Appendix F  Eleven Mile and Beck Roads Study Area

PLANNING REVIEW CENTER REPORT
Master Plan Review
Eleven Mile and Beck Roads Study Area

June 15, 2009

The “Eleven Mile and Beck Roads Study Area” (see Map 1) is a uniquely positioned area of the City that is being reviewed for potential future land use map changes because of its transitional location, recent development in the area and ongoing development proposals. The Study Area is located between relatively intense development along Grand River Avenue and large lot one-family residential uses generally south of the Study Area. In the past ten years, substantial growth has occurred nearby with the development of Catholic Central High School, the Island Lake and Kirkway Place site condominium developments, Central Park Estates apartments, the Providence Hospital complex expansion, a new Target, Sam’s Club, Kroger, Home Depot and other retail stores, several new banks and several new restaurants. In the last few years, the City has discussed several development and rezoning proposals for the study area including the approved Oberlin and Schafer (now expired) residential developments, and the inactive PIME and Bosco rezoning petitions. The City also received inquiries on behalf of several property owners for a diverse set of uses including: a day-care center, a nursing home, offices, retail stores and residential developments.

Location and Sub-Study Areas
The Eleven Mile and Beck Roads Study Area encompasses about 327 acres and includes 20 parcels near Eleven Mile Road, west of Beck Road and east of Wixom Road, including most of the southeast quarter and part of the southwest quarter of Section 17 and most of the northeast quarter of Section 20. Due to the Study Area’s size, five sub-study areas were defined to simplify the discussion. The five sub-study areas are as follows (see Map 2 - Sub-Study Areas Map):
1. Parcels north of Wildlife Woods Park and west of the ITC corridor;
2. Wildlife Woods Park parcel;
3. Parcels east of Wildlife Woods Park and north of Eleven Mile Road along with the parcel at the southwest corner of Eleven Mile and Beck Roads (Bosco property);
4. Parcels south of Eleven Mile Road and west of the Novi Community School District’s parcel; and
Each sub-study area’s land uses, zoning and potential future land uses are discussed later in the report.
Appendix F  Eleven Mile and Beck Roads Study Area

Natural Features
The Study Area includes woodlands, wetlands, stream corridors, floodplains and priority natural features habitat areas. Most of the Study Area drains to the south and west into the Novi-Lyon Drain which flows into Island Lake and eventually into the Huron River. The balance of the Study Area near the east portion of the Profile Steel site, drains north into tributaries of the Rouge River. The Study Area is a headwater area for both the Rouge and Huron River watersheds and as such the City’s wetland map indicates that about 21% of the Study Area is wetlands. The City’s woodland map indicates that about 37% of the Study Area is regulated woodlands and the City’s Natural Features map indicates that about 36% of the Study Area contains priority habitat areas. The wetlands, woodlands and priority habitat areas all overlap each other. As development is proposed, field delineation of these features will be required. As with other areas of the City, the preservation of natural features will be encouraged.

Master Plan History 1967 - 1988
- The Village of Novi with the assistance of the firm of Waring & Johnson, developed a land use Master Plan in 1967, two years before the City incorporated.
- The first City of Novi Master Plan for Land Use was completed in 1980 by Vilican-Lehman & Associates.
- The next update occurred in 1988 and it was prepared with the assistance of Brandon M. Rogers & Associates, P.C. and Barton-Achman Associates, Inc.
- The Plan was amended in 1990 with help from Brandon Rogers.
- The Plan was again updated in 1993. This update was produced by Brandon Rogers with the assistance of Birchler Arroyo Associates, Inc.
- The Plan was next revised in 1999. This plan titled the Novi 2020 Master Plan for Land Use was prepared with assistance from Birchler Arroyo.
- The next update to the Plan was prepared by the City’s Planning Staff and it was adopted in 2004.
- In 2007 the City staff with the assistance of Birchler Arroyo Associates reviewed three areas of the City and a set of amendments was adopted in 2008.

All of these plans were produced with the assistance of the City’s Planning Commission, consulting engineers, consulting environmental specialist and City of Novi citizens.

In the 1967 Village of Novi Master Plan, the Eleven Mile and Beck Roads Study Area was depicted for a variety of uses. The former Bob O Link golf course property that is now the Providence Park hospital site and the stream corridors north and south of Eleven Mile Road were depicted for Community Recreation. The area north of the present Wildlife Woods Park was designated for single family residential use at a maximum density of 3.0 dwelling units per acre. The balance of the Eleven Mile and Beck Roads Study Area was depicted for single family residential uses at 1.6 dwellings per acre. This was the least dense designation in this Master Plan.
Appendix F  Eleven Mile and Beck Roads Study Area

In the 1980 Master Plan, the north part of Wildlife Woods Park was designated for office uses and the properties north of it for light industrial uses. The balance of the Study Area was depicted for single family residential uses at a maximum density of 0.8 dwellings per acre. In the 1988 Master Plan, the land use designations remained the same except the office use area was changed to single family residential at a maximum 0.8 dwelling units per acre. Details of the 1993 through 2008 Master Plans are discussed in the Sub-Study Area discussions below (see Maps 8-13).

Neighboring Land Uses
The Eleven Mile and Beck Roads Study Area is bounded by the following (see Map 1):
- North: Target retail store in the Novi Promenade retail center; vacant light industrial property and the Providence Park hospital site complex;
- East: Beck Road. Adjacent to the east side of Beck Road are the Central Park Estates apartments, a vacant multiple family parcel; vacant and developed one-family quarter acre to one acre residential lots in the Summit and Pioneer Meadows subdivisions; and the vacant City of Novi fire station;
- South: Kirkway Place single family residential site condominiums; the open space containing woodlands and wetlands that was set aside when Kirkway Place, Greenwood Oaks subdivision and Mockingbird Subdivision were developed; and Eleven Mile Road. South of Eleven Mile Road are several large parcels, some vacant and others with a single family home; and
- West: ITC corridor(south of Eleven Mile Road); Deerfield Elementary and Novi Middle Schools; and Wixom Road. The Island Lake condominium development and two residential parcels are located adjacent to the west side of Wixom Road.

Potential Future Land Uses
Since the Eleven and Beck Study Area is sandwiched between residential open space, low density single family residential dwellings, public schools, industrial, retail, office and multiple family dwellings, it may be appropriate to consider land uses for this study area that provide a transition between the lower and higher intensity uses rather than the currently planned low density single family residential uses. By placing moderately intense development between high and low intensity development, traffic, noise and bulk impacts would more gradually decrease. Increasing the planned intensity of development could also increase tax revenues and it may increase the ultimate number of dwelling units that could be built in the City.

A larger number of dwelling units in the City would increase the size of the available workforce and potentially increase demand for retail, office and industrial floor space which could spur additional development outside of the study area. Increasing the permitted residential density could increase the range of housing choices. Providing for a mix of uses will increase available services and provide more opportunities for social
interaction. Increasing density and providing for a mix of uses are principals supported by the American Planning Association, the Smart Growth Network and the Governor’s Council on Physical Fitness.

On the negative side, increasing the intensity of development in this transitional area by replacing single family dwellings with senior housing, condominiums, apartments, attached single family units or offices would increase traffic on Beck, Wixom and Eleven Mile Roads and increase demand on public services (see Infrastructure Concerns discussed below).

Historically, the City’s Master Plan for Land Use has used multiple family residential and office use areas to buffer more intense retail and industrial uses from single family residential uses. Existing retail (Target), office (Providence Park) and industrial (Profile Steel) uses extend south from Grand River Avenue about 0.5 miles. In addition, a parcel zoned RM-2, High Density Multiple Family, is located along the east side of Beck Road about one-half mile south of Grand River. It may be appropriate to create a less intensive transitional use area of about one-half of this width, with a nominal distance from Grand River Avenue of three-quarters of a mile.

Suburban Low Rise Use Designation
In order to provide a transition area that also minimizes the areas’ impact upon neighboring land uses, the Planning Staff proposes a new Suburban Low Rise use designation for the Master Plan. This use designation would permit multiple family residential, institutional and office uses when developed under a set of use and design guidelines to keep the residential character of the area and minimize the effect that the transitional uses would have on nearby single family residential properties. The Master Plan could promote the creation of a “form-based” Suburban Low Rise zoning district to implement the plan. Until such time that an ordinance change went into effect, an applicant could ask to rezone the property using the current PRO option and incorporate the design guidelines listed in the Master Plan.

A “form based” zoning district typically allows a variety of uses and includes design

Figure 1 – Example 2 ½ story townhouse style building with parking behind building
standards to give the uses in the district a similar appearance. A “form based” district creates a predictable streetscape and public realm primarily by controlling the physical form of a development with a lesser focus on land uses through a set of enforceable regulations.

