



**MASTER PLAN & ZONING COMMITTEE**  
**City of Novi Planning Commission**  
June 18, 2009 at 7:00 p.m.  
Novi Civic Center –Conference Room C  
45175 W. Ten Mile, Novi, MI 48375  
(248) 347-0475

**Members:** Victor Cassis, Andy Gutman, Michael Lynch and Michael Meyer  
Alternate David Greco  
**Staff Support:** Mark Spencer

1. **Roll Call**
2. **Approval of Agenda**
3. **Audience Participation and Correspondence**
4. **Matters for Discussion**

Item 1

Master Plan for Land Use Review

- a) Eleven Mile and Beck Roads Study Area - Staff to present study area review.  
Discuss review and identify proposed future land use changes if any.

5. **Minutes**
6. **Adjourn**

Future Meetings –July 16, Aug. 6 & Aug. 20



## **PLAN 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.

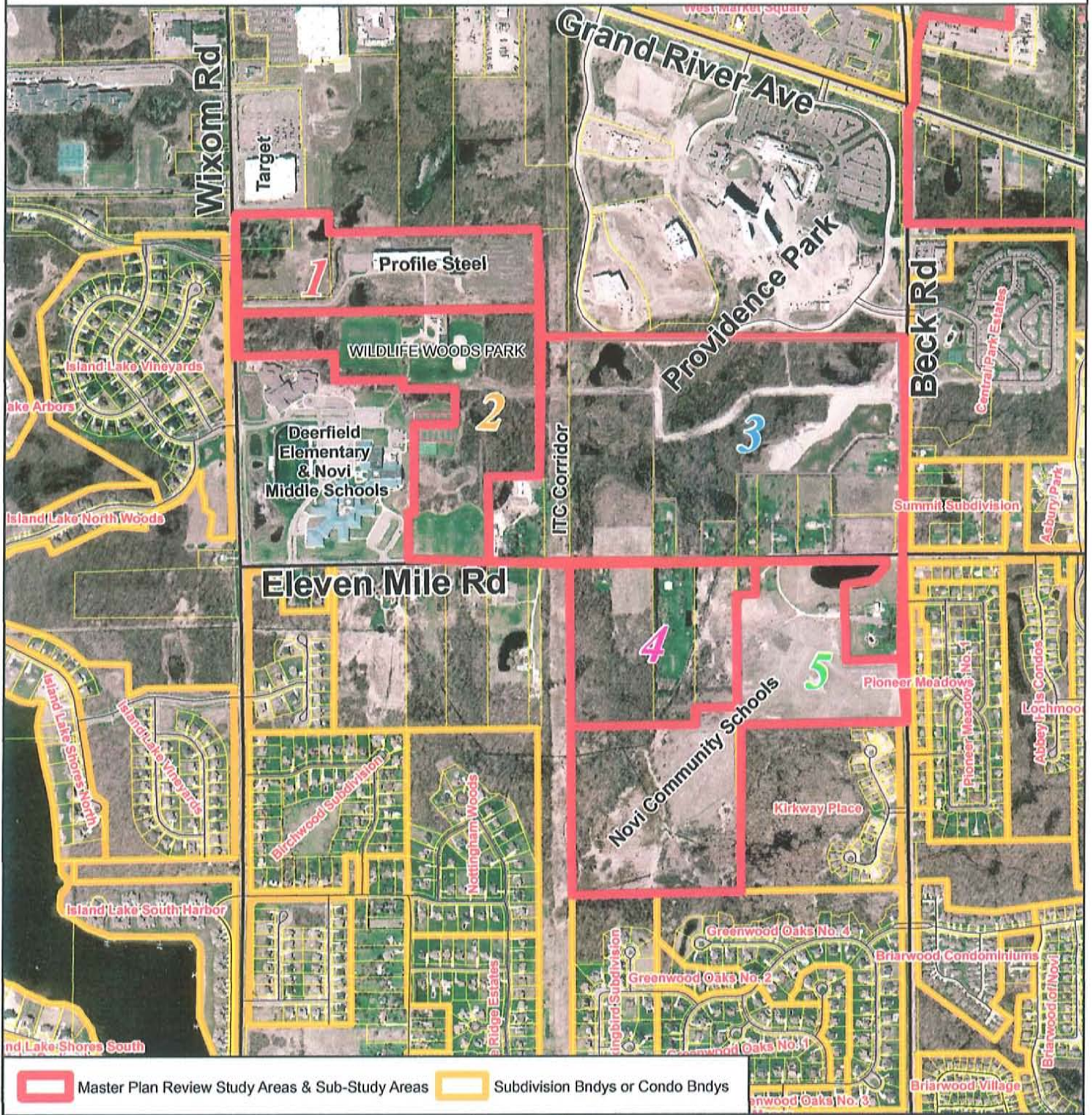
#### **Location and Sub-Study Areas**

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
5. Novi Community School District parcel.

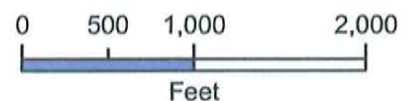
Each sub-study area's land uses, zoning and potential future land uses are discussed later in the report.

# Eleven Mile & Beck Roads Study Area Neighboring Uses & Sub-Study Areas



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## **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.

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):

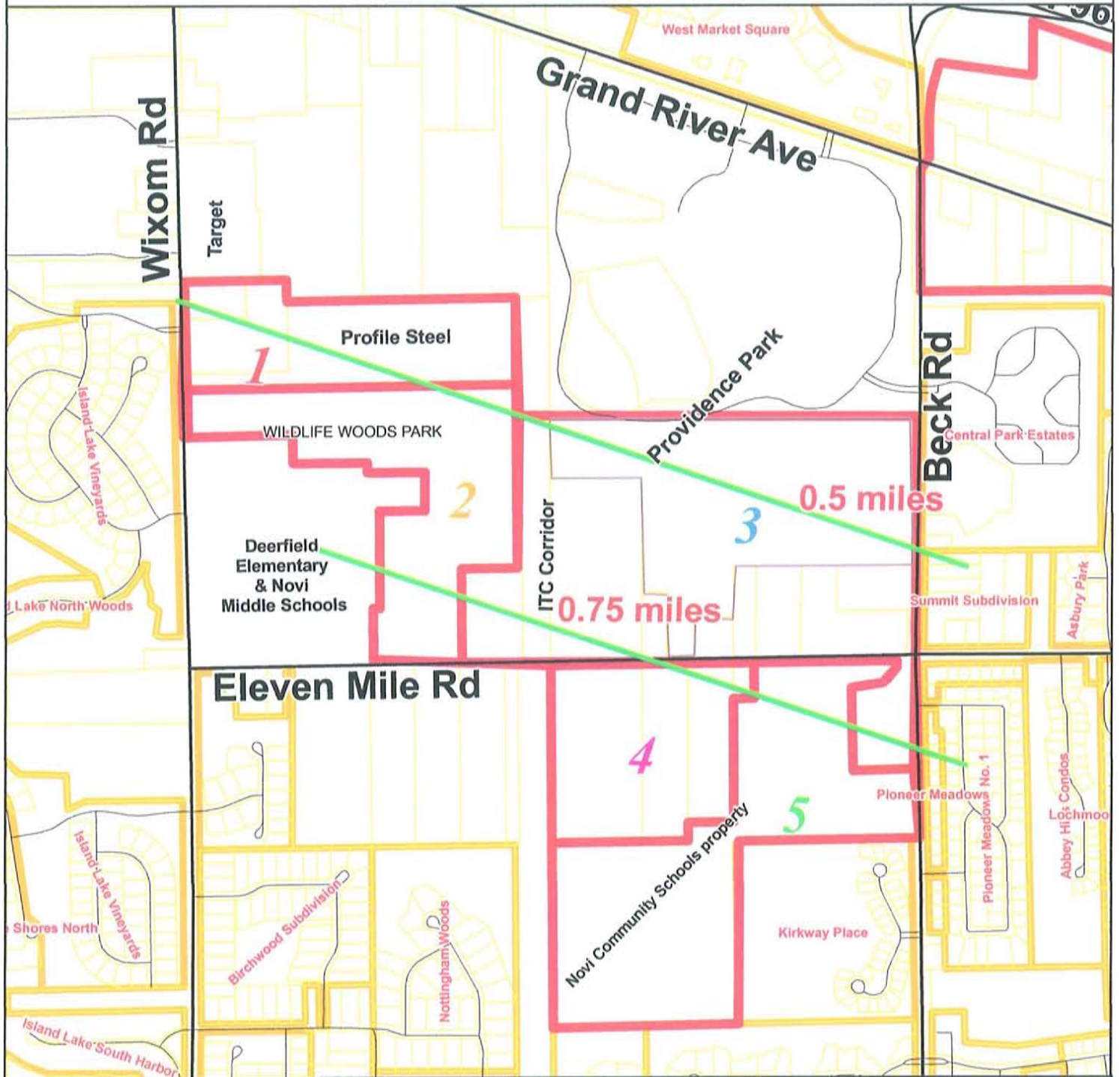
- North: Target retail store in the Novi Promenade retail center; vacant light industrial property and the Providence Park hospital site complex;
- East: Beck Road. Adjacent to the east side of Beck Road are the Central Park Estates apartments, a vacant multiple family parcel; vacant and developed one-family 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

# Eleven Mile & Beck Study Area Distance From Grand River Avenue



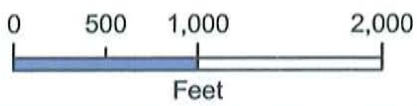
Master Plan Review Study Areas



distance from Grand River Ave.

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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**



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

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 3 – Example 2 ½ story attached single family with parking in the rear**



- 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 verses 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).

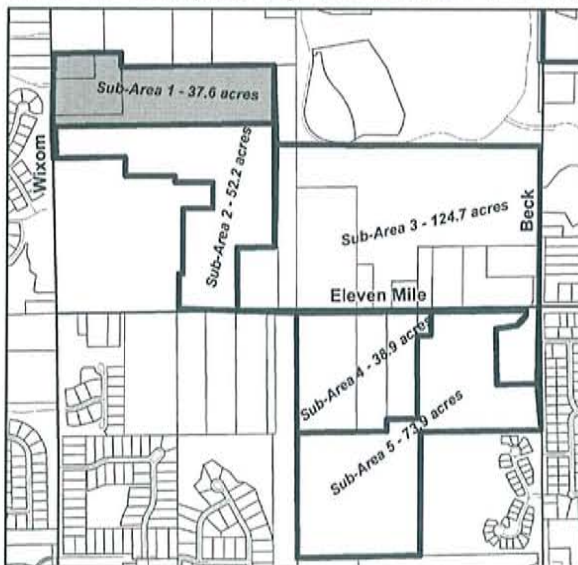
### **Sub-Study Area Discussions**

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.



**Map 3 Sub-Study Area 1**

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.

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

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***

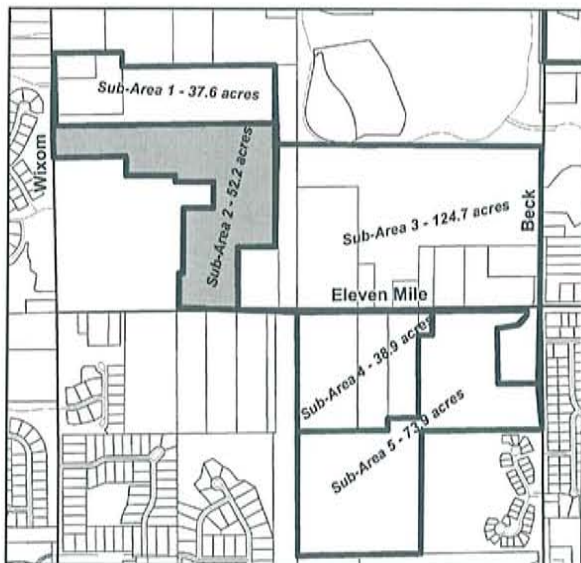
As an alternative to the recommended Suburban Low-Rise designation, the Planning Commission could consider limiting Sub-Study Area 1 to only multiple family and institutional uses within the Suburban Low-Rise framework since there are no current office uses along Wixom Road. This alternative is the Planning 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.



**Map 4 – Sub-Study Area 2**

## **Sub-Study Area 2**

### **Review**

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 current 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.

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.

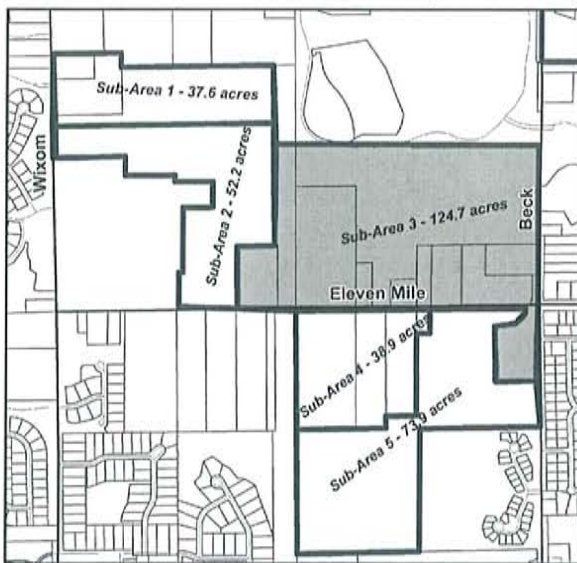
### **Alternatives**

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



**Map 5 Sub-Study Area 3**

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

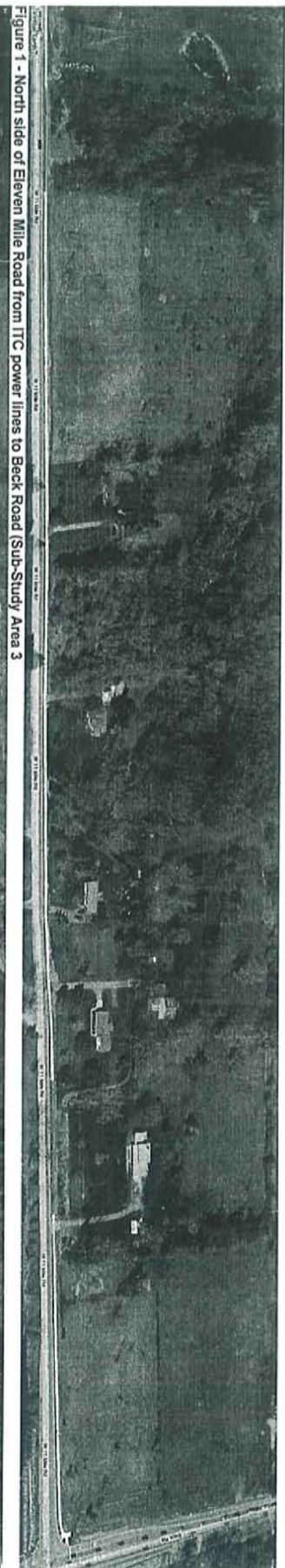


Figure 1 - North side of Eleven Mile Road from ITC power lines to Beck Road (Sub-Study Area 3)



Figure 2 - South side of Eleven Mile Road from Beck Road to ITC power lines (Sub-Study Areas 3, 4 & 5)

Figure 3 - West side of Beck Road from Kirkway Place to Providence Parkway (Sub Study Area 3)  
Note: pictures are composites of several individual pictures and may show some distortion. Source: Live Search Maps, maps.live.com, Microsoft Corporation, 2009

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 versus 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.



## 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.



Map 6 – Sub-Study Area 4

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.

## **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.



**Map 7 – Sub-Study Area 5**

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

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 ceases 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.

## 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 [m Spencer@cityofnovi.org](mailto:m Spencer@cityofnovi.org) if you have any questions or concerns regarding this review.



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Mark Spencer, AICP, Planner

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

Sub-Study Area	Approx. Area (acres)	1993 Future Land Use Map	1999 Future Land Use Map	2004 updated in 2008 Future Land Use Map	Current Zoning Districts
1 (three parcels)	37.6	Light Industrial	Light Industrial	Single Family Residential at a maximum of 4.8 dwelling units per acre	Two northwest parcels R-1, One-Family Residential; balance I-2, General Industrial
2 (one parcel)	52.2	Single Family Residential at a maximum of 0.8 dwelling units per acre	Community Park	Public Park with an underlying Single Family Residential at a maximum of 0.8 dwelling units per acre	North 550 feet R-1, One-Family Residential; balance RA Residential Acreage
3 (eleven parcels)	124.7	Single Family Residential at a maximum of 0.8 dwelling units per acre	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	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	North 180 feet, OS-2 Planned Office; ITC parcel, west parcel and southwest corner of Eleven Mile & Beck parcel, RA, Residential Acreage
4 (four parcels)	38.9	Single Family Residential at a maximum of 0.8 dwelling units per acre	Single Family Residential at a maximum of 1.65 dwelling units per acre	Single Family Residential at a maximum of 1.65 dwelling units per acre	West three parcels, R-1 with a Planned Rezoning , east parcel RA, Residential Acreage
5 (one parcel)	73.9	Single Family Residential at a maximum of 0.8 dwelling units per acre	Single Family Residential at a maximum of 1.65 dwelling units per acre	Educational Facility with an underlying Single Family Residential at a maximum of 1.65 dwelling units per acre	RA, Residential Acreage
Total (20 parcels)	327.3				

**Table 2 - Adjacent Future Land Uses and Zoning Districts**

Boundary	Adjacent Master Plan Future Land Use Designations	Adjacent Zoning
North	Community Commercial; Office & Utility (with an underlying residential density of 1.65 dwelling units per acre)	I-1, Light Industrial (Novi Promenade subject to consent judgment terms); RA, Residential Acreage; and OSC, Planned Office Service Commercial
East	Multiple Family Residential at 7.3 and 20.7 dwelling units per acre; and One-Family Residential at 1.65 dwelling units per acre	RM-1, Low Density Multiple-Family Residential; RM-2 High density Multiple-Family Residential; and RA, Residential Acreage
South	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)	R-1, One-Family Residential; and RA, Residential Acreage
West	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)	RA, Residential Acreage; and R-1, One-Family Residential

**Table 3 - Recommended Future Land Use Designations and Alternatives**

Sub-Study Area	2004 updated in 2008 Future Land Use Map	Recommended Future Land Use Options	Option 2	Option 3	Option 4
1 (three parcels)	Single Family Residential at 4.8 dwelling units per acre	<u>Suburban Low Rise with maximum residential density of 7.3 dwelling units per acre</u>	Suburban Low Rise without office uses and a maximum residential density of 7.3 dwelling units per acre	Office or Low Density Multiple Family residential at a maximum 7.3 dwelling units per acre	Land use designation(s) remain the same
2 (one parcel)	Public Park with an underlying Single Family Residential at a maximum of 0.8 dwelling units per acre	<u>Public Park with an underlying Single Family Residential at 3.3 dwelling units per acre</u>	Same with a smaller or larger maximum residential density	Land use designation(s) remain the same	
3 (eleven parcels)	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	<u>Suburban Low Rise with maximum residential density of 7.3 dwelling units per acre</u> <u>ITC parcel continues as Utility</u>	Low Density Multiple Family residential at a maximum 7.3 dwelling units per acre, ITC parcel continues as Utility	Office, ITC parcel continues as Utility	Land use designation(s) remain the same
4 (four parcels)	Single Family Residential at a maximum of 1.65 dwelling units per acre	<u>Two Family Residential at a maximum of 4.8 dwelling units per acre</u>	Single Family Residential at 3.3 dwelling units per acre	Single Family Residential at 2.5 dwelling units per acre	Land use designation(s) remain the same
5 (one parcel)	Educational Facility with an underlying Single Family Residential at a maximum of 1.65 dwelling units per acre	<u>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</u>	Either with a smaller or larger maximum residential density	Land use designation(s) remain the same	

