



# PLANNING COMMISSION MEETING AGENDA REGULAR MEETING

500 W. Big Beaver  
Troy, MI 48084  
(248) 524-3364  
www.troymi.gov  
planning@troymi.gov

Mark Maxwell, Chair and John J. Tagle, Vice Chair  
Donald Edmunds, Michael W. Hutson, Tom Krent, Philip Sanzica  
Gordon Schepke, Robert Schultz and Thomas Strat

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**June 12, 2012**

**7:00 P.M.**

**Council Chambers**

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1. ROLL CALL
2. APPROVAL OF AGENDA
3. APPROVAL OF MINUTES – May 22, 2012 Special/Study Meeting
4. PUBLIC COMMENTS – For Items Not on the Current Agenda

### **SPECIAL USE REQUEST**

5. PUBLIC HEARING – SPECIAL USE REQUEST AND PRELIMINARY SITE PLAN REVIEW (File Number SU 395) – Proposed Kroger Retail Fuel Center, West side of Rochester, South of Long Lake (4889 Rochester Road), Section 15, Currently Zoned NN “L” (Neighborhood Node “L”) District

### **REZONING REQUEST**

6. PUBLIC HEARING – REZONING APPLICATION (File Number Z 740) – Proposed Charter One Bank Branch, 125 Stephenson Highway and 1250 W. 14 Mile Road, Section 35, From O (Office) to IB (Integrated Industrial and Business) District

### **ZONING ORDINANCE TEXT AMENDMENT**

7. PUBLIC HEARING – ZONING ORDINANCE TEXT AMENDMENT (File Number ZOTA 243) – Proposed Amendment to Article 5, Financial Institutions within the Big Beaver District by Special Use Approval

### **OTHER BUSINESS**

8. REVISIONS TO PLANNED UNIT DEVELOPMENT (File Number PUD 004) – Big Beaver Center (formerly “The Monarch”) PUD – North side of Big Beaver Road, East of Alpine, West of McClure, Section 20, Currently Zoned PUD 004 and R-1B One Family Residential

9. PUBLIC COMMENTS – For Items on Current Agenda

10. PLANNING COMMISSION COMMENTS

ADJOURN

**NOTICE:** *People with disabilities needing accommodations for effective participation in this meeting should contact the City Clerk by e-mail at [clerk@troymi.gov](mailto:clerk@troymi.gov) or by calling (248) 524-3317 at least two working days in advance of the meeting. An attempt will be made to make reasonable accommodations.*

Chair Maxwell called the Special/Study meeting of the Troy City Planning Commission to order at 7:00 p.m. on May 22, 2012 in the Council Board Room of the Troy City Hall.

1. ROLL CALL

Present:

Donald Edmunds  
Michael W. Hutson  
Tom Krent  
Mark Maxwell  
Philip Sanzica  
Robert Schultz  
Thomas Strat  
John J. Tagle

Absent:

Gordon Schepke

Also Present:

Allan Motzny, Assistant City Attorney  
R. Brent Savidant, Planning Director  
Ben Carlisle, Carlisle/Wortman Associates, Inc.

2. APPROVAL OF AGENDA

**Resolution # PC-2012-05-030**

Moved by: Hutson  
Seconded by: Edmunds

RESOLVED, To approve the Agenda as printed.

Yes: All present (8)  
Absent: Schepke

**MOTION CARRIED**

3. MINUTES

**Resolution # PC-2012-05-031**

Moved by: Edmunds  
Seconded by: Tagle

**RESOLVED**, To approve the minutes of the May 8, 2012 Regular meeting as published.

Yes: All present (8)  
Absent: Schepke

**MOTION CARRIED**

4. PUBLIC COMMENT – For Items Not on the Agenda

There was no one present who wished to speak.

5. ZONING BOARD OF APPEALS (ZBA) REPORT

Mr. Strat presented the ZBA report.

6. DOWNTOWN DEVELOPMENT AUTHORITY (DDA) REPORT

Mr. Savidant presented the DDA report.

7. PLANNING AND ZONING REPORT

Mr. Savidant presented the Planning and Zoning report. He discussed an application to revise PUD 4, located on the north side of Big Beaver between Alpine and McClure. The applicant proposes to develop retail along Big Beaver, with 16 detached single family residential units to the north. They seek an aggressive review and approval schedule, as they would like to break ground as soon as possible.

**OTHER ITEMS**

8. REVISIONS TO CHAPTER 85 - SIGNS – Discussion of potential amendments

Mr. Savidant presented draft revisions to Chapter 85 Signs. He explained the City of Troy Zoning Ordinance was adopted on April 18, 2011 and became effective on April 28, 2011. During the comprehensive rewrite process, it was determined that sign provisions would remain in a separate Sign Ordinance. A Planning Commission recommendation is not required prior to consideration by City Council; however, City Management sought Planning Commission input for this item. There were many zoning districts modified or newly created; therefore, there are some inconsistencies between the Zoning Ordinance and Chapter 85 Signs.

Proposed revisions to Chapter 85 include the following:

1. The zoning districts were updated to bring the document into conformance with the Zoning Ordinance.
2. Provisions for the three new form-based districts were added.
3. Provisions to control the intensity of electronic message signs were added.

No other revisions are proposed at this time, as the City is involved with ongoing litigation related to Chapter 85, in particular as related to size and setback.

Mr. Strat suggested that more significant revisions should be made to the document to bring Troy in line with other communities with more strict sign provisions. With the exception of Mr. Strat, there was general support for the revisions, including some suggested minor modifications.

9. POTENTIAL CONDITIONAL REZONING APPLICATION – Northwest corner of Square Lake and Dequindre, Section 1, From NN Neighborhood Node to CB Community Business

Mr. Carlisle presented a report prepared by Carlisle/Wortman Associates, inc., which summarizes the rezoning request. The report referenced a memo to the applicant, prepared by the Planning Director, which denied the applicant's request to modify the Site Type from Type B to Type A. The applicant sought feedback from the Planning Commission on this matter, and provided a sketch of the potential development.

Mr. Hutson stated he would not support a rezoning, as the application was not compliant with the Master Plan.

There was general consensus that the applicant made a strong attempt to comply with the intent of the Neighborhood Node by placing the building close to the corner and providing outside seating between the building and Dequindre Road. Most members recognized the challenge of developing the subject site and indicated they could support a conditional rezoning.

The Planning Commission made some suggestions related to potential site design and operations. These included the following:

- Hours of operation
- Buffer between the subject property and the property to the west
- Potential for connection with property to the north
- Location of speaker box
- Size and location of dumpster

10. PLANNING COMMISSION GOALS

Chair Maxwell reminded the Planning Commission that the Master Plan was adopted in 2008. One of the responsibilities of the Board is to review the document within 5 years from time of adoption to determine if it needs to be updated. It is therefore soon time to start thinking about goals for the Planning Commission and City to help define a vision for the City moving forward.

The Planning Commission discussed a number of ideas related to marketing the City of Troy and encouraging development. These ideas included the following:

- Formation of Speakers Bureau
- Engagement of all residents, including children
- Design charettes to assist in determining uses for vacant buildings
- Contests for students to generate ideas
- Testimonials
- "Creative Troy"
- Teaching modules by professional organizations
- Public service announcements
- Public/private partnerships

- Involvement with City Council and staff

There was general consensus by the Planning Commission to continue to discuss goals and ideas at future meetings.

11. PUBLIC COMMENT

There was no one present who wished to speak.

12. PLANNING COMMISSION COMMENT

There was general discussion.

The Special/Study meeting of the Planning Commission adjourned at 9:10 p.m.

Respectfully submitted,

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Mark Maxwell, Chair

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R. Brent Savidant, Planning Director

DATE: June 7, 2012

TO: Planning Commission

FROM: R. Brent Savidant, Planning Director

SUBJECT: PUBLIC HEARING – SPECIAL USE REQUEST AND PRELIMINARY SITE PLAN REVIEW (File Number SU 395) – Proposed Kroger Retail Fuel Center, West side of Rochester, South of Long Lake (4889 Rochester Road), Section 15, Currently Zoned NN “L” (Neighborhood Node “L”) District

The petitioner Landplan Engineering, P.A. submitted the above referenced Special Use Approval and Preliminary Site Plan Approval application for a Kroger Retail Fuel Center. The development will include a 850 square foot kiosk and 6 gasoline pumps (12 fueling areas). A vacant fast food restaurant building presently sits on the property.

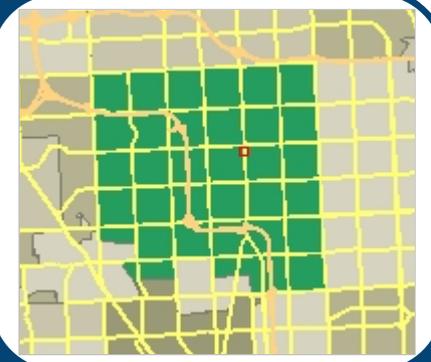
The attached report prepared by Carlisle/Wortman Associates, Inc. (CWA), the City’s Planning Consultant, summarizes the application. CWA prepared the report with input from various City departments including Planning, Engineering, Public Works and Fire. City Management supports the findings of fact contained in the report and recommends approval of the project, as noted.

Attachments:

1. Maps
2. Report prepared by Carlisle/Wortman Associates, Inc.

cc: Applicant  
File/ SU 395

G:\SPECIAL USE\SU 395 Kroger Retail Fuel Center\_4889 Rochester\PC Memo 06 12 12.docx



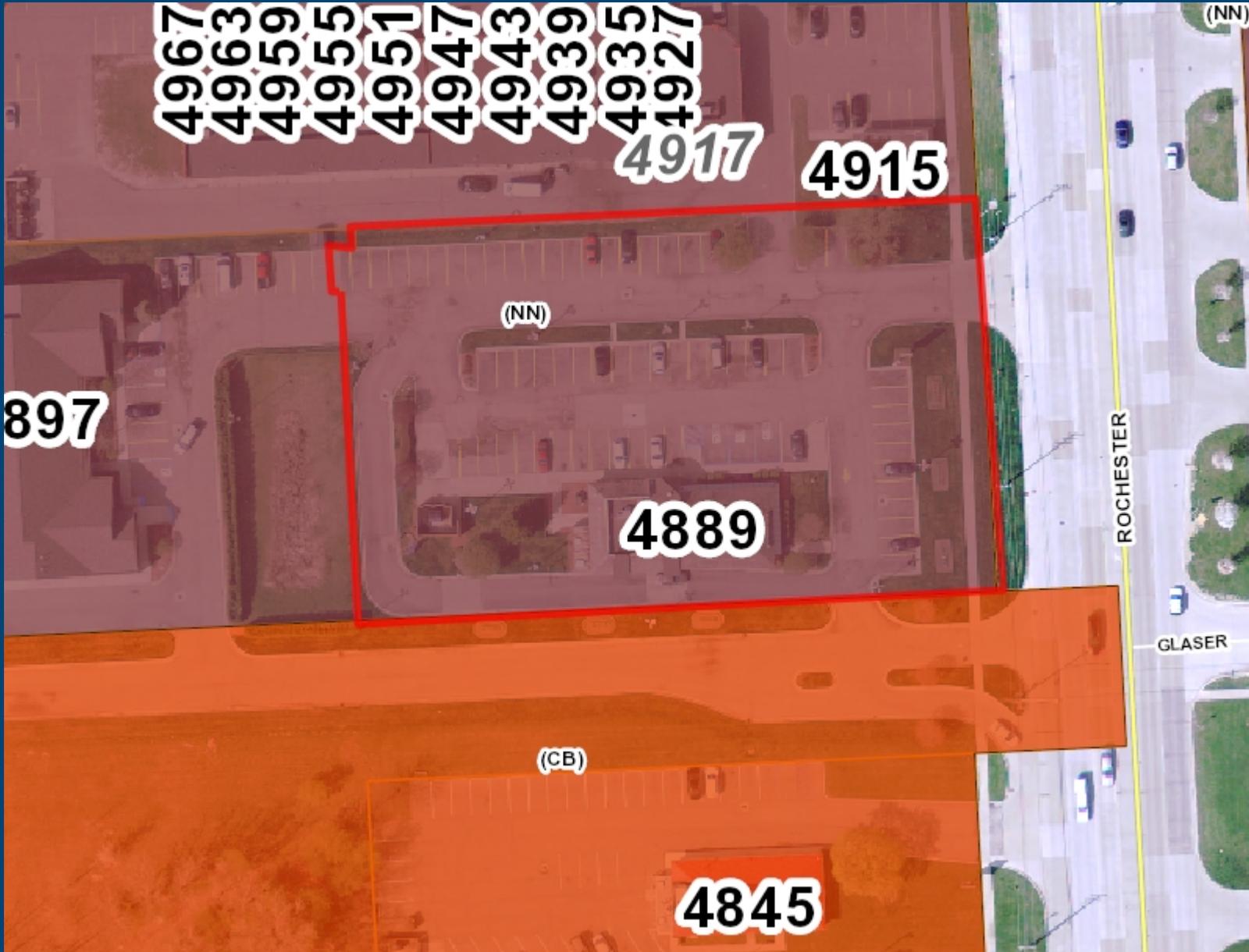
### Legend

-  I-75
-  Road Centerline
  -  Major Road
  -  Industrial Road
  -  Local Road
-  Ponds and Basins
-  Streams and Creeks
-  Parcels
- Aerial Photos - 2010
  -  Red: Band\_1
  -  Green: Band\_2
  -  Blue: Band\_3

134 0 67 134Feet

Scale 1: 802





### Legend

-  I-75
- Road Centerline**
  -  Major Road
  -  Industrial Road
  -  Local Road
- Current Zoning Ordinance**
  -  (PUD) Planned Unit Development
  -  (CF) Community Facilities District
  -  (EP) Environmental Protection District
  -  (BB) Big Beaver Road (Form Based)
  -  (MRF) Maple Road (Form Based)
  -  (NN) Neighborhood Nodes (A-U)
  -  (CB) Community Business
  -  (GB) General Business
  -  (IB) Integrated Industrial Business District
  -  (O) Office Building District
  -  (OM) Office Mixed Use
  -  (P) Vehicular Parking District
  -  (R-1A) One Family Residential District
  -  (R-1B) One Family Residential District
  -  (R-1C) One Family Residential District
  -  (R-1D) One Family Residential District
  -  (R-1E) One Family Residential District
  -  (RT) One Family Attached Residential District
  -  (MR) Multi-Family Residential
  -  (MHP) Manufactured Housing
  -  (UR) Urban Residential
  -  (RC) Research Center District
  -  (PV) Planned Vehicle Sales
-  Ponds and Basins
-  Streams and Creeks
-  Parcels
- Aerial Photos - 2010**
  -  Red: Band\_1
  -  Green: Band\_2
  -  Blue: Band\_3

148 0 74 148Feet

Scale 1: 891





CARLISLE

WORTMAN  
associates, inc.

605 S. Main Street, Ste. 1  
Ann Arbor, MI 48104

(734) 662-2200  
(734) 662-1935 Fax

Date: June 7, 2012

## Site Plan Review For City of Troy, Michigan

**Applicant:** Matthew Pisko, Landplan Engineering

**Project Name:** Krogers Retail Fuel Station

**Plan Date:** June 6, 2012

**Location:** West Side of Rochester Road, south of E. Long Lake Road

**Zoning:** Neighborhood Node L, Site Type A

**Action Requested:** Special Use Approval

**Required Information:** Deficiencies noted

### PROJECT AND SITE DESCRIPTION

The applicant proposes to construct a Krogers Fuel Station facility at 4889 Rochester Road, which includes six (6) pumping stations and an 850 sq/ft convenience store. The 1.4 acre site currently is a vacant Burger King, which is proposed to be removed as part of the site improvement. The proposed application includes significant site landscaping improvements and a reduction in overall impervious surface. The subject site is located in Neighborhood Node L and regulated as a Site Type A. Fueling stations and accessory convenience stores are permitted in Site Type A as a Special Use.

*Kroger Fueling Station*  
*June 7, 2012*

Location of Subject Property:

The property is located on the west side of Rochester Road, south of E. Long Lake Road



Size of Subject Property:

The parcel is 1.4 acres in area

Proposed Uses of Subject Parcel:

The applicant proposes to use the site for a fueling station

Current Use of Subject Property:

The site is currently a vacant Burger King

**Zoning Classification of Parcel, Adjacent Parcels, and Current Land Use:**

The subject site is located in Neighborhood Node L and regulated as a Site Type A

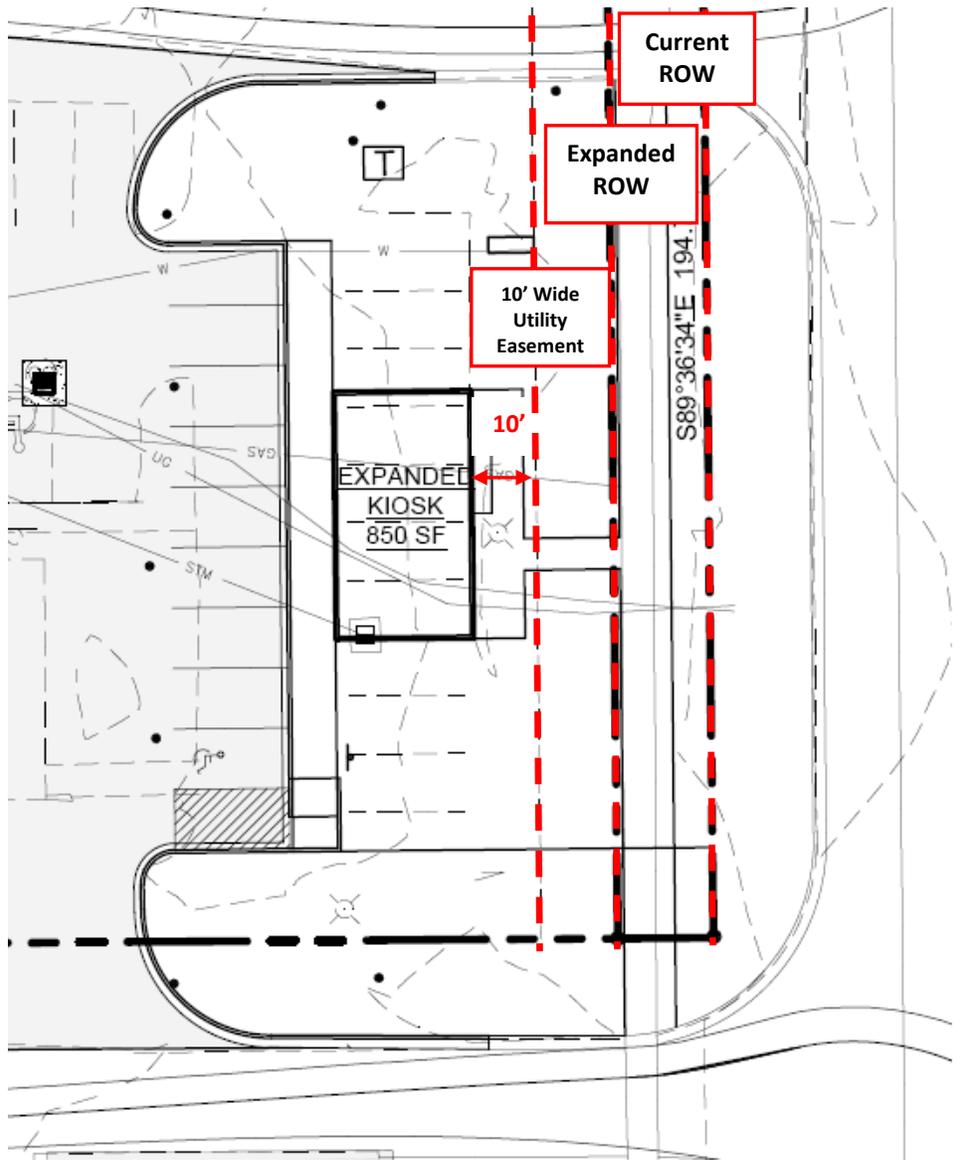
Direction	Zoning	Use
North	Neighborhood Node L: Site Type A	Commercial (Troy Video Transfers)
South	CB, Community Business District	Commercial (Pizza Hut)
East	Neighborhood Node L: Site Type A	Commercial (Marinellis and Bank's Vacuum Super Store)
West	Neighborhood Node L: Site Type A	Commercial

**BUILDING LOCATION AND SITE ARRANGEMENT**

The proposed site development includes an 850 sq/ft commercial building, and six (6) fueling stations (12 pumps) and an associated canopy structure.

Rochester Road is proposed for future expansion. The proposed R.O.W and lane expansion will occur within the next 3 to 5 years. As a result, the applicant was required to move their building out of the proposed Rochester Road R.O.W. expansion, which includes a 10' future utility expansion. As indicated by the diagram on the right, the proposed Kroger fueling station store will be 38 feet from the existing Rochester Road R.O.W.; however will only be 10' feet from the future ROW + utility easement. The applicant has placed the commercial building in compliance with the form-based district building requirements.

The six (6) fueling stations (12 pumps) and associated canopy are located behind the commercial building. The commercial building, which includes an entrance on the façade facing Rochester Road, is accessed either from a sidewalk off Rochester Road or from the parking lot in the rear.



**Items to be Addressed:** *None.*

**AREA, WIDTH, HEIGHT, SETBACKS**

Required and Provided Dimensions:

The site is being developed as Building Form A, which is a permitted building form for Site Type A. Table 5.03.B1 establishes the dimensional requirements for the building form A:

	<b>Required</b>	<b>Provided</b>	<b>Compliance</b>
Front (Rochester)	10 foot build-to-line	10 feet	Complies
Rear	30 feet	280 feet	Complies
Open Space	30 percent		Complies
Canopy and Pump Island Setback	20 foot side	20 feet	Complies
	30 foot rear	140 feet	Complies
Building Height	Minimum 16 feet Maximum 45 feet	16 feet	Complies
Parking	Not located in front yard + screening	Not located in front yard	Complies

*Items to be Addressed: None*

**PARKING**

Section 13.06.G of the Zoning Ordinance requires:

	<b>Required</b>	<b>Provided</b>
Vehicle fueling/multi-use station (1 space for each 125 square feet of net floor area, plus 2 parking spaces per fueling station)	4 for commercial building	33 total
	24 for fueling station	
Barrier Free	1	1
Bicycle Parking	0	2
Loading	0	0
<b>Total</b>	<b>28</b>	<b>33 Automobile + 2 bicycle spaces</b>

*Items to be Addressed: None.*

## SITE ACCESS AND CIRCULATION

### Vehicular access and Circulation:

There is no existing or proposed curb cut off Rochester Road. The site will be accessed via four curb cuts, two off the existing drive to the north and two off the existing drive to the south of the subject site. The rear access point behind the fueling canopy is intended for fueling truck access and circulation. The applicant notes that the curb cuts for the truck access use needs to be wide enough for truck access. The access to the east of the fueling station, adjacent to the convenience store, is intended for customer use. Once into the site, automobiles have adequate area to either park for convenience store use or use of the fueling pumps.

### Pedestrian access:

The applicant will widen the existing 5-foot sidewalk along Rochester Road to 8-feet. The applicant proposes a 5-foot wide walk from the Rochester Road sidewalk that connects to an 8-foot wide building patio/sidewalk adjacent to the east (Rochester Road) elevation. The applicant is also providing an 8-foot sidewalk between the building and the parking lot. Pedestrian access from both Rochester Road and the parking lot is sufficient.

***Items to be Addressed: None.***

## NATURAL RESOURCES

The site has been graded and does not have any protected natural resources. Currently, the site includes a barbwire fenced stormwater detention facility with minimal site landscaping. As part of the proposed site improvements the applicant will improve the stormwater detention facility by removing the barbwire fence and add significant amount of landscaping. Overall the new site will increase total amount of pervious surface.

***Items to be Addressed: None.***

## LIGHTING

### Parking Lot Lighting:

The applicant has provided a lighting (photometric) plan. The applicant shall reduce the maximum lighting under the canopy to no greater than 20 foot candles. Furthermore, the applicant shall turn-off or reduce lighting between the hours of 11:00 p.m. and sunrise

### Building Lighting:

The applicant has not provided a lighting (photometric) plan. Light shall not exceed 1 foot-candle along all nonresidential property boundaries. The applicant must supply a lighting plan to ensure that light encroachment does not exceed Ordinance requirements.

**Items to be Addressed:** 1). The applicant shall reduce the maximum lighting under the canopy to no greater than 20 foot candles; 2). Lights shall be turned-off or reduced between the hours of 11:00 p.m. and sunrise; and 3). Applicant shall submit building lighting details including fixtures and photometrics .

## LANDSCAPING

The applicant has provided a landscape plan. The plan provides all necessary calculations regarding greenbelt, street trees, and parking lot landscaping requirements.

### Greenbelt:

A ten (10) foot wide greenbelt has been provided along Rochester Road.

### Street trees:

The Ordinance requires that the greenbelt shall be landscaped with a minimum of one (1) deciduous tree for every thirty (30) lineal feet, or fraction thereof, of frontage abutting a public road right-of-way. This site has 194 feet of frontage on Rochester, requiring six (6) trees. However the applicant has only provided five (5) trees within the Rochester Road greenbelt. An additional deciduous street tree must be added to meet minimum Ordinance requirements for Rochester Road.

### Minimum landscaped area:

The site plan must provide 20 percent of overall landscaped area. The site plan confirms that the site maintains 23 percent open area.

### Parking lot landscaping:

Section 13.02.C establishes the requirements for parking lot landscaping. Based on nine (9) parking spaces provided, two (2) trees are required. The plan includes two (2) trees adjacent to the parking spaces.

### Screening:

Through a combination of deciduous trees and shrubs, and coniferous trees, the applicant has met the parking lot screening requirements.

### Detention Planting:

The applicant will greatly improve and landscape the existing detention area, which is shared with the adjacent east property. While, the landscaping for the detention area meets all ordinance requirements, the applicant should confirm an agreement with the adjacent east property owner regarding ongoing detention area maintenance.

**Items to be Addressed:** 1.) Add at least one (1) street trees on Rochester Road; and 2.) Provide an agreement with the adjacent east property owner regarding ongoing detention area maintenance.

## DESIGN STANDARDS

Developments within neighborhood nodes must comply with Design Standards outlined in section 5.06.E.

### Building Orientation and Entrance

- a. *Primary Entrance: The primary building entrance shall be clearly identifiable and useable and located in the front façade parallel to the street. **Complies***
- b. *Recessed Doorways. Where the building entrance is located on or within five (5) feet of a lot line, doorways shall be recessed into the face of the building. **Not Applicable***
- c. *Residential Dwellings. Entrances for all residential dwellings shall be clearly defined by at least one (1) of the following:*
  - I. *Projecting or recessed entrance. A recessed entrance is required if the building entrance is located on or within five (5) feet of the lot line.*
  - II. *Stoop or enclosed or covered porch.*
  - III. *Transom and/or side light window panels framing the door opening.*
  - IV. *Architectural trim or unique color treatments framing the door opening*

**Not Applicable**

Ground Story Activation

- a. *The first floor of any front façade facing a right-of-way shall be no less than fifty (50) percent windows and doors, and the minimum transparency for facades facing a side street, side yard, or parking area shall be no less than 30 percent of the façade. Transparency alternatives are permitted up to 80% of the 50% total along the front of buildings, and up to 100% of the sides of buildings. The minimum transparency requirement shall apply to all sides of a building that abut an open space, including a side yard, or public right-of-way. Transparency requirements shall not apply to sides which abut an alley.*

***Through the use of storefront glass, sills, awnings, and soldier courses, the applicant complies with this requirement.***

Transitional Features

- a. *Transitional features are architectural elements, site features, or alterations to building massing that are used to provide a transition between higher intensity uses and low- or moderate-density residential areas. These features assist in mitigating potential conflicts between those uses. Transitional features are intended to be used in combination with landscape buffers or large setbacks.*

***Due to proximity of four other commercial uses, the proposed Kroger Fuel Station is not a more intense use which would require transitional features. Thus this requirement is not applicable.***

Site Access and Parking

- a. *Required Parking. Off-street parking shall be provided in accordance with the standards set forth in Article 13, Site Design Standards. **The applicant has provided the necessary parking.***

b. Location.

- I. When parking is located in a side yard (behind the front building line) but fronts on the required building line, no more than fifty (50) percent of the total site's linear feet along the required building line or one hundred (100) feet, whichever is less, shall be occupied by parking. **Complies**
- II. For a corner lot, shall be no more than fifty (50) percent of the site's cumulative linear feet along the required building lines or one hundred (100) feet, whichever is less, shall be occupied by parking. The building shall be located in the corner of the lot adjacent to the intersection. **Not Applicable**
- III. For a double frontage lot or a lot that has frontage on three (3) streets, the cumulative total of all frontages occupied by parking shall be no more than sixty-five (65) percent of the total site's linear feet along a required building line or one hundred and twenty-five (125) feet, whichever is less. **Not Applicable**
- IV. Where off-street parking is visible from a street, it should be screened in accordance with the standards set forth in Section 13.02.C. **The applicant has screened their parking lot in compliance with section 13.0.2.C.**

**Items to be Addressed: None.**

## SPECIFIC and SPECIAL USE STANDARDS

In the Neighborhood Node Districts, automobile service is permitted as a special use. For any special use, according to Section 9.02.D, the Planning Commission shall "...review the request, supplementary materials either in support or opposition thereto, as well as the Planning Department's report, at a Public Hearing established for that purpose, and shall either grant or deny the request, table action on the request, or grant the request subject to specific conditions."

### Specific Use Standards

Section 6.28 provides specific use requirements for vehicle fueling/multi-use station. The following standards apply:

1. Minimum lot Area shall be one (1) acre. **The lot is greater than one (1) acre.**
2. The following minimum setbacks shall apply to canopies and pump facilities:

Setback	Canopy Support	Pump Islands	Canopy Edge
Front	35 ft.	30 ft.	25 ft.
Side	20 ft.	20 ft.	10 ft.
Rear	30 ft.	20 ft.	20 ft.

**The proposed development meets all required setbacks**

3. *Canopy structures shall be designed and constructed in a manner which is architecturally compatible with the principal building.*

***The applicant has added architectural features and design considerations that ensure architectural compatibility with the principal building.***

4. *Pedestrian Circulation*

- a. *Vehicle Fueling / multi-use stations shall be designed in a manner which promotes pedestrian and vehicle safety*
- b. *The parking and circulation system within each development shall accommodate*

5. *Where repair and servicing of which is performed, all repair and maintenance shall be performed entirely within an enclosed building. Dismantled, wrecked, or immobile vehicles shall not be permitted to be stored on site.*

***Not applicable***

6. *If a vehicle wash is proposed, it must comply with the standards set forth in Section 6.29.*

***Not applicable***

### **Special Use Standards of Approval**

Section 9.03 states that before approving any requests for Special Use Approval, the Planning Commission shall consider:

1. *Compatibility with Adjacent Uses. The Special Use shall be designed and constructed in a manner harmonious with the character of adjacent property and the surrounding area. In determining whether a Special Use will be harmonious and not create a significant detrimental impact, as compared to the impacts of permitted uses. **The proposed use is intended for location within areas of high traffic. The proposed use will not have any detrimental impact and will add a valuable service to the immediate commercial corridor.***
2. *Compatibility with the Master Plan. The proposed Special Use shall be compatible and in accordance with the goals and objectives of the City of Troy Master Plan and any associated sub-area and corridor plans. **The use is common to regional commercial area, and complies with the Master Plan.***
3. *Traffic Impact. The proposed Special Use shall be located and designed in a manner which will minimize the impact of traffic, taking into consideration: pedestrian access and safety; vehicle trip generation (i.e. volumes); types of traffic, access location, and design, circulation and parking design; street and bridge capacity and, traffic operations at nearby intersections and access points. Efforts shall be made to ensure that multiple transportation modes are safely and effectively accommodated in an effort to provide alternate modes of access and alleviate vehicular traffic congestion. **With the nature of the use as one that does not have acute peak traffic times for very large populations, and which is located in a high-intensity area, we believe this condition is satisfied.***

4. *Impact on Public Services. The proposed Special Use shall be adequately served by essential public facilities and services, such as: streets, pedestrian or bicycle facilities, police and fire protection, drainage systems, refuse disposal, water and sewage facilities, and schools. Such services shall be provided and accommodated without an unreasonable public burden. **We do not expect any additional impact on other public services, such as police or utilities, beyond what would normally be experienced for other uses in the district.***
5. *Compliance with Zoning Ordinance Standards. The proposed Special Use shall be designed, constructed, operated and maintained to meet the stated intent of the zoning districts and shall comply with all applicable ordinance standards. **Provided the applicant address those specific issues regarding lighting and landscaping, the proposed development is designed, constructed, operated, and maintained to meet the stated intent of the Neighborhood Node.***

The Planning Commission is also required to generally consider the following for any special use application:

1. *The nature and character of the activities, processes, materials, equipment, or conditions of operation; either specifically or typically associated with the use. **See above. We believe that with conditions, the proposed use may be permissible.***
2. *Vehicular circulation and parking areas. **Parking and access requirements are met.***
3. *Outdoor activity, storage and work areas. **N/A.***
4. *Hours of operation. **The proposed use is in an area where similar uses provide service to regional commercial customers from early morning to evening. This is a high-intensity area and automobile service uses are common in such areas.***
5. *Production of traffic, noise vibration, smoke, fumes odors, dust, glare and light. **We do not anticipate any additional impact after initial construction in this regard.***

**Items to be addressed:** Address Ordinance compliance issues noted herein.

## RECOMMENDATIONS

We support the proposed project and believe the project does meet or exceed minimum requirements, with several small conditions for clarification and compliance with minor elements required by the Zoning Ordinance. We recommend the Planning Commission approve the special use request and preliminary site plan application conditioned on the applicant satisfying the following requirements:

1. The applicant shall reduce the maximum lighting under the canopy to no greater than 20 foot candles
2. Lights shall be turned-off or reduced between the hours of 11:00 p.m. and sunrise;
3. Applicant shall submit building lighting details including fixtures and photometrics.
4. Satisfy landscape requirements as follows:

*Kroger Fueling Station*  
*June 7, 2012*

- a. Add one deciduous street tree on Rochester Road
- b. Provide an agreement with the adjacent east property owner regarding ongoing detention area maintenance.



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**CARLISLE/WORTMAN ASSOC., INC.**  
**Benjamin R. Carlisle, LEED AP, AICP**

FILE NAME: c:\2012\1015\CAD\Const\Docs\Site\G-001\_Cover\_Sht.dwg LAST SAVED BY: Mike Vanderbeke SAVED DATE: 6/6/2012 2:48 PM PLOTTED: 6/6/2012 3:54 PM

DESIGN CRITERIA:

BUILDING CODE REVIEW:

ACCESSIBILITY CODE: ANSI/ICC A117.1 - 2003
BUILDING CODE: MICHIGAN BUILDING CODE (MBC) - 2009
ELECTRICAL CODE: NATIONAL ELECTRICAL CODE (NEC) - 2008
MICHIGAN ELECTRICAL CODE (MEC), PART B - 2008
ENERGY CODE: MICHIGAN UNIFORM ENERGY CODE (MUEC) - 2009
MECHANICAL CODE: MICHIGAN MECHANICAL CODE (MMC) - 2009
PLUMBING CODE: MICHIGAN PLUMBING CODE (MPC) - 2009

ZONING ORDINANCE REVIEW:

ZONING ORDINANCE: CITY OF TROY, MICHIGAN ZONING ORDINANCE
EFFECTIVE DATE: APRIL 28, 2011

ZONING MAP: CITY OF TROY, MICHIGAN ZONING MAP
ADOPTED DATE: APRIL 18, 2011

SITE ZONING: NN: NEIGHBORHOOD NODE (ARTICLE 5; MAP 5.06.1 (NODE L))
SITE TYPE: NN-A (MAP 5.06.1 (NODE L))
STREET TYPE: NN-A (MAP 5.06.1 (NODE L))
USE GROUP: 4 - AUTO/TRANSPORTATION (TABLE 5.03.C-1)
BUILDING FORM: A (TABLE 5.06.C-2; TABLE 5.03.B-1)

PERMITTED USE: YES; SPECIAL USE APPROVAL (TABLE 5.06.C-1; SECTION 6.28)

OUTDOOR SALES: NOT PERMITTED:

SIGNAGE:

ALLOWED: FREESTANDING: AREA: (1) 50.00 SF GROUND SIGN (TABLE 85.02.05)
HEIGHT: 10.00' MAXIMUM (SECTION 85.02.05(C.4))
SETBACK: 0.00'-20.00' (TABLE 85.02.05)
CLEARANCE: 25.00' VISION TRIANGLE (SECTION 85.01.05(B))
WALL: AREA: 99.00 SF MAXIMUM AREA (SECTION 85.01.05(B))

PROPOSED: FREESTANDING: AREA: (1) 29.56 SF SIGN ON 3.00' HIGH BRICK BASE
HEIGHT: 7.33'
SETBACK: 16.58' (ROCHESTER ROAD)

WALL SIGNAGE: CANOPY: NORTH: LOGO SIGN: 6.70 SF
SOUTH: LOGO SIGN: 6.70 SF
EAST: LOGO SIGN: 6.70 SF
WEST: LETTER SIGN: 10.32 SF

KIOSK: NORTH: LOGO SIGN: 6.70 SF
LETTER SIGN: 10.32 SF
SOUTH: LOGO SIGN: 6.70 SF
LETTER SIGN: 10.32 SF
EAST: LOGO SIGN: 6.70 SF
LETTER SIGN: 10.32 SF
WEST: LOGO SIGN: 6.70 SF
LETTER SIGN: 10.32 SF
TOTAL: 98.50 SF

BULK REGULATIONS:

LOT AREA: MINIMUM: 1.00 ACRE (SECTION 6.28)
ACTUAL: 1.41 ACRE (61,391 SF)

LOT WIDTH: MINIMUM: NOT APPLICABLE
ACTUAL: 194.77 FEET

LOT DEPTH: MINIMUM: NOT APPLICABLE
ACTUAL: 315.00 FEET

LOT COVERAGE: 30% OPEN SPACE REQUIRED (TABLE 5.03.B-1)

PROPOSED: GROSS AREA: 61,391 SF
BUILDINGS: SF
DISPENSER MAT: SF
PAVEMENT: SF
NET AREA: SF (LANDSCAPE AREA)

OPEN SPACE PROVIDED: --%
BUILDING HEIGHT: MINIMUM: 1 STORY: 14.00' (TABLE 5.03.B.1)
MAXIMUM: 3 STORY: 45.00' (TABLE 5.03.B.1)
ACTUAL: 1 STORY: 19.00'

BUILDING AREA: MINIMUM: NOT SPECIFIED
ACTUAL: 850 SF TRANSACTION KIOSK
3,956 SF DISPENSER CANOPY

SETBACKS:

BUILDING: FRONT: REQUIRED: 10.00' (TABLE 5.03.B-1)
ACTUAL: 24.77' (ROCHESTER ROAD)

SIDE: MINIMUM: N/A (TABLE 5.03.B-1)
ACTUAL: 108.61' (NORTH)
47.08' (SOUTH)

REAR: MINIMUM: 30.00' (TABLE 5.03.B-1)
ACTUAL: 268.47' (WEST)

CANOPY EDGE: FRONT: MINIMUM: 25.00' (SECTION 6.28A)
ACTUAL: 125.09' (ROCHESTER ROAD)

SIDE: MINIMUM: 10.00' (SECTION 6.28A)
ACTUAL: 82.31' (NORTH)
20.53' (SOUTH)

REAR: MINIMUM: 20.00' (SECTION 6.28A)
ACTUAL: 146.91' (WEST)

CANOPY SUPPORT: FRONT: MINIMUM: 35.00' (SECTION 6.28A)
ACTUAL: 139.09' (ROCHESTER ROAD)

SIDE: MINIMUM: 20.00' (SECTION 6.28A)
ACTUAL: 94.31' (NORTH)
32.53' (SOUTH)

REAR: MINIMUM: 30.00' (SECTION 6.28A)
ACTUAL: 160.91' (WEST)

DISPENSER ISLAND: FRONT: MINIMUM: 30.00' (SECTION 6.28A)
ACTUAL: 131.59' (ROCHESTER ROAD)

SIDE: MINIMUM: 20.00' (SECTION 6.28A)
ACTUAL: 92.81' (NORTH)
31.03' (SOUTH)

REAR: MINIMUM: 20.00' (SECTION 6.28A)
ACTUAL: 153.41' (WEST)

OFF-STREET PARKING:

PARKING DIMENSIONS: MINIMUM: 9.50' STALL WIDTH x 19.00' STALL LENGTH
x 24.00' DRIVE AISLE WIDTH (TABLE 13.06-B)
PROVIDED: 9.50' STALL WIDTH x 19.00' STALL LENGTH
x 24.00' DRIVE AISLE

PARKING REQUIRED: FUEL CENTER: 12: 2 / FUEL STATION = 2 x 6 = 12 (TABLE 13.06-A)
3: 1 / 125 NFA = 315 NFA / 125 SF = 2.53
15 PARKING STALLS REQUIRED

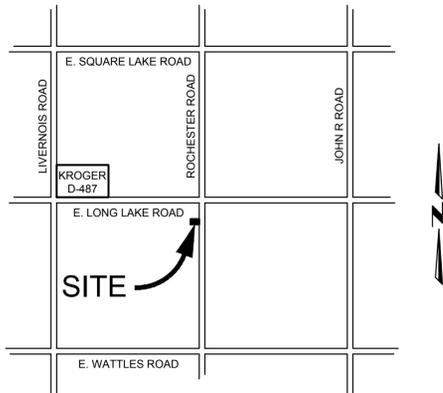
ACCESSIBLE: 1: PER MBC (TABLE 1106.1)

PARKING PROVIDED: PROPOSED: 21 PARKING STALLS (1 ACCESSIBLE)



Kroger D-487: Retail Fuel Center
4889 Rochester Road, Troy, Michigan 48085

The Kroger Co. of Michigan Landplan Engineering, P.A.
Developer: 40393 Grand River Avenue, Novi, Michigan 48375
Engineer: 37740 Hills Tech Drive, Farmington Hills, Michigan 48331



LOCATION MAP

SCOPE OF WORK: CONSTRUCTION OF A RETAIL FUEL CENTER CONSISTING OF ONE (1) 3,956 SF CANOPY, ONE (1) 760 SF EXPANDED KIOSK, AND SIX (6) DISPENSER ISLANDS ON AN OFF-SITE PARCEL.

LEGEND table listing symbols for various site features such as Area Drain, Mail Box, Spot Elevation, and various utility lines.

SHEET INDEX table listing sheet numbers, titles, and revision numbers for various sheets including Landplan Engineering, P.A., Survey, and Architectural Graphics.



SITE PLAN REVIEW NOT FOR CONSTRUCTION

Professional seal and contact information for Landplan Engineering, P.A., including address and phone number.

Kroger logo and address information for The Kroger Co. of Michigan.

KROGER D-487
RETAIL FUEL CENTER
4889 ROCHESTER ROAD at E. LONG LAKE ROAD
TROY, MI 48085
COVER SHEET

Revision table with columns for REV, DATE, and DESCRIPTION.

Professional seal for John G. Damrath III, Engineer, State of Michigan.