The recommended design and use guidelines for the Suburban Low Rise use area would minimize the impact upon neighboring neighborhoods and permit medium intensity uses. The recommended “form based” design guidelines include:

- No detached single family dwellings, personal services, fitness centers, private recreation facilities, retail, restaurants or drive through facilities;
- Require 2 story (or one story with a 2 story look) 25 ft. minimum overall height (including peak of roof) to 3.5 story 40 ft. maximum over all height buildings north of Eleven Mile Road and 1 ½ 20 foot minimum overall height to 2 ½ story and 30 foot maximum overall height south of Eleven Mile Road;
- Require buildings to be designed with a single family residential character and include peaked roofs with shingles or tiles, dormers, covered porches, residential size windows, limited building lengths, etc.;
- Provide access only from local or collector streets with no direct access from arterial streets;

Figure 2 – Example 1 ½ story office with parking in the rear

Figure 3 – Example 2 ½ story attached single family with parking in the rear
Appendix F Eleven Mile and Beck Roads Study Area

Place all parking behind the building fronts and screened the parking with a landscape berm or a building;
Provide connecting pedestrian and bicycle facilities;
Design sites to preserve natural features; and
Limit signs to one per development except for small directional signage.

Suggested permitted uses for the proposed Suburban Low Rise district include only the following uses to help maintain a residential appearance and reduce the impact upon neighboring properties:
- General and medical office;
- Low rise multiple family or attached single family residential with a maximum of 7.3 dwelling units per acre;
- Public and private community serving uses;
- Parks and public recreation facilities;
- Mortuaries;
- Places of worship;
- Public or private elementary and secondary schools;
- Day care facilities (adult or children);
- Nursing homes;
- Assisted living facilities; and
- Senior housing.

Infrastructure Concerns
As part of this Study Area review, the City’s Engineering Division and the City’s Traffic Consultant produced reports that discussed the impacts of changing the Master Planning of the Study Area from the current single family residential uses to higher density residential, office or Suburban Low Rise uses. It should be noted that a blended less intense land use plan would have less traffic and utility impact than would occur if the entire area was changed to suburban low rise. Any increase in intensity of development would increase demand on sewer and water facilities. Per the City’s Engineering Division, if the proposed study area was all converted to low density, mid-rise multiple family residential uses equivalent to the density permitted in the City’s RM-1 zoning district, the impact on the water system would be minimal but could impact the City’s peak sewer capacity by about 5%. In addition, sanitary sewer design information would be required for each project to determine if any portions of the system would need upgrading (see Review of Impact on Public utilities Eleven Mile and Beck Study Area). Although additional sewer plant capacity may be needed to satisfy this demand, the same is true regarding increasing the intensity of development anywhere in the City.

Increasing the intensity of development also increases the number of projected vehicles on the road. The City’s Traffic Consultant, Birchler Arroyo Associates completed a traffic study for the Study Area and compared the traffic impacts of the currently
planned uses and the potential suburban low rise uses. The Study indicated that total daily trips generated would increase based. The report estimated that planning for suburban low rise uses versus the current master planned uses would have a minimal impact since the total amount of forecasted daily trips on Wixom Road would only increase by 8% and on Beck Road would only increase by 15%. The study’s findings indicate that increasing the intensity of development in the Study Area will accelerate the need to provide additional lanes on Beck and Wixom Roads. Eleven Mile Road should not need any additional lanes (see Transportation Analysis, Beck/11 Mile Study Area, Birchler Arroyo Associates, 2009).

**Sub-Study Area Discussions**

A discussion of existing conditions, zoning and former, existing and proposed future land use recommendations for each of the sub-study areas follows below. Tables comparing all of the sub-study areas and maps of the entire Eleven Mile and Beck Roads Study Area follow these narratives.

**Sub-Study Area 1**

**Review**

Sub-Study Area 1 comprises 3 parcels that total 37.6 acres. The Area is located adjacent to Wixom Road on the west, Target on the north, the ITC electrical transmission lines on the east and Wildlife Woods Park on the south. Currently the Area is occupied by the former Profile Steel building and a single family home and accessory buildings on a three acre parcel.

Between 1993 and 1999, the property was designated in the City of Novi Master Plan’s Future Land use Map for light industrial uses. In 2004, the designation was changed to Single Family Residential with a maximum density of 4.8 dwelling units per acre and it was not changed in the 2008 update of the Plan. Surrounding properties are master planned to the north for community commercial, to the east for utility, to the south for public park and to the east for single family residential uses.

**Map 3 Sub-Study Area 1**

The existing zoning of the Sub-Study Area does not comply with the current Future Land Use Map designation of Single Family Residential with a maximum density of 4.8 dwelling units per acre. The two northwest parcels totaling 8.7 acres of the Sub-Study
Appendix F  Eleven Mile and Beck Roads Study Area

Area are in the R-1, One-Family Residential district which permits a maximum density of 1.65 dwelling units per acre and the balance of the Sub-Study Area is in the I-2, General Industrial district. Neighboring properties are in the I-1, Light Industrial district (with a consent judgment for retail uses), to the north; RA, Residential Acreage district to the east; and R-1 One-Family Residential district to the south and west.

Figure 4 – Sub-Study Area 1 frontage on Wixom Road looking south

Recommendations

Since Sub-Study Area 1 is located within one-half to three-quarter miles of Grand River Avenue and buffered by existing park development and section line roads, this Sub-Area is an appropriate candidate for the proposed Suburban Low-Rise transitional use designation described above. If developed under the Suburban Low Rise guidelines, this Sub-Area would provide a transition from single family residential uses to the more intense uses along Grand River Avenue. The Planning Staff recommends a Suburban Low Rise use designation for Sub-Study Area 1. The benefits of this designation are listed above in the Suburban Low Rise use designation discussions. By keeping an overall residential design appearance, this area would blend with the single family residential uses. The slight increase in projected traffic should have little effect on neighboring properties. As with any increase in the intensity of development, additional burdens will be placed on the City’s water and sewer system.

Alternatives

As an alternative to the recommended Suburban Low-Rise designation, the Planning Commission could consider limiting Sub-Study Area 1 to only multiple family and institutional uses within the Suburban Low-Rise framework since there are no current office uses along Wixom Road. This alternative is the Planning Staff’s second choice for this Sub-Study Area. The benefits of this proposal would be similar to the
recommended land use designation but would limit development flexibility by removing potential offices from the land use mix.

The Planning Commission could also consider the following alternatives to increase the intensity of development in this Sub-Study Area:

- designate the area for the Master Plan’s current office use (without any design considerations);
- designate the area for the Master Plan’s current multiple family use (without any design considerations);
- select a higher maximum residential density and keep the area master planned for single family homes; or
- decide that the current master plan designation of single-family homes at a maximum of 4.8 dwelling units per acre (which is comparable to the density permitted in the RT, Two-Family Residential district) is appropriate.

The Planning Staff does not recommend these options because the City has ample areas for single family development and the use of design guidelines would make higher intensity uses more compatible with neighboring uses.

Sub-Study Area 2

Sub-Study Area 2 comprises 1 parcel that totals 52.2 acres. The Sub-Study Area is located adjacent to Wixom Road and the Island Lake site condominium development on the west, Profile Steel on the north, the ITC electrical transmission lines on the east and the Deerfield and Novi Middle School sites and large lot single family homes on the south. Currently the Sub-Study Area is owned by the City of Novi and is partially developed as Wildlife Woods Park. The Area also includes a 2 acre oil well site. The property was recently considered to be exchanged with the Novi Community School District for potential parkland in Sub-Study Area 5.

In the 1993 City of Novi Master Plan’s Future Land use Map the property was designated for single family residential uses at a maximum of 0.8 dwelling units per acre. In the 1999 Master Plan, the designation was changed to Community Park. In
2004, the designation was changed to Public Park and included an underlying single family residential component with a maximum density of 0.8 dwelling units per acre should the property no longer be appropriate for a public park. Surrounding properties to the north are master planned for single family residential at a maximum density of 4.8 dwelling units per acre, to the east for utility to the south and west for educational facility and single family residential uses at a maximum density of 0.8 dwelling units per acre.

The northern portion of Sub-Study Area 2 is in the R-1 zoning district and the southern portion is in the RA zoning district. The existing zoning of the neighboring properties includes I-2, General Industrial to the north, RA to the east and most of the south and R-1 to the west and a small part of the south.

Figure 2 – North portion of Sub-Study Area 2 with oil facility looking west

Recommendations

Since the public park use of all of the property in this sub-study area matches the future land use designation of public park, the Planning Staff recommends that Sub-Study Area 2 retain the Public Park use designation. The Sub-Study Area properties and the neighboring school property were used to provide residential density for the Island (Harvest) Lake Residential Unit Development (RUD). If the Sub-Study Area properties cease to be viable for park uses, then based on the description of the future land use categories in the Master Plan for Land Use, they would default to a single family residential use at a maximum density as depicted on the Master Plan’s Housing Density Map. Currently, Sub-Study Area 2 has a maximum underlying residential density of 0.8 dwelling units per acre. Since this density was applied to the Island Lake development in the RUD agreement, providing additional underlying density in the Master Plan could provide a starting point for permitting future residential development if the property ceases to be viable for park uses.
Appendix F  Eleven Mile and Beck Roads Study Area

The Planning Staff recommends increasing the underlying residential density to a maximum of 3.3 dwelling units per acre. This recommendation is consistent with the concentric ring concept of providing lower density as the property gets further from Grand River Avenue and it would provide a transitional density to the lower density of Island Lake.

