avenue to the City of Brighton. This extension serves commercial development along Grand River Avenue near the Brighton I-96 interchange. There is a 500,000 gallon water tower on Conference Center Drive, adjacent to I-96. This water system is owned and operated by the City of Brighton.

Lake Edgewood

Sanitary sewers are provided in the eastern section of the Township, through a system known as the Lake Edgewood sanitary sewer system. The system serves the greater area along the eastern portion of the Grand River Avenue corridor, west to Sylvan Glen. The Sylvan Glen manufactured housing park is served by a private on-site package treatment plant, which ultimately will be connected to the Lake Edgewood system.

V. FUTURE LAND USE



2013 Master Plan Update

A. Determining Factors

There are a number of factors attracting residents and developers to Livingston County in general, and Genoa Township in particular:

- Accessibility to rapid growth areas in Ann Arbor and western Oakland County, provided by the I-96 interchanges. Vacant, available property with lower land and development costs than in "competing" areas.
- Visibility to high and increasing traffic volumes along Grand River Avenue, especially between Howell and the I-96 exit 141 interchange.
- Availability of sanitary sewer service in select areas.
- An increasing population base to serve and/or employ.
- Relative affluence of residents.
- High quality of life offered in the area due to the natural features such as rolling hills, lakes, woodlots.

In addition to those general development attractors, there are some specific factors that influenced the proposed future land use pattern in Genoa Township. These factors include:

- **Existing land use** - Wholesale changes to the existing land use pattern would be difficult. The locations of most existing commercial and industrial developments are appropriate, and the community land use patterns have evolved around these existing land uses.
- **Relationship of incompatible uses** - The future land use plan strives to diminish incompatible land use relationships by providing a transition of land uses, such multiple-family between light industrial and single family residential areas.
- **Natural features** - The natural rolling topography, woodlots and scattered lakes provide highly marketable property for residential development. The types of development and allowable density shown on the future land use map were determined by the location and extent of natural features. For example, lower overall development densities are proposed for properties containing significant wetland areas to encourage clustering in buildable areas.
- **Existing Township Master Plan** - The original Township Master Plan, adopted by Genoa Township in 1976, and the Grand River Area Corridor Plan, adopted in 1995, were the principal basis for this current version of the Township Master Plan, first adopted in 2006. The future land use plan contained in the plan has been re-evaluated based on current trends and conditions for this update.
- **Infrastructure** - The density of residential uses and the location of land uses such as industrial and commercial are dependent on the availability and the capacity of the infrastructure system. Portions of the Township are currently

Future land use determining factors:

- *Consistency with existing land use patterns.*
- *Diminishing incompatible land use relationships.*
- *Preservation of natural features and consideration of the carrying capacity of the environment.*
- *Positive incorporation of natural amenities.*
- *Existing land use planning and zoning policies such as the previous Master Plan and the Grand River Avenue Corridor Plan.*
- *Availability of infrastructure including utilities, transportation and community facilities.*
- *Market conditions for various land uses.*
- *The goals and objectives of the plan that express the community character desired by residents.*

served, or are planned to be served, by public water and sewer. The capacity of the road network defines the intensity of uses that may be served without adversely impacting traffic operations. The availability of community facilities such as schools, recreational facilities, police and fire protection places bounds on service to land use, particularly the residential density. For this reason, this plan includes a growth boundary.

- **Desires of the Township** - The land use pattern desired by Township officials and property owners has been expressed with the objective of a diversified tax base, employment opportunities, provision of services for residents and desire for a mixture of uses.

The future land use map is a guide to the orderly development in the area and is intended to assist in decision-making. The future land use map is based on the current transportation system (See Map 7) with the addition of the proposed full I-96 interchange at Latson Road and the existing partial interchange at Lake Chemung (See Map 8).

B. Future Land Use Categories

Agricultural/Country Estate: These areas shall remain in agricultural use, or develop as single family residential on estate lots. Many of the areas are prime farmland or have significant natural limitations such as wetlands or severe soil limitations. As these areas are not planned for sanitary sewer, they can only support low density residential development. This classification is recommended for single family residences on lots no smaller than 5 acres.

Rural Residential: This designation identifies that this area shall develop as single family residential on large lots. Many of the areas have significant natural limitations such as wetlands or severe soil limitations and are not planned for sanitary sewer. This classification is recommended for single family residences on lots no smaller than 2 acres or clustered development with a net density of 2 units per acre.

Low Density Residential: These areas are designated for single family residential use, located on the fringe between the rural residential and the more urbanized areas of the Township. While these areas are not planned for sewer service, they have fewer environmental constraints found in the Rural Residential. Single family residential uses within these areas will be located on lots of at least 1 acre in size.

Small Lot Single Family Residential: This designation refers to two distinct groups of moderate density single family residential uses. The older, existing, single homes around Lake Chemung and the Tri-lakes Area are situated on smaller lots. It is intended that this area shall remain single family residential. Secondly are newer, small lot, single family subdivisions located within the more urbanized area of the Township. These areas will generally be, or are planned to be, served by public water and sanitary sewer. Single family residential uses located within these areas will typically be located on lots ranging from 14,520 square feet to 21,780 square feet in size or 2 to 3 units per acre.

Medium Density Residential: This designation refers to medium density duplexes, attached condominiums and other multiple-family dwelling units. This area may also be developed with single-family homes on smaller ¼ acre lots. This designation is found within areas served, or planned to be served, by public water and sanitary sewer. Development will be at a density consistent with the infrastructure and land capabilities, but will not exceed a density of 5 units per acre. Developments in these areas will be served by public water and sewer.

High Density Residential: This designation refers to higher density condominiums, apartments and other multiple family dwellings. This

Future Land Uses:

- *Agriculture/Country Estate
5 acres per dwelling unit*
- *Rural Residential
2 acres per dwelling unit*
- *Low Density Residential
1 acre per dwelling unit*
- *Small Lot Single Family
Residential of 2 to 3
dwelling units per acre*
- *Medium Density
Residential
5 dwelling units per acre*
- *High Density Residential
8 dwelling units per acre*
- *Neighborhood
Commercial*
- *General Commercial*
- *Regional Commercial*
- *Mixed Use Town Center*
- *Office*
- *Industrial*
- *Planned Industrial*
- *Public/Quasi-Public*
- *Private Recreational*
- *Planned Unit Development*

designation is found within areas served, or planned to be served, by public water and sanitary sewer. Development should respond to infrastructure and land capabilities, and should not exceed 8 units per acre. High density residential developments will be served by public water and sewer.

Manufactured Housing: These areas are designated for manufactured housing/mobile home parks. Manufactured housing areas will be served, or planned to be served by public water or a community well and sanitary sewer. Development in these areas will be limited by infrastructure and land capabilities.

Neighborhood Commercial: Retail and service establishments whose primary market area includes residents and employees from within a two mile radius are designated by this category. These retail businesses and services are intended to serve the needs of nearby residential neighborhoods. Typical uses would include smaller general merchandising/retail establishments such as convenience stores, banks, dry cleaners, and beauty/barber shops, and small retail strips.

General Commercial: Businesses which serve the requirements of the community at large including Genoa Township, Howell, Brighton, and pass-by traffic along Grand River Avenue are designated by this category. The large size and variety of permitted commercial uses generate significant volumes of vehicular and pedestrian traffic. There may be some outdoor sales or display areas. These districts are intended to be clustered, rather than allowed to create an undesirable commercial strip pattern of development, and buffered from nearby residential area. Appropriate uses include larger grocery stores, restaurants and retail shopping centers.

Regional Commercial: Land uses within this category include higher intensity commercial uses that serve the comparison shopping needs of the entire community and the regional market. Uses include big-box retail, large shopping centers, restaurants (including fast-food) and automobile service centers. Such land uses rely on higher traffic volumes and easy access via a major arterial or highway. Development within such areas should occur within a planned, integrated commercial setting. Site design for these uses should include high quality architectural and landscape design with parking areas and access points that promote safe and efficient circulation throughout the site. The location of this land use designation shall be focused along the Grand River Avenue corridor between Latson Road and Grand Oaks Drive to create a focused regional commercial center so that the Township, County and State agencies can more efficiently focus the infrastructure and services needed to support this regional center.

Mixed-Use Town Center: This category includes a mixture of uses integrated into a traditional-style development of high density single

family homes, attached and detached, along with various commercial uses including retail and office. The intent is to create a destination in the Township as an alternative to the consistent strip development that currently exists along Grand River Avenue from Howell to Brighton.

A more detailed description of this area can be found later in this chapter.

Office: This use includes various forms of office development including professional offices, medical offices and banks.

Industrial: The intent is to develop industrial uses such as research, wholesale and warehouse activities and light industrial operations which manufacture, compounding, process, package, assemble and/or treat finished or semi-finished products from previously prepared material. The processing of raw material for shipment in bulk form, to be used in an industrial operation at another location is found only in very defined and limited portions of this area.

Research and Development: This area should be developed as a light industrial/R&D/office park. High quality building architecture should be utilized to convey a high-quality image. Enhanced landscaping and screening should be provided along adjoining major thoroughfares. Flexibility in some zoning requirements may be considered in exchange for these aesthetic enhancements.

Public/Quasi-Public: These are institutional land areas to be occupied by government, utility or civic uses such as churches, parks, state, county and municipal facilities and major utility lines.

Private Recreational: These are areas designated for private recreational facilities such as golf courses, campgrounds and private parks.

Redevelopment of Public/Quasi-Public Sites: Development pressures may lead to a demand for some public sites or private recreational property to be developed with other types of uses. If there is any redevelopment of public sites or private recreational lands, proper land use relationships must be maintained to ensure design and uses are compatible with the planned character of the surrounding area. In addition, since most of those sites have significant open space or natural features, some element of those features should be preserved. The Planned Unit Development (PUD) option contained in the Zoning Ordinance would be a good approach for this type of redevelopment. PUD provides design options to permit flexibility in the regulation of land development and innovation in design.

- The relatively large size of sites allows coordinated development and transitional land uses within the site to ensure compatibility with the surrounding area.

- Clustering residential units can be used to preserve common open space and natural features such as trees, topography and key views.
- Any development with another, more intense quasi-public land use, such as a medical center or hospital, should be designed as a PUD to properly integrate the development within the community. Such facilities should be designed to provide a campus type design, with coordinated access and circulation, consistent building design and preserved open space and natural features.

Interchange Commercial: Rather than typical interchanges where gas stations and fast food establishments are built piecemeal with little consideration for aesthetics, the intent of this designation is to promote planned development of these interchange commercial uses with high quality architecture. The new Latson interchange is envisioned to be the premier exit for travelers along I-96: a destination where they can get out of their vehicles to walk around, dine, and shop.

- Appropriate uses include fast food, sit-down restaurants, gas stations, retail, and entertainment
- This area may be subject to design guidelines promoting walkability, increased landscaping standards, pedestrian-scale building siting and massing, and outdoor dining/gathering.

For more information on the Latson Interchange Subarea, please see below.

Interchange Campus: With the creation of a new interchange at Latson/Nixon in 2013, development pressures may exist for large-scale users seeking large parcels of land with convenient access to I-96. The intent is to create a district that will accommodate large-scale institutional campuses close to the interchange without leap-frog development further south.

- Possible uses alone or in combination: medical center, indoor sports center, higher education satellite, research & development, or senior living
- Any large-scale development should be a well-planned, campus-like setting, planned in close coordination with the Township

For more information on the Latson/Nixon Interchange Subarea, please see below.

Table 12
Future Land Uses

Future Land Use	Acres	Percentage
Ag/Country Estates	6,159	28.6%
Large Lot Rural Residential	4,151	19.3%
Low Density Residential	4,370	20.3%
Small Lot Single Family Residential	2,364	11.0%
Medium Density Residential	443	2.1%
High Density Residential	119	0.6%
Manufactured Housing	399	1.9%
Neighborhood Commercial	116	0.5%
General Commercial	348	1.6%
Regional Commercial	270	1.3%
Mixed Use Town Center	186	0.9%
Office	238	1.1%
Industrial	340	1.6%
Research and Development	241	1.1%
Public/Quasi-Public	724	3.4%
Private Recreation	502	2.3%
Interchange Commercial	70	0.3%
Interchange Campus	520	2.4%
FLU Total	21,560	

C. GROWTH MANAGEMENT BOUNDARY

The residents of Genoa Township have consistently said that preserving the natural beauty of the Township and controlling urban sprawl are important priorities for planning the community. The Township also desires to be able to provide efficient infrastructure services to support development. One of the most effective ways to meet both of these goals is with a “growth boundary.” The growth boundary concept in the plan is designed to encourage the following:

- Efficient land use,
- Protection of farmland and natural areas,
- Efficient provision of utilities, services and infrastructure,
- An efficient transportation system,
- Locations for economic growth, and
- Diverse housing options.

The growth boundary marks the separation between rural and urban areas and defines land that can efficiently support urban services such as sewer, water and roads. Secondary growth areas are also provided adjacent to the City of Brighton for low density residential. Development outside the boundary is not prohibited; however, because public utilities are not available in these areas, development needs to be maintained at a relatively low intensity and the character of development needs to not adversely impact natural features and agricultural uses.

Areas within the growth boundary include the Grand River Avenue/I-96 corridor between Brighton and Howell and areas surrounding the City of Brighton. Land within the growth boundary are separated into two distinct areas:

- ***Primary growth*** areas are currently served or available to be served by public sewer and water. These areas include single family and multiple family residential at higher densities with public water and sewer, commercial centers, industrial parks and mixed-use centers.
- ***Secondary growth*** areas do not have sewer and water, but due to their proximity to the cities of Brighton or Howell, are appropriate for infill with low density residential. Typical lot sizes will be around one acre or clustered developments at an overall density of two acres per dwelling.

Rural reserve areas outside of the growth boundary should be maintained at a relatively low intensity rural character of development that will not adversely impact natural features and agricultural uses.