DATE: 02.16.2012
PROJECT NO.: 2012.1015
DESIGNED BY: LPE
DRAWN BY: LPE
CHECKED BY: JGD

ISSUE SHEET NO. G-001

**GENERAL NOTES:**

- IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO KNOW ALL OBSERVABLE CONDITIONS AND TO CONFORM TO ALL APPLICABLE CODES. THE GENERAL CONTRACTOR SHALL INFORM THE OWNER'S REPRESENTATIVE OF ANY NECESSARY OR APPROPRIATE QUESTIONS OR CLARIFICATIONS. THE GENERAL CONTRACTOR SHALL INCORPORATE ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND STANDARDS, INCLUDING FEDERAL ADA REQUIREMENTS.
- THE DRAWINGS AND PROJECT MANUAL (INCLUDING ASSOCIATED STUDIES, DRAWINGS, SHOP DRAWINGS AND SIMILAR INSTRUMENTS AS APPLICABLE) CONSTITUTE THE GUIDELINES FOR THE PROJECT AND SHALL BE USED IN CONJUNCTION WITH THE AFOREMENTIONED ENTIRE BODY OF PROJECT INFORMATION. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE COMPLETE INFORMATION TO ALL JURISDICTIONAL AUTHORITIES, SUBCONTRACTORS, ALLIED CONSULTANTS, HIRES, AND ASSIGNS.
- ALL CONSTRUCTION SHALL COMPLY WITH THE DRAWINGS, PROJECT MANUAL, CODES AND STANDARDS OF THE JURISDICTIONAL AUTHORITY OR AUTHORITIES. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS. IN CASE OF DISCREPANCIES, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
- THE GENERAL CONTRACTOR PERFORMING THE WORK SHALL MAINTAIN A GENERAL LICENSE WITH HAZ MAT CERTIFICATION FROM THE CONTRACTOR'S STATE LICENSE BOARD AND/OR OTHER JURISDICTIONAL AUTHORITY.
- THE GENERAL CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES FOUND DURING THE INVESTIGATION OF EXISTING UTILITIES AND TOPOGRAPHY AND/OR DURING THE CONSTRUCTION PHASE.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, PERMIT FEES, LICENSES AND LICENSE FEES. THE GENERAL CONTRACTOR SHALL OBTAIN ALL NECESSARY CONSTRUCTION PERMITS REQUIRED TO PERFORM ALL REQUIRED WORK. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE ALL TRAFFIC CONTROL NECESSARY FOR THIS WORK.
- WORK SHALL CONFORM TO THE REQUIREMENTS OF THE GOVERNING AGENCY OR AGENCIES HAVING JURISDICTION. GRADING, PAVING, AND MATERIALS SHALL COMPLY WITH THE JURISDICTIONAL ROADWAY AUTHORITY OR AUTHORITIES (E.G., DEPARTMENT OF TRANSPORTATION) STANDARD SPECIFICATIONS FOR CONSTRUCTION AS WELL AS PROJECT SPECIFICATIONS AND DRAWINGS. IN CASE OF DISCREPANCIES BETWEEN REQUIREMENTS, ATTAIN CLARIFICATION FROM THE OWNER'S REPRESENTATIVE.
- THE GENERAL CONTRACTOR SHALL ENSURE ALL SITE INSPECTIONS REQUIRED BY CITY AND/OR STATE AGENCIES, AND/OR OTHER JURISDICTIONAL AUTHORITY ARE TO BE SCHEDULED A MINIMUM OF FIVE WORKING DAYS IN ADVANCE OF REQUESTED INSPECTION DATE.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE OWNER'S REPRESENTATIVE IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE DRAWINGS, PROJECT MANUAL AND/OR FIELD CONDITIONS SO THAT APPROPRIATE ADJUSTMENTS AND/OR REVISIONS CAN BE MADE PRIOR TO CONSTRUCTION. ANY CONFLICTS BETWEEN THE DRAWINGS AND PROJECT MANUAL SHALL BE IDENTIFIED BY THE GENERAL CONTRACTOR AND CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO BIDDING.
- MATERIAL TESTING SHALL BE SUPPLIED BY THE OWNER'S REPRESENTATIVE. THE GENERAL CONTRACTOR SHALL COORDINATE WITH TESTING FIRM. ALL RE-TESTING IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- SOIL SAMPLES MAY BE REQUIRED TO BE TAKEN FOR TESTING AT THE DIRECTION OF HAZ MAT, OTHER JURISDICTIONAL AUTHORITY, OR THE OWNER'S REPRESENTATIVE.
- THE GENERAL CONTRACTOR SHALL MAINTAIN A CLEAN WORK AREA. TRASH AND WASTE MATERIALS SHALL BE COLLECTED AT A SAFE POINT, AWAY FROM FLAMES OR OTHER FIRE SOURCES. THE GENERAL CONTRACTOR SHALL PREVENT ANY LEAKS OR DRIPS OF HYDRAULIC FLUID, MOTOR OIL, MOTOR FUELS, SOLVENTS, AND OTHER HYDROCARBONS FROM CONTAMINATING THE GROUND. SUCH SPILLS SHALL BE IMMEDIATELY COVERED WITH AN OIL ABSORBING MEDIUM (E.G. "OIL DRY") AND REMOVED FROM THE SITE IN A LEGAL AND ENVIRONMENTALLY SOUND MANNER. TRASH SHALL BE PROPERLY DISPOSED OF DAILY, UNLESS A COVERED DUMPSTER IS PROVIDED AND ITS LOCATION APPROVED BY THE OWNER'S REPRESENTATIVE.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL RUBBISH, TRASH, DEBRIS AND ORGANIC MATERIAL IN A LAWFUL MANNER.
- PROVIDE ADEQUATE BARRICADES AT DRIVES, ENTRANCES, EXCAVATIONS, OTHER OPENINGS, AND HAZARDOUS AREAS TO KEEP OUT UNAUTHORIZED PERSONS, FOR PUBLIC SAFETY, AND TRAFFIC CONTROL. SAFETY PROVISIONS OF APPLICABLE LAWS SHALL BE OBSERVED AT ALL TIMES. BARRICADES LEFT IN PLACE AT NIGHT SHALL BE LIGHTED.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND FOR DEWATERING TO ACCOMPLISH ALL WORK INDICATED ON PLANS AND TO PERFORM REQUIRED CONSTRUCTION OPERATIONS. DEWATERING SHALL NOT DISCHARGE TO ANY SANITARY SEWER SYSTEM OR BE PUMPED ONTO ANY PUBLIC ROADWAY.
- PROMPTLY REMOVE ALL DEMOLITIONS, PROJECT DISCARDS, RUBBISH, AND DEBRIS FROM THE LIMITS OF THE OWNER'S PROPERTY AND/OR EFFECTIVE PROJECT LIMITS, AND DISPOSE IN A LEGAL MANNER.
- ALL EQUIPMENT TO BE INSTALLED SHALL BE UL APPROVED.
- THE GENERAL CONTRACTOR SHALL PROVIDE A TRAFFIC SEQUENCING AND SCHEDULING PLAN AT THE ON-SITE PRE-CONSTRUCTION MEETING WITH THE OWNER'S REPRESENTATIVES AND APPLICABLE LANDLORD'S REPRESENTATIVE(S).
- THE GENERAL CONTRACTOR'S MANNER AND METHOD OF INGRESS AND EGRESS WITH RESPECT TO THE PROJECT AREA SHALL IN NO WAY PROHIBIT OR DISTURB NORMAL PEDESTRIAN OR VEHICULAR TRAFFIC IN THE VICINITY AND IS SUBJECT TO REGULATION AND WRITTEN APPROVAL OF AFFECTED OWNER(S), JURISDICTIONAL AUTHORITY, AND/OR AUTHORITIES, AS APPLICABLE.
- ALL CONSTRUCTION SHALL BE CONDUCTED TO CAUSE MINIMAL INTERFERENCE WITH STREETS, DRIVES OR WALKS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF TRAFFIC AND SHALL NOT CAUSE THE CLOSURE OR OBSTRUCTION OF STREETS, DRIVES, WALKS OR USER FACILITIES WITHOUT PERMISSION FROM THE OWNER'S REPRESENTATIVE.
- THE GENERAL CONTRACTOR SHALL PHASE CONSTRUCTION IN SUCH A WAY AS TO MAINTAIN AN ACCESS ROUTE FROM AN ENTRANCE DRIVE TO TRUCK DOCKS AND/OR LOADING AREA(S) AT ALL TIMES.
- CONTRACTOR SHALL KEEP EXISTING STREETS, ROADS AND DRIVES CLEAR OF DIRT, DEBRIS AND EQUIPMENT.
- THE GENERAL CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER'S REPRESENTATIVE FOR PARKING AND STORAGE OF EQUIPMENT. THIS AREA, AS WELL AS THE JOB SITE, SHALL BE ENCLOSED IN CHAIN LINK FENCING. A TRAFFIC LANE SHALL BE DESIGNATED FOR INGRESS AND EGRESS FROM THE WORK AREA. IF REQUIRED, FLAG MEN SHALL BE PROVIDED TO PROVIDE FOR SAFE AND EFFICIENT MOVEMENT OF VEHICLES. NO CHANGES TO THE WORK AREA OR TO THE AGREED TRAFFIC PATTERN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER'S REPRESENTATIVE. THE OWNER'S REPRESENTATIVE WILL SECURE APPROVAL FOR SUCH CHANGES, IF APPLICABLE.
- NO EQUIPMENT OR MATERIAL STORAGE IS PERMITTED WITHIN THE ROAD RIGHT-OF-WAY.

- FOR THE DURATION OF CONSTRUCTION OPERATIONS, EMPLOYEE(S) WILL PARK IN A LOCATION DESIGNATED BY THE OWNER'S REPRESENTATIVE.
- RESTORE ALL STREET SURFACES, DRIVEWAYS, CULVERTS, ROADSIDE DRAINAGE DITCHES, AND OTHER PUBLIC OR PRIVATE STRUCTURES THAT ARE DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITIONS AND TO THE SATISFACTION OF AFFECTED OWNER(S), JURISDICTIONAL AUTHORITY, AND/OR AUTHORITIES, AS APPLICABLE.
- PROTECT EXISTING TREES TO REMAIN WITH TEMPORARY FENCING PLACED AT THE DRIP LINE. NO GROUND DISTURBANCE OR STORAGE OF MATERIAL SHALL OCCUR WITHIN THE DRIP LINE LIMITS, UNLESS HEREON EXPRESSLY INDICATED OTHERWISE.
- WRITTEN DIMENSIONS SHALL PREVAIL. NO DIMENSION MAY BE SCALED. REFER ANY UNCLEAR ITEMS TO THE OWNER'S REPRESENTATIVE FOR INTERPRETATION.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PROPOSED DIMENSIONS FOR BUILDINGS, WALLS, CONCRETE SLABS, UTILITY SERVICE POINT CONNECTIONS, ETC., AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO CONSTRUCTION.
- COORDINATES AND/OR DIMENSIONS SHOWN ON THESE DRAWINGS ARE TO BACK OF CURB, OUTSIDE FACE OF BUILDING FOUNDATIONS, EDGE OF PAVEMENT, OR CENTER OF STRUCTURE OR SIGN UNLESS NOTED OTHERWISE.
- ANY BEARINGS USED HEREON ARE FOR THE PURPOSE OF ANGULAR MEASUREMENT ONLY AND ARE NOT NECESSARILY REFERENCED TO TRUE OR MAGNETIC NORTH.
- UNDERGROUND UTILITIES MUST BE MARKED, AS REQUIRED BY PUBLIC ACT 53 OF 1974. TELEPHONE THE REGIONAL UTILITY LOCATOR/ONE-CALL SYSTEM OFFICE BEFORE ANY DIGGING.
- THE GENERAL CONTRACTOR AT ALL TIMES SHALL ABIDE BY ALL OSHA, FEDERAL, STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD LINES. IF THE GENERAL CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO UNDERGROUND AND/OR OVERHEAD ELECTRIC LINES, CONTACT THE AFFECTED UTILITY COMPANY AND MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS, PRIOR TO OPERATION.
- THE GENERAL CONTRACTOR SHALL, AT HIS OR HER EXPENSE, RESTORE ANY AND ALL STRUCTURES, PIPE, UTILITY, PAVEMENT, CURB, SIDEWALK, LANDSCAPED AREA, ETC. DISTURBED WITHIN THE SITE AND/OR ADJOINING PROPERTIES DURING DEMOLITION OR CONSTRUCTION. SUCH FACILITIES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER, TO THE SATISFACTION OF THE AFFECTED OWNER(S).
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION.
- IN ALL CASES THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS IS ASSUMED TO BE APPROXIMATE. LOCATIONS ARE BASED ON THE BEST AVAILABLE REFERENCE PLANS AND AN ACTUAL FIELD SURVEY OF VISIBLE STRUCTURES. CONTACT THE REGIONAL UTILITY LOCATOR/ONE-CALL SYSTEM OFFICE BEFORE DIGGING.
- THE GENERAL CONTRACTOR SHALL NOT INTERRUPT EXISTING UTILITIES AND/OR SERVICING FACILITIES OCCUPIED AND USED BY THE OWNER, LANDLORD, OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE AFFECTED OWNER, LANDLORD, JURISDICTIONAL AUTHORITY, AND/OR UTILITY COMPANY. INTERRUPTIONS SHALL OCCUR ONLY AFTER ACCEPTABLE TEMPORARY OR PERMANENT SERVICE HAS BEEN PROVIDED.
- ELECTRICAL WORK IN OR AFFECTING THE MAIN STORE TO OCCUR AFTER BUSINESS HOURS AND AFTER STORE EMPLOYEES HAVE LEFT THE BUILDING.
- THE CONTRACTOR SHALL MAINTAIN, AT THE JOB SITE, A COMPLETE SET OF CONSTRUCTION DOCUMENTS AND SPECIFICATIONS AND MAKE THEM AVAILABLE TO THE OWNER'S REPRESENTATIVE, SUBCONTRACTORS, AND/OR ALLIED CONSULTANTS THROUGHOUT THE CONSTRUCTION PROCESS.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE TIMELY COMPLETION OF ALL PHASES OF CONSTRUCTION. CONSTRUCTION PROJECT TO BE COMPLETED IN ACCORDANCE WITH ALL DRAWINGS AND PROJECT MANUAL, AND TURNED OVER TO THE OWNER'S REPRESENTATIVE IN FULLY OPERATIONAL CONDITION.
- UPON COMPLETION OF THE WORK, THERE SHALL BE A FINAL INSPECTION OF THE PROJECT BY THE OWNER'S REPRESENTATIVE. ALL EQUIPMENT SHALL BE TESTED UNDER NORMAL OPERATING CONDITIONS. THE GENERAL CONTRACTOR SHALL HAVE AN ELECTRICIAN AVAILABLE DURING THE OPENING TO IMPLEMENT ANY APPROPRIATE OR REQUIRED ADJUSTMENTS TO THE EQUIPMENT.
- AFTER ALL WORK HAS BEEN COMPLETED AND THE PROJECT HAS BEEN TESTED AND ACCEPTED, THE GENERAL CONTRACTOR SHALL SWEEP THE ENTIRE WORK AREA CLEAN AND REMOVE ALL DIRT, MUD, TRASH, WASTE MATERIAL, CONSTRUCTION EQUIPMENT, AND VEHICLES. DAMAGED PARKING STRIPES OR STAINED PAVEMENT SHALL BE REFINISHED TO ITS ORIGINAL CONDITION BY THE GENERAL CONTRACTOR.
- SPECIAL CARE SHALL BE TAKEN DURING ALL TRENCHING OPERATIONS. SHEETING AND BRACING, CRIBBING, ETC. MUST BE INSTALLED AS NECESSARY OR APPROPRIATE TO PROVIDE MAXIMUM SAFETY TO THE GENERAL CONTRACTOR'S WORKERS, AND SHALL BE IN FULL COMPLIANCE WITH OSHA REGULATIONS.
- SAWCUT AND REMOVE EXISTING ASPHALT PAVEMENT AS NEEDED TO INSTALL NEW CONCRETE CURBING, WALKS, UNDERGROUND UTILITIES AND/OR NEW BUILDING(S) OR STRUCTURE(S). SAWCUTS SHALL BE MADE A MINIMUM OF 1' BEYOND THE ACTUAL NEW CURB OR WALK LIMITS.
- REMOVE AND REPLACE EXISTING PAVEMENT AS NEEDED TO MATCH EXISTING AND PROPOSED GRADES.
- PRIOR TO PROCEEDING FURTHER WITH THE AFFECTED WORK, THE GENERAL CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCY REGARDING THE PROPOSED WORK OR UNFORESEEN CONDITIONS.
- ALL PAVEMENTS ASSOCIATED AGGREGATE MATERIALS AND WORK COMPLETED SHALL BE IN STRICT ACCORDANCE WITH THE STATE DOT OR OTHER JURISDICTIONAL AUTHORITY SPECIFICATIONS AND STANDARD DETAILS UNLESS OTHERWISE EXPRESSLY SPECIFIED IN THE DRAWINGS AND PROJECT MANUAL.
- PIPE BOLLARDS SHALL BE INSTALLED IN TRAFFIC AND LOADING AREAS AS REQUIRED TO PROTECT BUILDING CORNERS, RECEIVING AREAS, HYDRANTS, TRANSFORMERS, METERS, GENERATORS, COMPACTORS, STEPS AND RAILINGS AS NECESSARY. SEE DETAIL 3/C-500.
- WHENEVER REQUIRED OR APPROPRIATE, THE GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS AND MATERIALS TO THE OWNER'S REPRESENTATIVE, ENGINEER AND JURISDICTIONAL AUTHORITY OR AUTHORITIES, AND SHALL ACQUIRE SHOP DRAWING APPROVAL PRIOR TO FABRICATION AND/OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW AND APPROVAL.
- THE GENERAL CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF BUILDING(S), ROOF DRAINS, RAISED CONCRETE SIDEWALKS, RAMPS, STAIRWAYS, ETC.

- TRAFFIC CONTROL SIGNAGE SHALL CONFORM TO THE STATE DOT AND/OR OTHER JURISDICTIONAL AUTHORITY STANDARDS, AND TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- FIRE LANES SHALL BE ESTABLISHED AND PROPERLY DESIGNATED IN ACCORDANCE WITH THE LOCAL MUNICIPALITY, FIRE DEPARTMENT AND OTHER JURISDICTIONAL AUTHORITY REQUIREMENTS.
- IF APPLICABLE, THE GENERAL CONTRACTOR SHALL REMOVE ON-SITE CONFLICTING PAVEMENT MARKINGS IN A METHOD APPROVED BY THE OWNER'S REPRESENTATIVE. STATE DOT AND OTHER JURISDICTIONAL AUTHORITY. THE GENERAL CONTRACTOR SHALL EXERCISE CARE TO AVOID INSTALLATION OF CONFLICTING SIGNS AND MARKINGS.
- AGGREGATE AND BITUMINOUS PAVEMENT MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH STATE DOT AND/OR OTHER JURISDICTIONAL AUTHORITY STANDARDS. THE GENERAL CONTRACTOR SHALL SUBMIT AGGREGATE SIEVE ANALYSES AND A JOB-MIX FORMULAS FOR AGGREGATE AND BITUMINOUS PAVEMENT TO THE OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL AT LEAST 14 DAYS PRIOR TO PAVEMENT INSTALLATION.
- ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED IN THE DRAWINGS AND PROJECT MANUAL MAY BE USED IF REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE AND OTHER AFFECTED JURISDICTIONAL AUTHORITY PRIOR TO INSTALLATION.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PLANS, SHOP DRAWINGS, LAYOUTS AND SURVEY INFORMATION, AND FOR EXECUTING ALL SURVEY FIELD WORK REQUIRED, TO PERFORM CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS AND PROJECT MANUAL.
- THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO MODIFY THE DETAILS AND STANDARDS OF CONSTRUCTION FOR ALL PRIVATE FACILITIES FROM THOSE INDICATED IN THE DRAWINGS AND PROJECT MANUAL, PROVIDED THAT ANY ALTERNATE STANDARD COMPLIES WITH ALL JURISDICTIONAL AUTHORITY REQUIREMENTS, AND THAT THE GENERAL DESIGN INTENT OF THE PROJECT IS NOT COMPROMISED.

**BID NOTES:**

- THE GENERAL CONTRACTOR SHALL REFER TO GEOTECHNICAL ENGINEERING REPORT, PROJECT No. \_\_\_\_\_, DATED \_\_\_\_\_, PREPARED BY \_\_\_\_\_.
- THE GENERAL CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CALCULATING ALL QUANTITIES.

**DISCLAIMERS:**

- THIS SET OF DRAWINGS IS INTENDED AS A SET OF GUIDELINES FOR THE PROJECT AND ARE TO BE USED IN CONJUNCTION WITH THE PROJECT MANUAL AND/OR SUPPLEMENTAL DATA TO BE PROVIDED BY THE OWNER'S REPRESENTATIVE. THEY MUST BE READ TO INCORPORATE ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING FEDERAL A.D.A. REQUIREMENTS.
- EXISTING SITE INFORMATION HEREON IS PROVIDED BY THE OWNER, SURVEYOR, PLANS PREPARED BY OTHERS, AND/OR FIELD SURFACE EVIDENCE. ALL LOCATIONS ARE PRESUMED TO BE APPROXIMATE. LANDPLAN ENGINEERING, P.A. ASSUMES NO LIABILITY FOR INFORMATION REPRESENTING EXISTING CONDITIONS HEREON. IT IS THE GENERAL CONTRACTOR RESPONSIBILITY TO THOROUGHLY REVIEW THESE DRAWINGS AND SUPPLEMENTAL OWNER PROVIDED DATA WITH ACTUAL SITE CONDITIONS. THE GENERAL CONTRACTOR SHALL NOTE ANY DISCREPANCIES IN THE DRAWINGS AND ACTUAL SITE CONDITIONS, WHETHER SHOWN ON THE PLANS OR NOT, WITH THE OWNER'S REPRESENTATIVE PRIOR TO BIDDING AND CONSTRUCTION.
- THE DRAWINGS AND PROJECT MANUAL ASSUME THERE ARE NO UNUSUAL SOIL CONDITIONS, UNKNOWN UNDERGROUND STRUCTURES OR IMPEDIMENTS, WIND LOADS, AND/OR SIMILAR UNFORESEEN CIRCUMSTANCES. UNUSUAL CONDITIONS DETECTED BY THE GENERAL CONTRACTOR SHALL BE IMMEDIATELY REPORTED TO THE OWNER'S REPRESENTATIVE AND MAY REQUIRE SIGNIFICANT CHANGES TO THESE DRAWINGS.
- THE DRAWINGS AND PROJECT MANUAL ARE AND SHALL REMAIN THE PROPERTY OF THE KROGER CO. REPRODUCTION OR ALTERATION WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE KROGER CO. IS PROHIBITED. (NOT PUBLISHED: ALL RIGHTS RESERVED).

Civil Engineering  
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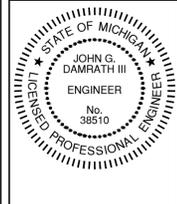
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**KROGER D-487  
RETAIL FUEL CENTER  
4889 ROCHESTER ROAD at E. LONG LAKE ROAD  
TROY, MI 48065  
GENERAL NOTES**

REV	DATE	DESCRIPTION
1	04.23.2012	SITE PLAN REVIEW
3	06.06.2012	SPG REVISIONS



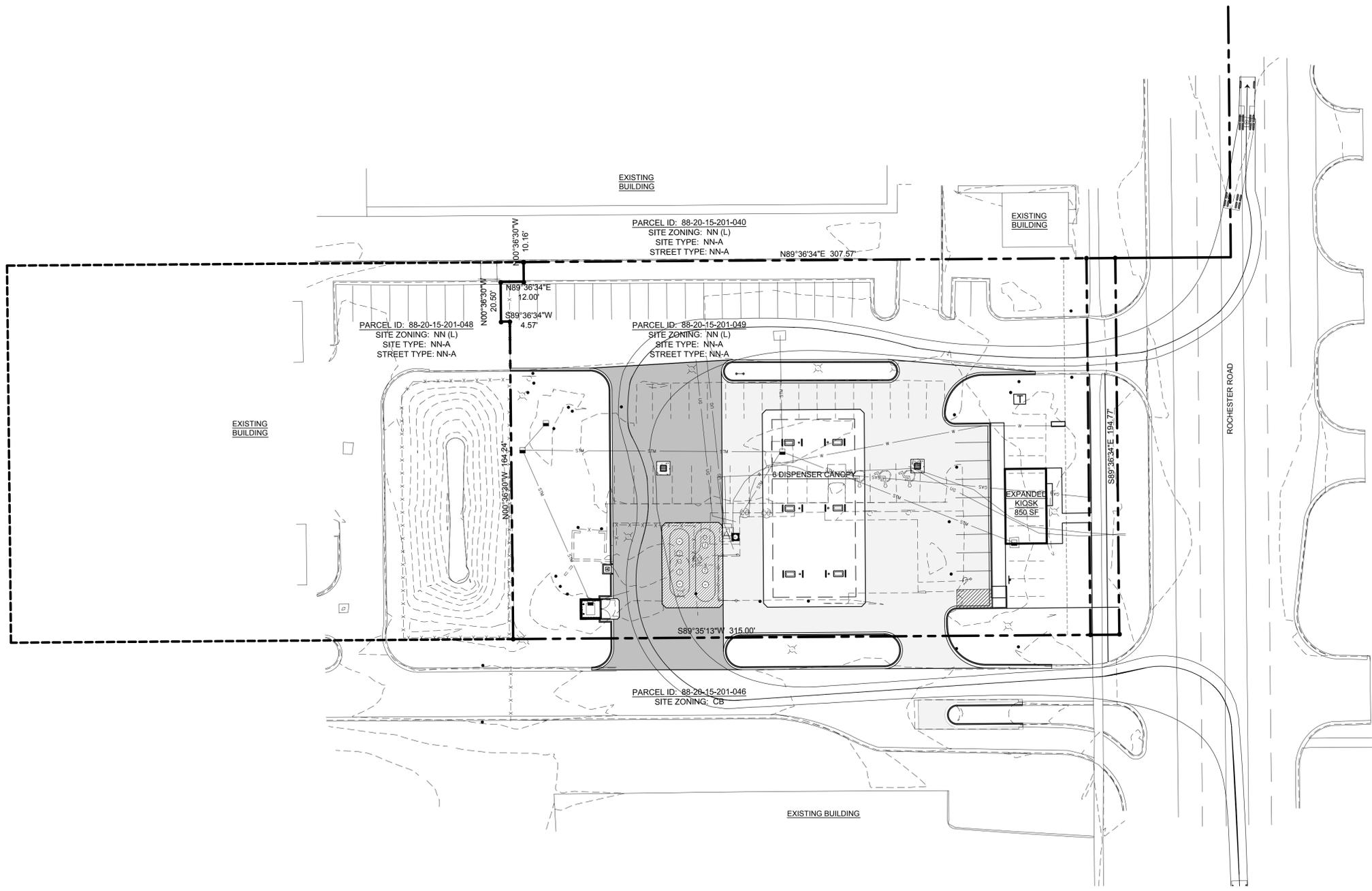
DATE: 02.16.2012  
PROJECT NO.: 2012.1016  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**G-002**

**SITE PLAN REVIEW  
NOT FOR CONSTRUCTION**

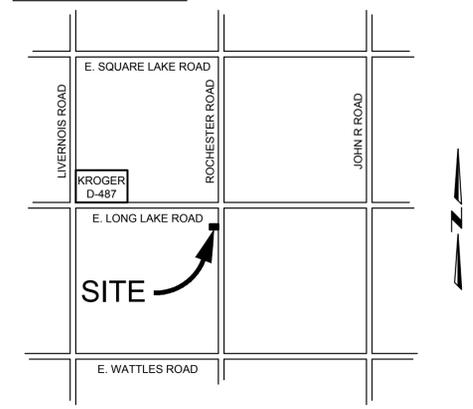


FILE NAME: q:\2012\1015\CAD\Const\Site\C-002 Comp. Site Plan Prop. Conditions.dwg LAST SAVED BY: Mike Vanderbeke SAVED DATE: 6/6/2012 3:00 PM PLOTTED: 6/6/2012 3:55 PM



**COMPOSITE SITE PLAN - PROPOSED CONSTRUCTION**  
SCALE: 1" = 30'-0"

**LOCATION MAP:**



**PROJECT NARRATIVE:**

CONSTRUCTION OF A RETAIL FUEL CENTER CONSISTING OF ONE (1) 3,956 S.F. CANOPY, ONE (1) 760 S.F. KIOSK, AND FIVE (6) DISPENSER ISLANDS ON AN OFF-SITE PARCEL.

**PROJECT DESCRIPTION:**

**DEVELOPMENT NAME:** KROGER D-487 - RETAIL FUEL CENTER  
**DEVELOPER:** THE KROGER CO. OF MICHIGAN  
40393 GRAND RIVER AVENUE  
NOVI, MICHIGAN 48375  
**OWNER:** KING OF LONG LAKE, INC.  
4897 ROCHESTER ROAD  
TROY, MICHIGAN 48085

**PROPERTY DESCRIPTION:**

THE SOUTH 195.00 FEET OF THE NORTH 660.00 FEET OF THE EAST 636.00 FEET OF THE NORTHEAST 1/4 OF SECTION 15, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, EXCEPTING THEREOF THE EAST 60 FEET FOR ROAD PURPOSES.

ALSO DESCRIBED AS BEING PART OF THE NORTHEAST 1/4 OF SECTION 15, T2N-R11E, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEGINNING AT A POINT WHICH IS S 00°36'30" E, ALONG THE EAST LINE OF SAID SECTION 15 A DISTANCE OF 465.30 FEET AND SOUTH S 89°36'34" W, 60.00 FEET FROM THE NORTHEAST CORNER SAID SECTION 15; THENCE FROM SAID POINT OF BEGINNING S 00°36'30" E, 194.77 FEET; THENCE S 89°35'13" W, 315.00 FEET; THENCE N 00°36'30" W, 164.24 FEET; THENCE S 89°36'34" W, 4.57 FEET; THENCE N 00°36'30" W, 20.50 FEET; THENCE N 89°36'34" E, 12.00 FEET; THENCE N 89°36'34" E, 576.00 FEET TO THE POINT OF BEGINNING; CONTAINING 2.577 ACRES (112,254 SQ. FT.).

**PARCEL 1 DESCRIPTION:**

PART OF THE NORTHEAST 1/4 OF SECTION 15, T2N-R11E, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS BEGINNING AT A POINT WHICH IS S 00°36'30" E, ALONG THE EAST LINE OF SAID SECTION 15 A DISTANCE OF 465.30 FEET AND SOUTH S 89°36'34" W, 60.00 FEET FROM THE NORTHEAST CORNER SAID SECTION 15; THENCE FROM SAID POINT OF BEGINNING S 00°36'30" E, 194.77 FEET; THENCE S 89°35'13" W, 315.00 FEET; THENCE N 00°36'30" W, 164.24 FEET; THENCE S 89°36'34" W, 4.57 FEET; THENCE N 00°36'30" W, 20.50 FEET; THENCE N 89°36'34" E, 12.00 FEET; THENCE N 89°36'34" E, 576.00 FEET TO THE POINT OF BEGINNING; CONTAINING 1.409 ACRES (61,391 SQ. FT.).

**PARCEL 2 DESCRIPTION:**

PART OF THE NORTHEAST 1/4 OF SECTION 15, T2N-R11E, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS BEGINNING AT A POINT WHICH IS S 00°36'30" E, ALONG THE EAST LINE OF SAID SECTION 15 A DISTANCE OF 465.30 FEET AND SOUTH S 89°36'34" W, 367.57 FEET FROM THE NORTHEAST CORNER SAID SECTION 15; THENCE FROM SAID POINT OF BEGINNING S 00°36'30" E, 10.16 FEET; THENCE S 89°36'34" W, 12.00 FEET; THENCE S 00°36'30" E, 20.50 FEET; THENCE N 89°36'34" E, 4.57 FEET; THENCE S 00°36'30" W, 164.24 FEET; THENCE S 89°35'13" W, 251.00 FEET; THENCE N 00°36'30" W, 195.00 FEET; THENCE N 89°36'34" E, 268.43 FEET TO THE POINT OF BEGINNING; CONTAINING 1.168 ACRES (50,863 SQ. FT.).

**NOTES TO GENERAL CONTRACTOR:**

- UNDERGROUND UTILITIES MUST BE MARKED, AS REQUIRED BY PUBLIC ACT 53 OF 1974. TELEPHONE THE REGIONAL UTILITY LOCATOR/ONE-CALL SYSTEM OFFICE A MINIMUM OF THREE (3) WORKING DAYS BEFORE ANY DIGGING.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CALCULATING ALL MATERIAL QUANTITIES.
- SEE SHEET G-002 FOR OTHER IMPORTANT GENERAL NOTES.

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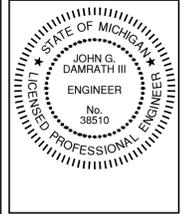
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**KROGER D-487  
RETAIL FUEL CENTER  
4889 ROCHESTER ROAD at E. LONG LAKE ROAD  
TROY, MI 48085  
COMPOSITE SITE PLAN - PROPOSED CONSTRU.**

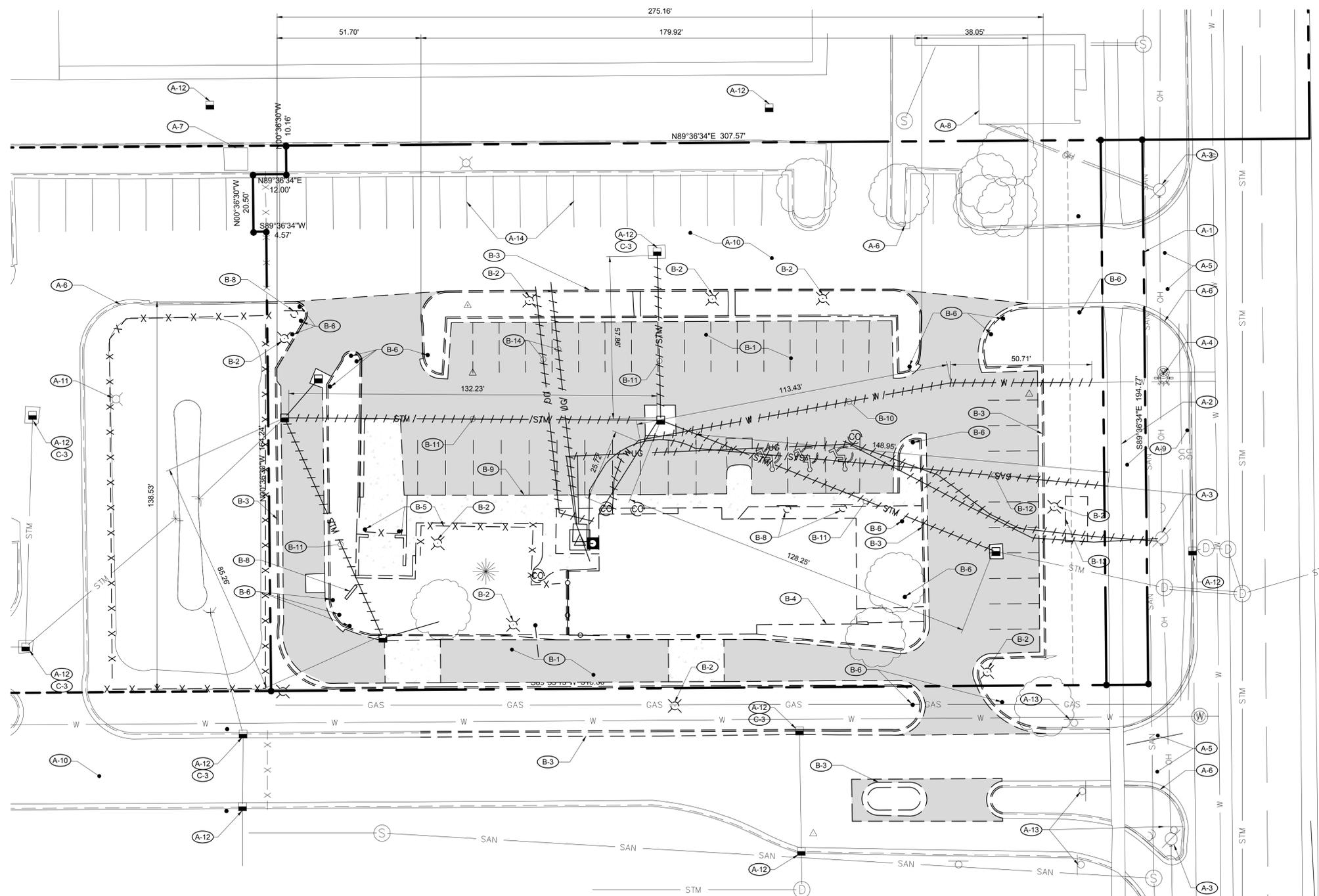
REV	DATE	DESCRIPTION
0	04.11.2012	OWNER REVIEW
1	04.23.2012	SITE PLAN REVIEW
3	06.06.2012	SPG REVISIONS



**DATE:** 02.16.2012  
**PROJECT NO.:** 2012.1016  
**DESIGNED BY:** LPE  
**DRAWN BY:** LPE  
**CHECKED BY:** JGD

**SHEET NO.  
C-002**

FILE NAME: c:\2012\1015\CAD\Const\_Site\C-100 Demo & Erosion Control Plan.dwg LAST SAVED BY: Mike Vanderbeke SAVED DATE: 6/6/2012 3:17 PM PLOTTED: 6/6/2012 3:55 PM



**DEMOLITION AND EROSION CONTROL PLAN**  
SCALE: 1" = 20'-0"

- A - EXISTING SITE FEATURES TO REMAIN:**
- (A-1) PROPERTY LINE
  - (A-2) CONCRETE SIDEWALK
  - (A-3) UTILITY POLE
  - (A-4) FIRE HYDRANT
  - (A-5) APPROACH
  - (A-6) CONCRETE CURB
  - (A-7) TRANSFORMER PAD (SEE UTILITY DETAIL SHT.)
  - (A-8) BUILDING
  - (A-9) LANDSCAPING
  - (A-10) ASPHALT
  - (A-11) SITE LIGHTING
  - (A-12) CATCH BASIN
  - (A-13) TRAFFIC SIGN
  - (A-14) PARKING SPACE

- SCOPE OF WORK:**
- (B-1) SAWCUT, REMOVE AND DISPOSE OF SITE PAVEMENT AS REQUIRED TO ALLOW FOR NEW CONSTRUCTION.
  - (B-2) DISCONNECT AND REMOVE INDICATED SITE LIGHTING AND FOUNDATION(S). DISPOSE OR RE-USE AS DIRECTED IN PLANS AND/OR BY OWNER'S REPRESENTATIVE. REROUTE AND/OR TERMINATE EXISTING UTILITIES AS REQUIRED BY CODE TO MAINTAIN OPERATION OF REMAINING LOT LIGHTS.
  - (B-3) SAWCUT, REMOVE AND DISPOSE OF CONCRETE CURB AS REQUIRED TO ALLOW FOR NEW CONSTRUCTION. PRIOR TO DEMOLITION, REMOVE AND RELOCATE TREES AND/OR SHRUBS. SEE LANDSCAPE PLAN, SHEET L-100.
  - (B-4) REMOVE BUILDING, FOUNDATIONS, AND ALL RELATED EQUIPMENT AND DISPOSE OF AS REQUIRED.

- B - SITE FEATURES TO BE REMOVED:**
- (B-5) REMOVE TRASH ENCLOSURE, FENCE, GUARD POSTS, GATE AND CONCRETE MAT.
  - (B-6) REMOVE GUARD POST.
  - (B-7) REMOVE MENU BOARD AND FOUNDATION.
  - (B-8) REMOVE SIGN.
  - (B-9) REMOVE CONCRETE SIDEWALK.
  - (B-10) SAWCUT, REMOVE, AND DISPOSE OF PORTION OF WATER MAIN PIPE. CAP AND MAKE READY FOR RE-USE/RE-CONNECTION IN NEW CONSTRUCTION.
  - (B-11) SAWCUT, REMOVE, AND DISPOSE OF PORTION OF STORM SEWER PIPE. PROTECT EXISTING STORM SEWER PIPE FROM SILT AND DEBRIS, AND MAKE READY FOR RE-USE/RE-CONNECTION IN NEW CONSTRUCTION.

- B - SITE FEATURES TO BE REMOVED:**
- (B-12) SAWCUT, REMOVE, AND DISPOSE OF PORTION OF GAS MAIN PIPE. CAP AS REQUIRED.
  - (B-13) REMOVE LANDSCAPE BED AS REQUIRED FOR NEW CONSTRUCTION.
  - (B-14) SAWCUT, REMOVE, AND DISPOSE OF PORTION OF UNDERGROUND ELECTRICAL AND COMMUNICATION CABLES AND MAKE READY FOR RE-USE/RE-CONNECTION IN NEW CONSTRUCTION.

- C - NEW SITE FEATURES**
- (C-1) INSTALL CONSTRUCTION FENCE. CONTRACTOR TO FIELD VERIFY AND COORDINATE LOCATION(S) OF CONSTRUCTION ACCESS GATE(S) WITH OWNER'S REPRESENTATIVE. SEE DETAIL 6, SHEET C-500.
  - (C-2) INSTALL SILT FENCE. SEE DETAIL 7, SHEET C-500.
  - (C-3) INSTALL INLET FILTERS (SEE DETAIL 8 ON SHEET C-500).

**DEMOLITION NOTES:**

1. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE IN PLACE PRIOR TO ANY SITE DEMOLITION, EXCAVATION OR GRADING.
2. PERFORM CLEARING, STRUCTURE REMOVAL, PAVEMENT REMOVALS AND APPLICABLE STOCKPILING IN ACCORDANCE WITH THE PROJECT DRAWINGS AND PROJECT MANUAL. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE LAWFUL REMOVAL AND DISPOSAL OF ALL RUBBISH, TRASH, DEBRIS, ORGANIC MATERIAL, ETC.
3. NO ATTEMPT IS MADE TO STIPULATE EACH ITEM TO BE REMOVED AND/OR DEMOLISHED, EITHER ON THE DRAWINGS OR IN THE PROJECT MANUAL. THE CONTRACTOR MUST VISIT THE SITE TO ASSESS EXISTING PHYSICAL CONDITIONS, AS WELL AS REVIEW THE DRAWINGS, AND ULTIMATELY DETERMINE WORK NECESSARY TO ACCOMPLISH INTENDED RESULTS DESCRIBED BY THE PROJECT DRAWINGS AND PROJECT MANUAL.
4. COMPLETELY RESTORE ALL DISTURBED AREAS TO CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITION AND TO THE SATISFACTION OF AFFECTED OWNER(S) AND/OR GOVERNING AUTHORITY. ALL COSTS FOR CLEAN-UP, RESTORATION WORK AND OTHER RESTORATION OPERATIONS SUCH AS, BUT NOT LIMITED TO, CONSTRUCTION SIGNAGE, STREET SWEEPING AND MAINTAINING EXISTING UTILITIES SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY. RESTORATION WORK SHALL BE PERFORMED WITHIN FIVE (5) WORKING DAYS AFTER COMPLETION OF FINAL GRADING.
5. WHERE EXISTING PAVEMENT IS TO BE PARTIALLY REMOVED, SAWCUT PAVEMENT TO FULL DEPTH TO PROVIDE A SMOOTH JOINT WITH PROPOSED PAVEMENT.
6. ALL DEMOLITION WORK SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE JURISDICTIONAL AUTHORITY.
7. IF APPROPRIATE, RETAIN SOIL SPOILS FROM CONSTRUCTION EXCAVATION AND STORE AT DESIGNATED LOCATION FOR RE-USE, IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, PROJECT DRAWINGS, AND OWNER'S REPRESENTATIVE APPROVAL(S).

