**AGENDA**
**Cascade Charter Township Planning Commission**
**Monday, September 19, 2016**
**7:00 pm**
**Cascade Library Wisner Center**
**2870 Jacksmith Ave. SE**

**ARTICLE 1.** **Call the meeting to order**
**Record the attendance**

**ARTICLE 2.** **Pledge of Allegiance to the flag**

**ARTICLE 3.** **Approve the current Agenda**

**ARTICLE 4.** **Approve the Minutes of the September 12, 2016 meeting**

**ARTICLE 5.** **Acknowledge visitors and those wishing to speak to non-agenda items. (Comments are limited to five minutes per speaker.)**

**ARTICLE 6.** **Case # 16:3300 Cascade Lodging – Meijer PUD Amendments**
**Property Address: 5411 28th St**
**Requested Action:** The applicant is requesting to amend the existing P.U.D. to allow for a new hotel.

**ARTICLE 7.** **Case # 16:3329 Spees**
Property Address: **6010 28th St**
Requested Action: The applicant is requesting to amend the existing P.U.D. to allow for new fast food restaurants.

**ARTICLE 8.** **Any other business**

**ARTICLE 9.** **Adjournment**

***Meeting format***

1. ***Staff Presentation*** — *Staff report and recommendation*
2. ***Project presentation-*** — *Applicant presentation and explanation of project*
   a. ***PUBLIC HEARINGS***
      i. *Open Public Hearing.* — *Comments are limited to five minutes per speaker; exception may be granted by the chair for representative speakers and applicants*
      ii. *Close public hearing*
3. ***Commission discussion*** – *May ask for clarification from applicant, staff or public*
4. ***Commission decision - Options***
   a. *Table the decision*
   b. *Deny*
   c. *Approve*
   d. *Approve with conditions*
   e. *Recommendation to Township Board*

**MINUTES**
Cascade Charter Township
Planning Commission
Monday, September 12, 2016
7:00 P.M.

**ARTICLE 1.** Chairman Waalkes called the meeting to order at 7:00 P.M.
Members Present: Katsma, Lewis, Mead, Pennington, Rissi, Robinson, Sperla and Williams
Members Absent: None
Others Present: Community Development Director, Steve Peterson and those listed on the sign in sheet.

**ARTICLE 2.** **Pledge of Allegiance.**

**ARTICLE 3.** **Approve the current Agenda.**

**Motion was made by Member Lewis to approve the Agenda. Supported by Member Rissi. Motion carried 9 to 0.**

**ARTICLE 4.** **Approve the Minutes of the August 15, 2016 Meeting.**

**Motion was made by Member Robinson to approve the Minutes as presented. Supported by Member Rissi. Motion carried 9 to 0.**

**ARTICLE 5.** **Acknowledge visitors and those wishing to speak to non-agenda items.**

No visitors who were present wished to speak about non-agenda items.

**ARTICLE 6.** **Case #16:3305 Cascade Hospitality**
**Public Hearing**
**Property Address: 5405 28th Street Ct.**
**Requested Action:** The Applicant is requesting to amend the Spruce Meadows P.U.D. to allow a new hotel.

Director Peterson stated that the Applicant is requesting Preliminary Plan Review in order to construct a new hotel.

The site was originally approved for a hotel, however, only the foundation was built. That foundation must now be removed and the new hotel does not fit in the exact footprint so they are asking for a few changes to the P.U.D. Ordinance in order to fit the new hotel.

The changes they are requesting to the P.U.D. are (1) building height of 40 feet and 4 stories (up from 35 feet or 3 stories), (2) number of rooms – 114 (up from 110), (3) rear setback of 51 feet (58 feet originally), (4) side bufferyard of 10 feet (originally 20 feet), and (5) front bufferyard of 15 feet (originally 20 feet).

Given the number of exceptions to the PUD, staff felt it was more appropriate to proceed with the P.U.D. amendment process rather than seeking variances.

The Master Plan designation for this property is General commercial but is bounded on the south and west by highway Commercial. The General commercial designation is our typical 28th Street commercial and the Highway commercial is more reflective of the Expressway service zoning district. Other than the additional 5 feet of building height which would be allowed in the ES zone) the project is in line with the general commercial designation. The fact that the Highway commercial designation is adjacent to the property and residential use to the north is no longer a possibility, the blending of the two master plan designations would seem appropriate.

Director Peterson feels no traffic study is warranted. Traffic would be dispersed through the existing access to Kraft and 28th Street. The Township Board has already asked the KCRC to address the paving issues on Kraft Ave. and the KCRC is already planning on improvements to the Kraft and 28th St. intersection. The KCRC has also indicated that they will be looking into possible improvements to the Spaulding and Burton intersection. Current traffic counts for these roads show that they are under their capacity.

The Township engineer has reviewed and approved the plan.

Director Peterson touched on the standard requirements for a P.U.D. and noted this project is in line with those requirements.

Director Peterson recommended approval of the plan. Once approved, the P.U.D. ordinance amendments will be put together for the Planning Commission's review so a recommendation can be made to the Township Board.

Chairman Waalkes asked the Applicant to come forward with any comments.

Mr. Andre of Bud Design, architect and engineer of this project, came forward and gave a synopsis of the project.

A short discussion followed mostly concerning rates and timeline of construction.

Motion was made to open the public hearing by Member Mead and supported by Member Robinson. Motion to open was carried 9 to 0.

No one came forward.

Motion was made to close the public hearing by Member Rissi and supported by Member Sperla. Motion to close was carried 9 to 0.

**Motion was made by Member Sperla to approve the preliminary plan to amend the P.U.D. Motion was supported by Member Mead. Motion was carried 9 to 0.**

**ARTICLE 7. Any other business.**

Member Lewis distributed a copy of the ordinance concerning farm animals. He wanted the Planning Commission to be aware that the issue of chickens was brought before the Township Board and in case any questions were posed to members of the Planning Commission, they had the ordinance on hand.

Member Sperla commented that he thought the Planning Commission did a good job of evaluating this ordinance a couple of years ago when we determined there was no need for changes.

The next meeting will be held September 19, 2016. Member Sperla will chair this meeting in Chairman Waalkes' absence.

**ARTICLE 8. Adjournment.**

**Motion was made by Member Mead to adjourn. Supported by Member Rissi. Motion carried 9 to 0. The meeting was adjourned at 7:20 p.m.**

Respectfully submitted,
Scott Rissi, Secretary

DRAFT

## *STAFF REPORT*

| | |
|---|---|
| TO: | Cascade Charter Township Planning Commission |
| FROM: | Steve Peterson, Community Development Director |
| REPORT DATE: | September 12, 2016 |
| MEETING DATE: | September 19, 2016 |
| CASE: | #16-3330/Cascade Lodging – Meijer PUD Amendments |

### *GENERAL INFORMATION*

A. ***Applicant:*** Cascade Lodging
6506 Hanna Lake Ave
Caledonia MI 49316

B. ***Status of Applicant:*** Developer

C. ***General Location:*** West side of the Meijer Store.

D. ***Requested Action:*** Amend the existing PUD to allow for a new hotel.

E. ***Existing Zoning on Subject Parcels:*** PUD 69

F. ***Zoning on Adjoining Parcels:***

N – PUD 26
S –PUD 69
E – PUD 69
W – ES, Expressway Service

G. ***Parcel Size:*** Approximately 5 acres

H. ***Existing Land Use on Subject Parcel:*** Vacant

I. ***Adjacent Area Land Uses:***

| | | |
|---|---|---|
| North | - | vacant |
| East | - | retail store |
| South | - | vacant |
| West | - | hotel |

## *STAFF ANALYSIS*

A. The applicant is requesting Basic Plan Review in order to develop a new hotel on vacant property currently owned by Meijer.

B. The new hotel is in addition to the hotel you have recently reviewed to the north of this property. This new hotel is being located just to the west of the main Meijer truck docks. Between the location and the odd shape of the lot leaves little room to make adjustments.

C. The Meijer property was put into a PUD in 2002 to accommodate the development along 28th St. The underlying zoning district is B2, general business. This designation requires a minimum of 3 acre parcels. With approximately 36 acres in total the development could accommodate as many as 12 parcels. This development would allow for parcels 8 and 9 to be created.

D. The new hotel is seeking the PUD amendment not only to add the hotel use but because it does not meet several of the underlying zoning regulations. These deviations from the ordinance are:

| | Underlying zoning | Proposed | Comments |
|---|---|---|---|
| Parcel Size | Minimum of 3 acres | 2.57 acres | We have allowed the other outlots on smaller than 3 acres, if satisfied with the rest of the development. |
| Building height | 35 feet or 3 stories whichever is less | 60 feet and 4 stories | It's about 42 feet to the roof line and another 18 feet to the peak of the roof. The adjacent ES zone allows for 48 feet tall buildings. |
| North Front setback<br><br>West Front setback | 100 feet<br><br>100 feet | 63 feet<br><br>51 feet | The proposed north setback is similar to the north side of the Meijer store (58 feet).<br><br>The proposed west front setback is similar to the front yard setback for the hotel to the west (55 feet). |
| Bufferyards | 20 feet | 10 feet | They have provide a significant amount of plantings given the limited space. |

E. The Master Plan designation for this property is Highway commercial. This designation is in line with the ES zoning district.

F. We should discuss whether or not to require a traffic study given the change in the project. In general for projects that are compliant with the master plan we have not required traffic studies. However, if you feel that a traffic study is warranted due to the changes they are seeking we need to identify what type of study they need to do. Staff does not believe one is appropriate for this project. The surrounding roads have the capacity to address the traffic from a hotel. The Township Board has already asked the KCRC to address the paving issues

on Kraft ave and the KCRC is already looking into possible changes to the timing of the lights at the Kraft and 28th St intersection.

G. They have provided me with a document that indicates Meijer cannot give access to the private road that they are on, nor does it allow for access to Kraft Ave. This should be addressed to ensure that the hotel can indeed use all the available drives for access to Kraft and 28th St. if not addressed they would only be allowed to enter/exit off from 28th st.

H. The applicant has not indicated any signage deviations.

I. The applicant has indicated that the storm water from the site will be addressed and improved to comply with our storm water ordinance. This area is handled by regional storm water system that will need to be approved by the KCDC.

J. The applicant has submitted this package as required by Section 16.05 (2) of the Zoning Ordinance for Basic Plan Review.

K. If you find that all of the procedural information has been provided, this application should proceed to a public hearing and consideration of a Preliminary Development Plan. It will be at that stage of the review process that the *merits* of the request will be considered and the detailed site plans will be required and reviewed.

Before proceeding to the Preliminary Development plan review (Public Hearing), I would recommend that the Planning Commission address the following:

1. The need for a traffic study
2. Have the applicant provide the required site plan information.
3. Approval from the KCDC for storm water information plan.
4. Provide documentation of easements rights to all drives to Kraft and 28th st.