# Eleven Mile & Beck Study Area Future Land Use Map 1993

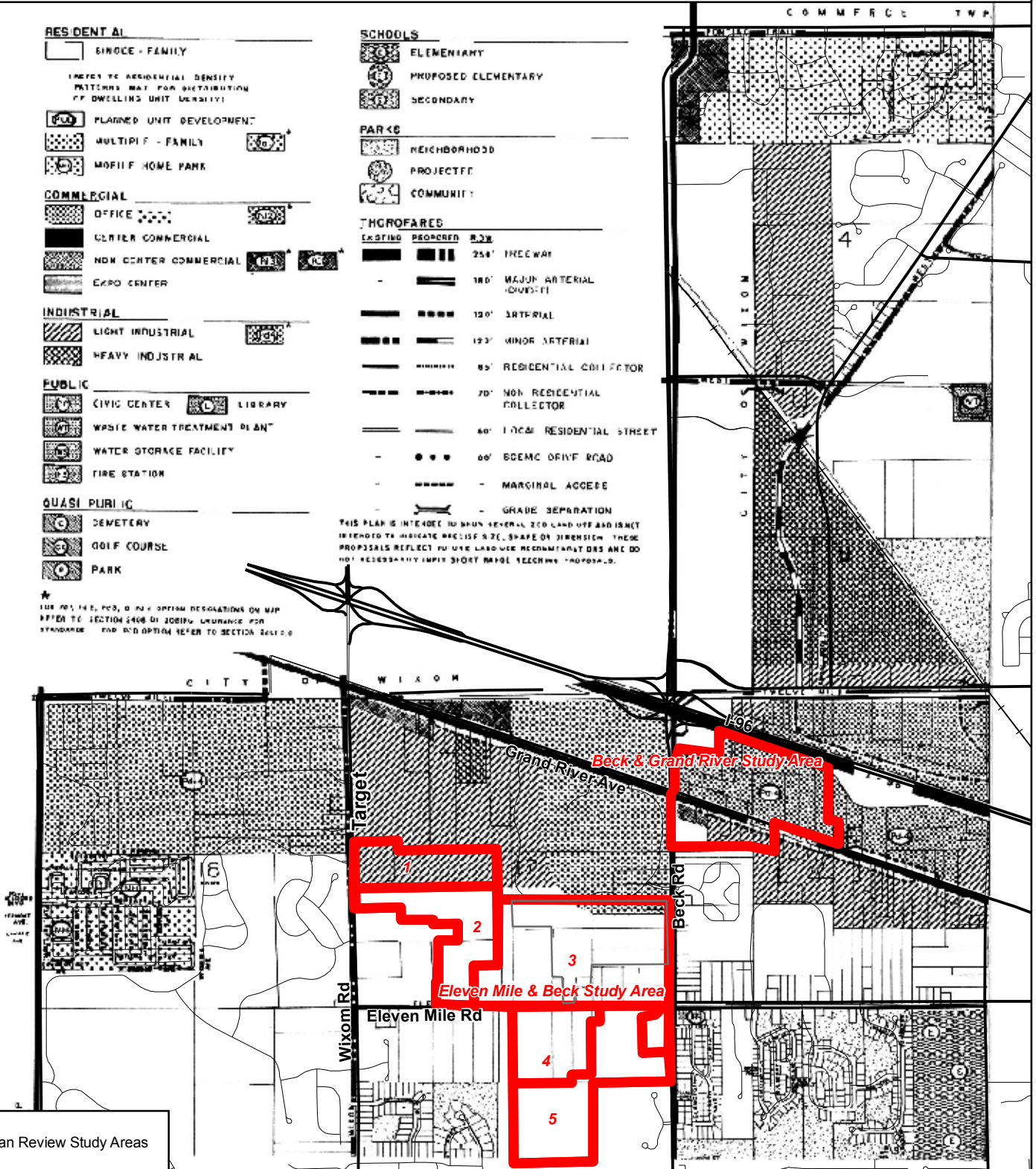
- RESIDENTIAL**
- SINGLE-FAMILY
  - PLANNED UNIT DEVELOPMENT
  - MULTI-FAMILY
  - MIDDLE HOME PARK
- COMMERCIAL**
- OFFICE
  - CENTER COMMERCIAL
  - NON-CENTER COMMERCIAL
  - EXPO CENTER
- INDUSTRIAL**
- LIGHT INDUSTRIAL
  - HEAVY INDUSTRIAL
- PUBLIC**
- CIVIC CENTER
  - LIBRARY
  - WASTE WATER TREATMENT PLANT
  - WATER STORAGE FACILITY
  - FIRE STATION
- QUASI-PUBLIC**
- CEMETERY
  - GOLF COURSE
  - PARK

- SCHOOLS**
- ELEMENTARY
  - PROPOSED ELEMENTARY
  - SECONDARY
- PARKS**
- NEIGHBORHOOD
  - PROJECTIVE
  - COMMUNITY

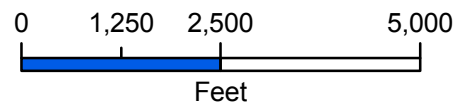
- THROFARES**
- | EXISTING | PROPOSED | R.O.W.                        |
|----------|----------|-------------------------------|
| [Symbol] | [Symbol] | 250' FREEWAY                  |
| [Symbol] | [Symbol] | 180' MAJOR ARTERIAL (DIVIDED) |
| [Symbol] | [Symbol] | 120' ARTERIAL                 |
| [Symbol] | [Symbol] | 120' MINOR ARTERIAL           |
| [Symbol] | [Symbol] | 85' RESIDENTIAL COLLECTOR     |
| [Symbol] | [Symbol] | 70' NON-RESIDENTIAL COLLECTOR |
| [Symbol] | [Symbol] | 60' LOCAL RESIDENTIAL STREET  |
| [Symbol] | [Symbol] | 60' SCenic DRIVE ROAD         |
| [Symbol] | [Symbol] | MARGINAL ACCESS               |
| [Symbol] | [Symbol] | GRADE SEPARATION              |

THIS PLAN IS INTENDED TO SHOW GENERAL ZONING AND IS NOT INTENDED TO INDICATE EXACT SIZE, SHAPE OR DIMENSION. THESE PROPOSALS REFLECT FUTURE LAND USE RECOMMENDATIONS AND DO NOT NECESSARILY IMPLY SHORT RANGE TECHNICAL PROPOSALS.

\* THE 1991, 1992, 1993, & 1994 ORDINANCE RESOLUTIONS ON MAP REFER TO SECTION 2408 OF 2001PLA. LEGISLATION FOR STANDARDS. THE 1995 ORDINANCE REFER TO SECTION 2408.0.



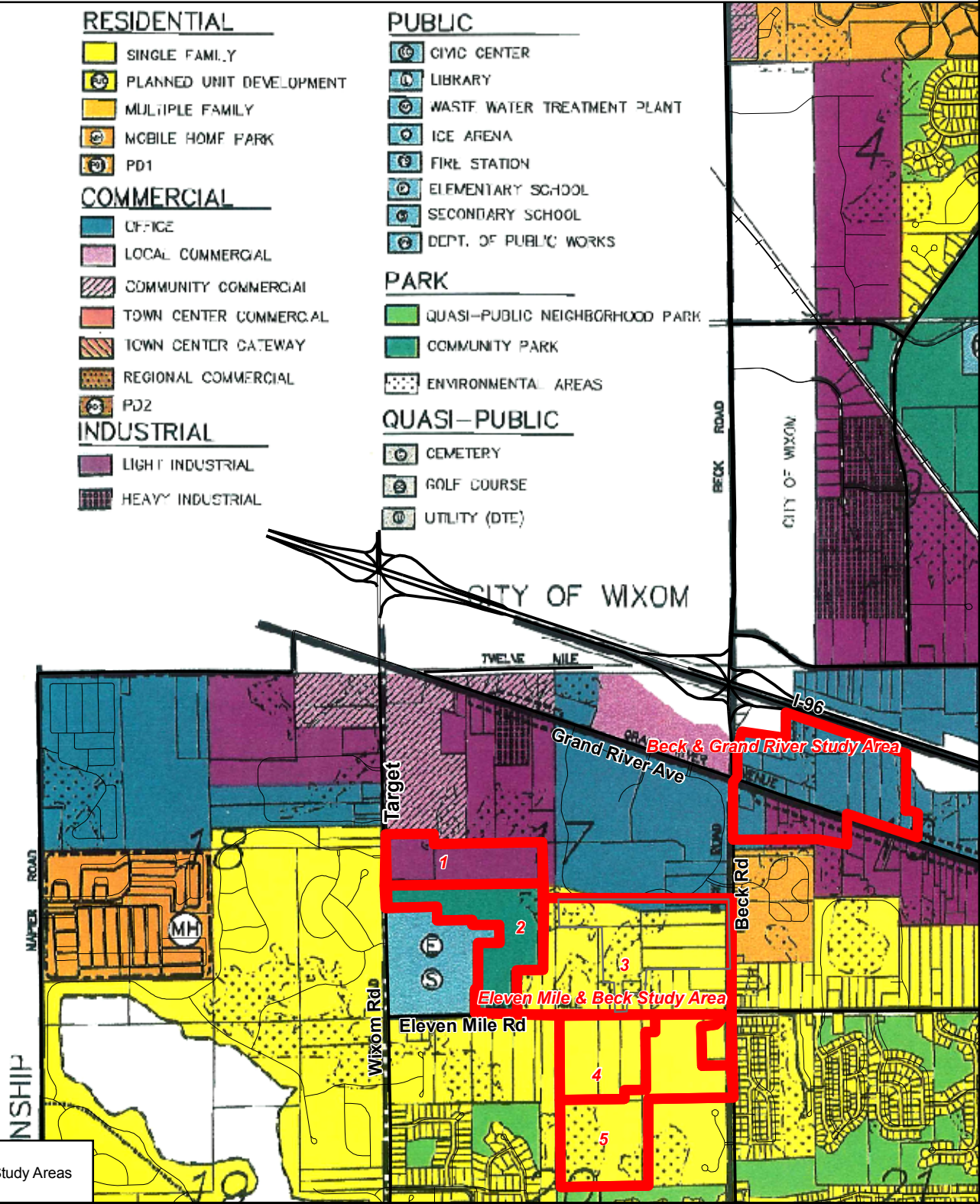
Master Plan Review Study Areas





# Eleven Mile & Beck Study Area Future Land Use Map 1999

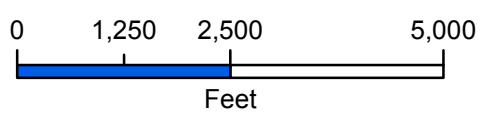
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|--------------------|--------------------------|---------------------|--------------------------------|
| <b>RESIDENTIAL</b> |                          | <b>PUBLIC</b>       |                                |
|                    | SINGLE FAMILY            |                     | CIVIC CENTER                   |
|                    | PLANNED UNIT DEVELOPMENT |                     | LIBRARY                        |
|                    | MULTIPLE FAMILY          |                     | WASTE WATER TREATMENT PLANT    |
|                    | MOBILE HOME PARK         |                     | ICE ARENA                      |
|                    | PD1                      |                     | FIRE STATION                   |
| <b>COMMERCIAL</b>  |                          |                     | ELEMENTARY SCHOOL              |
|                    | OFFICE                   |                     | SECONDARY SCHOOL               |
|                    | LOCAL COMMERCIAL         |                     | DEPT. OF PUBLIC WORKS          |
|                    | COMMUNITY COMMERCIAL     | <b>PARK</b>         |                                |
|                    | TOWN CENTER COMMERCIAL   |                     | QUASI-PUBLIC NEIGHBORHOOD PARK |
|                    | TOWN CENTER GATEWAY      |                     | COMMUNITY PARK                 |
|                    | REGIONAL COMMERCIAL      |                     | ENVIRONMENTAL AREAS            |
|                    | PD2                      | <b>QUASI-PUBLIC</b> |                                |
| <b>INDUSTRIAL</b>  |                          |                     | CEMETERY                       |
|                    | LIGHT INDUSTRIAL         |                     | GOLF COURSE                    |
|                    | HEAVY INDUSTRIAL         |                     | UTILITY (DTE)                  |



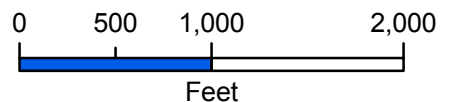
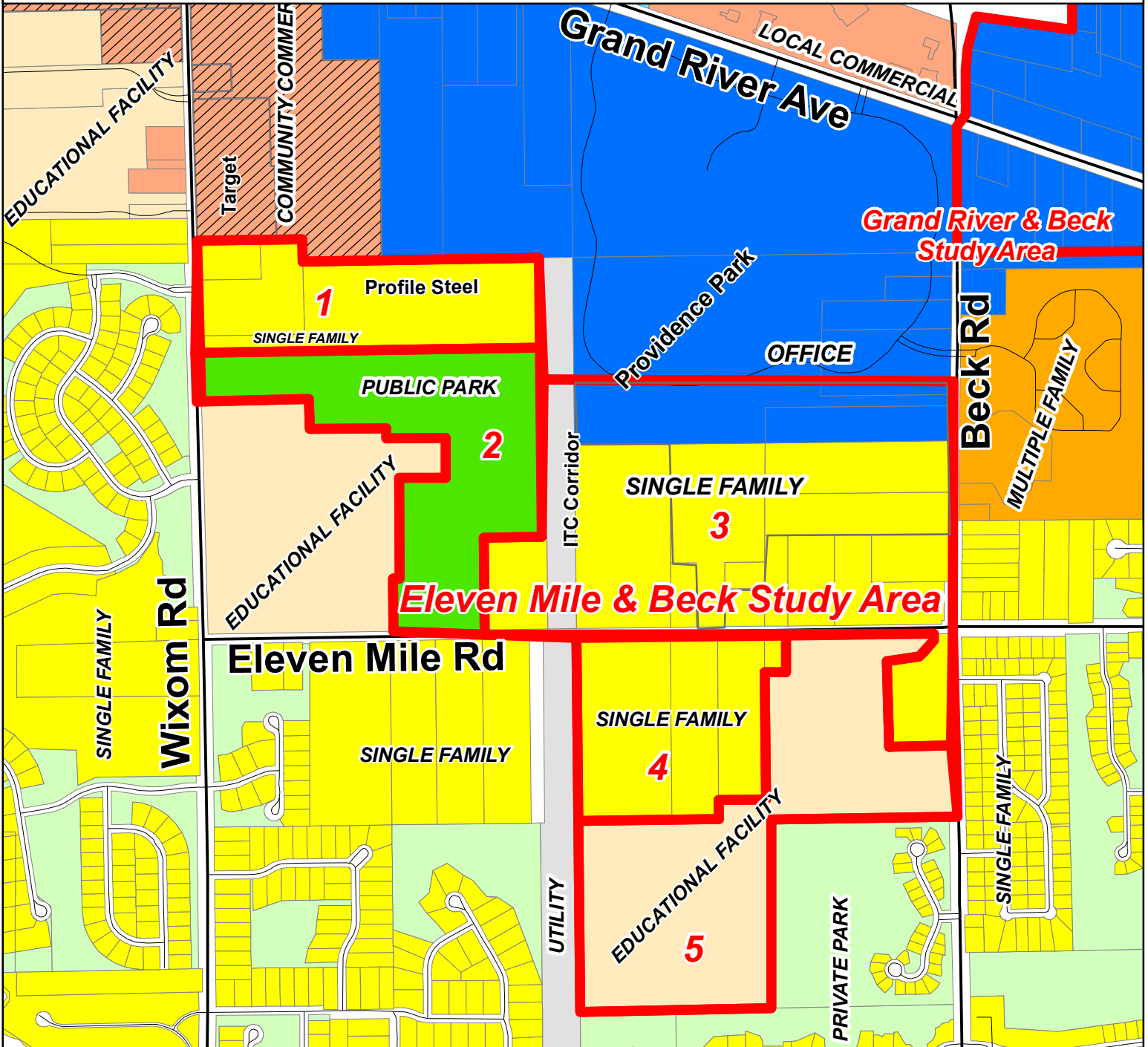
Master Plan Review Study Areas

## CITY OF NOVI 2009 MASTER PLAN REVIEW

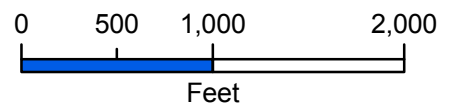
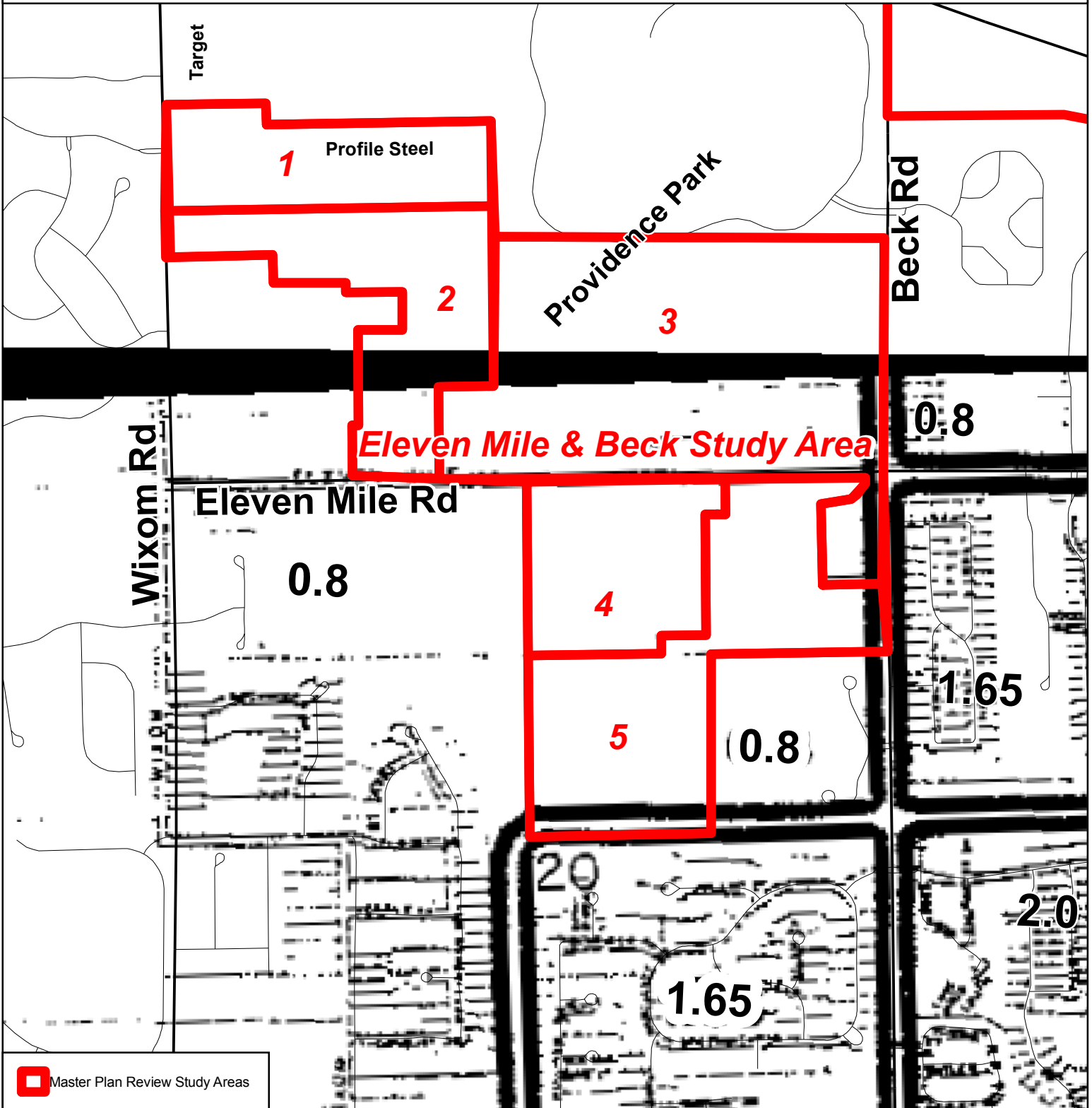
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# Eleven Mile & Beck Study Area Future Land Use Map 2008