**NOTE:**  
AREA OF DEMOLITION: \_\_\_\_\_ SQUARE FEET.

**NOTES TO GENERAL CONTRACTOR:**

1. UNDERGROUND UTILITIES MUST BE MARKED, AS REQUIRED BY PUBLIC ACT 53 OF 1974. TELEPHONE THE REGIONAL UTILITY LOCATOR/ONE-CALL SYSTEM OFFICE A MINIMUM OF THREE (3) WORKING DAYS BEFORE ANY DIGGING.
2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION.
3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CALCULATING ALL MATERIAL QUANTITIES.
4. SEE SHEET G-002 FOR OTHER IMPORTANT GENERAL NOTES.

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**KROGER D-487**  
**RETAIL FUEL CENTER**  
**4889 ROCHESTER ROAD at E. LONG LAKE ROAD**  
**TROY, MI 48065**  
**DEMOLITION AND EROSION CONTROL PLAN**

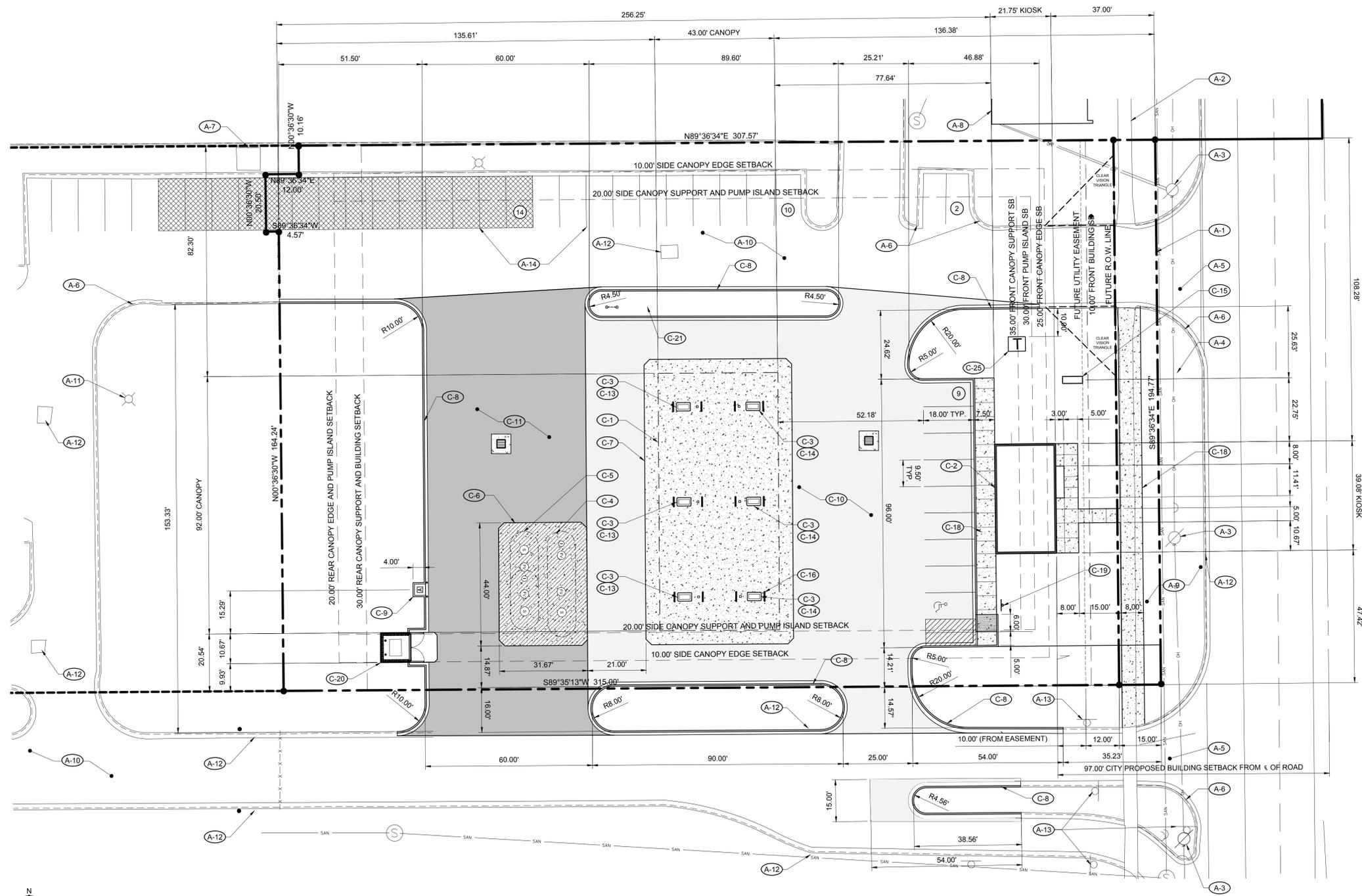
REV	DATE	DESCRIPTION
1	04.23.2012	SITE PLAN REVIEW
3	06.06.2012	SPG REVISIONS

DATE: 02.16.2012  
PROJECT NO.: 2012.1015  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**C-100**

**SITE PLAN REVIEW**  
**NOT FOR CONSTRUCTION**

FILE NAME: q:\2012\1015\CAD\Const\Site\C-200\_Site\_Plan.dwg LAST SAVED BY: Mike\_Vanderbeke SAVED DATE: 6/6/2012 3:18 PM PLOTTED: 6/6/2012 3:56 PM



**DIMENSION CONTROL SITE PLAN**  
SCALE: 1" = 20'-0"

**A - EXISTING SITE FEATURES TO REMAIN:**

- (A-1) PROPERTY LINE
- (A-2) CONCRETE SIDEWALK
- (A-3) UTILITY POLE
- (A-4) FIRE HYDRANT
- (A-5) APPROACH
- (A-6) CONCRETE CURB
- (A-7) TRANSFORMER PAD (SEE UTILITY DETAIL SHT.)
- (A-8) BUILDING
- (A-9) LANDSCAPING
- (A-10) ASPHALT
- (A-11) SITE LIGHTING
- (A-12) CATCH BASIN
- (A-13) TRAFFIC SIGN
- (A-14) PARKING SPACE

**SCOPE OF WORK:**

**C - PROPOSED SITE IMPROVEMENTS:**

- (C-1) 43.00' x 92.00' DISPENSER CANOPY (3,956 SF), CANOPY COLUMNS AND FOOTINGS. SEE CONSTRUCTION IMPROVEMENT PLAN ON SHEET A1.1.
- (C-2) 39.08' x 21.75' TRANSACTION KIOSK (850 SF). SEE CONSTRUCTION & FOUNDATION PLANS ON SHEET A1.0.
- (C-3) 3.00' x 5.00' DISPENSER ISLAND. SEE DETAIL 6 ON SHEETS T8.0 AND T8.1.
- (C-4) 20,000 GALLON DOUBLE-WALL UNDERGROUND STORAGE TANK (UNLEADED). SEE SHEET T3.0.
- (C-5) 18,000 GALLON DOUBLE-WALL SPLIT UNDERGROUND STORAGE TANK 8,000 GALLONS PREMIUM/10,000 GALLONS DIESEL. SEE SHEET T3.1.
- (C-6) CONCRETE TANK MAT. SEE MATERIAL SCHEDULE NOTE 3/T1.0.
- (C-7) CONCRETE DISPENSER MAT. SEE MATERIAL SCHEDULE NOTE 20/T1.0.
- (C-8) CONCRETE CURB AND GUTTER. SEE DETAIL 4/C-500.
- (C-9) AIR TOWER. ALL ASSOCIATED EQUIPMENT AND UTILITIES REQUIRED TO PROVIDE PROPER SERVICE. SEE DETAIL 1/A3.0. TANK VENT RISER. SEE DETAIL 3/T4.0.
- (C-10) LIGHT DUTY BITUMINOUS PAVEMENT. SEE DETAIL 2/C-500.
- (C-11) HEAVY DUTY BITUMINOUS PAVEMENT. SEE DETAIL 6/C-500.
- (C-12) CONSTRUCTION FENCE. SEE DETAIL 6/C-500.
- (C-13) GASOLINE DISPENSER WITH CARD READER. SEE DISPENSER AND PIPING DETAILS ON SHEET T8.0.
- (C-14) AUTOMOBILE MULTI-PRODUCT DISPENSER (3+1 GASOLINE/DIESEL). SEE DISPENSER AND PIPING DETAILS ON SHEET T8.1.
- (C-15) MONUMENT SIGN. (BY SIGN CONTRACTOR). SEE DETAIL 1 ON SHT. AG501.
- (C-16) U-SHAPED BOLLARD AT CANOPY COLUMNS. SEE CONSTRUCTION IMPROVEMENT PLAN ON SHEET A1.1 FOR LAYOUT.
- (C-17) KIOSK BOLLARD. SEE DETAIL 4/A3.0.
- (C-18) CONCRETE SIDEWALK. SEE DETAIL R-29-H ON SHEET C-503.
- (C-19) BARRIER-FREE VAN ACCESSIBLE PARKING SIGN.
- (C-20) TRASH ENCLOSURE AND PAD. SEE DETAIL X-XXX.
- (C-21) TANK VENT RISER. SEE DETAIL 3/T-4.0.
- (C-22) PROPOSED CATCH BASIN. SEE UTILITY PLAN, SHEET C-400 AND DETAIL 4/C-501.
- (C-23) STORM WATER TREATMENT STRUCTURE. SEE UTILITY PLAN, SHEET C-400 AND DETAIL 5/C-501.
- (C-24) PROPOSED MANHOLE. SEE UTILITY PLAN, SHEET C-400 AND DETAIL 3/C-501.
- (C-25) CONCRETE TRANSFORMER PAD. SEE UTILITY PLAN ON SHEET C-400.
- (C-26) PROTECT NEW STORM INLET FROM SILT AND DEBRIS RUNOFF USING SILT SACKS DURING CONSTRUCTION. SEE DETAIL 8/C-500.
- (C-27) MONUMENT SIGN (BY SIGN CONTRACTOR). SEE DETAIL 1 ON SHT. AG501.

**NOTES TO GENERAL CONTRACTOR:**

1. UNDERGROUND UTILITIES MUST BE MARKED, AS REQUIRED BY PUBLIC ACT 53 OF 1974. TELEPHONE THE REGIONAL UTILITY LOCATOR/ONE-CALL SYSTEM OFFICE A MINIMUM OF THREE (3) WORKING DAYS BEFORE ANY DIGGING.
2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION.
3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CALCULATING ALL MATERIAL QUANTITIES.
4. SEE SHEET G-002 FOR OTHER IMPORTANT GENERAL NOTES.

**SITE PLAN REVIEW  
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**KROGER D-487  
RETAIL FUEL CENTER  
4889 ROCHESTER ROAD at E. LONG LAKE ROAD  
TROY, MI 48065  
DIMENSION CONTROL SITE PLAN**

REV	DATE	DESCRIPTION
0	04/11/2012	OWNER REVIEW
1	04/23/2012	SITE PLAN REVIEW
2	05/11/2012	PLANNING COMMENTS
3	06/06/2012	SPS REVISIONS

STATE OF MICHIGAN  
ENGINEER  
JOHN G. DAMRATH III  
No. 38510

DATE: 02.16.2012  
PROJECT NO.: 2012.1016  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**C-200**

**PHOTOMETRIC SITE PLAN**  
SCALE: 1" = 10'-0"



FLAT LENS  
FOCUS

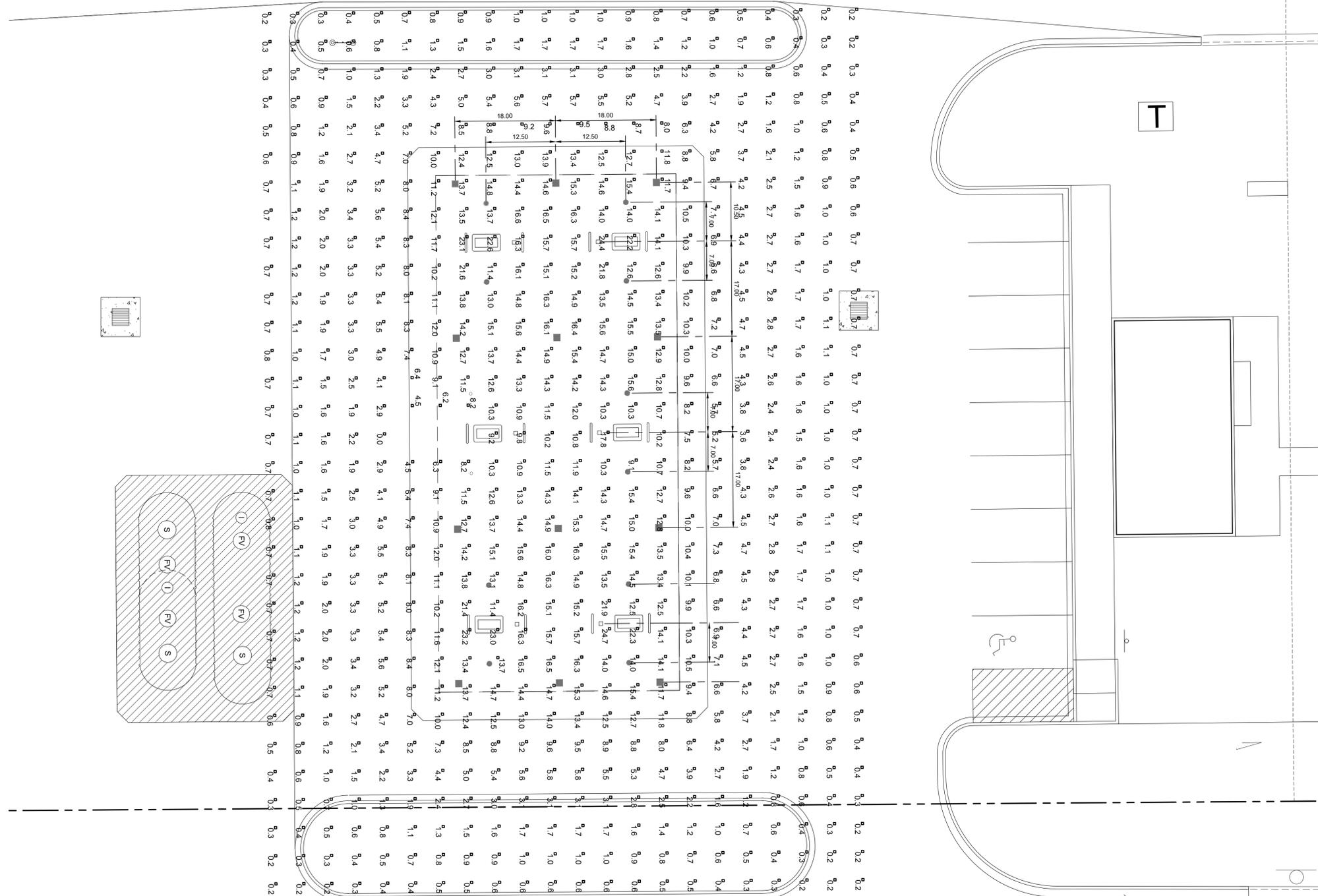


FLAT LENS  
ENCORE

STATISTICAL AREA SUMMARY				
LABEL	AVG	MAX	MIN	AVG/MIN
CANOPY	14.10	24.7	6.2	2.27

KROGER FUELING MODEL 5  
(12)-175W Encore Flat Lens(10)-70W Focus Flat Lens  
AVERAGE MAINTAINED FOOTCANDLE VALUES AT GRADE (0.72 LLF)

LUMINAIRE SCHEDULE					
SYMBOL	QTY	LABEL	DESCRIPTION	LUMENS	LLF
●	10	FOCUS	70 WATT, CERAMIC METAL HALIDE	6600	0.720
■	12	ENCORE	175 WATT, PULSE START METAL HALIDE	16000	0.720



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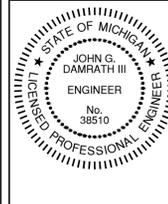
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**KROGER D-487**  
**RETAIL FUEL CENTER**  
**4889 ROCHESTER ROAD at E. LONG LAKE ROAD**  
**TROY, MI 48085**  
**PHOTOMETRIC SITE PLAN**

REV	DATE	DESCRIPTION
1	04/23/2012	SITE PLAN REVIEW
3	06/06/2012	SPG REVISIONS

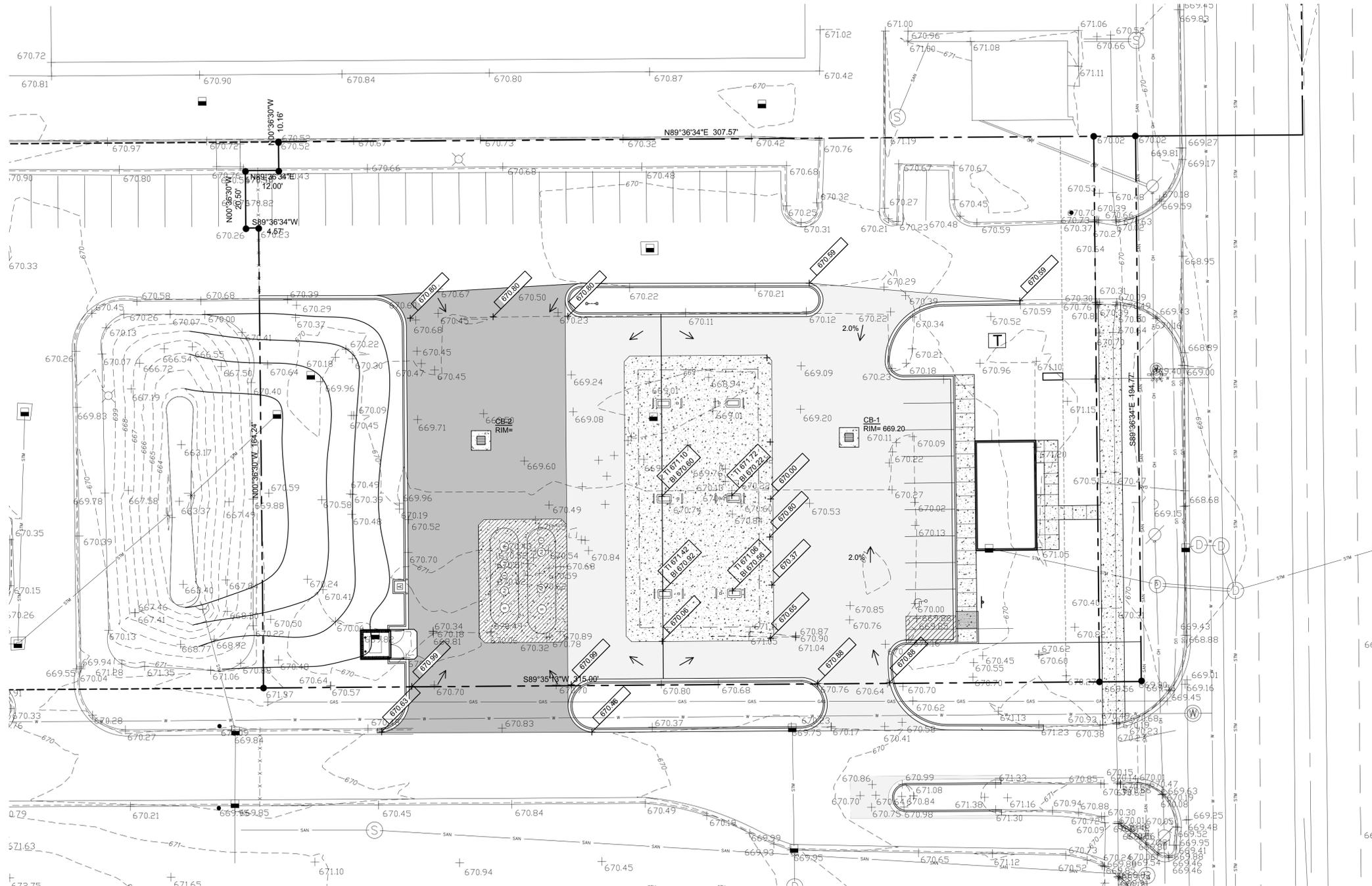


DATE: 02.16.2012  
PROJECT NO.: 2012.1016  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**C-201**

**SITE PLAN REVIEW**  
**NOT FOR CONSTRUCTION**

FILE NAME: c:\2012\1015\CAD\Const\Site\Site\C-300 Grading Plan.dwg LAST SAVED BY: Mike Vanderbeke SAVED DATE: 6/6/2012 3:56 PM



**GRADING AND PAVING PLAN**  
SCALE: 1" = 20'-0"

**PAVING LEGEND:**

- HEAVY BITUMINOUS PAVEMENT FOR TRUCK AISLEWAYS (DETAIL X SHEET C-500).
- MEDIUM BITUMINOUS PAVEMENT (DETAIL X SHEET C-500).
- 8" CONCRETE PAVEMENT (SEE MATERIAL SCHEDULE NOTE 20/T-1.0).
- 6" CONCRETE PAVEMENT (SEE MATERIAL SCHEDULE NOTE 3/T-1.0).
- 4" CONCRETE SIDEWALK (SEE DETAIL X-SHEET C-500).
- BRICK.

NOTE:  
ALL GRADES ARE GUTTER/PAVEMENT GRADES. TOP OF CURB IS 6" HIGHER UNLESS OTHERWISE NOTED.

**LEGEND:**

- OVERHEAD ELECTRICAL
- UNDERGROUND ELECTRICAL
- ST 15" STORM SEWER
- ST 12" EXISTING STORM SEWER
- W WATER
- 788 EXISTING CONTOUR
- 787.67 PROPOSED SPOT ELEV.
- 787 PROPOSED CONTOUR
- DRAINAGE DISTRICT LINE
- SETBACK LINE
- CATCH BASIN
- MANHOLE
- LIGHT POLE
- FIRE HYDRANT
- WATER VALVE

**CONSTRUCTION SEQUENCE:**

1. INSTALL TRAFFIC AND PEDESTRIAN SAFETY BARRICADES.
2. INSTALL TEMPORARY EROSION CONTROL MEASURES. PROTECT ALL AREAS THAT COULD ALLOW SEDIMENT TO MIGRATE OFF-SITE VIA SURFACE RUNOFF, VIA ENCLOSED DRAINAGE SYSTEMS OR VIA TRACKING CAUSED BY CONSTRUCTION EQUIPMENT, ETC. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITIES.
3. COMPLETE REQUIRED REMOVALS AND LEGALLY DISPOSE OF DEBRIS AND WASTE OFF-SITE.
4. PERFORM MASS GRADING AND CONSTRUCT SITE IMPROVEMENTS.
5. DAILY OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DITCHES, SILT FENCING, SEDIMENT TRAPS, ETC. SEED AND MULCH AS REQUIRED.
6. INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES PER JURISDICTIONAL AUTHORITY REQUIREMENTS.
7. REMOVE TEMPORARY EROSION CONTROL MEASURES WHEN SITE IS STABILIZED.

**GRADING NOTES:**

1. REFER TO SHEET C-500 FOR EROSION CONTROL NOTES AND DETAILS.
2. VERIFY REQUIRED SPOT ELEVATIONS/GRADING IN THE VICINITY OF THE BUILDING WITH THE ARCHITECTURAL PLANS.
3. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH THE DRAWINGS AND PROJECT MANUAL, AND WITH LOCAL JURISDICTIONAL AUTHORITY STANDARDS AND SPECIFICATIONS.
4. ALL PROPOSED SPOT ELEVATIONS IN PAVED AREAS ARE TO TOP OF PAVEMENT UNLESS NOTED OTHERWISE.
5. THE PROJECT SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AT ALL TIMES, ENSURING NO AREAS OF STANDING WATER.
6. THE GENERAL CONTRACTOR SHALL, AT HIS OR HER EXPENSE, RESTORE ANY AND ALL STRUCTURES, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALK, LANDSCAPED AREA, ETC. DISTURBED WITHIN THE SITE AND/OR ADJOINING PROPERTIES DURING DEMOLITION OR CONSTRUCTION. SUCH FACILITIES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER, TO THE SATISFACTION OF THE AFFECTED OWNER(S).
7. UNDERDRAINS MAY BE ADDED, IF DETERMINED NECESSARY BY THE GENERAL CONTRACTOR AND AUTHORIZED BY THE OWNER'S REPRESENTATIVE, AFTER SUBGRADE IS ROUGH GRADED.
8. UNLESS OTHERWISE EXPRESSLY INDICATED HEREON, FINISHED GRADES ARE TO MATCH ADJACENT EXISTING GRADES.
9. THE GENERAL CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON DRAWINGS. SEE THIS SHEET FOR LIMIT OF DISTURBANCE. PROTECT EXISTING TREES TO REMAIN WITH TEMPORARY FENCING PLACED AT THE DRIP LINE. NO GROUND DISTURBANCE OR STORAGE OF MATERIAL SHALL OCCUR WITHIN THE DRIP LINE LIMITS, UNLESS HEREON EXPRESSLY INDICATED OTHERWISE.
10. ALL EXCAVATION IS CONSIDERED UNCLASSIFIED AND THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL MEANS, METHODS AND MATERIALS OF CONSTRUCTION TO COMPLETE THE CONSTRUCTION PER THE DRAWINGS AND PROJECT MANUAL. ADDITIONALLY, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE OFF-SITE DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL, AS WELL AS THE IMPORTATION OF ANY FUEL MATERIAL NECESSARY TO COMPLETE THE PROJECT.

**FUEL TANK ELEVATION COORDINATION CHART**

DESCRIPTION	FURTHEST ISLAND(L1)	LOWEST ISLAND(L2)
1. ELEVATION AT TOP OF ISLAND	XXX.XX FT.	XXX.XX FT.
2. MIN. SLOPE OF PIPING = (L1-X)/PER FOOT		
WHERE L1= 170 FT. L2= 170 FT.		
3. DISPENSER ISLAND	XXX FT.	XXX FT.
CONCRETE DRIVE SLAB	8"	8"
PIPE COVER	8"	8"
PIPE DIAMETER	10"	10"
TANK CONNECTION	10"	10"
TOTAL	33"	33"
4. GRADE DIFFERENTIAL = (#2 + #3)	X.XX FT.	X.XX FT.
5. TOP OF TANKS = (#1 - #4)	XXX.XX FT.	XXX.XX FT.
6. TOP OF TANKS = LOWEST CALCULATED ELEVATION	XXX.XX FT.	XXX.XX FT.
CHECK MIN/MAX BURIAL DEPTH		
7. LOWEST ELEVATION OF SLAB ABOVE TANK	XXX.XX FT.	XXX.XX FT.
8. DEPTH OF BURY = (#7 - #6)	XXX.XX FT.	XXX.XX FT.
NOTE:		
IF #6 < 4 FT. SET TOP OF TANKS AT (#7 - 4.0 FT.) = XXX.XX		
IF #8 > 7 FT. CONTACT OWNER FOR CERTIFICATION OF BURIAL DEPTH WITH TANK MANUFACTURER.		

**CANOPY PAD ELEVATION COORDINATION CHART:**

- TOP OF ISLAND ELEVATION AT LOWEST ISLAND = XXX.XX  
ELEVATION OF ALL TOP OF FOOTINGS (PER CANOPY DRAWING) = XXX.XX
1. ELEVATIONS OF TOP-OF-CANOPY-COLUMN-FOOTINGS AT DISPENSER ISLANDS SHALL BE IDENTICAL.
  2. TOP OF ALL CANOPY FOOTINGS SHALL BE 2'-2 1/2" LOWER THAN THE LOWEST DISPENSER/TOP OF ISLAND ELEVATION.
  3. THE GENERAL CONTRACTOR SHALL BASE BIDS ON FOOTING ELEVATIONS AS INDICATED. ANY MODIFICATION TO FOOTING ELEVATIONS MUST BE APPROVED BY OWNER'S REPRESENTATIVE IN WRITING.
  4. VERIFY ELEVATIONS FOR BUILDING(S), CANOPY, SIGNS AND OTHER STRUCTURE PER DRAWINGS. THE GENERAL CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCY PRIOR TO CONSTRUCTION.

**FUEL GRADING DESIGN STANDARDS:**

1. PROVIDE POSITIVE DRAINAGE AWAY FROM FUEL CENTER CONCRETE PAD(S). PER GRADING SECTION DRAWINGS, 1%-3% SLOPE IS TYPICAL WITH A MAXIMUM SLOPE OF 5%. UNLESS EXPRESSLY AUTHORIZED BY THE OWNER'S REPRESENTATIVE, SURFACE WATER SHALL NOT DRAIN THROUGH THE FUEL/CANOPY AREAS.
2. PROVIDE MAXIMUM OF 2% SLOPES/GRADES ACROSS FUEL CENTER CONCRETE PADS (UNDER CANOPY AREA), WHILE MAINTAINING POSITIVE DRAINAGE AWAY FROM THE FUEL CENTER KIOSK AND DISPENSER ISLANDS. GRADES AT TANK PAD SHALL NOT EXCEED 3% SLOPE.
3. SPECIAL ATTENTION IS REQUIRED AT THE DOORWAY OF THE KIOSK. IN GENERAL, THE KIOSK FINISH FLOOR IS TO BE 1" HIGHER THAN THE SURROUNDING EXTERIOR GRADE. SLOPE DRIVEWAY PAVING TO MEET THE FINISH FLOOR GRADE AT ANY DOORWAY, AND COORDINATE WITH FUEL CENTER CONTRACTOR. ADA GUIDELINES MUST BE VERIFIED FOR DOOR ENTRANCES AND FOR THE CUSTOMER SERVICE DRAWER AT THE KIOSK WINDOW.

**SITE SPECIFIC GRADING GENERAL NOTES:**

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REPAIR OF ANY EXISTING SITE IMPROVEMENTS THAT MAY BE DISTURBED DURING CONSTRUCTION. THIS SHALL INCLUDE, AND IS NOT NECESSARILY LIMITED TO:  
(A) EXISTING CURB THAT MAY BE DISTURBED DURING INSTALLATION OF VENT STANDS, AIR STANDS, ETC.,  
(B) EXISTING ASPHALT THAT MAY BE DISTURBED DURING TANK INSTALLATION,  
(C) EXISTING LANDSCAPING,  
(D) EXISTING LIGHT STANDARD(S) AND WIRING.

**NOTES TO GENERAL CONTRACTOR:**

1. UNDERGROUND UTILITIES MUST BE MARKED, AS REQUIRED BY PUBLIC ACT 53 OF 1974. TELEPHONE THE REGIONAL UTILITY LOCATOR/ONE-CALL SYSTEM OFFICE A MINIMUM OF THREE (3) WORKING DAYS BEFORE ANY DIGGING.
2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION.
3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CALCULATING ALL MATERIAL QUANTITIES.
4. SEE SHEET G-002 FOR OTHER IMPORTANT GENERAL NOTES.

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**KROGER D-487**  
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GRADING AND PAVING PLAN

REV	DATE	DESCRIPTION
3	06/06/2012	SPD REVISIONS
2	06/06/2012	SITE PLAN REVIEW

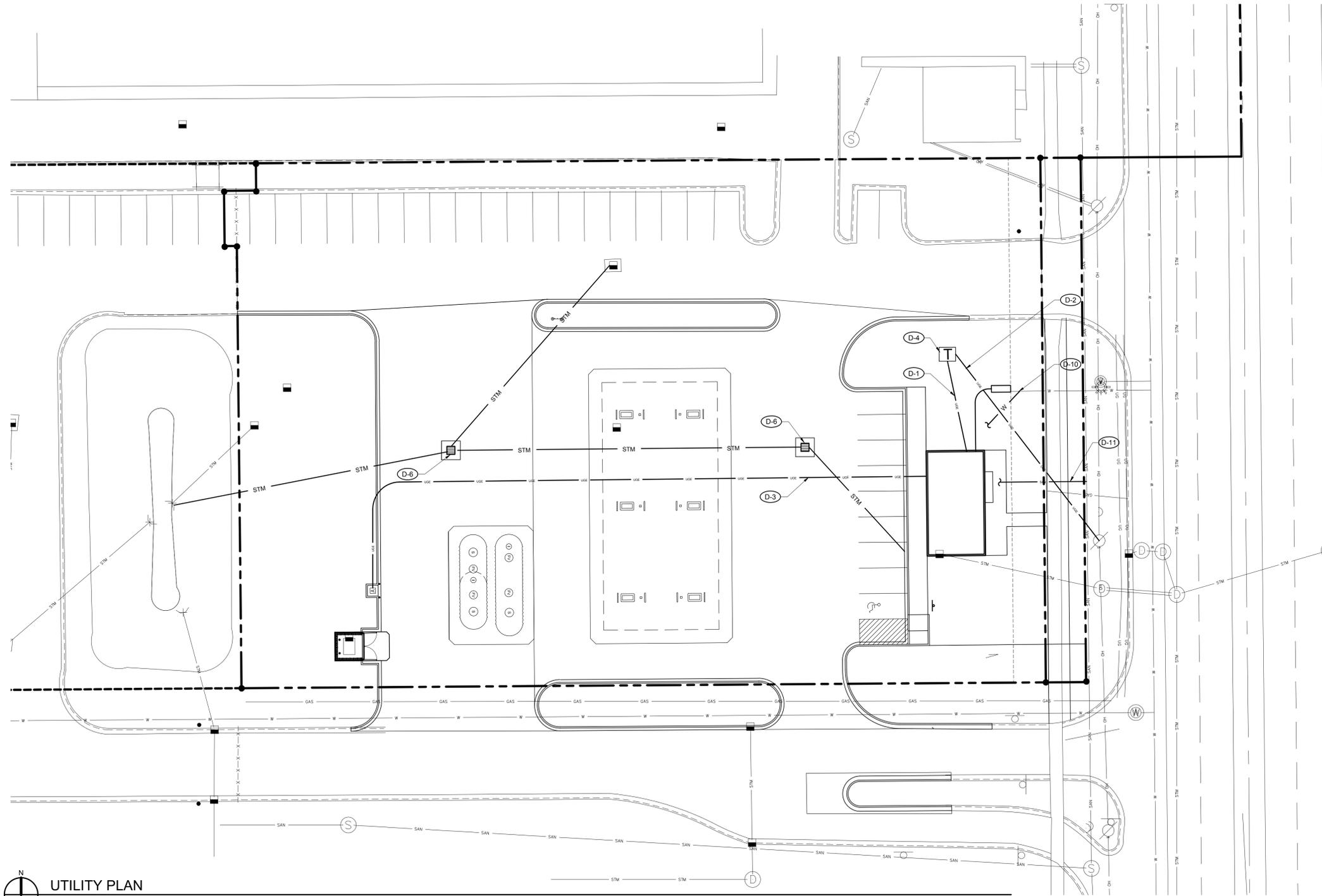
STATE OF MICHIGAN  
LICENSED PROFESSIONAL ENGINEER

JOHN G. DAMRATH III  
ENGINEER  
No. 38510

DATE: 02.16.2012  
PROJECT NO.: 2012.1015  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**C-300**

FILE NAME: g:\2012\1015\CAD\Const\_Docs\Site\C-400\_Utility\_Plan.dwg LAST SAVED BY: Mike Vanderbeke SAVED DATE: 6/5/2012 3:24 PM PLOTTED: 6/6/2012 3:57 PM



**UTILITY PLAN**  
SCALE: 1" = 20'-0"

**SCOPE OF WORK:**

- (D-1) PROVIDE AND INSTALL TWO (2) 4" SCHEDULE 40 PVC CONDUIT (WITH FOUR (4) PULL STRINGS) FOR ELECTRIC SUPPLY FROM THE TRANSFORMER TO THE FUEL CENTER KIOSK. FIELD VERIFY AND COORDINATE EXACT CONDUIT ROUTING WITH KROGER CONSTRUCTION REPRESENTATIVE. REFER TO KIOSK POWER AND LIGHTING PLAN ON SHEET E1.0 AND THE LINE DIAGRAM(S) AND PANEL SCHEDULE(S) ON SHEET E2.0 FOR STUB-UP LOCATIONS AND ELECTRICAL LOAD REQUIREMENTS.
- (D-2) PROVIDE AND INSTALL TWO (2) 3/4" SCHEDULE 40 PVC CONDUITS (WITH PULL STRINGS) FROM THE FUEL CENTER KIOSK THE SITE ID SIGN WHERE FUEL PRICING WILL BE INCORPORATED. SEE ELECTRICAL PLANS AND DETAILS ON SHEETS \_\_\_\_ AND \_\_\_\_ FOR ADDITIONAL INFORMATION.
- (D-3) PROVIDE AND INSTALL ONE (1) 3/4" SCHEDULE 40 PVC CONDUIT FROM FUEL CENTER KIOSK TO AIR COMPRESSOR FOR 120V POWER.
- (D-4) PER UTILITY COMPANY TEMPLATE, PROVIDE AND INSTALL 6'-2" WIDE X 5'-2" DEEP X 6" THICK CONCRETE TRANSFORMER PAD. CONCRETE MIX SHALL BE 6-BAG WITH MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS.
- (D-5) PROVIDE AND INSTALL STORM WATER TREATMENT STRUCTURE. SEE DETAIL 5/C-501.
- (D-6) PROVIDE AND INSTALL CATCH BASIN, ASSOCIATED STRUCTURES, AND BEDDING PER JURISDICTIONAL AUTHORITY STORM SEWER STANDARD DETAILS. SEE DETAIL 4/C-501.
- (D-7) PROVIDE AND INSTALL STORM MANHOLE, STRUCTURES, AND BEDDING SEE DETAIL SHEET 3/C-501.

**D - PROPOSED UTILITY IMPROVEMENTS:**

- (D-8) PROVIDE AND INSTALL CANOPY DOWNSPOUTS AND CLEANOUTS. SEE DETAIL 6/C-501.
- (D-9) PROVIDE AND INSTALL TWO (2) 4" SCHEDULE 40 PVC CONDUITS FROM UTILITY POLE TO TRANSFORMER PAD. PROVIDE AND INSTALL EMPTY CONDUITS WITH (1) PULL STRING EACH PER UTILITY COMPANY DESIGN STANDARDS. UTILITY COMPANY TO PULL WIRES AND MAKE FINAL CONNECTION AS REQUIRED TO ENERGIZE TRANSFORMER.
- (D-10) PROVIDE AND INSTALL 1" COPPER WATER SERVICE LINE FROM EXISTING WATER LINE TO KIOSK.
- (D-11) PROVIDE AND INSTALL 6" PVC SDR 23.5 SANITARY SEWER SERVICE LINE MINIMUM SLOPE = 1.0%. VERIFY LOCATION AND UTILIZE AND/OR REPLACE AS REQUIRED. SEE STANDARD SANITARY AND WATER SERVICE DETAILS SHEET W-S AND STANDARD SITE DETAIL SHEET C-501.

**CANOPY DOWNSPOUT DRAINAGE**

- (A) 12'-4" PVC CANOPY CONDUCTOR @ 1.00%
- (B) 16'-6" PVC SCHEDULE 40 @ 0.50%
- (C) 90'-12" PVC SCHEDULE 40 @ 0.50%
- (D) 12'-12" PVC SCHEDULE 40 @ 0.50%
- (E) 7'-12" PVC SCHEDULE 40 @ 0.50%

**UTILITY NOTES:**

1. PROTECT AND MAINTAIN CROSSINGS WITH ANY AND ALL OTHER UTILITY LINES.
2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE JURISDICTIONAL AUTHORITY OR AUTHORITIES TO PROVIDE FEES AND SECURE PERMITS FOR STREET CUTS AND CONNECTIONS TO EXISTING UTILITIES.
3. THOROUGH COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES SHALL BE PERFORMED BY THE GENERAL CONTRACTOR TO INSURE THAT ALL UTILITY COMPANY, AND OTHER JURISDICTIONAL AUTHORITY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET.
4. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES AND SERVICE LINES, PRIOR TO CONSTRUCTION.
5. THE GENERAL CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE SEWERS CROSS EXISTING UTILITIES AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE GENERAL CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE IN THE EVENT OF ANY UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
6. THE GENERAL CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES FOR SERVICE INSTALLATIONS AND CONNECTIONS AND MAIN SERVICE RELOCATIONS. THE GENERAL CONTRACTOR SHALL COORDINATE THE WORK TO BE PERFORMED BY THE VARIOUS UTILITY COMPANIES, PAY ALL FEES AND SECURE ALL PERMITS FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS AND DEMOLITION AS NECESSARY OR APPROPRIATE.
7. THE GENERAL CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS, ETC. WITHOUT INTERRUPTION UNLESS UNTIL AUTHORIZED TO DISCONNECT BY THE OWNER'S REPRESENTATIVE. OTHER AFFECTED OWNER(S), THE UTILITY COMPANIES AND JURISDICTIONAL AUTHORITIES. THE CONTRACTOR SHALL INSTALL AS NECESSARY TEMPORARY SITE LIGHTING, GAS, SANITARY, WATER, STORM, ELECTRIC, TELEPHONE AND CABLE SERVICES TO BUILDING(S) THAT ARE TO REMAIN OPERATIONAL.
8. THE GENERAL CONTRACTOR SHALL PROVIDE SLEEVES UNDER FOOTINGS AND/OR THROUGH FOUNDATIONS FOR UTILITY CONNECTIONS.
9. THE GENERAL CONTRACTOR SHALL PROVIDE ALL BENDS, FITTINGS, ADAPTERS, ETC. AS REQUIRED FOR PIPE CONNECTIONS TO BUILDING/CANOPY STUB-OUTS, INCLUDING ROOF/FOOTING DRAIN CONNECTIONS AND ROOF LEADERS, AND TO THE STORM DRAINAGE SYSTEM.
10. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION PRIOR TO APPROVAL FOR BACKFILL, IN ACCORDANCE WITH THE UTILITY COMPANY OR COMPANIES, AND OTHER JURISDICTIONAL AUTHORITY REQUIREMENTS.
11. THE GENERAL CONTRACTOR SHALL RESTORE ANY STRUCTURE, PIPE, PAVEMENT, CURBS, SIDEWALKS, APPROPRIATE LANDSCAPE AREAS, ETC. DISTURBED DURING CONSTRUCTION TO THE ORIGINAL CONDITION OR BETTER.
12. PENDING THE GENERAL CONTRACTOR'S NOTIFICATION OF AND APPROVAL BY THE OWNER'S REPRESENTATIVE, UTILITY CONNECTION DESIGN AS REFLECTED IN THE PLANS AND PROJECT MANUAL MAY CHANGE SUBJECT TO UTILITY COMPANY AND JURISDICTIONAL AUTHORITY REVIEW.

**MATERIAL NOTE:**

ALL MATERIAL METHODS AND DIMENSIONAL STANDARDS SHALL COMPLY WITH THE DRAWINGS AND PROJECT MANUAL, AND WITH JURISDICTIONAL AUTHORITY STANDARDS.