Alternatives

The Planning Staff does not recommend any change in designation, since this Area is designated as parkland in the City’s Community Recreation Plan. As an alternative, the Planning Commission could consider a different underlying maximum residential density for this Sub-Study Area or leaving the density the same.

Sub-Study Area 3

Review

Sub-Study Area 3 is the largest of the sub-study areas in the Eleven Mile and Beck Roads Study Area and it comprises 11 parcels that cover 124.7 acres. The Sub-Study Area is located north of Eleven Mile Road except for the 7 acre Bosco home site parcel at the southwest corner of Eleven Mile and Beck Roads. Sub-Study Area 3 includes the ITC electrical transmission lines parcel north of Eleven Mile Road, one parcel to the west of the power lines developed with a single family home and the Westside Forestry and Signature Lawn Care business facilities. The balance of the Sub-Study Area includes vacant land and single family homes.

The Sub-Study Area was master planned for predominately residential uses in the past. In 1993, all but a small strip approximately 150 feet wide along the north boundary was Master Planned single family residential uses with a maximum density of 0.8 dwelling units per acre. The small strip was planned for office uses. In the 1999 Master Plan, the future land uses for Sub-Study Area 3 remained the same except that the maximum residential density for the parcels east of the ITC corridor saw maximum residential density increase to 1.65 dwelling units per acre. The Sub-Study Area changed in two places in the 2004 Master Plan for Land Use. These included expanding the office use designation to the north 25 acres of the Sub-Study Area and designating the ITC corridor for utility use. A maximum underlying
Appendix F  Eleven Mile and Beck Roads Study Area
residential density of 0.8 dwelling units per acre was added to the utility use area in 2008.

Sub-Study Area 3 includes the RA, Residential Acreage; R-3 One-Family Residential and OSC, Office Service Commercial zoning districts. Portions of the Sub-Study Area have zoning that matches the Master Plan’s future land use designation. The ITC parcel and the parcel immediately to the west of it are both in the RA district which permits a maximum of 0.8 dwelling units per acre, which matches the density in the current Master Plan. One half of the north 25 acres master planned for office are in the OSC district. The lower half of the master planned office area and the balance of the parcels north of Eleven Mile Road are in the R-3 zoning district that permits a maximum of 2.7 dwelling units per acre verses 1.65 recommended by the Master Plan. The 7 acre Bosco property on the southwest corner of Eleven Mile and Beck Roads is in the RA district that permits up to 0.8 dwelling units per acre and the Master Plan for this property permits up to 1.65 dwelling units per acre (see Map 13). Most of Sub-Study Area 3 is within one-half to three-quarter miles from Grand River Avenue including the one parcel on the south side of Beck Road. The Sub-Study Area is buffered from single family residential uses by Wildlife Woods Park, the ITC corridor, public schools and section line roads. This Sub-Area is an appropriate candidate for the proposed Suburban Low-Rise transitional use designation described above.

Recommendations

The Planning Staff recommends designating most of Sub-Study Area 3 for Suburban Low Rise uses described above with a maximum residential density of 7.3 dwelling units per acre and recommends keeping the Utility use designation for the ITC property. The Suburban Low Rise uses would provide a transitional use area between the intense uses along Grand River Avenue and the single family residential uses south and east of the study area. The residential density proposed is about the maximum that could be obtained using the RM-1 zoning district. Although additional infrastructure investment would be needed to service an increase in development intensity, the City would benefit from the potential increased tax revenue and the increased housing choices that could accommodate seniors and new families. Additional dwelling units could also increase the demand for additional retail, office and industrial floor space. In order to make the suburban low rise uses more compatible with neighboring residential parcels, the Planning Staff recommends permitting only residential and institutional uses and a lower maximum building height south of Eleven Mile Road. By keeping an overall residential design appearance, this area would better blend with the single family residential uses to the east and south. The slight increase in potential traffic should have little effect on neighboring properties. As with any increase in the intensity of development, additional burdens will be placed on the City’s water and sewer system.
Appendix F  Eleven Mile and Beck Roads Study Area

Alternatives

As alternatives, the Planning Commission could consider the following:

- designate all or a portion of the Sub-Study Area for Multiple Family Residential use;
- designate all or a portion of the Sub-Study Area for Office use; or
- keep the current single family residential, utility and office designations.

The Planning Staff does not recommend any of these options because incorporating the Suburban Low Rise proposed design and use restrictions would make these uses more compatible with the neighborhood.

Sub-Study Area 4

Review

Sub-Study Area 4 is comprised of 4 parcels with an area of 38.9 acres. The Sub-Study Area is located south of Eleven Mile Road, east of the ITC transmission line corridor and north of the Novi Community School District’s property. Sub-Study Area 4 has been designated for single family residential uses in the City’s master plans from 1993 to 2008. In 1993 the maximum residential density was shown as 0.8 dwelling units per acre. In 1999, this was changed to a maximum of 1.65 dwelling units per acre and it continues with this designation. All but the east one acre parcel, which is in the RA zoning district, is zoned R-1 with a PRO (Planned Rezoning Overlay) for 58 single family dwellings. Approved in 2006 the Novi City Council granted the property owners a two year extension in 2008.

This Area is further than three-quarters of a mile south of Grand River Avenue, but in keeping with the logic of the concentric rings of intensity of uses from Grand River Avenue, the sub-area could be considered for increased single family residential density. In addition, the Area is buffered from lower density single family residential by the Novi Community School District property on the east and south, and by the ITC corridor and subdivision open space on the west and by the wetlands within the Sub-Study Area.
Appendix F  Eleven Mile and Beck Roads Study Area

Recommendations

The Planning Staff recommends keeping the Single Family Residential use designation for Sub-Study Area 4 and increasing the maximum permitted density to 4.8 dwelling units per acre because the property is well buffered from the nearby lower density single family residential, it is a logical extension of the concentric ring concept, the City could benefit from the potential increased tax revenue and the increased number of residents, and the increased density could offer additional housing choices to attract seniors and new families. Additional dwelling units could also increase the demand for additional retail, office and industrial floor space. The slight increase in potential traffic should have little effect on neighboring properties. As with any increase in the intensity of development, additional burdens will be placed on the City’s water and sewer system.

Alternatives

As an alternative, the Planning Commission could also consider a different maximum residential density for this Sub-Study Area. The Planning Staff does not recommend this option for this Sub-Study Area due to the minimal impact that the recommended maximum density will have on the surrounding area.

Sub-Study Area 5

Review

Sub-Study Area 5 is comprised of one parcel totaling about 72 acres. Currently owned by the Novi Community School District, the property was recently considered for a public park by the City of Novi. At this time, the proposed land exchange which would have transferred most of Wildlife Woods Park to the School District for most of the District’s parcel, is not active.

This undeveloped parcel is located south of Eleven Mile Road and west of Beck Road. It is bordered on the northwest and north by large lot single family residential uses and vacant lots along Eleven Mile Road, on the east by the Bosco 7 acre farmstead site at the southwest corner of Eleven Mile and Beck Roads, also on the east by single family homes on approximately one-quarter acre
Appendix F  Eleven Mile and Beck Roads Study Area

Master Plan Review
Eleven Mile & Beck Roads Study Area

lots in the Pioneer Meadows Subdivision, on the south by open space in the Kirkway Place, Mockingbird and Greenwood Oaks single family home developments, and on the west by the ITC electrical transmission line corridor.

This Sub-Study Area was Master Planned for single family residential in the 1993 and the 1999 plans. In 1993, the maximum residential density was shown as 0.8 dwelling units per acre. In 1999, this was changed to a maximum of 1.65 dwelling units per acre. In the 2004 Master Plan for Land Use, the future land use designation was changed to Educational Facility. This remained the same in 2008 update of the Plan except the text change that provided for an underlying maximum residential density of 1.65 dwelling units per acre should the property cease to be viable for educational facility use. The current zoning of Sub-Study Area 5 is RA. Educational facilities are permitted in this district. The current zoning is generally compliant with the current future land use designation in the Master Plan, although it could be rezoned to R-1 for a higher residential density.