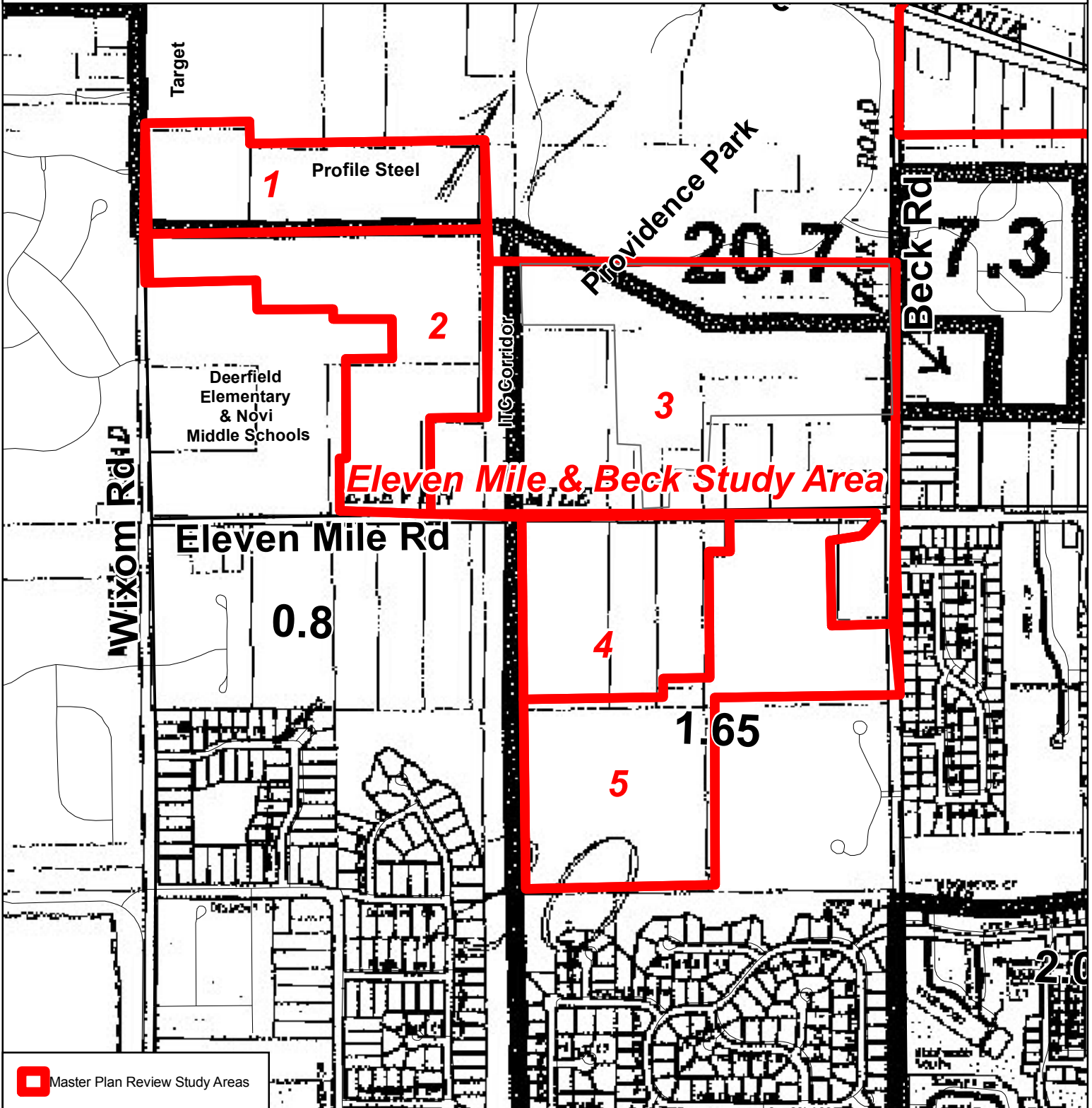
# Eleven Mile & Beck Study Area Residential Density 1993 Master Plan



# Eleven Mile & Beck Study Area Residential Density 1999 Master Plan

Map 12

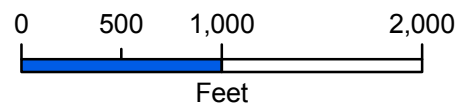
page 27  
of 35



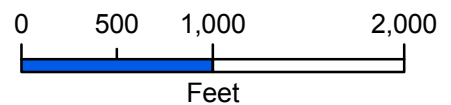
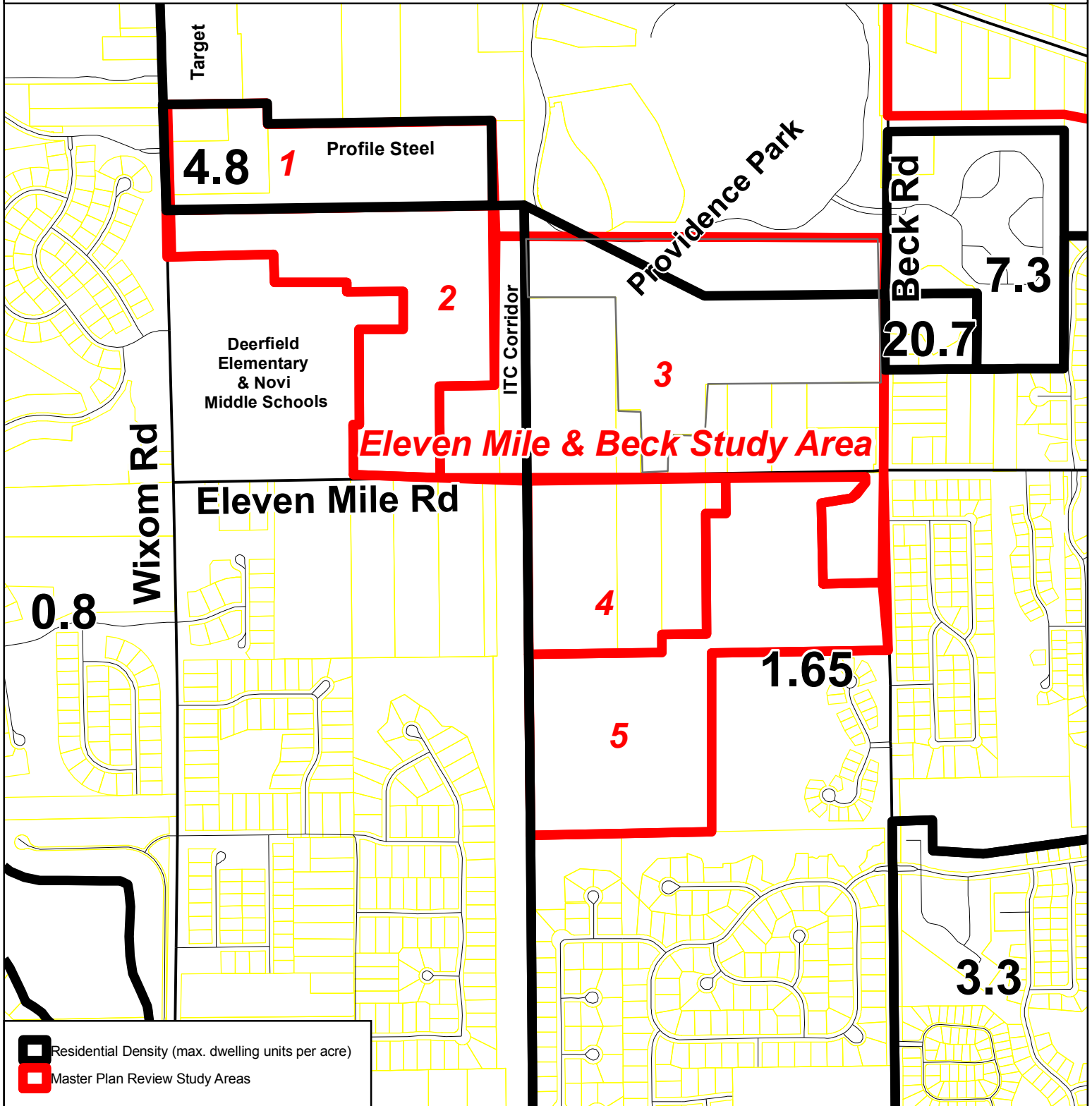
 Master Plan Review Study Areas

CITY OF NOVI  
2009 MASTER PLAN REVIEW

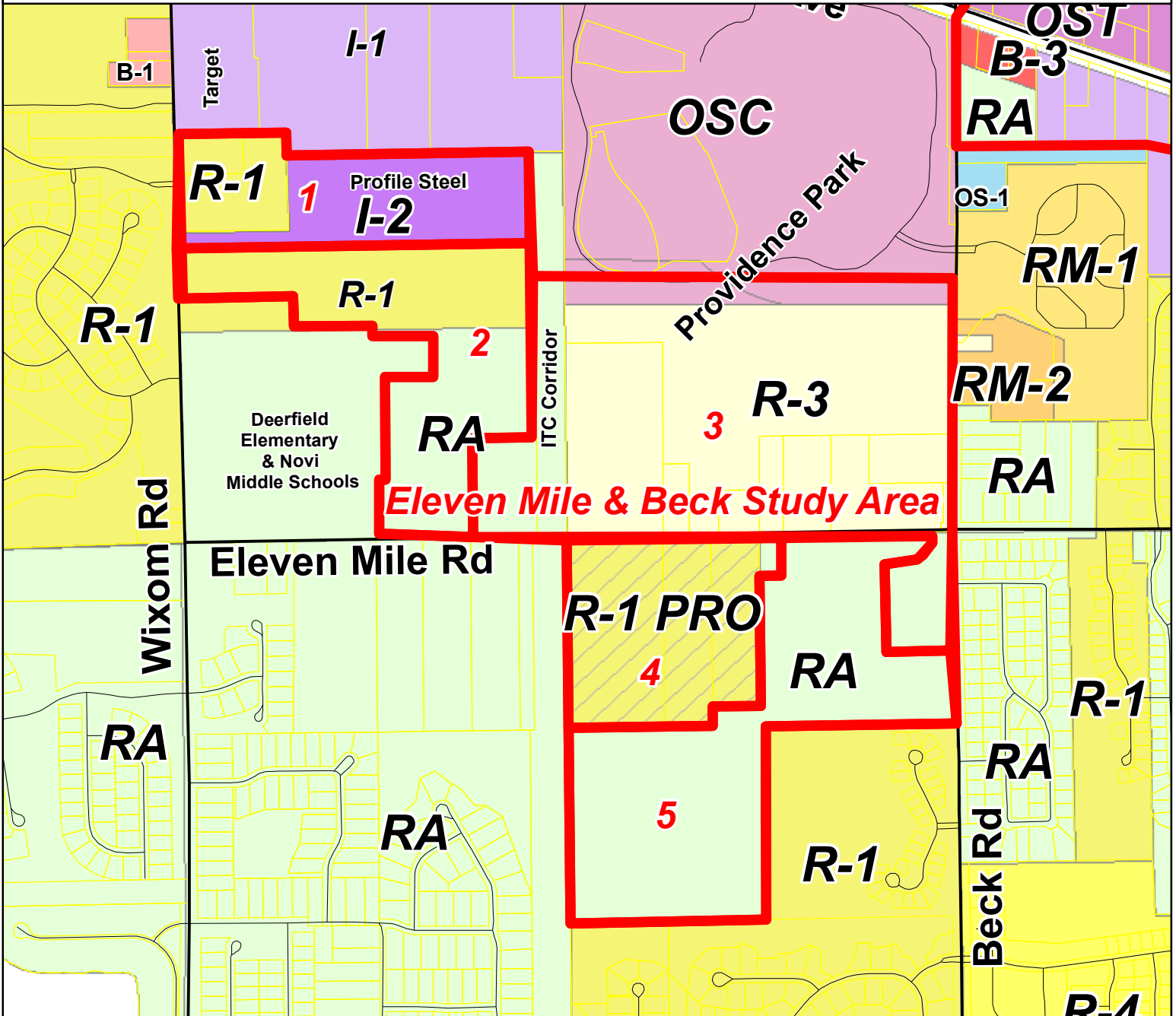
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# Eleven Mile & Beck Study Area Maximum Residential Density 2008



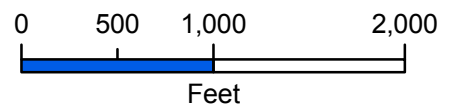
# Eleven Mile & Beck Study Area Zoning Map



Master Plan Review Study Areas	R-2: One-Family Residential District	B-1: Local Business	OS-2: Planned Office Service District
<b>Zoning</b>	R-3: One-Family Residential District	B-3: General Business	OSC: Office Service Commercial
R-A: Residential Acreage	R-4: One-Family Residential District	I-1: Light Industrial District	OST
R-1: One-Family Residential District	RM-1: Low-Density Multiple Family	I-2: General Industrial District	TC-1: Town Center -1 District
R-1 PRO: R-1 With Planned Rezone Overlay (PRO)	RM-2: High-Density Multiple Family	OS-1: Office Service District	

## CITY OF NOVI 2009 MASTER PLAN REVIEW

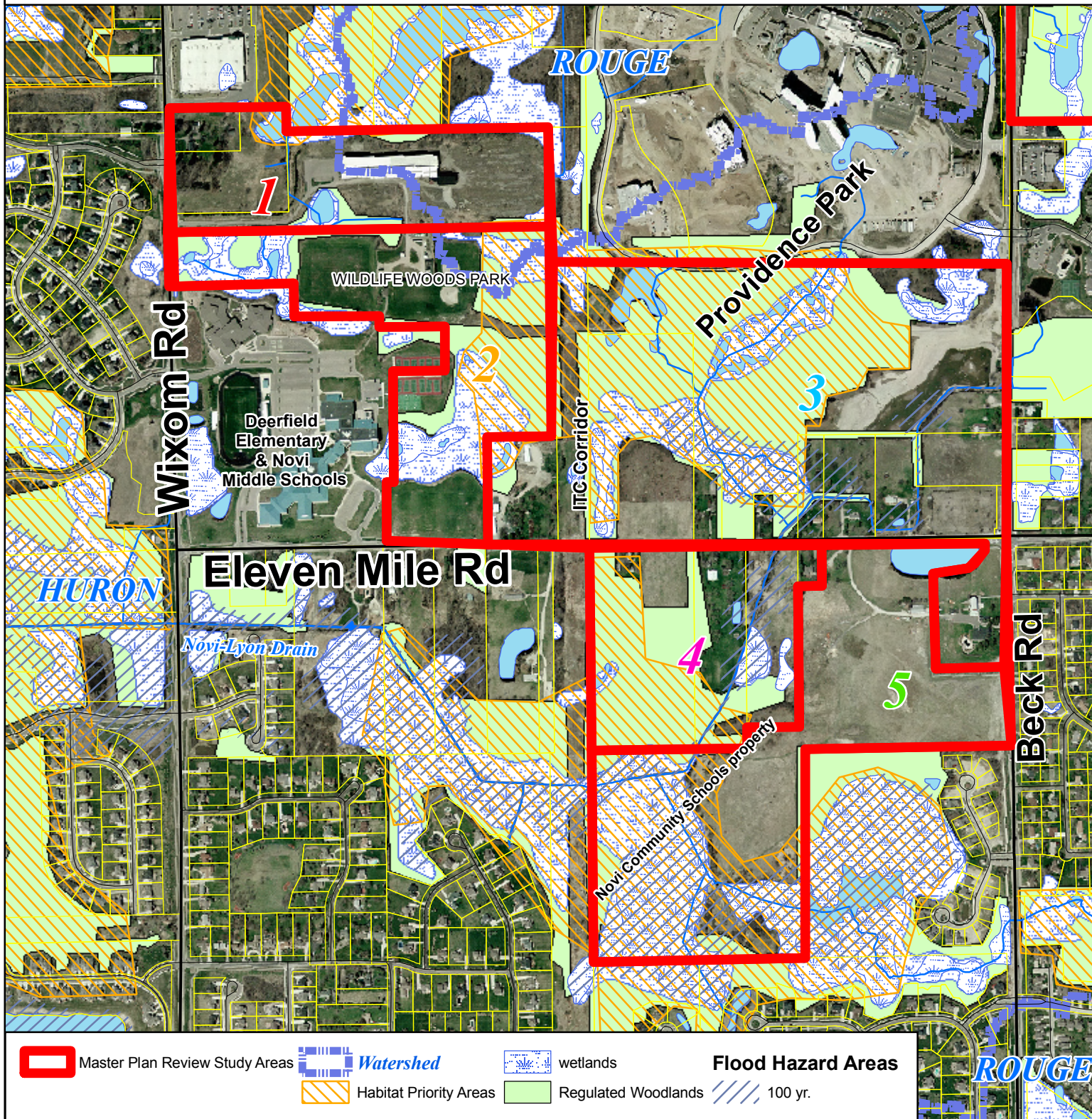
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# Eleven Mile & Beck Study Area Watersheds, Wetlands, Regulated Woodlands, Floodplains & Priority Habitat Areas

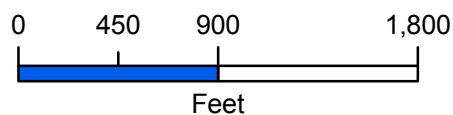
Map 15

page 30  
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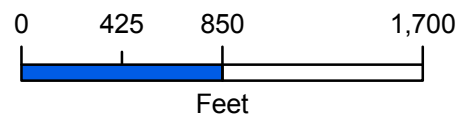
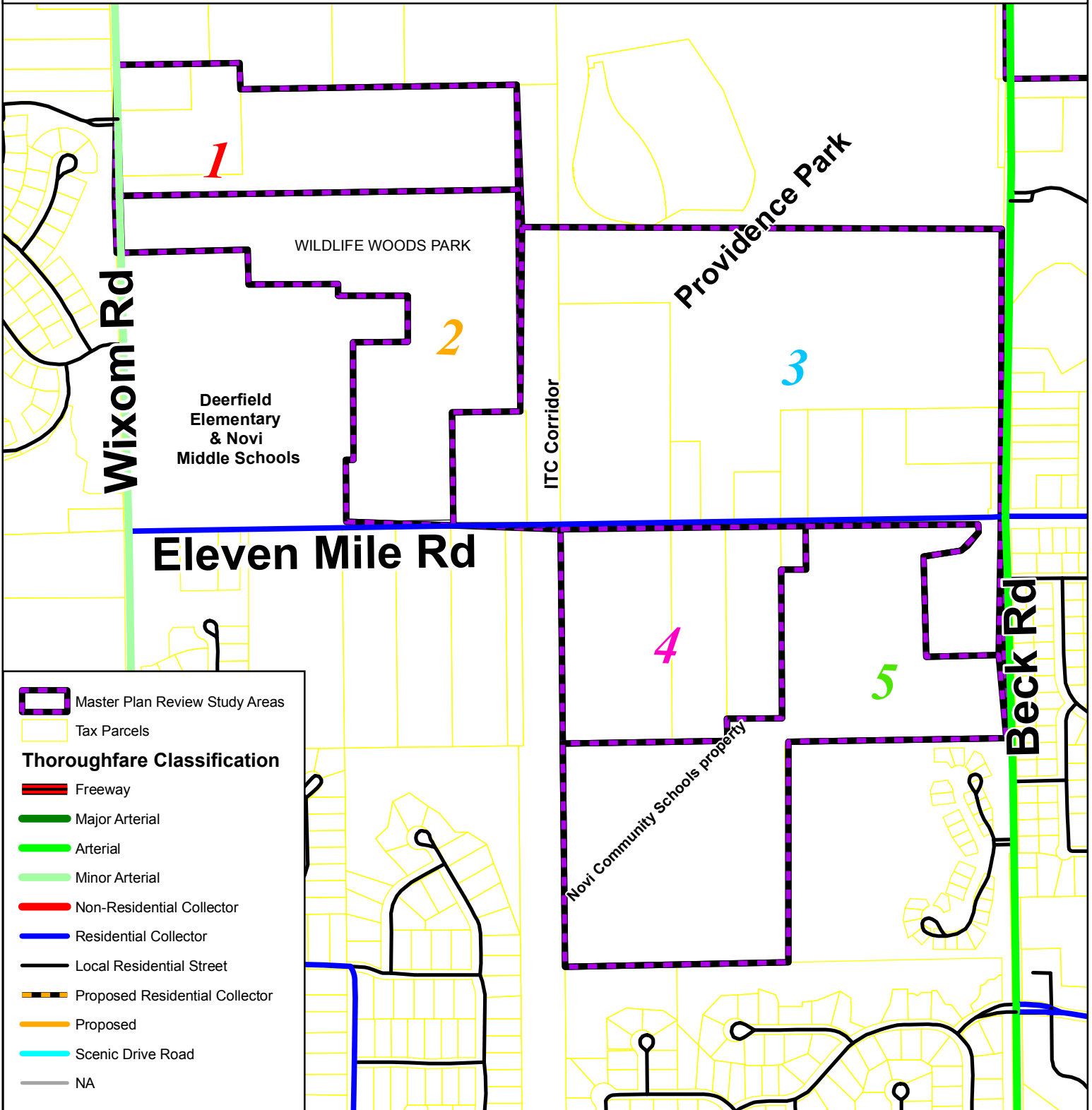