**NOTES TO GENERAL CONTRACTOR:**

1. UNDERGROUND UTILITIES MUST BE MARKED, AS REQUIRED BY PUBLIC ACT 53 OF 1974. TELEPHONE THE REGIONAL UTILITY LOCATOR ONE-CALL SYSTEM OFFICE A MINIMUM OF THREE (3) WORKING DAYS BEFORE ANY DIGGING.
2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION.
3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CALCULATING ALL MATERIAL QUANTITIES.
4. SEE SHEET G-002 FOR OTHER IMPORTANT GENERAL NOTES.

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UTILITY PLAN**

REV	DATE	DESCRIPTION
1	04.23.2012	SITE PLAN REVIEW
3	06.05.2012	SPG REVISIONS

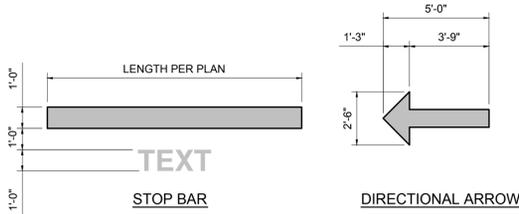
STATE OF MICHIGAN  
ENGINEER  
No. 38510  
JOHN G. DAMRATH III

DATE: 02.16.2012  
PROJECT NO.: 2012.1016  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

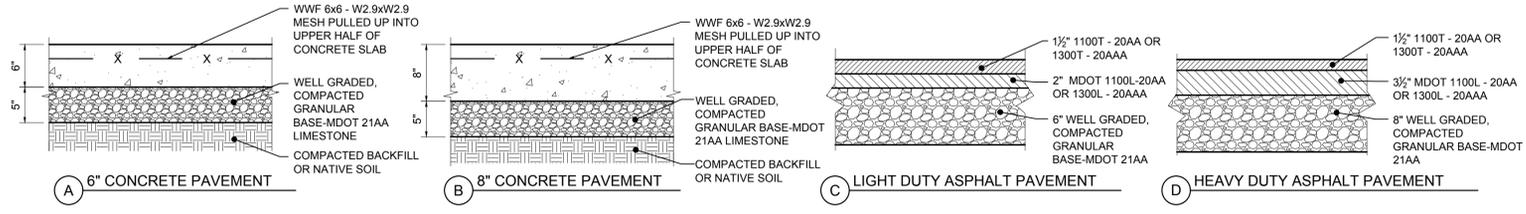
SHEET NO.  
**C-400**

FILE NAME: q:\2012\1015\CAD\Const\Docs\Site\C-500 Site Details.dwg LAST SAVED BY: Mike Vanderbeke SAVED DATE: 6/6/2012 3:26 PM PLOTTED: 6/6/2012 3:57 PM

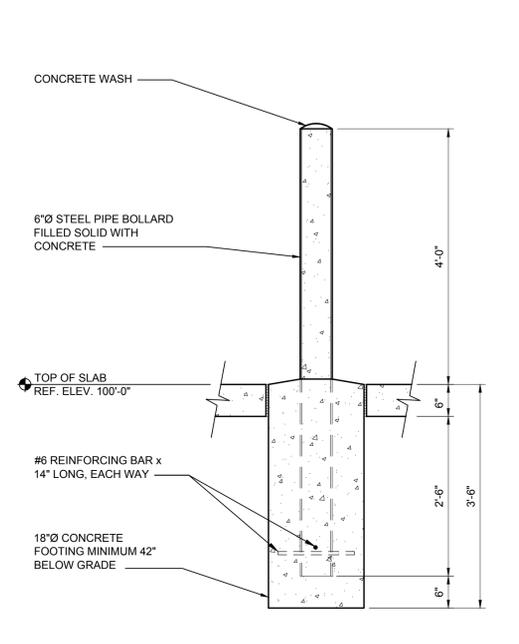
**GEOTECHNICAL CONSTRUCTION NOTE**  
SEE GEOTECHNICAL SOIL REPORT FOR SUBGRADE PREPARATION RECOMMENDATIONS FOR FOOTINGS, TRENCHES, APRONS, TANKS, AND SURFACE TREATMENTS.



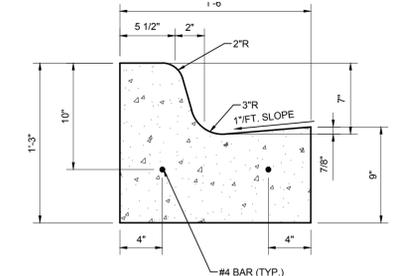
**1 STOP BAR PAVEMENT MARKING**  
C-200 SCALE: 1/4" = 1'-0"  
NOTE: WATERBORNE, LIQUID PAVEMENT MARKING MATERIAL. COLOR: WHITE. MANUFACTURER: ENNIS PAINT CO.



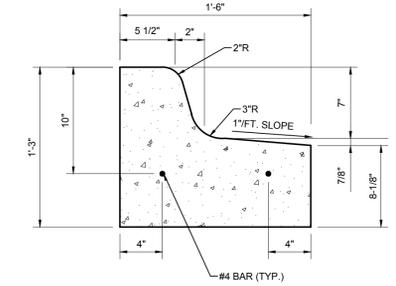
**2 PAVING DETAILS**  
C-200 SCALE: 1" = 1'-0"



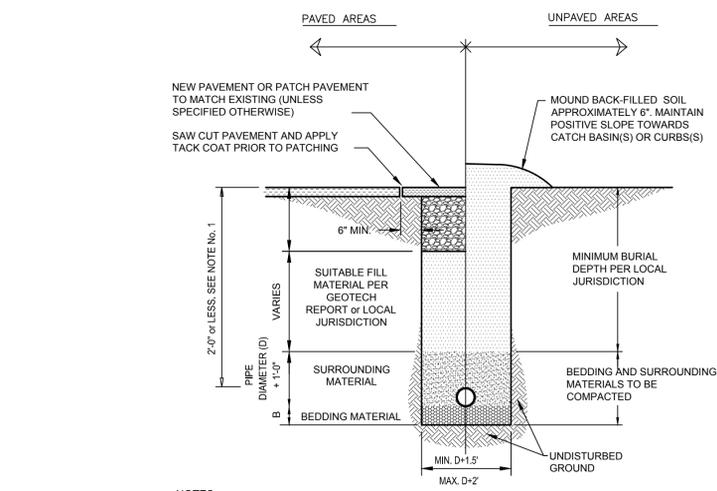
**3 BOLLARD DETAIL**  
C-200 SCALE: 3/4" = 1'-0"



**B CURB AND GUTTER (SPASH)**



**A CURB AND GUTTER (SPILL)**



**5 TRENCH DETAIL**  
C-200 SCALE: NO SCALE

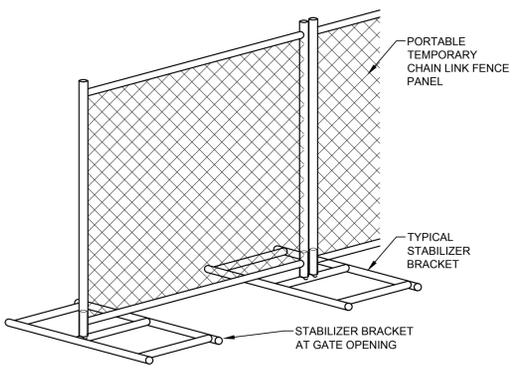
NOTES:  
1. THE SURROUND MATERIAL MUST BE INSTALLED TO THE PAVEMENT BASE ELEVATION IF THERE IS LESS THAN 2'-0" OF FILL OVER THE PIPE.  
2. COMPACT ALL BACK FILL UNDERNEATH, AROUND AND ABOVE PROPOSE PIPES TO 95% STANDARD PROCTOR IN PAVED AND STRUCTURAL AREAS, 90% STANDARD PROCTOR IN UNPAVED OR NON-STRUCTURAL AREAS. THE UPPER 12" OF TRENCH BACKFILL MATERIAL IN PAVED/STRUCTURAL AREAS MUST BE COMPACTED TO 98% STANDARD PROCTOR (ASTM-698).  
3. WHERE A PIPE HAS A SLOPE GREATER THAN OR EQUAL TO 4% OR WHERE GROUNDWATER IS PRESENT, CLAY DAMS SHALL BE INSTALLED AROUND THE PIPE EVERY 100' TO PREVENT WASHOUT AROUND THE PIPE.  
4. ALL SUITABLE FILL SHOULD NOT CONTAIN STONES GREATER THAN 4" IN DIAMETER, FROZEN LUMPS, AND SHALL CONTAIN A MINIMAL AMOUNT OF ORGANIC MATERIALS (LESS THAN 3%).  
5. MATERIAL IS TO BE PLACED AT NO MORE THAN 8" INTERVALS AND COMPACTED BEFORE PLACING NEXT LAYER.

**RECOMMENDED FILL MATERIALS**

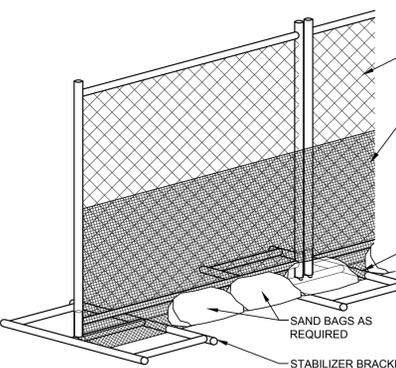
TYPE OF PIPE	SURROUNDING MATERIAL TYPE	B-DIMENSION	BEDDING MATERIAL TYPE
DUCTILE IRON PIPE	"A", "B", OR "C"	3"	SAND OR "C"
RCP PIPE	"B" OR "C"	3"	SAND OR "C"
ALL PIPE OVER BEDROCK OR LEDGE	"B" OR "C"	6"	SAND OR "C"
RCP PIPE IN CLAY	"B" OR "C"	6"	SAND
PLASTIC-ALL	"C"	6"	SAND OR "C"

"RECOMMENDED FILL MATERIALS" ARE MINIMUM REQUIREMENTS. CONTRACTOR SHALL ENSURE COMPLIANCE WITH LOCAL JURISDICTION AND/OR THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

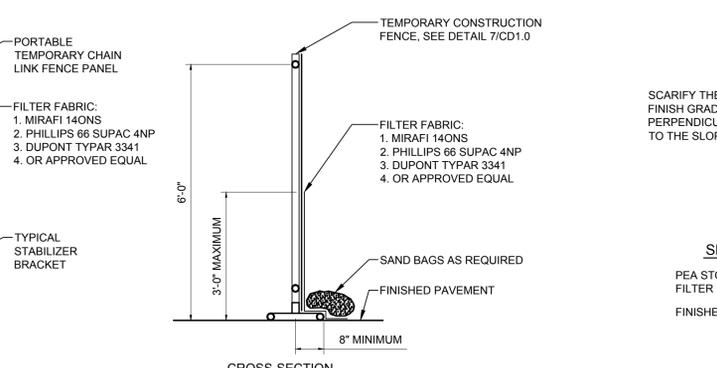
**MATERIAL TYPES:**  
"A": GRAVEL OR EXCAVATED MATERIAL WHICH HAS NO STONES GREATER THAN 1.5" DIAMETER.  
"B": STONE WITH 100% PASSING 1.5" SQUARE SIEVE, A MAXIMUM OF 25% PASSING A 3/4" SQUARE SIEVE AND A MAXIMUM 5% PASSING A 1/2" SQUARE SIEVE, PEA GRAVEL, BANK RUN, OR RUN OF BANK.  
"C": CRUSHED STONE WITH 100% PASSING A 1" SQUARE SIEVE AND 0-5% PASSING A 1/4" SQUARE SIEVE, PEA GRAVEL, OR OTHER NATURAL FREE DRAINING STONE MATERIAL WITH LESS THAN 10% P200 (PASSING NO. 200 SIEVE).



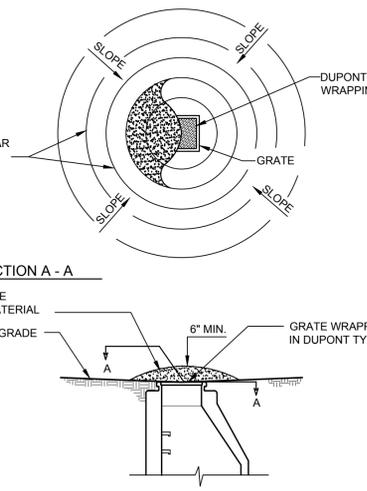
**6 CONSTRUCTION FENCE**  
C-100 SCALE: NO SCALE



**7 SILT FENCE DETAILS**  
C-100 SCALE: NO SCALE



**8 INLET FILTER DETAIL**  
C-100 SCALE: NO SCALE



**SOIL EROSION AND SEDIMENTATION CONTROL NOTES & MAINTENANCE NOTES:**

1. THE LANDOWNER SHALL SUBMIT A SOIL EROSION CONTROL PLAN AND OBTAIN A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT, OR SIMILAR PERMIT FROM THE JURISDICTIONAL AUTHORITY, PRIOR TO ANY EARTH CHANGES.
2. THIS PROJECT SHALL BE CONSTRUCTED IN COMPLIANCE WITH PART 91 OF ACT 451 OF 1994, AND PER THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT, OR SIMILAR PERMIT FROM THE JURISDICTIONAL AUTHORITY, PRIOR TO ANY EARTH CHANGES.
3. ALL SOIL EROSION AND SEDIMENTATION CONTROL (SESC) WORK SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE JURISDICTIONAL AUTHORITY.
4. EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
5. THE GENERAL CONTRACTOR SHALL STAGE ALL SOIL EROSION AND SEDIMENTATION CONTROL (SESC) WORK AS DIRECTED IN THE DRAWINGS AND PROJECT MANUAL, AND AS OTHERWISE NECESSARY OR APPROPRIATE TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF SESC DEVICES.
7. THE GENERAL CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SESC MEASURES AS SHOWN IN THE DRAWINGS AND PROJECT MANUAL, BEFORE, AND AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT. ANY MODIFICATIONS OR ADDITIONS TO SESC MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE COMPLIED WITH AS REQUIRED OR AS DIRECTED BY THE JURISDICTIONAL AUTHORITY.
8. IF ANY OF THE SESC MEASURES ON THE SITE ARE DEEMED INADEQUATE OR INEFFECTIVE, THE JURISDICTIONAL AUTHORITY HAS THE RIGHT TO REQUIRE ADDITIONAL SESC MEASURES AT THE EXPENSE OF THE GENERAL CONTRACTOR.
9. THE GENERAL CONTRACTOR SHALL INSPECT THE SESC DEVICES ONCE A WEEK UNDER ANY CIRCUMSTANCES, WITHIN 24 HOURS OF RAINFALL, AND DAILY DURING A PROLONGED RAIN EVENT. A LOG OF INSPECTION REPORTS SHALL BE MAINTAINED AND ACCESSIBLE IN ACCORDANCE WITH NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS. ANY REQUIRED MAINTENANCE SHALL BE PROVIDED PROMPTLY.
10. INSTALL SILT FENCE AS INDICATED IN THE DRAWINGS AND PROJECT MANUAL, PER ATTACHED DETAILS, AND AT ADDITIONAL AFFECTED AREAS AS NECESSARY.
  - A. SILT FENCE SHALL BE INSTALLED ONCE A WEEK UNDER ANY CIRCUMSTANCES, WITHIN 24 HOURS OF RAINFALL, AND DAILY DURING A PROLONGED RAIN EVENT. REQUIRED MAINTENANCE SHALL BE PROVIDED PROMPTLY.
  - B. BUILD-UP OF SEDIMENT SHALL BE REMOVED WHEN SEDIMENT ACCUMULATED TO 1/3 TO 1/2 OF THE HEIGHT OF THE SILT FENCE.
  - C. IF SILT FENCE DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO THE END OF EXPECTED USABLE LIFE AND THE BARRIER IS STILL REQUIRED, THE SILT FENCE SHALL BE REPLACED PROMPTLY.
11. INSTALL INLET FILTERS ON ALL PAVEMENT CATCH BASINS PER DETAIL.
  - A. INLET FILTERS SHALL BE INSPECTED ONCE A WEEK UNDER ANY CIRCUMSTANCES, WITHIN 24 HOURS OF RAINFALL, AND DAILY DURING A PROLONGED RAIN EVENT. REQUIRED MAINTENANCE SHALL BE PROVIDED PROMPTLY.
  - B. BUILD-UP OF SEDIMENT AND DEBRIS SHALL BE REMOVED PROMPTLY.
  - C. IF FILTER FABRIC DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO THE END OF EXPECTED USABLE LIFE AND THE BARRIER IS STILL REQUIRED, THE FILTER FABRIC SHALL BE REPLACED PROMPTLY.
12. INSTALL DRAIN GUARD ON ALL CATCH BASINS PER DETAIL, SEED OR SOD THE AREA BETWEEN THE SILT FENCE AND THE INLET.
  - A. DRAIN GUARDS SHALL BE INSPECTED ONCE A WEEK UNDER ANY CIRCUMSTANCES, WITHIN 24 HOURS OF RAINFALL, AND DAILY DURING A PROLONGED RAIN EVENT.
  - B. BUILD-UP OF SEDIMENT SHALL BE REMOVED WHEN SEDIMENT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE SILT FENCE.
  - C. IF FILTER FABRIC DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO THE END OF EXPECTED USABLE LIFE AND THE BARRIER IS STILL REQUIRED, THE FILTER FABRIC SHALL BE REPLACED PROMPTLY.
13. ALL STOCKPILED SOILS SHALL BE MAINTAINED IN SUCH A WAY AS TO PREVENT EROSION FROM LEAVING THE SITE. SILT FENCE MUST BE INSTALLED AROUND THE PERIMETER OF THE STOCKPILE. IF THE STOCKPILE WILL BE ON SITE FOR MORE THAN 30 DAYS, THE STOCKPILE MUST BE SEED.
  - A. IMMEDIATELY AFTER SEEDING, MULCH ALL SEEDED AREAS WITH UNWEATHERED SMALL GRAIN STRAW, SPREAD UNIFORMLY AT THE RATE OF 1 TO 2 TONS PER ACRE OR 100 POUNDS PER 1000 SQUARE FEET.
  - B. THE MULCH SHOULD BE ANCHORED WITH DISC TYPE MULCH ANCHORING TOOL OR OTHER MEANS AS APPROVED BY THE JURISDICTIONAL AUTHORITY. MULCH MATTING MAY BE USED IN LIEU OF LOOSE MULCH.
14. IF ANY PUMP-DRIVEN DEWATERING IS NEEDED, IT SHALL BE DISCHARGED THROUGH A FILTER BAG OVER A WELL-VEGETATED AREA. THE PUMP MUST DISCHARGE AT A NON-EROSIVE VELOCITY. IF NECESSARY, AN APPROVED ENERGY DISSIPATER MAY BE USED.
15. CONSTRUCTION ACCESS TO BE FROM THE EXISTING PARKING LOT, OR OTHER EXPRESSLY DESIGNATED AREA.
16. ALL MUD, DIRT, AND DEBRIS TRACKED ONTO THE PARKING LOT OR ANY ROADWAY SHALL BE REMOVED IMMEDIATELY BY THE GENERAL CONTRACTOR.
17. STREETS AND/OR PARKING AREAS WILL BE SCRAPPED AND SWEEPED ON A DAILY BASIS BY THE GENERAL CONTRACTOR.
18. ALL DISTURBED AREAS SHALL BE MAINTAINED FOR DUST CONTROL. SPRINKLING TANK TRUCKS SHALL BE AVAILABLE AT ALL TIMES AND USED ON HAUL ROADS, ON-SITE DISTURBED AREAS, AND OTHER AREAS WHERE DUST BECOMES A PROBLEM AS A RESULT OF CONSTRUCTION ACTIVITY.
19. PERMANENT SESC MEASURES FOR ANY DISTURBED LAND AREA SHALL BE COMPLETED BY THE GENERAL CONTRACTOR WITHIN 5 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH CHANGE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER EARTH CHANGE ACTIVITY CEASES, TEMPORARY SESC MEASURES SHALL BE IMPLEMENTED IMMEDIATELY. ALL TEMPORARY SESC MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SESC MEASURES ARE IMPLEMENTED. ALL PERMANENT SESC MEASURES WILL BE IMPLEMENTED AND ESTABLISHED BEFORE A CERTIFICATE OF COMPLIANCE IS ISSUED.
20. THE GENERAL CONTRACTOR SHALL FINAL GRADE, ESTABLISH VEGETATION, AND/OR LANDSCAPE ALL DISTURBED AREAS NOT BUILT OR PAVED UPON.
21. THE GENERAL CONTRACTOR SHALL REMOVE ALL TEMPORARY SESC DEVICES AFTER PERMANENT STABILIZATION IS ESTABLISHED.

**SESC CONSTRUCTION SEQUENCE:**

1. IMPLEMENTATION OF TEMPORARY EROSION CONTROL MEASURES; SELECTIVE GRADING DIVERSIONS AS REQUIRED IN FIELD, AND PROTECTION OF STORM SEWER FACILITIES.
2. BUILDING /PAVEMENT CONSTRUCTION.
3. PERIODIC MAINTENANCE OF AFFECTED EROSION CONTROL MEASURES.
4. PERMANENT MEASURES; FINAL GRADING, SEEDING AND MULCHING.

**NOTES TO GENERAL CONTRACTOR:**

1. UNDERGROUND UTILITIES MUST BE MARKED, AS REQUIRED BY PUBLIC ACT 53 OF 1974. TELEPHONE THE REGIONAL UTILITY LOCATION ONE-CALL SYSTEM OFFICE A MINIMUM OF THREE (3) WORKING DAYS BEFORE ANY DIGGING.
2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION.
3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CALCULATING ALL MATERIAL QUANTITIES.
4. SEE SHEET G-002 FOR OTHER IMPORTANT GENERAL NOTES.

**SITE PLAN REVIEW NOT FOR CONSTRUCTION**

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**TROY, MI 48065**  
**SITE DETAILS**

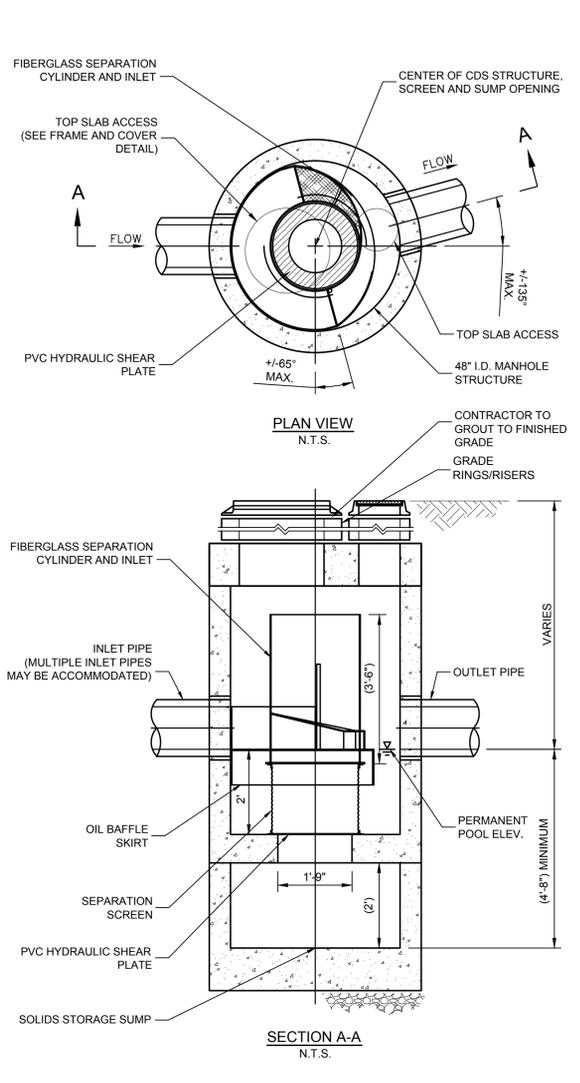
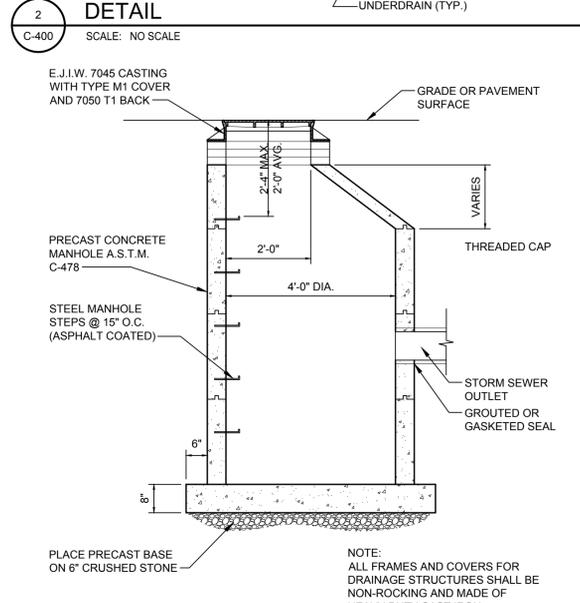
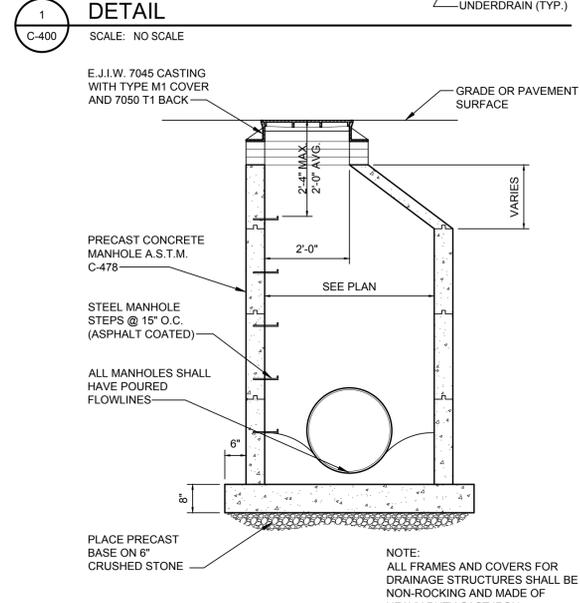
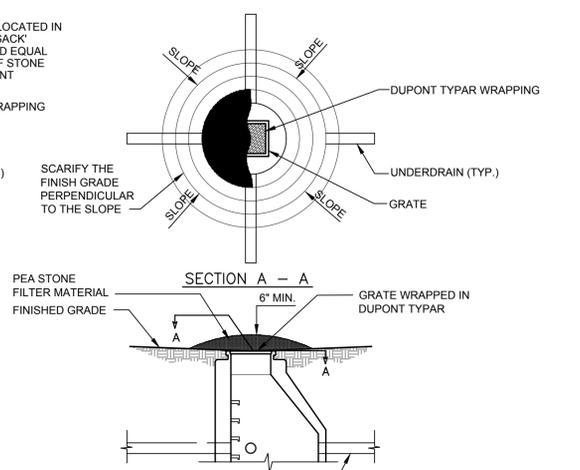
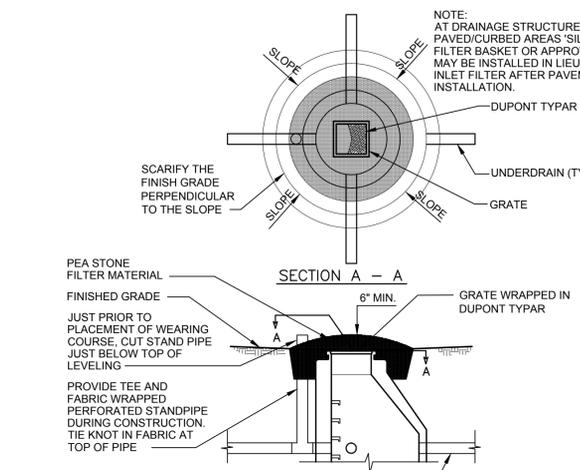
REV	DATE	DESCRIPTION
1	04-22-2012	SITE PLAN REVIEW
2	05-02-2012	SPFC REVISIONS
3	06-06-2012	SPFC REVISIONS

STATE OF MICHIGAN  
JOHN G. DAMRATH III  
ENGINEER  
No. 38510  
LICENSED PROFESSIONAL ENGINEER

DATE: 02.16.2012  
PROJECT NO.: 2012.1015  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**C-500**

FILE NAME: q:\2012\1015\CAD\Const Docs\Site\501 Site Details.dwg LAST SAVED BY: Mike Vanderbeke SAVED DATE: 6/6/2012 3:29 PM PLOTTED: 6/6/2012 3:57 PM



**CDS2015-4 DESIGN NOTES**

CDS2015-4 RATED TREATMENT CAPACITY IS 0.7 CFS, OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 10.0 CFS. IF THE SITE CONDITIONS EXCEED 10.0 CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS2015-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

DESIGNATION (MODEL SUFFIX)	CONFIGURATION DESCRIPTION
G	GRATED INLET ONLY (NO INLET PIPE)
GP	GRATED INLET WITH INLET PIPE OR PIPES
K	CURB INLET ONLY (NO INLET PIPE)
KP	CURB INLET WITH INLET PIPE OR PIPES

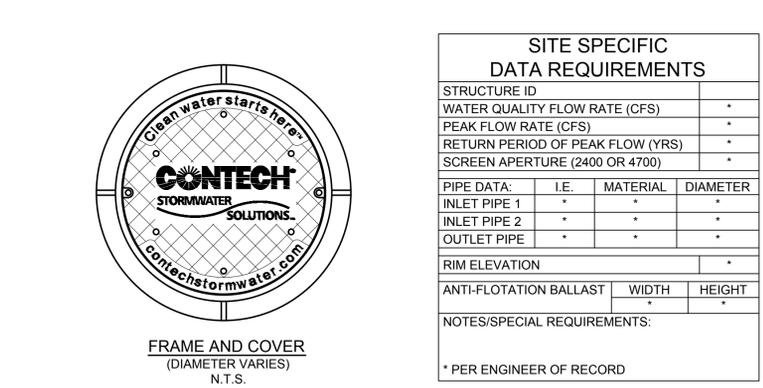
**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	WATER QUALITY FLOW RATE (CFS)	PEAK FLOW RATE (CFS)	RETURN PERIOD OF PEAK FLOW (YRS)	SCREEN APERTURE (2400 OR 4700)
	*	*	*	*

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*

RIM ELEVATION	WIDTH	HEIGHT

NOTES/SPECIAL REQUIREMENTS:  
\* PER ENGINEER OF RECORD

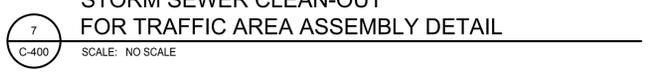
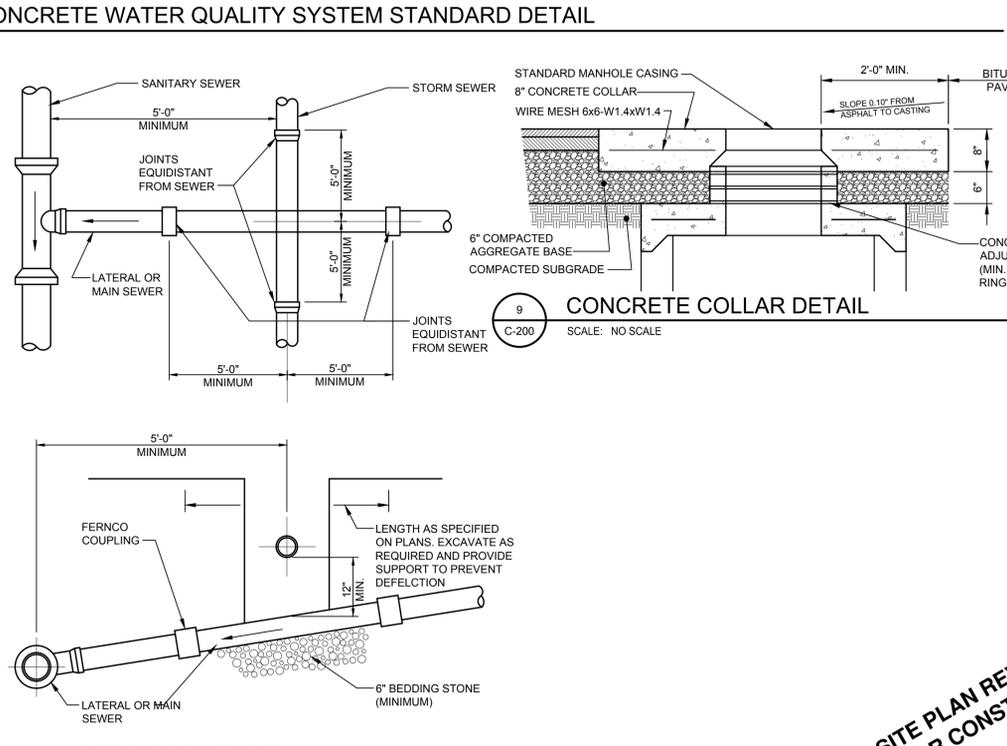
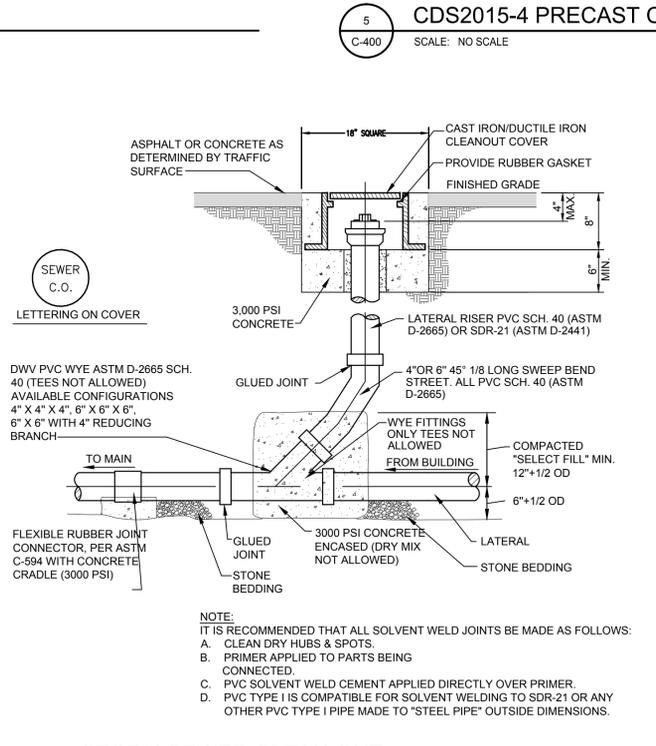
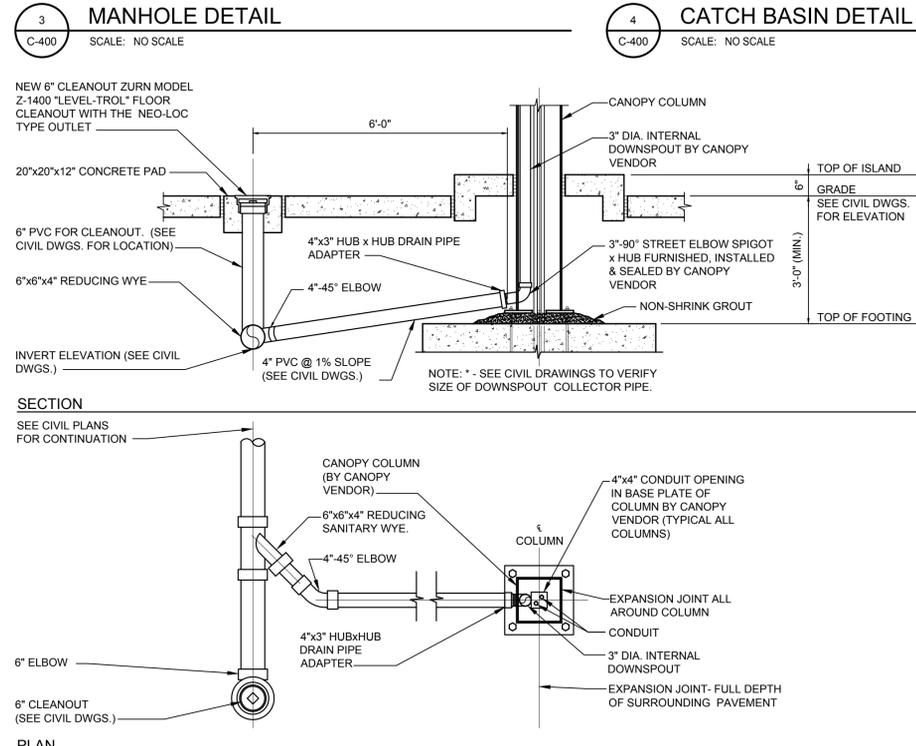


**GENERAL NOTES**

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STORMWATER SOLUTIONS REPRESENTATIVE: [www.contechstormwater.com](http://www.contechstormwater.com)
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
- PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

**INSTALLATION NOTES**

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



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**KROGER D-487**  
**RETAIL FUEL CENTER**  
**4889 ROCHESTER ROAD at E. LONG LAKE ROAD**  
**TROY, MI 48065**  
**SITE DETAILS**

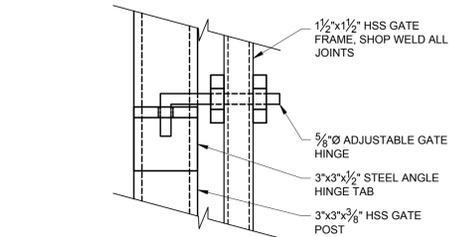
REV	DATE	DESCRIPTION
1	04-22-2012	SITE PLAN REVIEW
2	06-06-2012	SPRINT REVISIONS
3	06-06-2012	SPRINT REVISIONS

STATE OF MICHIGAN  
ENGINEER  
No. 38510  
LICENSED PROFESSIONAL ENGINEER

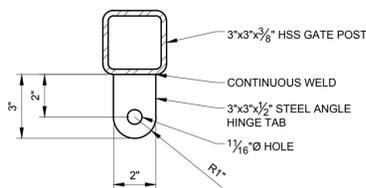
DATE: 02.16.2012  
PROJECT NO.: 2012.1015  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**C-501**

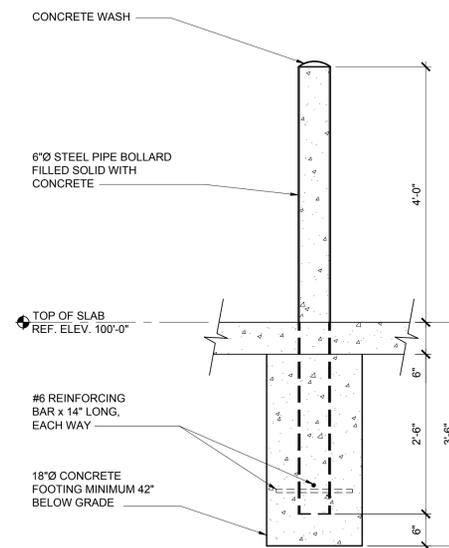
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**NOT FOR CONSTRUCTION**



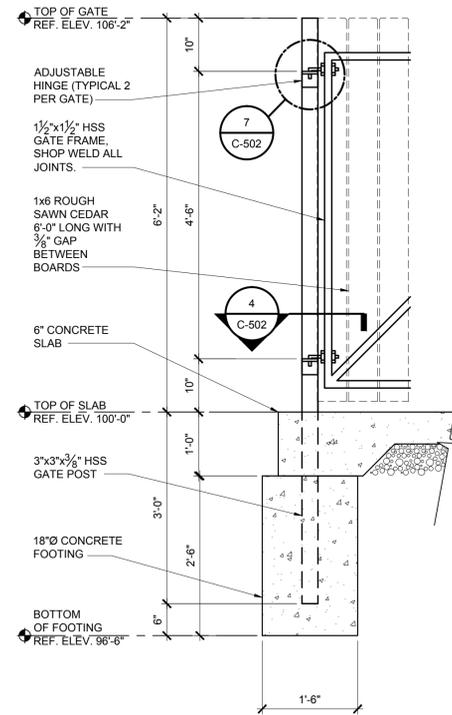
**7 ENLARGED HINGE ELEVATION**  
SCALE: 3" = 1'-0"



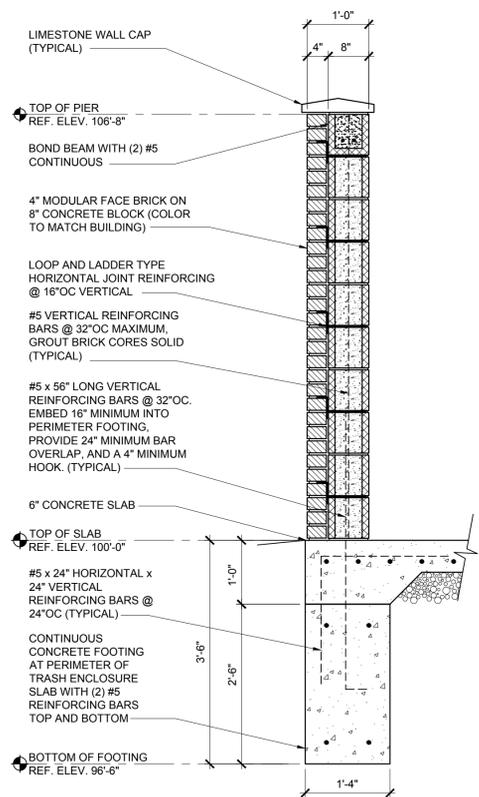
**4 ENLARGED HINGE PLAN**  
SCALE: 3" = 1'-0"



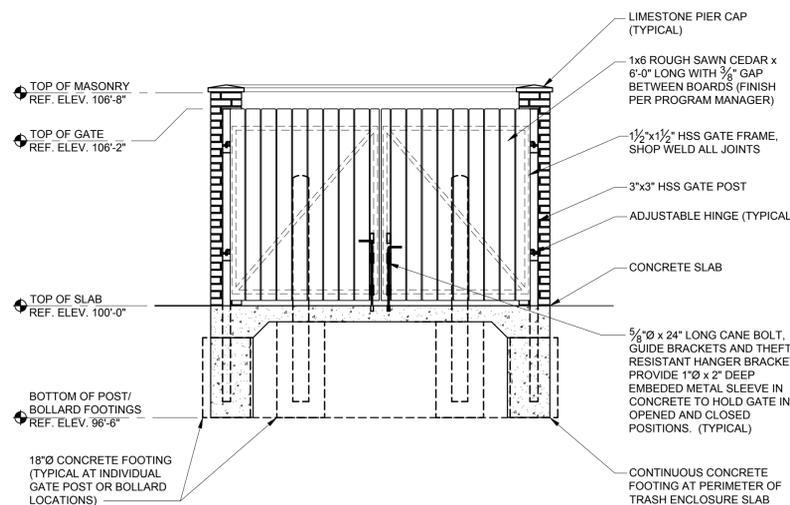
**1 BOLLARD DETAIL**  
SCALE: 3/4" = 1'-0"