Attachments: Application
Site plan
Master plan excerpts

# CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan 49546-7140

**PLANNING & ZONING APPLICATION**

**APPLICANT:**

Name: Cascade Lodging, Inc

Address: 6506 Hanna Lake Ave SE

City & Zip Code Caledonia MI 49316

Telephone: 616-889-0127

Email Address: Matt@grandhospitality.Net

**OWNER: * (If different from Applicant)**

Name: _____

Address: _____

City & Zip Code: _____

Telephone: _____

Email Address: _____

NATURE OF THE REQUEST: (Please check the appropriate box or boxes)

- ☐ Administrative Appeal
- ☐ Deferred Parking
- ☐ P.U.D. – Site Condominium *
- ☐ Site Plan Review *
- ☐ Special Use Permit
- ☐ Zoning Variance
- ☐ Administrative Site Plan Review
- ☐ P.U.D. – Rezoning *
- ☒ Rezoning
- ☐ Sign Variance
- ☐ Subdivision Plat Review *
- ☐ Other: _____ *

**** Requires an initial submission of 5 copies of the completed site plan***

BRIEFLY DESCRIBE YOUR REQUEST:**

PUD Amendment for a new hotel: Brand is Townplace Suites.

(**Use Attachments if Necessary)

**-SEE OTHER SIDE-**

**LEGAL DESCRIPTION OF PROPERTY**:**

Refer to attached legal description.

(**Use Attachments if Necessary)

**PERMANENT PARCEL (TAX) NUMBER:** 41-19 07-476-001

**ADDRESS OF PROPERTY:** 5411 28th Street Ct. SE. Grand Rapids 49546

**PRESENT USE OF THE PROPERTY:** Vacant

**NAME(S) & ADDRESS(ES) OF ALL OTHER PERSONS, CORPORATIONS, OR FIRMS HAVING A LEGAL OR EQUITABLE INTEREST IN THE PROPERTY:**

| **Name(s)** | **Address(es)** |
|---|---|
| N/A | |
| | |

**SIGNATURES**

*I (we) the undersigned certify that the information contained on this application form and the required documents attached hereto are to the best of my (our) knowledge true and accurate. I (we) also agree to reimburse the Cascade Charter Township for all costs, including consultant costs, to review this request in a timely manner. I (we) understand that these costs may also include administrative reviews which may occur after the Township has taken action on my (our) request.*

***I (we) the undersigned also acknowledge that the proposed project does not violate any known property restrictions (i.e. plat restrictions, deed restrictions, covenants, etc.)***

Hikmat Piromari
Owner – Print or Type Name
(*If different from Applicant)

* Hikmat Piromari
Owner's Signature & Date
(*If different from Applicant)

Hikmat Piromari
Applicant – Print or Type Name

Hikmat Piromari
Applicant's Signature & Date

PLEASE ATTACH ALL REQUIRED DOCUMENTS NOTED IN THE PROCESS REVIEW SHEET – THANK YOU

Rev. 7/24/14

# TOWNEPLACE SUITES

## SITE PLAN APPROVAL

### CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN


Bud Design & Engineering Services, Inc.
Architecture | Engineering | Interior Design
10775 S. Saginaw St. Suite B
Grand Blanc, MI 48439
(PH) 810.695.0793
(FAX) 810.695.0569
Web: www.buddesign.com



## APPLICANT

CASCADE LODGING, INC.
5401 28TH ST. CT. SE
GRAND RAPIDS, MI 49546
CONTACT: HIKMAT PIROMARI
PHONE: (616) 889-0127

## ARCHITECT

BUD DESIGN & ENGINEERING SERVICES, INC.
10755 S. SAGINAW ST., SUITE B
GRAND BLANC, MI 48439
CONTACT: JEFF PELTIER, RA
PHONE: (810) 695-0793
FAX: (810) 695-0569

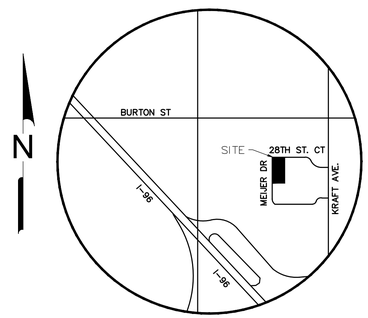
## CIVIL ENGINEER

BUD DESIGN & ENGINEERING SERVICES, INC.
10755 S. SAGINAW ST., SUITE B
GRAND BLANC, MI 48439
CONTACT: ANDREW ANDRE, P.E.
PHONE: (810) 695-0793
FAX: (810) 695-0569


STATE OF MICHIGAN
ANDREW ANDRE
No. 47380
LICENSED PROFESSIONAL ENGINEER

ANDREW ANDRE, P.E.
MICHIGAN PE 47380
BUD DESIGN & ENGINEERING SERVICES, INC.

| STANDARD LEGEND | | |
|---|---|---|
| DESCRIPTION | PROPOSED | EXISTING |
| BUILDING | | |
| STORM SEWER | 12" | 12" |
| SANITARY SEWER | S | S |
| WATER | W | W |
| GAS LINE | G | G |
| ELECTRIC LINE | E | E |
| TELEPHONE LINE | T | T |
| MANHOLE | | |
| CATCH BASIN | | |
| ENDSECTION | | |
| FIRE HYDRANT | | |
| GATE VALVE & WELL | | |
| UTILITY POLE | | |
| UTILITY RISER | | |
| SIGN | | |
| LIGHT POLE | | |
| CURB & GUTTER | | |
| FENCE | | |
| SILT FENCE | | |
| TREE – DECIDUOUS | AS NOTED ON PLANS | |
| TREE LINE | | |
| SPOT ELEVATION | + 100.00 | x 100.00 |
| CONTOUR LINE | 100 | |
| SECTION CORNER | | |
| FOUND PROPERTY IRON | | |
| SET PROPERTY IRON | | |
| GAS METER | | |
| ELECTRICAL METER | | |
| TELEPHONE RISER | | TPED |
| MAILBOX | | |
| SOIL BORING LOCATION | | |




LOCATION MAP
NOT TO SCALE

## DRAWING INDEX


| | |
|---|---|
| C1.0 | COVER SHEET |
| C2.0 | SURVEY PLAN |
| C3.0 | SITE LAYOUT AND PAVING PLAN |
| C3.1 | SITE LIGHTING AND PHOTOMETERIC PLAN |
| C4.0 | GRADING PLAN |
| C4.1 | ENLARGED GRADING PLAN |
| C4.2 | EROSION CONTROL PLAN |
| C5.0 | UTILITY PLAN |
| C5.1 | STORM MANAGEMENT PLAN |
| C6.0 | SITE DETAILS |
| L1.0 | LANDSCAPE PLAN AND DETAILS |
| A100 | FIRST FLOOR PLAN |
| A102 | UPPER FLOOR PLAN (TYP) |
| A200 | EXTERIOR ELEVATIONS |
| A201 | EXTERIOR ELEVATIONS |


### BENCHMARKS

B.M. #1 -SW BOLT ON TOP FLANGE ON HYDRANT ON SOUTH SIDE OF 28TH ST CT SE.
ELEV. 744.85 NAVD 88

B.M. #2 -ARROW OF HYDRANT WEST SIDE OF SITE EAST OF NORTHEAST CORNER COUNTRY INN.
ELEV. 744.88 NAVD 88

### ZONING INFORMATION

ZONED– PUD SITE DEVELOPMENT STANDARDS FOR SITE. (MEIJER / ROMANO #11 OF 2002)

SETBACKS–
FRONT: – 100'
REAR: – 50'
SIDE: – 25'

MAXIMUM BUILDING HEIGHT = 35 FEET OR 3 STORIES

### SCHDULE "B" EXCEPTIONS

FIDELITY NATIONAL TITLE COMPANY
COMMITMENT NO. 16–110048
COMMITMENT DATE: JANUARY 12, 2016 AT 08:00 AM

8. NON–EXCLUSIVE STORM WATER DRAINAGE EASEMENT RECORDED IN LIBER 2418 AT PAGE 931. (BLANKET EASEMENT)
9. NON–EXCLUSIVE EASEMENTS RECORDED IN LIBER 2418 AT PAGE 938. (OFF SITE EASEMENT)
10. SANITARY SEWER AND WATERMAIN EASEMENT RECORDED IN LIBER 2426, PAGE 1082. (AS SHOWN)
11. DRIVEWAY EASEMENT AGREEMENT RECORDED IN LIBER 2431, PAGE 484. (OFF SITE EASEMENT)
12. GENERAL EASEMENT AND RIGHT–OF–WAY GRANT IN FAVOR OF THE KENT COUNTY DRAIN COMMISSIONER RECORDED IN LIBER 2448, PAGE 522. (AS SHOWN)
13. SANITARY SEWER AND WATERMAIN EASEMENT AGREEMENT RECORDED IN LIBER 2504, PAGE 177. (AS SHOWN)
14. NON–EXCLUSIVE EASEMENTS AGREEMENT RECORDED IN LIBER 2515, PAGE 301. (AS SHOWN)
15. NON–EXCLUSIVE EASEMENTS AGREEMENT RECORDED IN LIBER 2522, PAGE 229. (AS SHOWN)
16. GENERAL EASEMENT AND RIGHT–OF WAY IN FAVOR OF THE PATTERSON DRAIN DISTRICT RECORDED IN LIBER 2555, PAGE 338. (AS SHOWN)
17. NON–EXCLUSIVE, UNDERGROUND GENERAL EASEMENT AND RIGHT–OF–WAY GRANT IN FAVOR OF THE PATTERSON DRAIN DISTRICT RECORDED IN LIBER 2555, PAGE 341. (AS SHOWN)
18. NON EXCLUSIVE EASEMENTS AGREEMENT RECORDED IN LIBER 2561, PAGE 1345. (AS SHOWN)
19. NON EXCLUSIVE EASEMENTS AGREEMENT RECORDED IN LIBER 2561, PAGE 1354. (AS SHOWN)
20. NON EXCLUSIVE EASEMENT FOR ELECTRIC FACILITIES IN FAVOR OF CONSUMERS POWER COMPANY, A MICHIGAN CORPORATION RECORDED IN LIBER 2564, PAGE 1081. (AS SHOWN)
21. DECLARATION OF RESTRICTIONS RECORDED IN LIBER 6205, PAGE 421. (OFF SITE DECLARATION)
22. NON EXCLUSIVE ACCESS EASEMENT RECORDED IN LIBER 6205, PAGE 427. (OFF SITE EASEMENT)
23. DECLARATION OF RESTRICTIONS RECORDED IN LIBER 6205, PAGE 436. (INCLUDES SUBJECT PARCEL – NOT PLOTTABLE)
24. DECLARATION OF RESTRICTIONS RECORDED IN INSTRUMENT NO. 20080212–0011836. FIRST AMENDMENT TO DECLARATION OF RESTRICTIONS RECORDED IN INSTRUMENT NO. 20121002–0090550. (OFF SITE DECLARATION)

### FURNISHED LEGAL DESCRIPTION

FIDELITY NATIONAL TITLE COMPANY
COMMITMENT NO. 16–110048
COMMITMENT DATE: JANUARY 12, 2016 AT 08:00 AM

LAND SITUATED IN THE TOWNSHIP OF CASCADE, COUNTY OF KENT, STATE OF MICHIGAN, DESCRIBED AS FOLLOWS:

THAT PART OF THE SOUTHEAST 1/4 OF SECTION 7, TOWN 6 NORTH, RANGE 10 WEST, CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN, DESCRIBED AS: COMMENCING AT THE SOUTHEAST CORNER OF SECTION 7; THENCE SOUTH 88 DEG. 05' 02" WEST 1054.98 FEET ALONG THE SOUTH LINE OF SECTION 7; THENCE NORTH 1 DEG. 39' 55" WEST 262.76 FEET TO THE NORTHEASTERLY LINE OF HIGHWAY I–96; THENCE NORTH 47 DEG. 05' 25" WEST 382.36 FEET ALONG SAID NORTHEASTERLY LINE; THENCE NORTH 01 DEG. 25' 52" EAST 348.91 FEET ALONG THE WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SECTION 7 TO THE PLACE OF BEGINNING OF THIS DESCRIPTION; THENCE CONTINUING ALONG SAID WEST LINE NORTH 01 DEG. 25' 52" EAST 540.00 FEET; THENCE NORTH 88 DEG. 20' 05" EAST 263.00 FEET, THENCE SOUTH 01 DEG. 25' 52" EAST 189.33 FEET; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT, AN ARC DISTANCE OF 80.04 FEET, SAID CURVE HAVING A RADIUS OF 88.54 FEET, CHORD BEARING AND DISTANCE OF SOUTH 24 DEG. 49' 16" WEST, 77.34 FEET AND CENTRAL ANGLE OF 51 DEG. 47' 43"; THENCE SOUTH 51 DEG. 24' 16" WEST 43.73 FEET; THENCE ALONG THE ARC OF A CURVE TO THE LEFT, AN ARC DISTANCE OF 104.99 FEET, SAID CURVE HAVING A RADIUS OF 110.00 FEET, CHORD BEARING AND DISTANCE OF SOUTH 25 DEG. 54' 45" WEST, 101.05 FEET AND CENTRAL ANGLE OF 54 DEG. 41' 13"; THENCE SOUTH 1 DEG. 25' 52" EAST 165.60 FEET; THENCE SOUTH 88 DEG. 20' 05" WEST 147.53 FEET TO THE WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SECTION 7 TO THE PLACE OF BEGINNING, BEING SUBJECT TO AND TOGETHER WITH EASEMENTS AND/OR RESTRICTIONS OF RECORD.