There is presently vacant or under-utilized land within the growth boundary that can be served by public water and sewer. By focusing new development in these areas, the Township and the County can more efficiently provide the necessary infrastructure to support new growth.

In addition, the Township has planned for a mixed-use town center at Grand River and Dorr Road. This center is inside the growth boundary and currently has the public utility and transportation infrastructure to support development. This higher density center will form a compact area for housing, shopping, employment, cultural and recreational activities in a pedestrian-friendly, vital and attractive neighborhood.

An extension of utilities south of I-96 to the Latson subarea was a determining factor in the planned land uses for that area. After the interchange is completed, the area should be monitored annually for potential development and proposed expansion of the growth boundary south.

The growth boundary is not intended to be static, but should be evaluated on a regular basis along with other updates to the Master Plan. The Township Planning Act requires that the Master Plan be evaluated and updated at least every 5 years. With each update, the following criteria should be taken into consideration for amending the growth boundary:

- Amount and capacity of undeveloped or under-developed land currently within the growth boundary, which should be used to satisfy the demand for development prior to expanding the boundary.
- Projected population growth within the Township and demand for other land areas for commercial or industrial development.
- The ability of the Township to extend public water and sewer to serve new land areas outside of the growth boundary.
- The capacity and condition of the road system to support the new growth areas.
- The ability of the Township, County and other public agencies to provide necessary services to the new growth areas and the additional resulting population.
- The impact of higher density development from expanding the growth boundary will have on natural features, agricultural uses and rural character.
- Consistency with the goals and objectives of the Master Plan.

D. GENOA TOWN CENTER

An area has been designated for the Genoa Town Center around the intersections of Grand River Avenue with Dorr and Hughes Roads. This area is planned to become a mixed-use town center with local businesses, neighborhood service establishments and traditional residential neighborhoods. Residential uses will provide a variety of housing types including apartments on upper floors above commercial uses, traditional townhouses and single family homes on smaller lots. The intent is that this area will be integrated into a pedestrian-friendly, walkable area with sidewalks connecting all uses and community parks and plazas integrated into the fabric of this town center area. The Town Center area has the potential to become an activity center for the Genoa Township community that will provide a defined sense of place for the Township.

This area is planned for higher density development and a mixture of uses; however for this type of development to be successful, it must be properly designed and developed. For that reason, this area is planned to be developed with a Town Center Overlay Zone, with specific design standards for traditional architecture, buildings, neighborhood form and streetscape elements, commonly referred to as traditional neighborhood design. Below are some general guidelines on how this area should develop.

Design Guidelines

Local Retail and Neighborhood Service

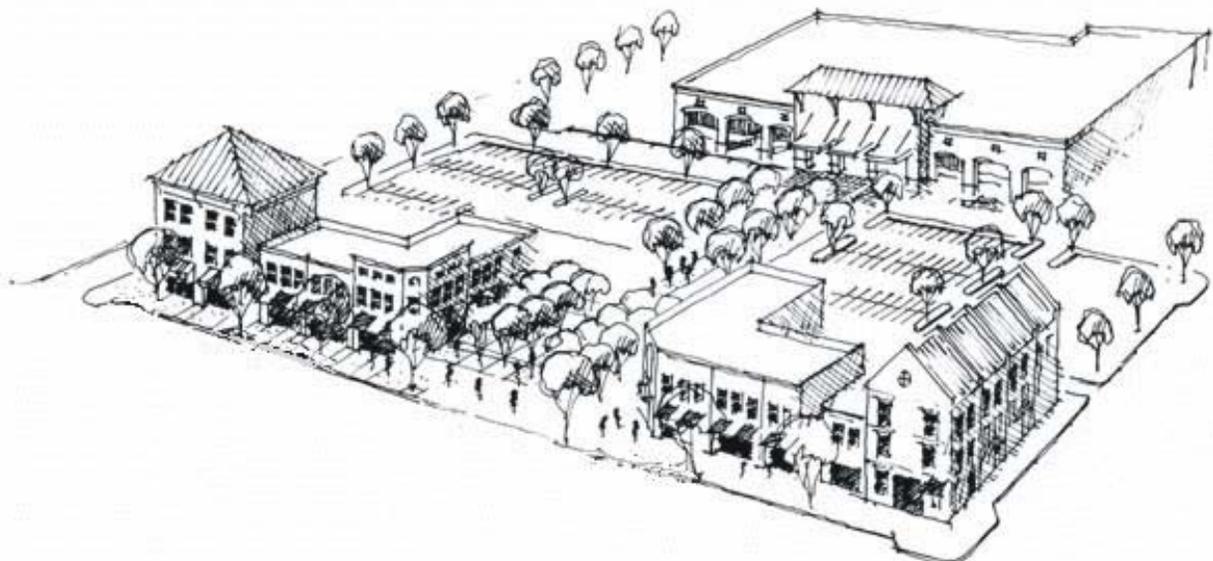
Local businesses and neighborhood service uses along Grand River Avenue will be a focal point of the proposed town center. The intent is that these areas will develop in a manner consistent with the desired small town center environment and defined by closely-knit neighborhoods surrounding a node of neighborhood commercial. Development should be similar to the traditional urban forms found in downtown Brighton and Howell.

Commercial architecture should contribute to the desired town center character. The architectural styles for buildings should resemble that of traditional architecture. Town centers commonly possess an integrated pedestrian circulation system that conveniently links residents of surrounding neighborhoods to public gathering places, neighborhood commercial areas within the town center and civic and recreational facilities. It is therefore important to ensure adequate connections are provided through the creation of a system of sidewalks and pathways that emphasizes human scale and makes a neighborhood walkable. The commercial areas of the town center need to include the following elements:

- Traditional architecture similar to that found in downtown Brighton and Howell should be used.



- Buildings should front towards and relate to the street at a pedestrian scale and orientation.
- Building envelopes should create a continuous street edge with buildings built-to the front lot line and with zero side yards between adjacent buildings.
- Parking lots should be located behind the building to minimize the dominance of automobiles and make the site more pedestrian friendly.
- Sidewalks and pathways should interconnect all uses within the town center with convenient links to residential areas and parks.
- Street trees should be provided along all frontages and brick walls or hedge rows used to screen any visible parking lots.
- The area should be developed with an interconnected grid street pattern with on-street parking.
- Signage on businesses should be designed to fit the traditional architecture and be pedestrian in scale.
- A vertical mixture of uses should be encouraged with residential or office above retail businesses and services.

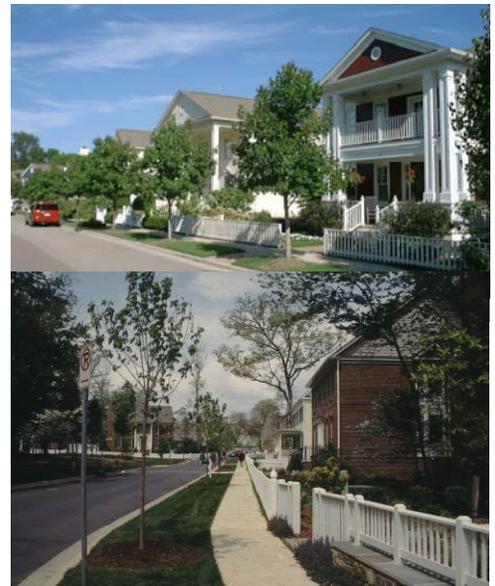


Residential Uses

The residential areas of the town center should develop in a manner that is consistent with the traditional neighborhood character of a small-town. Residential will be a mixture of apartments above businesses, traditional townhouses, and single family homes on smaller lots. Other uses may include churches, civic spaces, parks and recreational uses.

With the potential of higher density of development, it is important that residential areas be designed to include all of the elements essential to a high quality traditional neighborhood. Neighborhoods need to consist of physical components such as streets, lots, blocks, homes and community facilities, such as parks, schools and churches. Residential development should include all of the following elements:

- Traditional architecture should be utilized.
- Multiple family should be developed as traditional townhouses with courtyards and parking to the rear. Single family homes should be designed with the living areas on front and garages recessed to the side or rear of the home.
- Porches or stoop entrances should be provided on all front facades.
- An interconnected grid street pattern should be developed with 600-800 foot maximum block lengths. Where locations prevent through streets, then looped drives with large center green spaces should be used instead of cul-de sacs.
- Neighborhoods need to be developed at a walkable scale with sidewalks and pathways system.
- Vistas should be maintained to natural areas and focal points.
- Neighborhood parks need to be provided in visible and accessible locations to serve as neighborhood focal points/gathering places and provide for recreation.



Public Streetscape and Open Space

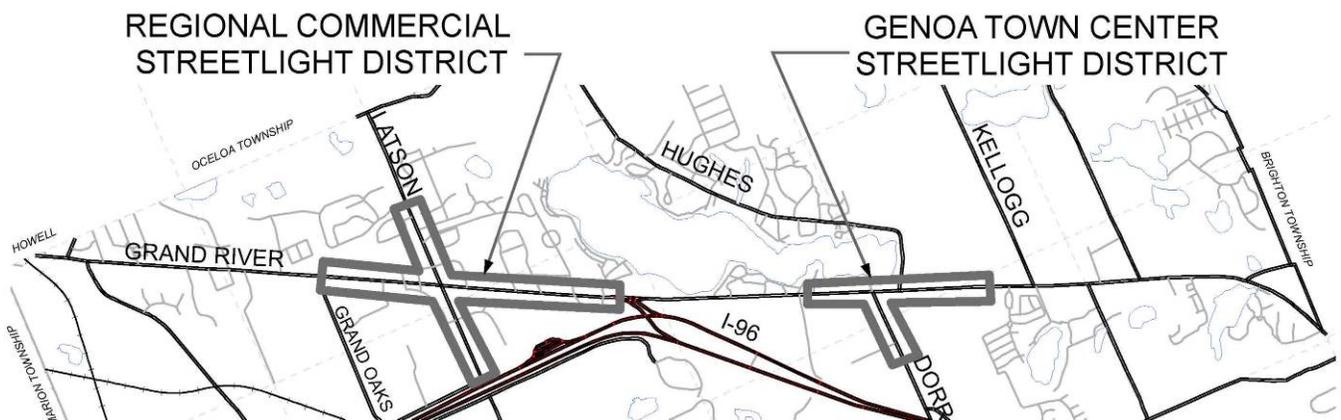
Streetscape improvements, such as street lights, landscaping, pathways and street furniture, should be integrated into the design of development in the Genoa Town Center as well as other areas along Grand River Avenue. This will create a strong sense of place and identity for the community. In order to break the corridor up, separate design themes should be considered for distinct areas such as the Genoa Town Center and the regional shopping area centered around Grand River Avenue and Latson Road.

Ornamental street lighting should be included along the frontage of development to provide unity along certain sections of the corridor. The regional commercial section of Grand River Avenue at Latson Road currently has a uniform type of street light that creates a unique identity of this area. A uniform style of street light should also be used in the Genoa Town Center area. This should be a different style of ornamental lighting to distinguish from the regional commercial area.

Gateway signs should be installed at major entryways to the Township, such as along Grand River Avenue. Enhancement elements of the entrance sign should include lighting, landscaping and masonry material.

Mixed-use developments should include plazas and public art. Public art should be designed as an enhancement to a site and provide a strong focal point. This public art should be:

- Appropriate to the scale and nature of the site.
- Integrated into the design of the building.
- Preserve and integrate natural features of the site.
- Use materials, textures, colors and design that are within the context of the surrounding area's character.
- Designed to be accessible, durable, secure, easily maintained and not pose a hazard to public safety.



E. I-96/Latson Road Subarea Plan

A new full service I-96 interchange is under construction at Latson Road. The new interchange will include an overpass connecting Latson and Nixon Roads and a widening to five lanes between Grand River Avenue and the C.S.X. Railroad tracks. Nixon Road would be improved to a paved, two lane roadway from the railroad south to Chilson Road. Grand Oaks Drive and Beck Road have been relocated to accommodate the interchange ramps.

With the development of the new interchange, Latson Road will be an important gateway to the community. Access to the area south of I-96 will dramatically change, necessitating a specific subarea plan to guide development decisions. The subarea plan is intended to address the following:

- Manage traffic around the new I-96 interchange and the intersection of Latson and Grand River Avenue to maintain a level of service that will meet the needs of the surrounding community.
- Encourage high-quality design for the land uses surrounding the interchange to create a gateway that presents a positive image to the community for residents, businesses and visitors.
- Protect the character of the rural residential neighborhoods south of I-96 through preservation of natural features, limiting density and preventing the intrusion of nonresidential uses beyond the immediate interchange area.

The Latson Road Subarea Plan includes the following recommendations for when the interchange is completed, as illustrated on the subarea map (See Map 8):

- The land on the east and west side of Latson Road between I-96 and Grand River Avenue is planned for a mixed-use PUD. This PUD should include the following:
 - A diversified mixture of uses that may include commercial and office/research and development.
 - A mixture of uses that will diversify traffic generated from the site by spreading out the peak hour over times that minimize impact to the interchange's peak hour traffic.
 - Access management that will minimize the number of driveways and protect the efficiency of traffic flow along Latson Road between the interchange and Grand River Avenue.
 - Distinct and prominent architectural features of enhanced character, which reflect the importance of the site's location and create a positive visual landmark for this gateway to the community.