Recommendations

Continuing the concentric ring logic of grading the intensity of the use from Grand River Avenue and the benefits of increasing residential density mentioned above, the Planning Staff recommends that Sub-Study Area 5 keep the Educational Facility use designation but provide for a higher intensity underlying single family residential uses at maximum of 4.8 dwelling units per acre for the north portion of the property with the south portion remaining at 1.65 dwelling units per acre due to the extensive amount of natural features in this portion of the Sub-Study Area. Although lower residential densities could be considered, 4.8 dwelling units per acre for the northern portion of Sub-Study Area 5 seems appropriate since this matches Staff’s recommendation for Sub-Study Area 4, the Area is buffered by open space in Kirkway Place and it has only about 500 feet of frontage on Beck Road. The slight increase in potential traffic should have little effect on neighboring properties. As with any increase in the intensity of development, additional burdens will be placed on the City’s water and sewer system.

Alternatives

As an alternative, the Planning Commission could also consider a different underlying maximum residential density for this Sub-Study Area. The Planning Staff does not recommend this option for this Sub-Study Area due to the minimal impact that the recommended maximum densities will have on the surrounding area.
Appendix F  Eleven Mile and Beck Roads Study Area

Summary

In summary, the Planning Staff recommends the following land uses for each sub-study area:

- **Sub-Study Area 1 - Suburban Low Rise.**
- **Sub-Study Area 2 - Retain Public Park use designation and increase the underlying residential density to a maximum of 3.3 dwelling units per acre.**
- **Sub-Study Area 3 - Suburban Low Rise and retain the Utility use designation for the ITC property.**
- **Sub-Study Area 4 - Retain the Single Family Residential use designation and increase the maximum permitted density to 4.8 dwelling units per acre.**
- **Sub-Study Area 5 - Retain the Educational Facility designation and increase the underlying single family residential density to a maximum of 4.8 dwelling units per acre for the north portion of the property with the south portion remaining at 1.65 dwelling units per acre.**

To provide further comparisons, a set of tables and maps pertaining to the whole Eleven Mile and Beck Roads Study Area follow below. Please contact Mark Spencer at (248) 735-5607 or mspencer@cityofnovi.org if you have any questions or concerns regarding this review.

Mark Spencer, AICP, Planner
### Appendix F  Eleven Mile and Beck Roads Study Area

#### Table 1 – Sub Study Areas - Size, Master Plan History and Current Zoning

<table>
<thead>
<tr>
<th>Sub-Study Area</th>
<th>Approx. Area (acres)</th>
<th>1993 Future Land Use Map</th>
<th>1999 Future Land Use Map</th>
<th>2004 updated in 2008 Future Land Use Map</th>
<th>Current Zoning Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (three parcels)</td>
<td>37.6</td>
<td>Light Industrial</td>
<td>Light Industrial</td>
<td>Single Family Residential at a maximum of 4.8 dwelling units per acre</td>
<td>Two northwest parcels R-1, One-Family Residential; balance General Industrial</td>
</tr>
<tr>
<td>2 (one parcel)</td>
<td>52.2</td>
<td>Single Family Residential at a maximum of 0.8 dwelling units per acre</td>
<td>Community Park</td>
<td>Public Park with an underlying Single Family Residential at a maximum of 0.8 dwelling units per acre</td>
<td>North 550 feet R-1, One-Family Residential; balance RA Residential Acreage</td>
</tr>
<tr>
<td>3 (eleven parcels)</td>
<td>124.7</td>
<td>Single Family Residential at a maximum of 0.8 dwelling units per acre</td>
<td>Single Family Residential – One parcel west of ITC property at a maximum of 0.8 dwelling units per acre balance at a maximum of 1.65 dwelling units per acre</td>
<td>Single Family Residential – One parcel west of ITC property at a maximum of 0.8 dwelling units per acre; ITC parcel, Utility with an underlying residential density ; and balance Single Family Residential at a maximum of 1.65 dwelling units per acre</td>
<td>North 180 feet, OS-2 Planned Office; ITC parcel, west parcel and southwest corner of Eleven Mile &amp; Beck parcel, RA, Residential Acreage</td>
</tr>
<tr>
<td>4 (four parcels)</td>
<td>38.9</td>
<td>Single Family Residential at a maximum of 0.8 dwelling units per acre</td>
<td>Single Family Residential at a maximum of 1.65 dwelling units per acre</td>
<td>Single Family Residential at a maximum of 1.65 dwelling units per acre</td>
<td>West three parcels, R-1 with a Planned Rezoning, east parcel, RA, Residential Acreage</td>
</tr>
<tr>
<td>5 (one parcel)</td>
<td>73.9</td>
<td>Single Family Residential at a maximum of 0.8 dwelling units per acre</td>
<td>Single Family Residential at a maximum of 1.65 dwelling units per acre</td>
<td>Educational Facility with an underlying Single Family Residential at a maximum of 1.65 dwelling units per acre</td>
<td>RA, Residential Acreage</td>
</tr>
<tr>
<td>Total parcels</td>
<td>327.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Table 2 - Adjacent Future Land Uses and Zoning Districts

<table>
<thead>
<tr>
<th>Boundary</th>
<th>Adjacent Master Plan Future Land Use Designations</th>
<th>Adjacent Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>Community Commercial; Office &amp; Utility (with an underlying residential density of 1.65 dwelling units per acre)</td>
<td>I-1, Light Industrial (Novi Promenade subject to consent judgment terms); RA, Residential Acreage; and OSC, Planned Office Service Commercial</td>
</tr>
<tr>
<td>East</td>
<td>Multiple Family Residential at 7.3 and 20.7 dwelling units per acre; and One-Family Residential at 1.65 dwelling units per acre</td>
<td>RM-1, Low Density Multiple-Family Residential; RM-2 High density Multiple-Family Residential; and RA, Residential Acreage</td>
</tr>
<tr>
<td>South</td>
<td>One-Family Residential at 1.65 and 0.8 dwelling units per acre; Private Park (with an underlying residential density of 1.65 dwelling units per acre); and Educational Facility (with an underlying residential density of 0.8 dwelling units per acre)</td>
<td>R-1, One-Family Residential; and RA, Residential Acreage</td>
</tr>
<tr>
<td>West</td>
<td>Utility; One-Family Residential at 0.8 dwelling units per acre; Educational Facility; and Private Park (with an underlying residential density of 0.8 dwelling units per acre)</td>
<td>RA, Residential Acreage; and R-1, One-Family Residential</td>
</tr>
</tbody>
</table>
### Table 3 - Recommended Future Land Use Designations and Alternatives

<table>
<thead>
<tr>
<th>Sub-Study Area</th>
<th>2004 updated in 2008 Future Land Use Map</th>
<th>Recommended Future Land Use Options</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (three parcels)</td>
<td>Single Family Residential at 4.8 dwelling units per acre</td>
<td>Suburban Low Rise with maximum residential density of 7.3 dwelling units per acre</td>
<td>Suburban Low Rise without office uses and a maximum residential density of 7.3 dwelling units per acre</td>
<td>Office or Low Density Multiple Family residential at a maximum 7.3 dwelling units per acre</td>
<td>Land use designation(s) remain the same</td>
</tr>
<tr>
<td>2 (one parcel)</td>
<td>Public Park with an underlying Single Family Residential at a maximum of 0.8 dwelling units per acre</td>
<td>Public Park with an underlying Single Family Residential at 3.3 dwelling units per acre</td>
<td>Same with a smaller or larger maximum residential density</td>
<td>Land use designation(s) remain the same</td>
<td></td>
</tr>
<tr>
<td>3 (eleven parcels)</td>
<td>Office north 25 acres Single Family Residential – One parcel west of ITC property at 0.8 dwelling units per acre; ITC parcel, Utility with an underlying residential density; and balance Single Family Residential at a maximum of 1.65 dwelling units per acre</td>
<td>Suburban Low Rise with maximum residential density of 7.3 dwelling units per acre</td>
<td>Low Density Multiple Family residential at a maximum 7.3 dwelling units per acre</td>
<td>Office, ITC parcel continues as Utility</td>
<td>Land use designation(s) remain the same</td>
</tr>
<tr>
<td>4 (four parcels)</td>
<td>Single Family Residential at a maximum of 1.65 dwelling units per acre</td>
<td>Two Family Residential at a maximum of 4.8 dwelling units per acre</td>
<td>Single Family Residential at 3.3 dwelling units per acre</td>
<td>Single Family Residential at 2.5 dwelling units per acre</td>
<td>Land use designation(s) remain the same</td>
</tr>
<tr>
<td>5 (one parcel)</td>
<td>Educational Facility with an underlying Single Family Residential at a maximum of 1.65 dwelling units per acre</td>
<td>Educational Facility with an underlying Single Family Residential at a maximum of 4.8 dwelling units per acre on the north half and 1.65 on the south half</td>
<td>Either with a smaller or larger maximum residential density</td>
<td>Land use designation(s) remain the same</td>
<td></td>
</tr>
</tbody>
</table>
Appendix F  Eleven Mile and Beck Roads Study Area

Eleven Mile & Beck Study Area
Future Land Use Map 1999

CITY OF NOVI
2009 MASTER PLAN REVIEW
CREATED: 5/12/09

February 26, 2010  Master Plan for Land Use Review Appendices
page 110
Appendix F  Eleven Mile and Beck Roads Study Area

Eleven Mile & Beck Study Area
Future Land Use Map 2008
Appendix F Eleven Mile and Beck Roads Study Area

Eleven Mile & Beck Study Area
Residential Density 1993 Master Plan

[Map of Eleven Mile & Beck Study Area with residential density values indicated in different zones.]