### UTILITY NOTE

THE UTILITY LOCATIONS AS HEREON SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OF COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREON SHOWN. THE CONTRACTOR SHALL CALL MISS DIG (1–800–482–7171) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/SURVEYOR AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

### UTILITY CONTACTS

| TELEPHONE | GAS |
|---|---|
| AT & T | DTE ENERGY–MICHCON<br>3538 LAKE EASRBROOK BLVD SE<br>GRAND RAPIDS, MICHIGAN 49506<br>(800) 477–4747 |
| | ELECTRIC<br>CONSUMERS ENERGY<br>4000 CLAY AVE SW<br>GRAND RAPIDS, MICHIGAN 49548<br>(800) 477–5050 |
| ZONING | WATER/SEWER |
| CASCADE TOWNSHIP<br>ZONING & PLANNING<br>2865 THORNHILLS AVE. SE<br>GRAND RAPIDS, MI 49546<br>(616) 949–1500 | CASCADE TOWNSHIP<br>WATER AND SEWER SERVICES<br>2865 THORNHILLS AVE. SE<br>GRAND RAPIDS, MI 49546<br>(616) 949–1500 |

### FLOODPLAIN INFORMATION

CASCADE TOWNSHIP
KENT COUNTY, MICHIGAN
MAP NUMBER: 260814 0025A
EFFECTIVE DATE: NOVEMBER 6, 1991
FLOOD ZONE: X
AREA OUTSIDE 500–YEAR FLOODPLAIN

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

THE LOCATION OF ALL UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE BASED ON RECORDS PROVIDED BY THE UTILITY OWNERS AND VISIBLE EVIDENCE OBTAINED IN THE FIELD. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED TO THE COMPLETENESS OR ACCURACY THEREOF.

**TOWNEPLACE SUITES**
**CASCADE TWP, KENT CO, MI**


THIS DESIGN STUDY HAS BEEN MADE TO PRODUCE GOOD FIELD DOCUMENTS. IT IS THE RESPONSIBILITY OF THE BUILDER AND/OR THE OWNER TO VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, GRADES, UTILITIES, CONFORMANCE WITH CODES, OR OTHERWISE, AND NOTIFY THE ARCHITECT AND ENGINEER OF DISCREPANCIES PRIOR TO CONSTRUCTION. THE DESIGN AND INFORMATION SHOWN ON THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE THROUGH THE ARCHITECT TO THE OWNER AND IS THE PROPERTY OF THE ARCHITECT. THE DESIGN AND INFORMATION SHOWN ON THIS DRAWING MAY NOT BE REPRODUCED IN ANY FORM WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT.

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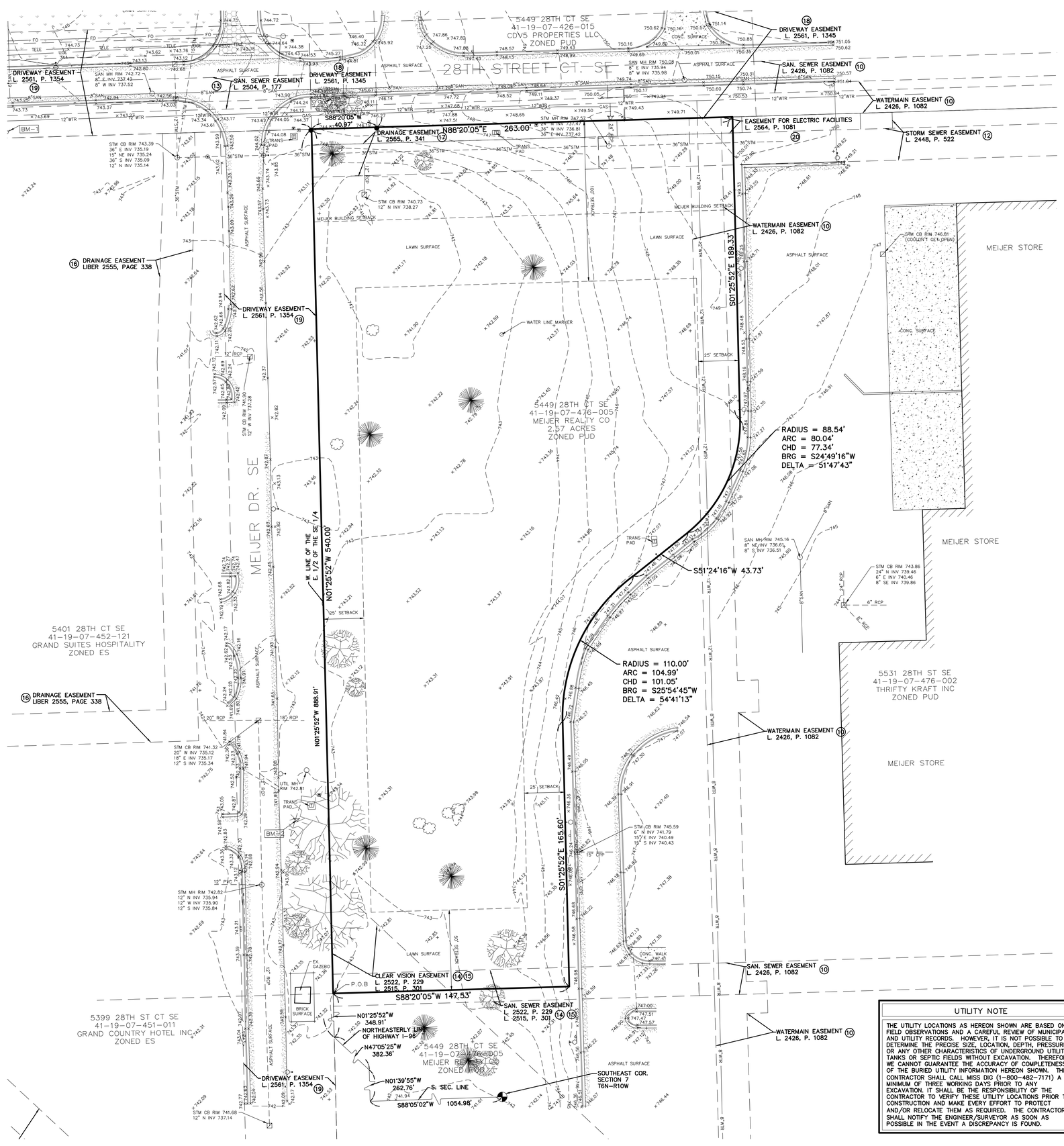
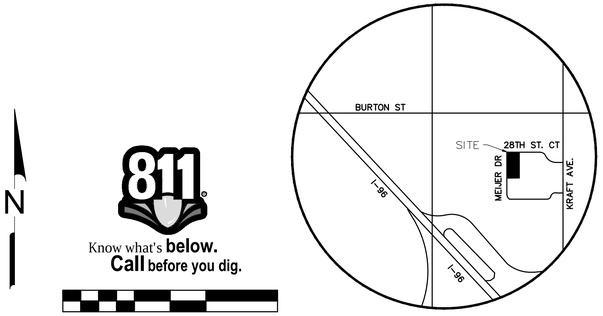
| ISSUED FOR | DATE |
|---|---|
| SPA | 08/17/16 |

**DATE :**
**DRAWN : JDT**
**CHECKED : ACA**
**SCALE :** NA
**JOB NO : BD-15-338**
**SHEET TITLE :**
COVER SHEET

**SHEET**

C1.0




LOCATION MAP

NOT TO SCALE

N

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

0' 30' 60' 90'

SCALE: 1" = 30'


Bud Design & Engineering Services, Inc.
Architecture | Engineering | Interior Design

10775 S. Saginaw St. Suite B
Grand Blanc, MI 48439

(PH) 810.695.0793
(FAX) 810.695.0569

Web: www.buddesign.com


# TOWNEPLACE SUITES

## CASCADE TWP, KENT CO, MI

### UTILITY CONTACTS

| | |
|---|---|
| TELEPHONE<br>AT & T | GAS<br>DTE ENERGY–MICHCON<br>3538 LAKE EASRBROOK BLVD SE<br>GRAND RAPIDS, MICHIGAN 49506<br>(800) 477–4747 |
| | GAS<br>CONSUMERS ENERGY<br>4000 CLAY AVE SW<br>GRAND RAPIDS, MICHIGAN 49548<br>(800) 477–5050 |
| ZONING<br>CASCADE TOWNSHIP<br>ZONING & PLANNING<br>2865 THORNHILLS AVE. SE<br>GRAND RAPIDS, MI 49546<br>(616) 949–1500 | WATER/SEWER<br>CASCADE TOWNSHIP<br>WATER AND SEWER SERVICES<br>2865 THORNHILLS AVE. SE<br>GRAND RAPIDS, MI 49546<br>(616) 949–1500 |

### ZONING INFORMATION

ZONED– PUDSITE DEVELOPMENT STANDARDS FOR SITE.
(MEIJER / ROMANO #11 OF 2002)

SETBACKS–
FRONT: – 100'
REAR: – 50'
SIDE: – 25'

MAXIMUM BUILDING HEIGHT = 35 FEET OR 3 STORIES

### FLOODPLAIN INFORMATION

CASCADE TOWNSHIP
KENT COUNTY, MICHIGAN
MAP NUMBER: 260814 0025A
EFFECTIVE DATE: NOVEMBER 6, 1991
FLOOD ZONE: X
AREA OUTSIDE 500–YEAR FLOODPLAIN