Planning for the Latson/Nixon Road Corridor when the I-96 interchange is completed:

- *Manage traffic and access around interchange.*
- *Create community gateway with distinctive character.*
- *Diversified mixture of land uses.*
- *High quality architecture.*
- *Streetscape and landscaping improvements along Latson and Grand River.*
- *Protect character of rural residential neighborhoods south of I-96.*
- *Reevaluate the plan yearly to respond to development and market factors.*

- Extensive landscaping along Latson Road and Grand River Avenue to enhance the appearance of these corridors and the gateway to the community.
- Uniformity in design through coordination of architectural styles, landscaping, ornamental lighting, pedestrian circulation and vehicular access.
- The areas immediately south of the interchange along S. Latson Road are planned for Interchange Commercial, as described above. This area is intended to accommodate the needs of interstate traffic and should complement, not duplicate or compete with, the commercial areas north along Latson and Grand River.
- The areas adjacent to the Interchange Commercial area as depicted on the map are planned for Interchange Campus uses. This area can be served by the proposed utility extensions and is intended to be a well-planned, campus setting.
- Residential development along S. Latson Road south of the C.S.X. Railroad tracks will remain at Rural Residential and Country Estate densities. The intent is to protect the rural residential character and natural features through lower density development.
- As the areas designated for Interchange Commercial and Campus are developed, areas south currently planned residential should be reevaluated, conditional upon the utility and roadway capacities. This plan is intended to be flexible, balancing the impacts of new development on the infrastructure system, accommodating new uses dependent on interchanges, and limiting the negative impacts on existing nearby uses.

E. PLANNED UNIT DEVELOPMENT

Some areas may be appropriate for development under the Planned Unit Development (PUD) option contained in the Zoning Ordinance. Areas of the Township that contain significant natural features are appropriate to develop under the PUD option. The purpose of this alternate development procedure is to facilitate the following:

- Provide flexible design to respond to the unique characteristics of the site, instead of the conventional zoning standards.
- Coordinate development on larger sites.
- Preserve significant natural features.
- Provide alternatives for land that exhibits difficult development constraints, where an improved design can provide a community benefit.
- Allow clustering of residential units to preserve common open space and natural features.



- Ensure public infrastructure and road improvements are made concurrent with the development, with developer participation.
- Provide the opportunity to mix compatible land uses or residential types.
- Coordinate infill and redevelopment along the Grand River Avenue Corridor.

F. RESIDENTIAL DESIGN STANDARDS

Residential Densities/Rezoning: Residential densities will be based primarily on the Master Plan's Future Land Use Map. With a rezoning, the Master Plan must be considered in conjunction with site specific conditions & timing. Other factors that need to be considered are soil suitability, utilities, road conditions, natural features and surrounding land uses.

Large lot vs. cluster: Where public utilities such as sewer and water are available, this creates the opportunity to have clustered development. In areas where sewer and water are not available, there may still be the opportunity to provide a degree of clustered housing in locations where soils are well suited for onsite septic systems.

In general, areas not served, or planned to be served by sanitary sewer are planned for a low density and large lot size to accommodate on-site sanitary drainfields without compromising environmental quality. Areas planned for the lower densities are also not able to support higher densities due to limitations of roads and other public services. Areas with sensitive natural features are also planned for lower densities. While the overall net density of a site can remain consistent with the Master Plan, the PUD or cluster development option can be used to cluster the dwelling units in areas with soils suitable for sanitary drainfields and away from sensitive natural features.

Natural features preserved: Natural features that can be preserved by clustering include woodlands, wetlands, steep slopes, waterfront and poor development soils. Clustering should also be utilized to preserve greenway corridors, buffers and natural open space. A uniformly wooded site or an open site may not benefit from clustering, unless innovative design is utilized. In all instances, the benefit of clustering should be determined by a comparison of larger lot conventional subdivision and clustered development.

Open space standards: Standards need to specify that the location of open space will preserve natural features, open space corridors along waterfronts creeks and major roads. Standards in the Zoning Ordinance PUD regulations should specify the desired size of open

New residential development should include the following elements:

- *Density and character of development consistent with plan and surroundings.*
- *Clustered development where beneficial and appropriate*
- *Preserved natural features.*
- *Open space and neighborhood recreational areas.*
- *Pedestrian facilities for higher densities.*
- *Landscaping.*

space areas and identify priorities of items to preserve. Quality open space needs to be maintained as opposed to remnant land.

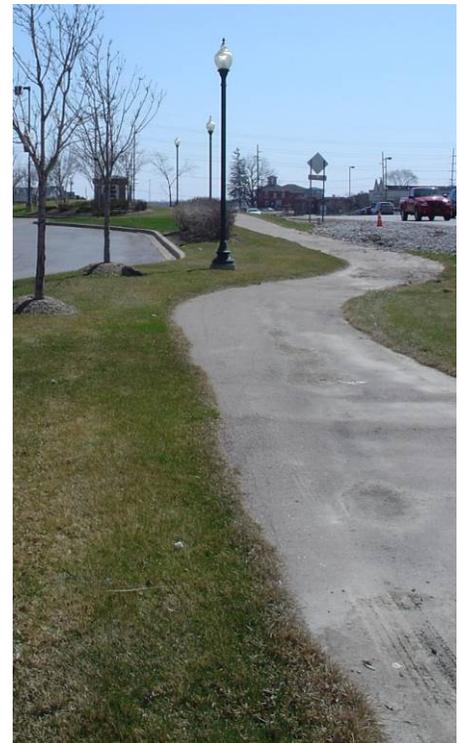
Recreational facilities: Requirements should be made for all major residential developments to have active and passive recreational amenities. The Township Subdivision Regulations should be amended to require a minimum amount of usable neighborhood recreational area within all subdivisions and condominium projects, whether a development is a clustered PUD or a conventional subdivision.

Pedestrian circulation: As the community grows and traffic volumes increase, the need for pedestrian facilities becomes more apparent. Neighborhood streets should be constructed with some form of pedestrian circulation, particularly for higher density developments or along collector roads. Sidewalks should be provided in consideration of factors such as the density of development, age characteristics of the expected residents, expected traffic volumes along the street, proximity to other sidewalk systems and proximity to schools, parks and public institutions.

- Sidewalks should be required along new streets within residential developments that have half acre or smaller lots or an overall density of 2 units per acre or greater.
- Bikepaths should be required where a development fronts on a major road that is designated for a pathway in the Greenways and Pathways section of this Master Plan.
- Paved pathways should be required within open space areas of PUD's. Stone or wood chip paths or wooden boardwalks should be provided in areas with sensitive environmental features instead of paved sidewalks.

Landscaping: To preserve the rural character of the Township and to enhance the natural quality of residential neighborhoods, the following landscaping should be required in all residential developments:

- Street trees or canopy trees within the front yard of each lot.
- Perimeter buffering along major roads that border the development.
- Detention pond landscaping.



VI. TRANSPORTATION



2013 Master Plan Update

A. INTRODUCTION

There is a strong link between land uses and transportation in Genoa Township. In addition to residential growth in the Township, there is significant new development in the surrounding townships. The area's population growth has increased the demand for retail services and has been a catalyst for economic development. A significant portion of the county's commercial and industrial development has been in Genoa Township along Grand River Avenue between the cities of Brighton and Howell. One of the more visible impacts of this growth is the increase in traffic volumes. Traffic volumes have increased even faster than the population growth.

One challenge for the Township is managing growth and road improvements to provide a safe and efficient system without compromises to the natural features and other characteristics that make the Township so desirable. It is also important to understand that while Genoa Township does plan and regulate the land use and zoning, all the roads in the township are either MDOT routes (part of Grand River), Livingston County Road Commission, or private roads. Therefore coordination with the road agencies is important.

To some degree, there is a conflict between the need for road improvements and other goals of the Township and residents. The same natural features that make Genoa Township a desirable place to live can be viewed as constraints to road improvements. The rolling topography, sharp curves, and limited sight distances contribute to difficult driving conditions, especially during adverse weather. In some places the unpaved roads in previously rural areas must accommodate more traffic than those roads can handle. Adjacent land uses and numerous road intersections at curves and areas with poor sight distance cause traffic flow restrictions and potential safety hazards.

One big change is the new interchange along I-96 at Latson Road. Previous Township plans had promoted this interchange to improve accessibility. With the interchange, thoughtful management of the land use in the vicinity is critical to ensuring the interchange and access roads to it have smooth traffic flow. The current redesign of S. Latson Road (formerly Nixon Road), which maintains two lanes south of the railroad tracks, will be at its capacity when built, restricting the land use potential.

For more on the interchange subarea, please see Chapter 5: Future Land Use

The transportation issues to be addressed in this chapter include:



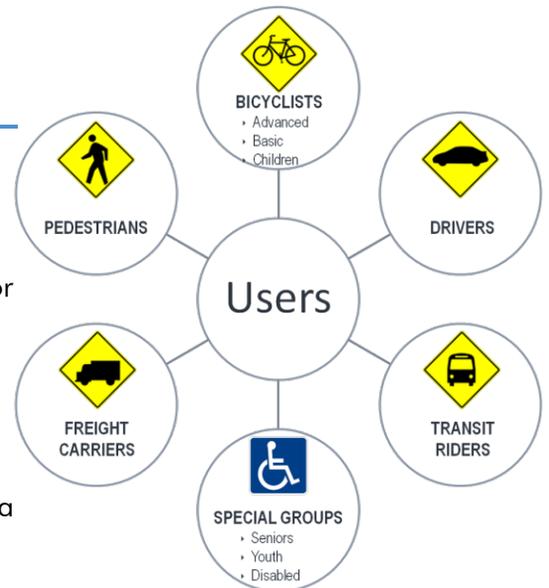
- What road improvements are needed to accommodate the projected volumes?
- How can the Township preserve its visual features and still provide safe and efficient traffic flow?
- What innovative regulatory and financial techniques can help preserve capacity and accelerate improvements?
- How can the Township ensure the impacts of each incremental development are considered and addressed?
- How can the Township improve safety and travel not just for cars, but for those walking and bicycling as well?

B. Complete Streets

The Michigan Planning Enabling Act amendment now requires master plans to include a transportation component that addresses different types of travel (pedestrians, bicyclists, etc). The State of Michigan Transportation Fund was amended to provide for coordination among local agencies to improve the environments for walking, biking and transit use in Michigan. Genoa Township’s consideration of pedestrians and bicyclists has been part of the program well before the state’s policy changed.

The basic objectives of a “complete street” system in Genoa Township are listed below:

- **Provide a Variety of Travel Routes.** Those walking or biking are more likely to do so when they feel safe and comfortable. Therefore, a variety of routes should be provided so non-motorized facilities are planned along roads with travel conditions that would naturally attract such activity. This involves providing connections from neighborhoods to schools, the Township Hall campus, and recreation in and near the Township.
- **Provide for Safe Travel Along the Street.** A variety of options may be considered to facilitate non-motorized and/or transit travel, in addition to moving vehicular traffic. Depending on the context, bike lanes, cycle tracks, sidewalks and pathways can all assist in moving pedestrian and bicycle traffic.
- **Provide for Safe Travel Across the Street.** Where travel along the road is often considered in non-motorized planning, it is often the travel across the street that can deter non-motorized activity, such as busy arterials like Grand River. The goal is to provide some convenient places to cross where the pedestrian is very obvious to the driver.
- **Different Types for Different Folks.** While experienced bicyclists prefer riding in the travel lane or along its right edge, less experienced riders prefer a bit more protection. Since one goal is to encourage people to bicycle more frequently, a system that meets the needs of those potential users is important. Therefore,



bike lanes, buffered bike lanes, and separated pathways should be part of an overall bikeway system.

In response to the recommendations of the Grand River Avenue Corridor Plan, the Zoning Ordinance, Subdivision regulations, and ordinances were amended several years ago to require sidewalks in medium to higher density residential developments and commercial frontages of Grand River Avenue. Many sidewalks have since been built. Reconstructing the west portion of Grand River Avenue with a median will also make it easier for pedestrians to cross the street

Many developments that have utilized the Zoning Ordinance's Planned Unit Development (PUD) option to create clustered housing surrounded by natural open space have included trail networks. Efforts should be made to create linkages between these PUD's to create an integrated community network.

For more on the Township's pathways, please see Chapter 7: Greenways and Pathways

C. Existing Traffic Conditions

Genoa Township is linked to the overall region by I-96, with full movement interchanges in both of the adjacent cities of Brighton and Howell; and a partial interchange in the center of the Township for traffic traveling to and from the southeast.

A new interchange is under construction at the intersection of I-96 and Latson Road. This interchange will provide full access to I-96 for the community.

Within the county, Genoa Township is linked to adjacent communities by Grand River Avenue and a number of county primary roads such as Chilson and Brighton Roads.

Genoa Township's local transportation network is segmented by I-96, an east-west limited access highway that passes through the community. The division created by the expressway separates the northern third of the Township containing a majority of the commercial and industrial land from the southern two-thirds containing the majority of residential lands. Currently, only two roads cross the six mile length of I-96 through the Township (Chilson and Dorr Roads). A third crossing at the I-96 Latson Road interchange will increase the North-South mobility.

Among the roads in Genoa Township, I-96 and the western half of Grand River Avenue are under the jurisdiction of the Michigan Department of Transportation. Primary and local roads are maintained by the Livingston County Road Commission with the State Motor Vehicle Highway Fund matched by Township funds.

Grand River Avenue is a five lane roadway that runs between the cities of Howell and Brighton. This roadway is discussed in greater detail in the Grand River Avenue Corridor Subarea Plan, a separate document considered part of this Master Plan.

The county primary roads are generally two lane paved roadways. Many of these roads have limitations due to topography, sharp curves and poor sight distance.

Future traffic patterns within the road network will be closely related to land use. Because of this, it is vitally important that road development be coordinated with the overall plan for the Township.

Existing Traffic Volumes

Existing traffic volumes for roadways throughout Genoa Township vary, depending upon the location of the segment studied or the date the study was conducted. Specific studies of intersections are possible and encouraged, depending upon development trends in the Township. Recent traffic counts for several arterial, collector and local streets throughout Genoa Township are shown on Map 12.

These traffic counts demonstrate several of the Township's most traversed roadways. It is important to consider existing traffic volumes when considering future development within the Township, plans for roadway upgrading or widening or projection of future capacity.

It is impossible to apply general formula to each of the Township's many arterial and collector streets to establish a threshold of maximum expected roadway capacity. The Township should work with the Michigan Department of Transportation and the Livingston County Road Commission to evaluate existing conditions and establish an action plan for review of specific traffic management issues.