CITY OF NOVI
2009 MASTER PLAN REVIEW
CREATED: 5/12/09
Appendix F  Eleven Mile and Beck Roads Study Area

Eleven Mile & Beck Study Area
Residential Density 1999 Master Plan

1. Profile Steel
2. 0.8
3. 1.65
4. 7.3
5. 20.7

Master Plan Review Study Areas

CITY OF NOVI
2009 MASTER PLAN REVIEW
CREATED: 5/12/09
Appendix F  Eleven Mile and Beck Roads Study Area

Eleven Mile & Beck Study Area
Maximum Residential Density 2008

- Residental Density (max. dwelling units per acre)
- Master Plan Review Study Areas

CITY OF NOVI
2009 MASTER PLAN REVIEW

February 26, 2010  Master Plan for Land Use Review Appendices
page 114
Appendix F  Eleven Mile and Beck Roads Study Area

Eleven Mile & Beck Study Area
Watersheds, Wetlands, Regulated Woodlands, Floodplains & Priority Habitat Areas

CITY OF NOVI
2009 MASTER PLAN REVIEW
CREATED: 5/12/09

Feet
Appendix F  Eleven Mile and Beck Roads Study Area

Eleven Mile & Beck Study Area
Speed Limit

CITY OF NOVI
2009 MASTER PLAN REVIEW
CREATED: 5/12/09
Appendix F: Eleven Mile and Beck Roads Study Area

Eleven Mile & Beck Study Area
Storm Sewer System

CITY OF NOVI
2009 MASTER PLAN REVIEW
CREATED: 5/12/09
Appendix F  Eleven Mile and Beck Roads Study Area

MEMORANDUM

TO: MARK SPENCER, AICP; PLANNER
    BRIAN COBURN, PE; SENIOR CIVIL ENGINEER
FROM: BEN CROY, PE; CIVIL ENGINEER
SUBJECT: REVIEW OF IMPACT ON PUBLIC UTILITIES
         ELEVEN MILE AND BECK STUDY AREA
DATE: APRIL 9, 2009

The Engineering Division has reviewed the Eleven Mile and Beck study area as requested by the Planning Division. The request consists of approximately 193 acres located north and south of Eleven Mile Road, between Beck and Wixom Roads in Sections 17 and 20. This analysis is based on the potential uses of the property as shown on the attached figure provided by the Planning Division, but excludes the ‘Proposed School Property’ and ‘Proposed Park’.

The study area involves numerous parcels currently master planned either R-A, R-1, R-3, RT or OSC. The study is exploring the potential for Office or RM-1 uses in the area. The proposed study area was analyzed by comparing the utility demand under the existing or master planned zoning (which ever is more intense) with the demand of the two proposed uses. Additionally, the potential for a 5-acre area designated as a convalescent home was explored.

Given the multiple zoning designations throughout this study area, a change to Office or RM-1 will have varying effects. For example, an Office use throughout the study area would result in approximately the same demand as the existing permitted uses because the increases and decreases in demand over the area happen to result in the same overall average. However, a change in demand would be realized if only portions of the area were to allow the Office use. Similarly, an RM-1 use throughout the study area would approximately double the demand of the existing permitted uses. However, only rezoning some parcels to RM-1 would affect the demand.

The following table helps illustrate the impact of rezoning from one use to another:

<table>
<thead>
<tr>
<th>Existing Zoning or Master Planned Zoning</th>
<th>Proposed Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OFFICE</td>
</tr>
<tr>
<td>RT</td>
<td>-42%</td>
</tr>
<tr>
<td>RA</td>
<td>250%</td>
</tr>
<tr>
<td>OSC</td>
<td>0%</td>
</tr>
<tr>
<td>R-3</td>
<td>4%</td>
</tr>
<tr>
<td>R-1</td>
<td>70%</td>
</tr>
</tbody>
</table>

The table shows that, with the exception of RT, the rezoning of any parcel within the study area to either Office or RM-1 would result in a higher utility demand, some substantially higher. The addition of a convalescent home would further increase the demand; however, assuming only 5- acres would be designated for this use, the overall impact would be relatively minor.

Water System
All of the parcels in the study area could be served by an existing 16-inch water main along the Wixom Road, Eleven Mile Road and Beck Road frontages.
Appendix F  Eleven Mile and Beck Roads Study Area

The City’s water model indicates rezoning the entire study area to the most intense use, RM-1, would have a slight impact to the water system (1.5 psi drop in pressure). This is due to the size, location and looping of the water mains in this area of the City.

Sanitary Sewer
The properties fronting on Wixom Road would be served by the 12-inch sewer on the west side of Wixom Road. The properties fronting on Beck Road would be served by the 18-inch sewer on the west side of Beck Road. The remaining parcels fronting only on Eleven Mile could be served by a sewer extension along Eleven Mile from Beck Road, or by the 21-inch sewer along the northern limits of some of the parcels.

Based on the information provided we can estimate that rezoning the entire study area to the most intense use, RM-1, would have a significant impact on the sanitary sewer system, using an additional ~5% of the City’s peak discharge capacity. A mixture of Office and RM-1 would result in a varying impact (refer to above table). Additional sanitary sewer design information would be required to determine if any system upgrades are required to the local sanitary network to accommodate the increased sanitary sewer flow. This added flow would impact the Lanny’s bypass pump station which was recently installed to relieve previous capacity concerns in this district.

Summary
Rezoning to RM-1 would have the greatest impact to the utility demand for this study area, approximately doubling the demand if zoned entirely RM-1. The rezoning would not have a large impact on the water system, but depending on the mix of Office and RM-1, a zoning change for this study area could have a noticeable impact on the sanitary sewer system, increasing the peak sanitary discharge from the City.

The increase in the peak discharge is notable because the City is currently seeking opportunities to resolve the limit on its contractual sanitary sewer capacity at its outlet to Wayne County. Additional contractual capacity (estimated to be 1.0 cfs, or a 5% increase, based on the information provided) will be needed to serve the increased density proposed for this study area.
Appendix F Eleven Mile and Beck Roads Study Area

MEMORANDUM

TO: MARK SPENCER, AICP, PLANNER
FROM: DAVID BESCHKE, RLA, LANDSCAPE ARCHITECT
SUBJECT: ELEVEN MILE AND BECK ROADS STUDY AREA ENVIRONMENTAL OVERVIEW
DATE: APRIL 21, 2009

The Eleven Mile and Beck Roads Study Area has many positive environmental features worth consideration for any rezoning or development that may be proposed. These features include wetlands, woodlands, habitat, river corridors and floodplains. Full scale on site investigations would be necessary for the entire study area in order to gather information necessary for a full environmental study. Below is a brief overview of some of the environmental assets of this study area. For the purposes of this overview, the entire study area has been divided into 3 property blocks for clarity. The northwest block (NW – approx. 97 acres) includes all property west of the ITC power corridor. The northeast block (NE – approx. 155 acres) includes all property east of the power corridor and north of Eleven Mile. The southeast block (SE – approx. 120 acres) includes all properties south of Eleven Mile.

City of Novi Regulated Wetland Map

Novi’s current Regulated Wetland Map indicates the presence of regulated wetland within all three blocks. The map serves as a guide indicating the likely presence of regulated wetlands. Any parcel that is proposed for development must first be field delineated for site wetlands to determine the true wetland boundaries.

Approximately 20% to 30% of the NW block contains regulated wetlands largely concentrated in 3 main areas. Approximately 30% to 40% of the NE block contains regulated wetlands largely concentrated in 3 main areas. The wetlands occur in 3 main areas, largely associated with multiple small streams that dissect the property. Approximately 20% to 30% of the SE block contains regulated wetlands largely concentrated in 3 main areas. While the property could potentially be developed, it is likely that existing wetlands would be disturbed and mitigation would be necessary. A small year-round pond exists at the northwest corner of the NE block. A more sizeable and deeper year-round pond exists at the northeast corner of the SE block.