### SCHDULE "B" EXCEPTIONS

FIDELITY NATIONAL TITLE COMPANY
COMMITMENT NO. 16–110048
COMMITMENT DATE: JANUARY 12, 2016 AT 08:00 AM

8. NON–EXCLUSIVE STORM WATER DRAINAGE EASEMENT RECORDED IN LIBER 2418 AT PAGE 931. (BLANKET EASEMENT)
9. NON–EXCLUSIVE EASEMENTS RECORDED IN LIBER 2418 AT PAGE 938. (OFF SITE EASEMENT)
10. SANITARY SEWER AND WATERMAIN EASEMENT RECORDED IN LIBER 2426, PAGE 1082. (AS SHOWN)
11. DRIVEWAY EASEMENT AGREEMENT RECORDED IN LIBER 2431, PAGE 484. (OFF SITE EASEMENT)
12. GENERAL EASEMENT AND RIGHT–OF–WAY GRANT IN FAVOR OF THE KENT COUNTY DRAIN COMMISSIONER RECORDED IN LIBER 2448, PAGE 522. (AS SHOWN)
13. SANITARY SEWER AND WATERMAIN EASEMENT AGREEMENT RECORDED IN LIBER 2504, PAGE 177. (AS SHOWN)
14. NON–EXCLUSIVE EASEMENTS AGREEMENT RECORDED IN LIBER 2515, PAGE 301. (AS SHOWN)
15. NON–EXCLUSIVE EASEMENTS AGREEMENT RECORDED IN LIBER 2522, PAGE 229. (AS SHOWN)
16. GENERAL EASEMENT AND RIGHT–OF WAY IN FAVOR OF THE PATTERSON DRAIN DISTRICT RECORDED IN LIBER 2555, PAGE 338. (AS SHOWN)
17. NON–EXCLUSIVE, UNDERGROUND GENERAL EASEMENT AND RIGHT–OF–WAY GRANT IN FAVOR OF THE PATTERSON DRAIN DISTRICT RECORDED IN LIBER 2555, PAGE 341. (AS SHOWN)
18. NON EXCLUSIVE EASEMENTS AGREEMENT RECORDED IN LIBER 2561, PAGE 1345. (AS SHOWN)
19. NON EXCLUSIVE EASEMENTS AGREEMENT RECORDED IN LIBER 2561, PAGE 1354. (AS SHOWN)
20. NON EXCLUSIVE EASEMENT FOR ELECTRIC FACILITIES IN FAVOR OF CONSUMERS POWER COMPANY, A MICHIGAN CORPORATION RECORDED IN LIBER 2564, PAGE 1081. (AS SHOWN)
21. DECLARATION OF RESTRICTIONS RECORDED IN LIBER 6205, PAGE 421. (OFF SITE DECLARATION)
22. NON EXCLUSIVE ACCESS EASEMENT RECORDED IN LIBER 6205, PAGE 427. (OFF SITE EASEMENT)
23. DECLARATION OF RESTRICTIONS RECORDED IN LIBER 6205, PAGE 436. (INCLUDES SUBJECT PARCEL – NOT PLOTTABLE)
24. DECLARATION OF RESTRICTIONS RECORDED IN INSTRUMENT NO. 20080212–0011836. FIRST AMENDMENT TO DECLARATION OF RESTRICTIONS RECORDED IN INSTRUMENT NO. 20121002–0090550. (OFF SITE DECLARATION)

### UTILITY NOTE

THE UTILITY LOCATIONS AS HEREON SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OF COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREON SHOWN. THE CONTRACTOR SHALL CALL MISS DIG (1–800–482–7171) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/SURVEYOR AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

### EXISTING LEGEND

| | |
|---|---|
| | MONUMENT / SECTION CORNER |
| | FOUND PROPERTY IRON |
| | SET PROPERTY IRON |
| | EXISTING CATCHBASIN |
| | EXISTING MANHOLE/CATCHBASIN |
| | EXISTING MANHOLE |
| | EXISTING HYDRANT |
| | EXISTING VALVE |
| SAN | EXISTING SANITARY SEWER |
| | EXISTING STORM SEWER |
| | EXISTING WATERMAIN |
| X | EXISTING FENCE LINE |
| ELEC | EXISTING UNDERGROUND ELECTRIC LINE |
| GAS | EXISTING UNDERGROUND GAS LINE |
| TELE | EXISTING UNDERGROUND TELEPHONE LINE |
| | EXISTING CENTERLINE |
| OHW | EXISTING OVERHEAD ELECTRICAL WIRES |
| | EXISTING MAILBOX / NEWSPAPER BOX |
| | EXISTING SIGN |
| | EXISTING DECIDUOUS TREES |
| | EXISTING CONIFEROUS TREES |
| | EXISTING UTILITY POWER POLE |
| | EXISTING TELEPHONE RISER |

### FURNISHED LEGAL DESCRIPTION

FIDELITY NATIONAL TITLE COMPANY
COMMITMENT NO. 16–110048
COMMITMENT DATE: JANUARY 12, 2016 AT 08:00 AM

LAND SITUATED IN THE TOWNSHIP OF CASCADE, COUNTY OF KENT, STATE OF MICHIGAN, DESCRIBED AS FOLLOWS:

THAT PART OF THE SOUTHEAST 1/4 OF SECTION 7, TOWN 6 NORTH, RANGE 10 WEST, CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN, DESCRIBED AS: COMMENCING AT THE SOUTHEAST CORNER OF SECTION 7; THENCE SOUTH 88 DEG. 05' 02" WEST 1054.98 FEET ALONG THE SOUTH LINE OF SECTION 7; THENCE NORTH 1 DEG. 39' 55" WEST 262.76 FEET TO THE NORTHEASTERLY LINE OF HIGHWAY I–96; THENCE NORTH 47 DEG. 05' 25" WEST 382.36 FEET ALONG SAID NORTHEASTERLY LINE; THENCE NORTH 01 DEG. 25' 52" EAST 348.91 FEET ALONG THE WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SECTION 7 TO THE PLACE OF BEGINNING OF THIS DESCRIPTION; THENCE CONTINUING ALONG SAID WEST LINE NORTH 01 DEG. 25' 52" EAST 540.00 FEET; THENCE NORTH 88 DEG. 20' 05" EAST 263.00 FEET, THENCE SOUTH 01 DEG. 25' 52" EAST 189.33 FEET; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT, AN ARC DISTANCE OF 80.04 FEET, SAID CURVE HAVING A RADIUS OF 88.54 FEET, CHORD BEARING AND DISTANCE OF SOUTH 24 DEG. 49' 16" WEST, 77.34 FEET AND CENTRAL ANGLE OF 51 DEG. 47' 43"; THENCE SOUTH 51 DEG. 24' 16" WEST 43.73 FEET; THENCE ALONG THE ARC OF A CURVE TO THE LEFT, AN ARC DISTANCE OF 104.99 FEET, SAID CURVE HAVING A RADIUS OF 110.00 FEET, CHORD BEARING AND DISTANCE OF SOUTH 25 DEG. 54' 45" WEST, 101.05 FEET AND CENTRAL ANGLE OF 54 DEG. 41' 13"; THENCE SOUTH 1 DEG. 25' 52" EAST 165.60 FEET; THENCE SOUTH 88 DEG. 20' 05" WEST 147.53 FEET TO THE WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SECTION 7 TO THE PLACE OF BEGINNING, BEING SUBJECT TO AND TOGETHER WITH EASEMENTS AND/OR RESTRICTIONS OF RECORD.

### CERTIFICATION

TO: CASCADE LODGING, INC., MEIJER REALTY COMPANY, A MICHIGAN CORPORATION, FIDELITY NATIONAL TITLE INSURANCE COMPANY.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6, 7(A)(B), 8, 9, 10, 11(A)(B), 12, 13, 14, 15, 16 AND 18 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 03/29/2015.

DATE OF PLAT OR MAP: 02/12/2016

B. D. Ferguson

BRIAN D FERGUSON PS #26454
401 BALSAM STREET P.O. BOX 159
CARROLLTON, MI 48724
PHONE: (989) 752–6500

STATE OF MICHIGAN
BRIAN D FERGUSON
LAND SURVEYOR
NO. 26454
PROFESSIONAL SURVEYOR

### BENCHMARKS

B.M. #1 –SW BOLT ON TOP FLANGE ON HYDRANT ON SOUTH SIDE OF 28TH ST CT SE.
ELEV. 744.85 NAVD 88

B.M. #2 –ARROW OF HYDRANT WEST SIDE OF SITE EAST OF NORTHEAST CORNER COUNTRY INN.
ELEV. 744.88 NAVD 88

**SURVEY COMPLETED BY:**


D&M SITE INC.
Surveying • Inspection • Testing • Engineering
401 BALSAM STREET PO BOX 159, CARROLLTON, MICHIGAN 48724
PHONE (989) 752–6500 • FAX (989) 752–6600



THIS DRAWING AND SPECIFICATION, INCLUDING BUT NOT LIMITED TO, ALL PLANS, DATA, SPECIFICATIONS, CALCULATIONS, ESTIMATES, PROCEDURES, AND OTHER INFORMATION ON OR DESCRIBED IN THIS DRAWING, WAS PREPARED AND DEVELOPED BY BUD DESIGN AND ENGINEERING SERVICES, INC. AND UNLESS OTHERWISE AGREED TO, THE OWNERSHIP OF THIS DRAWING AND ALL COPIES THEREOF, WHICH THE OWNERSHIP OF THIS DRAWING DOES NOT CONFER TO THE OWNER, IS AND SHALL REMAIN THE PROPERTY OF BUD DESIGN AND ENGINEERING SERVICES, INC. AND MAY BE USED ONLY AS AUTHORIZED IN WRITING BY BUD DESIGN AND ENGINEERING SERVICES, INC.