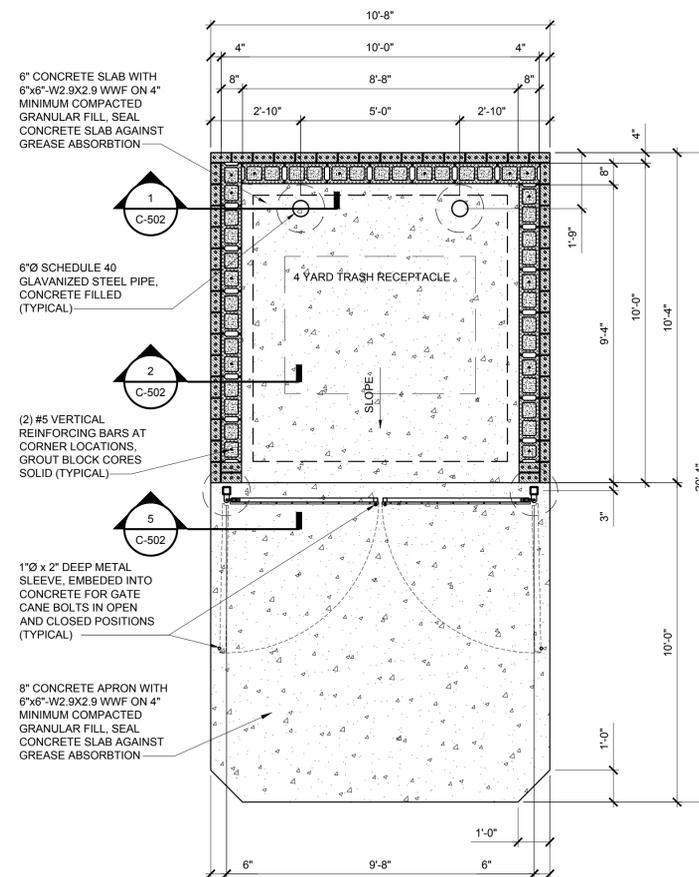
**5 GATE POST**  
SCALE: 3/4" = 1'-0"



**2 WALL SECTION**  
SCALE: 3/4" = 1'-0"



**6 TRASH ENCLOSURE FRONT ELEVATION**  
SCALE: 3/8" = 1'-0"



**3 TRASH ENCLOSURE PLAN**  
SCALE: 3/8" = 1'-0"

**DISCLAIMERS:**

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TROY, MI 48065  
TRASH ENCLOSURE PLAN AND DETAILS**

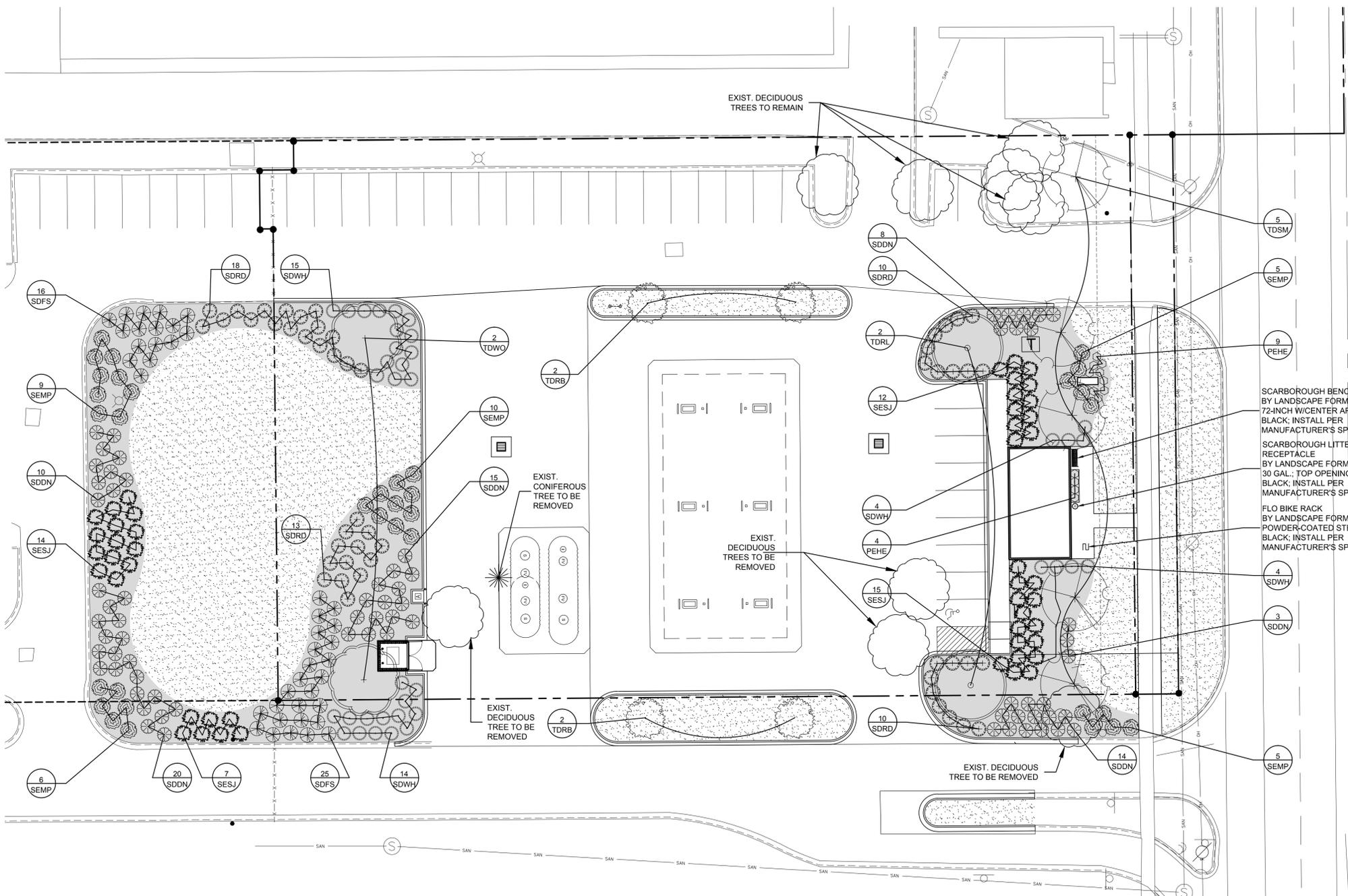
REV	DATE	DESCRIPTION
1	05.11.2012	PLANNING COMMENTS
2	06.06.2012	SPC REVISIONS

STATE OF MICHIGAN  
JOHN G. DAMRATH III  
ENGINEER  
No. 38510  
LICENSED PROFESSIONAL ENGINEER

DATE: 02.16.2012  
PROJECT NO.: 2012.1015  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**C-503**

FILE NAME: q:\2012\1015\CAD\Const\Docs\Site\100 Landscaping\Plan.dwg LAST SAVED BY: Mike Vanderbeke SAVED DATE: 6/6/2012 3:33 PM PLOTTED: 6/6/2012 3:58 PM



- ### LANDSCAPE NOTES:
- ALL TREES AND SHRUBS SHALL BE STAKED IN THE FIELD FOR APPROVAL BY THE ENGINEER PRIOR TO PLANTING.
  - PLANT MATERIAL SHALL COMPLY WITH ALL SIZING AND GRADING STANDARDS OF LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK".
  - ANY SUBSTITUTIONS OF PLANT MATERIAL OR ALTERATION IN PLANT SIZES, SPECIFICATION OR LOCATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
  - ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED, AND WRAPPED. SEE LANDSCAPE DETAILS.
  - PLANT BEDS TO BE MULCHED AND DRESSED WITH 4" MIN. OF SHREDDED HARDWOOD WITH PRE-EMERGENT HERBICIDE. SEE DETAIL THIS SHEET.
  - DIG SHRUB PIT 1' FOOT LARGER THAN SHRUB ROOT BALLS AND THREE PITS TWO FEET LARGER THEN ROOT BALL. BACK FILL WITH TWO PARTS TOP SOIL AND ONE PART COMPOST.
  - REMOVE ALL TWINE, WIRE, AND BURLAP FROM TREE AND SHRUB ROOT BALLS, AND FROM TRUNKS.
  - ALL DISTURBED AREAS NOT DESIGNATED AS PAVEMENT, OR PLANTING BEDS, SHALL BE SOODED. ALL TURF AREAS SHALL CONSIST OF A MINIMUM 8" THICKNESS TOPSOIL FREE OF CLAY DEBRIS, STICKS OR ROCKS IN EXCESS OF 1" IN DIAMETER. ALL TOPSOIL AREAS SHALL BE FINE GRADED AND RAKED. REMOVING RIDGES AND FILLING DEPRESSIONS AS REQUIRED TO MEET FINISHED GRADES AND CREATE POSITIVE DRAINAGE AWAY FROM BUILDINGS.
  - LAWN TREES TO BE MULCHED WITH 4" WIDE MINIMUM OF 4" DEEP SHREDDED BARK RING OR APPROVED ALTERNATE DESIGN FOR TRUNK PROTECTION.
  - PROVIDE SOD FOR ALL NEW LAWN AREAS UNLESS NOTED OTHERWISE. TURF AREA SHALL BE TREATED WITH FERTILIZER APPLIED AT A RATE OF 1 POUND PER 1,000 SQUARE FEET.
  - INSTALLATION OF PLANT MATERIAL SHALL BE IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
  - AT THE TIME OF SITE PREPARATION, ENGINEER TO REVIEW ALL EXISTING VEGETATION, AND TAG MATERIALS TO BE SAVED OR RELOCATED.
  - ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
  - PLANT TREES AND SHRUBS GENERALLY NO CLOSER THEN THE FOLLOWING DISTANCES FROM SIDEWALKS, CURBS, AND PARKING STALLS:
    - a. SHADE TREES: 5 FEET
    - b. ORNAMENTAL AND EVERGREEN TREES: 10 FEET (GRAB, PINE, SPRUCE, ETC.)
    - c. SHRUBS THAT ARE LESS THAN 1' FOOT TALL AND WIDE AT MATURITY: 2 FEET
  - LOCATE ALL UTILITIES PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES.
  - NO TREES, EVERGREENS, AND SHRUBS SHALL BE INSTALLED OVER ANY EXISTING OR PROPOSED UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR EXACT LOCATION AND DETAILS.
  - LAWN AND LANDSCAPE AREAS TO BE FULLY IRRIGATED WITH AUTOMATIC UNDERGROUND SYSTEMS (BLVD, ISLAND, CUL-DE-SAC, AND GREENBELT) TO ESTABLISH, AND MAINTAIN GOOD AND HEALTHY TURF AND PLANT MATERIAL. PER THE KROGER CO. KROGER MASTER BUILDING SPECIFICATIONS, SECTION 32 84 00 - PLANTING IRRIGATION OF THE PROCUREMENT AND CONTRACTING DOCUMENTS GROUP.
  - ALL LANDSCAPE PLANT MATERIAL TO BE GUARANTEED FOR ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AND ACCEPTANCE.
  - ALL SHRUB PLANTINGS WITHIN SITE TRIANGLE AREAS TO BE MAXIMUM HEIGHT OF 30", AND FIRST BRANCHING FOR PROPOSED TREES TO BE MINIMUM OF 7' ABOVE PROPOSED GRADES.
  - ALL DISEASED, DAMAGED OR DEAD PLANT MATERIALS SHALL BE REPLACED IN ACCORDANCE WITH SPECIFICATIONS, AND LOCAL REGULATIONS.
  - PLANT FERTILIZER SHALL BE AGRIFORM 21 GRAIN TABLETS, SLOW RELEASE, 20-10-5 ANALYSIS AND/OR APPROVED EQUAL. RATES OF APPLICATION SHALL BE AS RECOMMENDED BY MANUFACTURER.

- ### LANDSCAPE SUMMARY:
- PARKING LOT LANDSCAPING, PER SEC. 13.02.C.2.a**  
 REQUIRED: 1 TREE PER 8 PARKING SPACES  
 9 SPACES / 8 = 1.1  
 2 TREE  
 PROVIDED: 2 TREES
- PARKING LOT LANDSCAPING, PER SEC. 13.02.C.3.b**  
 REQUIRED: ALTERNATIVE LANDSCAPE PLANTINGS THAT DO NOT EXCEED 3 FEET IN HEIGHT  
 PROVIDED: DECIDUOUS & EVERGREEN SHRUBS 2-3 FEET IN HEIGHT
- GREENBELT LANDSCAPING, PER SEC. 13.02.D.2.b**  
 REQUIRED: 1 DECIDUOUS TREE PER 30 LF FRONTAGE  
 194 LF FRONTAGE / 30 = 6.5  
 6 DECIDUOUS TREES  
 PROVIDED: 5 DECIDUOUS
- SITE LANDSCAPING, PER SEC. 13.02.E.1.a**  
 REQUIRED: 20% OF SITE AREA LANDSCAPED  
 61,390 SF AREA \* 0.2 = 12,278 SF  
 12,278 SF LANDSCAPING  
 PROVIDED: 14,327 SF LANDSCAPING (23% OF SITE AREA)

### SITE SURFACE SUMMARY:

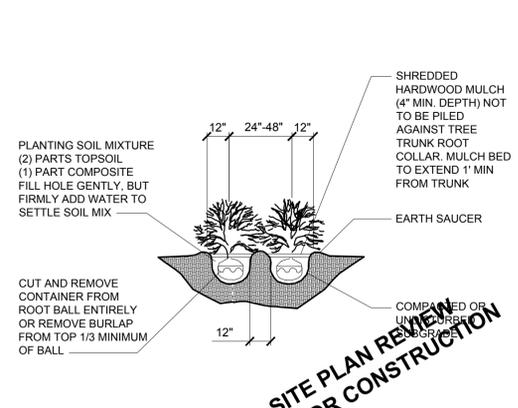
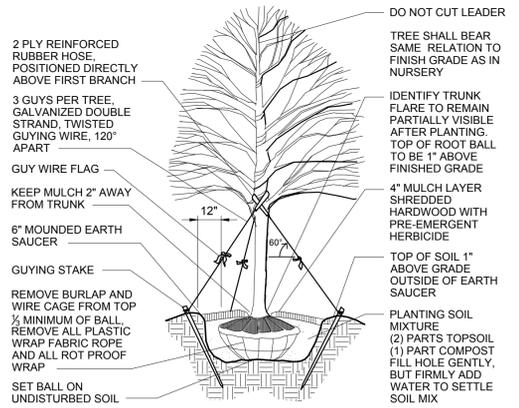
EXISTING CONDITIONS	IMPERVIOUS	45,194 SF (74%)
PERVIOUS	16,196 SF (26%)	
TOTAL	61,390 SF (100%)	
PROPOSED CONDITIONS	IMPERVIOUS	43,165 SF (70%)
	PERVIOUS	18,225 SF (30%)
	TOTAL	61,390 SF (100%)

## LANDSCAPE PLAN

SCALE: 1" = 20'-0"

### LANDSCAPE PLANT MATERIAL SCHEDULE

CLASS	LABEL	COMMON NAME	BOTANICAL NAME	SIZE / HEIGHT	ROOT	EXISTING	REMOVE	RELOCATE	NEW	TOTAL	NOTES
TREES	DECIDUOUS	TDRL	LINDEN, AMERICAN 'REDMOND'	TILIA AMERICANA 'REDMOND'	2 1/2" CALIPER	-	-	-	2	2	INSTALL PER DETAIL THIS SHEET
		TDSM	MAPLE, SUGAR	ACER SACCHARUM	2 1/2" CALIPER	-	-	-	5	5	-
		TDWO	OAK, SWAMP WHITE	QUERCUS BICOLOR	2 1/2" CALIPER	-	-	-	2	2	-
	CONIFEROUS	TDRE	REDBUD, EASTERN	CERCIS CANDENSIS	2" CALIPER	-	-	-	4	4	-
		TENS	SPRUCE, NORWAY	PICEA ABIES	6'-0" HIGH	-	-	-	-	-	-
		TEDF	FIR, DOUGLAS	PSEUDOTSUGA MENZIESII VAR. GLAUCA	6'-0" HIGH	-	-	-	-	-	-
SHRUBS	DECIDUOUS	SDWH	HOLLY, WINTERBERRY	ILEX VERTICILLATA	24"-36" HIGH	-	-	-	37	37	INSTALL PER DETAIL THIS SHEET
		SDDN	NINEBARK, DIABLO	PHYSCARPUS OPULIFOLIUS 'DIABLO'	24"-36" HIGH	-	-	-	70	70	-
		SDRD	DOGWOOD, REDTWIG	CORNUS SERICEA 'KELSEY'	24"-36" HIGH	-	-	-	51	51	-
	EVERGREEN	SDFS	SUMAC, FRAGRANT	RHUS AROMATICA 'GRO LOW'	24"-36" HIGH	-	-	-	41	41	-
		SESJ	JUNIPER, SPREADING	JUNIPERUS SABINA 'BROADMOOR'	24"-36" HIGH	-	-	-	48	48	INSTALL PER DETAIL THIS SHEET
		SEMP	PINE, DWARF MUGHO	PINUS MUGO 'MUGHO'	18"-24" HIGH	-	-	-	35	35	-
GRASS	SOD	GRASS, SOD	LOCAL TO OAKLAND COUNTY	15,650 SF	-	-	-	-	-	-	
PERENNIALS	PEHE	DAYLILY, STELLA D'ORO	HEMEROCALLIS 'STELLA D'ORO'	18" HIGH	-	-	-	13	13	INSTALL PER SHRUB DETAIL THIS SHEET	
MISCELLANEOUS	MLCH	MULCH, SHREDDED HARDWOOD	-	13,055 SF	-	-	-	-	-	APPLY PER DETAILS THIS SHEET	



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Surveying

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Lawrence, KS 66044  
Phone: (785) 843-7411  
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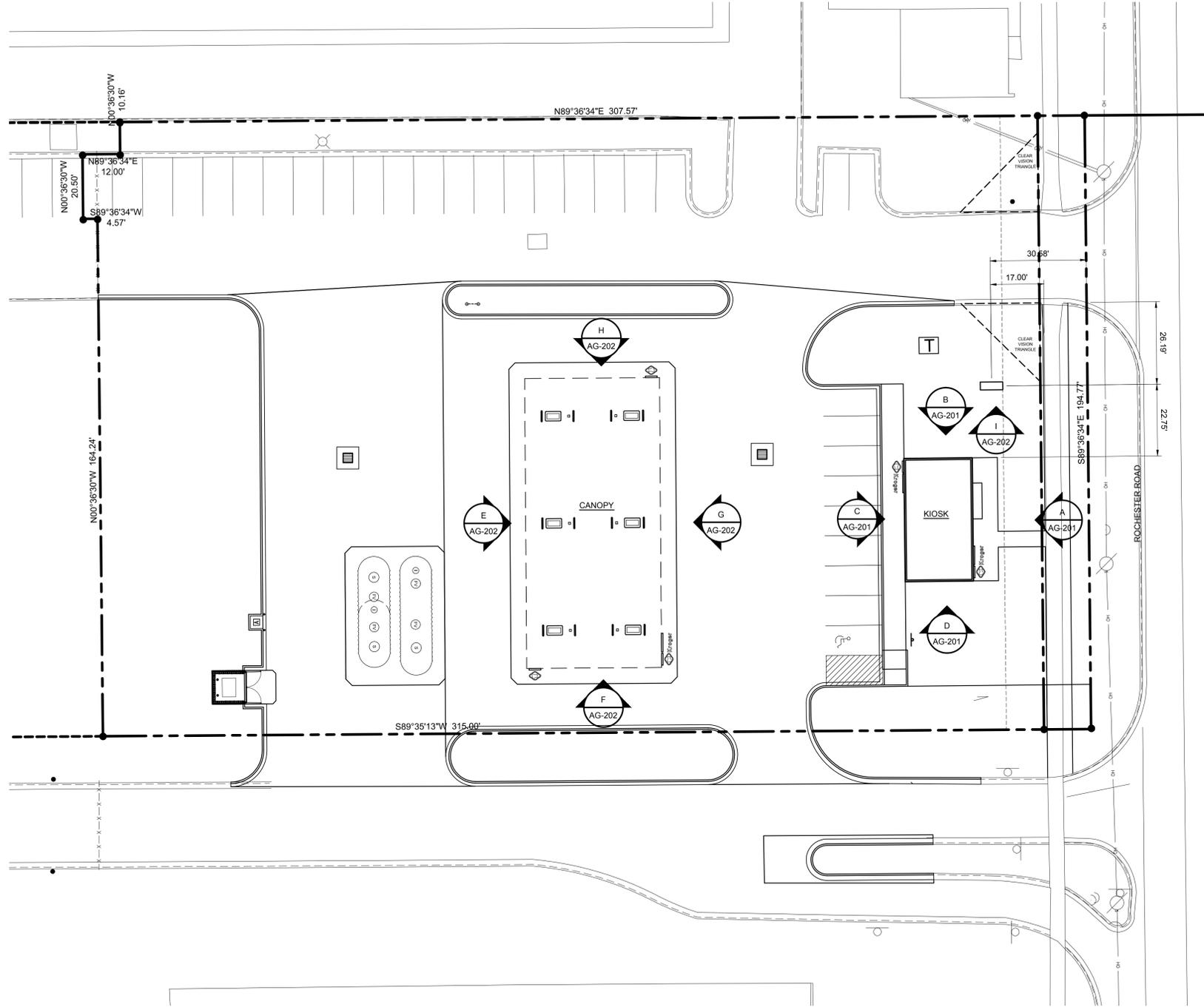
The Kroger Co.  
1025 East 5th Street, Suite A  
Troy, MI 48068  
Phone: (313) 751-5007  
Fax: (313) 751-5005

**KROGER D-487**  
**RETAIL FUEL CENTER**  
**4889 ROCHESTER ROAD at E. LONG LAKE ROAD**  
**TROY, MI 48065**  
**LANDSCAPE PLAN AND DETAILS**

REV	DATE	DESCRIPTION
1	04/23/2012	SITE PLAN REV NEW
2	05/12/2012	PLANNING COMMENTS
3	06/06/2012	SPG REVISIONS

DATE: 02.16.2012  
 PROJECT NO.: 2012.1016  
 DESIGNED BY: LPE  
 DRAWN BY: LPE  
 CHECKED BY: JGD

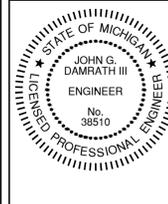
SHEET NO.  
**L-100**



**SIGNAGE PLAN - SIGN**  
SCALE: 1" = 20'-0"

**SITE PLAN REVIEW  
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION
0	04.23.2012	SITE PLAN REVIEW
3	06.06.2012	SPG REVISIONS



DATE: 01.01.2011  
PROJECT NO.: 2010.1174  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**AG-101**

**KROGER D-487  
RETAIL FUEL CENTER  
4889 ROCHESTER ROAD AT E. LONG LAKE ROAD  
TROY, MI 48065  
SIGNAGE PLAN - SITE**



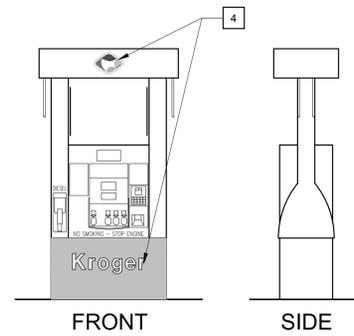
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**Civil Engineering  
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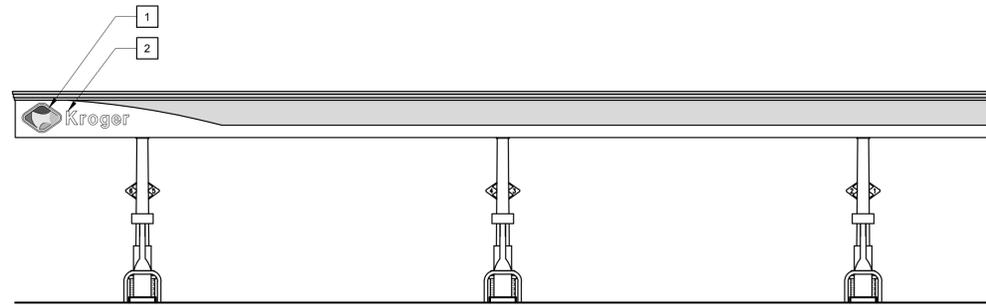
37740 Hills Tech Dr. #4331  
Lawrence, KS 66044  
Phone: (785) 842-7411  
Email: info@landplan-pa.com  
Web: www.landplan-pa.com

ARCHITECTURAL GRAPHICS SCHEDULE			
MARK	DESCRIPTION	MANUFACTURER / MATERIAL	NOTES
1	ILLUMINATED LOGO SIGN	CUMMINGS SIGNS	SEE DRAWINGS 53154.07C, 53154.07C1 AND KR203902 ON SHEET AG-501
2	ILLUMINATED CHANNEL LETTER SIGN	CUMMINGS SIGNS	SEE DRAWINGS 53154.07C AND KR20302 ON SHEET AG-501.
3	NON-ILLUMINATED LOGO SIGN	CUMMINGS SIGNS	SEE DRAWING 53154.54 ON SHEET AG-501
4	MULTI-PRODUCT DISPENSER GRAPHICS	DRESSER, INC. DRESSER WAYNE "OVATION" FUEL DISPENSER	DOOR AND VALANCE GRAPHICS BY DISPENSER MANUFACTURER. SEE DETAIL F ON SHEET AG-201.
5	NOT USED	-	-
6	NOT USED	-	-
7	ILLUMINATED SCROLLING PRICE SIGN	SKYLINE PRODUCTS, INC.	SEE DRAWING KROGER-14STPSF-ST ON SHEET AG-501.

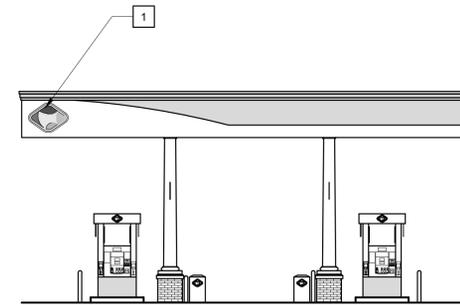


**J DISPENSER ELEVATIONS**  
SCALE: 3/8" = 1'-0"

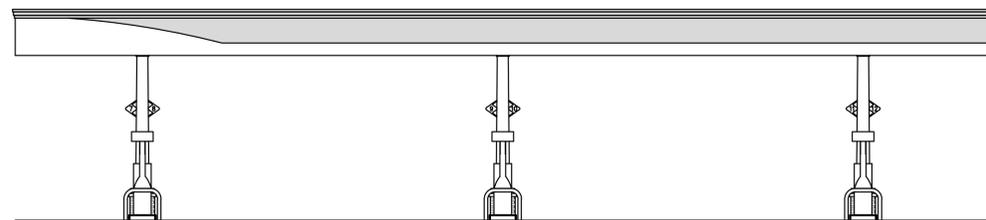
**I NOT USED**  
SCALE: 3/8" = 1'-0"



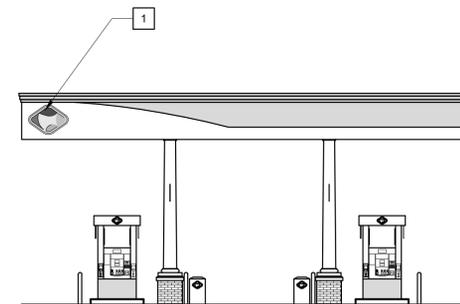
**G EAST CANOPY SIGNAGE ELEVATION**  
SCALE: 1/8" = 1'-0"



**H NORTH CANOPY SIGNAGE ELEVATION**  
SCALE: 1/8" = 1'-0"



**E WEST CANOPY SIGNAGE ELEVATION**  
SCALE: 1/8" = 1'-0"



**F SOUTH CANOPY SIGNAGE ELEVATION**  
SCALE: 1/8" = 1'-0"

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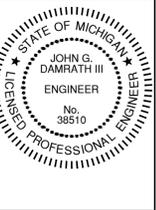
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**KROGER D-487**  
**RETAIL FUEL CENTER**  
**4889 ROCHESTER ROAD AT E. LONG LAKE ROAD**  
**TROY, MI 48085**  
**SIGNAGE ELEVATIONS - CANOPY EXTERIOR**

REV	DATE	DESCRIPTION
1	04.23.2012	SITE PLAN REVIEW
3	06.06.2012	SFS REVISIONS



**SITE PLAN REVIEW**  
**NOT FOR CONSTRUCTION**

DATE: 01.01.2011  
PROJECT NO.: 2012.1015  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**AG-202**

### 33.5" LOGO & LETTER SET

COPY	KROGER ITEM #	CUMMINGS PART #
CityMarket	060-0000519	403L15CMMMT120
Dillons	060-0000520	403L15DILLMT120
Food4Less	060-0000521	403L15F4LMT120
FredMeyer	060-0000522	403L15FRMT120
Fry's	060-0000523	403L15FRYMT120
Hilander	060-0000524	403L15HILMT120
JayC	060-0000525	403L15JAYMT120
KingSoopers	060-0000526	403L15KSOPT120
Kroger	060-0000527	403L15KROG120
Owens	060-0000528	403L15OWMT120
PayLess	060-0000529	403L15PAYMT120
Ralphs	060-0000530	403L15RALMT120
Smith's	060-0000531	403L15SMT120
TomThumb	060-0000532	403L15TTMT120
TurkeyHill	060-0000533	403L15THMT120
Leaf Nug	060-0000534	403L15LNMT120
MiniMart	060-0000535	403L15MMMT120

**TomThumb** 45" x 33.5"

**TurkeyHill** 10" x 33.5"

**KwikShop** 10" x 33.5"

**Scott's** 25" x 33.5"

**QuikStop** 100" x 33.5"

**Loaf/Jug** 100" x 33.5"

**MiniMart** 100" x 33.5"

**PayLess** 87.5" x 33.5"

**FredMeyer** 80" x 33.5"

**Fry's** 47" x 33.5"

**JayC** 10" x 33.5"

**Food4Less** 10" x 33.5"

**QFC** 45" x 33.5"

**Smith's** 75" x 33.5"

**Ralphs** 71" x 33.5"

**CityMarket** 112" x 33.5"

**Owens** 75" x 33.5"

**Hilander** 12" x 33.5"

**KingSoopers** 92" x 33.5"

**Dillons** 77" x 33.5"

**Kroger** 81" x 33.5"

**FoodsCo.** 81" x 33.5"

**CUMMINGS SIGNS**

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CUSTOMER APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_

DRAWING NO: 53154.07C

DATE: 2-6-09

5 Pages

### 060-0000517 (120v)

### 33.5" LOGO

**TomThumb** 45" x 33.5"

**TurkeyHill** 10" x 33.5"

**KwikShop** 10" x 33.5"

**Scott's** 25" x 33.5"

**QuikStop** 100" x 33.5"

**Loaf/Jug** 100" x 33.5"

**MiniMart** 100" x 33.5"

**PayLess** 87.5" x 33.5"

**FredMeyer** 80" x 33.5"

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**FoodsCo.** 81" x 33.5"

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CUSTOMER APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_

DRAWING NO: 53154.07C1

DATE: 8-28-09

5 Pages

INSTALL PATTERN: KR20391.DXF/PJT

BOXED SQ. FT.: 10.47  
ACTUAL SQ. FT.: 6.70

(3) F30T12 D/HO AMP  
(1) ECSD-424-3L BAL-AST @ 120V = 1.10A

TRANSFORMER: KR203901 JOB LG1 = 120"

INSTALL PATTERN: KR20391.DXF/PJT

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CUSTOMER APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_

DRAWING NO: 53154.07C1

DATE: 8-28-09

5 Pages

### MONUMENT SIGN

INSTALL PATTERN: KR20321.DXF/PJT

BOXED SQ. FT.: 10.32  
ACTUAL SQ. FT.: 4.12

LED MODULE	PERMILIGHT TWISTER 752-R630-B RED
LETTERS	K R O G E R
LED COUNT	9 4 6 10 B 4
LED TOTAL	41
POWER SUPPLIES	(1) PERMILIGHT 60-12D 0.65 AMPS

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CUSTOMER APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_

DRAWING NO: 53154.07B1

DATE: 2-13-09

5 Pages

### MONUMENT SIGN

COPY	KROGER ITEM #	CUMMINGS PART #
CityMarket	060-0000513	403-MCMA-1702-2-CM
Dillons	060-0000512	403-MCMA-1702-2-DL
Food4Less	060-0000513	403-MCMA-1702-2-FL
FredMeyer	060-0000514	403-MCMA-1702-2-FM
Fry's	060-0000515	403-MCMA-1702-2-FR
Hilander	060-0000517	403-MCMA-1702-2-HI
JayC	060-0000518	403-MCMA-1702-2-JC
KingSoopers	060-0000519	403-MCMA-1702-2-KS
Kroger	060-0000520	403-MCMA-1702-2-KR
Owens	060-0000521	403-MCMA-1702-2-OW
PayLess	060-0000522	403-MCMA-1702-2-PL
QFC	060-0000523	403-MCMA-1702-2-QF
Ralphs	060-0000524	403-MCMA-1702-2-RA
Smith's	060-0000525	403-MCMA-1702-2-SM
TomThumb	060-0000526	403-MCMA-1702-2-TT
TurkeyHill	060-0000527	403-MCMA-1702-2-TH
Leaf Nug	060-0000528	403-MCMA-1702-2-LN
MiniMart	060-0000529	403-MCMA-1702-2-MM

Formed PCB cap over type push thru white acrylic letters. (DBR-see copy options)

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CUSTOMER APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_

DRAWING NO: 53154.07B1

DATE: 2-13-09

5 Pages

SITE PLAN REVIEW NOT FOR CONSTRUCTION

**Civil Engineering**  
**Landscapes Architecture**  
**Community Planning**  
**Surveying**

3792 S. Hill, Hill, OH  
Farmington Hills, MI 48331  
Tel: (248) 987-4411  
Fax: (248) 987-4411  
Web: www.landplan-pa.com

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The Kroger Co.  
10051 East 15th Avenue, Suite 400  
Troy, MI 48065  
Phone: (313) 755-9977  
Fax: (313) 755-9928

**KROGER D-487**  
**RETAIL FUEL CENTER**  
**4889 ROCHESTER ROAD AT E. LONG LAKE ROAD**  
**TROY, MI 48065**  
**SIGNAGE DETAILS**

REV	DATE	DESCRIPTION
1	04-23-2012	SITE PLAN REVIEW
3	06-06-2012	SPEC REVISIONS

STATE OF MICHIGAN  
JOHN G. DAMRATH III  
ENGINEER  
No. 38810

DATE: 01.01.2011  
PROJECT NO.: 2010.1174  
DESIGNED BY: LPE  
DRAWN BY: LPE  
CHECKED BY: JGD

SHEET NO.  
**AG-501**

DATE: June 6, 2012

TO: Planning Commission

FROM: R. Brent Savidant, Planning Director

SUBJECT: PUBLIC HEARING – REZONING APPLICATION (File Number Z 740) – Proposed Charter One Bank Branch, 125 Stephenson Highway and 1250 W. 14 Mile Road, Section 35, From O (Office) to IB (Integrated Industrial and Business) District

The applicant, Lormax Stern Development Company, seeks a rezoning of the subject parcel from O (Office) to IB (Integrated Industrial and Business) District. The parcel is approximately 7 acres in area. The applicant proposes maintaining a permanent 30-foot wide greenbelt open space along the western property line and a portion of the northern property line. Both property lines separate the subject property from residential neighborhoods.

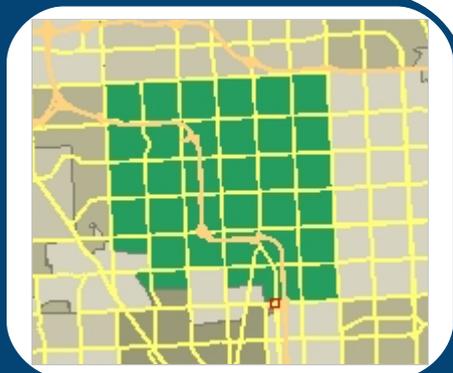
The Master Plan classifies this area as 21<sup>st</sup> Century Industrial. A description of this classification is attached.

The attached report prepared by Carlisle/Wortman Associates, Inc. (CWA), the City's Planning Consultant, summarizes the rezoning request. CWA prepared the report with input from various City departments including Planning, Engineering, Public Works and Fire. City Management supports the findings of fact contained in the report and agrees with the recommendation.

Please be prepared to discuss this item at the June 12, 2012 Planning Commission Regular meeting.

Attachments:

1. Maps
2. Rezoning statement
3. City of Troy Master Plan (excerpt)
4. Report prepared by Carlisle/Wortman Associates, Inc.



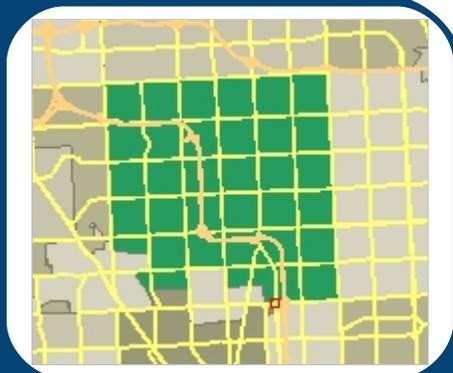
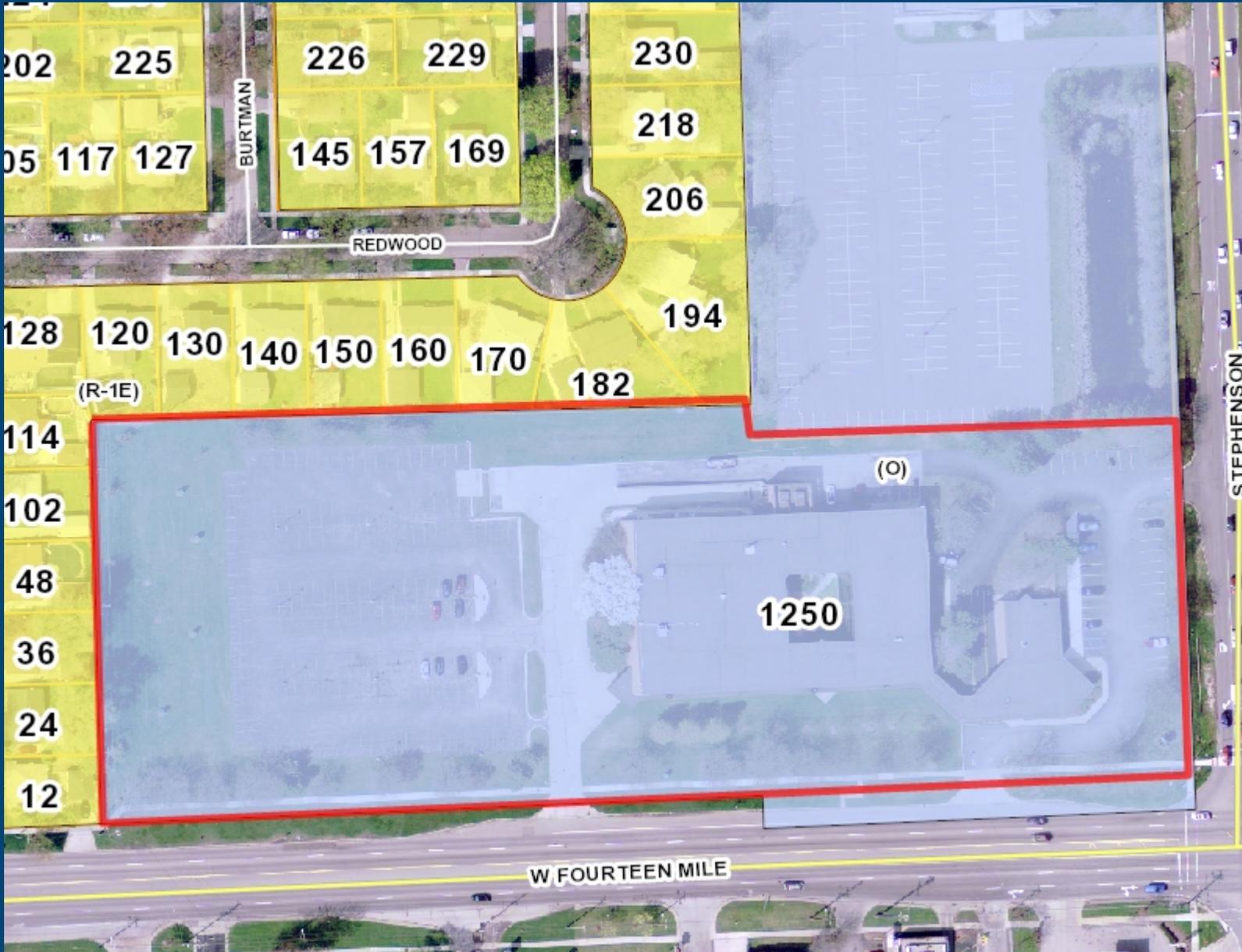
### Legend

-  I-75
- Road Centerline**
  -  Major Road
  -  Industrial Road
  -  Local Road
-  Ponds and Basins
-  Streams and Creeks
-  Parcels
- Aerial Photos - 2010**
  -  Red: Band\_1
  -  Green: Band\_2
  -  Blue: Band\_3

250 0 125 250 Feet

Scale 1: 1,498





### Legend

- I-75
- Road Centerline**
  - Major Road
  - Industrial Road
  - Local Road
- Current Zoning Ordinance**
  - (PUD) Planned Unit Development
  - (CF) Community Facilities District
  - (EP) Environmental Protection District
  - (BB) Big Beaver Road (Form Based)
  - (MRF) Maple Road (Form Based)
  - (NN) Neighborhood Nodes (A-U)
  - (CB) Community Business
  - (GB) General Business
  - (IB) Integrated Industrial Business District
  - (O) Office Building District
  - (OM) Office Mixed Use
  - (P) Vehicular Parking District
  - (R-1A) One Family Residential District
  - (R-1B) One Family Residential District
  - (R-1C) One Family Residential District
  - (R-1D) One Family Residential District
  - (R-1E) One Family Residential District
  - (RT) One Family Attached Residential District
  - (MR) Multi-Family Residential
  - (MHP) Manufactured Housing
  - (UR) Urban Residential
  - (RC) Research Center District
  - (PV) Planned Vehicle Sales
- Ponds and Basins
- Streams and Creeks
- Parcels
- Aerial Photos - 2010**
  - Red: Band\_1
  - Green: Band\_2
  - Blue: Band\_3

250 0 125 250Feet

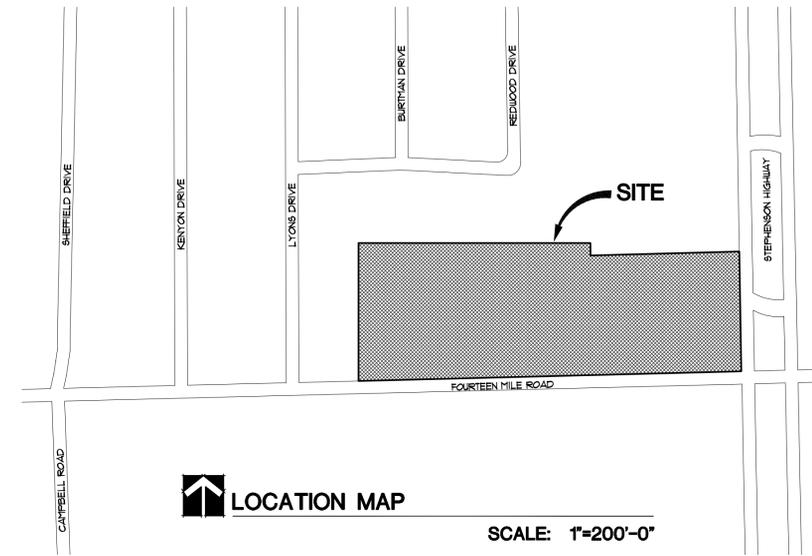
Scale 1: 1,498



**LEGAL DESCRIPTION**

Land situated in the State of Michigan, County of Oakland, City of Troy described as follows:  
 Parcel 1:  
 Lots 1, 2 and 3, Mark Builders Subdivision, according to the plat thereof recorded in Liber 84, of plate Page(s) 14 and 15, Oakland County Records.  
 Parcel 2:  
 Part of the Southwest 1 of Section 35, Town 2 North, Range 11 East, City of Troy, Oakland County, Michigan, being described as beginning at a point on the South line of Section 35 distant South 88 degrees 24 minutes 00 seconds East 664.61 feet; and South 88 degrees 13 minutes 12 seconds East 643.71 feet from the Southeast corner of said Section 35; thence continuing along the South section line, South 88 degrees 13 minutes 12 seconds East 354.61 feet thence along the West line of Stephenson Highway (1024 feet wide) North 01 degree 51 minutes 39 seconds East 358.88 feet thence North 88 degrees 35 minutes 21 seconds West 351.11 feet thence South 02 degrees 31 minutes 48 seconds West 356.63 feet to the point of beginning.  
 For tax purposes, Parcel 2 is described as:  
 T1N, R11E, SEC 35, MARK BUILDERS SUB LOTS 1, 2 & 3, ALSO PART OF SW 1 BEG AT FT DIST S 88-24-00 E 664.61 FT, TH S 88-13-12 E 643.71 FT FROM SW SEC COR, TH S 88-13-12 E 354.61 FT, TH N 01-51-39 E 358.88 FT, TH N 88-35-21 W 351.11 FT, TH S 02-31-48 W 351.14 FT TO BEG EXC S 60 FT TAKEN FOR RD  
 1250 West Fourteen Mile, Troy  
 Tax ID: 20-35-356-024

Based on a field survey all of the above being described as:  
 Lots 1, 2 and 3, Mark Builders Subdivision, according to the plat thereof recorded in Liber 84, of plate Page(s) 14 and 15, Oakland County Records, also part of the Southwest 1 of Section 35, Town 2 North, Range 11 East, City of Troy, Oakland County, Michigan, being described as: Commencing at the Southeast corner of said Section 35; thence South 88 degrees 24 minutes 00 seconds East 664.61 feet thence along the South line of said Section 35 South 88 degrees 21 minutes 01 seconds East 665.71 feet to the point of beginning; thence North 02 degrees 31 minutes 48 seconds East 60.07 feet to a point on the North Right-of-Way line of Fourteen Mile Road (102' wide) said point also being the Southeast corner of said Lot 1; thence along said North Right-of-Way line North 88 degrees 21 minutes 01 seconds West 343.31 feet to a point which is the Southeast corner of said Lot 3; thence along the West line of said Lot 3 North 02 degrees 34 minutes 30 seconds East 338.03 feet to a point which is the Northwest corner of said Lot 3; thence along the North line of said Lot 1, 2 & 3 South 81 degrees 05 minutes 30 seconds East 347.11 feet to a point which is the Northeast corner of said Lot 1; thence along the East line of said Lot 1 South 02 degrees 31 minutes 48 seconds West 253.33 feet thence South 88 degrees 43 minutes 31 seconds East 351.15 feet to a point on the West Right-of-Way line of Stephenson Highway (1024' wide) thence along said West Right-of-Way line South 01 degree 51 minutes 39 seconds West 358.88 feet to a point on said South line of Section 35; thence along said South line North 88 degrees 21 minutes 01 seconds West 354.61 feet to the point of beginning.