Capacity of the Roadway System

Traffic operations are typically evaluated by the extent to which motorists are delayed in their travel. Future traffic operations are evaluated by comparing projected traffic volumes to the capacity or the road network. Roadway capacity is defined as the number of vehicles that can travel through an intersection or roadway segment during a specified time period. Generally, traffic operations and capacity analysis is evaluated for the peak hours of traffic. Traffic engineers use a gradation scale of A through F.

**TABLE 13
Comparison of Trip Generation Rates**

	Trips Peak Hour	In Trips Average Weekday
Residential (per unit)		
Single Family	.75	9.57
Apartment	.51	6.72
Condominium	.44	5.86
Mobile Home	.44	4.99
Office (per 1,000 sq. ft. gross floor area)		
General Office Building	1.55	11.01
Medical Office Building	2.48	36.13
Research and Development	1.24	8.11
Commercial (per 1,000 sq. ft. gross floor area)		
Shopping Center	3.75	42.94
Pharmacy (w/drive through)	9.51	88.16
Quality Sit-down Restaurant	9.02	89.95
Fast Food Restaurant (w/drive through)	54.81	496.12
Service Station (per pump)	15.65	168.56
Convenience Store	67.03	737.99
Drive-in Bank	53.46	246.49
Industrial (per 1,000 sq. ft. gross floor area)		
Light Industrial	.92	6.97
Heavy Industrial	.51	1.50
Industrial Park	.84	6.96
Manufacturing	.73	3.82
Warehousing	.45	4.96
(Note: A trip is a one-way movement, 10 trips = 5 in, 5 out)		

Source: Institute of Transportation Engineers, Trip Generation Manual, 7th Edition.

Generally a level of service of D or better is considered acceptable. Level of service E or F represents long, undesirable delays.

Determination of roadway capacity is dependent on a number of factors. Generally, a two lane paved roadway will have a 24 hour capacity of 8,000 to 10,000 vehicle trips for Level of Service A (unrestricted flow). This will be influenced by a number of factors that will define individual roadway capacity. These include:

- Intersection design, turning lanes and traffic control devices;
- Pavement condition and material;
- Roadway width and number of lanes;
- Topography (rolling or flat);
- Design setting (winding rural or unswerving urban);
- Location and frequency of curb cuts;
- Speed limits and other traffic control devices; and
- Sight distance limitations.

Crash Data

Auto accidents occur more frequently on the major roads and intersections of the Township. Locations of relatively high accident locations are shown on the Traffic Conditions Map, based upon SEMCOG crash rates between 2006-2010.

According to the Livingston County Road Commission, intersection operation and design issues (sight distance limitations, too many driveways, etc.) are a major consideration in determining road safety conditions. The motorist on a roadway approaching an at-grade intersection with another roadway (including driveways) should have an unobstructed view of the entire intersection and sufficient distance to the intersecting roadway to permit control of a vehicle, thus avoiding accidents. At a minimum, the driver should be able to see the headlights of an approaching vehicle.

Unobstructed sight distances should be provided on all approaches at each intersection. After a vehicle has stopped at an intersection, a driver should have sufficient sight distance to make a safe departure through an intersection area. The intersection design should provide adequate sight distance for all of the various vehicular maneuvers required upon departure from a stopped position.

Roadway Functional Classification

Function, efficiency and safety of roadway movement in Genoa Township can be furthered through the establishment of a classification of roads and planning and designing these facilities for their specific purpose. A functional system or hierarchy of roads provides for movement of traffic as well as access to specific sites. This hierarchy will range from major arterials such as Grand River Avenue, which primarily serves for cross-town movement, to local subdivision streets which serve to access individual homes.

Roadway capacity is dependent on:

- *Intersection design and control*
- *Pavement condition*
- *Width*
- *Topography*
- *Design*
- *Curb cuts*
- *Traffic control*
- *Sight distance*

The functional classification system has a four element hierarchy in Genoa Township:

- Expressway- I-96
- Major Arterial - Grand River Ave.
- Arterial
- Collector
- Local

This system defines the roles of each street, in terms of operational requirements; which is in turn translated into planning, management and physical design features.

Expressway: I-96 serves as the principal route between the residential population of Genoa Township and major activity centers throughout the region.

Major Arterial: The Grand River Avenue Corridor is the major roadway through Genoa Township. This roadway serves a vital function towards connecting the Township with the adjacent cities of Brighton and Howell. Because of the amount of traffic on Grand River Avenue, commercial uses have developed along this corridor.

Arterial: There are a number of roadways which move traffic throughout the Township and provide connections with other adjacent communities including Brighton Rd., Chilson Rd., and Latson Rd. These roadways also provide access from other areas of Genoa Township to Grand River Avenue.

These roadways serve for longer trips within the Genoa Township and adjacent communities. Like Grand River Avenue, the primary function of these roads is to move traffic. Access to these roads must be managed in order to maintain safe and effective movement.

Collector: The collectors serve to assemble traffic from local subdivision streets of residential neighborhoods and deliver it to the arterial. Collectors will also serve to provide access to abutting properties. Many individual subdivisions will contain one or more collector streets which funnel traffic from the local streets and connects with adjacent neighborhoods.

Local Streets: Local streets serve primarily to provide access to property and homes. These roadways are generally short and discontinuous, and generally only provide connection to one or two collector streets.

Constraints

Several natural and fiscal constraints impact the development and efficiency of Genoa Township's public roadway network. In a featureless environment, where no financial hindrances to development are present, the roadway system will most likely resemble a grid system, much like that which has developed in many Midwestern communities. Genoa, however, is not a featureless environment, nor does it benefit from infinite resources. As such, the following considerations must be examined to most effectively plan, prioritize and program the Township's transportation system:

- I-96 limited access freeway;
- Water bodies;
- Wetlands;

- Topography;
- Rights-of-way;
- Financing availability; and
- Cost effectiveness of proposed improvements.

D. Improvements

There are a number of improvements that will need to be made to the road network in Genoa Township. As the Township continues to develop, traffic levels will increase creating capacity deficiencies. Maintaining the capacity of the transportation network should be done through a comprehensive approach. Intersection improvements and signalization can be made at congested intersections or intersections with relatively high crash rates. Transportation management practices, such as access management, can be used to maintain the efficiency of the transportation network.

Grand River Avenue

Specific recommendations are made for Grand River Avenue, including signalization, road widening and service drives. These are contained in the Grand River Avenue Corridor Plan.

A particular recommendation to highlight in the plan is eventually reconstructing Grand River Avenue with a narrow median in the existing right-of-way. A median will reduce conflicts thereby improving safety and traffic operations. In addition, a median adds greenspace and makes it easier for pedestrians to cross. In the past, the Livingston County Road Commission and MDOT both had concerns with a narrow median. Since the concept was last discussed with those road agencies, there has been considerable research that all supports a narrow median over five lanes, at least for some of the Grand River Avenue segments, particularly for the Lake Chemung interchange to the Howell city limits.

I-96 Interchanges

I-96 was constructed in the 1960s. The original Lake Chemung Interchange (Exit 141) was typical of many partial access facilities built in rural areas at the beginning of the Interstate Highway System. Interstate drivers going to a major community, such as Howell, were provided a smooth transition from the Interstate to the old highway which was usually the community's main street. A similar interchange, on the far side of the community allowed travelers, who had completed their business, to continue, via the Interstate, to their next destination. As the area continues to grow, however, direct access to the freeway from both sides of the interchange becomes important in improving traffic conditions.

A Major Investment Study and Environmental Impact Statement was prepared to evaluate improvements to the original interchange. This

The MIS/EIS identified the following needs:

- *Rapid suburbanization.*
- *Access to westbound I-96.*
- *Congestion and safety.*
- *Access south of I-96.*
- *Long distance north / south access.*
- *Limited improvement options at the Lake Chemung interchange.*
- *Livingston County expected to grow significantly by 2020.*

study identified the following needs for transportation improvements and proposed major access modifications.

The resulting improvements consisted of two separate parts, with one half of the improvements being modifications to the existing Lake Chemung Interchange and the other half consisting of a new interchange at Latson/Nixon Roads. The modifications to the Lake Chemung Interchange have already been completed.

The Latson interchange is designed as a diamond interchange, which can accommodate two loop ramps in the future should the increased volumes along Latson Road require them.

Other improvements included in the interchange development will include:

- Nixon road will be renamed S. Latson Road and will be upgraded to an asphalt roadway south of the interchange with 2 lanes and turning pockets at intersections
- Beck Road and Grand Oaks Drive have been relocated around the interchange ramp area
- Latson and Grand River intersection will be widened to 7 lanes at each approach with dual left turns in all directions
- Large detention pond will be located north of I-96 at the previous rest area property

Road Widening

In order to preserve the rural character of Genoa Township, any future road widening should balance traffic needs with consideration of natural features. Excessive road widening would lead to increased traffic speeds and a more suburbanized appearance. The narrower roads which wind through the hills of the community add to the natural rural character of Genoa Township. Periodic congestion may be preferred over excessive widening for through traffic. In addition, the Road Commission does not have funding available for road widening.

Because road widening is not planned, improvements will need to be made at intersections to improve efficiency. Much of the improvements to roads will include left turn lanes at intersections.

The Township should also request acceleration and deceleration lanes along major roads for all developments which require site plan review and passing lanes for projects that will generate moderate to high left turn volumes or where there are sight distance limitations.

Road Paving

Much of the expected road paving will be completed in conjunction with the proposed I-96 interchange improvements at Latson Road. Nixon Road, south of I-96 will be paved southward to Chilson Road and renamed S. Latson Road. Crooked Lake Road is also in need of

pavement to provide access to the Three Fires Middle School, however funding has not been allocated for this project.

Intersection Improvements

Selected intersection improvements should be made at locations which have experienced higher crash rates than other intersections (see map x). Improvements can include turn lanes, sight distance improvements, pavement improvements, signalization or other form of traffic control.

The major roadway improvement planned within the Township is the realignment of Challis Road at Bauer Road. The west approach of Challis Road is to be realigned to the south to line up with the east approach. This will create a regular "T" intersection with the south approach of Bauer road. The north section of Bauer Road will be accessed from the former west leg of Challis Road.

Another intersection under consideration for improvements is the intersection of Brighton Road and Chilson Road. This intersection is a four-way stop that currently meets at an odd angle. Also, there is a by-pass lane from northbound Chilson road to east bound Brighton Road. The by-pass may be eliminated and the intersection realigned to create more of a regular, 90 degree intersection.

There are long traffic delays associated with traffic attempting to exit the Meijer/Hampton Ridge driveway. A traffic signal would improve access to and from those developments. The Township should request a traffic signal study by MDOT to determine if a new signal could be timed to coordinate with the traffic flow through other signals and if the state's criteria for a signal installation are met.

Models have been used to predict the volumes and patterns of traffic flow to and from the new I-96 interchange at Latson Road. Actual traffic volumes do not always match the patterns expected in modeling. In order to determine if additional road improvements may be needed, the Township should coordinate with the Road Commission to conduct traffic counts and analyze if other improvements are needed, such as at the S. Latson Road and Chilson Road intersection.

Access Management

Typically the approach to addressing high traffic volume is to widen a road to 3, 4 or 5 lanes. However, widening can disrupt the rural atmosphere of an area. Maintaining safety and smooth traffic flow without costly, premature or even unnecessary widening is a goal of this Plan. One technique to help preserve capacity and promote safety while delaying or avoiding the need for widening is access management.

The lack of controls over the number and placement of driveways increases potential for traffic congestion and crashes. Poor but

heavily used access systems conflict with the traffic movement function of the Township's major roads. Because of sight distance limitations in many areas of the Township, there are limited locations for optimum driveway and intersection placement.

Access management involves a series of tools to reduce traffic conflict points, and thus preserve capacity and improve safety. Access management standards regulate the number, spacing and design of access points, and requires the use of shared access systems where practical. The Township has adopted zoning standards for access management.

Number of Access Points: The number of access points should be limited to one where possible. Along major roads, driveways should be properly spaced from one another and from intersections with other major streets. Driveways should be aligned with those across the street or properly offset following the adopted zoning standards.

Alternative Access: Along major arterials, such as Grand River Avenue, alternative access should be encouraged, such as shared driveways, rear service drives or frontage roads. Commercial developments and parking lots should be connected through front or rear service drives. Frontage drives, rear service drives, shared driveways, and connected parking lots should be used to minimize the number of driveways, while preserving the property owner's right to reasonable access. Certain turning movements should be limited, especially left turns, where safety hazards may be created or traffic flow may be impeded.

High Traffic Generators: Uses that are high traffic generators should be located on the future land use and zoning maps where they can best be accommodated by the roadway system.

New Road Development

There are currently no plans or funding for the Livingston County Road Commission, or the Michigan Department of Transportation to construct new public roads. As presently planned, all new road construction within the Township will be the result of private development.

There are a number of areas in the Township that have un-subdivided parcels. All newly created lots (and condominium units) are required by the Zoning Ordinance to have public road frontage, or frontage on a private road constructed to the standards of the Township Private Road Ordinance.

Development of future roads, whether public or private, needs to be well planned to ensure the establishment of a safe and efficient vehicular circulation system. Special attention needs to be given to the planning and design of roads for the following purposes:

- Protect the substantial public investment in the street system.
- Promote and coordinate effective and energy efficient development.
- Promote the orderly development of, and ongoing access to, land.
- Protect community character and minimize environmental impacts.
- Promote safe and efficient travel within the Township.
- Prevent duplication of roads.
- Ensure reasonable, though not always direct, access to properties.
- Ensure roads remain passable in all weather conditions and are adequate to provide safe, year-round access by fire, police and other public and emergency vehicles.
- Ensure roads are improved to properly handle development impacts.

Requiring connections of local roads is essential to developing a local road network and maintaining the effectiveness of the Township's major roads. Providing road connections between adjacent subdivisions allows for the movement between adjacent neighborhoods without the need to access major roads. It also provides alternative means for residents within the subdivisions to access the major road network at locations that are most efficient for traveling to their destination, shortening trips and thereby minimizing traffic impacts to the major road network. It is important that connections between local streets be designed to discourage use by through traffic that does not have an origin or destination within the local neighborhood.