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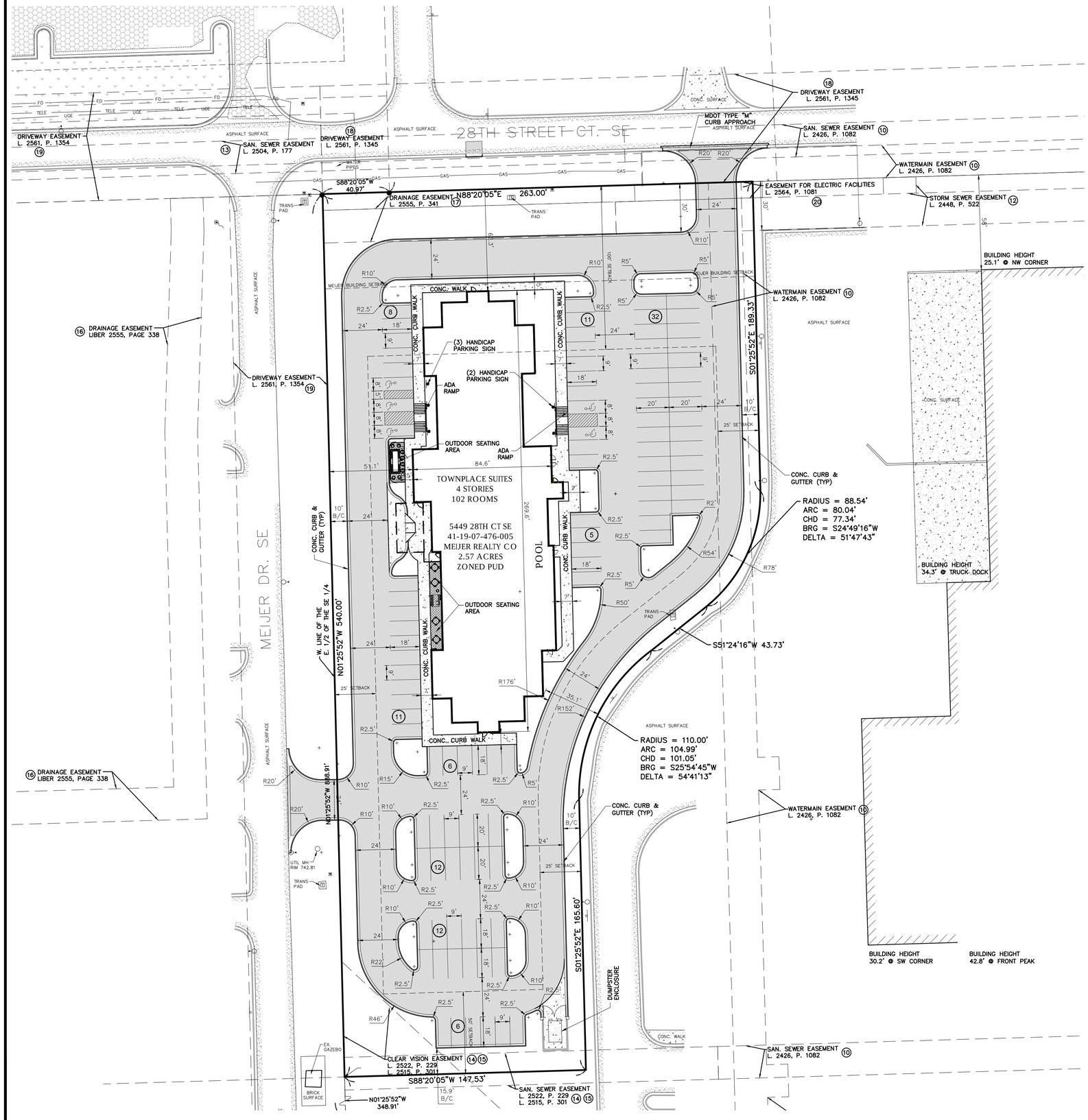
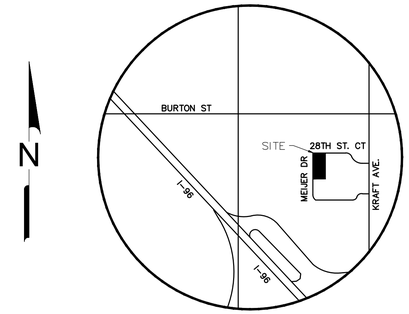
| ISSUED FOR | DATE |
|---|---|
| SPA | 08/17/16 |

DATE :
DRAWN : JDT
CHECKED : ACA
SCALE : 1"=30'
JOB NO : BD-15-338
SHEET TITLE :
**SURVEY PLAN**

SHEET

C2.0




LOCATION MAP

NOT TO SCALE

## GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS TO VERIFY BUILDING DIMENSIONS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE ALL PERMITS AND POST ALL BONDS PRIOR TO CONSTRUCTION, OR ENSURE THAT ALL REQUIRED PERMITS AND BONDS HAVE BEEN OBTAINED PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING MISS-DIG AT 1-800-482-7171 AT LEAST 3 WORKING DAYS PRIOR TO EXCAVATION.
4. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. ALL UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED WITH LIKE MATERIAL. THE EXACT LOCATION OF EXISTING UTILITIES SHALL BE LOCATED BY HAND DIGGING.
5. DIMENSIONS ARE TO FACE OF CURB, OUTSIDE FACE OF BUILDING, EDGE OF PAVEMENT, CENTER OF STRUCTURE OR OTHERWISE INDICATED.
6. ALL PAVING MATERIALS AND OPERATIONS SHALL BE IN CONFORMANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.
7. PARKING STALL SPACES TO BE 4" DOUBLE SOLID WHITE PAINT STRIPES. HANDICAP PARKING TO BE 4" DOUBLE SOLID BLUE PAINT STRIPES W/ BARRIER FREE STRIPPING OF 4" SOLID BLUE @ 2' O.C. ON 45° ANGLE.
8. ALL WORK SHALL CONFORM TO THE CASCADE TOWNSHIP STANDARDS AND SPECIFICATIONS.

## SITE INFORMATION

ZONING:
PUDSITE DEVELOPMENT
STANDARDS FOR SITE
(MEIJER/ROMANO #11 OF 2002).

PROPERTY:
2.57 AC.
41-19-07-476-005
5449 28TH ST CT. SE

PARKING DATA:
REQUIRED
1 SPACE PER ROOM
REQUIRED = 102 ROOMS / 1 = 102 SPACES
TOTAL REQUIRED = 102 SPACES
PROVIDED
ACCESSIBLE SPACES = 5
STANDARD SPACES = 98
TOTAL = 103 SPACES

BUILDING:
USE GROUP: MIXED USE, SEPARATED; A-2, A-3, B, R-2
CONSTRUCTION TYPE: VA (FULLY SUPPRESSED PER NFPA 13)
GROSS AREA
1ST FLOOR 17,739 S.F.
2ND FLOOR 14,538 S.F.
3RD FLOOR 14,538 S.F.
4TH FLOOR 14,538 S.F.
TOTAL 61,353 S.F.

## PAVEMENT INFORMATION

BITUMINOUS PAVEMENT

CONCRETE PAVEMENT

THE LOCATION OF ALL UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE BASED ON RECORDS PROVIDED BY THE UTILITY OWNERS AND VISIBLE EVIDENCE OBTAINED IN THE FIELD. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED TO THE COMPLETENESS OR ACCURACY THEREOF.

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

0' 30' 60' 90'
SCALE: 1" = 30'


Bud Design & Engineering Services, Inc.
Architecture | Engineering | Interior Design
10775 S. Saginaw St. Suite B
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Web: www.buddesign.com


# TOWNEPLACE SUITES
# CASCADE TWP, KENT CO, MI


NOTE: EVERY EFFORT HAS BEEN MADE TO PRODUCE CORRECT PLANS, DOCUMENTS, ETC. THE CONTRACTOR, SUBCONTRACTOR, SUPPLIER, ETC. MUST REVIEW ALL PLANS, DOCUMENTS, ETC. CAREFULLY AND REPORT ANY ERRORS, OMISSIONS, CONFLICTS, ETC. THE ARCHITECT AND/OR ENGINEER IS NOT RESPONSIBLE FOR CORRECT ANY ERRORS AND/OR OMISSIONS THAT MAY BE CONTAINED IN THE PLANS, DOCUMENTS, ETC. AFTER THE PLANS HAVE BEEN ACCEPTED BY AND IN FULL CONFORMANCE WITH THE DESIGN AND ORIGINAL DOCUMENTS. THE ARCHITECT AND/OR ENGINEER IS NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS, ETC. AFTER THE PLANS HAVE BEEN ACCEPTED BY THE CONTRACTOR, SUBCONTRACTOR, SUPPLIER, ETC. THE ARCHITECT AND/OR ENGINEER IS NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS, ETC. IN THE PLANS, DOCUMENTS, ETC. THAT WERE ALTERED OR MODIFIED WITHOUT THE ARCHITECT AND/OR ENGINEER'S KNOWLEDGE OR CONSENT. THE ARCHITECT AND/OR ENGINEER IS NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS, ETC. IN THE PLANS, DOCUMENTS, ETC. THAT WERE ALTERED OR MODIFIED FOR ANY OTHER PURPOSE. IN NO EVENT, IN THE EVENT OF BUD DESIGN AND ENGINEERING, INC. THE ARCHITECT AND/OR ENGINEER, AND THEIR RESPECTIVE SUBCONTRACTORS, BE LIABLE FOR ANY DAMAGES, INCIDENTAL OR CONSEQUENTIAL DAMAGES, THE EVENT OF BUD DESIGN AND ENGINEERING, INC. THE ARCHITECT AND/OR ENGINEER, AND THEIR RESPECTIVE SUBCONTRACTORS, ARE NOT

PHILIPS GARDCO

Site & Area

EcoForm

Project:
Location:
Cat.No:
Type:
Qty:
Notes:

Philips Gardco EcoForm LED luminaire combines economy with performance. Capable of delivering up to 20,000 lumens or more in a compact, low profile housing, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems, including motion response and wireless controls are available for further energy savings during off peak hours.