Preliminary review by City of Novi staff and consultants indicate that the entirety of the study site does in fact indicate a greater area of wetlands than depicted on the Regulated Wetland Map. The site wetlands classifications vary throughout the property from emergent wetlands and shrub/scrub to wooded wetlands of high quality. Any proposed development on the subject site should be carefully considered in light of these environmental features.
ELEVEN MILE AND BECK ROADS STUDY AREA
ENVIRONMENTAL OVERVIEW
APRIL 21, 2009
PAGE 2 OF 3

City of Novi Regulated Woodland Map

Novi’s current Regulated Woodland Map shows that each block of the study area contains a level of regulated woodlands. The map serves as a guide indicating the likely presence of regulated woodlands. Any proposed development on the subject site should be carefully considered in light of these existing woodlands. Any parcel that is proposed for development must be field surveyed for all trees 8” and larger, as well as documenting all understory and lower vegetation to determine the true woodland boundaries. As such, the following data is offered as rough approximations for the area of regulated woodlands in each study area block.

Approximately 20% to 30% of the NW block contains regulated woodlands largely concentrated in 3 main areas. Approximately 40% to 50% of the NE block is regulated woodland that is largely one single forest centrally located on the parcel. Approximately 20% to 30% of the SW block is regulated woodlands. The SW block woodlands are concentrated to the westerly side of the block and are mainly one single forested area.

City of Novi Natural Features Habitat Map

The City of Novi Natural Features Habitat Map identifies areas within the city that should be considered as having valuable natural features that support habitat for local flora and fauna. They map indicates that approximately 20 acres of the NE block is high quality habitat. An estimated 75 acres of the NE block are identified as habitat area. The NE block habitat is closely associated with the regulated woodlands, wetlands and streams. Approximately 50 acres of the SW block are identified as habitat. These areas are located more to the west and south of the property and are also closely associated with the site woodlands and wetlands.

Oakland County Green Infrastructure Project

The recently completed Oakland County Green Infrastructure Visioning Project identified all interconnected networks of open spaces, natural areas and waterways within the county. The project focused on conservation values and the services provided by natural systems in concert with land development. A green infrastructure network is important as it supports native species, sustains natural ecological processes, maintains air and water resources, and contributes to our health and quality of life.

The visioning process included the classification of land areas utilizing the terms Hubs, Links or Sites. Hubs are larger environmental areas that anchor the green infrastructure network and provide an origin or destination for wildlife while helping to maintain natural ecological processes. Links are the connections that hold the network together and enable strong environmental functions. Sites are areas that serve as points of origin or destination within a green infrastructure network.
ELEVEN MILE AND BECK ROADS STUDY AREA
ENVIRONMENTAL OVERVIEW
APRIL 21, 2009
PAGE 3 OF 3

A large majority of the subject site has been identified by Oakland County as a Site, or quality environmental area and valuable portion of the interconnetced environmental network. Approximately 70% to 80% of the NW and NE blocks have this designation. Approximately 60% to 70% of the SW block shares designation as a Site. In addition, stream corridors primarily on the NE and SE blocks have been designated as Links that allow for wildlife access between these area habitat Sites. In total, the entire subject area has very good potential for supporting a variety of wildlife due to its character and interconnectivity.

Oakland County Priority Green River Corridors

Oakland County's Priority Green River Vision Map was unveiled in October of 2007. The map was part of a multi-disciplinary study intended to identify priority river corridors that provide significant wildlife habitat, biodiversity function, water quality protection, and community amenities including scenic, recreational, historical and cultural values. The value of riparian buffers and challenges to development implementation were considered. Although the site does have significant wetlands and streams/county drains, no portion of the study area falls within identified Oakland County Priority Green River Corridors. The site does contribute to area groundwater through infiltration and serves as a headwater for area lakes, rivers and streams.

Federal Emergency Management Agency (FEMA) Floodplain

FEMA floodplain mapping indicates that no floodplain exists on the NW block of the study area. The NE and SE blocks do have significant floodplains areas associated with the existing stream that flows from the north through the NE block, under Eleven Mile and onward through the SW block. For the floodplain area to be specifically delineated for the subject area, a detailed on site survey would be necessary. All site floodplains are designated AE, meaning areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Areas identified by FEMA mapping are federally regulated and identified floodplain areas cannot be disturbed without prior federal approval and without being mitigated. Mitigation typically occurs on the property to be developed. Due to the fact that the site floodplains are sizeable and wide spread, care must be taken for any proposed development plans that may affect site floodplain.

DRB
Appendix F  Eleven Mile and Beck Roads Study Area

MASTER PLAN UPDATE
Transportation Analysis
Beck / 11 Mile Study Area

Prepared for the
CITY OF NOVI

By
BIRCHLER ARROYO ASSOCIATES, INC.
Lathrup Village, MI

Rodney L. Arroyo, AICP, Vice President
William A. Stimpson, P.E., Director of Traffic Engineering

May 5, 2009
Appendix F Eleven Mile and Beck Roads Study Area

MASTER PLAN UPDATE
Transportation Analysis
Beck / 11 Mile Study Area

The study area under evaluation totals 313 acres and spans either side of 11 Mile Road between Beck and Wixom Roads (Figures 1 and 2). For purposes of discussion, the overall area has been divided into three sub-areas using 11 Mile and the north-south utility corridor as boundaries.

Alternative Development Scenarios

The existing Master Plan calls for the following future development by sub-area:

- **Southeast**: A 73.9-acre Educational Facility (potential City park), plus 45.6 acres of single-family detached homes at 1.65 per acre.

- **Northwest**: 37.6 acres of two-family homes at 4.8 per acre, plus 59.1 acres of single-family homes at 0.8 per acre (assuming inclusion of "proposed school property").

- **Northeast**: 77.7 acres of single-family detached homes at 1.65 per acre, plus up to 25.2 acres of office development. Given the location of the 25.2 acres, immediately south of the Providence Hospital campus, medical office development has been assumed. Also, 6.2 acres at the west end of the 25.2 acres have been excluded from the evaluation, given the wetland and related conservation easements in the area.

Alternatively, a Suburban Low-Rise (SLR) district covering the study area could include office space, multi-family and senior housing, day-care facilities, various institutional uses (e.g., churches), and a City park. With the approval of the City planning staff, a mixture of medical office space, general office space, multi-family housing, and the proposed Signature Park was assumed as the basis for discussing road-related traffic issues. In the event that a relatively high peak-hour trip generator (e.g., a day care) were to be proposed within the district, its traffic impacts could be offset by one or more relatively low peak-hour trip generators (e.g., senior housing, churches).

At the City's request, total trip generation within the overall study area was also compared between three simplified scenarios: 1) SLR with the proposed Signature Park and all remaining area as office; 2) SLR with the proposed Signature Park and all remaining area as multi-family (half apartments and half condominiums); and 3) existing Master Plan with the uses listed above. See Table A-1, attached.

To forecast trip generation for use within the discussion of broad traffic issues, Bircher Arroyo Associates considered it appropriate to formulate a conceptual mixed-use Suburban Low-Rise development plan (Figure 2, below). The medium-weight red lines represent potential collector roads separating the indicated land uses.

Bircher Arroyo Associates, Inc.  28021 Southfield Rd., Lathrup Village, MI 48076  248-423-1776
Appendix F Eleven Mile and Beck Roads Study Area

Figure 1. Beck-11 Mile Study Area and Beck/I-96 Interchange
Appendix F  Eleven Mile and Beck Roads Study Area
Appendix F  Eleven Mile and Beck Roads Study Area

Trip Generation Comparison

Trip rates, trip equations, and related methodology recommended by the Institute of Transportation Engineers (in Trip Generation – 8th Edition, 2006, and Trip Generation Handbook – 2nd Edition, 2004) were used to forecast potential trip generation. Table 3 (on next page) details the resulting forecasts of total driveway trips over an entire weekday as well as a weekday’s AM and PM peak hours. A trip is a one-directional vehicle movement into or out of the subject properties.

To illustrate the relative trip-generation intensities of the land uses considered, forecasts for the Northeast Sub-Area were used to develop the comparison appearing in Table 1.

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Trips / Day / Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Office</td>
<td>315</td>
</tr>
<tr>
<td>General Office</td>
<td>111</td>
</tr>
<tr>
<td>Apartments / Condos</td>
<td>52</td>
</tr>
<tr>
<td>Single-Family @ R-3 density</td>
<td>17</td>
</tr>
</tbody>
</table>

Table 2 summarizes the absolute and relative trip generation of the two scenarios by sub-area. These comparisons are of interest with respect to the potential impact on area roads.