Residential Roads

The Township currently has standards in the Township Private Road Ordinance for development of local private roads. These standards are applicable to local streets with a primary function to provide access to abutting residential land, and not serve higher volumes of through traffic. While all roads are required to be designed to meet Livingston County Road Commission standards, the Township has the discretion to allow some modifications on private roads where significant natural features will be preserved.

Township roadway standards provides for a hierarchy of roads based upon function. The following are used to determine the necessary road widths in residential developments:

- Lower density developments are allowed to have roads with widths as narrow as 22 feet with gravel shoulders and open ditch drainage, particularly in the rural residential areas of the Township.
- Higher density developments are required to have wider roads of 26-28 feet with concrete curb and gutter.

- Wider roads are required where a larger amount of on-street parking is anticipated.
- Collector roads in higher density developments are required to be 30 feet wide to handle larger traffic volumes.
- The roads that serve as a single point of access for a relatively large number of residential units will need to be wider and boulevards should be provided into the development. The divided roadway in effect provides an alternate access for emergency vehicles in the event one side is blocked by an accident or fallen tree.

Implementation

A majority of the road improvements, including new road development and improvements to existing roads, will be privately implemented concurrent with development. These improvements are necessary to serve development. The Township should also work closely with the Michigan Department of Transportation and the Livingston County Road Commission to ensure that proper road improvements are being installed with development. This can include additional turn lanes or the dedication of future right-of-way.

A number of public road improvements will also be implemented by the Michigan Department of Transportation and the Livingston County Road Commission. The Township should continue to work with these agencies to ensure road improvements will meet the needs of Township residents and businesses.

The Township can also take a direct role in implementing public road improvements. Current practices and programs for funding maintenance and improvements to Genoa's roadways allow a range of options, including: dedicated millage, special assessments, bond programs, tax increment financing and Federal transportation funding.

E. Other Modes of Transportation

Rail

Genoa Township has two active railroad lines. The Great Lakes Rail Road line runs north and south through the west side of the Township. The C.S.X. Rail Road line runs east and west through the center of the Township between the cities of Brighton and Howell. Both of these lines are fairly active. These rail lines are predominantly for freight transit.

Airports

There are no airfields in Genoa Township. The nearest public airport to Genoa Township is the Livingston County Airport, northwest of the City of Howell. Detroit Metropolitan Airport is in the City of Romulus, approximately 45 miles southeast of Genoa

Township. Capital City Airport in Lansing is 50 miles west. Flint's Bishop Airport is 40 miles north.

VII. BIKEPATHS & GREENWAYS



2013 Master Plan Update

A. GREENWAYS DEFINED

A greenway is a linear feature within the natural landscape that acts as a conveyance to integrate the various components of the landscape. Portions of the greenway function is to tie together the cultural landscape by providing transportation routes and access between Genoa's residential population and the various recreational, civic, cultural, and natural resources. Greenways also enhance the ecological function of Genoa's natural environment by preserving natural areas and corridors which are vital to the environment. A greenway is a corridor that provides the following:

- Protection, management and enhancement of Genoa's cultural resources and provision of recreational opportunities, including:
 - nature trails, bike paths and pedestrian facilities development,
 - establishing linkages between cultural and recreational resources, and
 - providing recreational opportunities;
- Protection, management and enhancement of Genoa's natural resources, including:
 - water quality improvement,
 - fish and wildlife migration and habitat enhancement, and
 - protection of natural vegetation;
- Enhancement of the quality of life and aesthetic appeal of Genoa, including:
 - scenic natural areas,
 - natural character of residential neighborhoods, and
 - natural buffers between residential and non-residential land uses,
- Provision of an alternative non-motorized transportation mode to link residential areas to major destination points within the Township.

Greenways function as linkages which tie together the various components of Genoa's cultural and natural resources. The function of creating and maintaining these linkages as a Township wide network, enhances the value and quality of each individual component.

GREENWAY GOALS & OBJECTIVES

- Create a complete non-motorized network to provide the opportunity for pedestrian activity such as walking, jogging, and bicycling in a safe and comfortable environment.
- Provide linkages between residential areas and recreation areas.
- Preserve the Township's natural character of forested areas, water resources and open views of rural open space.

Greenways are corridors or linkages that are managed for conservation and/or recreation and which connect focal areas. These include:

- *Recreational greenways featuring paths and trails of various kinds, based upon natural corridors and public rights-of-ways;*
- *Ecologically significant natural corridors possibly along waterways and/or drainage ways;*
- *Scenic routes along public right-of-ways, especially along waterways and through natural areas;*
- *Buffer zones between neighborhoods and other, non-residential land uses; and,*
- *Linkages providing for alternative modes of non-motorized movement between residential neighborhoods and destinations such as recreation areas, shopping districts, schools and churches.*

- Provide a natural corridor of open space connecting significant natural/open space and conservation areas of the Township.
- Provide buffers between development and ecologically sensitive areas.
- Maintain the ecological functions of natural waterways and drainage networks.
- Enhance natural habitat and migration routes to increase the Township's ability to support indigenous wildlife.
- Increase awareness and access to the system of greenways, bike paths and the Township's natural amenities.

SOUTHEAST LIVINGSTON GREENWAYS

A greenways plan was prepared a number of years ago for southeast Livingston County. This plan illustrates a non-motorized system of paths and conservation corridors containing significant natural features. This plan is a cooperative effort between the City of Brighton, the four surrounding townships, including Genoa, the Livingston County Planning Department and the Southeastern Livingston County Recreation Authority

The Livingston County Planning Department has also prepared a greenway manual for the Livingston County Greenways Initiative. This document outlines goals, and objectives of greenways and standards for greenway development within the county.

Both of these documents are incorporated into this plan by reference as they provide a basis and a regional context. This plan examines Genoa Township in more detail and makes additional recommendations relative to the development of greenways concurrently with the growth and development of Genoa Township.

Greenway Objectives:

- *Pedestrian activity*
- *Linkages from neighborhoods to destinations*
- *Preserve natural rural character*
- *Natural corridors connecting open space*
- *Buffer ecologically sensitive areas*
- *Protect natural waterways*
- *Wildlife habitat*
- *Increase awareness of greenways*



GENOA'S CULTURAL AND NATURAL RESOURCES

Cultural and natural resource components are comprised of a variety of land and water areas; all of which function as an integral system. Because the combined total system provides more value than the sum of its individual parts decisions on individual locations should be based upon the vision of the whole. The components of Genoa's cultural and natural resource system are classified into a range of categories from public to private. These include the following:

- Brighton State Recreation Area;
- Chaldean Camp;
- County lands;
- Township Hall and other Township owned properties;
- Other government properties such as public schools, road rights-of-way and utility easements;
- Private areas which are maintained in a natural state such as drainageways and wetlands;

These open space areas are accessible to a varied group of people. Government owned areas are generally accessible to the public while private green space is only open to a smaller private group of users.

TOWNSHIP PROPERTY

The Township owns approximately 72 acres containing Township Hall and featuring large open space areas, trails, parks, athletic fields, pavilion, sled hill, playground equipment, and wetlands. The surrounding land also provides the opportunity for other uses such as public open space, conservation and recreation. In addition, two sites located near Latson Road and Grand River Avenue were dedicated for future neighborhood parks. The Township is also seeking locations for future community parks, as detailed in the Parks and Recreation Plan. The Township lands should be linked with the greenways and bike path system for the community to tie the public lands with surrounding neighborhoods.

Genoa Township is made up of a number of individual cultural and natural resource components which combine to create the overall quality community. These include:

- *Township owned natural areas and public open space properties;*
- *Other municipal properties such as the Township Hall;*
- *Schools, roads and bike paths;*
- *Drainageways, wetlands and floodplains; and,*
- *Private open space.*

PROPERTIES OWNED BY OTHER GOVERNMENT AGENCIES

The Township contains other publicly owned lands which contribute to the overall network of public open space. These include the following:

- Many road rights-of-way provide linear paths. Some have improvements such as bike paths that allow non-motorized movement. Many provide natural aesthetic amenities such as natural vegetation and views of open water.
- Public schools will serve more as destinations than routes for cultural and civic activities. These facilities are destinations for children in the community as well as locations for school related community events.
- The Brighton State Recreation Area is 4,947-acre park is located at the southern edge of the Township. The majority of the park is located in Hamburg Township, however a portion is in Genoa. Brighton Recreation Area provides a multitude of year round activities.
- The Lake Chemung Park is a recreational facility, located along Grand River on Lake Chemung, is owned by the Livingston County Road Commission. The small site provides open space and picnic facilities.
- There are two Department of Natural Resources (DNR) Access Sites within Genoa Township, one of which is located on Lake Chemung and the another on Crooked Lake. These sites provide public boat launches.

PRIVATE OPEN SPACE

In addition to having public areas for access, recreation and non-motorized movement, a need exists to have these networks for ecological reasons. Private open space plays an important role in maintaining the Township's ecological functions. These include private lands maintained in a near natural state through regulatory means such as drainageways and wetlands. Private open space can also include conservation easements or park/common areas within developments, such as PUD's as well as areas which have been left undeveloped due to constraints, such as steep slopes and dense forest.

While these private open space areas are not accessible by the general public, they do enhance the quality of each individual's personal space. Collectively, these open space areas are essential to maintaining the investment that each resident has made as a part of the community. As the Township becomes more developed, natural ecosystems will be disrupted and the rural character of the community may be altered. Providing for a natural open space which is integrated with development will help to mitigate these impacts and protect private property owner's investments. This private open space also still provides ecological benefits and wildlife

Management of natural greenway systems enhances each individual's enjoyment of their own private open space and protects the investment that each resident has made in their property through the following:

- *Habitat for wildlife.*
- *Buffers between clustered development and ecologically sensitive areas.*
- *Minimize increases in storm water runoff.*
- *Vegetation to maintain air quality.*
- *Maintain natural rural character.*

habitat. Private open space within Genoa Township includes the following:

- Subdivision parks and common areas range in size from about half an acre to over 100 acres.
- Commercial Recreation Facilities include; the Mt. Brighton Ski Area, a 220-acre recreation area located in the southeastern portion of the township featuring downhill skiing during winter and an 18-hole golf course. Other commercial recreational facilities within Genoa Township include golf courses.

It is important that pathways to these publicly and privately owned facilities be provided to ensure a higher level of pedestrian activity is achieved within the Township.

ENVIRONMENTAL CONDITIONS

The natural environment is a critical element. The components to the environment function, change and interact as part of the ecosystem. A major objective of the greenway program is to maintain these natural functions in a balanced state, while still allowing the community to grow in a controlled manner. One method to protect these areas is through the greenways program. The environmental features to be considered, as described in the Environmental Conditions section of this Master Plan, are soils, topography, creeks, wetlands, lakes, woodlands and wildlife habitat.



USER GROUPS

There are a number of user groups for various components of the Township Greenways system. These include the following:

- **Pedestrians:** This group utilizes the trail and path system for an alternative means of transportation. While the requirements of this group are similar to those of the recreational walkers, convenient and safe access to destinations is most important.
- **Bicyclists:** This group utilizes the path system for recreation as well as transportation. The pathway's physical requirements are much different for this group. Bicyclists will generally have a much larger range than pedestrians and require more greatly improved trails. In crowded situations, there will be conflicts between pedestrians and bicyclists. If there are high traffic areas, separately designated paths may be required.
- **Recreational/health walkers and joggers:** These groups will utilize the path system for recreation, scenic enjoyment and physical exercise. These users require a safe and relaxing environment.
- **People with disabilities:** In development of a greenway system, the specialized needs of those with disabilities need to be considered. Accessible facilities should minimize hazardous conditions and permit maneuverability.
- **Educators/students:** An integral part of the greenway system are Brighton and Howell area schools. Greenways can not only be used as routes for students going to and from school, but also as "outdoor classrooms" for the study of nature.
- **Equestrians:** Despite the rapid rate of development in Genoa Township, there is a significant amount of residents that keep horses. Currently, horseback riders utilize private property, the Brighton State Recreation Area, and gravel county roads with low traffic volumes. Trails for this use may conflict with other users. If there is a demand for this use, specific bridle trails may be designated in proximity to any riding stables in the Township.

User Groups:

- *Pedestrians*
- *Bicyclists*
- *Recreational/health walkers and joggers*
- *Handicapped*
- *Educators/students*
- *Equestrians*

B. GREENWAYS

PATHWAYS

The trails proposed under the Greenway plan will provide connections between homes and neighborhood schools, and activity centers, as well as other trails and transportation facilities. In addition, these trails will provide ample opportunities for recreational use.

RECREATION

In addition to recreation related to trails and active parks, other passive recreation is encouraged where environmental impacts will be acceptable and where appropriate easements exist. Passive recreation consists of activities which are not programmed and do not require developed facilities. Examples are photography, resting, bird and wildlife observation, picnicking, reading, and fishing.

Types of Greenways:

- *Conservation*
- *Recreation*
- *Pathways*

CONSERVATION

Greenways can be established to maintain and enhance the ecological functions which are vital to the quality of life on Genoa. The natural functions to maintain and the components of the natural system are described in the previous section of this plan under Environmental Conditions. Natural features which will determine the most appropriate location for greenways serving this purpose are soils, drainage, wetlands, vegetation and wildlife habitat.

Drainageways: Greenways should be established to protect natural drainageways. This will include the drainageways wetland areas that the drain flows through and the natural vegetation in the upland areas surrounding drainageways. Sufficient natural buffers on both sides of creeks should be protected in a natural vegetative state to maintain the quality and moderation of surface water flow into the drainageways and protect from excessive soil erosion.

Habitat: Greenways should be established to reconnect natural habitat corridors. Where there are areas of wildlife habitat such as wooded areas or wetlands, these can be connected by greenways. Connections should be made between like natural areas, and the connection should match the natural characteristics of the existing habitat areas.