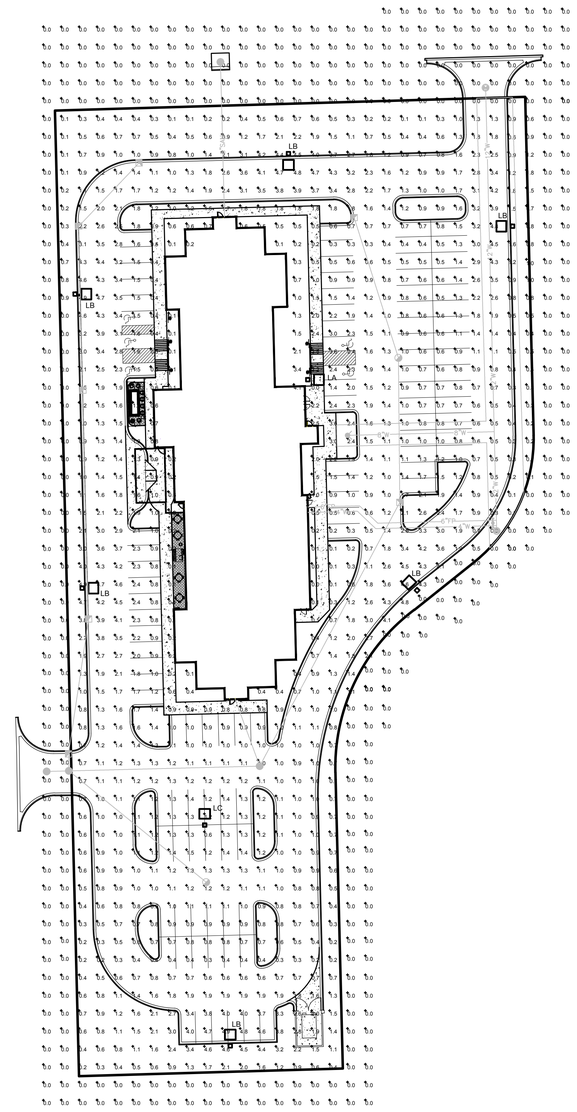
## Ordering guide

example: ECF-APD-MRO-1-4-75LA-NW-120-NP-LF

| Prefix | Controls | Mounting | Optical System | Wattage | Color Temp | Voltage | Finish | Options |
|---|---|---|---|---|---|---|---|---|
| ECF<br>EcoForm | —<br>Standard luminaire (leave blank)<br>**DIM**<br>0-10V Dimming<br>**APD**[2]<br>Auto Profile Dimming<br>**APD-MRO**[3]<br>Auto Profile Dimming and Motion Response Override pole mounted motion sensor<br>**APD-MIR**[3,4]<br>APD with Motion Response Override luminaire sensor<br>**MIR**[3,5]<br>Motion Response at 50% low luminaire sensor<br>**MRSO**[3]<br>Motion Response at 50% low, pole mounted sensor<br>**LimeLight Wireless Controls**<br>**LLC2**[3,4] #2 lites for 8-15' mounted heights<br>**LLC3**[3,4] #3 lites for 15-25' mounted heights<br>**LLC4**[3,4] #4 lites for 25-40' mounted heights | **1**<br>Standard<br>**2**<br>2@180<br>**2@90**<br>2@90<br>**3**<br>3@90<br>3@120<br>3@90<br>**4**<br>4@90<br>**WS**<br>Wall mount including surface conduit box entry permitted<br>**MA**<br>Mast Arm Fitter (requires 2-3/8" O.D. Mast Arm) | **2**<br>Type 2<br>**3**<br>Type 3<br>**4**<br>Type 4<br>**5**<br>Type 5 | **530 mA**<br>**55LA-325**[1,6]<br>**75LA-485**[1]<br>**100LA-645**[1]<br>**700mA**<br>**70LA-3270**<br>**105LA-4870**<br>**135LA-6470**<br>**1050mA**<br>**105LA-3240**[1]<br>**160LA-4840**[1]<br>**215LA-6410**[1] | **CW**<br>Cool White 5,000K 70CRI (nominal)<br>**NW**<br>Neutral White 4,000K 70CRI (nominal)<br>**WW**[6]<br>Warm White 3,000K 70CRI (nominal) | **120**<br>120V<br>**208**<br>208V<br>**240**<br>240V<br>**277**<br>277V<br>**347**<br>347V<br>**480**<br>480V<br>**UNV**<br>120-277V 50Hz/60Hz<br>**HVU**<br>347-480V 50Hz/60Hz | **BRP**<br>Bronze Paint<br>**BLP**<br>Black Paint<br>**WP**[7]<br>White Paint<br>**NP**<br>Natural Paint<br>**OC**<br>Optional Color Specify regional color or RAL (ex: OC EGP or OC RAL 7024)<br>**SC**<br>Special color Specify, must supply color chip Requires factory quote. | **TL** Tool-Less entry and driver removal hardware<br>**TB**[1] Terminal Block<br>**IS**[1] Internal Shield<br>**LF**[1] Line Fusing<br>**LFC**[1] Line Fusing for Canada<br>**PC**[1,10] Receptacle with Photocell (Includes PCBS)<br>**PCB**[1,10] Photocell Bypass<br>**PCRS**[1,10] Photocell Receptacle only with 2 dimming connections<br>**PCR2P**[8,9] Photocell Receptacle only with 2 dimming and 2 auxiliary connections.<br>**RAM** Retrofit Arm Mount Kit<br>**PTF2**[11] Pole Top Fitter for 2-1/2"-3" Tenons<br>**PTF3**[11] Pole Top Fitter for 3"-3½" Tenons<br>**PTF4**[11] Pole Top Fitter for 3½"-4" Tenons<br>**RPA**[12] Round Pole Adapter for 3"-3.9" O.D.<br>**BD** Bird Deterrent (field installed only) |

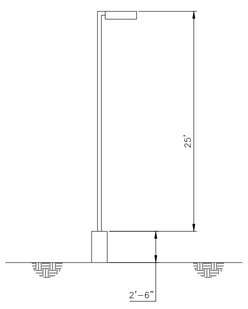
1 Available in 120V-277V Wattages only (UNV, 120, 208, 240 & 277).
2 MRO and APD MRO luminaires require one motion sensor per pole, ordered separately. See page 2 for Accessories. Available in 120V or 277V only.
3 ECF-MRO requires outboarded sensor when used with terminal block (TB) option.
4 LLC2/LLC3/LLC4 Wireless Controls are not compatible with PC/PCB/PCRS/PCR2P options. See page 7-8 for more info.
5 Contact factory for small times on warm white.
6 Not compatible with Type 5 distribution.
7 Not compatible with 120-277V (UNV) Voltage. Voltage must be specified.
8 Not compatible with 480V (HVU) Voltage.
9 Works with 3-pin or 5-pin NEMA photocell/dimming device.
10 If ordered with DIM, APD, MIR, MRSO, APD-MRO, APD-MRO, dimming will not be connected to NEMA receptacle.
11 Works with 3-pin or 5-pin NEMA photocell/dimming device and auxiliary connections are not connected (for future use only).
12 Not compatible with 3@120 (3@90) Mounting.
13 No adapter required for 4" round poles. Fitter provided with Black Paint standard.

EcoForm ECF LED R/15 page 1 of 8




## SITE LIGHTING GROUND LEVEL

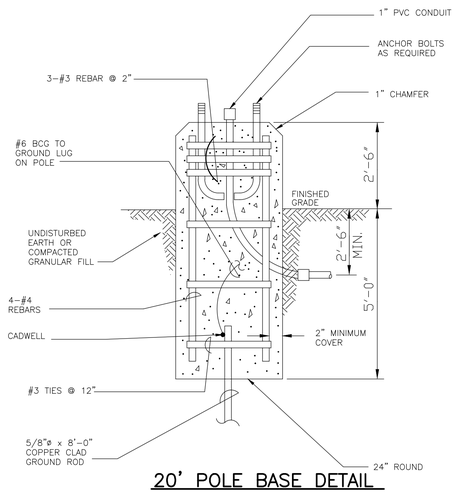
SCALE: 1"=40'




NOTE:
1. CONTRACTOR SHALL PROVIDE INDICATED LIGHTING OR OTHERWISE APPROVED EQUAL.
2. WHEN ADJACENT TO CURB, LIGHT POLE BASES ARE 3-FEET FROM B/C TO CENTER OF BASE.

## LIGHT POLE AND LAMP DETAIL

NO SCALE




## 20' POLE BASE DETAIL

NO SCALE

| AVERAGE | MAXIMUM | MINIMUM |
|---|---|---|
| 1.2 FC | 4.9 FC | 0.0 FC |

| | | | | |
|---|---|---|---|---|
| LA | LED AREA LIGHT | PHILIPS GARDCO | ECF-3-215LA-641A-NW-UNV-NP WITH 30' SQUARE ALUMINUM POLE, SSS5-30-5-11-D1-NP-MSM | 211W |
| LB | LED AREA LIGHT | PHILIPS GARDCO | EFC-2-215LA-641A-NW-UNV-NP WITH 30' SQUARE ALUMINUM POLE, SSS5-30-5-11-D1-NP-MSM | 211W |
| LC | LED AREA LIGHT | PHILIPS GARDCO | EFC-5-215LA-641A-NW-UNV-NP WITH 30' SQUARE ALUMINUM POLE, SSS5-30-5-11-D1-NP-MSM | 211W |

NOTE: CONTRACTOR SHALL PROVIDE INDICATED LIGHTING OR OTHERWISE APPROVED EQUAL.

N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Web: www.buddesign.com


# TOWNEPLACE SUITES
# CASCADE TWP, KENT CO, MI


BEFORE STARTING WORK, BE SURE YOU HAVE THE LATEST REVISION OF THE DRAWINGS, THE PROJECT MANUAL AND ADDENDA. THESE DOCUMENTS REPRESENT THE WORK TO BE PERFORMED. DIMENSIONS, NOTES AND SPECIFICATIONS GOVERN OVER SCALE. DO NOT SCALE DRAWINGS. THE ARCHITECT HAS FULL AUTHORITY TO CONFIRM OR REJECT ANY PRODUCT, MATERIAL OR METHOD OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE ARCHITECT HAS FULL AUTHORITY TO ORDER CHANGES AND/OR CORRECTIONS TO WORK NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE ARCHITECT IS NOT RESPONSIBLE FOR THE ACTUAL CONSTRUCTION PROCESS OR METHODS. THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION PROCESS AND METHODS. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF THE WORKPLACE. THE ARCHITECT HAS NO AUTHORITY OVER THE CONTRACTOR'S EMPLOYEES OR ANY OTHER PARTIES, INCLUDING THE OWNER'S EMPLOYEES, WHO MAY ENTER THE WORKPLACE. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF THE WORKPLACE. THE ARCHITECT HAS NO AUTHORITY OVER THE CONTRACTOR'S EMPLOYEES OR ANY OTHER PARTIES, INCLUDING THE OWNER'S EMPLOYEES, WHO MAY ENTER THE WORKPLACE. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF THE WORKPLACE.

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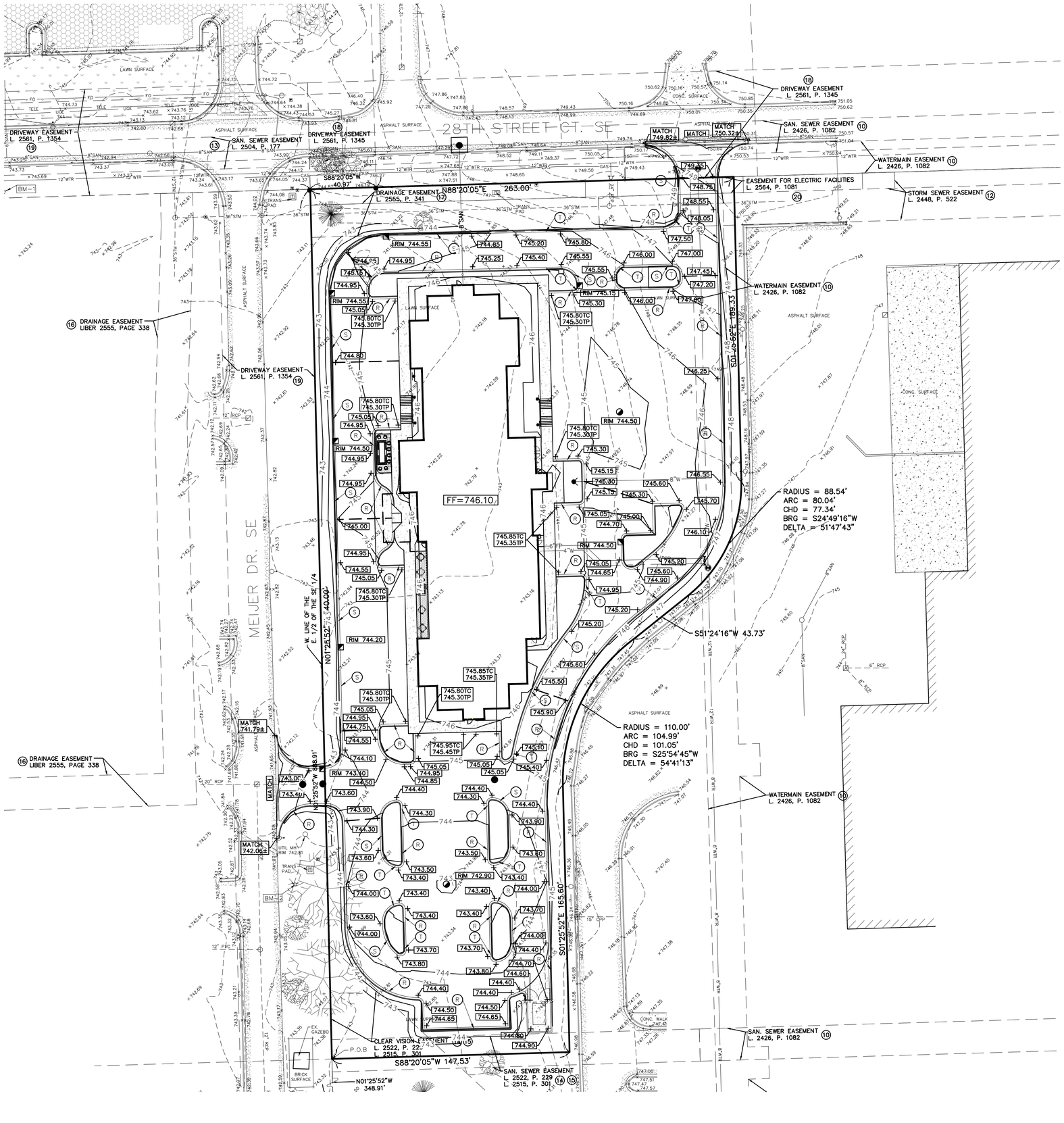
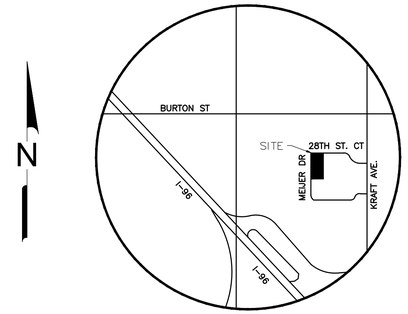
| ISSUED FOR | DATE |
|---|---|
| SPA | 08/17/16 |