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2009 MASTER PLAN REVIEW**

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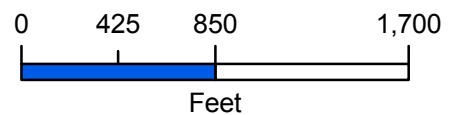
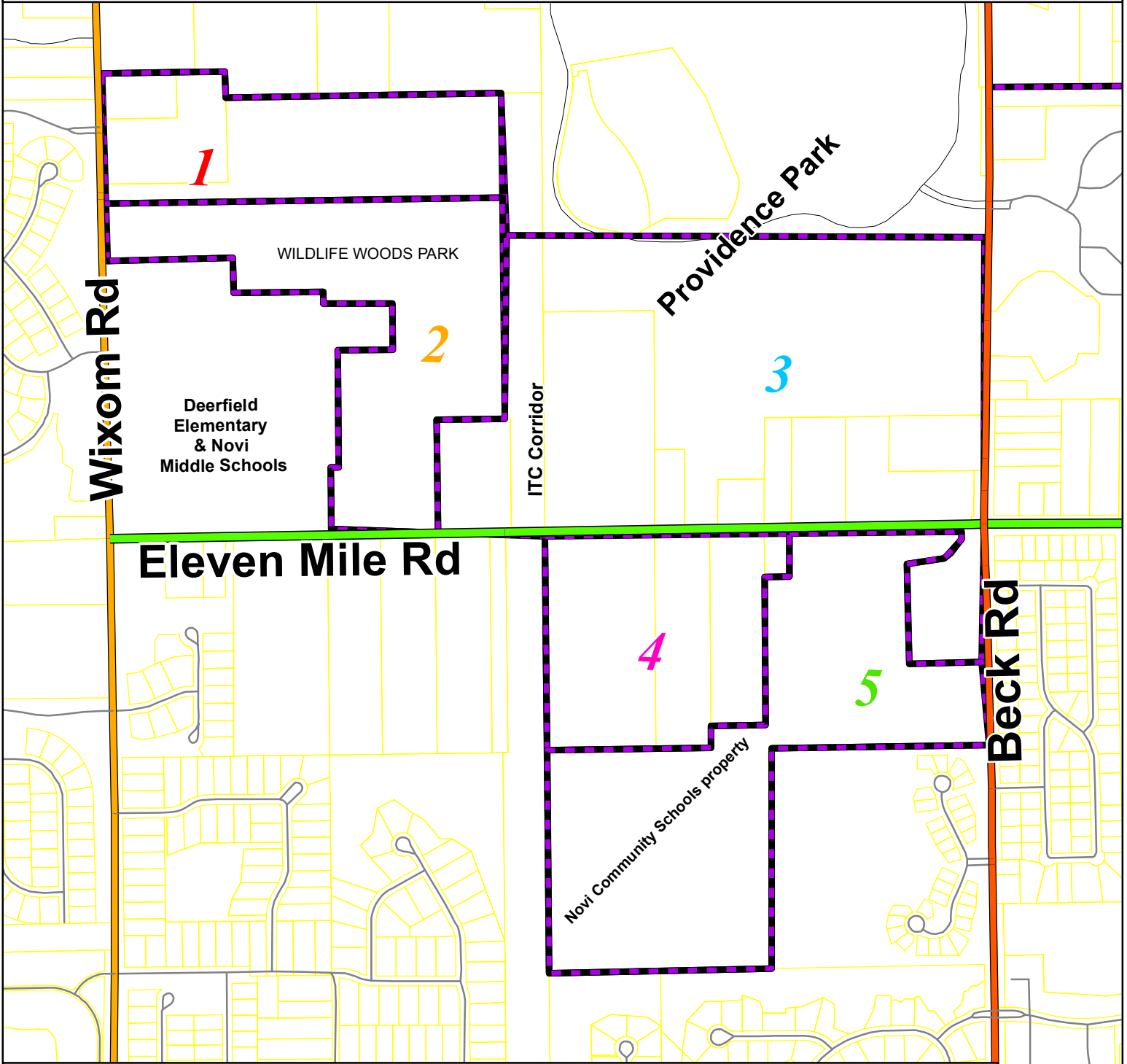


# Eleven Mile & Beck Study Area Thoroughfare Classifications

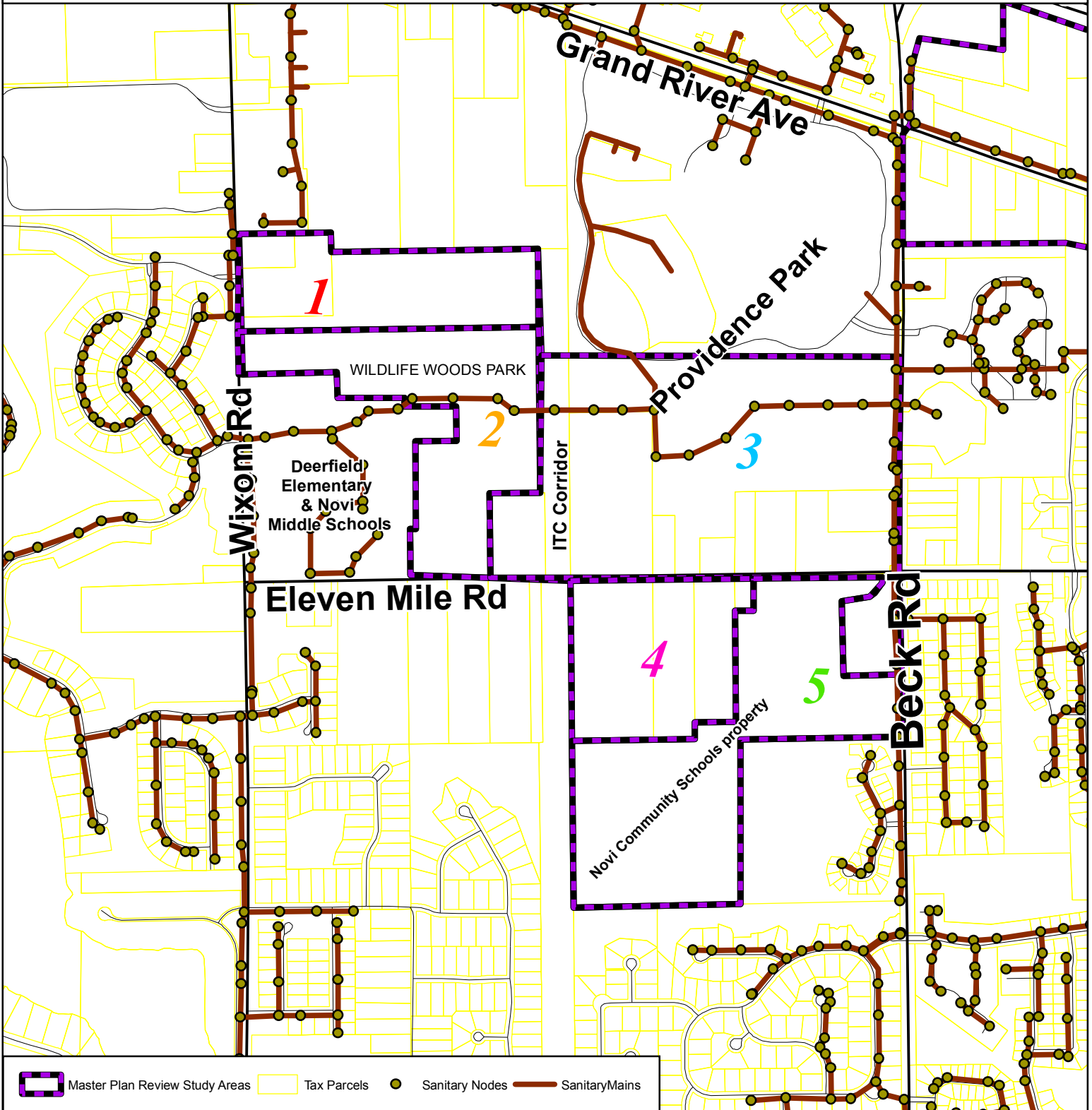




# Eleven Mile & Beck Study Area Speed Limit

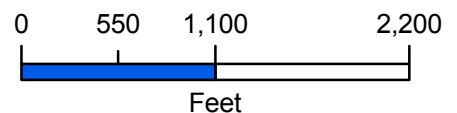


# Eleven Mile & Beck Study Area Sanitary Sewer System

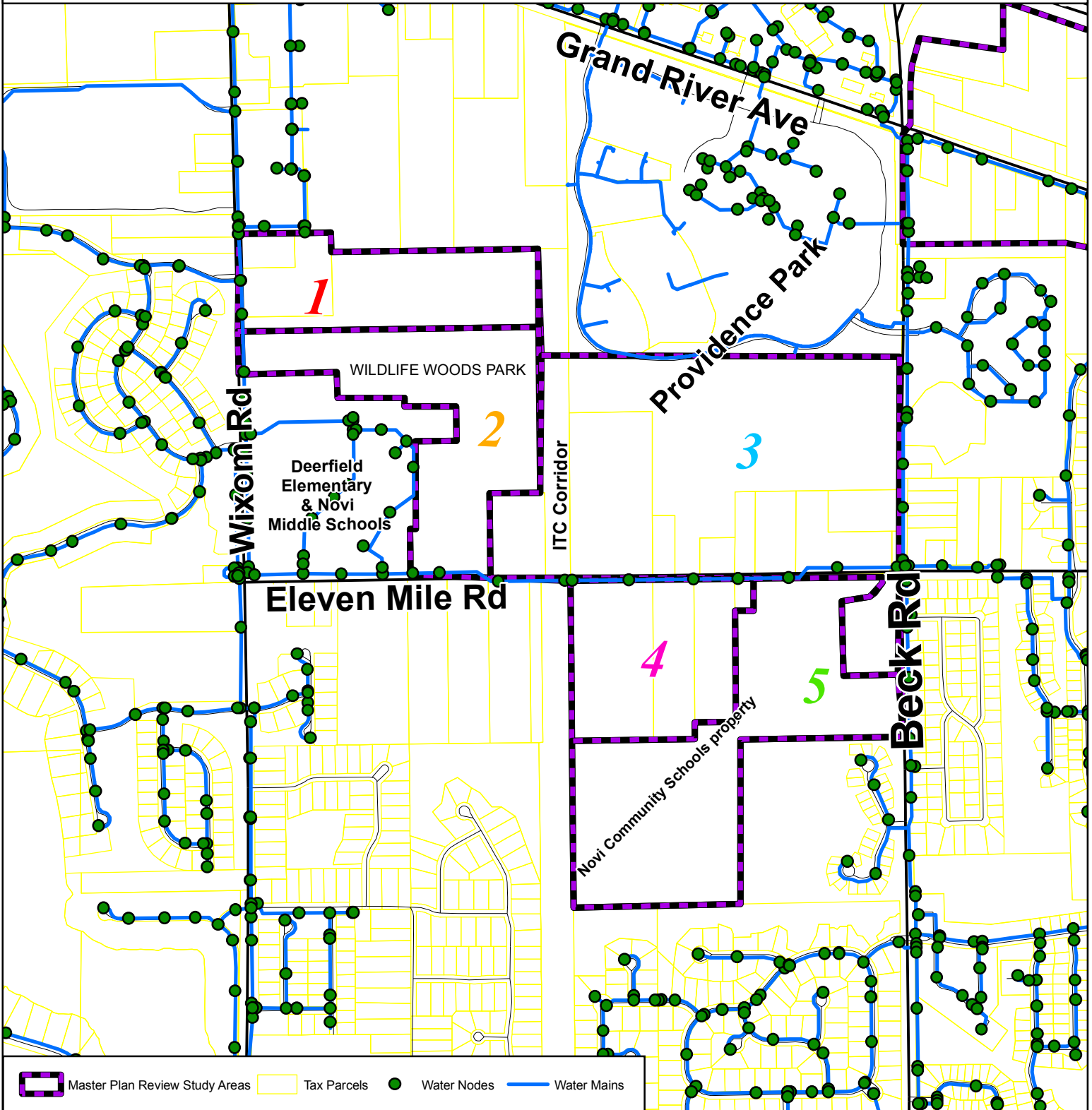


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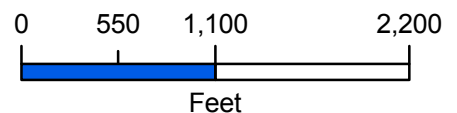


# Eleven Mile & Beck Study Area Water System

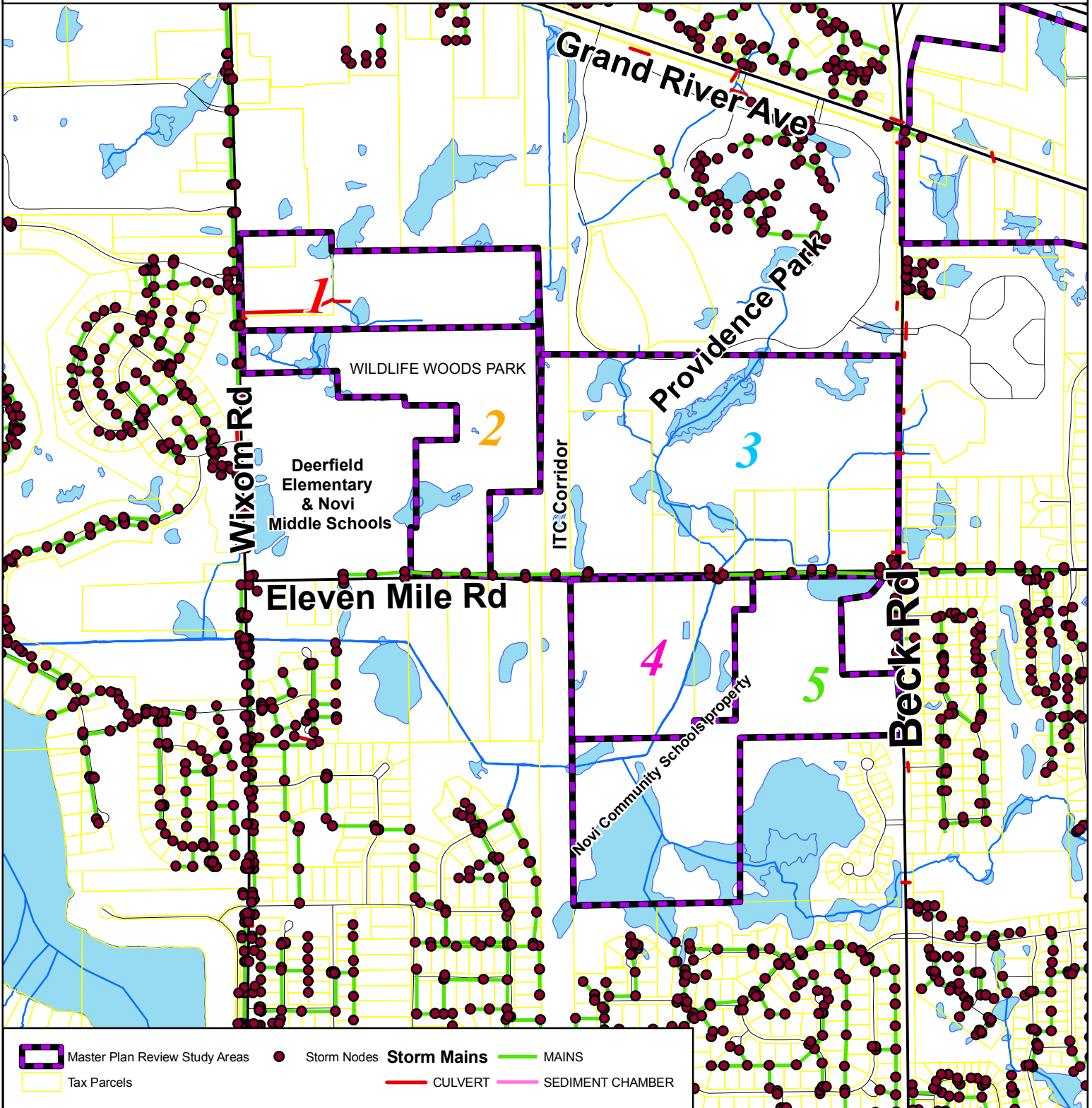


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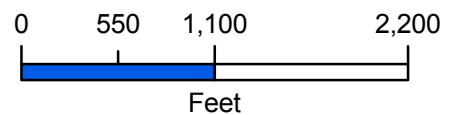


# Eleven Mile & Beck Study Area Storm Sewer System

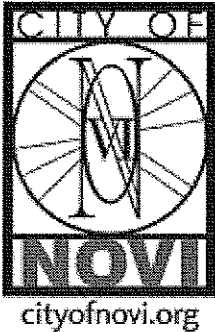


**CITY OF NOVI**  
**2009 MASTER PLAN REVIEW**

CREATED: 5/12/09



# 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

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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.

### **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. The 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.

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 interconnected 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.

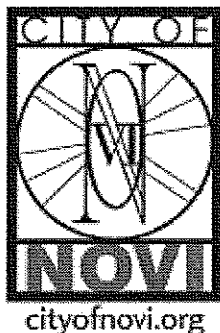
### **Oakland County Priority Green River Corridors**

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.

## 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:

<i>CHANGE IN UTILITY DEMAND</i>			
Existing Zoning or Master Planned Zoning	Proposed Zoning		
	OFFICE	RM-1	CONV. HOME
RT	-42%	19%	67%
RA	250%	613%	900%
OSC	0%	104%	186%
R-3	4%	111%	196%
R-1	70%	245%	385%

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.



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.