<table>
<thead>
<tr>
<th>Wixom Rd</th>
<th>Beck Rd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Northwest</strong></td>
<td></td>
</tr>
<tr>
<td>SLR = 4,185</td>
<td></td>
</tr>
<tr>
<td>EMP = 1,592</td>
<td></td>
</tr>
<tr>
<td>Ratio = 2.63</td>
<td></td>
</tr>
<tr>
<td><strong>Northeast</strong></td>
<td></td>
</tr>
<tr>
<td>SLR = 11,752</td>
<td></td>
</tr>
<tr>
<td>EMP = 7,285</td>
<td></td>
</tr>
<tr>
<td>Ratio = 1.61</td>
<td></td>
</tr>
<tr>
<td><strong>Southeast</strong></td>
<td></td>
</tr>
<tr>
<td>SLR = 2,298</td>
<td></td>
</tr>
<tr>
<td>EMP = 966</td>
<td></td>
</tr>
<tr>
<td>Ratio = 2.38</td>
<td></td>
</tr>
</tbody>
</table>

1 SLR = Suburban Low-Rise and EMP = Existing Master Plan

Overall, the assumed (mixed-use) conceptual Suburban Low-Rise development plan would generate 18,235 daily trips, or 85% more than the 9,843 daily trips potentially generated by development according to the existing Master Plan.
<table>
<thead>
<tr>
<th>Study Area</th>
<th>Overall</th>
<th>Extinguishing</th>
<th>Southwest</th>
<th>Southeast</th>
<th>Southeast</th>
<th>Extinguishing</th>
<th>Southwest</th>
<th>Southeast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>364.9</td>
<td>248.7</td>
<td>142.3</td>
<td>233.2</td>
<td>224.5</td>
<td>230.4</td>
<td>222.5</td>
<td>215.7</td>
</tr>
<tr>
<td>70</td>
<td>354.9</td>
<td>245.7</td>
<td>142.3</td>
<td>233.2</td>
<td>224.5</td>
<td>230.4</td>
<td>222.5</td>
<td>215.7</td>
</tr>
<tr>
<td>71</td>
<td>344.9</td>
<td>245.7</td>
<td>142.3</td>
<td>233.2</td>
<td>224.5</td>
<td>230.4</td>
<td>222.5</td>
<td>215.7</td>
</tr>
<tr>
<td>72</td>
<td>334.9</td>
<td>245.7</td>
<td>142.3</td>
<td>233.2</td>
<td>224.5</td>
<td>230.4</td>
<td>222.5</td>
<td>215.7</td>
</tr>
<tr>
<td>73</td>
<td>324.9</td>
<td>245.7</td>
<td>142.3</td>
<td>233.2</td>
<td>224.5</td>
<td>230.4</td>
<td>222.5</td>
<td>215.7</td>
</tr>
<tr>
<td>74</td>
<td>314.9</td>
<td>245.7</td>
<td>142.3</td>
<td>233.2</td>
<td>224.5</td>
<td>230.4</td>
<td>222.5</td>
<td>215.7</td>
</tr>
<tr>
<td>75</td>
<td>304.9</td>
<td>245.7</td>
<td>142.3</td>
<td>233.2</td>
<td>224.5</td>
<td>230.4</td>
<td>222.5</td>
<td>215.7</td>
</tr>
<tr>
<td>76</td>
<td>294.9</td>
<td>245.7</td>
<td>142.3</td>
<td>233.2</td>
<td>224.5</td>
<td>230.4</td>
<td>222.5</td>
<td>215.7</td>
</tr>
<tr>
<td>77</td>
<td>284.9</td>
<td>245.7</td>
<td>142.3</td>
<td>233.2</td>
<td>224.5</td>
<td>230.4</td>
<td>222.5</td>
<td>215.7</td>
</tr>
</tbody>
</table>

Table 3. Trip Generation Comparison of Mixed-Use Development Scenarios
Appendix F  Eleven Mile and Beck Roads Study Area

Area Road Network

Currently, 11 Mile Road within the study area is a paved, two-lane Residential (major) Collector under City jurisdiction. The four-legged intersection of 11 Mile and Beck is equipped with left-turn lanes on all approaches, right-turn lanes on the north and south approaches, and a fully-actuated (SCATS) traffic signal. The tee intersection of 11 Mile and Wixom is equipped with a left-turn lane on the southbound approach and separate left- and right-turn lanes on the westbound approach, and the latter approach is controlled by a STOP sign.

Beck Road is an Arterial under City jurisdiction, with two through lanes in each direction from the Beck/I-96 urban single-point urban interchange (SPUI) to a few hundred feet south of Grand River. The rest of Beck to the south has one through lane in each direction, with some widening at the signalized intersections. Providence Hospital has two major driveways on Beck, with the south one (aligning with Central Park Boulevard) recently equipped with a fully-actuated (SCATS) signal. Beck's intersections with Grand River, 10 Mile, 9 Mile, and 8 Mile are also signalized.

As part of this evaluation, the Executive Summary and Beck/11 Mile traffic counts appearing in a report for the City Engineering Division entitled: Scoping Study – Beck Road – Eight Mile Road to Grand River Avenue (Fishbeck, Thompson, Carr & Huber, Inc., Dec 06) were obtained and reviewed. That study recommended both short-term and long-term road improvements. In the near term (within ten years), the report identified – among other things – the need for adding right-turn lanes on 11 Mile at Beck, as well as adding or lengthening right-turn lanes, and upgrading the traffic signal, at 10 Mile and Beck.

The Scoping Study predicts that Beck will need to be widened to include two through lanes in each direction within about 15 years of the year of the study (or by 2021). The study also cites the 1998 Birchler Arroyo Master Planning analysis, predicting this need to occur by 2020, as well as plans by neighboring communities to widen Beck to five lanes both north and south of Novi.

Wixom Road is a 2-3 lane Minor Arterial under City jurisdiction. Wixom Road is also equipped with a SPUI at I-96, and could, therefore, eventually serve significantly increased volumes of traffic to/from neighboring Lyon Township (via 10 Mile Road) as Lyon continues to develop (the next I-96 interchange to the west not occurring until Milford Road). However, with the exception of a short section just south of Grand River, Wixom Road traverses a predominately residential area of the City and all previous plans have limited the road to a single through lane in each direction. Recent traffic volumes along Beck, Wixom, and 11 Mile Roads are summarized in Tables 4-6.

Based on data presented in Table 5, 11 Mile Road is now carrying about 3,200 vehicles per day at Beck Road. Two-way volumes appear to be lower west of Beck than they are east of Beck, no doubt due to the area population distribution and the use of Beck to reach and return from I-96. Note that the 2006 volumes were significantly higher than the 2009 volumes.
### Appendix F Eleven Mile and Beck Roads Study Area

Table 4. 2005 Daily Volumes from SEMCOG

<table>
<thead>
<tr>
<th>Road</th>
<th>Segment(s)</th>
<th>Date</th>
<th>Volume (vehicles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck</td>
<td>NB south of Grand River</td>
<td>6/16/05</td>
<td>7,479</td>
</tr>
<tr>
<td></td>
<td>SB north of 10 Mile Road</td>
<td>8/20/05</td>
<td>5,686</td>
</tr>
<tr>
<td>Wixom</td>
<td>NB south of Grand River</td>
<td>8/22/05</td>
<td>8,075</td>
</tr>
<tr>
<td></td>
<td>SB north of 10 Mile Road</td>
<td>8/21/05</td>
<td>5,965</td>
</tr>
</tbody>
</table>

Table 5 also indicates that Beck Road is now carrying about 18,800 vehicles per day at 11 Mile Road. This volume is down about 19% from the volume counted at the same location in the same manner (by the signal system) in May 2006 (when it was about 23,200 vehicles per day).

Recent representative traffic counts for Wixom Road are not known to be available. Table 4 indicates, in rough numbers, that this road in June 2005 was probably carrying about 16,200 vehicles per day just south of Grand River (i.e., twice the northbound volume of 8,075 vehicles) and about 11,900 vehicles per day just north of 10 Mile Road (or twice the southbound volume of 5,965 vehicles). These volumes may have increased over the past four years, however, given the ongoing area land development and the provision of a better interchange at I-96.

### Relative Impacts of Two Scenarios on Area Traffic Conditions

To ensure a reasonably good level of service along section-line roads (such as Beck, Wixom, and 11 Mile), the maximum daily traffic volumes should be no more than about 15,000-20,000 vehicles on a 2-3-lane road and about 30,000-32,000 vehicles on a 4-5-lane road.