DATE :
DRAWN : JDT
CHECKED : ACA
SCALE :SEE PLAN
JOB NO : BD-15-338
SHEET TITLE :
ELECTRICAL SITE LIGHTING

SHEET

C3.1




LOCATION MAP

NOT TO SCALE

GRADING NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CASCADE CHARTER TOWNSHIP AND MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
2. SPOT ELEVATIONS INDICATE TOP OF PAVEMENT UNLESS OTHERWISE INDICATED:
   TC = TOP OF CURB
   TP = TOP OF PAVEMENT
3. CURB AND GUTTER LEGEND
   (S) = STANDARD CURB AND GUTTER
   (R) = REVERSE SLOPE CURB AND GUTTER
   (T) = 5' TRANSITION FROM STANDARD TO REVERSE
   (E) = CURB END TRANSITION
4. REFER TO LANDSCAPE PLAN FOR LANDSCAPE TREATMENT AND PLACEMENT.

| BENCHMARKS |
|---|
| B.M. #1 – SW BOLT ON TOP FLANGE ON HYDRANT ON SOUTH SIDE OF 28TH ST CT SE. ELEV. 744.85 NAVD 88 |
| B.M. #2 – ARROW OF HYDRANT WEST SIDE OF SITE EAST OF NORTHEAST CORNER COUNTRY INN. ELEV. 744.88 NAVD 88 |

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

0' 30' 60' 90'
SCALE: 1" = 30'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Architecture | Engineering | Interior Design
10775 S. Saginaw St. Suite B
Grand Blanc, MI 48439
(PH) 810.695.0793
(FAX) 810.695.0569
Web: www.buddesign.com


# TOWNEPLACE SUITES
# CASCADE TWP, KENT CO, MI


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| ISSUED FOR | DATE |
|---|---|
| SPA | 08/17/16 |

DATE :
DRAWN : JDT
CHECKED : ACA
SCALE : 1"=30'
JOB NO : BD-15-338

SHEET TITLE :
**EROSION CONTROL PLAN**

SHEET
C4.0

## GRADING NOTES

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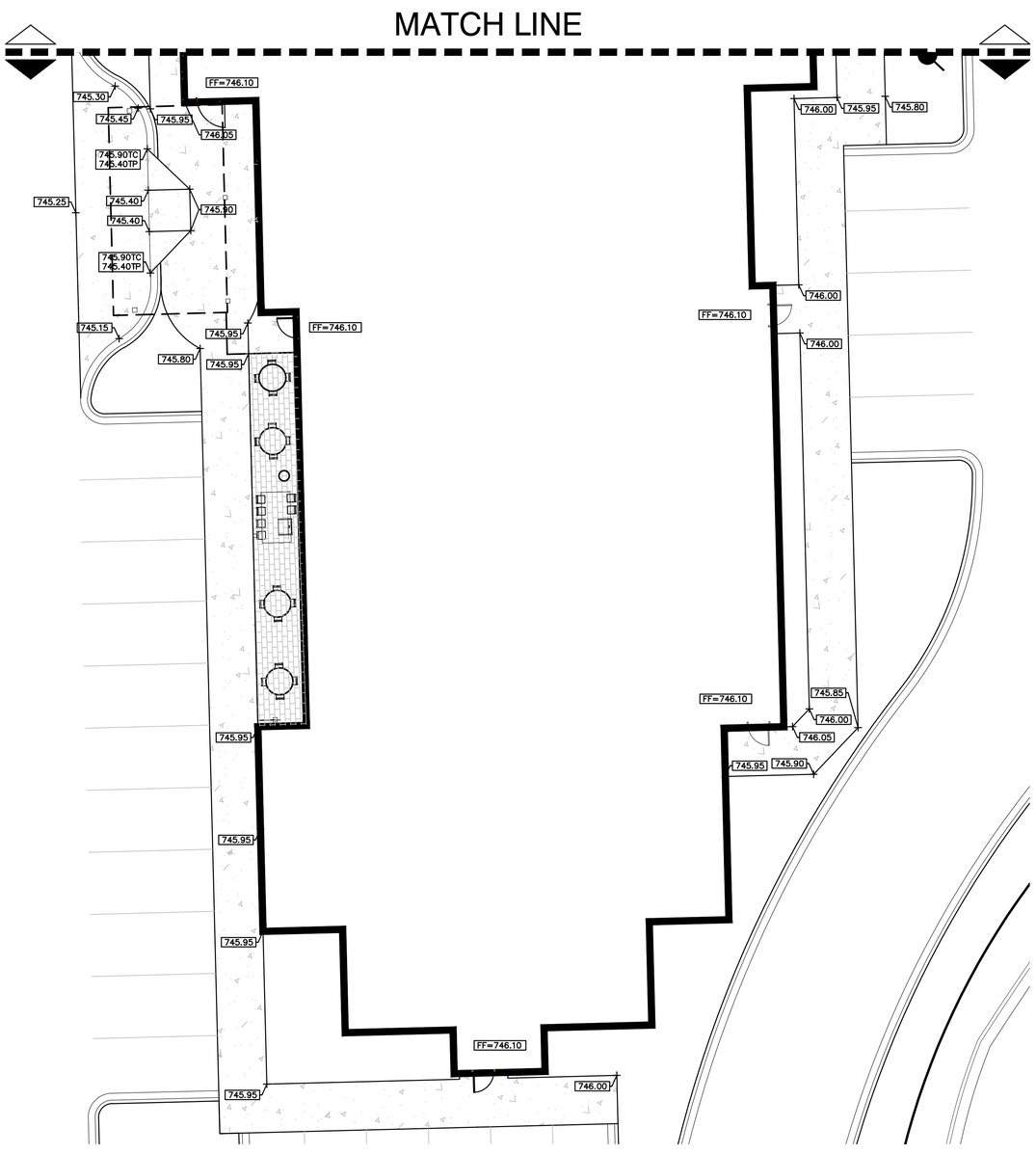