**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

**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.

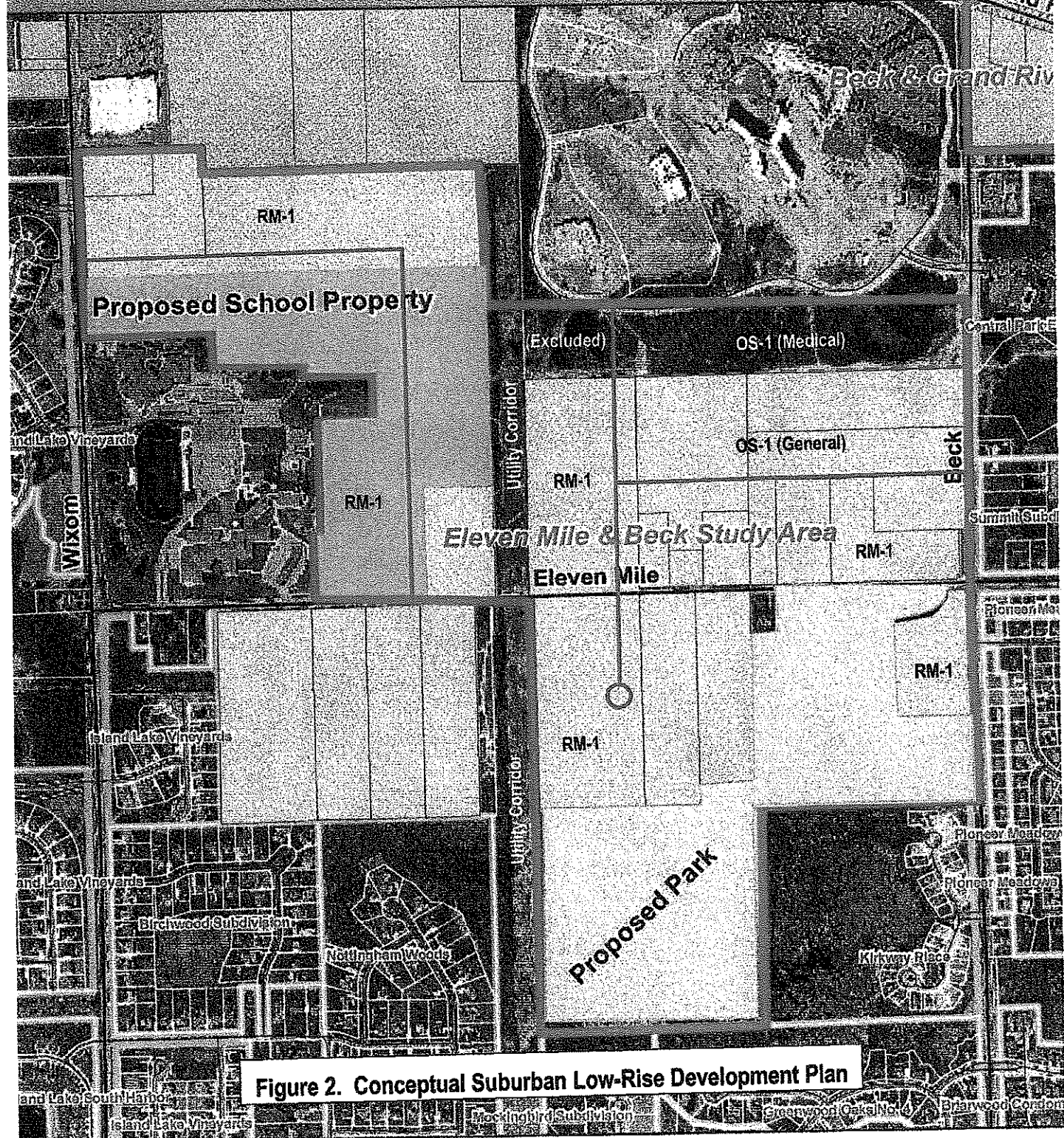
To forecast trip generation for use within the discussion of broad traffic issues, Bircher Arroyo Associates considered it appropriate to formulate a conceptual mixed-use Suburban Low-Rise development plan (Figure 2, below). The medium-weight red lines represent potential collector roads separating the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



**Figure 1. Beck-11 Mile Study Area and Beck/I-96 Interchange**



# CITY OF NOVI 2009 MASTER PLAN REVIEW STUDY AREA Eleven Mile & Beck Study Area



**Figure 2. Conceptual Suburban Low-Rise Development Plan**

Master Plan Review Study Area
  Potential Commercial Development Parcels
  Potential Residential Development Parcels



**CITY OF NOVI**  
 PLANNING DIVISION  
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## Trip Generation Comparison

Trip rates, trip equations, and related methodology recommended by the Institute of Transportation Engineers (in *Trip Generation – 8<sup>th</sup> Edition, 2008*, and *Trip Generation Handbook – 2<sup>nd</sup> 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 1. Relative Trip Generation of Representative Land Use Types**

Land Use Type	Trips / Day / Acre
Medical Office	315
General Office	111
Apartments / Condos	52
Single-Family @ R-3 density	17

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 2. Daily Trip Generation by Sub-Area<sup>1</sup>**

Wixom Rd	Beck Rd
<u>Northwest</u>  SLR = 4,185 EMP = 1,592 Ratio = 2.63	<u>Northeast</u>  SLR = 11,752 EMP = 7,285 Ratio = 1.61
	<u>Southeast</u>  SLR = 2,298 EMP = 966 Ratio = 2.38

<sup>1</sup> 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 3. Trip Generation Comparison of Mixed-Use Development Scenarios**

Sub-Area	Development Scenario	Assumed Use(s)	Acreage	Units	Weekday	Weekday AM Peak Hour			Weekday PM Peak Hour		
						In	Out	Total	In	Out	Total
Southeast	Suburban Low-Rise	Park	73.9	1 ea	168	27	11	38	15	29	44
		Apartments	45.6	166 du	1130	17	68	85	71	38	109
		Condominiums		166 du	1000	13	64	77	61	30	91
		All	119.5		2298	57	143	200	147	97	244
		Existing Master Plan									
	Suburban Low-Rise	Park	73.9	1 ea	168	27	11	38	15	29	44
		Single-Family	45.6	75 du	798	15	47	62	51	30	81
		Both	119.5		966	42	58	100	66	59	125
		Apartments		353 du	2263	35	142	177	138	74	212
		Condominiums		352 du	1922	24	117	141	113	56	169
Northwest	Suburban Low-Rise	Both	96.7	705 du	4185	59	259	318	251	130	381
		2-Family (condos)	37.6	180 du	1073	14	69	83	65	32	97
		Single-Family	59.1	47 du	519	11	32	43	33	20	53
		Both	96.7	227 du	1592	25	101	126	98	52	150
		Existing Master Plan									
	Suburban Low-Rise	Medical Office	19.0	165,500 sf	5980	301	80	381	155	418	573
		General Office	29.5	321,250 sf	3277	420	57	477	75	364	439
		Apartments	48.2	199 du	1330	20	81	101	83	44	127
		Condominiums		198 du	1165	15	74	89	70	35	105
		All	96.7		11752	756	292	1048	383	861	1244
Existing	Medical Office	19.0	165,500 sf	5980	301	80	381	155	418	573	
	Single-Family	77.7	128 du	1305	25	74	99	83	48	131	
	Both	96.7		7285	326	154	480	238	466	704	
Overall Study Area	Sub Low-Rise	As Above	312.9		18235	872	694	1566	781	1088	1869
	Existing				9843	393	313	706	402	577	979

<sup>1</sup> Overall study area divided into three sub-areas based on 1.1 Mile being east-west axis and utility corridor being north-south axis.

<sup>2</sup> Excluding 6.2 acres in NW corner, assumed undevelopable.

## 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.



**Table 4. 2005 Daily Volumes from SEMCOG**

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

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.

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

Count Date(s)	Hour Starting	Approach				Total Entering
		EB	WB	NB	SB	
5/20/04 <sup>1</sup>	7:00 am	259	167	805	410	1641
	8:00 am	136	91	680	401	1308
	4:00 pm	126	161	774	729	1790
	5:00 pm	92	165	680	808	1745
5/16-17/06 <sup>2</sup>	7:00 am	405	202	1032	669	2308
	8:00 am	207	155	941	709	2012
	4:00 pm	131	357	1137	923	2548
	5:00 pm	178	307	1021	985	2491
	<b>Avg. Day</b>	<b>1912</b>	<b>2836</b>	<b>12252</b>	<b>10964</b>	<b>27964</b>
	06:04 am	1.56	1.21	1.28	1.63	1.41
	06:04 pm	1.04	2.22	1.47	1.27	1.42
3/24-25/09 <sup>2</sup>	7:00 am	234	163	942	465	1804
	8:00 am	114	111	875	492	1592
	4:00 pm	139	117	723	794	1773
	5:00 pm	104	198	870	1017	2189
	<b>Avg. Day</b>	<b>1417</b>	<b>1811</b>	<b>9809</b>	<b>8952</b>	<b>21989</b>
	09:06	0.74	0.64	0.60	0.82	0.79
	09:06 am	0.58	0.81	0.91	0.70	0.78
	09:06 pm <sup>3</sup>	0.79	0.55	0.77	1.10	0.86
	09:04 am	0.90	0.98	1.17	1.13	1.10
	09:04 pm <sup>3</sup>	1.13	1.20	1.28	1.26	1.25

<sup>1</sup> For a Thursday, from *Providence Hospital Master Plan Traffic Impact Study*, prepared by Tetra Tech MPS, August 2004.

<sup>2</sup> Average of Tuesday and Wednesday, from SCATS/Fast-Trac signal system, courtesy of Road Commission for Oakland County.

<sup>3</sup> 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**

Count Date(s)	Hour Starting	Approach				Total Entering
		EB	WB	NB	SB	
3/24-25/09 <sup>1</sup>	7:00 am	31	66	856	448	1401
	8:00 am	44	96	829	459	1428
	4:00 pm	138	30	645	689	1502
	5:00 pm	129	33	686	789	1637
	<b>Avg. Day</b>	<b>1390</b>	<b>578</b>	<b>9203</b>	<b>8436</b>	<b>19607</b>

<sup>1</sup> 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<sup>1</sup>**

Wixom Rd	Beck Rd
<u>Northwest</u>	
SLR = 20,000 EMP = 18,500	
11 Mile Rd	<u>Beck @ 11 Mile</u>
SLR = 14,600 EMP = 13,500	SLR = 27,200 EMP = 23,700

<sup>1</sup> 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.

**APPENDIX A:**  
**TRIP GENERATION**

**Table A-1. Simplified Trip Generation Comparison<sup>1</sup>**

Land Use	ITE Code	Size	Weekday Trips	AM Peak-Hour Trips			PM Peak-Hour Trips		
				In	Out	Total	In	Out	Total
<b>Suburban Low-Rise with Park and Office Development Only</b>									
Park	412	73.9 acres	168	27	11	38	15	29	44
Medical Office	720	165,500 sf	5,980	301	80	381	155	418	573
Office (R&D) <sup>2</sup>	760	2,395,800 sf	19,430	2,426	497	2,923	385	2,179	2,564
<b>Totals</b>			<b>25,578</b>	<b>2,754</b>	<b>588</b>	<b>3,342</b>	<b>555</b>	<b>2,626</b>	<b>3,181</b>
<b>Suburban Low-Rise with Park and Multi-Family Housing Only</b>									
Park	412	73.9 acres	168	27	11	38	15	29	44
Apartments	220	872 du	5,408	86	345	431	323	174	497
Condominiums	230	872 du	4,233	50	242	292	238	117	355
<b>Totals</b>			<b>9,809</b>	<b>163</b>	<b>598</b>	<b>761</b>	<b>576</b>	<b>320</b>	<b>896</b>
<b>Existing Master Plan</b>									
Educ. Facility (assumed Park <sup>3</sup> )	412	73.9 acres	168	27	11	38	15	29	44
Office (assumed Medical)	720	165,500 sf	5,980	301	80	381	155	418	573
2-Family (condos)	230	180 du	1,073	14	69	83	65	32	97
Single-Family <sup>4</sup>	210	250 du	2,622	51	153	204	167	98	265
<b>Totals</b>			<b>9,843</b>	<b>393</b>	<b>313</b>	<b>706</b>	<b>402</b>	<b>577</b>	<b>979</b>

<sup>1</sup> With all 312.9 acres developed as indicated. Unlike Table 3, the Suburban Low-Rise scenario assumed here does not mix office and residential uses. A "trip" is a one-directional vehicle movement into or out of the site. Trips generated by specific uses (identified by ITE code number) have been forecasted using rates found in *Trip Generation – 7<sup>th</sup> Edition* (Institute of Transportation Engineers, 2003).

<sup>2</sup> Average trip rate assumed, since total floor area is well in excess of ITE-plotted data.

<sup>3</sup> Traditional educational uses (i.e., schools) already exist nearby.

<sup>4</sup> Total single-family trips shown here are from adding trips from three sub-areas given in Table 3.

**APPENDIX B:**  
**TRAFFIC COUNTS**

**FROM SEMCOG**

**Table A-1. Available Daily Traffic Volumes for Beck Road  
(from SEMCOG Website)**

**Traffic Counts**

**Beck in Novi**

[New search](#)

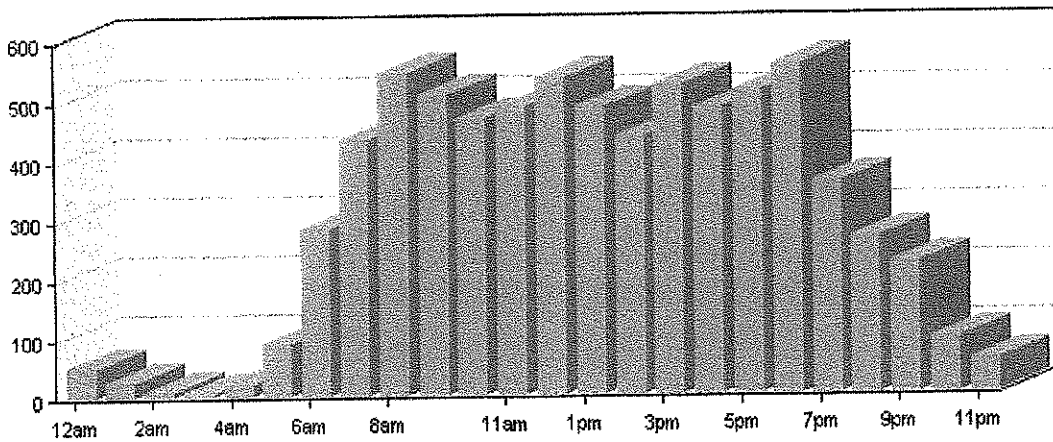
[Download search results](#) 

<b>Count ID</b>	<b>Road Name</b>	<b>Dir.</b>	<b>Count Limits</b>	<b>Community</b>	<b>Date</b>	<b>24 Hr. Count</b>
<a href="#">74048</a>	Beck	NB	8 Mile to 9 Mile	Novi	5/3/2006	10,293
<a href="#">74047</a>	Beck	NB	8 Mile to 9 Mile	Novi	5/2/2006	10,170
<a href="#">22499</a>	Beck	NB	8 Mile to 9 Mile	Novi	5/24/2000	8,936
<a href="#">74046</a>	Beck	SB	8 Mile to 9 Mile	Novi	5/3/2006	9,876
<a href="#">74045</a>	Beck	SB	8 Mile to 9 Mile	Novi	5/2/2006	9,356
<a href="#">22498</a>	Beck	SB	8 Mile to 9 Mile	Novi	5/24/2000	8,538
<a href="#">31843</a>	Beck	2-WAY	Grand River Avenue to 12 Mile	Novi	5/11/2004	21,855
<a href="#">29504</a>	Beck	2-WAY	Grand River Avenue to 12 Mile	Novi	6/12/2000	20,842
<a href="#">28278</a>	Beck	2-WAY	Grand River Avenue to 12 Mile	Novi	9/3/1998	14,129
<a href="#">33692</a>	Beck	SB	North Of 10 Mile	Novi	6/20/2005	5,686
<a href="#">33710</a>	Beck	SB	North Of Eight Mile	Novi	6/23/2005	9,442
<a href="#">63206</a>	Beck	SB	North Of Grand River	Novi	8/17/2006	13,991
<a href="#">33690</a>	Beck	NB	South Of 10 Mile	Novi	6/20/2005	10,571
<a href="#">33663</a>	Beck	NB	South Of Grand River	Novi	6/16/2005	7,479
<a href="#">32774</a>	Beck	NB	South Of Pontiac Trail	Novi	9/15/2004	6,853



**Table A-2. Volumes on Northbound Beck South of Grand River**

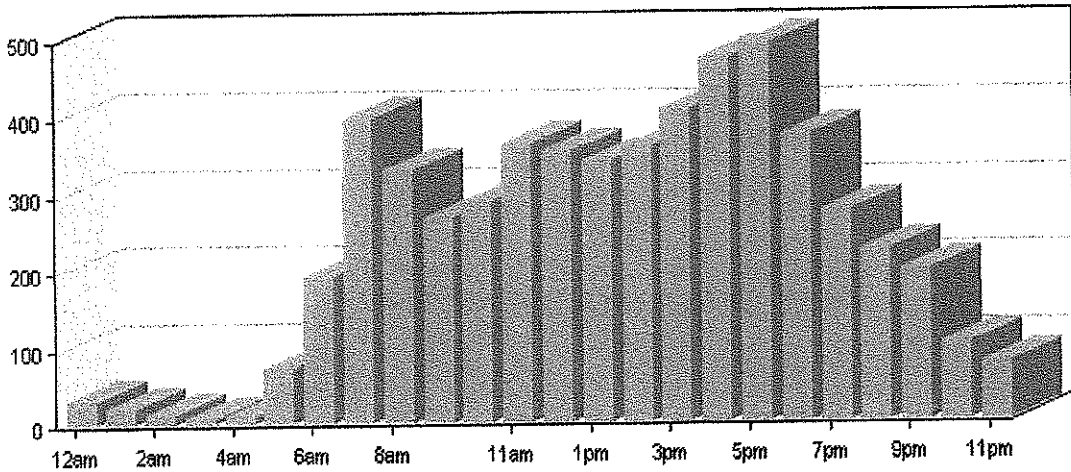
**Count Limits :** South Of Grand River  
**Type of Count :** Intersection  
**Date of Count :** 6/16/2005 to 6/17/2005  
**Day of Week :** Thursday  
**County :** Oakland  
**Community :** Novi  
**PR Number :** 656605  
**From Mile Point :** 3.178  
**To Mile Point :** 3.680  
**24 Hour Count :** 7,479



Hour	Count	Hour	Count	Hour	Count
12 am - 1 am	52	8 am - 9 am	545	4 pm - 5 pm	483
1 am - 2 am	25	9 am - 10 am	508	5 pm - 6 pm	515
2 am - 3 am	10	10 am - 11 am	469	6 pm - 7 pm	557
3 am - 4 am	7	11 am - 12 pm	488	7 pm - 8 pm	359
4 am - 5 am	22	12 pm - 1 pm	535	8 pm - 9 pm	267
5 am - 6 am	92	1 pm - 2 pm	486	9 pm - 10 pm	223
6 am - 7 am	285	2 pm - 3 pm	438	10 pm - 11 pm	95
7 am - 8 am	435	3 pm - 4 pm	524	11 pm - 12 am	59

**Table A-3. Volumes on Southbound Beck North of 10 Mile**

**Count Limits :** North Of 10 Mile  
**Type of Count :** Intersection  
**Date of Count :** 6/20/2005 to 6/21/2005  
**Day of Week :** Monday  
**County :** Oakland  
**Community :** Novi  
**PR Number :** 656605  
**From Mile Point :** 2.004  
**To Mile Point :** 2.201  
**24 Hour Count :** 5,686




Hour	Count	Hour	Count	Hour	Count
12 am - 1 am	32	8 am - 9 am	331	4 pm - 5 pm	476
1 am - 2 am	22	9 am - 10 am	267	5 pm - 6 pm	494
2 am - 3 am	13	10 am - 11 am	288	6 pm - 7 pm	375
3 am - 4 am	9	11 am - 12 pm	364	7 pm - 8 pm	275
4 am - 5 am	12	12 pm - 1 pm	354	8 pm - 9 pm	224
5 am - 6 am	74	1 pm - 2 pm	341	9 pm - 10 pm	198
6 am - 7 am	194	2 pm - 3 pm	358	10 pm - 11 pm	103
7 am - 8 am	398	3 pm - 4 pm	408	11 pm - 12 am	76