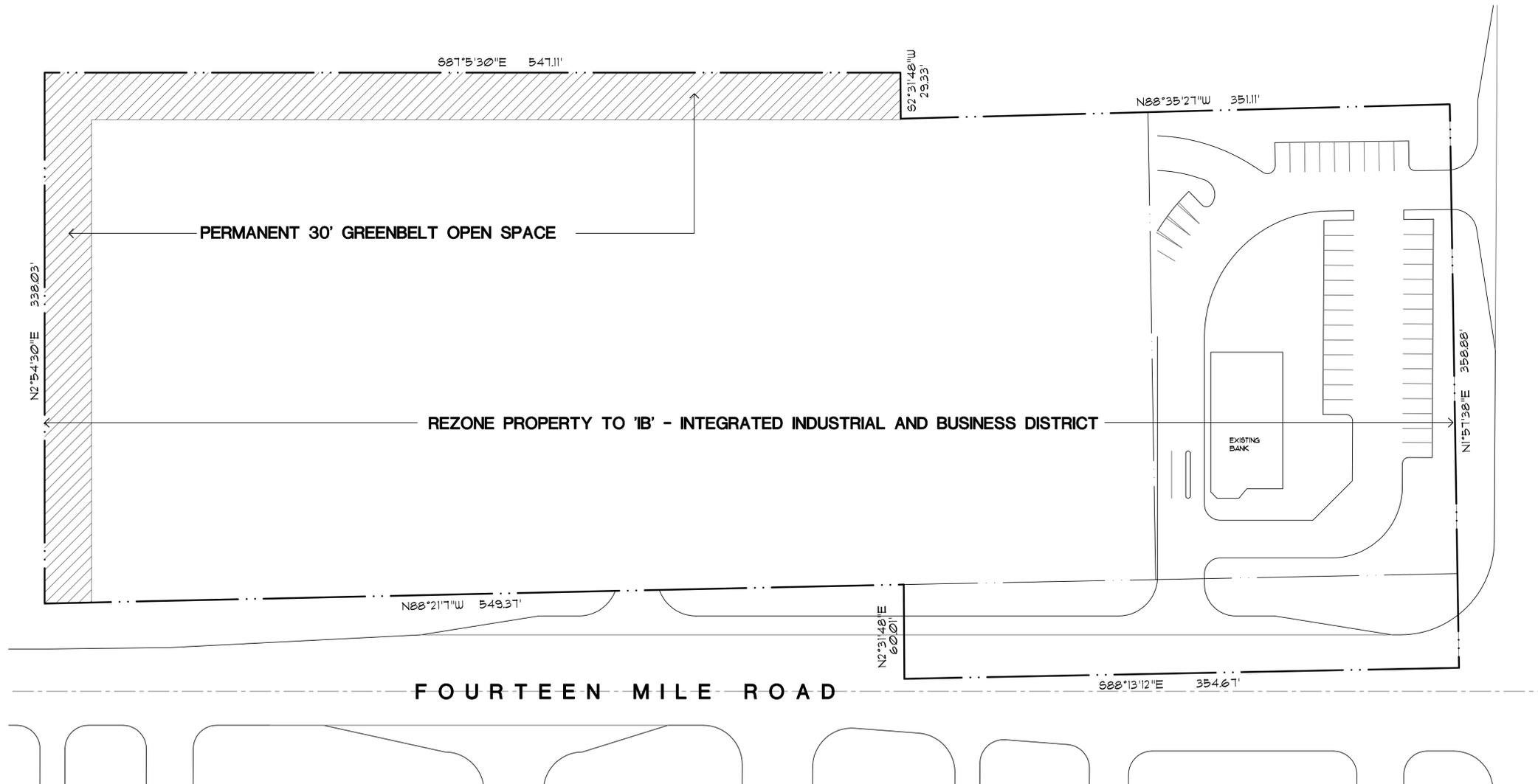


**LOCATION MAP**

SCALE: 1"=200'-0"

issued for:  
 REVIEW: 13 APR. 12

project:



STEPHENSON HWY.

<b>LAND DATA :</b>	
<b>LAND AREA :</b>	
GROSS LAND AREA :	7.076 ACRES
<b>ZONING :</b>	
CURRENT ZONING :	'O' OFFICE DISTRICT
PROPOSED ZONING :	'B' INTEGRATED INDUSTRIAL AND BUSINESS DISTRICT

**ROGVOY ARCHITECTS**

32500 TELEGRAPH ROAD  
 SUITE 250  
 BINGHAM FARMS, MICHIGAN  
 48025-2404

PH 248.540.7700 FX 248.540.2710  
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drawing:  
**Zoning Application Site Plan**

DO NOT SCALE DRAWING

issue date: 09 APR. 12  
 drawn: KL  
 checked: MD  
 approved: MD

file number: 12007

**ZONING APPLICATION SITE PLAN**

SCALE: 1"=40'-0"

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## **STATEMENT OF APPLICANT**

The City Master Plan designates the property as 21<sup>st</sup> Century Industrial. The proposed IB Integrated Industrial Business District zoning classification is entirely consistent with the Master Plan classification.

Adjacent parcels to the North along Stephenson Highway are already zoned IB and have rear yards abutting single family homes zoned R-1E. Adjacent single family homes West of the property on Lyons and North of the property on Redwood are also zoned R-1E.

Currently, boundary screen walls and landscaping in the rear and side yards buffer all adjacent single family residential homes from the existing vacant two story office building on the property. At such time as the property is redeveloped, appropriate additional site plan conditions can be imposed to further protect adjacent homes and other properties in the vicinity.

## 21st Century Industry: A New Opportunity for Growth



- *Continued encouragement of a variety of industrial uses*
- *Light industrial uses with no outdoor storage or external nuisances are especially encouraged*
- *The emphasis for site design should be on screening, landscaping, buffering, and effective transitioning to allow this important category to succeed without negative impacts on residential or commercial areas of the City*

The 21st Century Industry classification provides area for conventional manufacturing and assembly uses, but with a broader interpretation of what industrial areas can become. In addition to conventional industrial uses, shops, and warehousing, this category can be home to business-to-business uses that don't require a significant public presence, but which work in tandem with the Knowledge Economy uses encouraged within the Smart Zone and Northfield. Suppliers, fabricators, printers, and many other supporting uses which strengthen the City's appeal as a home to 21st Century businesses are all encouraged in this category.

An alternative use that may be considered on a very limited basis in the 21st Century Industrial area is loft-style residential development in reclaimed industrial buildings. Opportunities for artist lofts and open-floorplan residential development may exist within new, innovative mixed-use projects. Such projects would be an ideal fit within the 21st Century Industrial area. Such housing will only be considered when all potential environmental limitations have been identified, and if necessary, neutralized.

The majority of the 21st Century Industrial lands in Troy surround the Maple Road category (see page 105), although they are intermingled with areas planned for the Automall, the Smart Zone, and the Transit Center. **Existing land uses along Maple Road vary widely, and do not have a clear, identifiable character.** Maple Road is primarily experienced as a series of nodes that center on north-to-south traffic leading into and out of Troy from the Big Beaver Corridor. For this reason, Maple Road is planned as a series of areas designed to support the Big Beaver Corridor and the Smart Zone, such as the business-to-business uses noted above.

## ***DESIGN CONCEPT***

- This area will recognize that manufacturing and distribution will continue to provide valuable jobs and a tax base. Emphasis will be on maintaining a strong image by concentrating on site and building maintenance as well as redevelopment, rather than redevelopment alone.
- Code enforcement will be a critical tool to maintain the visual and physical health of the district.
- As land becomes available, green space should double and storm water management should improve.

## ***SITE DESIGN ATTRIBUTES***

- Primary parking areas are located within rear or interior side yards.
- Front yards will be landscaped and well-maintained to continue an improved image.
- Green space will be placed along property perimeters to assist with controlling surface storm water runoff.

## ***BUILDING DESIGN ATTRIBUTES***

- The office portion of industrial developments will locate nearest the public street.



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Date: June 5, 2012

## Conditional Rezoning Analysis For City of Troy, Michigan

<b>Applicant:</b>	Jason Horton, Lomax Stern Development Company
<b>Property Address:</b>	125 Stephenson Highway
<b>Current Zoning:</b>	O-1, Office Building District
<b>Requested Zoning:</b>	IB, Integrated Industrial Business District
<b>Action Requested:</b>	Conditional Rezoning Request to: - IB, Integrated Industrial Business District
<b>Required Information:</b>	The required information for a rezoning has been provided.

### DESCRIPTION

The applicant is requesting a Conditional Rezoning from O-1, Office Building District to IB, Integrated Industrial Business District for the parcel located at 125 Stephenson Highway. The 7-acre property is currently improved with a 29,600 sq/ft, two-story office building and a 3,600 sq/ft bank with drive-through. The two buildings are attached via a canopy. The applicant has not indicated a potential for redevelopment or the future use of the property.

**PROPERTY BACKGROUND**

<b>Subject Site</b>	
Approximate Site Area	7 acres
Current Use	Office and Bank
Master Plan Recommended Use	21 <sup>st</sup> Century Industrial

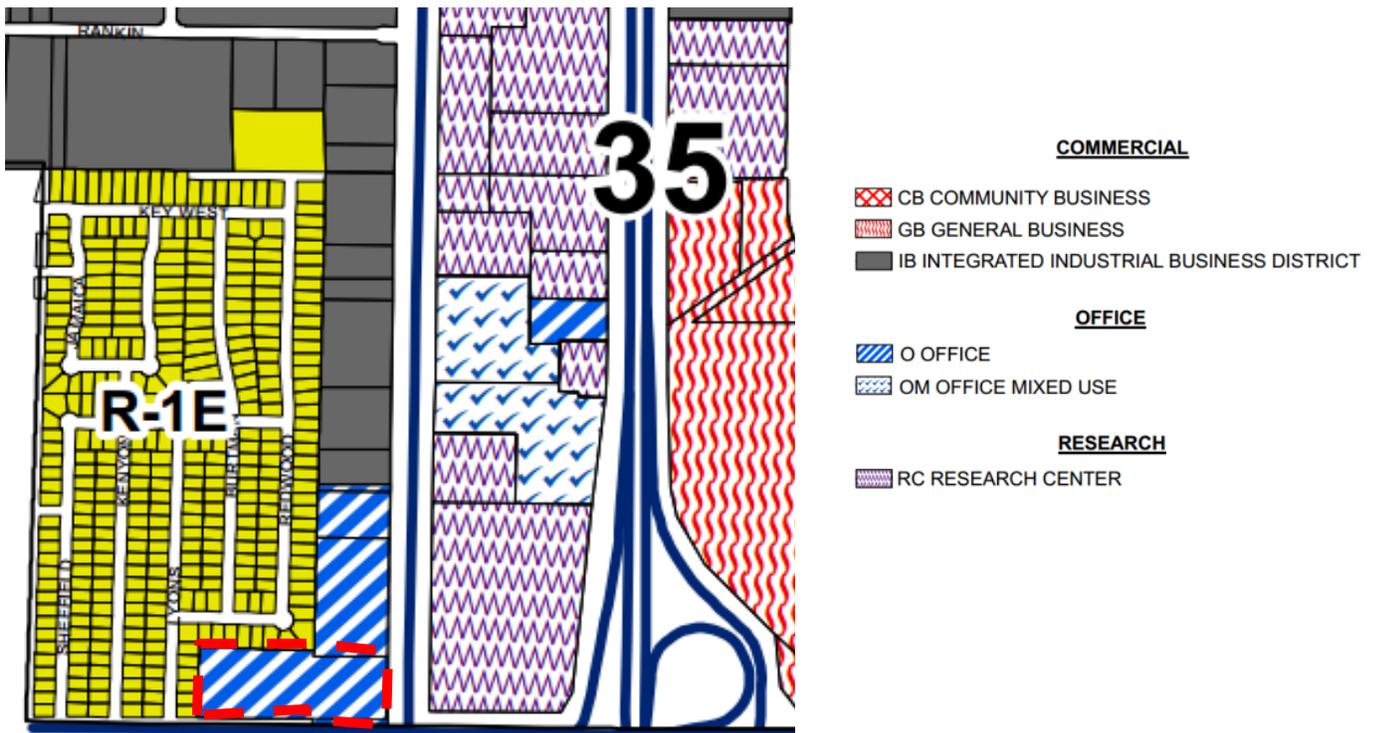


Subject Site of Proposed Conditional Rezoning

**ADJACENT PROPERTIES**

The existing zoning in the surrounding area is a mixture of Integrated Business (IB), Research Center (RC), Office (O-1) and One-family residential (R1-E). Adjacent zoning and land uses to the subject property is listed below:

Adjacent Properties		
	Existing Use	Zoning
North	Single-family residential (western half) Office (eastern half)	R-1E, One-family residential (western half) O-1, Office (eastern half)
South	Various commercial	Not Applicable (Madison Heights)
East	Valeo	RC, Research Center
West	Vacant	R-1E, One-family residential



An 8' high brick wall screens all adjacent single-family residents along the western half of the north property line and the entirety of the western property line.

**Items to be addressed:** None

## CONDITIONAL REZONING PROCEDURE

Conditional rezonings such as the current proposal are enabled under Section 405 of the Michigan Zoning Enabling Act (PA 110 of 2006). Under this type of rezoning, conditions may be imposed on the rezoning request if voluntarily offered by the applicant. The Planning Commission is not authorized to offer or place any additional conditions upon the rezoning unless voluntarily offered by the applicant.

*Items to be addressed: None*

## VOLUNTARILY IMPOSED CONDITIONS

The applicant has volunteered on their site plan a permanent 30' greenbelt open space dedication along all existing single-family residential uses. This 30' greenbelt open space runs along the entire western property line and western half of the northern property. It appears that a portion of the existing office building parking lot is within a part of the northern portion of the proposed 30' greenbelt. The applicant should confirm this.

*Items to be addressed: Confirm if a portion of the existing office building parking lot is within the proposed 30' greenbelt.*

## MASTER PLAN RECOMMENDATION

The future land use plan of the Troy Master Plan has designated the subject property, as well as those parcels on the west side of Stephenson Highway, as 21<sup>st</sup> Century Industry. The 21<sup>st</sup> Century Industry use category focuses on properties in the southeast corner of the city around the Maple Road Category. This designation encourages a variety of general and light industrial uses including conventional manufacturing and assembly uses, but also promotes a broader spectrum of future higher technology industrial uses. The IB Zoning District mostly closely mirrors the intent of the 21<sup>st</sup> Century Industrial designation. While the future use of this property is unknown, the proposed IB designation and permitted uses are consistent with the 21<sup>st</sup> Century Industrial designation of the Master Plan.

*Items to be addressed: None*

## IB ZONING APPLICABILITY

As noted the future use of this property is unknown. However, the IB district permits greater flexibility in use including permitting multiple family residential, additional retail, service, and entertainment uses, and limited light industrial and automotive uses. Unless additional conditions are volunteered by the applicant, the future redevelopment of this site will permit all those uses allowed in the IB District.

In regards to the potential for the creation of non-conformities, rezoning this parcel to the IB district will not create any new legal non-conformity. It is worth noting that the parking lot located between the existing building and the street is not permitted in the new ordinance for either the IB District or O district, thus redevelopment of this parcel will bring the site into conformance with the zoning ordinance.

While the rezoning of this parcel will not be adjacent to existing IB district, the rezoning will bring this parcel into greater conformance with the master plan. Furthermore as noted, the future redevelopment of this site, which is advanced by the proposed rezoning, will bring the site into conformance with the zoning ordinance. Future zoning considerations for those parcels remaining O, Office District zoning should be examined as development opportunities on those sites arise.

**Items to be addressed:** None

## CONDITIONAL REZONING FINDINGS

### Section 16.04.C.3

The Zoning Ordinance identifies five (5) findings that the Plan Commission should evaluate when considering a Conditional Rezoning petition ((Section 1299.037(3)). A Conditional Rezoning may only be approved upon a finding and determination that all of the following are satisfied:

- a) The conditions, proposed development, and/or proposed use of the land are designed or proposed for public health, safety, and welfare purposes.

*The only condition proposed by the applicant is a 30-foot permanent greenbelt. This 30-foot buffer does not permit any buildings, parking, or drive-aisles. In addition, there is a 50-foot building setback for all buildings within the IB District from the boundary of any single-family residential district. This 50-foot building setback only applies to buildings and thus would allow parking and drive-aisles between this 50-foot buffer and the 30-foot greenbelt. A 30-foot greenbelt used in combination with the 50-foot land use buffer advance public health, safety, and welfare.*

- b) The conditions, proposed development and/or proposed use are not in material conflict with the Master Plan, or, if there is material conflict with the Master Plan, such conflict is due to one of the following:
  - I. A change in City policy since the Master Plan was adopted.
  - II. A change in conditions since the Master Plan was adopted.
  - III. An error in the Master Plan.

*The proposed development is consistent with the Master Plan. The Master Plan recognizes that a significant area of the City has been devoted to uses that may be conducive to be redeveloped to other uses. The IB District is consistent with the 21<sup>st</sup> Century Industry area of the Master Plan by encouraging redevelopment and reuse of existing buildings and sites by permitting other compatible uses.*

- c) The conditions, proposed development and/or proposed use are in accordance with all terms and provisions of the zoning district to which the land is to be rezoned, except as otherwise allowed in the Conditional Rezoning Agreement.

*The proposed 30-foot permanent greenbelt is in accordance with all terms of the IB zoning district and goes above and beyond the screening of differencing land use as required in the Landscaping Section of the Ordinance (Section 13.02.B).*

- d) Public services and facilities affected by a proposed development will be capable of accommodating service and facility loads caused by use of the development.

*All necessary public services, utilities, and facilities already adequately serve this site. Any permitted uses and development within the IB district would not require any additional public services and facilities; however private utilities including water will be reviewed as part of the building permit process.*

- e) The conditions, proposed development and/or proposed use shall insure compatibility with adjacent uses of land.

*While future development and reuse of this property is unknown, redevelopment of this site to uses and standards of the IB district is consistent with the Master Plan. Furthermore the site is surrounded by a mix of both commercial and industrial uses. The redevelopment and reuse of the site within the IB Zoning District would be compatible with the adjacent uses. Lastly, the proposed 30-foot greenbelt buffers and protects all adjacent single-family residential.*

## SUMMARY OF FINDINGS

After reviewing the current land use, adjacent zoning districts, and future plans for the subject properties and vicinity, we would recommend that the Planning Commission proceed with the rezoning request.

- A. The rezoning is supported by the Master Plan and advances the general and specific development policies of the Master Plan.
- B. The proposed rezoning would be consistent and non-disruptive to the surrounding land use pattern.
- C. Rezoning will facilitate redevelopment of this site, which would bring the site into conformance new zoning ordinance standards.

I look forward to discussing this with you at the next Planning Commission meeting.

Sincerely yours,



CARLISLE/WORTMAN ASSOCIATES, INC.  
Benjamin R. Carlisle, LEED AP, AICP

DATE: June 6, 2012

TO: Planning Commission

FROM: R. Brent Savidant, Planning Director

SUBJECT: PUBLIC HEARING – ZONING ORDINANCE TEXT AMENDMENT (File Number ZOTA 243) – Proposed Amendment to Article 5, Financial Institutions within the Big Beaver District by Special Use Approval

The Planning Department has received inquiries recently from various financial institutions requesting drive-through facilities. Drive-throughs are not permitted within the Big Beaver Zoning District. There are presently eight (8) non-conforming drive-throughs in operation along the Big Beaver corridor.

The attached report, which was presented to the Planning Commission at the April 24, 2012 Special/Study meeting and the May 8, 2012 Regular meeting, summarizes this item. The Planning Commission has determined that it was appropriate to permit drive-through facilities for Financial Institutions in the Big Beaver Zoning District.

Draft language is attached.

There will be a public hearing on this item to solicit public comment at the June 12, 2012 Planning Commission Regular meeting.

Attachments:

1. Draft ZOTA
2. Report prepared by CWA

G:\ZOTAs\ZOTA 243 Drive-Throughs for Financial Institutions in Big Beaver District\PC Memo 06 06 2012.doc

## SECTION 5.04 BIG BEAVER DISTRICT

A. Intent. The Big Beaver (BB) District is intended to implement the policies set forth in the Big Beaver Corridor Study, Big Beaver Design Guidelines, and the [City's Master Plan](#). These regulations are intended to promote a unified vision for transforming Big Beaver Road into a world-class destination focused on mixed-use development and increased land use intensity that is oriented as much to the needs of the pedestrian as to those of the automobile. These regulations are also intended to:

1. Establish a development pattern in which new [buildings](#) and building modifications enhance the character of the existing built environment.
2. Orient building entrances and storefronts to the [street](#) to add visual interest, increase pedestrian traffic, and to reduce crime through increased surveillance.
3. Enhance a sense of place and contribute to the sustainability of the City.
4. Allow a pattern of development which will encourage transportation alternatives (walking, biking, and transit) to reduce automobile dependence and fuel consumption.
5. Add value to property along the Big Beaver Corridor.

B. Regulating Plan.

1. The [Regulating Plan](#), as set forth in [Figure 5.04.1](#), identifies allowable uses and permissible development within the District based on location.
2. The Regulating Plan is based on two (2) factors: Site Type and Street Type. Site Types, as described in Section 5.04.B.3, are determined by lot size, location, and relationship to neighboring sites. Street Types, as set forth in Section 5.04B.4, recognize that [street](#) patterns within the City of Troy are established. Streets range from primary corridors which carry a large volume of traffic to local streets which carry lower volumes of neighborhood traffic.
3. Site Types. The Regulating Plan includes three (3) different site types, described as follows:
  - a. Site Type BB:A (large scale regional sites) – These properties are predominantly between ten (10) and twenty (20) acres in area, but they are more strongly related to one another through their nature and large, campus-style properties with multiple large [buildings](#) designed to function as one unit.

Walkability within and between sites and provision of supporting buildings and [uses](#) are important to the success of the very large, Type BB:A developments. They should be designed with a mix of uses in mind to allow for users to obtain basic services on or immediately near the site. Especially within large office centers, where hundreds of workers may populate the site during the day, [restaurants](#), postal facilities and other daily needs should be integrated within existing buildings or permitted to exist in smaller out-lot developments or nearby developments in Type B or C categories.

Parking for Type BB:A sites should be accommodated in structured parking whenever possible to maximize the use of the site for the primary use and to allow the site to be developed more densely than it could with surface parking.

Site design should strongly focus on putting the densest components of the project within close range of the primary right-of-way to combat the vast open areas that frequently make such sites difficult or undesirable to cross on foot. A busy arrangement of campus uses along the right of way in outlots will help keep pedestrians engaged and will make these larger sites fit better with surrounding smaller sites in the Type BB:B and BB:C categories.

- b. Site Type BB:B (medium sites/classic retail sites/mixed use) – The sites in Site Type B are mostly between 2.51 and ten (10) acres in area, and are located at the edges of larger, Type BB:A sites. They are located on sites large enough to warrant additional consideration to landscaping and surface parking in that they can often accommodate large surface lots, which can compromise the cohesiveness of the area if not designed with connectivity in mind.

This category also includes larger, single-use developments situated nearby one another. [Hotels](#), single office buildings, and other medium single building developments often fall into this category. They often house employment centers.

The Site Type BB:B category should be designed with integration in mind. Integration with one another, with Type BB:A sites, and in support of much larger destination retail and office complex sites in Type BB:A. This will allow for better interaction between users, which could lead to a more readily shared customer and tenant base and could help reduce Big Beaver traffic.

- c. Site Type BB:C (small sites/outlot sites) – Made up mostly of lots in the two and a half (2.5) acre and smaller range, the Site Type BB:C category is reserved for the smallest, single-use sites developed for individually standing businesses. Small coffee shops or [fast food restaurants](#) would often be found in this category, as well as small multi-tenant office buildings or single-tenant office buildings.

Site Type BB:C is primarily found along Big Beaver Road in areas between the “pulses” of major intersections, where lot depths are constrained and where older, smaller **buildings** predominate. These sites must be designed to better integrate with their surroundings to contribute to a more cohesive district, a more consistent **building line**, and more efficient access between sites. Good access for pedestrians and cross access for vehicles will help sites in this category reduce trips entering and existing from Big Beaver Road.

Groups of Site Type BB:C properties may make excellent candidates for coordinated combination of properties to create more cohesive mini-destinations.

4. Street Types. The **Regulating Plan** includes three (3) different street types, described as follows:

- a. Street Type BB:A (Primary Corridor) – Category BB:A refers to Big Beaver Road. Big Beaver has the widest spacing between building fronts of all roads within the **form-based code** area, and has many unique characteristics. The category is meant to reflect the “world class boulevard” characteristics established in the Big Beaver Corridor Study, and is used in the highest profile areas of the City of Troy.

Category BB:A will integrate features designed to accommodate through traffic and local traffic, will focus on gateways, and will enhance the Big Beaver Corridor experience. This category will reflect all the strongest and most prominent features proposed in the Big Beaver Corridor Study.

Strong landscaping regimens, pedestrian and traffic-scale lighting, effective signage, wide non-motorized pathways, and a complementary relationship with transit opportunities will make Category BB:A a distinguished area within the region.

- b. Street Type BB:B (Arterial) – Category BB:B is meant for the main north-south roads that cross the **form-based code** district. These roads connect the area with the rest of the City and the region. They are characterized by a narrower building-to-building distance, safe and effective non-motorized pathways designed to encourage users to reach Big Beaver Road by bike or on foot, effective signage and lighting, and few individual residential curb cuts.

The crosswalks spanning **arterial roads** will make use of a series of features intended to protect pedestrians by establishing equity between pedestrians and motorists through effective design. Raised walks of high-quality materials, signage, landscaping, and pedestrian respite islands are several options that may be found within Category BB:B.

Arterial roads will also be characterized by strong landscaping designed to mitigate the negative impacts of high traffic volumes from adjacent residential areas which provide a unique and memorable visual character for the roadway.

The intersections between Category BB:A and BB:B roads will be marquee places with enhanced community and corridor landmarks. The spaces will be defined by a stable and consistent building-to-building ratio complemented by landmark [structures](#), superior landscaping and community signage with medians and memorable architecture.

- c. Street Type BB:C (Local/Collector) – Category BB:C roads are those roads tying together smaller areas within the District. They have a more varied and localized character than Categories BB:A or BB:B, depending on their context within predominantly office, retail, or residential areas. They act as the backbone of smaller neighborhoods within the area and tie those areas to Category BB:A and BB:B roads.

Category BB:C roads will be very welcoming of non-motorized users and will have defined pedestrian rest areas and other amenities wherever possible. Their scale will be similar to that of a main road within a conventional subdivision or industrial park, and their width will be determined primarily on their purpose. A Category BB:C road within an industrial area may be required to be wider than one (1) in a residential area, although their purpose is similar.

Category BB:C roads will have a much higher frequency of curb cuts than Category BB:A and BB:B roads, and will often provide direct access to retail centers or office complexes. Sufficient width should be retained on either side of the roadway whenever possible to allow for a rigorous landscaping plan to ensure that the immediate uses served are adequately protected from the moderate traffic volumes anticipated on a Category BB:C road.

- C. Authorized Use Groups. Authorized [use](#) groups, as set forth in [Section 5.03.A](#) and in [Table 5.04.C-1](#), are applied to the site types and street types in Big Beaver District in [Table 5.04.C-1](#).
- D. Authorized Building Forms. Authorized building forms, as set forth in [Section 5.03.B](#) and [Table 5.04.C-2](#), are applied to the site types and street types in the Big Beaver District in [Table 5.04.C-2](#).
- E. Design Standards. In addition to standards set forth in this Ordinance, all proposed development shall comply with the standards set forth herein.
1. Façade Variation. The maximum linear length of an uninterrupted [building](#) façade facing public [streets](#) and/or parks shall be thirty (30) feet. Façade

articulation or architectural design variations for building walls facing the street are required to ensure that the building is not monotonous in appearance. Building wall offsets (projections and recesses); cornices, varying building materials or pilasters shall be used to break up the mass of a single building.

## 2. Pedestrian Access / Entrance.

- a. Primary Entrance for Non-Residential and/or Mixed-Use Building. The primary building entrance shall be clearly identifiable and useable and located facing the right-of-way.
- b. Pedestrian Connection. A pedestrian connection shall provide a clear, obvious, publicly-accessible connection between the primary [street](#) upon which the building fronts and the building. The pedestrian connection shall comply with the following:
  - i. Fully paved and maintained surface not less than five (5) feet in width.
  - ii. Unit pavers or concrete distinct from the surrounding parking and drive lane surface.
  - iii. Located either within a raised median or between wheel stops to protect pedestrians from vehicle overhangs where parking is adjacent.
- c. Additional Entrances. In addition to the primary façade facing front façade and/or the right-of-way, if a parking area is located in the rear or side yard, must also have a direct pedestrian access to the parking area that is of a level of materials quality and design emphasis at least equal to that of the primary entrance.

## 3. [Ground Story Activation](#).

- a. Transparency.
  - i. The first floors of all [buildings](#) shall be designed to encourage and complement pedestrian-scale activity and crime prevention techniques. It is intended that this be accomplished principally by the use of windows and doors arranged so that active [uses](#) within the building are visible from or accessible to the street, and parking areas are visible to occupants of the building. The first floor of any front façade facing a right-of-way shall be no less than fifty (50) percent windows and doors, and the minimum transparency for facades facing a side street, side yard, or parking area shall be no less than thirty (30) percent of the façade.
  - ii. The minimum transparency requirement shall apply to all sides of a building that abut an open space, including a side yard, or public right-

of-way. Transparency requirements shall not apply to sides which abut an alley.

- iii. Windows for **building** sides shall be concentrated toward the front edge of the building, in locations most visible from an urban open space or public right-of-way.

- b. Transparency Alternatives. The following alternatives may be used singularly or in combination. If used in combination, they may count toward no more than eighty (80) percent of the transparency requirement set forth in Section 5.04 E.4. The wall design alternative may count toward one hundred (100) percent of the side street transparency requirement, provided the entirety of the length and height of the wall is considered.

- i. Wall Design. Wall designs that provide visual interest and pedestrian scale may count toward no more than fifty (50) percent of primary **street** and fifty (50) percent of side street transparency requirements. Wall designs must provide a minimum of three (3) of the following elements, occurring at intervals no greater than twenty-five (25) feet horizontally and ten (10) feet vertically:

- (a) Expression of structural system and infill panels through change in plane not less than three (3) inches.

- (b) System of horizontal and vertical scaling elements such as: belt course, string courses, cornice, pilasters.

- (c) System of horizontal and vertical reveals not less than one (1) inch in width/depth.

- (d) Variations in material module, pattern, and/or color.

- (e) System of integrated architectural ornamentation.

- (f) Green screen or planter walls.

- (g) Translucent, fritted, patterned, or colored glazing.

- ii. Outdoor Dining/Seating. Outdoor dining/seating located between the building and the primary street zone lot line may count toward no more than sixty (60) percent of the transparency requirement. Outdoor dining/seating located between the building and side street zone lot line may count toward no more than eighty (80) percent of the transparency requirement.

iii. Permanent Art. Non-commercial art or graphic design of sufficient scale and orientation to be perceived from the public right-of-way and rendered in materials or media appropriate to an exterior, urban environment and permanently integrated into the building wall may count toward no more than forty (40) percent of the transparency requirement.

#### 4. Transitional Features.

- a. Transitional features are architectural elements, site features, or alterations to building massing that are used to provide a transition between higher intensity [uses](#) and low- or moderate-density residential areas. These features assist in mitigating potential conflicts between those uses. Transitional features are intended to be used in combination with landscape buffers or large [setbacks](#).
- b. Intensity. A continuum of use intensity, where moderate intensity uses are sited between high-intensity uses and low-intensity uses, shall be developed for multi-[building](#) developments. An example would be an office [use](#) between commercial and residential uses.
- c. Height and Mass. [Building height](#) and mass in the form of building step-backs, recess lines or other techniques shall be graduated so that [structures](#) with higher intensity uses are comparable in scale with adjacent structures of lower-intensity uses.
- d. Architectural Features. Similarly sized and patterned architectural features such as windows, doors, arcades, pilasters, cornices, wall offsets, building materials, and other building articulations included on the lower-intensity use shall be incorporated in the transitional features.

#### 5. Site Access, Parking, and Loading.

- a. Required Parking. Off-street parking shall be provided for a principal [use](#), erected, altered, or expanded after the effective date of this Ordinance in accordance with the standards set forth in [Article 13, Site Design Standards](#).

The [form-based districts](#) are intended to encourage pedestrian- and transit-friendly design and compact mixed-use developments. Applicants are encouraged to consider the provisions for shared parking set forth in [Section 13.06.E](#) and flexibility in application set forth in [Section 13.06.F](#).

- b. Location.

- i. When parking is located in a [side yard](#) (behind the front [building line](#)) but fronts on the required building line, no more than twenty-five (25) percent of the total site's linear feet along the required building line or sixty (60) feet, whichever is less, shall be occupied by parking.
  - ii. For a [corner lot](#), no more than twenty-five (25) percent of the site's cumulative linear feet along the required [building lines](#) or sixty (60) feet, whichever is less, shall be occupied by parking. The [building](#) shall be located in the corner of the lot adjacent to the intersection.
  - iii. For a [double frontage lot](#) or a [lot](#) that has frontage on three (3) [streets](#), the cumulative total of all frontages occupied by parking shall be no more than thirty-five (35) percent of the total site's linear feet along a required [building line](#) or sixty (60) feet, whichever is less.
  - iv. Where off-street parking is visible from a [street](#), it should be screened in accordance with the standards set forth in [Section 13.02.C](#).
- c. **Parking Structures.** Parking structures shall be located behind [buildings](#) in locations that minimize visibility from public streets. Parking structures may be located along public street frontages, subject to the following standards:
- i. [Building height](#) and placement requirements for [principal building](#) shall be met.
  - ii. A lining of retail, office, or residential [use](#) with a useable depth of no less than twenty (20) feet shall be provided.
  - iii. At least fifty (50) percent of the upper floors facing a public [street](#) shall consist of exposed openings. The openings shall be designed with one or more treatments:
    - (a) Planter boxes with living plants.
    - (b) A rail or fence to give the appearance of a balcony.
    - (c) Framing and mullions to give the appearance of large windows.
- d. Drive-throughs. Drive-throughs are allowed in the Big Beaver District in conjunction with the principal building of a Financial Institution under a Special Use, subject to the following standards:
- i. A drive-through and associated structure cannot be a primary use or principal building.

- ii. Ingress and egress to drive-through facilities shall be part of the internal circulation of the site and integrated with the overall site design. Clear identification and delineation between the drive-through facility and the parking lot shall be provided. Drive-through facilities shall be designed in a manner which promotes pedestrian and vehicular safety.
- iii. Drive-throughs must be located behind facade opposite Big Beaver Road or detached from principal structure and shall be located in a manner that will be the least visible from a public thoroughfare.
  - (a) If detached, the point-to-point tube transport system (pneumatic tubes) must be located underground to serve the drive-through kiosk or canopy.
  - (b) Canopy design shall be compatible with the design of the principal building and incorporate similar materials and architectural elements.
- iv. Each drive-through facility shall provide stacking space meeting the following standards:
  - (a) Each stacking lane shall be one-way, and each stacking lane space shall be a minimum of ten (10) feet in width and twenty (20) feet in length.
  - (b) If proposed, an escape lane shall be a minimum of twelve (12) feet in width to allow other vehicles to pass those waiting to be served.
  - (c) Four (4) stacking spaces per drive-through lane.
  - (d) All stacking lanes must be clearly delineated through the use of striping, landscaping, curbs, or signage.
- v. A drive-through aisle shall not be directly accessed from or exit onto Big Beaver Road.

Authority and Administration

Development Regulations

Table 5.04.C-1 Use Groups Permitted									
Use Group (Table 5.03-1)	Site Type BB:A: Major Sites			Site Type BB:B: Medium Sites			Site Type BB:C: Minor Sites		
	Street Type BB:A: Big Beaver	Street Type BB:B: Arterials	Street Type BB:C: Collectors	Street Type BB:A: Big Beaver	Street Type BB:B: Arterials	Street Type BB:C: Collectors	Street Type BB:A: Big Beaver	Street Type BB:B: Arterials	Street Type BB:C: Collectors
1 Residential	NP	NP	NP	NP	NP	NP	NP	NP	NP
2 Residential/Lodging	UP	UP	P	UP	UP	P	UP	UP	P
3 Office/Institution	P	P	P	P	P	P	P	P	P
4 Auto/Transportation	NP	NP	NP	NP	NP	NP	NP	NP	NP
5 Retail/Entertainment/Service*	P	P	P	P	P	P	P	P	P
6 Misc. Commercial	NP	NP	NP	NP	NP	NP	NP	NP	NP
7 Industrial	NP	NP	NP	NP	NP	NP	NP	NP	NP

P - Permitted Use Groups  
 UP - Permitted Use Groups in Upper Stories Only  
 S - Special Use Approval Groups  
 NP - Prohibited Use Groups  
 \* Drive-through uses for Financial Institutions are allowed under Special Use in compliance with Section 5.04.5.d

Processes and Procedures

Supplemental Design Regulations

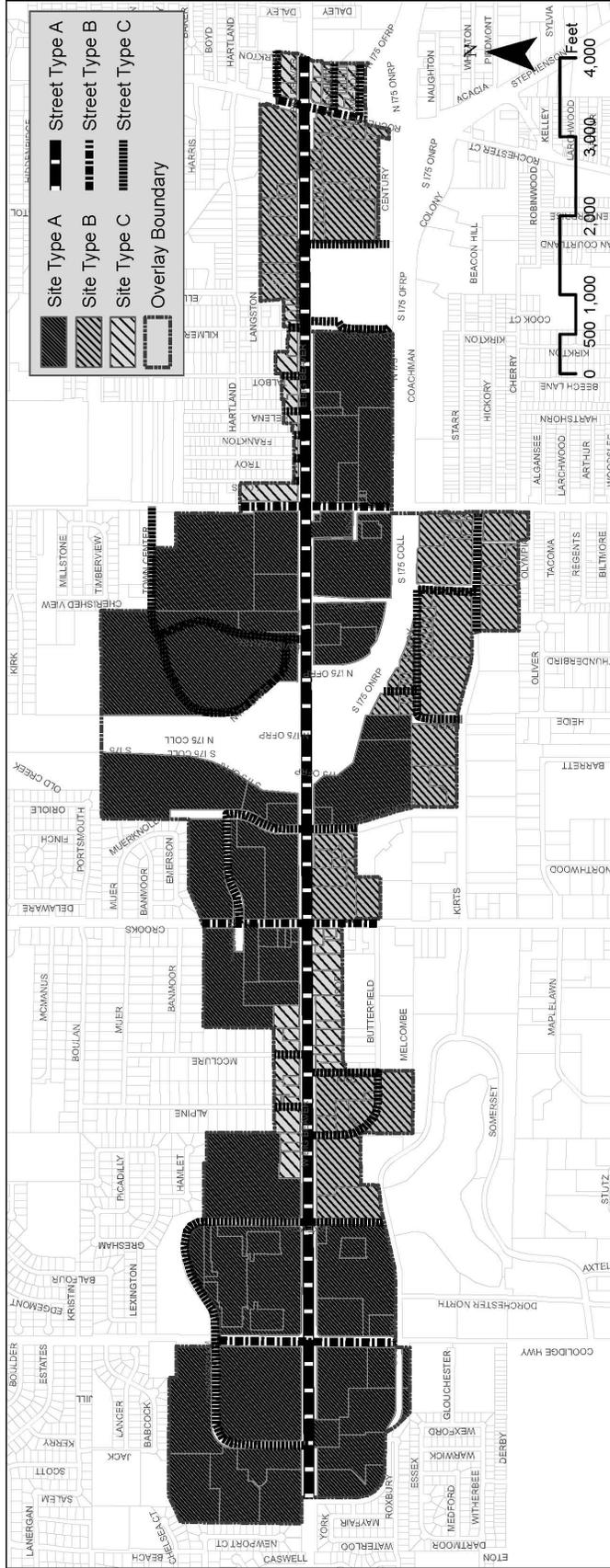
Table 5.04.C-2 Building Forms Permitted									
Building Forms	Site Type BB:A: Major Sites			Site Type BB:B: Medium Sites			Site Type BB:C: Minor Sites		
	Street Type BB:A: Big Beaver	Street Type BB:B: Arterials	Street Type BB:C: Collectors	Street Type BB:A: Big Beaver	Street Type BB:B: Arterials	Street Type BB:C: Collectors	Street Type BB:A: Big Beaver	Street Type BB:B: Arterials	Street Type BB:C: Collectors
A: Small, single-purpose, out buildings	P <sup>1</sup>	P	P	P <sup>1</sup>	P	P	P	P	P
B: Small, multi-tenant commercial with mixed use	P <sup>1</sup>	P	P	S	P	P	P	P	P
C: Attached residential or live/work	S	S	S	P	P	P	P	P	P
D: Multi-story mixed use, medium density	P	P	P	P	P	P	P	P	P
E: Large format commercial	P	P	S	P	P	S	NP	NP	NP
F: Large format mixed-use	P	P	S	P	P	S	NP	NP	NP

<sup>1</sup> Permitted only when located in an outlot of a Building Form D, E, or F project in a separate parcel, or within a designated outlot that remains part of the primary parcel.