C. PATHWAYS

Pathways are to be shared use facilities among pedestrians, cyclists, equestrians, the handicapped, and other pathway users. The pathways will provide connections between homes and neighborhood schools, other activity centers, other pathways and transportation facilities. In addition, these pathways will provide ample opportunities for recreation. Pathways are proposed in the following locations:

- **Along Grand River Avenue:** The goal is to have a complete sidewalk system along both sides of Grand River Avenue from the City of Brighton to the City of Howell. This will serve as the principal east-west connection through the Township and link many of the neighborhoods in the northern portion of the Township with the adjacent cities. The current priority is filling sidewalk gaps and future plans are to add paths on the eastern side of the Township. Other north-south pathways will provide connections to the Grand River Avenue paths to create an integrated network.
- **Latson/ Chilson Roads:** A continuous paved path is proposed to span the Township from north to south along the Latson/ Chilson Road corridor. The new interchange at Latson Road will include a pedestrian pathway that continues south to Crooked Lake and Three Fires school. Pathways are proposed along Latson Road, north of Grand River Avenue to serve the higher density residential in this area which is in close proximity to the Grand River Avenue corridor. The sections along S. Latson Road and Chilson Road in the southern portion of the Township may include a paved path and a separate unpaved path for horseback riding. At the southern edge of the Township, the pathway will enter the Brighton State Recreation Area and tie into the hiking paths located in Hamburg Township to the south.
- **Brighton Road:** A pathway is proposed along Brighton Road between Honors Way and the City of Brighton. This will provide a connection between the higher density residential in the area of Oak Pointe and the City of Brighton.
- **Dorr Road:** The Township Hall is located on Dorr Road between I-96 and Crooked Lake Road provides recreational amenities such as playgrounds, soccer fields, and bike paths. A pathway along Dorr Road would provide a link between the Township Hall and Crooked Lake Road to the interchange and also to Challis Road and Brighton Road.
- **Crooked Lake Road:** A pathway extending west along Crooked Lake Road from the Township Hall to S. Latson Road would complete a looped path system around the Tri-Lakes area. This would also provide a linkage between the Township Hall and the Three Fires Elementary School.

- **Challis Road:** An off-road shared used pathway should be developed along Challis Road from Dorr Road to the existing path on Brighton Road.
- **Bauer Road:** An off-road shared used pathway has been developed along Bauer Road from Challis Road to the Brighton State Recreational Area at the southern edge of the Township.

Pathway Siting: The major objectives of pathway location are as follows:

- To design a pathway that produces a minimum impact on the land.
- To provide for recreation and transportation.
- To choose an alignment that is visually pleasing and provides a variety of views and experiences.
- To take advantage of the natural terrain and vegetation.
- To provide a pathway that requires minimum maintenance.
- To have minimum impact on wildlife habitat and wetlands.

Design:

- The Livingston County Greenways Initiative contains standards for development of various types of trails. The standards contained in this plan should be followed.
- A pathway should be designed with curves that appear to have a purpose, not be placed haphazardly or regularly throughout the pathway length. An alignment which has long curves and short tangents will flow gracefully through the landscape.
- The relationship between Greenway projects, particularly pathways, and nearby private spaces must be carefully considered. Views, residential privacy, and access from residential areas adjacent to Greenways are important.
- Residential neighborhoods require a design that is sensitive to the character, forms, materials, and colors. Nearby residents should be closely involved in the design process. Consider carefully the character of the public/private interface.
- Environmentally sensitive areas require a careful balance between the desire for recreation and the protection of natural resources. Determine the appropriate location and intensity of use of any path system carefully. Take advantage of opportunities to enhance the natural environment of the greenway. Provide seating in areas where wildlife can be observed without being disturbed.
- Pathways and wildlife habitat potentially conflict because of the environmental impact of construction. In addition, some wildlife species are intolerant of the presence of pathway users. Where high quality habitat is present, pathway links should be rerouted around the habitat. Subtle, attractive buffers should be integrated where necessary to protect privacy and wildlife.

- Occasional viewing, and seating areas can be provided along the path for resting and passive recreation activities.
- Path alignment should consider the larger patches of vegetation, open space, and drainage corridors that have high wildlife value by not cutting through the center of such parcels.
- Locate path intersections at natural focal points and convenient access points.

Pathway type: Pathways can be paved or unpaved. Paved pathways should be designed and constructed following the standards of the American Association of State Highway and Transportation Officials. To determine whether paved, unpaved, or parallel paved and unpaved pathways are most appropriate, the following criteria can be used:

- Paved pathways should be provided when:
 - High bicycle speed and volume is anticipated
 - There is an existing or projected year round transportation need for the pathway.
 - Winter maintenance is anticipated.
 - The pathway connects paved pathway sections along a Greenway.
- Unpaved pathways should be provided when:
 - The Township finds that a paved pathway would cause unacceptable environmental impacts.
 - The criteria for paving a pathway are un-met and a pathway is still needed.
 - Equestrian use is anticipated.
- Separate paved and unpaved pathways may be provided when:
 - Both the criteria for paving a pathway are met and equestrian use is anticipated.
 - Use conflict are anticipated because of high volume.
 - The environmental impacts of separate pathways are acceptable.
 - The area has sufficient space and amenity to make separate pathways desirable.



VIII. IMPLEMENTATION



2013 Master Plan Update

A. Tenets of Successful Implementation

This plan is intended to be a policy guide for moving Genoa Township forward, guiding decisions about future physical and economic development. But the plan is more than just a policy guide for Township officials and staff. With the commitment of resources to this planning effort come the high expectations that the recommendations will be implemented, some soon, or others over the next five to ten years.

Transforming the plan's goals into reality will require a long-term commitment and political consensus. The plan is designed to be a road map for action, incorporating strategies, specific projects, and programs that will achieve the desired results. This chapter synthesizes the many plan recommendations and identifies the actions and timing needed to transform the plan's vision into reality.

Commitment

Successful plan implementation will be directly related to a committed township leadership. While elected and appointed officials - the Township Supervisor, Manager, Township Board, and Planning Commission - will have a strong leadership role, many others - Township department directors, staff, and leaders from the community's institutions and organizations - will also be instrumental in supporting the plan.

However, commitment reaches beyond just these individuals and includes the array of individuals with an interest and stake in the future. Citizens, landowners, developers, and business owners who will be impacted by how Genoa Township changes must unite toward the plan's common vision.

Integrate with Capital Improvements

Township officials and departments must embrace the plan, applying its recommendations to help shape annual budgets, work programs, and the design of capital improvements. For example, the Township's engineering division can support implementation through infrastructure improvements, streets, and storm systems designed consistent with plan policies and recommendations, or the planning and building department through site plan review. Each department, staff person, and elected official should find it a benefit, if not an obligation, to reference the plan when making decisions and setting priorities.

Guidance for Development Decisions

This plan is designed for routine use and should be consistently employed during any process affecting the community's future. Private investment decisions by developers, corporations, and land owners should consider the plan's direction. Other planning efforts for subareas, corridors, and community facilities should be in harmony with the master plan. Finally, the plan should be used when reviewing development proposals and referenced in related reports and studies.

Partnerships

While the Township is in a position to coordinate many of the plan's implementation tasks, responsibility should not solely rest on the government. Instead, the vast array of stakeholders having key roles in either the township or region must all participate. Partnerships may range from sharing information to funding and shared promotions or services.

Municipal government cannot and should not do it all. Only through public/private collaboration can the plan's vision be realized. What can these partnerships do that the Township cannot do alone?

- **Solve Larger Issues.** Many issues are beyond the control of individual jurisdictions and require cooperation, including major infrastructure improvements, non-motorized options, and economic development.
- **Meeting Expectations for Public Services.** Economic conditions make it more difficult for individual communities to meet residents' needs and expectations. More sharing of resources and eliminating duplicated efforts may result in more cost effective ways of providing essential community services.

Evaluation and Monitoring

This plan has been developed with a degree of flexibility, allowing nimble responses to emerging conditions, challenges, and opportunities. To help ensure the plan stays fresh and useful, periodic reviews and amendments are required. This will ensure plan goals, objectives, and recommendations reflect changing community needs, expectations, and financial realities.

Any more detailed subarea plans should be adopted as master plan amendments. The plan should be reviewed at least every five years. Updates should reflect changing conditions, unanticipated opportunities, and acknowledge the implementation to date.

Roles of the Supervisor and Township Board

The Supervisor and Township Board must be solidly engaged in the process to implement the plan. Their responsibilities will be to prioritize various action items and establish timeframes by which each action must be initiated and completed. They must also consider and weigh the funding commitments necessary to realize the township's vision, whether involving capital improvements, facility design, municipal services, targeted studies, or changes to development regulations, such as municipal codes, the zoning ordinance and procedures.

Planning Commission as Facilitators

The Planning Commission is charged with overseeing plan implementation and is empowered to make ongoing land use decisions. As such, it has a great influence on how sustainable Genoa Township

will be. Therefore, several tasks in the Action Plan are the responsibility of the Planning Commission and its staff.

As an example, the Planning Commission is charged with preparing studies, ordinances, and certain programmatic initiatives before they are submitted to the Township Board. In other instances, the Planning Commission plays a strong role as a “Plan Facilitator” overseeing the process and monitoring its progress and results. Together, Township staff and the Planning Commission must be held accountable, ensuring the township’s master plan impacts daily decisions and actions by its many stakeholders.

B. Zoning Recommendations

Zoning is a key mechanism for achieving the desired land use pattern and quality of development advocated in the plan. This section provides a useful guide relative to the inconsistencies between current zoning patterns and proposed future land use designations.

Because the Future Land Use Plan is a long range vision of how land uses should evolve over time, it should not be confused with the Township’s zoning map, which is a current (short term) mechanism for regulating development. Therefore not all properties should be immediately rezoned to correspond with the plan. The Future Land Use Plan is intended to serve as a guide for land use decisions over a longer period of time (5+ years).

Review of the Existing Land Use map in comparison to the Future Land Use map reveals a gradual transition to the planned land use pattern. Achievement of this goal will be gradual particularly where established businesses and homes are located in areas intended for other types of uses in the long term.

In addition, the Future Land Use map (Map x) is generalized. More detailed evaluation would be required as part of any rezoning consideration.

The plan categories correspond to zoning districts, but there is some generalization. The following table provides a zoning plan indicating how the future land use categories in this master plan relate to the zoning districts in the zoning ordinance. In certain instances, more than one zoning district may be applicable to a future land use category. Notes are provided to guide the Planning Commission in determining the appropriate zoning district based upon the context of the surrounding area.

Zoning Districts	Agriculture/Country Estate	Large Lot Rural Residential	Low Density Residential	Small Lot Single Family Residential	Medium Density Residential	High Density Residential	Manufactured Housing	Neighborhood Commercial	General Commercial	Regional Commercial	Mixed-Use Town Center	Office	Industrial	Research and Development	Public/Institutional Utilities	Private Recreation	Interchange Campus	Interchange Commercial
AG – Agricultural District																		
CE – Country Estate District																		
RR – Rural Residential																		
LDR – Low Density Residential																		
SR – Suburban Residential																		
UR – Urban Residential																		
LRR – Lakeshore Resort Residential																		
MDR – Medium Density Residential																		
HDR – High Density Residential																		
MHP – Manufactured Housing Park																		
PRF – Public and Recreational Facilities District																		
NSD – Neighborhood Services District																		
OSD – Office Service District																		
GCD – General Commercial District																		
RCD – Regional Commercial District																		
IND – Industrial District																		
R-PUD – Residential Planned Unit Development Overlay District																		
MU-PUD – Mixed Use Planned Unit Development District																		
NR-PUD – Non-residential Planned Unit Development District																		
RD-PUD – Redevelopment Planned Unit Development Overlay District																		
PID – Planned Industrial Development District																		
TCOD – Town Center Overlay District																		
New Form-Based District #1																		
New Form-Based District #2																		

Zoning changes in accordance with the plan should be made gradually so that change can be managed. The Future Land Use map as well as

the plan's goals and recommendations should be consulted to judge the merits of a rezoning request. In review of rezoning and development proposals, the Township should consider the following sequencing standards:

- Is the proposed rezoning consistent with the policy statements and future land use plan recommended in this study. If not, is it reasonable to change the plan? There should be justification for a deviation from the plan. The Planning Commission could require an amendment to the plan before approval of a contrary zoning request.
- Is the timing for the zoning change correct?
- Is there reason to believe that the property owner cannot realize a reasonable rate of return with any use allowed under the current zoning classification? (i.e. is use under current zoning viable?) The right to a "reasonable" use of the property, is not necessarily the most profitable use.
- Are all of the permitted uses allowed under the requested zoning district compatible with surrounding land uses and zoning?
- Is the environment of the site capable of accommodating the list of uses permitted under the requested zoning classification?
- Is the proposed change in keeping with the growth management plan? Is there sufficient public infrastructure (street, sewer and water capacity) to accommodate the host of uses allowed under the requested zoning classification? If not, is mitigation being proposed to accommodate the impacts?
- Is the site large enough to meet all requirements for setbacks, area, utilities and driveway spacing?

If the response to all those questions is affirmative, then the Township should approve the rezoning. If the response to one or more of the questions is "no" then substantial evidence should be provided by the applicant to justify the change.

Zoning changes following the future land use plan may be made over time if conditions warrant:

- ***Consistency with the Master Plan.***
- ***Timing.***
- ***Reasonable use of land.***
- ***Compatibility with surrounding land uses.***
- ***Environmental conditions.***
- ***Infrastructure capacity.***
- ***Suitability of the lot to meet zoning requirements.***

C. Action Plan

The following table provides a summary list of the recommendations contained in this plan and alternative implementation tools for each.