**Table A-4. Available Daily Traffic Volumes for Wixom Road  
(from SEMCOG Website)**

**Traffic Counts**

**Wixom in Novi**

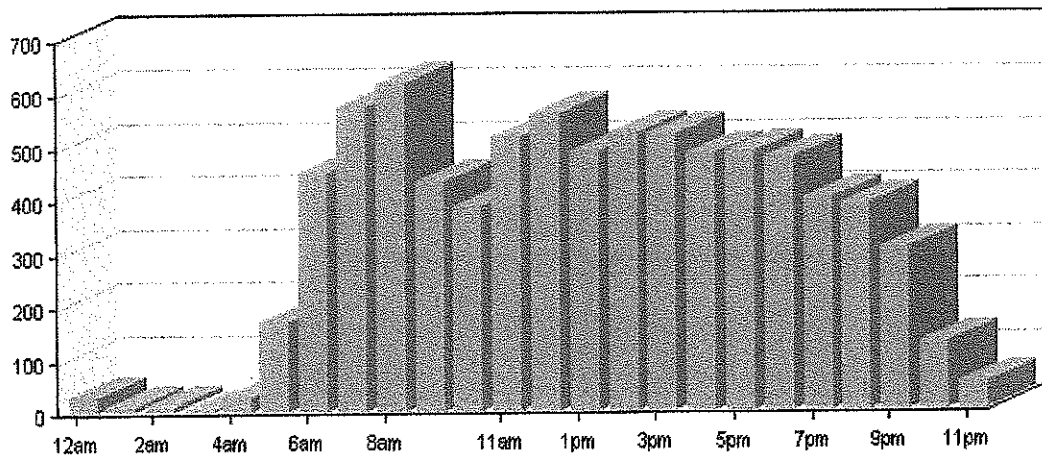
[New search](#)

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<b>Count ID</b>	<b>Road Name</b>	<b>Dir.</b>	<b>Count Limits</b>	<b>Community</b>	<b>Date</b>	<b>24 Hr. Count</b>
<a href="#">33671</a>	Wixom	SB	North Of 10 Mile	Novi	6/21/2005	5,965
<a href="#">33703</a>	Wixom	NB	South Of Grand River	Novi	6/22/2005	8,075

**Table A-5. Volumes on Northbound Wixom South of Grand River**

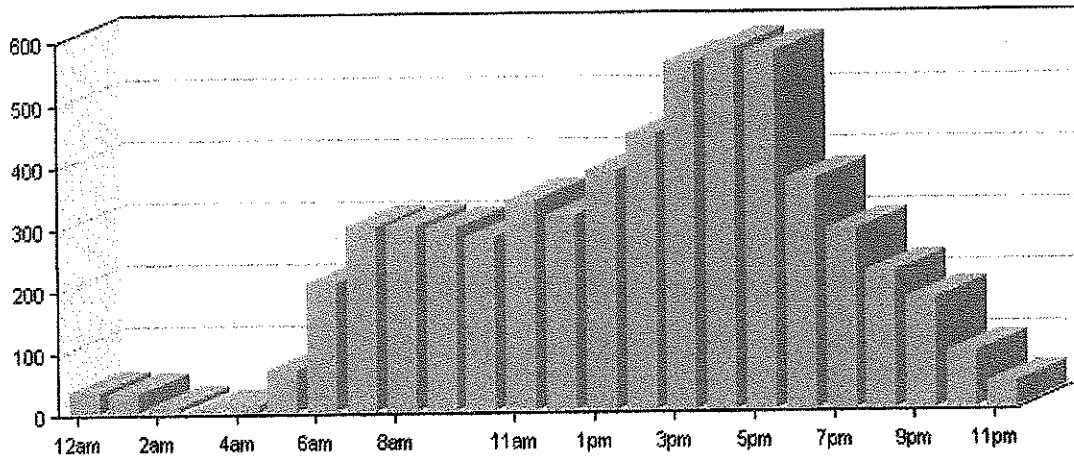
**Count Limits :** South Of Grand River  
**Type of Count :** Intersection  
**Date of Count :** 6/22/2005 to 6/23/2005  
**Day of Week :** Wednesday  
**County :** Oakland  
**Community :** Novi, Wixom  
**PR Number :** 639101  
**From Mile Point :** 2.246  
**To Mile Point :** 2.284  
**24 Hour Count :** 8,075



Hour	Count	Hour	Count	Hour	Count
12 am - 1 am	31	8 am - 9 am	618	4 pm - 5 pm	496
1 am - 2 am	14	9 am - 10 am	434	5 pm - 6 pm	489
2 am - 3 am	11	10 am - 11 am	388	6 pm - 7 pm	476
3 am - 4 am	7	11 am - 12 pm	517	7 pm - 8 pm	402
4 am - 5 am	31	12 pm - 1 pm	560	8 pm - 9 pm	389
5 am - 6 am	173	1 pm - 2 pm	489	9 pm - 10 pm	305
6 am - 7 am	452	2 pm - 3 pm	524	10 pm - 11 pm	129

**Table A-6. Volumes on Southbound Wixom North of 10 Mile**

**Count Limits :** North Of 10 Mile  
**Type of Count :** Intersection  
**Date of Count :** 6/21/2005 to 6/22/2005  
**Day of Week :** Tuesday  
**County :** Oakland  
**Community :** Novi  
**PR Number :** 4413401  
**From Mile Point :** 0.000  
**To Mile Point :** 0.168  
**24 Hour Count :** 5,965



Hour	Count	Hour	Count	Hour	Count
12 am - 1 am	35	8 am - 9 am	300	4 pm - 5 pm	584
1 am - 2 am	32	9 am - 10 am	298	5 pm - 6 pm	576
2 am - 3 am	10	10 am - 11 am	280	6 pm - 7 pm	372
3 am - 4 am	5	11 am - 12 pm	339	7 pm - 8 pm	292
4 am - 5 am	14	12 pm - 1 pm	316	8 pm - 9 pm	222
5 am - 6 am	70	1 pm - 2 pm	387	9 pm - 10 pm	180
6 am - 7 am	211	2 pm - 3 pm	447	10 pm - 11 pm	93
7 am - 8 am	300	3 pm - 4 pm	561	11 pm - 12 am	41

**FROM PROVIDENCE HOSPITAL TRAFFIC STUDY**

Tetra Tech MPS  
 26600 Telegraph Road, Ste. 400  
 Southfield, MI 48034  
 248.223.9100

NBBJ  
 Novi, MI  
 11 Mile & Beck Rd  
 P2063003T.13

File Name : Beck&11MileComb5-20-04  
 Site Code : 00000000  
 Start Date : 05/20/2004 (Thur.)  
 Page No : 1

Groups Printed- Unshifted

Start Time	BECK RD Southbound					ELEVEN MILE RD Westbound					BECK RD Northbound					ELEVEN MILE RD Eastbound					Int. Total
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	8	60	6	0	74	5	10	7	0	22	13	130	12	0	155	10	22	5	0	37	288
07:15 AM	6	74	5	0	85	12	30	5	0	47	29	160	23	4	216	6	38	7	1	52	400
07:30 AM	8	96	6	0	110	13	44	9	0	66	23	150	47	3	223	32	59	10	0	101	500
07:45 AM	3	128	10	0	141	8	17	7	0	32	18	185	15	6	224	17	46	7	2	72	469
Total	25	358	27	0	410	38	101	28	0	167	63	625	97	13	818	65	165	29	3	262	1657
08:00 AM	0	48	9	0	57	8	6	3	0	17	24	158	8	7	197	10	28	12	2	50	321
08:15 AM	4	104	7	0	115	11	8	4	0	23	13	148	5	8	172	10	14	8	3	35	345
08:30 AM	4	90	9	0	103	10	9	5	0	24	16	128	6	9	159	4	15	6	2	27	313
08:45 AM	2	112	12	0	126	9	13	5	0	27	22	136	18	9	185	2	24	5	0	31	369
Total	10	354	37	0	401	38	36	17	0	91	75	588	37	33	713	26	79	31	7	143	1348
04:00 PM	8	140	11	0	157	13	19	20	0	52	12	192	14	18	236	10	18	0	0	28	473
04:15 PM	17	164	13	0	194	4	20	16	0	40	17	156	22	11	206	15	21	1	2	39	479
04:30 PM	11	159	18	0	188	7	16	14	0	37	10	161	19	5	195	16	9	6	0	31	451
04:45 PM	8	171	11	0	190	5	15	12	0	32	9	153	9	4	175	20	10	0	0	30	427
Total	42	634	53	0	729	29	70	62	0	161	48	662	64	38	812	61	58	7	2	128	1830
05:00 PM	6	190	11	0	207	3	24	14	0	41	11	130	16	7	164	5	12	0	0	17	429
05:15 PM	12	195	16	0	223	6	21	7	0	34	9	122	17	11	159	4	15	3	0	22	436
05:30 PM	11	175	18	0	204	10	19	13	0	42	14	164	26	10	214	17	11	1	0	29	489
05:45 PM	9	145	20	0	174	10	18	20	0	48	18	146	7	6	177	11	11	2	0	24	423
Total	38	705	65	0	808	29	82	54	0	165	52	562	66	34	714	37	49	6	0	92	1779
Grand Total	115	205	182	0	2348	134	289	161	0	584	258	2417	294	118	3057	189	351	73	12	625	6614
Approch %	4.9	87.4	7.8	0.0		22.9	49.5	27.6	0.0		8.4	79.1	8.6	3.9		30.2	56.2	11.7	1.9		
Total %	1.7	31.0	2.8	0.0	35.5	2.0	4.4	2.4	0.0	8.8	3.9	36.5	4.0	1.8	46.2	2.9	5.3	1.1	0.2	9.4	

Start Time	BECK RD Southbound					ELEVEN MILE RD Westbound					BECK RD Northbound					ELEVEN MILE RD Eastbound					Int. Total
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Intersection																					
07:15 AM																					
Volume	17	346	30	0	393	41	97	24	0	162	94	653	93	20	860	65	169	36	5	275	1690
Percent	4.3	88.0	7.6	0.0		25.3	59.9	14.8	0.0		10.9	75.9	10.8	2.3		23.6	61.5	13.1	1.8		
07:30 AM																					
Volume	8	96	6	0	110	13	44	9	0	66	23	150	47	3	223	32	59	10	0	101	500
Peak Factor																					0.845
07:45 AM																					
High Int. Volume	3	128	10	0	141	13	44	9	0	66	18	185	15	6	224	32	59	10	0	101	
Peak Factor																					0.681
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection																					
04:00 PM																					
Volume	42	634	53	0	729	29	70	62	0	161	48	662	64	38	812	61	58	7	2	128	1830
Percent	5.8	87.0	7.3	0.0		18.0	43.5	38.5	0.0		5.9	81.5	7.9	4.7		47.7	45.3	5.5	1.6		
04:15 PM																					
Volume	17	164	13	0	194	4	20	16	0	40	17	156	22	11	206	15	21	1	2	39	479
Peak Factor																					0.955
04:15 PM																					
High Int. Volume	17	164	13	0	194	13	19	20	0	52	12	192	14	18	236	15	21	1	2	39	
Peak Factor																					0.821

**FROM SCATS/FAST-TRAC SIGNAL SYSTEM**



Beck and 11 Mile Road

Monday, 15 May 2006

approach - detector(s)...

WB 11 Mile	1	3		(Left, Thru/Right)
SB Beck	4	6	7	(Left, Thru, Right)
EB 11 Mile	8	10		(Left, Thru)
NB Beck	11	13	14	(Left, Thru, Right)

Hrs Ending

01:00	WB 11 Mile	4	0	-	4
01:00	SB Beck	7	30	2	39
01:00	EB 11 Mile	0	1	-	1
01:00	NB Beck	1	23	2	26
02:00	WB 11 Mile	4	1	-	5
02:00	SB Beck	5	14	1	20
02:00	EB 11 Mile	0	1	-	1
02:00	NB Beck	0	12	0	12
03:00	WB 11 Mile	0	2	-	2
03:00	SB Beck	4	16	1	21
03:00	EB 11 Mile	1	0	-	1
03:00	NB Beck	0	10	1	11
04:00	WB 11 Mile	10	6	-	16
04:00	SB Beck	1	12	0	13
04:00	EB 11 Mile	0	0	-	0
04:00	NB Beck	4	9	0	13
05:00	WB 11 Mile	0	3	-	3
05:00	SB Beck	1	23	0	24
05:00	EB 11 Mile	0	0	-	0
05:00	NB Beck	0	22	0	22
06:00	WB 11 Mile	5	8	-	13
06:00	SB Beck	4	100	1	105
06:00	EB 11 Mile	2	4	-	6
06:00	NB Beck	5	114	12	131
07:00	WB 11 Mile	34	55	-	89
07:00	SB Beck	33	399	10	442
07:00	EB 11 Mile	42	32	-	74
07:00	NB Beck	42	468	25	535
08:00	WB 11 Mile	49	157	-	206
08:00	SB Beck	75	568	45	688
08:00	EB 11 Mile	116	254	-	370
08:00	NB Beck	170	788	44	1002
09:00	WB 11 Mile	55	123	-	178
09:00	SB Beck	113	555	11	679
09:00	EB 11 Mile	91	143	-	234
09:00	NB Beck	92	778	68	938
10:00	WB 11 Mile	49	144	-	193
10:00	SB Beck	88	394	7	489
10:00	EB 11 Mile	35	63	-	98
10:00	NB Beck	77	580	34	691
11:00	WB 11 Mile	30	72	-	102
11:00	SB Beck	73	396	8	477
11:00	EB 11 Mile	7	39	-	46
11:00	NB Beck	79	517	11	607
12:00	WB 11 Mile	30	67	-	97
12:00	SB Beck	126	408	10	544
12:00	EB 11 Mile	14	34	-	48
12:00	NB Beck	66	523	35	624
13:00	WB 11 Mile	28	147	-	175
13:00	SB Beck	97	434	13	544
13:00	EB 11 Mile	24	50	-	74
13:00	NB Beck	64	498	26	588
14:00	WB 11 Mile	35	107	-	142
14:00	SB Beck	81	431	12	524

						RCOCCO~1	
14:00	EB 11 Mile	13	45	-	58		
14:00	NB Beck	78	543	20	641		
15:00	WB 11 Mile	46	76	-	122		
15:00	SB Beck	111	539	18	668		
15:00	EB 11 Mile	50	103	-	153		
15:00	NB Beck	130	582	36	748		
16:00	WB 11 Mile	53	123	-	176		
16:00	SB Beck	75	617	28	720		
16:00	EB 11 Mile	36	132	-	168		
16:00	NB Beck	91	726	49	866		
17:00	WB 11 Mile	87	162	-	249		
17:00	SB Beck	99	750	29	878		
17:00	EB 11 Mile	34	143	-	177		
17:00	NB Beck	129	735	43	907		
18:00	WB 11 Mile	62	109	-	171		
18:00	SB Beck	113	774	44	931		
18:00	EB 11 Mile	25	63	-	88		
18:00	NB Beck	80	644	22	746		
19:00	WB 11 Mile	53	57	-	110		
19:00	SB Beck	117	569	23	709		
19:00	EB 11 Mile	25	45	-	70		
19:00	NB Beck	68	687	23	778		
20:00	WB 11 Mile	27	44	-	71		
20:00	SB Beck	70	453	16	539		
20:00	EB 11 Mile	7	27	-	34		
20:00	NB Beck	31	384	19	434		
21:00	WB 11 Mile	35	36	-	71		
21:00	SB Beck	92	349	12	453		
21:00	EB 11 Mile	9	35	-	44		
21:00	NB Beck	25	247	19	291		
22:00	WB 11 Mile	12	20	-	32		
22:00	SB Beck	51	267	6	324		
22:00	EB 11 Mile	1	8	-	9		
22:00	NB Beck	25	173	6	204		
23:00	WB 11 Mile	19	7	-	26		
23:00	SB Beck	13	160	7	180		
23:00	EB 11 Mile	2	3	-	5		
23:00	NB Beck	2	125	7	134		
24:00	WB 11 Mile	6	3	-	9		
24:00	SB Beck	20	80	0	100		
24:00	EB 11 Mile	0	4	-	4		
24:00	NB Beck	2	63	6	71		

WB 11 Mile 2262	AM peak	236	08:25 - 09:25	PM peak	279	15:50 - 16:50	Daily Total
SB Beck 10111	AM peak	742	07:35 - 08:35	PM peak	993	16:45 - 17:45	Daily Total
EB 11 Mile 1763	AM peak	405	07:20 - 08:20	PM peak	226	15:40 - 16:40	Daily Total
NB Beck 11020	AM peak	1005	07:05 - 08:05	PM peak	968	15:25 - 16:25	Daily Total

On Tuesday, 16 May 2006

WB 11 Mile	1	3	
SB Beck	4	6	7
EB 11 Mile	8	10	
NB Beck	11	13	14

01:00	WB 11 Mile	2	0	-	2
01:00	SB Beck	4	39	1	44
01:00	EB 11 Mile	2	3	-	5
01:00	NB Beck	0	26	3	29
02:00	WB 11 Mile	2	1	-	3

RCOCCO~1						
02:00		SB Beck	6	26	1	33
02:00	EB	11 Mile	0	0	-	0
02:00		NB Beck	0	17	0	17
03:00	WB	11 Mile	1	1	-	2
03:00		SB Beck	6	14	2	22
03:00	EB	11 Mile	0	0	-	0
03:00		NB Beck	0	11	3	14
04:00	WB	11 Mile	0	0	-	0
04:00		SB Beck	0	15	0	15
04:00	EB	11 Mile	0	0	-	0
04:00		NB Beck	1	10	0	11
05:00	WB	11 Mile	3	2	-	5
05:00		SB Beck	0	18	0	18
05:00	EB	11 Mile	0	0	-	0
05:00		NB Beck	0	25	0	25
06:00	WB	11 Mile	3	15	-	18
06:00		SB Beck	9	100	1	110
06:00	EB	11 Mile	7	3	-	10
06:00		NB Beck	10	97	12	119
07:00	WB	11 Mile	38	56	-	94
07:00		SB Beck	35	390	6	431
07:00	EB	11 Mile	38	30	-	68
07:00		NB Beck	67	480	23	570
08:00	WB	11 Mile	45	164	-	209
08:00		SB Beck	66	538	42	646
08:00	EB	11 Mile	127	285	-	412
08:00		NB Beck	182	786	51	1019
09:00	WB	11 Mile	53	101	-	154
09:00		SB Beck	120	541	12	673
09:00	EB	11 Mile	80	134	-	214
09:00		NB Beck	127	727	50	904
10:00	WB	11 Mile	38	81	-	119
10:00		SB Beck	77	376	7	460
10:00	EB	11 Mile	31	83	-	114
10:00		NB Beck	70	594	36	700
11:00	WB	11 Mile	14	56	-	70
11:00		SB Beck	65	396	21	482
11:00	EB	11 Mile	12	28	-	40
11:00		NB Beck	70	530	12	612
12:00	WB	11 Mile	34	52	-	86
12:00		SB Beck	77	415	8	500
12:00	EB	11 Mile	15	40	-	55
12:00		NB Beck	56	511	22	589
13:00	WB	11 Mile	33	85	-	118
13:00		SB Beck	92	529	13	634
13:00	EB	11 Mile	23	41	-	64
13:00		NB Beck	77	533	27	637
14:00	WB	11 Mile	29	72	-	101
14:00		SB Beck	91	436	17	544
14:00	EB	11 Mile	11	41	-	52
14:00		NB Beck	67	498	21	586
15:00	WB	11 Mile	49	142	-	191
15:00		SB Beck	88	526	26	640
15:00	EB	11 Mile	49	119	-	168
15:00		NB Beck	122	620	42	784
16:00	WB	11 Mile	61	291	-	352
16:00		SB Beck	112	669	35	816
16:00	EB	11 Mile	46	137	-	183
16:00		NB Beck	114	743	60	917
17:00	WB	11 Mile	84	312	-	396
17:00		SB Beck	105	757	24	886
17:00	EB	11 Mile	19	89	-	108
17:00		NB Beck	95	760	143	998