P - Permitted Building Form  
 S - Special Approval Building Form  
 NP - Prohibited Building Form

Nonconformity, Appeals, Amendments

**Map 5.04.1: Big Beaver District Regulating Plan**





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## **MEMORANDUM**

**TO:** Brent Savidant, Planning Director  
**FROM:** Ben Carlisle, AICP  
**DATE:** April 19, 2012  
**RE:** Drive-throughs on Big Beaver Road

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Recently the City has either received applications or met with applicants who are interested in developing financial institutions that include a drive-through along Big Beaver Road. The Big Beaver Form-Based District, which runs from just west of Coolidge to just east of Rochester Road, does not allow drive-through uses. The only way to develop a drive-through on Big Beaver Road is through the P.U.D. process. While the P.U.D. process might be appropriate for some of the proposed developments, the P.U.D. process should not be used to circumvent specific requirements and regulations in the zoning ordinance.

In speaking to many of the applicants they note the existence of numerous existing financial institutions with drive-throughs along Big Beaver Road, and a need in the financial institution market for drive-through facilities. Based on aerial photo review and a driving survey, there are eight (8) financial institutions with drive-throughs within the Big Beaver Form-Based District. Under the previous zoning code, drive-throughs were allowed under a special use permit.

A goal of the City of Troy is to provide a fair, fast, and predictable development process. As such, we are seeking the input from the Planning Commission regarding the allowance of drive-throughs along Big Beaver Road for financial institutions. Due to more intensity (see regulations of drive-through section below) we are not proposing the consideration of restaurant drive-throughs.

### **Regulations of Drive-Through Uses**

Drive-through uses are prohibited or regulated for various reasons: 1). A drive-through can increase pedestrian, bicycle and automobile points of conflict; 2). A drive-through can detract from streetscape character which enhances pedestrian activity in retail, multifamily, and commercial areas; 3). A drive-through is a large land consumer, requiring additional site area to accommodate the use; 4). A drive-through use supports an automobile culture and discourages healthy active transportation; and 5). Due to secondary effects of noise from idling cars, voice amplification equipment, lighting, and hours of operation, a drive-through is typically not desired adjacent to residential properties.

Drive-throughs for financial institutions are typically less intense than those for restaurant uses. Due to stacking requirements<sup>1</sup>, drive-through restaurant uses are larger land consumers including greater

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<sup>1</sup> Section 6.10: Restaurants with a drive-through require ten (10) stacking spaces while financial institutions only require four (4).

circulation needs and additional points of pedestrian and vehicular conflict. Furthermore, studies have shown that restaurant drive-through uses have greater secondary effects including noise from idling cars, voice amplification equipment, lighting, greater hours of operation, and more debris. Lastly, financial institutions are able to have a drive-through that is either detached or in the rear of a principal structure. Detached or rear drive-through designs can provide for better site circulation to reduce pedestrian, bicycle, and automobile conflicts, eliminate drive-through exits into a public right-of-way, and allow for better screening from the right-of-way and adjacent properties.

### **Big Beaver Corridor Study and Master Plan**

Big Beaver Road has been studied as part of both the Big Beaver Corridor Study, adopted in 2006, and the 2008 Master Plan. The Big Beaver Corridor Study, confirmed through the 2008 Master Plan, very clearly layouts the vision and intended design of future development along this key corridor. The design intent both in the public realm in the right-of-way and the private realm through building placement standards was to provide a pedestrian friendly environment and visually appealing corridor. While the Corridor Study and the Master Plan do not expressly prohibit the use of drive-throughs, the clear design intent is that “automobile and parking are no longer #1,” by maintaining a quality streetscape and transforming the corridor into a pedestrian-friendly environment.

### **Design Standards**

Due to the existing building form requirements in the Big Beaver Form-Based District, most importantly the requirement to place building on street, some of the aforementioned issues of drive-throughs are mitigated. However, through the adoption of drive-through specific design standards the intent of the Big Beaver Corridor Study can be met, Big Beaver Road can become a pedestrian friendly environment, and the safety of pedestrians and automobiles can be maintained. While we have not drafted detailed design standards, potential standards could include minimum lot size, orientation of drive-through, screening, limitations on curb cuts, and egress.

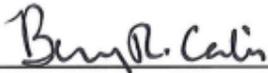
### **Issues for Planning Commission Consideration**

Due to current economic conditions, the existing presence of drive-throughs for financial institution, and through the adoption of design standards that can mitigate potential issues, the allowance of drive-throughs for financial institutions might be appropriate along Big Beaver Road. As such we are seeking input from the Planning Commission. Specifically:

- Should drive-throughs for financial institutional be permitted within the Big Beaver Form-Based District?
- Should additional design standards be considered?

I look forward to addressing any comments and questions from the Planning Commission.

---



CARLISLE/WORTMAN ASSOC., INC.  
Benjamin R. Carlisle, LEED AP, AICP

DATE: June 7, 2012

TO: Planning Commission

FROM: R. Brent Savidant, Planning Director

SUBJECT: REVISIONS TO PLANNED UNIT DEVELOPMENT (PUD 004) – Big Beaver Center (formerly “The Monarch”) PUD – North side of Big Beaver Road, East of Alpine, West of McClure, Section 20, Currently Zoned PUD 004 and R-1B One Family Residential

The applicant, AF Jonna Development, has submitted an application for a Planned Unit Development. The Monarch PUD received Final PUD Approval from City Council on December 19, 2005. The development featured two residential towers (12 stories and 23 stories tall) that included 155 condominiums and 9 live-work units, 18,000 square feet of retail, a 319-space parking structure and 52 villa townhouse units to the north. Construction never started for this project, and the property went into foreclosure. The applicant has purchased the property and proposes a one-story 24,000 square foot retail building and a 4,000 square foot bank branch along the Big Beaver frontage, with 16 single family residential units to the north.

The Master Plan classifies this area as Big Beaver Corridor. A description of this classification is attached.

The attached report prepared by Carlisle/Wortman Associates, Inc. (CWA), the City's Planning Consultant, summarizes the PUD application. CWA prepared the report with input from various City departments including Planning, Engineering, Public Works and Fire. City Management supports the findings of fact contained in the report and agrees with the recommendation.

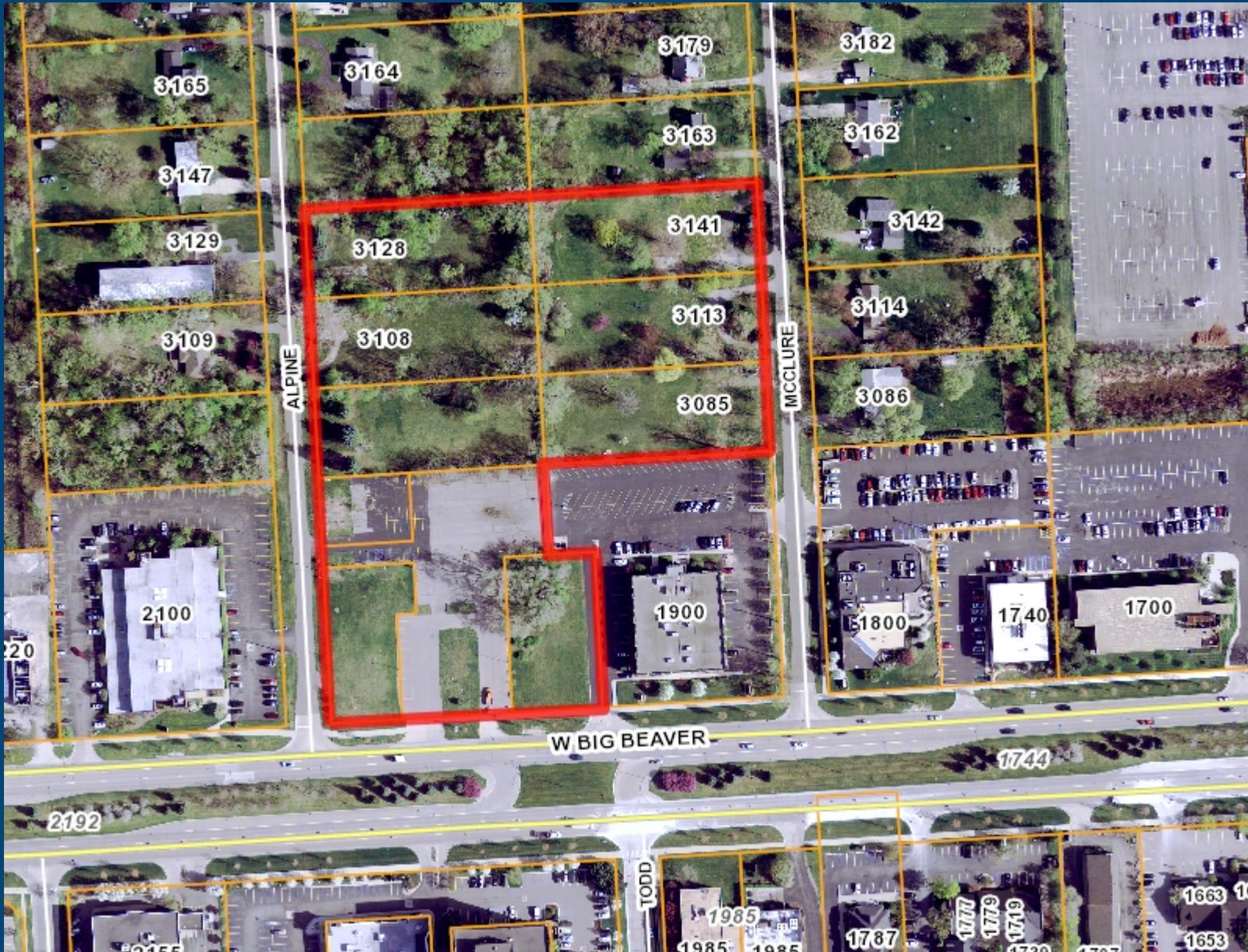
Please be prepared to discuss this item at the June 12, 2012 Planning Commission Regular meeting.

Attachments:

1. Maps
2. City of Troy Master Plan (excerpt)
3. Report prepared by Carlisle/Wortman Associates, Inc.

# Big Beaver Center PUD

City of Troy Planning Department



### Legend

-  I-75
-  Road Centerline
  -  Major Road
  -  Industrial Road
  -  Local Road
-  Ponds and Basins
-  Streams and Creeks
-  Parcels
- Aerial Photos - 2010
  -  Red: Band\_1
  -  Green: Band\_2
  -  Blue: Band\_3

398 0 199 398 Feet

Scale 1: 2,390

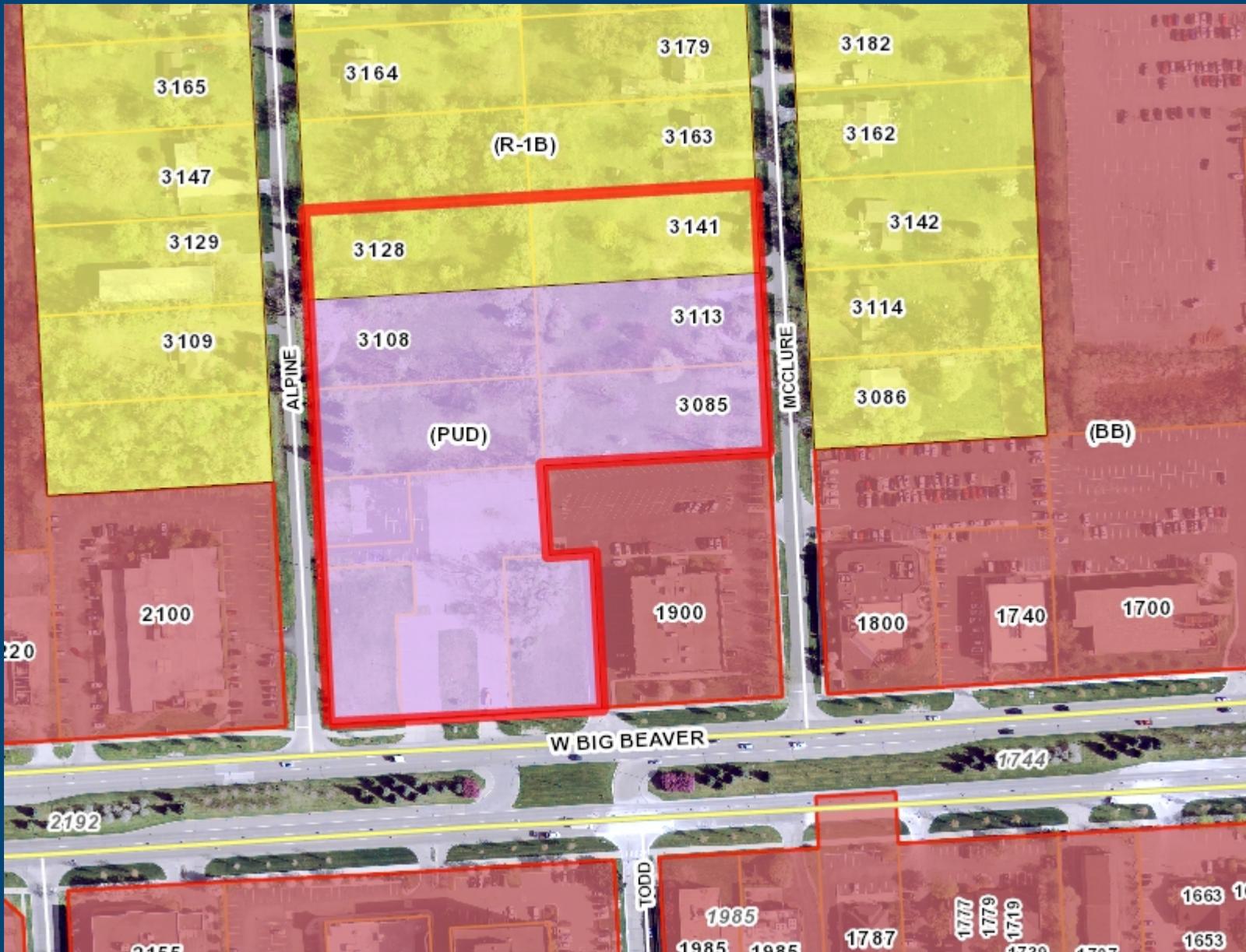
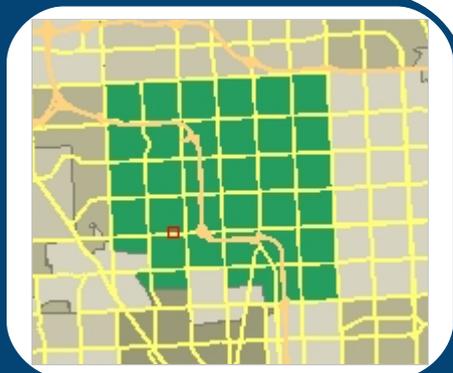


Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.

Printed: 3/8/2012

# Big Beaver Center PUD

City of Troy Planning Department



## Legend

-  I-75
- Road Centerline**
  -  Major Road
  -  Industrial Road
  -  Local Road
- Current Zoning Ordinance**
  -  (PUD) Planned Unit Development
  -  (CF) Community Facilities District
  -  (EP) Environmental Protection District
  -  (BB) Big Beaver Road (Form Based)
  -  (MRF) Maple Road (Form Based)
  -  (NN) Neighborhood Nodes (A-U)
  -  (CB) Community Business
  -  (GB) General Business
  -  (IB) Integrated Industrial Business District
  -  (O) Office Building District
  -  (OM) Office Mixed Use
  -  (P) Vehicular Parking District
  -  (R-1A) One Family Residential District
  -  (R-1B) One Family Residential District
  -  (R-1C) One Family Residential District
  -  (R-1D) One Family Residential District
  -  (R-1E) One Family Residential District
  -  (RT) One Family Attached Residential District
  -  (MR) Multi-Family Residential
  -  (MHP) Manufactured Housing
  -  (UR) Urban Residential
  -  (RC) Research Center District
  -  (PV) Planned Vehicle Sales
-  Ponds and Basins
-  Streams and Creeks
-  Parcels
- Aerial Photos - 2010**
  -  Red: Band\_1
  -  Green: Band\_2
  -  Blue: Band\_3

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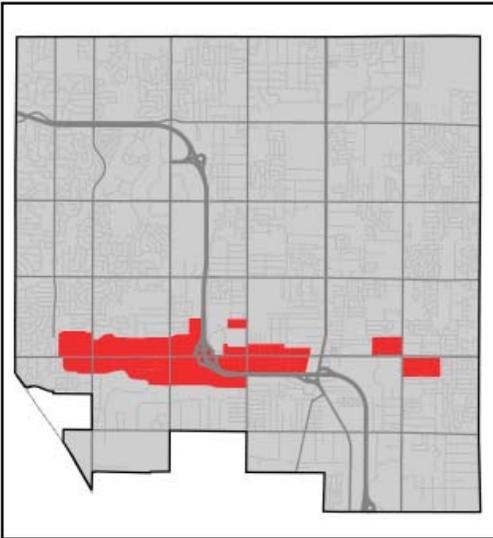
Scale 1: 2,390



Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.

Printed: 3/8/2012

## Big Beaver Road: A World Class Boulevard



- *Home to large, landmark projects and mixed-use regional destinations.*
- *Central gathering area of the community.*
- *A collection of international corporations, local companies, and establishments which complement these high-visibility uses.*

The Big Beaver Road corridor is responsible for the first impression many people have throughout Michigan when they think of the City of Troy. The high-rise buildings, Somerset Collection, and its immediate proximity to I-75 are frequently the main elements visitors remember about the Corridor and the City. **In order to remain competitive and continue to be a leader in economic development in Southeast Michigan, Troy must plan for this Corridor to evolve in light of a changing economy.** In that spirit, the City adopted the key concepts of the Big Beaver Corridor Study in 2006:

- Gateways, Districts and Transitions
- Trees and Landscape as Ceilings and Walls
- Walking Becomes Entertainment - Much to Observe & Engage In
- Mixing the Uses Turns on the Lights - Energetic Dynamic of Mixed Uses with a Focus on Residential

- The Automobile & Parking are No Longer #1.
- Civic Art as the Wise Sage of the Boulevard

**The uses and character of this future land use category are driven by the recommendations of the Big Beaver Corridor Study and subsequent efforts of the Planning Commission to create new zoning techniques to implement those recommendations.**

This Study provided a comprehensive analysis of the existing and potential characteristics of this important area. The planned future land uses in the Big Beaver Corridor are in large part considered mixed-use, to allow for a wave of new residential development and the redevelopment of individual sites to make a more meaningful contribution to the quality of life of the City. The main difference between the various mixed-use districts planned in the Study is building height. The intended characteristics of the various districts are also very different, and are the topic of in-depth analysis in the Study. Some important recommendations of that Study are listed below.

- Moving toward the creation of distinct physical districts by building from lot line to lot line along the right-of-way rather than continuing to be a collection of isolated towers.
- Becoming flexible with land use relationships. The use of vertically integrated mixed-use commercial, office and residential towers should be promoted. The use of prominent ground floor retail, restaurants and cafes allows visual interest and activity for visitors and residents.
- Contain parking in structures that are shared by surrounding developments. Do not allow off-street parking to be visible from major thoroughfares.
- Landscape Big Beaver and intersecting thoroughfares with rows of mature trees.

## DESIGN CONCEPT

- This will be a vibrant high-rise business and residential district.
- Pedestrian use will be promoted through massive landscaping, wide sidewalks, outdoor cafes, and public art.
- The Big Beaver Corridor Study and Big Beaver Development Code provide for a specific land development pattern.
- Architectural design must create an interesting visual experience for both sidewalk users at close range and for those viewing the skyline from a distance.

## SITE DESIGN ATTRIBUTES

- Parking should be located in rear yards.
- Development should include intense street tree planting along Big Beaver.
- Cafes, plazas, parks and similar amenities to draw pedestrians will be encouraged.
- Buildings will frame the street network by building to the front and side property lines. Exceptions for cafes, plazas and access roads may be permitted.

## BUILDING DESIGN ATTRIBUTES

- Buildings should rise in height toward Crooks Road in the east-west direction.

- Buildings should rise in height toward Big Beaver in the north-south direction.
- Ground level stories should be a minimum of twelve feet in height; with large expanses of transparent glass.
- Fenestration at the ground level should be highlighted through the use of awnings, overhangs or trim detailing, and building caps or roofs should provide a visually interesting skyline.



Big Beaver Corridor Study; Birchler Arroyo Associates, Inc.



Concept Sketch from the Big Beaver Corridor Study; Birchler Arroyo Associates, Inc.



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**MEMORANDUM**

**TO:** Brent Savidant, Planning Director

**FROM:** Ben Carlisle, AICP

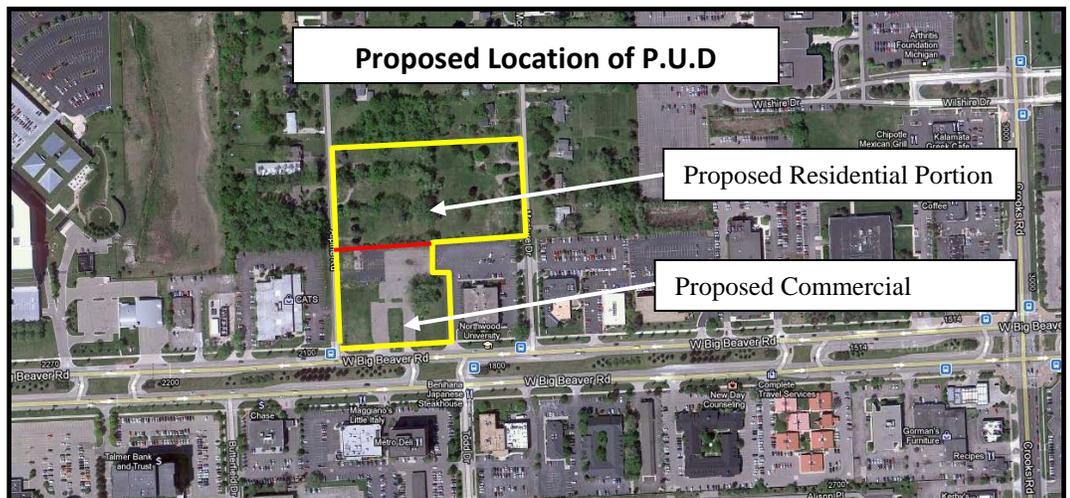
**DATE:** June 7, 2012

**RE:** Big Beaver Center PUD

We recently received a Site Plan and accompanying documents for a Planned Unit Development for the site located at the northeast quadrant of Big Beaver Road and Alpine Road. Because the application is incomplete we did not complete a full site plan review; however we offer the following comments for the applicant and Planning Commission to consider.

**Development Background**

The applicant is proposing a Planned Unit Development (PUD), which includes 27,397 square feet of retail space in 2 buildings and 16 single-family lots, on an existing 7.5 acre parcel. The commercial portion includes a 3,397 sq/ft free-standing drive-thru bank and a 24,000 sq/ft retail building, which will be divided into multiple store fronts. The 2.50 acre commercial portion of the site is void of any buildings but portions are asphalted over from previous development. The buildings of the commercial component front on Big Beaver Road. The 5.0 acre residential portion is entirely vacant. The applicant proposes to construct a new street between Alpine Road and McClure Road, parallel to Big Beaver Road, which the new 16 detached single-family lots will front on.



This site was previously rezoned to PUD in 2005 during the “Monarch PUD” approval process. While the “Monarch PUD” has expired, the site remains zoned as Planned Unit Development. This PUD application is considered a new PUD application and is reviewed accordingly under Article 11 of the Ordinance.

## Informational Requirements

As outlined by ordinance, the applicant is seeking Concept Development Plan and Preliminary Development Plan approval in one step. However, the application is currently incomplete. As outlined in Article 11 of the Zoning Ordinance, the applicant is deficient of the following information:

- Development Concept including a Project Narrative
- Boundary Survey and Legal Description
- Utility Plans
- Open Space / Common Area Plan and Description
- Traffic Impact Study and Analysis
- Phasing Information
- Public Services and Facilities
- Sign Plan
- Description of Amenities
- Specification of Deviations, if any
- Community Impact Statement
- PUD Development Agreement

The Zoning Administrator has the authority to waive any PUD submittal requirements.

### Summary of Comments and Items to be Addressed:

- In order to proceed to a Public Hearing the applicant will be required to submit to the City's satisfaction the aforementioned deficient information.

## Overall Intent

We strongly encourage the development of this site and we applaud the applicants attempt to turn a vacant, dilapidated site into a viable commercial development. However, overall we find the submitted application is significantly less intense than what was envisioned and intended for new development along Big Beaver Road. The site is within the "Urban Mixed Use District: Troy City Center" district of the Big Beaver Corridor Study and is within the Big Beaver Corridor district in the Troy 2008 Master Plan. As its name implies, the Urban Mixed Use District is envisioned as the "city center" with a dense mix of uses including retail, office, and residential with pedestrian amenities. The intent is to have ground level spaces front on Big Beaver occupied by shops, entertainment, restaurant, and similar uses that stimulate interest and activity. The upper-level floors should be occupied by office and residential uses. The intent for future development along Big Beaver is for building from lot line to lot line along the right-of-way rather than continuing to be a collection of isolated towers including the use of vertically integrated mixed-use commercial, office and residential towers.

The development of this significant 7.5 acre site is a unique opportunity to provide stimulus to future development of this important section of Big Beaver Road. While certain aspects of the proposal meet the recommendations of the Big Beaver Corridor Study and Master Plan, including placing the building close to street, a mix of ground floor commercial uses, and parking in the rear; overall the site is underdeveloped to what was envisioned along Big Beaver. We are particularly concerned over the lack of massing and scale due to the single-story commercial building on Big Beaver Road. We have shared our concerns with the applicant, who notes that current market conditions limit development as envisioned in the Big Beaver Corridor Plan and Master Plan. We understand there may be different

market dynamics in this current economic environment and building to the envisioned scale and mass of the Master Plan might not be achievable; however there are other opportunities to provide more mass and street presence than submitted by the applicant. If the applicant feels that the vision and intent of the Master Plan is not achievable due to current market limitations, the applicant should submit evidence to the satisfaction of the Planning Commission.

Summary of Comments and Items to be Addressed:

- Overall we find the submitted application is significantly less intense than what was envisioned and intended for new development along Big Beaver Road.
- There are opportunities to provide more mass and street presence.
- If the applicant feels that the vision and intent of the Master Plan is not achievable due to current market limitations, the applicant should submit evidence to the satisfaction of the Planning Commission.

**Building Massing and Siting**

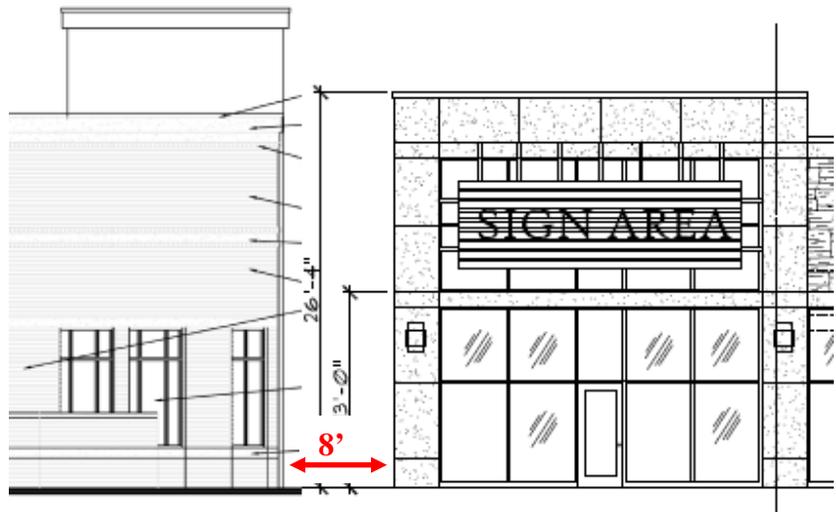
We applaud the applicant for placing the building along Big Beaver to create a presence and human-scale streetscape along the street. This building placement carries on the vision of the future redevelopment of Big Beaver Road. However, the proposed building is underwhelming as to what is envisioned and intended for this site. This is a key site to the development and redevelopment opportunities along Big Beaver Road, and specially the areas between Crooks Road and Coolidge Highway. As such, the site should have more intensity and massing. While a 10-12 story building in height for this site, as noted in the Big Beaver Corridor Study might not be feasible due to market restrictions, a building with more intensity and massing than proposed is desired. A multiple story building along Big Beaver is preferred. The applicant should note what market restrictions exist that would prohibit the construction of a multiple story building. If a one-story building is the only feasible development option for this site, the applicant should find ways to incorporate more massing and scale in order to provide a greater street presence.

The bank and retail building are separated via a pedestrian walkthrough corridor that allows customers to gain access to the parking lot from Big Beaver and vice versa. The orientation, connection, and architectural consistency between the bank building and retail building should be reviewed.



While the breaking up of the commercial front façade with a pedestrian walkthrough may be appropriate the bank building appears to be an isolated “island” when considering building orientation, material use, and architectural detail. Greater incorporation between the two should be considered.

The applicant has noted in meetings that some of the retail buildings might not be assessable from Big Beaver Road. The applicant should confirm this. As noted the applicant has provided a pedestrian walkthrough. Due to the narrowness of this walkthrough combined with the overall height of the building might make such corridor uninviting. In addition, often areas like this become unattended and can fall in disrepair. Furthermore, a hard right angle and a lack of transparency at the southwest corner of the retail building might create safety concerns for pedestrians who wish to use the pedestrian walkthrough. Through enlarging and reorienting this area, the applicant has a tremendous opportunity to create an inviting and open plaza space between the two buildings. See the graphic below and the Pedestrian Amenities Section of this memo for more details.

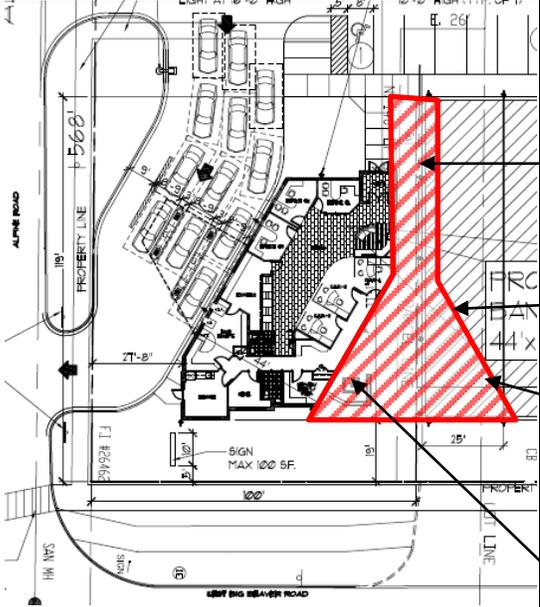


**Walkthrough Section**

### Pedestrian Walkthrough As Proposed

- Narrowness of walkthrough (8 feet), especially in consideration of height of adjacent retail and bank buildings (26 feet and 31 feet respectively).
- The placement of the bank air conditioning unit and screenwall in “pedestrian” zone that is visible from Big Beaver Road.
- Lack of transparency at southwest corner of retail building might create safety for concerns for pedestrian traveling west bound who must use pedestrian walkthrough between buildings to gain access to the parking lot or rear building entrances.

## Pedestrian Walkthrough Potential Considerations



In order to provide a more inviting pedestrian option from the parking lot to Big Beaver Road and vice versa the applicant should consider the following:

- Widen the pedestrian walkthrough to ensure a pedestrian friendly scale in relation to the building height and walkway width.
- Consider orienting a portion of the building entrance of the western part of the retail building to this walkthrough.
- Provide an angle that is symmetrical to the bank building. Such angle would create space for a pedestrian plaza between the two building, and provide safer and more comforting pedestrian walkthrough through the site.
- Move bank air conditioning unit and screen wall

### Summary of Comments and Items to be Addressed:

- This is a key site to the development and redevelopment opportunities along Big Beaver Road, and specially the areas between Crooks Road and Coolidge Highway.
- If a one-story building is the only feasible development option, the applicant should find ways to incorporate more massing and scale in order to provide a greater street presence.
- Greater incorporation between the bank and retail building should be considered.
- Confirm if all storefronts will be assessable from Big Beaver Road.
- Consider enlarging and reconfiguring pedestrian walkthrough.

### Building Details

Prior to resubmitting we encourage the applicant to review the Big Beaver Corridor Study (2008), Troy Master Plan (2008), and the DDA Design Guidelines (2011). Reviewing these documents should give the applicant a clear indication of the intent of future development along Big Beaver Road and this particular site. Specifically, we ask the applicant to consider a few site planning issues outlined below. In addition, though this is proposed a PUD, the applicant should use the Ground Floor Activation (section 5.04.E) section of the Big Beaver Article of the Ordinance as a guideline.

#### Summary of Comments and Items to be Addressed:

- Review the Big Beaver Corridor Study (2008), Troy Master Plan (2008), and the DDA Design Guidelines (2011).

#### **Mixing of Uses**

This site is envisioned for mixed use development. While, the mixing of uses on this site can be vertical, or horizontal, there has to be a direct relationship between the various uses. The applicant prefers more horizontal mixed use where there is more of a delineation between residential and commercial uses. In order to better connect the retail and commercial portions of the development as well as serve the neighborhood to the north, the applicant shall provide a sidewalk along Alpine Road and McClure Drive.

#### Summary of Comments and Items to be Addressed:

- Provide a sidewalk along Alpine Road and McClure Drive.

#### **Residential Products and Residential Density**

The applicant is proposing sixteen (16) detached single-family residential lots (units). The lots vary in size from 14,500 sq/ft to 10,500 sq/ft, which is less than the 15,000 sq/ft minimum in the adjacent R-1B district. While the sixteen lots are denser than what would be allowed in the R-1B zoning district, the consideration of an increase to number of units is allowed through the PUD process. The proposed slightly more dense residential subdivision will serve as a transitional buffer from the retail component of the PUD and the single-family residential subdivision to the north; will complement and support the retail component of the PUD; and will advance the Master Plan intent for increased density near or on Big Beaver Road. The applicant notes that due to the proximity to Big Beaver and specifically Somerset this type of housing product will sell quickly. The applicant should indicate the phase of the residential component of the PUD in relation to the commercial component.

Because of the location of Big Beaver Michigan Left turnarounds, one issue of concern we raised with the applicant is the potential for cut-through traffic from Alpine Road to McClure Road. We asked the applicant to incorporate a cut-through deterrent or traffic calming device along or within the newly created road. The applicant has inserted a slight S-curve in the new road. We find this not to be a creative solution and are unsure this will deter cut-through traffic. There is a tremendous opportunity through bumpouts, stormwater management features, or landscaping to create a creative cut-through deterrent that can also provide a neighborhood amenity. The applicant should work with the Traffic Engineering Department to consider an alternative.

#### Summary of Comments and Items to be Addressed:

- The residential subdivision will serve as a transitional buffer from the retail component of the PUD and the single-family residential subdivision to the north; will complement and support the retail component of the PUD; and will advance the Master Plan intent for increased density near or on Big Beaver Road.
- Provide development phasing.
- Work with the Engineering Department to consider a more creative cut-through deterrent.

#### **Pedestrian Circulation**

As a stated goal in the Big Beaver Plan, Master Plan, and DDA Design Guidelines “Walking Becomes Entertainment – Much to Observe & Engage In.” Any development of this site must consider pedestrian circulation, both interior to the site and exterior into the site. While we commend efforts to place the building at the street, there is a tremendous opportunity to provide greater pedestrian and customer amenities. Amenities to consider including increasing the width of the site to create a greater streetscape or the development of a plaza. Such streetscape and/or plaza could be used for the benefit of pedestrians walking along Big Beaver and customers of the retail stores, as well as serve as the significant showcase of the development. The plaza can incorporate public/customer seating, outdoor dining, water features, and public art.

Summary of Comments and Items to be Addressed:

- Opportunities to provide greater pedestrian and customer amenities including the creation of a plaza

**Summary and Recommendations**

We strongly encourage the development of this site and we applaud the applicants attempt to turn a vacant, dilapidated site into a viable commercial development. However, we find that the proposed submittal is a lost opportunity that does not advance the Master Plan intent of Big Beaver corridor at this location. In addition to submitting the Conceptual and Preliminary Plan requirements, we request that the applicant consider the following:

- Review the Big Beaver Corridor Study (2008), Troy Master Plan (2008), and the DDA Design Guidelines (2011).
- Incorporate more bulk and mass massing and scale in order to provide a greater street presence.
- Consider the building orientation, building orientation, material use, and architectural detail relationship between architecture of bank and retail building.
- Reconfigure corridor between building and pedestrian pathway. Consider expanding area to create a more inviting plaza space as a pedestrian amenity. The plaza can incorporate public/customer seating, outdoor dining, water features, and public art.
- Add sidewalks along Alpine Road and McClure Drive.
- Work with the Engineering Department to consider a more creative cut-through alternative.

Please contact me if you have any questions.

---



CARLISLE/WORTMAN ASSOC., INC.  
Benjamin R. Carlisle, LEED AP, AICP





**SITE PLAN KEYED NOTES:**  
 1 EXISTING LIGHT POLE TO BE RELOCATED.  
 2 ELECTRICAL TRANSFORMER

**SERRA - MARKO & ASSOCIATES**  
**ARCHITECTURAL DESIGNERS**  
 189 E Big Beaver, Suite 106 Troy, MI 48063  
 Tel: 248.457.6903 Fax: 248.457.6906  
 Email: info@s-m-associates.com  
 Website: www.s-m-associates.com

ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COORDINATION OF ALL DIMENSIONS.

PREPARED IN COLLABORATION WITH D'ANNA ASSOCIATES, INC.

**PROJECT NAME:**  
**BIG BEAVER CENTER RETAIL & BANK**

**SITE PLAN APPROVAL**  
**05-29-2012**

**ADDRESS:**  
**BIG BEAVER & ALPINE RD.**  
**TROY, MI**

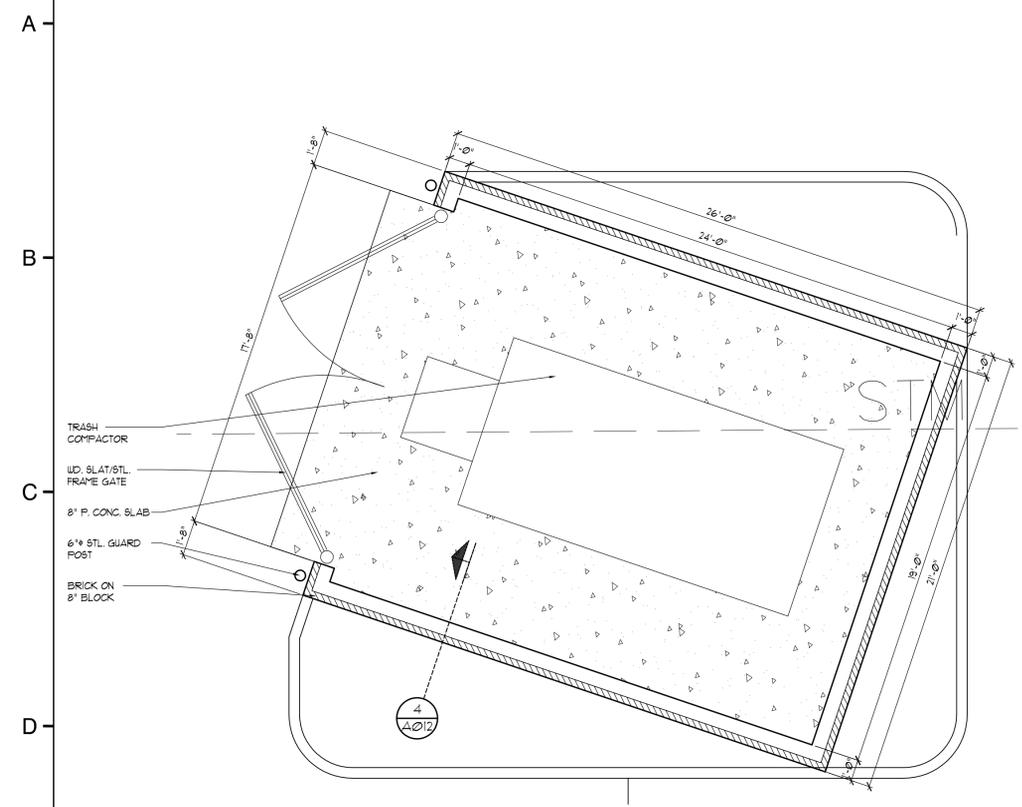
**JOB NO.** A11-1133

**ISSUANCES**

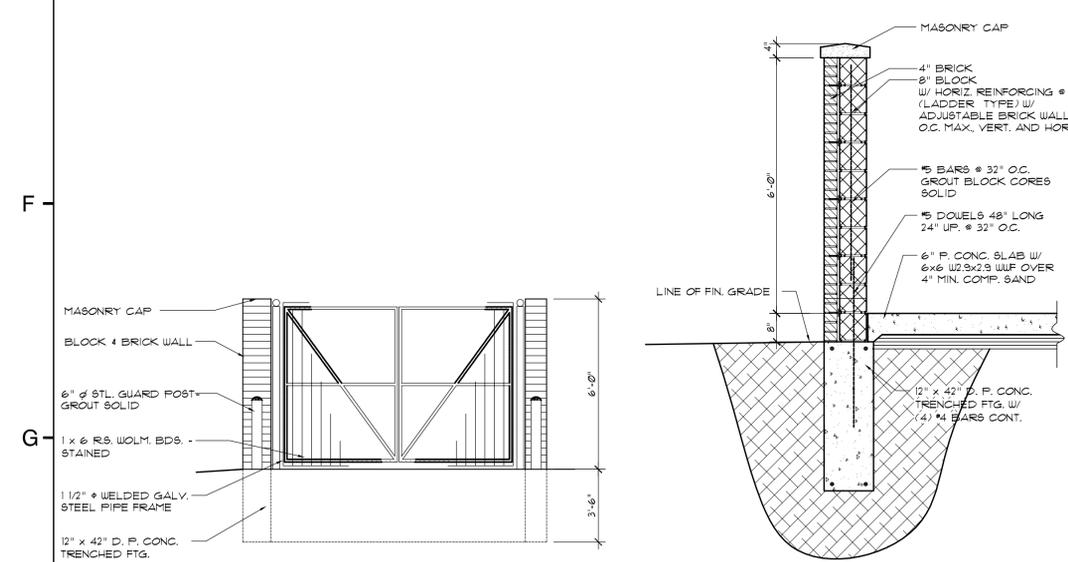
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1	SITE PLAN APPROVAL	05/29/12	I.M.