By these standards, all of Beck and at least the northern part of Wixom are candidates for additional through lanes, depending on the amount of new traffic added in coming years. To explore this issue further, Table 7 (below) was developed, based on the following simplifying conservative assumptions:

- The 2005 daily volumes reported to SEMCOG for Wixom Road have grown 2% per year over the past four years, and the 2009 daily volumes reported by RCOC for Beck at 11 Mile describe near-term traffic levels for all of Beck within the study area.
- The driveway trips shown in Table 3 for the two alternative development scenarios are all new to area roads (i.e., no internal capture or pass-by trips), and a negligible number of those new trips will use 11 Mile east of Beck or the proposed connection – via Providence Parkway – between the study area and Grand River.
- All new trips in the Southeast and Northeast Sub-Areas will use Beck Road, and all new trips in the Northwest Sub-Area will use Wixom Road.
- 60% of the new trips will use Beck and Wixom north of 11 Mile, and 40% will use Beck and Wixom south of 11 Mile. This is the current daily traffic volume split on both roads.
## Appendix F Eleven Mile and Beck Roads Study Area

### Table 5. Recent Traffic Volumes at Beck and 11 Mile Road

<table>
<thead>
<tr>
<th>Count Date(s)</th>
<th>Hour Starting</th>
<th>Approach</th>
<th>Total Entering</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EB</td>
<td>WB</td>
</tr>
<tr>
<td>5/20/04¹</td>
<td>7:00 am</td>
<td>259</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td>8:00 am</td>
<td>136</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>4:00 pm</td>
<td>126</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>5:00 pm</td>
<td>92</td>
<td>165</td>
</tr>
<tr>
<td>5/16-17/06²</td>
<td>7:00 am</td>
<td>405</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>8:00 am</td>
<td>207</td>
<td>155</td>
</tr>
<tr>
<td></td>
<td>4:00 pm</td>
<td>131</td>
<td>357</td>
</tr>
<tr>
<td></td>
<td>5:00 pm</td>
<td>178</td>
<td>307</td>
</tr>
<tr>
<td>Avg. Day</td>
<td>1912</td>
<td>2836</td>
<td>12252</td>
</tr>
<tr>
<td>06:04 am</td>
<td>1.56</td>
<td>1.21</td>
<td>1.28</td>
</tr>
<tr>
<td>06:04 pm</td>
<td>1.04</td>
<td>2.22</td>
<td>1.47</td>
</tr>
<tr>
<td>3/24-25/09³</td>
<td>7:00 am</td>
<td>234</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td>8:00 am</td>
<td>114</td>
<td>111</td>
</tr>
<tr>
<td></td>
<td>4:00 pm</td>
<td>139</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>5:00 pm</td>
<td>104</td>
<td>198</td>
</tr>
<tr>
<td>Avg. Day</td>
<td>1417</td>
<td>1611</td>
<td>9809</td>
</tr>
<tr>
<td>09:05 am</td>
<td>0.74</td>
<td>0.64</td>
<td>0.89</td>
</tr>
<tr>
<td>09:06 pm³</td>
<td>0.79</td>
<td>0.55</td>
<td>0.77</td>
</tr>
<tr>
<td>09:04 am</td>
<td>0.90</td>
<td>0.96</td>
<td>1.17</td>
</tr>
<tr>
<td>09:04 pm³</td>
<td>1.13</td>
<td>1.20</td>
<td>1.28</td>
</tr>
</tbody>
</table>

¹ For a Thursday, from Providence Hospital Master Plan Traffic Impact Study, prepared by Tetra Tech MPS, August 2004.
² Average of Tuesday and Wednesday, from SCATS/Fast-Trac signal system, courtesy of Road Commission for Oakland County.
³ Comparing 2009 peak hour (5:00-6:00) to 2004-2006 peak hour (4:00-5:00).

### Table 6. Recent Traffic Volumes at Beck and Providence Park / Central Park

<table>
<thead>
<tr>
<th>Count Date(s)</th>
<th>Hour Starting</th>
<th>Approach</th>
<th>Total Entering</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EB</td>
<td>WB</td>
</tr>
<tr>
<td>3/24-25/09¹</td>
<td>7:00 am</td>
<td>31</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>8:00 am</td>
<td>44</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>4:00 pm</td>
<td>136</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>5:00 pm</td>
<td>128</td>
<td>33</td>
</tr>
<tr>
<td>Avg. Day</td>
<td>1390</td>
<td>578</td>
<td>9263</td>
</tr>
</tbody>
</table>

¹ Average of Tuesday and Wednesday, from SCATS/Fast-Trac signal system, courtesy of Road Commission for Oakland County.
Table 7 confirms that Beck will need two through lanes in each direction, regardless of the development pattern planned for the study area. However, master planning the area as Suburban Low-Rise would likely hasten the year in which the road widening would be needed.

Table 7 also confirms that on Wixom, 2-3 lanes should continue to suffice south of 11 Mile, but greater development density west of the utility corridor would increase the potential need for widening Wixom Road north of 11 Mile. Obviously, future background traffic growth would have to be factored into the projections and associated conclusions for Wixom Road.

Table 7. Potential 2009 Daily Traffic If All New Trips Were Now Added to Beck and Wixom Roads

<table>
<thead>
<tr>
<th>Wixom Rd</th>
<th>Beck Rd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Northwest</strong></td>
<td></td>
</tr>
<tr>
<td>SLR = 20,000</td>
<td>SLR = 27,200</td>
</tr>
<tr>
<td>EMP = 18,500</td>
<td>EMP = 23,700</td>
</tr>
<tr>
<td><strong>11 Mile Rd</strong></td>
<td></td>
</tr>
<tr>
<td>SLR = 14,600</td>
<td></td>
</tr>
<tr>
<td>EMP = 13,500</td>
<td></td>
</tr>
</tbody>
</table>

1 SLR = Suburban Low-Rise and EMP = Existing Master Plan.

Given the current traffic levels in the area, it appears unlikely that either development pattern will create a need for additional through lanes on 11 Mile Road. This will depend, of course, on the actual access locations chosen and the provision of collector roads and cross access between sites. Likely, left- and right-turn lanes will be warranted at most if not all access points. The concept of the Suburban Low-Rise district prohibiting or at least discouraging direct site access along the major roads (11 Mile, Beck, and Wixom) is reasonable and appropriate.

Appendixes not included.
Appendix F Eleven Mile and Beck Roads Study Area

Draft Alternatives for ELEVEN MILE and BECK ROADS STUDY AREA

The 2008 Master Plan for Land Use designates the Eleven Mile and Beck Roads Study Area for:

- Single Family Residential
- Office
- Utility
- Public Park
- Educational Facility

Alternative 1 proposes to change designating a part of the “Single Family Residential” portion of the Study Area to:

- Suburban Low Rise (north of Eleven Mile Road)

Alternative 1 proposes retaining the same land uses as the 2008 Master Plan for Land Use for the remainder of the Study Area.

Alternative 2 proposes to designate part of the “Single Family Residential” portion of the Study Area (north of Eleven Mile Road and the southwest corner of Eleven Mile and Beck Roads) for:

- Suburban Low Rise

Alternative 2 proposes retaining the same land uses as the 2008 Master Plan for Land Use for the remainder of the Study Area.
Appendix F  Eleven Mile and Beck Roads Study Area

Draft Alternatives for  ELEVEN MILE and BECK ROADS STUDY AREA

The Master Plan for Land Use amended in 2008 designates the Eleven Mile and Beck Roads Study Area for the following maximum residential densities:

- 0.8 dwelling units per acre
- 1.65 dwelling units per acre
- 4.8 dwelling units per acre

Alternative 1 proposes to designate the following maximum residential densities:

- 1.65 dwelling units per acre
- 3.3 dwelling units per acre
- 4.8 dwelling units per acre
- 7.3 dwelling units per acre

Notes: "Educational Facility," "Public Park" and "Utility" uses areas are designated for residential uses with assigned maximum residential density in case the properties cease to be considered for the listed use. The "Suburban Low Rise" use area proposes attached single family and multiple family residential uses.

Alternative 2 proposes to designate the same maximum residential densities as Alternative 1 with a slightly larger 7.3 maximum density area that reflects Alternative 2's proposed larger "Suburban Low Rise" use area located at the southwest corner of Eleven Mile and Beck Roads.

- 1.65 dwelling units per acre
- 3.3 dwelling units per acre
- 4.8 dwelling units per acre
- 7.3 dwelling units per acre
Appendix F  Eleven Mile and Beck Roads Study Area

PROPOSED MASTER PLAN AMENDMENTS

LAND USE DESCRIPTION “Suburban Low Rise”. This land use is designated for suburban low rise uses including attached single family and multiple family residential, community service, human care and office uses when developed under a set of use and design guidelines to keep the residential character of the area and minimize the effect that the transitional uses would have on nearby single family residential properties.

GOAL: Provide for planned development areas that provide a transition between high intensity office, industrial and commercial uses and one-family residential uses.

OBJECTIVE: Provide for form-based, low-rise, suburban development options to promote the development of key areas that can provide a transition from higher intensity office and retail uses to one-family residential developments that include access, design and uses standards that promote a residential character to the streetscape and provide increased economic value.

IMPLEMENTATION STRATEGY: Create a Planned Suburban Low-Rise form-based zoning district that permits attached single family and low-density multiple family residential, community service, human care, civic, educational, public recreation and office facilities. This new district will provide a transition area from higher intensity commercial, office or industrial areas to one-family residential uses. This district would be located where the natural and built environment provides defined borders to provide separation from one-family residential area. Detached one-family residential uses would not be permitted in this district. The district would be designed to reduce traffic, environmental and visual impacts while providing higher intensity use than detached one-family districts while maintaining a residential character.