						RCOCCO~1	
18:00	WB	11 Mile	84	164	-	248	
18:00	SB	Beck	143	833	31	1007	
18:00	EB	11 Mile	32	96	-	128	
18:00	NB	Beck	122	735	140	997	
19:00	WB	11 Mile	60	179	-	239	
19:00	SB	Beck	108	644	22	774	
19:00	EB	11 Mile	19	62	-	81	
19:00	NB	Beck	83	677	37	797	
20:00	WB	11 Mile	58	83	-	141	
20:00	SB	Beck	148	469	16	633	
20:00	EB	11 Mile	8	70	-	78	
20:00	NB	Beck	58	438	66	562	
21:00	WB	11 Mile	55	40	-	95	
21:00	SB	Beck	233	398	20	651	
21:00	EB	11 Mile	6	26	-	32	
21:00	NB	Beck	30	324	167	521	
22:00	WB	11 Mile	30	23	-	53	
22:00	SB	Beck	83	327	10	420	
22:00	EB	11 Mile	9	27	-	36	
22:00	NB	Beck	16	262	24	302	
23:00	WB	11 Mile	10	15	-	25	
23:00	SB	Beck	32	170	6	208	
23:00	EB	11 Mile	0	12	-	12	
23:00	NB	Beck	10	144	14	168	
24:00	WB	11 Mile	0	5	-	5	
24:00	SB	Beck	13	86	4	103	
24:00	EB	11 Mile	0	1	-	1	
24:00	NB	Beck	3	71	3	77	

WB 11 Mile	AM peak	214	07:05 - 08:05	PM peak	500	15:30 - 16:30	Daily Total
2726							
SB Beck	AM peak	695	07:20 - 08:20	PM peak	1023	16:55 - 17:55	Daily Total
10750							
EB 11 Mile	AM peak	438	07:15 - 08:15	PM peak	211	14:20 - 15:20	Daily Total
1861							
NB Beck	AM peak	1019	07:00 - 08:00	PM peak	1039	16:15 - 17:15	Daily Total
11955							

On Wednesday, 17 May 2006

WB 11 Mile	1	3	
SB Beck	4	6	7
EB 11 Mile	8	10	
NB Beck	11	13	14

01:00	WB	11 Mile	0	0	-	0	
01:00	SB	Beck	10	45	2	57	
01:00	EB	11 Mile	4	1	-	5	
01:00	NB	Beck	0	32	1	33	
02:00	WB	11 Mile	3	1	-	4	
02:00	SB	Beck	8	23	0	31	
02:00	EB	11 Mile	0	0	-	0	
02:00	NB	Beck	0	17	1	18	
03:00	WB	11 Mile	0	1	-	1	
03:00	SB	Beck	5	12	0	17	
03:00	EB	11 Mile	3	0	-	3	
03:00	NB	Beck	0	15	1	16	
04:00	WB	11 Mile	0	0	-	0	
04:00	SB	Beck	0	15	2	17	
04:00	EB	11 Mile	0	0	-	0	
04:00	NB	Beck	2	9	0	11	
05:00	WB	11 Mile	0	3	-	3	
05:00	SB	Beck	0	25	0	25	
05:00	EB	11 Mile	0	0	-	0	

RCOCCO~1						
05:00		NB Beck	1	20	0	21
06:00	WB	11 Mile	0	10	-	10
06:00		SB Beck	6	113	1	120
06:00	EB	11 Mile	6	2	-	8
06:00		NB Beck	5	112	9	126
07:00	WB	11 Mile	29	59	-	88
07:00		SB Beck	35	422	16	473
07:00	EB	11 Mile	40	28	-	68
07:00		NB Beck	63	515	25	603
08:00	WB	11 Mile	50	145	-	195
08:00		SB Beck	78	564	50	692
08:00	EB	11 Mile	130	267	-	397
08:00		NB Beck	217	777	50	1044
09:00	WB	11 Mile	61	95	-	156
09:00		SB Beck	119	561	64	744
09:00	EB	11 Mile	71	128	-	199
09:00		NB Beck	95	816	67	978
10:00	WB	11 Mile	58	75	-	133
10:00		SB Beck	86	422	166	674
10:00	EB	11 Mile	37	72	-	109
10:00		NB Beck	66	578	41	685
11:00	WB	11 Mile	28	41	-	69
11:00		SB Beck	80	397	14	491
11:00	EB	11 Mile	13	37	-	50
11:00		NB Beck	72	517	10	599
12:00	WB	11 Mile	38	51	-	89
12:00		SB Beck	84	434	18	536
12:00	EB	11 Mile	22	33	-	55
12:00		NB Beck	92	518	30	640
13:00	WB	11 Mile	41	68	-	109
13:00		SB Beck	110	467	7	584
13:00	EB	11 Mile	12	42	-	54
13:00		NB Beck	71	525	27	623
14:00	WB	11 Mile	38	65	-	103
14:00		SB Beck	87	504	20	611
14:00	EB	11 Mile	8	51	-	59
14:00		NB Beck	85	543	20	648
15:00	WB	11 Mile	67	102	-	169
15:00		SB Beck	125	569	22	716
15:00	EB	11 Mile	41	121	-	162
15:00		NB Beck	146	632	50	828
16:00	WB	11 Mile	67	205	-	272
16:00		SB Beck	122	699	28	849
16:00	EB	11 Mile	43	112	-	155
16:00		NB Beck	114	750	119	983
17:00	WB	11 Mile	112	206	-	318
17:00		SB Beck	124	778	57	959
17:00	EB	11 Mile	37	116	-	153
17:00		NB Beck	138	785	352	1275
18:00	WB	11 Mile	84	282	-	366
18:00		SB Beck	122	787	54	963
18:00	EB	11 Mile	46	182	-	228
18:00		NB Beck	164	799	82	1045
19:00	WB	11 Mile	68	439	-	507
19:00		SB Beck	194	662	29	885
19:00	EB	11 Mile	28	75	-	103
19:00		NB Beck	94	675	93	862
20:00	WB	11 Mile	29	154	-	183
20:00		SB Beck	110	420	16	546
20:00	EB	11 Mile	18	34	-	52
20:00		NB Beck	45	434	44	523
21:00	WB	11 Mile	33	38	-	71
21:00		SB Beck	59	369	10	438

		RCOCCO~1			
21:00	EB 11 Mile	4	46	-	50
21:00	NB Beck	39	344	37	420
22:00	WB 11 Mile	25	25	-	50
22:00	SB Beck	52	295	6	353
22:00	EB 11 Mile	7	30	-	37
22:00	NB Beck	12	272	26	310
23:00	WB 11 Mile	14	27	-	41
23:00	SB Beck	37	219	8	264
23:00	EB 11 Mile	0	8	-	8
23:00	NB Beck	4	173	18	195
24:00	WB 11 Mile	3	5	-	8
24:00	SB Beck	14	113	6	133
24:00	EB 11 Mile	2	6	-	8
24:00	NB Beck	4	57	2	63

WB 11 Mile 2945	AM peak	200	07:10 - 08:10	PM peak	507	18:00 - 19:00	Daily Total
SB Beck 11178	AM peak	768	07:20 - 08:20	PM peak	995	16:55 - 17:55	Daily Total
EB 11 Mile 1963	AM peak	401	07:05 - 08:05	PM peak	229	17:10 - 18:10	Daily Total
NB Beck 12549	AM peak	1053	06:55 - 07:55	PM peak	1304	16:05 - 17:05	Daily Total

On Thursday, 18 May 2006

WB 11 Mile	1	3	
SB Beck	4	6	7
EB 11 Mile	8	10	
NB Beck	11	13	14

01:00	WB 11 Mile	4	2	-	6
01:00	SB Beck	4	39	0	43
01:00	EB 11 Mile	0	1	-	1
01:00	NB Beck	4	37	4	45
02:00	WB 11 Mile	0	1	-	1
02:00	SB Beck	2	23	1	26
02:00	EB 11 Mile	0	0	-	0
02:00	NB Beck	0	31	4	35
03:00	WB 11 Mile	5	1	-	6
03:00	SB Beck	2	15	0	17
03:00	EB 11 Mile	3	0	-	3
03:00	NB Beck	0	12	4	16
04:00	WB 11 Mile	2	0	-	2
04:00	SB Beck	2	16	0	18
04:00	EB 11 Mile	0	0	-	0
04:00	NB Beck	0	9	1	10
05:00	WB 11 Mile	0	2	-	2
05:00	SB Beck	1	26	0	27
05:00	EB 11 Mile	0	1	-	1
05:00	NB Beck	1	28	0	29
06:00	WB 11 Mile	0	15	-	15
06:00	SB Beck	7	106	0	113
06:00	EB 11 Mile	7	2	-	9
06:00	NB Beck	14	114	13	141
07:00	WB 11 Mile	41	284	-	325
07:00	SB Beck	32	417	12	461
07:00	EB 11 Mile	43	37	-	80
07:00	NB Beck	71	458	24	553
08:00	WB 11 Mile	41	305	-	346
08:00	SB Beck	73	578	36	687
08:00	EB 11 Mile	126	310	-	436
08:00	NB Beck	170	774	41	985
09:00	WB 11 Mile	72	308	-	380

		RCOCCO~1			
09:00		SB Beck	117	554	479 1150
09:00	EB	11 Mile	73	120	- 193
09:00		NB Beck	354	846	65 1265
10:00	WB	11 Mile	74	429	- 503
10:00		SB Beck	105	454	394 953
10:00	EB	11 Mile	67	83	- 150
10:00		NB Beck	124	618	68 810
11:00	WB	11 Mile	33	458	- 491
11:00		SB Beck	66	444	84 594
11:00	EB	11 Mile	65	37	- 102
11:00		NB Beck	50	478	24 552
12:00	WB	11 Mile	36	360	- 396
12:00		SB Beck	109	473	39 621
12:00	EB	11 Mile	84	38	- 122
12:00		NB Beck	61	547	25 633
13:00	WB	11 Mile	58	568	- 626
13:00		SB Beck	85	483	18 586
13:00	EB	11 Mile	191	42	- 233
13:00		NB Beck	86	548	30 664
14:00	WB	11 Mile	31	411	- 442
14:00		SB Beck	87	506	15 608
14:00	EB	11 Mile	111	49	- 160
14:00		NB Beck	62	563	19 644
15:00	WB	11 Mile	52	279	- 331
15:00		SB Beck	109	559	21 689
15:00	EB	11 Mile	81	127	- 208
15:00		NB Beck	139	621	47 807
16:00	WB	11 Mile	76	330	- 406
16:00		SB Beck	111	658	35 804
16:00	EB	11 Mile	71	110	- 181
16:00		NB Beck	98	815	49 962
17:00	WB	11 Mile	77	333	- 410
17:00		SB Beck	126	676	45 847
17:00	EB	11 Mile	92	125	- 217
17:00		NB Beck	143	777	56 976
18:00	WB	11 Mile	85	249	- 334
18:00		SB Beck	128	836	50 1014
18:00	EB	11 Mile	48	100	- 148
18:00		NB Beck	134	780	71 985
19:00	WB	11 Mile	52	230	- 282
19:00		SB Beck	167	663	44 874
19:00	EB	11 Mile	35	76	- 111
19:00		NB Beck	153	727	72 952
20:00	WB	11 Mile	52	194	- 246
20:00		SB Beck	65	458	24 547
20:00	EB	11 Mile	34	77	- 111
20:00		NB Beck	96	435	32 563
21:00	WB	11 Mile	23	125	- 148
21:00		SB Beck	76	450	20 546
21:00	EB	11 Mile	12	72	- 84
21:00		NB Beck	38	361	37 436
22:00	WB	11 Mile	32	34	- 66
22:00		SB Beck	82	312	7 401
22:00	EB	11 Mile	10	27	- 37
22:00		NB Beck	26	189	22 237
23:00	WB	11 Mile	19	14	- 33
23:00		SB Beck	33	193	10 236
23:00	EB	11 Mile	2	6	- 8
23:00		NB Beck	8	158	14 180
24:00	WB	11 Mile	8	2	- 10
24:00		SB Beck	19	77	1 97
24:00	EB	11 Mile	0	3	- 3
24:00		NB Beck	4	55	0 59

RCOCCO~1

WB 11 Mile 5807	AM peak	603	09:25 - 10:25	PM peak	660	12:05 - 13:05	Daily Total
SB Beck 11959	AM peak	1213	08:10 - 09:10	PM peak	1026	16:55 - 17:55	Daily Total
EB 11 Mile 2598	AM peak	436	07:00 - 08:00	PM peak	257	14:25 - 15:25	Daily Total
NB Beck 12539	AM peak	1265	08:00 - 09:00	PM peak	1048	17:40 - 18:40	Daily Total

On Friday, 19 May 2006

WB 11 Mile	1	3	
SB Beck	4	6	7
EB 11 Mile	8	10	
NB Beck	11	13	14

01:00	WB 11 Mile	6	4	-	10
01:00	SB Beck	4	55	1	60
01:00	EB 11 Mile	0	2	-	2
01:00	NB Beck	0	36	3	39
02:00	WB 11 Mile	0	3	-	3
02:00	SB Beck	9	26	2	37
02:00	EB 11 Mile	0	0	-	0
02:00	NB Beck	0	28	4	32
03:00	WB 11 Mile	0	0	-	0
03:00	SB Beck	0	19	2	21
03:00	EB 11 Mile	0	0	-	0
03:00	NB Beck	0	11	2	13
04:00	WB 11 Mile	0	1	-	1
04:00	SB Beck	4	13	0	17
04:00	EB 11 Mile	0	0	-	0
04:00	NB Beck	4	18	0	22
05:00	WB 11 Mile	0	3	-	3
05:00	SB Beck	1	25	0	26
05:00	EB 11 Mile	2	0	-	2
05:00	NB Beck	0	23	0	23
06:00	WB 11 Mile	1	18	-	19
06:00	SB Beck	7	101	2	110
06:00	EB 11 Mile	0	5	-	5
06:00	NB Beck	25	82	15	122
07:00	WB 11 Mile	26	121	-	147
07:00	SB Beck	32	402	12	446
07:00	EB 11 Mile	40	65	-	105
07:00	NB Beck	93	466	28	587
08:00	WB 11 Mile	45	172	-	217
08:00	SB Beck	86	517	41	644
08:00	EB 11 Mile	123	219	-	342
08:00	NB Beck	183	760	46	989
09:00	WB 11 Mile	54	219	-	273
09:00	SB Beck	121	546	11	678
09:00	EB 11 Mile	70	120	-	190
09:00	NB Beck	100	763	76	939
10:00	WB 11 Mile	57	347	-	404
10:00	SB Beck	62	459	12	533
10:00	EB 11 Mile	32	71	-	103
10:00	NB Beck	103	582	40	725
11:00	WB 11 Mile	34	273	-	307
11:00	SB Beck	73	468	12	553
11:00	EB 11 Mile	19	37	-	56
11:00	NB Beck	131	549	23	703
12:00	WB 11 Mile	32	276	-	308
12:00	SB Beck	102	467	15	584
12:00	EB 11 Mile	28	43	-	71



		RCOCCO~1			
12:00	NB Beck	93	589	34	716
13:00	WB 11 Mile	34	233	-	267
13:00	SB Beck	115	497	20	632
13:00	EB 11 Mile	23	41	-	64
13:00	NB Beck	65	579	35	679
14:00	WB 11 Mile	32	158	-	190
14:00	SB Beck	107	494	20	621
14:00	EB 11 Mile	11	37	-	48
14:00	NB Beck	89	630	33	752
15:00	WB 11 Mile	38	190	-	228
15:00	SB Beck	107	595	21	723
15:00	EB 11 Mile	41	106	-	147
15:00	NB Beck	110	640	35	785
16:00	WB 11 Mile	88	165	-	253
16:00	SB Beck	127	688	24	839
16:00	EB 11 Mile	24	98	-	122
16:00	NB Beck	89	730	56	875
17:00	WB 11 Mile	86	157	-	243
17:00	SB Beck	106	727	29	862
17:00	EB 11 Mile	29	80	-	109
17:00	NB Beck	78	849	55	982
18:00	WB 11 Mile	87	128	-	215
18:00	SB Beck	152	797	39	988
18:00	EB 11 Mile	26	83	-	109
18:00	NB Beck	133	821	239	1193
19:00	WB 11 Mile	75	120	-	195
19:00	SB Beck	580	610	29	1219
19:00	EB 11 Mile	21	60	-	81
19:00	NB Beck	106	784	657	1547
20:00	WB 11 Mile	50	99	-	149
20:00	SB Beck	379	458	21	858
20:00	EB 11 Mile	13	46	-	59
20:00	NB Beck	60	470	343	873
21:00	WB 11 Mile	50	61	-	111
21:00	SB Beck	89	379	9	477
21:00	EB 11 Mile	7	36	-	43
21:00	NB Beck	30	348	22	400
22:00	WB 11 Mile	67	39	-	106
22:00	SB Beck	67	355	9	431
22:00	EB 11 Mile	4	33	-	37
22:00	NB Beck	24	246	33	303
23:00	WB 11 Mile	59	28	-	87
23:00	SB Beck	52	257	6	315
23:00	EB 11 Mile	4	27	-	31
23:00	NB Beck	22	250	36	308
24:00	WB 11 Mile	47	22	-	69
24:00	SB Beck	23	177	10	210
24:00	EB 11 Mile	8	16	-	24
24:00	NB Beck	2	152	20	174

WB 11 Mile 3805	AM peak	424	09:10 - 10:10	PM peak	271	15:40 - 16:40	Daily Total
SB Beck 11884	AM peak	748	07:35 - 08:35	PM peak	1262	18:25 - 19:25	Daily Total
EB 11 Mile 1750	AM peak	360	07:15 - 08:15	PM peak	170	14:20 - 15:20	Daily Total
NB Beck 13781	AM peak	1041	07:10 - 08:10	PM peak	1634	17:45 - 18:45	Daily Total