**SHEET TITLE**  
**PROPOSED SITE PLAN**

**DWG. NO.**  
**A0.1.3**

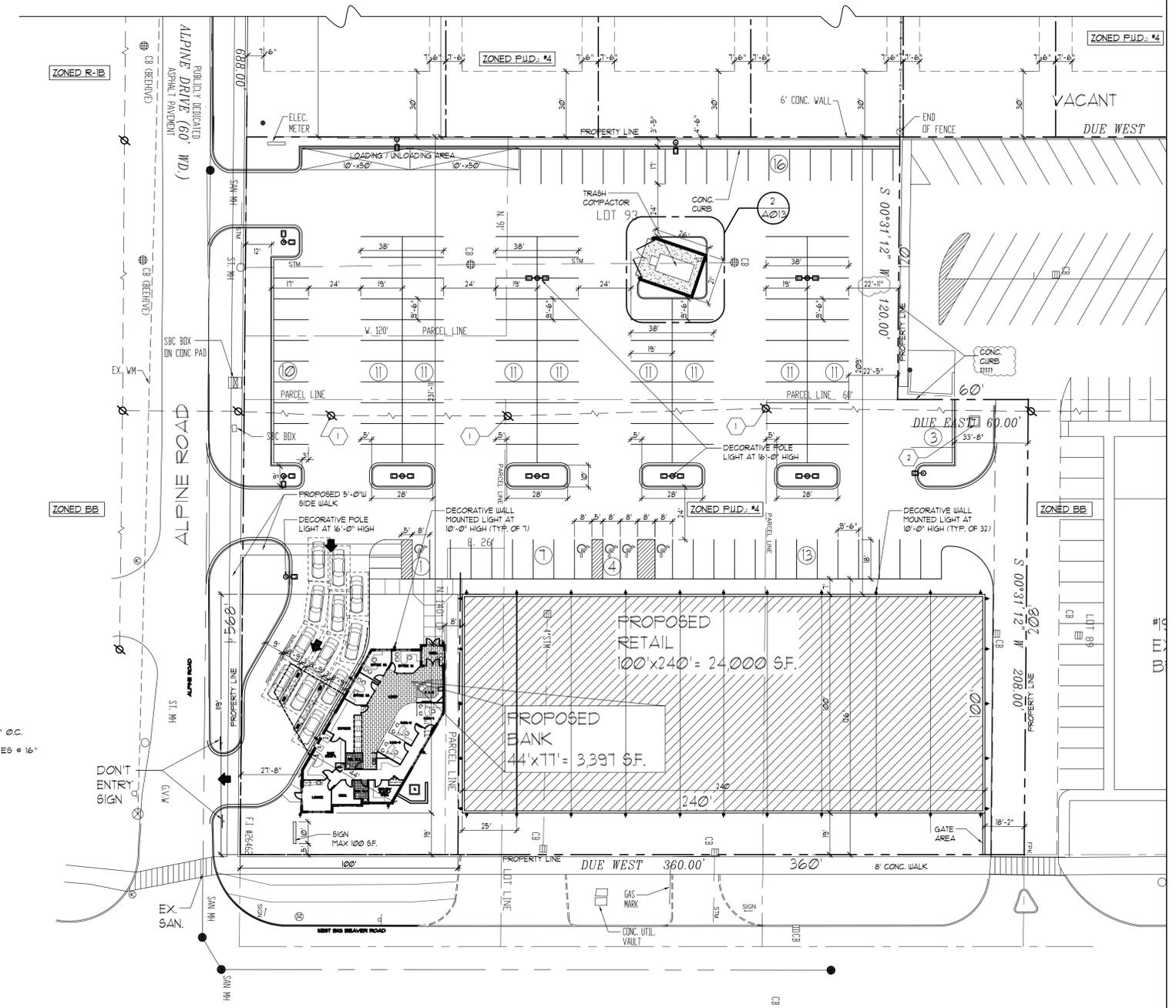


**2 REFUSE PLAN**  
 SCALE: 1/4" = 1'-0"  
 NORTH



**3 REFUSE ELEVATION**  
 SCALE: 1/4" = 1'-0"  
 NORTH

**4 REFUSE SECTION**  
 SCALE: 1/2" = 1'-0"  
 NORTH



**1 PROPOSED SITE PLAN**  
 SCALE: 1" = 30'-0"  
 NORTH

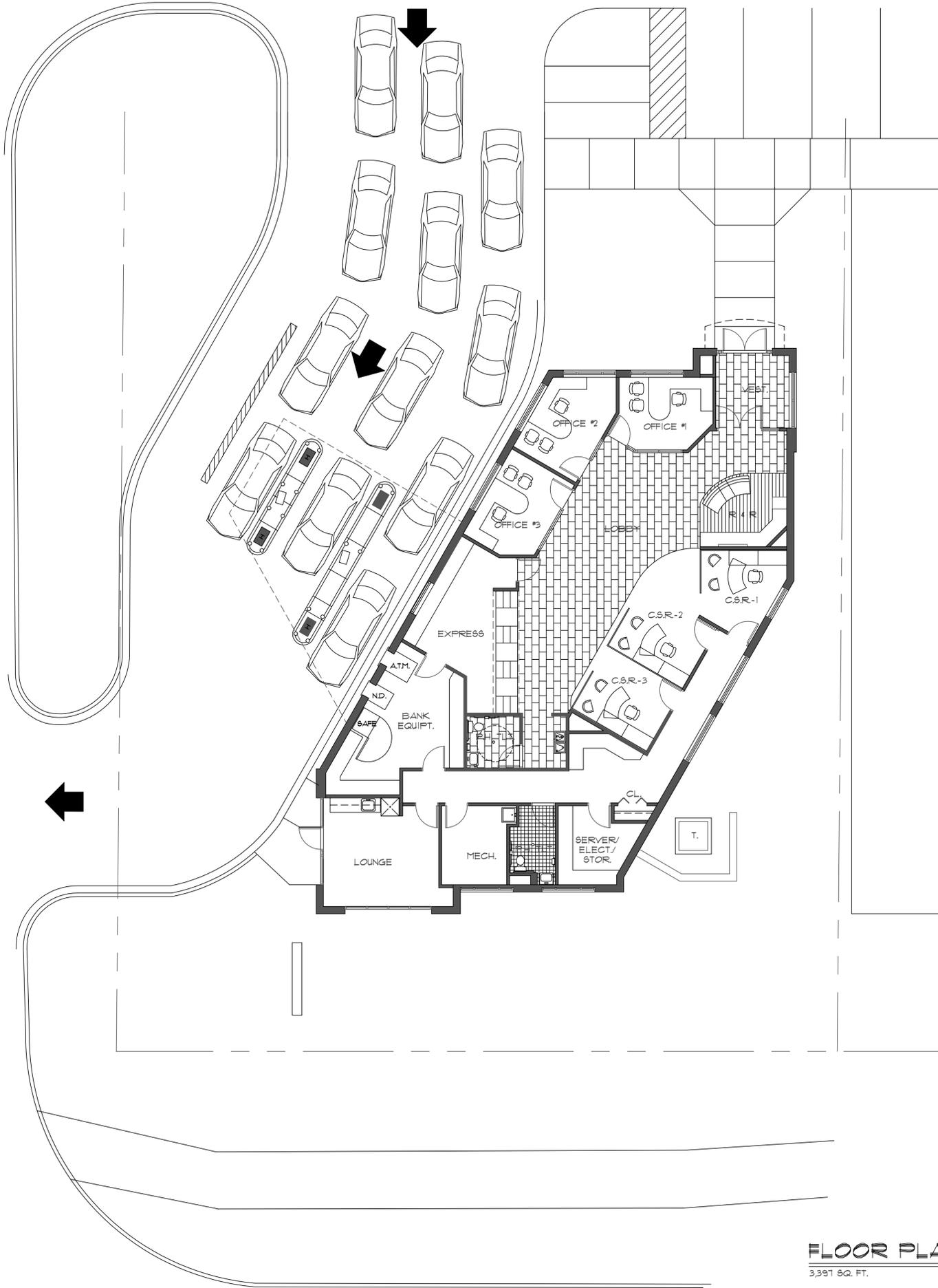








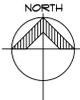
ALPINE ROAD



WEST BIG BEAVER ROAD

**FLOOR PLAN**  
3,391 SQ. FT.

1/8" = 1'-0"



Sheet No.

A-1

Issued For:  
02-24-12  
03-20-12  
05-21-12

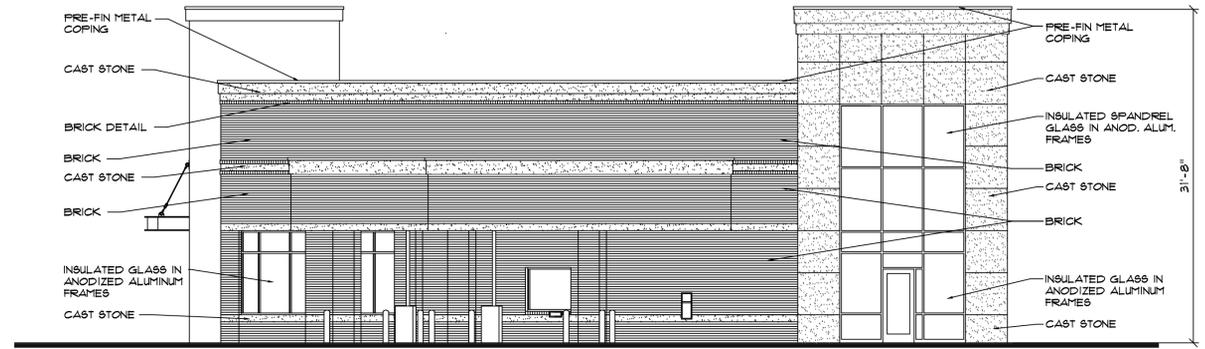
Sheet Title:  
FLOOR PLAN



PROPOSED  
**FLAGSTAR BANK**  
WEST BIG BEAVER ROAD  
TROY, MICHIGAN



Michael A. Boggio Assoc. Architects  
30100 Telegraph Rd., Ste. 216 Bingham Farms MI 48025 (248) 258-5155



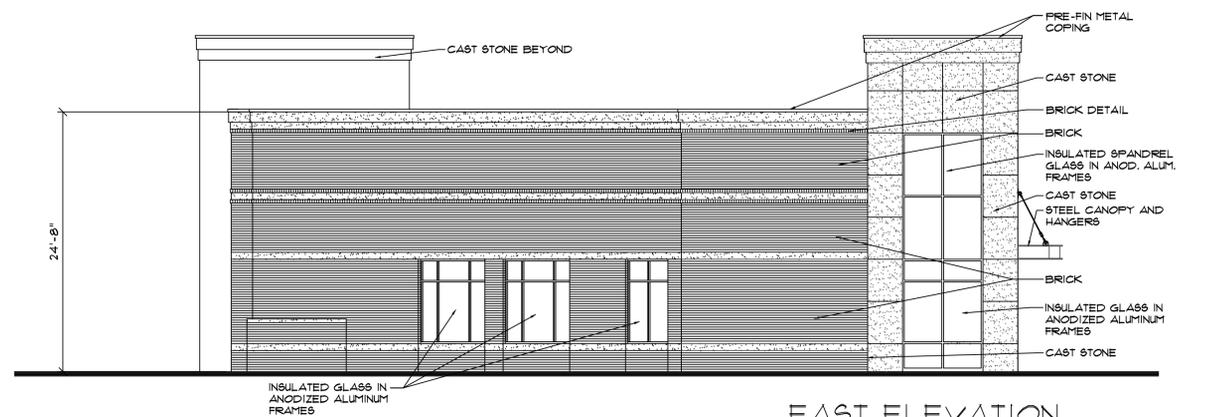
WEST ELEVATION

1/8"=1'-0"



NORTH ELEVATION

1/8"=1'-0"



EAST ELEVATION

1/8"=1'-0"



SOUTH ELEVATION

1/8"=1'-0"





client:  
**A.F. JONNA  
Development and  
Management Co.**  
4036 Telegraph Road, suite 201  
Bloomfield Hills, Michigan 48302  
ph. (248) 593-6200

project:  
**Big Beaver Center**

project location:  
**City of Troy, Michigan**  
Big Beaver Road

sheet title:  
**landscape plan-single  
family**

issue/revision date:

plan updates	2-6-2012
plan updates	2-23-2012
plan updates	3-5-2012
plan updates	5-7-2012
plan updates	5-30-2012

drawn by:  
**JP**  
checked by:  
**FP**  
date:  
**5-7-2012**

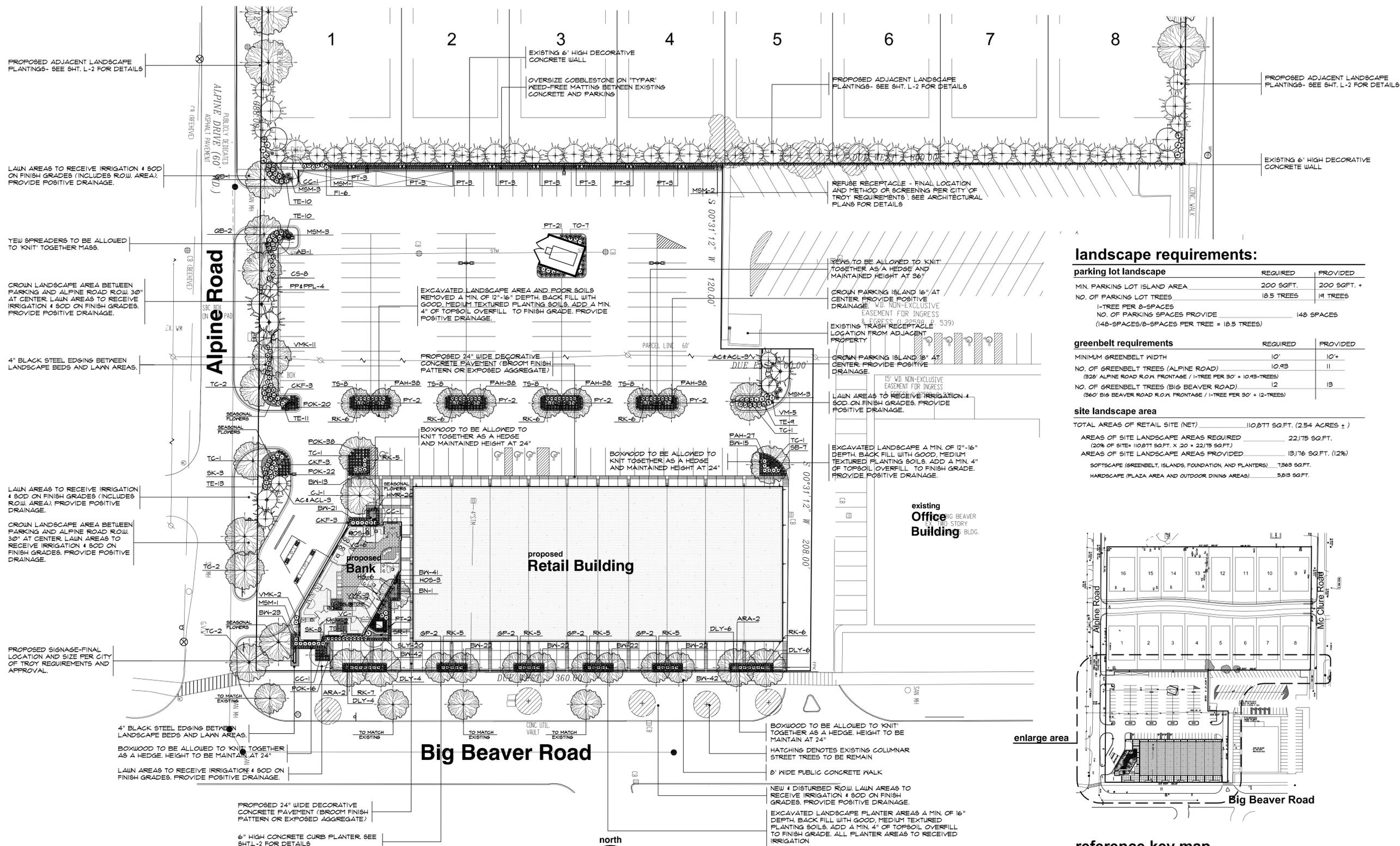
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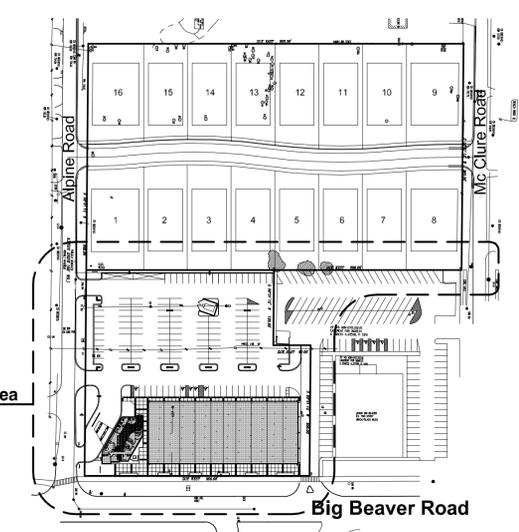
project no:  
**LP12.006.05**

sheet no:



**landscape requirements:**

	REQUIRED	PROVIDED
<b>parking lot landscape</b>		
MIN. PARKING LOT ISLAND AREA	200 SQFT.	200 SQFT. +
NO. OF PARKING LOT TREES	18.5 TREES	19 TREES
1-TREE PER 8-SPACES NO. OF PARKING SPACES PROVIDED 148 SPACES (148-SPACES/8-SPACES PER TREE = 18.5 TREES)		
<b>greenbelt requirements</b>		
MINIMUM GREENBELT WIDTH	10'	10'+
NO. OF GREENBELT TREES (ALPINE ROAD) (328' ALPINE ROAD R.O.V. FRONTAGE / 1-TREE PER 30' = 10.93-TREES)	10.93	11
NO. OF GREENBELT TREES (BIG BEAVER ROAD) (360' BIG BEAVER ROAD R.O.V. FRONTAGE / 1-TREE PER 30' = 12-TREES)	12	13
<b>site landscape area</b>		
TOTAL AREAS OF RETAIL SITE (NET)	110,871 SQ.FT. (2.54 ACRES ±)	
AREAS OF SITE LANDSCAPE AREAS REQUIRED (20% OF SITE = 110,871 SQ.FT. X 20 = 22,175 SQ.FT.)	22,175 SQ.FT.	
AREAS OF SITE LANDSCAPE AREAS PROVIDED	13,176 SQ.FT. (12%)	
SOFTSCAPE (GREENBELT, ISLANDS, FOUNDATION AND PLANTERS)	7,869 SQ.FT.	
HARDSCAPE (PLAZA AREA AND OUTDOOR DINING AREAS)	5,309 SQ.FT.	

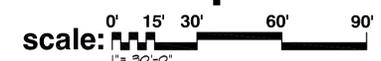


**reference key map**

NO SCALE

landscape plan for:  
**“Big Beaver Center” - a planned mixed used retail-residential community**  
City of Troy, Michigan

**note:**  
unless noted otherwise, numerical value on landscape quantities specified on plan take precedence over graphic representation.



**CAUTION!**  
THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO WARRANTY IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OF ACCURACY. THEREBY THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION PRIOR TO THE START OF CONSTRUCTION.

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1-800-482-7171  
www.missdig.com





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**JP**  
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**FP**  
date:  
**5-7-2012**

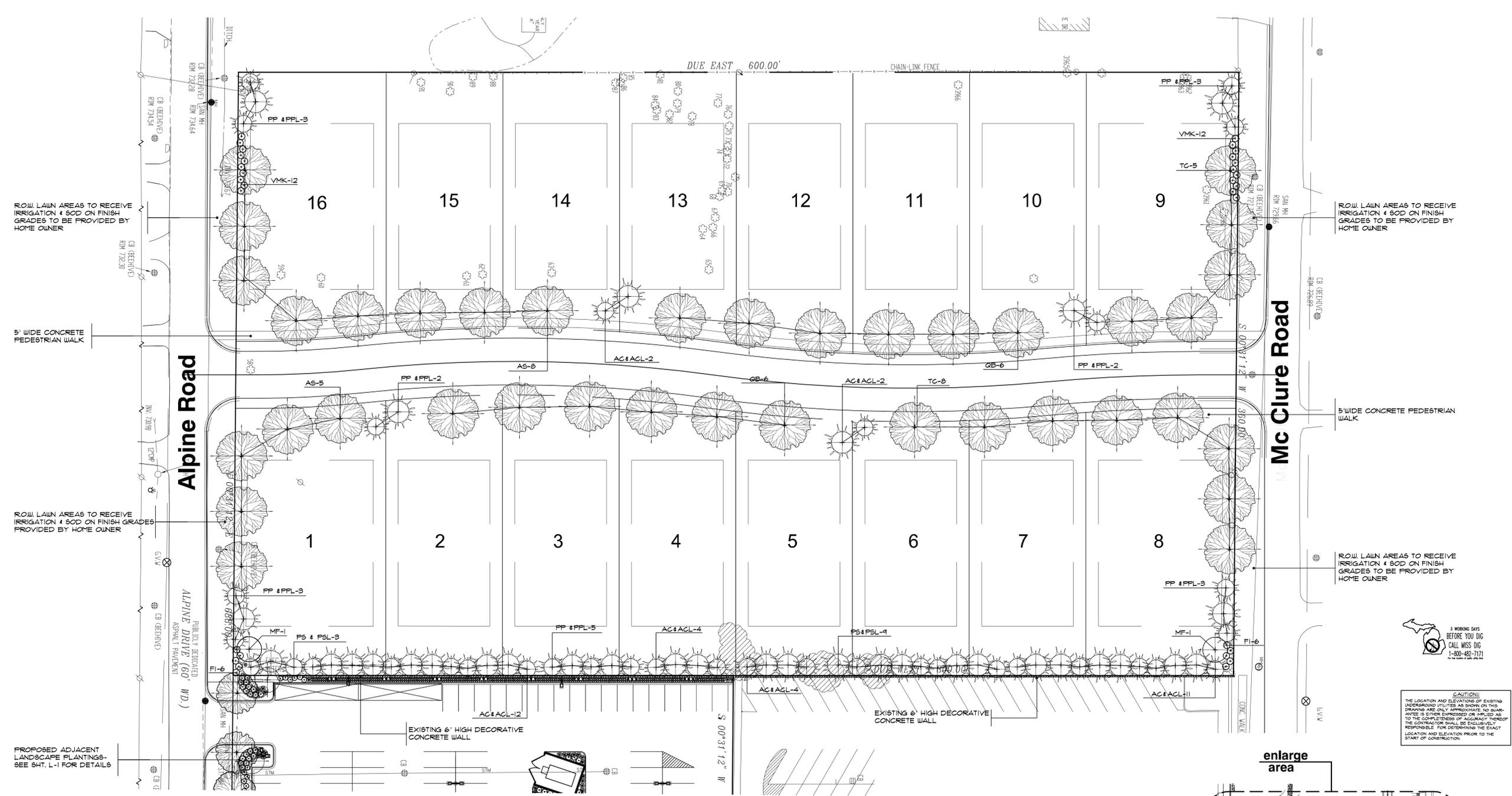
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project no:  
**LP12.006.05**

sheet no:  
**LS-2 of 3**



ROW LAIN AREAS TO RECEIVE IRRIGATION & SOD ON FINISH GRADES TO BE PROVIDED BY HOME OWNER

5' WIDE CONCRETE PEDESTRIAN WALK

ROW LAIN AREAS TO RECEIVE IRRIGATION & SOD ON FINISH GRADES PROVIDED BY HOME OWNER

PROPOSED ADJACENT LANDSCAPE PLANTINGS- SEE SHT. L-1 FOR DETAILS

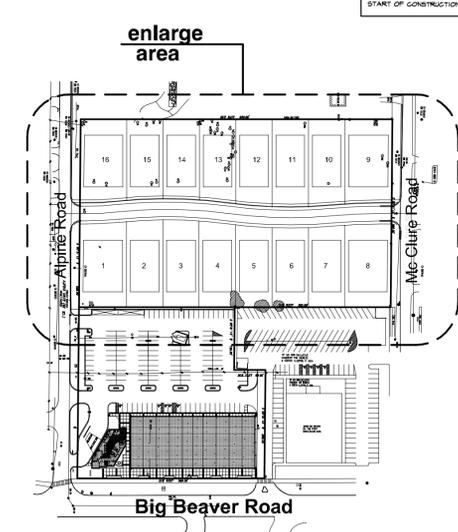
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reference key map  
NO SCALE

### general landscape notes:

- LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISTING CONDITIONS, REVIEW PROPOSED PLANTINGS AND RELATED WORK. CONTACT THE OWNER AND/OR LANDSCAPE ARCHITECT WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLAN, PLANT MATERIAL LIST, AND/OR SITE CONDITIONS.
- PRIOR TO BEGINNING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON-SITE UTILITIES: GAS, ELECTRIC, TELEPHONE, CABLE TO BE LOCATED BY CONTACTING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER PRIOR TO COMMENCING.
- NUMERICAL VALUE ON THE LANDSCAPE QUANTITIES SPECIFIED ON THE PLAN TAKE PRECEDENCE OVER GRAPHIC REPRESENTATION. VERIFY ANY CONCERN-DISCREPANCY WITH LANDSCAPE ARCHITECT.
- ALL CONSTRUCTION AND PLANT MATERIAL LOCATION TO BE ADJUSTED ON SITE IF NECESSARY.
- ALL SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED BY CITY OF TROY AND LANDSCAPE ARCHITECT.
- ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED AND WRAPPED AS DETAIL SHOWN ON PLAN.
- PLANT BEDS TO BE DRESSED WITH MIN. 3" OF FINELY DOUBLE SHREDDED HARDBARK MULCH.
- DIG SHRUB PITS 1' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALL. BACK FILL WITH ONE PART TOP SOIL AND ONE PART SOIL FROM EXCAVATED PLANTING HOLE.
- REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB EARTH BALLS, AND FROM TREE TRUNKS.
- NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK MULCH REQUIRED FOR ALL PLANTINGS. 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERENNIALS.
- PLANT MATERIAL QUALITY & INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
- PROVIDE PEAT SOD FOR ALL NEW AND DISTURBED LAWN AREAS UNLESS NOTED OTHERWISE.
- ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
- PLANT TREES AND SHRUBS GENERALLY NO CLOSER THEN THE FOLLOWING DISTANCES FROM SIDEWALKS, CURBS AND PARKING STALLS:
  - SHADE TREES \_\_\_\_\_ 5 FT.
  - ORNAMENTAL AND EVERGREEN TREES (CRAB, PINE, SPRUCE, ETC.) \_\_\_\_\_ 10 FT.
  - SHRUBS THAT ARE LESS THAN 1 FOOT TALL AND WIDE AT MATURITY. \_\_\_\_\_ 2 FT.
- NO TREES OR EVERGREENS TO BE INSTALLED OVER ANY PROPOSED OR EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR EXACT LOCATION AND DETAILS.
- LAWN AREA AND LANDSCAPE BEDS TO BE FULLY IRRIGATED WITH AUTOMATIC UNDERGROUND SYSTEMS.
- UNLESS NOTED OTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO RECEIVE EDGING. EDGING SHALL BE 4" X 1/8" METAL (FINISH BLACK OR GREEN) OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 92" O.C. OR PER MANUFACTURER'S SPECIFICATION.
- ALL LANDSCAPE BEDS ADJACENT AND NEXT TO BUILDING, PLANTERS, AND PARKING ISLANDS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND POOR SOILS A MIN. OF 16"-18" DEPTH. BACK FILL WITH GOOD, MEDIUM TEXTURED PLANTING SOILS. ADD A MIN. 4" OF TOPSOIL OVERFILL TO FINISH GRADE. PROVIDE POSITIVE DRAINAGE.
- WATERING OF ALL PLANTS AND TREES TO BE PROVIDED IMMEDIATELY AND MULCHING WITHIN 24 HOURS AFTER INSTALLATION.
- ALL TREE PITS TO BE TESTED FOR PROPER DRAINAGE PRIOR TO TREE PLANTING. PROVIDE APPROPRIATE DRAINAGE SYSTEM AS REQUIRED IF THE TREE PIT DOES NOT DRAIN SUFFICIENTLY.
- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF ONE YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLATION DATE APPROVED BY THE TOWNSHIP OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERIOD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE CITY OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.
- ALL DEAD OR DISEASED PLANT MATERIALS SHALL BE REMOVED AND REPLACED WITHIN SIX (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST. THE PLANTING SEASON FOR DECIDUOUS SHALL BE BETWEEN MARCH 1, JUNE 1, AND OCTOBER 1 UNTIL THE PREPARED SOIL BECOMES FROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH 1 AND JUNE 1. PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS FEASIBLE TO THE SIZE OF MATERIAL IT IS INTENDED TO REPLACE.



**plant material list**

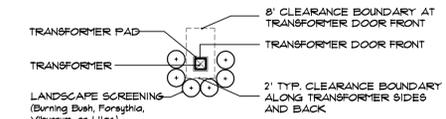
key	quant.			botanical name	common name	size
	shft. L-1	shft. L-2	total			
LARGE AND SMALL DECIDUOUS TREES						
AS	-	13	13	ACER SACCHARUM 'MAJESTY'	MAJESTY SUGAR MAPLE	3" BB
ARA	4	-	4	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG RED MAPLE	4" BB
QB	3	12	15	QUERCUS BICOLOR	SWAMP WHITE OAK	3" BB
TC	10	13	23	TILIA GORDATA 'GREENSPIRE'	GREENSPIRE LINDEN	3" BB
SR	1	-	1	SYRINGA RETICULATA 'IVORY SILK'	IVORY SILK TREE LILAC (MULTI-STEM)	10" BB
CC	3	-	3	CERCIS CANADENSIS	EASTERN REDBUD (MULTI-STEM)	10" BB
AB	1	-	1	AMENLANCHIER CANADENSIS	SHADBLOW SERVICEBERRY (MULTI-STEM)	10" BB
PY	8	-	8	PYRUS CALLERYANA 'CLEVELAND SELECT'	CLEVELAND SELECT PEAR	3" BB
GP	8	-	8	GINKGO BILOBA 'PRINCETON SENTRY'	PRINCETON SENTRY GINKGO (MALE)	4" BB
CJ	1	-	1	CERCIDIPHYLLUM JAPONICUM	KATSURA TREE	3" BB
MF	-	2	2	MALUS FLORIBUNDA	JAPANESE FLOWERING CRAB	2" BB
BN	1	-	1	BETULUS NIGRA	RIVER BIRCH (MULTI-STEM 4-CANES)	12" BB

key	quant.			botanical name	common name	size
	shft. L-1	shft. L-2	total			
SHRUBS						
VC	7	-	7	VIBURNUM CARLESSI	KOREAN SPICE VIBURNUM	3" BB
HE	6	-	6	HYDRANGEA M. 'GLOWING EMBERS'	GLOWING EMBERS HYDRANGEA	#5 CONT
SK	11	-	11	SYRINGA P. 'MISS KIM'	'MISS KIM' DAARF LILAC	3" BB
FI	-	12	12	FORSYTHIA INTERMEDIA	BORDER FORSYTHIA	3" BB
VMK	21	24	45	VIBURNUM X.B. 'MOHAWK'	MOHAWK VIBURNUM	3" BB
CS	8	-	8	CORNUS A. 'SIBIRICA RED GNOME'	RED GNOME SIBERIAN DOGWOOD	3" BB
RK	62	-	62	ROSA 'MEIVAHYN'	DOUBLE KNOCKOUT ROSE	#5 CONT
SB	7	-	7	SPIRAEA X.B. 'ANTHONY WATERER'	ANTHONY WATERER SPIRAEA	#5 CONT

key	quant.			botanical name	common name	size
	shft. L-1	shft. L-2	total			
LARGE AND SMALL EVERGREENS						
BN	212	-	212	BUXUS X 'WINTER GEM'	WINTER GEM BOXWOOD	18" BB
TS	51	-	51	TAXUS X.M. 'SEBIAN'	SEBIAN YEW	30" BB
TE	53	-	53	TAXUS X.M. 'EVERLOW'	EVERLOW YEW	24" BB
PS	-	6	6	PINUS STROBUS	EASTERN WHITE PINE	10" BB
PSL	-	6	6	PINUS STROBUS	EASTERN WHITE PINE	12" BB
AC	4	16	20	ABIES CONCOLOR	CONCOLOR WHITE FIR	10" BB
ACL	2	19	21	ABIES CONCOLOR	CONCOLOR WHITE FIR	12" BB
PP	2	13	15	PICEA PUNGENS	COLORADO GREEN SPRUCE	10" BB
PPL	2	8	10	PICEA PUNGENS	COLORADO GREEN SPRUCE	12" BB
TO	7	-	7	THUJA OCCIDENTALIS 'EMERALD GREEN'	EMERALD GREEN ARBORVITAE	6" BB

**plant material list**

key	quant.	botanical name	common name	size
HMR	20	HEUCHERA 'BERRY SMOOTHIE'	BERRY SMOOTHIE CORAL BELLS	#1 CONT
PAH	114	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN DWARF FOUNTAIN GRASS	#1 CONT
GKF	4	CALAMAGROSTIS X. A. 'KARL FOERSTER'	KARL FOERSTER'S FEATHER REED GRASS	#2 CONT
MSM	15	MISCANTHUS SINENSIS 'MORNING LIGHT'	MORNING LIGHT JAPANESE SILVER GRASS	#3 CONT
HOS	6	HOSTA 'GOLDEN TIARA'	GOLDEN TIARA HOSTA	#2 CONT
DLY	20	HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY	#1 CONT
SLY	85	HEMEROCALLIS 'STRAWBERRY CANDY'	STRAWBERRY CANDY DAYLILY	#1 CONT
PT	26	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	#1 CONT
POK	46	PENNISETUM ORIENTALE 'KARLEY ROSE'	'KARLEY ROSE' ORIENTAL FOUNTAIN GRASS	#1 CONT
RAS	21	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	#2 CONT

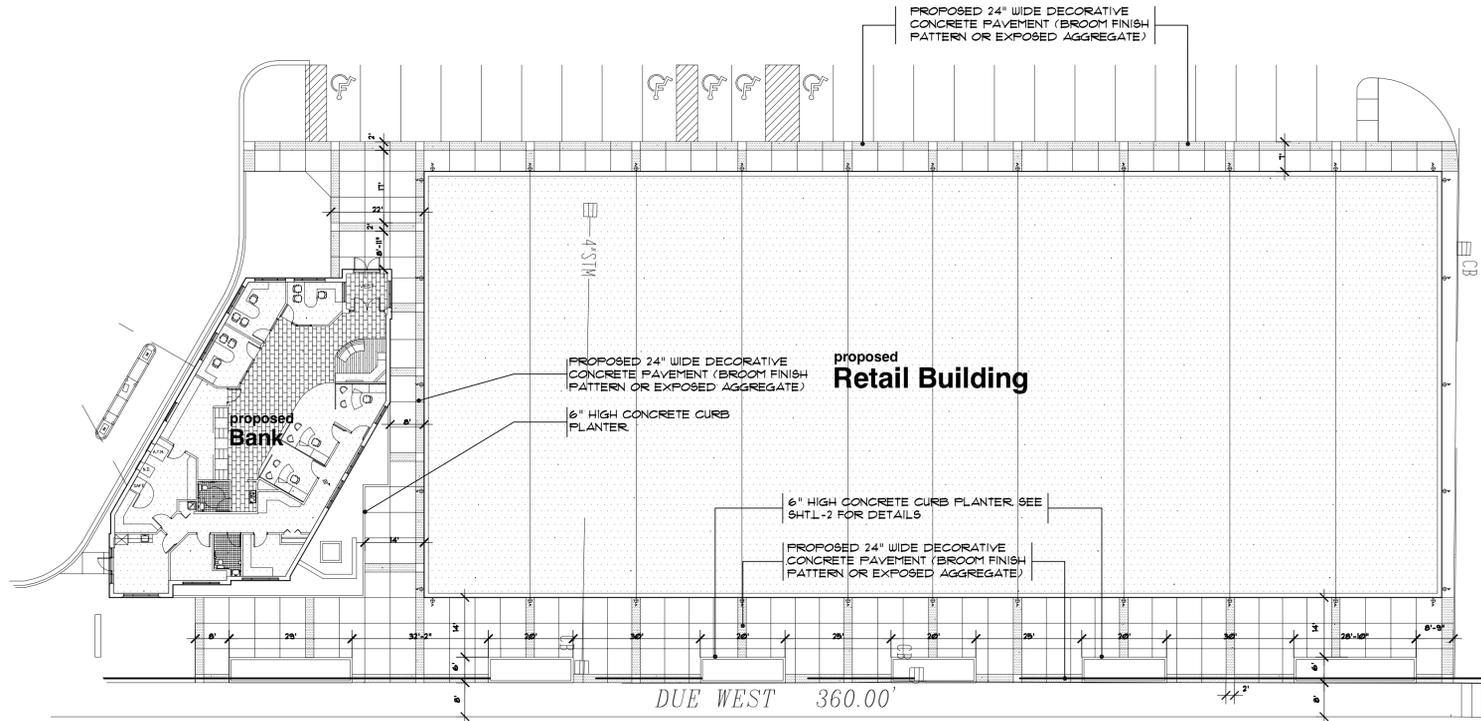


**transformer pad planting detail**

NO SCALE

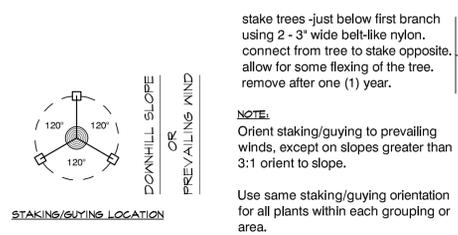
A MINIMUM OF 2' SEPERATION BETWEEN TRANSFORMER AND FULL GROWN SHRUBS AND TREES. GROUND COVERS ALLOWED UP TO TRANSFORMER PAD IF MAINTAINED BELOW 4" FULL GROWTH. IF TRANSFORMER FACES TOWARDS THE HOUSE, THEN THE SAME CONDITIONS EXIST. NO FULL GROWTH IN FRONT OF THE TRANSFORMER FOR AT LEAST A MINIMUM OF 8'. THERE ARE NO WAIVERS GRANTED TO THE ABOVE CONDITION. DETAIL PER THE DETROIT EDISON COMPANY-SERVICE PLANNING DEPARTMENT (4-11-98)

TOTAL NUMBER OF TRANSFORMERS AND FINAL LOCATION PER DETROIT EDISON REQUIREMENTS.



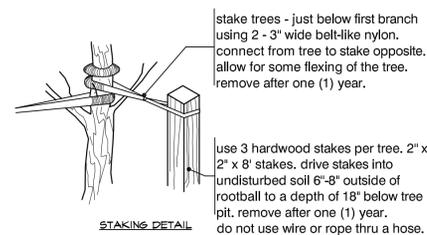
**plaza pavement and planter location detail**

SCALE 1"=20'-0"



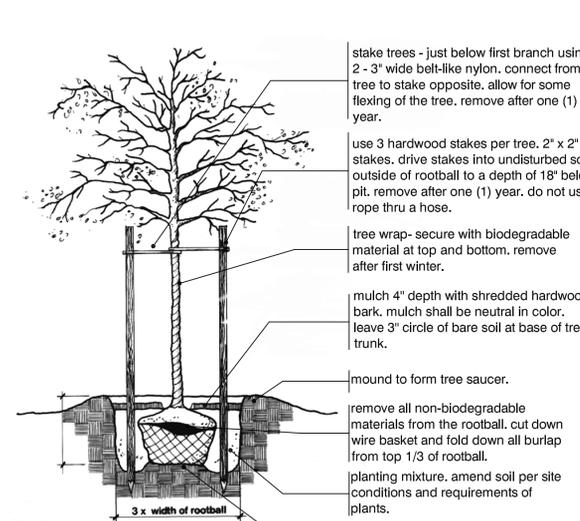
**tree staking detail**

no scale



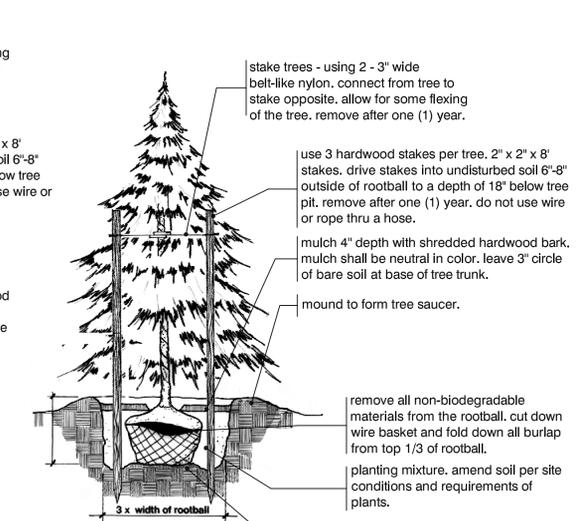
**shrub planting detail**

no scale



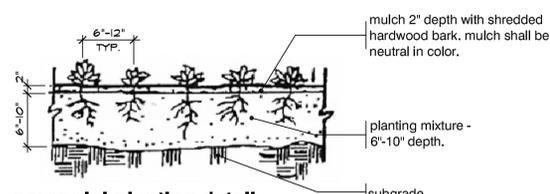
**tree planting detail**

no scale



**evergreen planting detail**

no scale



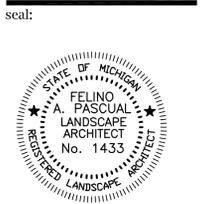
**perennial planting detail**

no scale



**FELINO A. PASCUAL AND ASSOCIATES**  
Community Land Planner and registered Landscape Architect  
16000 W. 9-Mile Road, Suite 520  
Southfield, Michigan 48075

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fax. (248) 557-5416



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project:  
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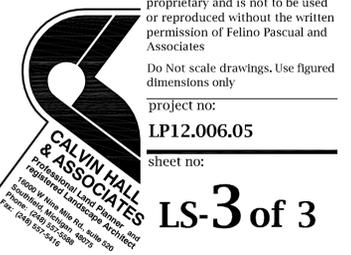
sheet title:  
**landscape plan-single family**

issue/revision date:	
plan updates	2-6-2012
plan updates	2-23-2012
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plan updates	5-30-2012

drawn by:  
**JP**  
checked by:  
**FP**  
date:  
**5-7-2012**

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**LP12.006.05**  
sheet no:



**Plant Material List, Planting Details and Notes**