Plan Recommendation	Implementation Mechanisms
Natural Resources Management	
Lower density zoning districts for areas with significant fragile natural resources.	<ul style="list-style-type: none"> < Maintain lower density Country Estate and Rural Residential zoning districts.
Natural features setbacks from wetlands, creeks, ponds and lakes.	<ul style="list-style-type: none"> < Maintain setback requirements from waterways in Zoning Ordinance. < Utilize clustering allowed by PUD to preserve wetlands as open space and provide greater setbacks from shorelines.
Protect natural topography and vegetation on areas with steep slopes.	<ul style="list-style-type: none"> < Maintain setback requirements from waterways in Zoning Ordinance. < Utilize clustering allowed by PUD to preserve steep slopes as open space. < Adopt slope based density regulations to reduce allowable density on steep slopes.
Storm water management to protect the quality of natural waterways and adjacent properties.	<ul style="list-style-type: none"> < Adopt Township Stormwater Ordinance.
Protect quality of ground and surface water from contamination by septic disposal or hazardous materials.	<ul style="list-style-type: none"> < Provide sanitary sewer service to existing higher density residential areas. < Minimize residential densities in areas where public sewer is not available. < Require all uses that handle hazardous materials to prepare a pollution incident prevention plan and provide secondary containment and other necessary protection measures. < Prohibit floor drains for industrial uses from discharging to storm or sanitary sewer.
Restore natural wetlands that have been altered from their natural state.	<ul style="list-style-type: none"> < Require PUD's to restore previously disturbed wetlands as a qualification condition for PUD approval. < Incorporate restoration of wetlands into drainage design for new development.
Manage boat usage to prevent overcrowding and degradation of lake quality.	<ul style="list-style-type: none"> < Maintain keyhole ordinance. < Adopt additional lake access regulations.
Preserve natural vegetation.	<ul style="list-style-type: none"> < Utilize clustering allowed by PUD to preserve steep slopes as open space. < Require natural buffer zones along public road frontages.

Land Use	
Implement future land use plan.	<ul style="list-style-type: none"> < Maintain current zoning that is consistent with Future Land Use Plan < Gradually rezone properties to the Future Land Use Plan when timing and other conditions are met.
Maintain growth boundaries.	<ul style="list-style-type: none"> < Do not extend sewer or water services outside of growth boundary. < Promote infill development within growth boundary and do not rezone land outside of the growth boundary to allow higher density residential or commercial uses. < Evaluate growth boundary with each regular Master Plan update to ensure there is land available for infill development
Develop Genoa Town Center.	<ul style="list-style-type: none"> < Maintain form-based zoning regulations for the Town Center to ensure all development and redevelopment in this area is consistent with the intent to create a traditional, walkable neighborhood. < Prepare an overall concept plan for this area to coordinate development between adjacent sites. < Develop streetscape standards for this area including sidewalks, landscaping, street lighting, street furniture, public art and plazas. < Utilize PUD regulations to coordinate development of larger sites.
Implement I-96/Latson Road Subarea Plan.	<ul style="list-style-type: none"> < Adopt form-based districts. < Ensure infrastructure can support new development. < Adopt additional access management standards for roads adjacent to interchange. < Require design of developments to preserve buffers along adjacent residential.
Transportation	
Grand River Avenue improvements, including signalization, road widening, median, and service drives, as detailed in the Grand River Avenue Corridor Plan.	<ul style="list-style-type: none"> < Coordinate with MDOT and LCRC. < Special Assessment District. < Require proportionate share of improvements as a condition of development approvals.
Road Widening	<ul style="list-style-type: none"> < Coordinate with MDOT and LCRC. < Require proportionate share of improvements as a condition of development approvals. < Regulate residential densities and the location of traffic intense uses to minimize need for road widening.

Road Paving	<ul style="list-style-type: none"> < Coordinate with LCRC. < Require proportionate share of improvements as a condition of development approvals. < Regulate residential densities to minimize traffic on gravel roads.
Intersection Improvements	<ul style="list-style-type: none"> < Coordinate with MDOT and LCRC. < Special Assessment District.
Access Management	<ul style="list-style-type: none"> < Coordinate with MDOT and LCRC. < Regulate access through Zoning Ordinance access management standards.
New Road Development	<ul style="list-style-type: none"> < Require adequate roadways within all new development through subdivision and condominium regulations.
Greenways, Pathways and Recreation	
Provide for recreational areas	<ul style="list-style-type: none"> < Work with Livingston County, school districts and the cities of Brighton, and Howell to provide recreational facilities for the area. < Require private neighborhood recreational areas within all residential developments. < Obtain grant to acquire site for future Township park. < Private investment and donations.
Provide for conservation greenways	<ul style="list-style-type: none"> < Utilize clustering allowed by PUD to preserve ecological and riparian corridors as natural open space. < Private investment and donations.
Develop bike path system for Township	<ul style="list-style-type: none"> < Provide dedicated millage for bike path construction. < Include bike paths in Township Capital Improvement Plan < Work with LCRC to include bike paths with road projects. < MDNR funds for pathways. < Private investment and donations. < Require all developments to construct bike paths along site frontages, where designated in plans.

D. Township Implementation Funding Sources

Dedicated Millage

Special millage can be used to generate revenues for a specific purpose. The Township could consider opportunities for special millage to implement recommendations in the Master Plan. For example, several Michigan communities have special land acquisition fund that is supported by a one-quarter mill property tax. A land acquisition fund would be a useful tool to promote right-of-way widening or dedication in Genoa Township. Other communities have millages to fund road improvements, bike path programs and parkland acquisition.

Special Assessment

Special assessments are compulsory contributions collected from the owners of property benefited by specific public improvements (paving, drainage improvements, etc.) to defray the costs of such improvements. Special assessments are apportioned according to the assumed benefits to the property affected. Special assessment funding might prove useful to implement roadway paving, streetscape improvements, secondary access drives in districts fronting on arterial streets and to construct new roads, as necessary and appropriate. These programs are particularly helpful for improving and upgrading older local roads.

Bond Programs

Bonds are among the principal sources of financing used by communities to pay for capital improvements. General obligation bonds are issued for specific community projects and are paid off by the general public via property tax revenues. Revenue bonds are issued for construction of projects that generate revenue (i.e. parking structures, etc.). These bonds are retired, or serviced, using income generated by the project.

Tax Increment Financing

Tax increment financing is authorized by the Downtown Development Authority Act and Local Development Finance Authority Act. When a tax increment finance district is established, the stated equalized assessment value of all properties within the district is recorded. Every year thereafter, the property tax revenue generated by any increase in the total stated equalized value is "captured" by the responsible organization to finance improvements established in the overall development plan. The development plan is a required document illustrating all proposed improvements within the district. Often, revenue bonds are used to finance the improvements and the tax increment revenues are used to repay the bonds. This tool could also prove to be a valuable tool for roadway improvements within the Township.

Michigan Natural Resources Trust Fund

MNRTF provides funding assistance for state and local outdoor recreation needs, including land acquisition and development of recreation facilities. This assistance is directed at creating and improving outdoor recreational opportunities and providing protection to valuable natural resources. These are grants between \$15,000 and \$500,000 with a required minimum local match of 25 percent. This grant is ideal for implementing land acquisition and park development goals in the future.

Land and Water Conservation Fund

LWCF provides funding assistance for communities to acquire and develop land for outdoor recreation. The minimum award is \$15,000 and the maximum of \$500,000. The eligibility criterion emphasizes preservation of natural resources such as waterways. This grant is ideal for land acquisition that is intended for passive recreation and open space in the future.

Michigan Natural Resources Tree Planting Grants

Through the Michigan Department of Natural Resources, there are three tree planting grant programs that will assist in funding landscape enhancements at the parks and re-forestation projects. The township was awarded some tree planting monies to plant trees at the Township Hall.

OCEOLA TOWNSHIP

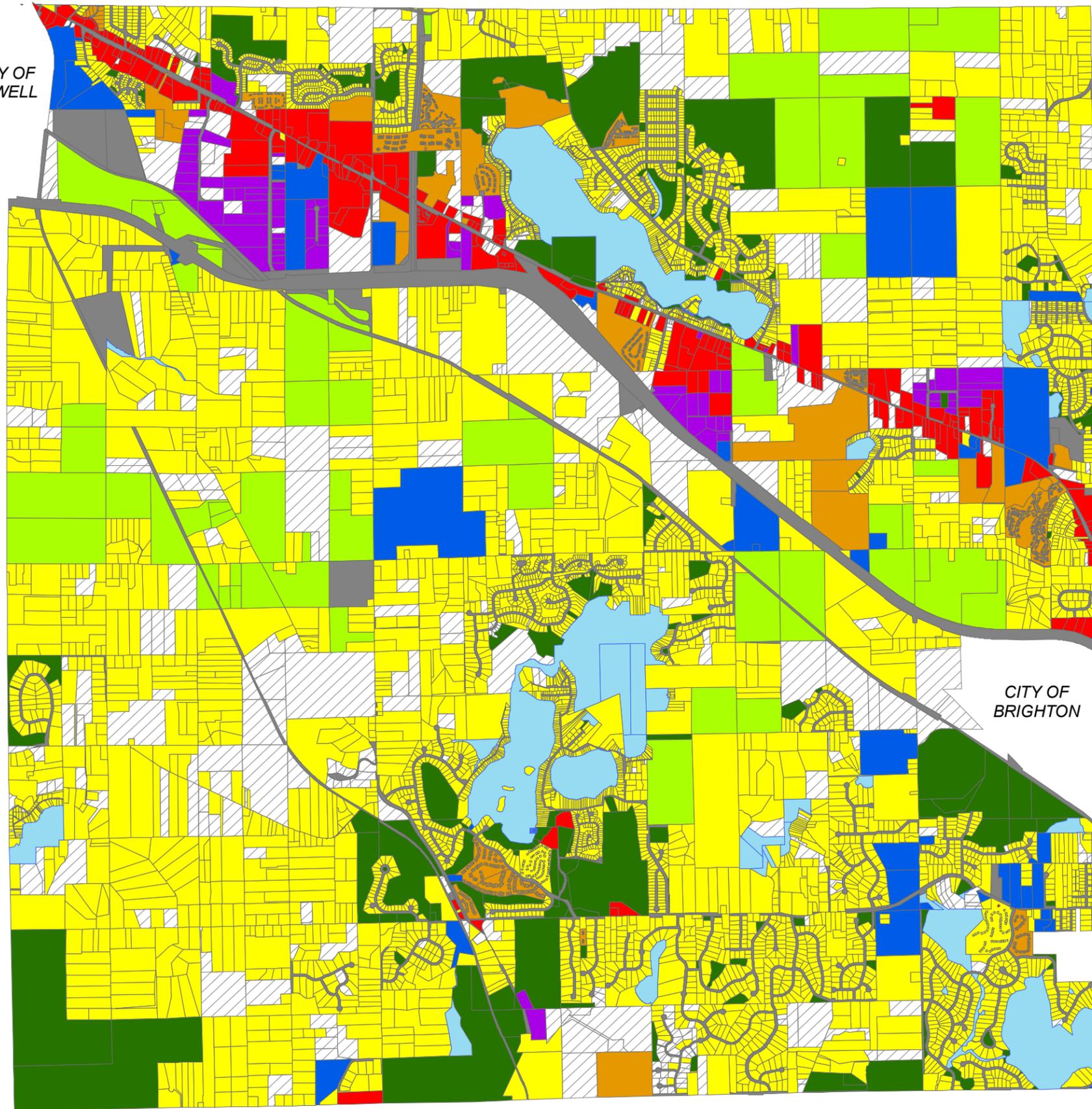
CITY OF HOWELL

MARION TOWNSHIP

BRIGHTON TOWNSHIP

CITY OF BRIGHTON

HAMBURG TOWNSHIP



MAP X

Existing Land Use

Master Plan Update
Genoa Township
Livingston County, MI

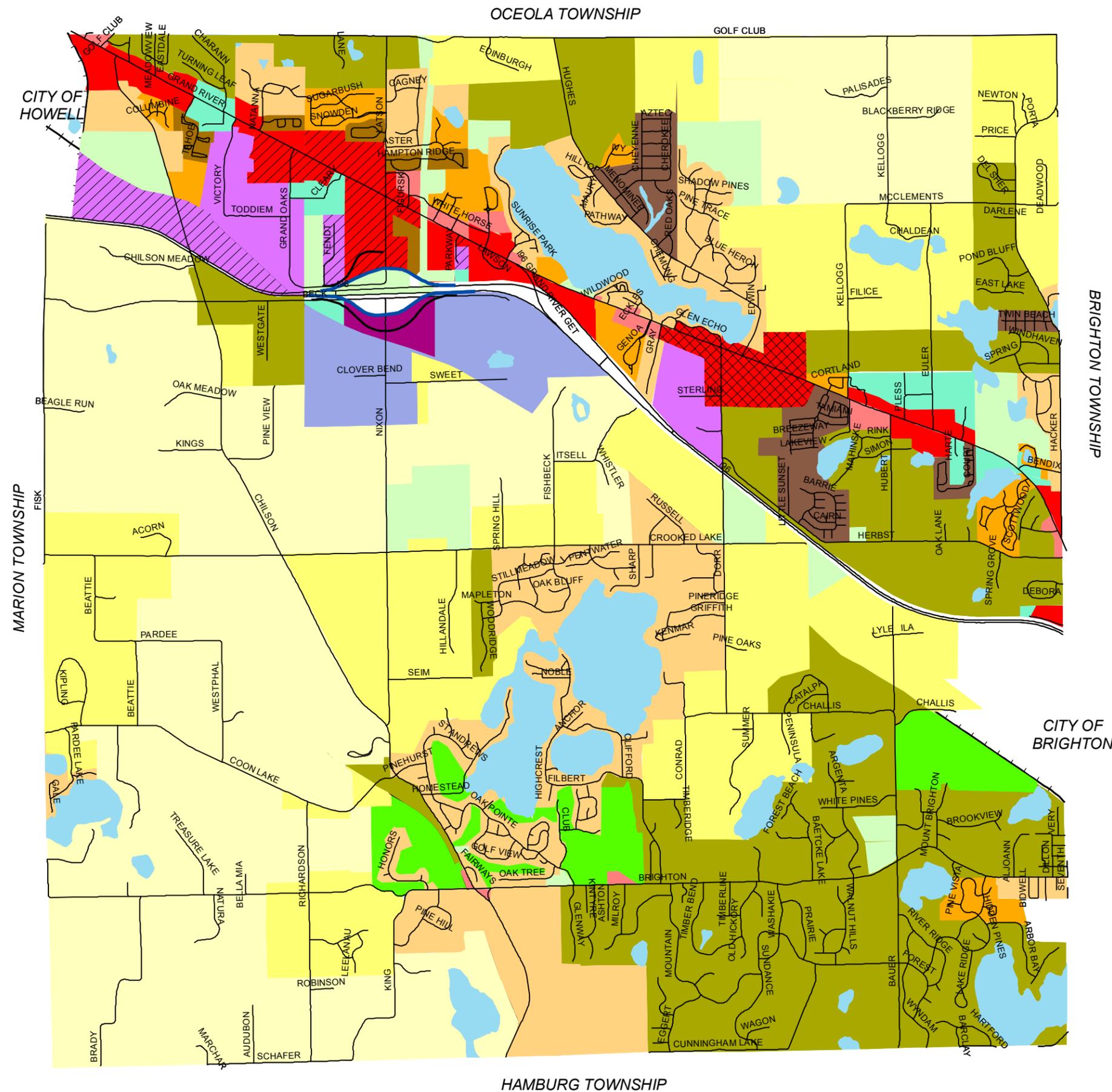
-  Single-Family Residential
-  Multiple-Family Residential
-  Commercial
-  Industrial
-  Public
-  Agriculture
-  Parks
-  Transp/Comm/Utilities
-  Vacant
-  Water
-  Township Boundary
-  Waterways