Site: 1034 Tuesday, 24 March 2009

Beck & 11 Mile

Tuesday, 24 March 2009

WB 11 Mile	1	3	
SB Beck	4	6	7
EB 11 Mile	8	10	
NB Beck	11	13	14

Hr. Ending						
01:00	WB 11 Mile	0	0	-	0	
01:00	SB Beck	4	47	1	52	
01:00	EB 11 Mile	0	3	-	3	
01:00	NB Beck	0	31	2	33	
02:00	WB 11 Mile	1	4	-	5	
02:00	SB Beck	0	22	0	22	
02:00	EB 11 Mile	0	1	-	1	
02:00	NB Beck	1	16	1	18	
03:00	WB 11 Mile	1	1	-	2	
03:00	SB Beck	2	20	0	22	
03:00	EB 11 Mile	0	0	-	0	
03:00	NB Beck	0	11	1	12	
04:00	WB 11 Mile	1	1	-	2	
04:00	SB Beck	1	16	0	17	
04:00	EB 11 Mile	0	0	-	0	
04:00	NB Beck	0	13	0	13	
05:00	WB 11 Mile	0	8	-	8	
05:00	SB Beck	0	22	0	22	
05:00	EB 11 Mile	0	0	-	0	
05:00	NB Beck	0	22	1	23	
06:00	WB 11 Mile	5	11	-	16	
06:00	SB Beck	2	67	1	70	
06:00	EB 11 Mile	0	2	-	2	
06:00	NB Beck	3	106	4	113	
07:00	WB 11 Mile	24	73	-	97	
07:00	SB Beck	15	270	10	295	
07:00	EB 11 Mile	19	39	-	58	
07:00	NB Beck	21	445	17	483	
08:00	WB 11 Mile	17	148	-	165	
08:00	SB Beck	29	400	44	473	
08:00	EB 11 Mile	56	186	-	242	
08:00	NB Beck	132	738	42	912	
09:00	WB 11 Mile	26	87	-	113	
09:00	SB Beck	72	434	19	525	
09:00	EB 11 Mile	35	86	-	121	
09:00	NB Beck	74	752	65	891	
10:00	WB 11 Mile	32	79	-	111	
10:00	SB Beck	32	336	10	378	
10:00	EB 11 Mile	23	53	-	76	
10:00	NB Beck	49	527	35	611	
11:00	WB 11 Mile	14	35	-	49	
11:00	SB Beck	45	343	28	416	
11:00	EB 11 Mile	15	28	-	43	
11:00	NB Beck	39	429	13	481	
12:00	WB 11 Mile	8	49	-	57	
12:00	SB Beck	52	381	30	463	
12:00	EB 11 Mile	9	29	-	38	
12:00	NB Beck	42	445	15	502	
13:00	WB 11 Mile	14	72	-	86	
13:00	SB Beck	45	393	18	456	
13:00	EB 11 Mile	11	26	-	37	
13:00	NB Beck	32	484	16	532	
14:00	WB 11 Mile	9	81	-	90	

		BECK11~2			
14:00	SB Beck	49	409	14	472
14:00	EB 11 Mile	10	38	-	48
14:00	NB Beck	32	470	20	522
15:00	WB 11 Mile	16	68	-	84
15:00	SB Beck	53	476	18	547
15:00	EB 11 Mile	28	111	-	139
15:00	NB Beck	74	465	26	565
16:00	WB 11 Mile	23	86	-	109
16:00	SB Beck	68	639	32	739
16:00	EB 11 Mile	13	75	-	88
16:00	NB Beck	65	551	26	642
17:00	WB 11 Mile	35	106	-	141
17:00	SB Beck	68	680	38	786
17:00	EB 11 Mile	17	153	-	170
17:00	NB Beck	103	616	45	764
18:00	WB 11 Mile	36	236	-	272
18:00	SB Beck	107	737	38	882
18:00	EB 11 Mile	28	105	-	133
18:00	NB Beck	73	632	74	779
19:00	WB 11 Mile	36	301	-	337
19:00	SB Beck	79	643	31	753
19:00	EB 11 Mile	18	104	-	122
19:00	NB Beck	69	499	34	602
20:00	WB 11 Mile	19	333	-	352
20:00	SB Beck	50	404	18	472
20:00	EB 11 Mile	20	111	-	131
20:00	NB Beck	37	339	31	407
21:00	WB 11 Mile	24	71	-	95
21:00	SB Beck	56	333	15	404
21:00	EB 11 Mile	15	82	-	97
21:00	NB Beck	15	265	19	299
22:00	WB 11 Mile	9	19	-	28
22:00	SB Beck	24	301	13	338
22:00	EB 11 Mile	6	40	-	46
22:00	NB Beck	10	210	21	241
23:00	WB 11 Mile	3	10	-	13
23:00	SB Beck	21	132	4	157
23:00	EB 11 Mile	1	6	-	7
23:00	NB Beck	3	124	11	138
24:00	WB 11 Mile	3	1	-	4
24:00	SB Beck	10	52	1	63
24:00	EB 11 Mile	0	2	-	2
24:00	NB Beck	0	51	5	56

WB 11 Mile	AM peak	177	06:50 - 07:50	PM peak	364	19:05 - 20:05	Daily Total
2236							
SB Beck	AM peak	525	08:00 - 09:00	PM peak	895	16:40 - 17:40	Daily Total
8824							
EB 11 Mile	AM peak	245	07:05 - 08:05	PM peak	182	15:45 - 16:45	Daily Total
1604							
NB Beck	AM peak	923	07:15 - 08:15	PM peak	779	17:00 - 18:00	Daily Total
9639							

Site: 1034 wednesday, 25 March 2009

Beck & 11 Mile

wednesday, 25 March 2009

WB 11 Mile	1	3	
SB Beck	4	6	7
EB 11 Mile	8	10	
NB Beck	11	13	14

01:00	WB 11 Mile	4	4	-	8
01:00	SB Beck	3	51	3	57
01:00	EB 11 Mile	0	5	-	5
01:00	NB Beck	0	25	2	27
02:00	WB 11 Mile	0	3	-	3
02:00	SB Beck	4	18	1	23
02:00	EB 11 Mile	0	0	-	0
02:00	NB Beck	1	15	0	16
03:00	WB 11 Mile	0	2	-	2
03:00	SB Beck	0	16	0	16
03:00	EB 11 Mile	0	1	-	1
03:00	NB Beck	0	13	0	13
04:00	WB 11 Mile	1	0	-	1
04:00	SB Beck	1	13	0	14
04:00	EB 11 Mile	0	0	-	0
04:00	NB Beck	1	9	1	11
05:00	WB 11 Mile	0	7	-	7
05:00	SB Beck	0	21	0	21
05:00	EB 11 Mile	0	0	-	0
05:00	NB Beck	0	18	0	18
06:00	WB 11 Mile	7	13	-	20
06:00	SB Beck	4	77	2	83
06:00	EB 11 Mile	0	2	-	2
06:00	NB Beck	2	110	5	117
07:00	WB 11 Mile	28	66	-	94
07:00	SB Beck	13	230	8	251
07:00	EB 11 Mile	16	34	-	50
07:00	NB Beck	15	451	20	486
08:00	WB 11 Mile	18	143	-	161
08:00	SB Beck	40	382	35	457
08:00	EB 11 Mile	49	176	-	225
08:00	NB Beck	157	779	36	972
09:00	WB 11 Mile	30	79	-	109
09:00	SB Beck	49	387	22	458
09:00	EB 11 Mile	35	72	-	107
09:00	NB Beck	50	762	47	859
10:00	WB 11 Mile	26	82	-	108
10:00	SB Beck	30	330	6	366
10:00	EB 11 Mile	26	62	-	88
10:00	NB Beck	44	571	14	629
11:00	WB 11 Mile	9	36	-	45
11:00	SB Beck	47	331	6	384
11:00	EB 11 Mile	15	21	-	36
11:00	NB Beck	34	471	13	518
12:00	WB 11 Mile	12	33	-	45
12:00	SB Beck	47	377	13	437
12:00	EB 11 Mile	4	28	-	32
12:00	NB Beck	32	442	15	489
13:00	WB 11 Mile	9	58	-	67
13:00	SB Beck	54	408	17	479
13:00	EB 11 Mile	14	34	-	48
13:00	NB Beck	37	477	21	535
14:00	WB 11 Mile	12	55	-	67

		BECK11~1			
14:00	SB Beck	38	425	9	472
14:00	EB 11 Mile	5	33	-	38
14:00	NB Beck	37	496	17	550
15:00	WB 11 Mile	17	73	-	90
15:00	SB Beck	67	503	31	601
15:00	EB 11 Mile	27	98	-	125
15:00	NB Beck	84	478	36	598
16:00	WB 11 Mile	18	80	-	98
16:00	SB Beck	69	609	30	708
16:00	EB 11 Mile	19	83	-	102
16:00	NB Beck	107	540	30	677
17:00	WB 11 Mile	32	61	-	93
17:00	SB Beck	68	705	29	802
17:00	EB 11 Mile	16	92	-	108
17:00	NB Beck	51	597	33	681
18:00	WB 11 Mile	30	93	-	123
18:00	SB Beck	303	820	28	1151
18:00	EB 11 Mile	8	67	-	75
18:00	NB Beck	60	656	245	961
19:00	WB 11 Mile	22	54	-	76
19:00	SB Beck	81	609	17	707
19:00	EB 11 Mile	8	46	-	54
19:00	NB Beck	38	561	46	645
20:00	WB 11 Mile	17	47	-	64
20:00	SB Beck	55	486	14	555
20:00	EB 11 Mile	4	47	-	51
20:00	NB Beck	17	367	16	400
21:00	WB 11 Mile	11	38	-	49
21:00	SB Beck	43	424	7	474
21:00	EB 11 Mile	2	33	-	35
21:00	NB Beck	26	271	13	310
22:00	WB 11 Mile	11	22	-	33
22:00	SB Beck	43	246	11	300
22:00	EB 11 Mile	2	40	-	42
22:00	NB Beck	13	182	13	208
23:00	WB 11 Mile	2	15	-	17
23:00	SB Beck	20	163	1	184
23:00	EB 11 Mile	1	4	-	5
23:00	NB Beck	4	160	7	171
24:00	WB 11 Mile	3	3	-	6
24:00	SB Beck	5	71	3	79
24:00	EB 11 Mile	0	0	-	0
24:00	NB Beck	0	85	3	88

WB 11 Mile 1386	AM peak	174	06:45 - 07:45	PM peak	128	17:10 - 18:10	Daily Total
SB Beck 9079	AM peak	500	07:20 - 08:20	PM peak	1151	17:00 - 18:00	Daily Total
EB 11 Mile 1229	AM peak	245	07:20 - 08:20	PM peak	143	14:30 - 15:30	Daily Total
NB Beck 9979	AM peak	991	07:10 - 08:10	PM peak	977	17:05 - 18:05	Daily Total

Site: 1282 Tuesday, 24 March 2009

Beck & Providence Park/Central Park

Tuesday, 24 March 2009

EB Prov	1	2	
NB Beck	3	5	6
WB Cent Pk	7	8	
SB Beck	9	11	12

Hr. Ending

01:00	EB Prov	14	6	-	20
01:00	NB Beck	0	30	1	31
01:00	WB Cent Pk	0	0	-	0
01:00	SB Beck	8	44	1	53
02:00	EB Prov	6	2	-	8
02:00	NB Beck	0	21	0	21
02:00	WB Cent Pk	0	1	-	1
02:00	SB Beck	1	21	2	24
03:00	EB Prov	9	2	-	11
03:00	NB Beck	3	15	0	18
03:00	WB Cent Pk	0	1	-	1
03:00	SB Beck	1	19	1	21
04:00	EB Prov	4	1	-	5
04:00	NB Beck	1	12	0	13
04:00	WB Cent Pk	0	0	-	0
04:00	SB Beck	1	16	2	19
05:00	EB Prov	3	0	-	3
05:00	NB Beck	1	29	0	30
05:00	WB Cent Pk	1	3	-	4
05:00	SB Beck	0	22	3	25
06:00	EB Prov	1	0	-	1
06:00	NB Beck	12	114	0	126
06:00	WB Cent Pk	3	6	-	9
06:00	SB Beck	3	73	6	82
07:00	EB Prov	11	5	-	16
07:00	NB Beck	56	450	4	510
07:00	WB Cent Pk	7	16	-	23
07:00	SB Beck	15	250	24	289
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08:00	EB Prov	20	14	-	34
08:00	NB Beck	72	766	13	851
08:00	WB Cent Pk	28	45	-	73
08:00	SB Beck	8	403	34	445
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09:00	EB Prov	23	14	-	37
09:00	NB Beck	91	704	9	804
09:00	WB Cent Pk	33	60	-	93
09:00	SB Beck	12	398	56	466
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10:00	EB Prov	39	29	-	68
10:00	NB Beck	93	476	14	583
10:00	WB Cent Pk	8	36	-	44
10:00	SB Beck	16	294	48	358
11:00	EB Prov	43	40	-	83
11:00	NB Beck	94	354	11	459
11:00	WB Cent Pk	17	29	-	46
11:00	SB Beck	21	304	61	386
12:00	EB Prov	49	50	-	99
12:00	NB Beck	72	409	6	487
12:00	WB Cent Pk	5	19	-	24
12:00	SB Beck	26	362	36	424
13:00	EB Prov	51	52	-	103
13:00	NB Beck	67	441	11	519
13:00	WB Cent Pk	14	22	-	36
13:00	SB Beck	38	374	55	467
14:00	EB Prov	51	43	-	94

					BECKPR~2	
14:00		NB Beck	86	394	5	485
14:00	WB	Cent Pk	7	26	-	33
14:00		SB Beck	25	398	38	461
15:00		EB Prov	62	54	-	116
15:00		NB Beck	88	430	6	524
15:00	WB	Cent Pk	4	19	-	23
15:00		SB Beck	24	452	49	525
16:00		EB Prov	66	68	-	134
16:00		NB Beck	71	517	18	606
16:00	WB	Cent Pk	13	16	-	29
16:00		SB Beck	35	591	25	651
17:00		EB Prov	66	70	-	136
17:00		NB Beck	59	569	12	640
17:00	WB	Cent Pk	16	12	-	28
17:00		SB Beck	17	622	19	658
18:00		EB Prov	71	52	-	123
18:00		NB Beck	28	625	20	673
18:00	WB	Cent Pk	17	13	-	30
18:00		SB Beck	29	682	27	738
19:00		EB Prov	41	34	-	75
19:00		NB Beck	22	504	17	543
19:00	WB	Cent Pk	18	22	-	40
19:00		SB Beck	42	614	33	689
20:00		EB Prov	44	31	-	75
20:00		NB Beck	18	342	21	381
20:00	WB	Cent Pk	8	9	-	17
20:00		SB Beck	30	410	15	455
21:00		EB Prov	27	14	-	41
21:00		NB Beck	9	276	14	299
21:00	WB	Cent Pk	6	5	-	11
21:00		SB Beck	32	359	23	414
22:00		EB Prov	31	13	-	44
22:00		NB Beck	9	195	9	213
22:00	WB	Cent Pk	4	8	-	12
22:00		SB Beck	33	309	14	356
23:00		EB Prov	22	7	-	29
23:00		NB Beck	6	126	3	135
23:00	WB	Cent Pk	3	5	-	8
23:00		SB Beck	27	135	11	173
24:00		EB Prov	23	7	-	30
24:00		NB Beck	3	50	3	56
24:00	WB	Cent Pk	0	3	-	3
24:00		SB Beck	15	57	6	78

EB Prov 1385	AM peak	103	10:45 - 11:45	PM peak	148	15:15 - 16:15	Daily Total
NB Beck 9007	AM peak	869	07:25 - 08:25	PM peak	681	16:40 - 17:40	Daily Total
WB Cent Pk 588	AM peak	95	07:40 - 08:40	PM peak	43	12:40 - 13:40	Daily Total
SB Beck 8257	AM peak	481	07:50 - 08:50	PM peak	745	16:35 - 17:35	Daily Total

Site: 1282 Wednesday, 25 March 2009

Beck & Providence Park/Central Park

Wednesday, 25 March 2009

EB Prov	1	2	
NB Beck	3	5	6
WB Cent Pk	7	8	
SB Beck	9	11	12

01:00	EB Prov	13	5	-	18
01:00	NB Beck	1	26	1	28
01:00	WB Cent Pk	0	0	-	0
01:00	SB Beck	3	52	5	60
02:00	EB Prov	7	1	-	8
02:00	NB Beck	2	17	0	19
02:00	WB Cent Pk	0	2	-	2
02:00	SB Beck	4	24	0	28
03:00	EB Prov	1	2	-	3
03:00	NB Beck	2	13	0	15
03:00	WB Cent Pk	1	1	-	2
03:00	SB Beck	1	17	2	20
04:00	EB Prov	4	1	-	5
04:00	NB Beck	0	10	0	10
04:00	WB Cent Pk	0	1	-	1
04:00	SB Beck	1	13	3	17
05:00	EB Prov	6	1	-	7
05:00	NB Beck	2	20	0	22
05:00	WB Cent Pk	3	5	-	8
05:00	SB Beck	1	22	1	24
06:00	EB Prov	3	1	-	4
06:00	NB Beck	2	119	0	121
06:00	WB Cent Pk	0	3	-	3
06:00	SB Beck	1	85	6	92
07:00	EB Prov	8	3	-	11
07:00	NB Beck	52	446	7	505
07:00	WB Cent Pk	6	16	-	22
07:00	SB Beck	3	232	26	261
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08:00	EB Prov	20	7	-	27
08:00	NB Beck	88	762	11	861
08:00	WB Cent Pk	21	38	-	59
08:00	SB Beck	11	408	31	450
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09:00	EB Prov	33	18	-	51
09:00	NB Beck	99	745	10	854
09:00	WB Cent Pk	36	62	-	98
09:00	SB Beck	14	381	56	451
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10:00	EB Prov	39	20	-	59
10:00	NB Beck	105	530	11	646
10:00	WB Cent Pk	7	31	-	38
10:00	SB Beck	15	307	51	373
11:00	EB Prov	39	39	-	78
11:00	NB Beck	83	431	5	519
11:00	WB Cent Pk	4	19	-	23
11:00	SB Beck	18	319	52	389
12:00	EB Prov	58	50	-	108
12:00	NB Beck	57	411	7	475
12:00	WB Cent Pk	13	15	-	28
12:00	SB Beck	21	353	51	425
13:00	EB Prov	54	48	-	102
13:00	NB Beck	81	461	13	555
13:00	WB Cent Pk	11	27	-	38
13:00	SB Beck	23	398	40	461
14:00	EB Prov	54	41	-	95



		BECKPR~1			
14:00	NB Beck	62	490	7	559
14:00	WB Cent Pk	11	31	-	42
14:00	SB Beck	22	408	53	483
15:00	EB Prov	56	51	-	107
15:00	NB Beck	76	439	11	526
15:00	WB Cent Pk	6	15	-	21
15:00	SB Beck	25	505	47	577
16:00	EB Prov	65	69	-	134
16:00	NB Beck	74	507	13	594
16:00	WB Cent Pk	14	18	-	32
16:00	SB Beck	23	616	45	684
17:00	EB Prov	72	68	-	140
17:00	NB Beck	50	583	16	649
17:00	WB Cent Pk	14	18	-	32
17:00	SB Beck	26	663	31	720
18:00	EB Prov	76	58	-	134
18:00	NB Beck	37	637	25	699
18:00	WB Cent Pk	13	22	-	35
18:00	SB Beck	30	786	24	840
19:00	EB Prov	50	33	-	83
19:00	NB Beck	28	558	17	603
19:00	WB Cent Pk	11	22	-	33
19:00	SB Beck	38	593	22	653
20:00	EB Prov	45	28	-	73
20:00	NB Beck	12	374	13	399
20:00	WB Cent Pk	3	16	-	19
20:00	SB Beck	43	491	12	546
21:00	EB Prov	28	22	-	50
21:00	NB Beck	13	264	7	284
21:00	WB Cent Pk	5	7	-	12
21:00	SB Beck	32	425	13	470
22:00	EB Prov	25	12	-	37
22:00	NB Beck	7	194	9	210
22:00	WB Cent Pk	2	8	-	10
22:00	SB Beck	25	270	12	307
23:00	EB Prov	28	11	-	39
23:00	NB Beck	11	139	7	157
23:00	WB Cent Pk	3	5	-	8
23:00	SB Beck	27	151	14	192
24:00	EB Prov	18	4	-	22
24:00	NB Beck	5	79	4	88
24:00	WB Cent Pk	0	2	-	2
24:00	SB Beck	14	72	6	92

EB Prov 1395	AM peak	108	10:50 - 11:50	PM peak	148	16:45 - 17:45	Daily Total
NB Beck 9398	AM peak	931	07:20 - 08:20	PM peak	732	16:50 - 17:50	Daily Total
WB Cent Pk 568	AM peak	98	08:00 - 09:00	PM peak	51	12:25 - 13:25	Daily Total
SB Beck 8615	AM peak	507	07:25 - 08:25	PM peak	847	16:55 - 17:55	Daily Total