Draft: July 2012



Sources: 2008 SEMCOG Land Use,
field checked by Genoa Twp 7/12





MAP X Future Land Use

Master Plan Update
Genoa Township
Livingston County, MI

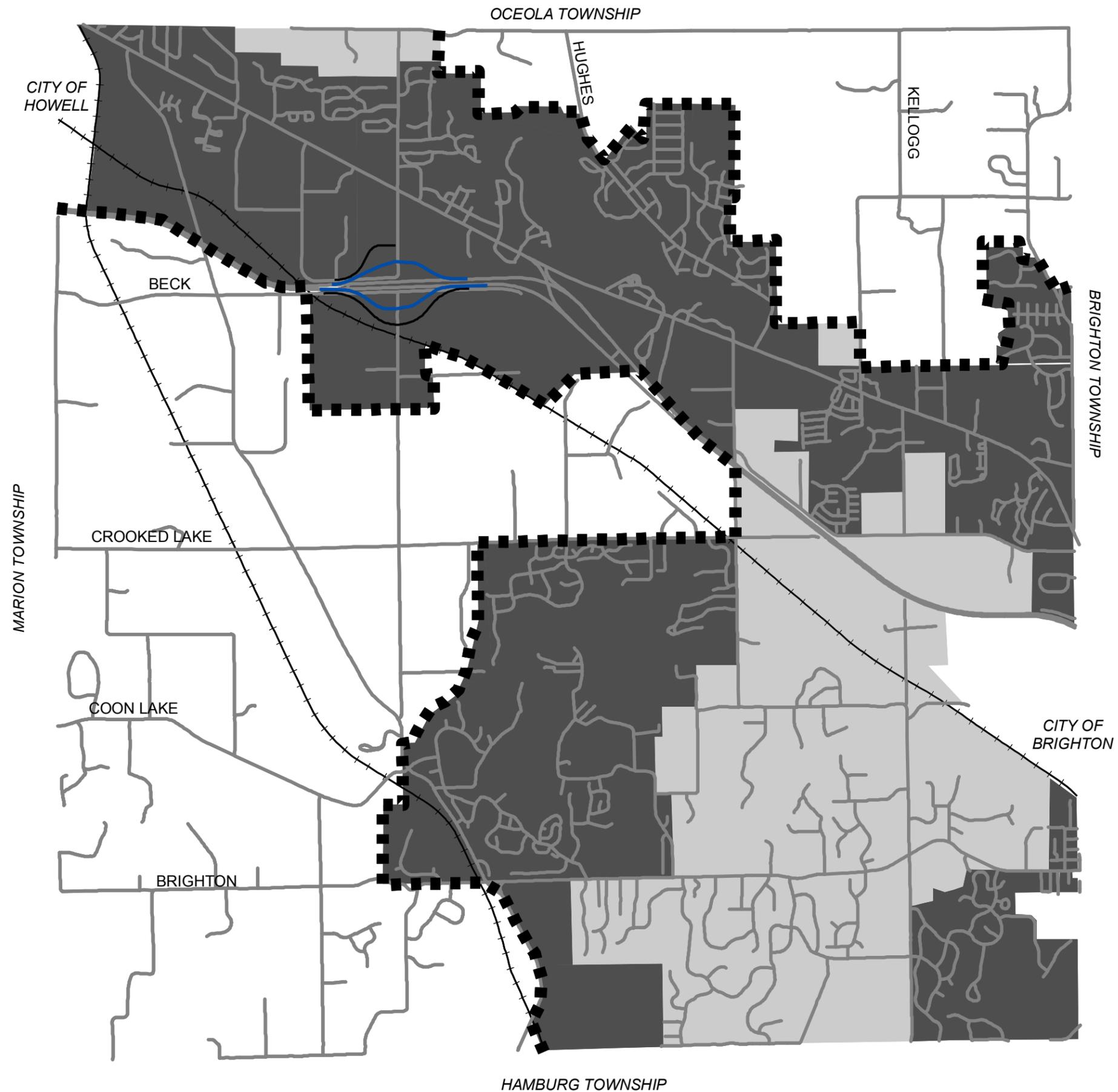
-  AGRICULTURE/COUNTRY ESTATE - 5 acres per unit
-  LARGE LOT RURAL RESIDENTIAL - 2 acres per unit
-  LOW DENSITY RESIDENTIAL - 1 acre per unit
-  SMALL LOT SINGLE FAMILY RESIDENTIAL - 2 to 3 units per acre
-  MEDIUM DENSITY RESIDENTIAL - 5 units per acre
-  HIGH DENSITY RESIDENTIAL - 8 units per acre
-  MANUFACTURED HOUSING
-  NEIGHBORHOOD COMMERCIAL
-  GENERAL COMMERCIAL
-  REGIONAL COMMERCIAL
-  MIXED-USE TOWN CENTER
-  OFFICE
-  INDUSTRIAL
-  RESEARCH AND DEVELOPMENT
-  PUBLIC/INSTITUTIONAL/UTILITIES
-  PRIVATE RECREATION
-  INTERCHANGE CAMPUS
-  INTERCHANGE COMMERCIAL

Draft: May 2013



Sources: MCGI, Livingston County, Genoa Twp





MAP X
Growth Boundary

Master Plan Update
 Genoa Township
 Livingston County, MI

-  Growth Boundary
-  Primary Growth Areas
-  Secondary Growth Areas
-  Rural Reserve Areas

Draft: May 2013



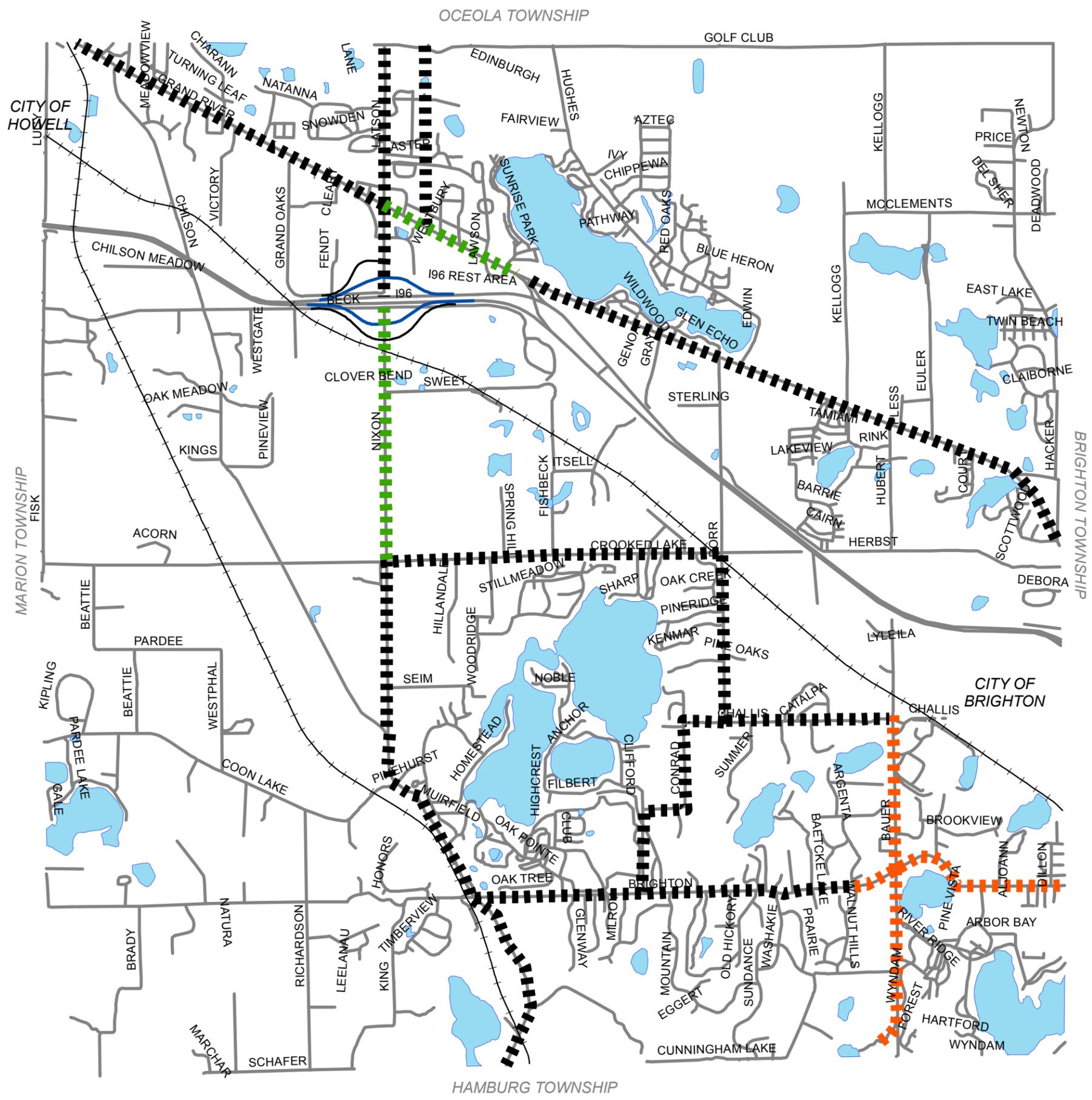
Sources: MCGI, Livingston County, Genoa Twp



Pathway Plan

Master Plan Update
Genoa Township
Livingston County, MI

- Complete
- Programmed
- Planned



Draft: June 2013



Sources: Livingston County, Genoa Township



**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION
PUBLIC HEARING
MAY 13, 2013
6:30 P.M.**

MINUTES

CALL TO ORDER: The meeting of the Genoa Charter Township Planning Commission was called to order at 6:31 p.m. Present were Barbara Figurski, Lauren Brookins, James Mortensen, Chairman Doug Brown, Diana Lowe and John McManus. Also present were Assistant Township Manager, Kelly VanMarter and Brian Borden of LSL.

PLEDGE OF ALLEGIANCE: The Pledge of Allegiance was recited.

APPROVAL OF AGENDA: The agenda was approved pursuant to a **Motion** by Barbara Figurski and support by James Mortensen. **Motion carried unanimously.**

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 site plan application, environmental impact assessment and site plan for proposed site improvements for Mt. Brighton, located on the Southeast corner of Challis and Bauer Road in Section 25, petitioned by Tim Beck on behalf of VR US Holdings, Inc.

Tim Beck addressed the Planning Commission. He gave a brief overview of the plans and what they hope to have accomplished this summer. There will be changes in the lifts and tows. The snow making plan was also shown to the Planning Commission. The grading plans were discussed. The petitioner is working with Lindhout and Associates. They have met with officials from the Building Department.

Gary Markstrom indicated that they have responded to all review letters.

The wooden fence along Bauer Road will be replaced. It will be the same height as the existing fence. The new fence will be on the property line as it should be. Bill Kennedy of Vail Resorts addressed the Planning Commission. Snow will probably not be made by the snow tower that exists near Bauer Road. The new snow guns are quieter and sit lower to the ground.

Brian Borden recapped his review letter. He discussed the proposed light plan. The fixtures are consistent with what is permitted by the ordinance. There are approximately 154 lighting fixtures currently on the mountain. The petitioner is hopeful that no additional lighting will be needed. The petitioner agrees to obtain any permits necessary for the project.

Planning Commission disposition of petition

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

Motion by Barbara Figurski to recommend to the Township Board approval of the environmental impact assessment subject to future development on the site may require bonding or construction of pathway and/or other future improvements.

Support by Diana Lowe. **Motion carried unanimously.**

Motion by James Mortensen that the site plan be approved, subject to:

1. Township approval of the environmental impact assessment as modified this evening by the Planning Commission;
2. The outdoor lighting at Mt. Brighton is grandfathered and the petitioner will not increase illumination and will work with staff regarding shielding neighbors from any changes in the lighting;
3. Any approvals required by governmental agencies including the Livingston County Drain Commission will be obtained.

Support by Barbara Figurski. **Motion carried unanimously.**

Administrative Business:

- *Staff report*
- *Approval of April 8th, 2013 Planning Commission meeting minutes. **Motion** by Barbara Figurski and support by John McManus to adopt the minutes. **Motion carried unanimously.***
- *Member Discussion*
- *Adjournment. Motion by Barbara Figurski and support by Lauren Brookins to adjourn. **Motion carried unanimously.** Meeting adjourned at 7:30 p.m.*