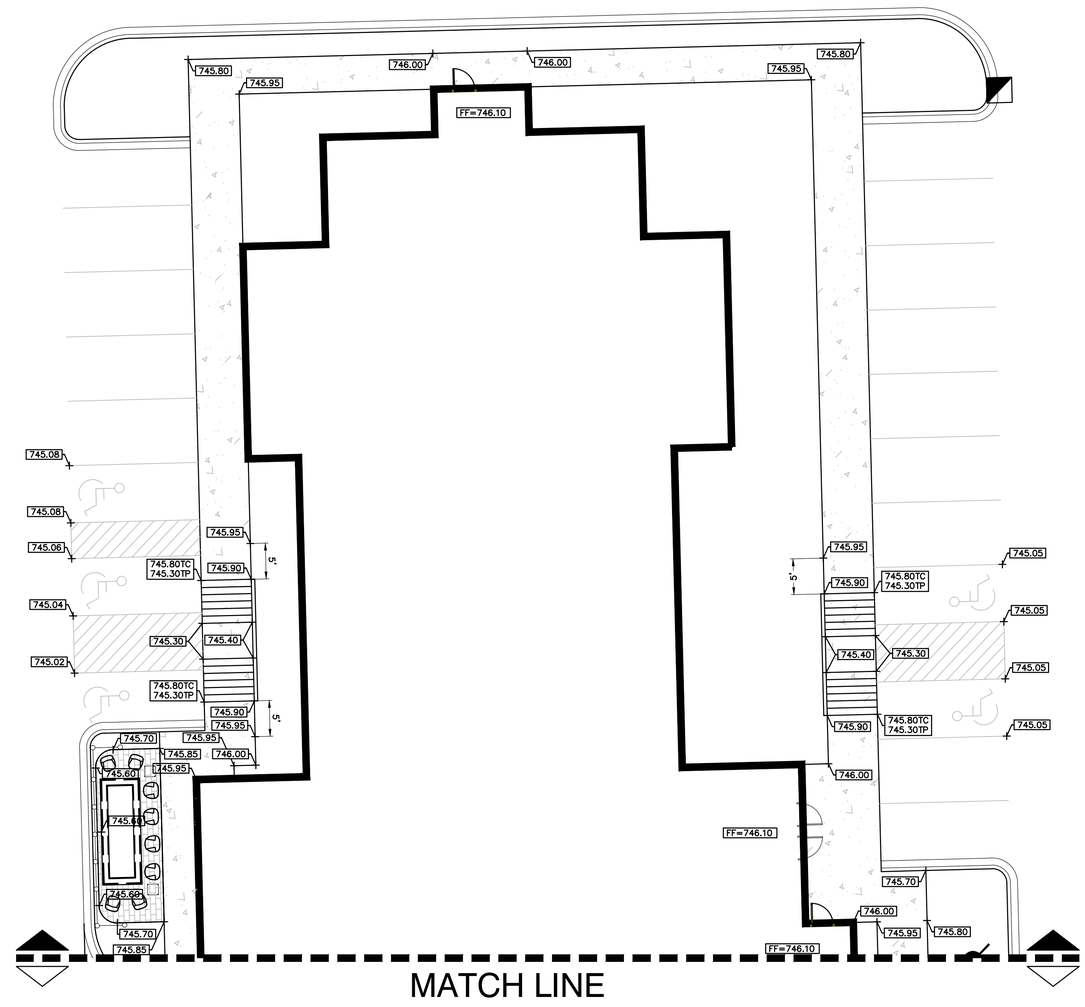


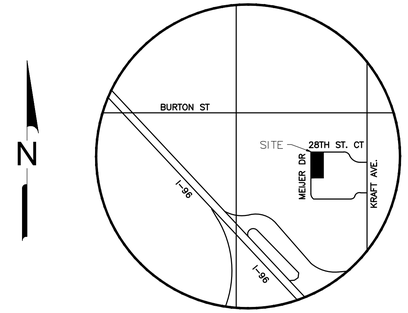


LOCATION MAP
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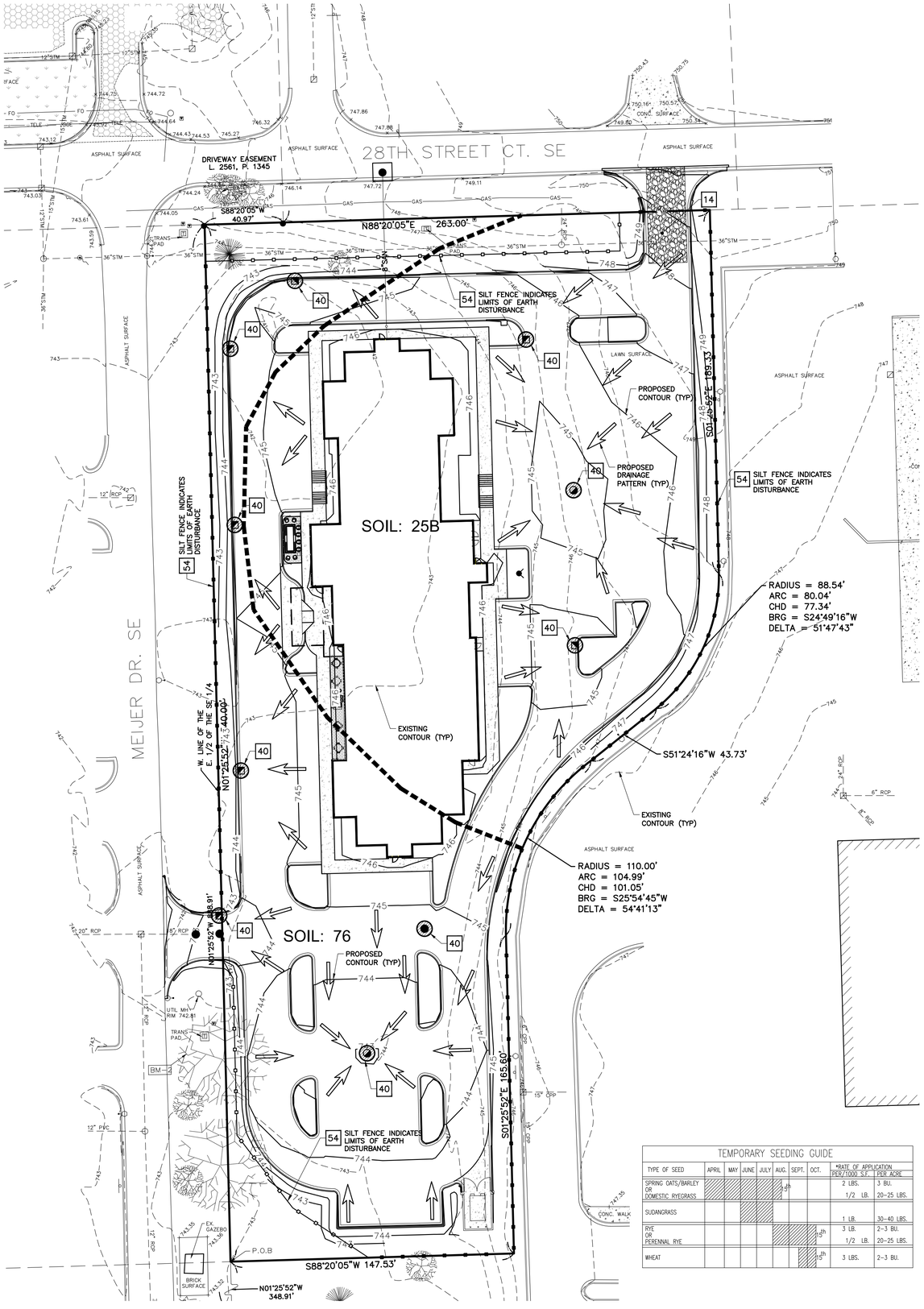
SHEET TITLE :
**ENLARGED GRADING PLAN**

SHEET
C4.1




## MAINTENANCE NOTES

1. SOIL STOCKPILES
PERIODIC INSPECTIONS SHOULD BE DONE TO ENSURE EXCESSIVE EROSION HAS NOT OCCURRED. IF RUNOFF OR WIND EROSION HAS OCCURRED, REDUCE THE SIDE SLOPES OF THE SPOIL PILE, OR RE-STABILIZE THE STOCKPILE BY PROVIDING TEMPORARY SEEDING.

WHEN FILTER FENCING IS USED AROUND A SPOIL PILE, PERIODIC CHECKS SHOULD BE MADE TO ENSURE THAT PIPING HAS NOT OCCURRED UNDER THE FENCING, AND TO ENSURE THE FENCE HAS NOT COLLAPSED DUE TO SOIL SLIPPAGE OR ACCESS BY CONSTRUCTION EQUIPMENT. REPAIR ANY DAMAGED FENCING IMMEDIATELY.

BERMS AT THE BASE OF THE SPOIL PILE WHICH BECOME DAMAGED SHOULD BE REPLACED.

2. DUST CONTROL
TO PREVENT DUST FROM BECOMING A PUBLIC NUISANCE AND CAUSING OFF-SITE DAMAGES, DUST CONTROL SHOULD BE ONGOING DURING EARTH CHANGE ACTIVITIES.

3. SILT FENCE
SILT FENCE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

SILT FENCES SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED RAINFALLS.

IF THE FENCE IS SAGGING OR THE SOIL HAS REACHED ONE HALF (1/2) THE HEIGHT OF THE FABRIC, THE SOIL BEHIND THE FABRIC MUST BE REMOVED AND DISPOSED OF IN A STABLE UPLAND SITE. THE SOIL CAN BE ADDED TO THE SOIL STOCKPILE.

IF THE FABRIC IS BEING UNDERCUT (I.E. IF WATER IS SEEPING UNDER THE FENCE), THE FENCE SHOULD BE REMOVED AND REINSTALLED FOLLOWING THE PROCEDURES GIVEN ABOVE.

FABRIC WHICH DECOMPOSES OR OTHERWISE BECOMES INEFFECTIVE SHOULD BE REMOVED AND REPLACED WITH NEW FILTER FABRIC IMMEDIATELY.

SILT FENCES SHOULD BE REMOVED ONCE VEGETATION IS WELL ESTABLISHED AND THE UP-SLOPE AREA IS FULLY STABILIZED.

4. SEEDING
NEWLY SEEDED AREAS NEED TO BE INSPECTED FREQUENTLY FOR THE FIRST FEW MONTHS TO ENSURE THE GRASS IS GROWING. IF THE SEEDED AREA IS DAMAGED DUE TO RUNOFF, ADDITIONAL STORMWATER MEASURES MAY BE NEEDED. SPOT SEEDES CAN BE DONE ON SMALL AREAS TO FILL IN BARE SPOTS WHERE GRASS DIDN'T GROW PROPERLY.

5. MULCHING
MULCHED AREAS SHOULD BE CHECKED FOLLOWING EACH RAIN TO ENSURE THE MULCH IS STAYING IN PLACE. ADDITIONAL TACKING MATERIALS OR NETTING MAY NEED TO BE APPLIED TO HOLD THE MULCH IN PLACE.

6. CONSTRUCTION ENTRANCE
PROPER MAINTENANCE MAY INCLUDE ADDING ADDITIONAL LAYERS OF STONE WHEN THE ORIGINAL STONE BECOMES COVERED WITH MUD. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR EROSION AND MAKE ANY NECESSARY REPAIRS. ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC RIGHT-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY SWEEPING.

## SOIL EROSION & SEDIMENTATION CONTROL NOTES

1. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH CASCADE CHARTER TOWNSHIP AND KENT COUNTY STANDARDS AND SPECIFICATIONS.

2. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES. ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.

3. ANY EROSION OR SEDIMENT 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 MANMADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.

4. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED AND AS DIRECTED ON THESE PLANS. CONTRACTOR SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES AND OTHER EARTH CHANGES HAVE BEEN ESTABLISHED.

5. AFTER ALL TEMPORARY EROSION CONTROL MEASURES HAVE BEEN INSTALLED, THE CONTRACTOR SHALL CONTACT CITY OF SOUTHGATE FOR AN INSTALLATION INSPECTION.

6. DUST CONTROL SHALL BE EXERCISED AT ALL TIMES WITHIN THE PROJECT BY THE CONTRACTOR.

7. ALL MUD, DIRT AND DEBRIS TRACKED ONTO EXISTING ROADS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR NO LESS THAN ON A DAILY BASIS. ALL MUD, DIRT AND DEBRIS TRACKED OR SPILLED ONTO PAVED SURFACES WITHIN THIS SITE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.

8. PERMANENT EROSION CONTROL MEASURES SHALL BE COMPLETED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OR EARTH MOVING ACTIVITY HAS BEEN COMPLETED. A FINAL INSPECTION SHALL BE SCHEDULED BY THE CONTRACTOR.

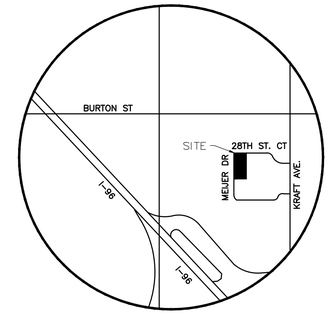
9. UPON THE DIRECTION OF THE INSPECTING AGENCY, ADDITIONAL MEASURES SHALL BE CONSTRUCTED AND MAINTENANCE WORK SHALL BE PERFORMED TO ENSURE COMPLIANCE WITH ALL PERMIT REQUIREMENTS.

## FURNISHED LEGAL DESCRIPTION

FIDELITY NATIONAL TITLE COMPANY
COMMITMENT NO. 16-110048
COMMITMENT DATE: JANUARY 12, 2016 AT 08:00 AM

LAND SITUATED IN THE TOWNSHIP OF CASCADE, COUNTY OF KENT, STATE OF MICHIGAN, DESCRIBED AS FOLLOWS:

THAT PART OF THE SOUTHEAST 1/4 OF SECTION 7, TOWN 6 NORTH, RANGE 10 WEST, CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN, DESCRIBED AS: COMMENCING AT THE SOUTHEAST CORNER OF SECTION 7; THENCE SOUTH 88 DEG. 05' 02" WEST 1054.98 FEET ALONG THE SOUTH LINE OF SECTION 7; THENCE NORTH 1 DEG. 39' 55" WEST 262.76 FEET TO THE NORTHEASTERLY LINE OF HIGHWAY I-96; THENCE NORTH 47 DEG. 05' 25" WEST 382.36 FEET ALONG SAID NORTHEASTERLY LINE; THENCE NORTH 01 DEG. 25' 52" EAST 348.91 FEET ALONG THE WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SECTION 7 TO THE PLACE OF BEGINNING OF THIS DESCRIPTION; THENCE CONTINUING ALONG SAID WEST LINE NORTH 01 DEG. 25' 52" EAST 540.00 FEET; THENCE NORTH 88 DEG. 20' 05" EAST 263.00 FEET, THENCE SOUTH 01 DEG. 25' 52" EAST 189.33 FEET; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT, AN ARC DISTANCE OF 80.04 FEET, SAID CURVE HAVING A RADIUS OF 88.54 FEET, CHORD BEARING AND DISTANCE OF SOUTH 24 DEG. 49' 16" WEST, 77.34 FEET AND CENTRAL ANGLE OF 51 DEG. 47' 43"; THENCE SOUTH 51 DEG. 24' 16" WEST 43.73 FEET; THENCE ALONG THE ARC OF A CURVE TO THE LEFT, AN ARC DISTANCE OF 104.99 FEET, SAID CURVE HAVING A RADIUS OF 110.00 FEET, CHORD BEARING AND DISTANCE OF SOUTH 25 DEG. 54' 45" WEST, 101.05 FEET AND CENTRAL ANGLE OF 54 DEG. 41' 13"; THENCE SOUTH 1 DEG. 25' 52" EAST 165.60 FEET; THENCE SOUTH 88 DEG. 20' 05" WEST 147.53 FEET TO THE WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SECTION 7 TO THE PLACE OF BEGINNING, BEING SUBJECT TO AND TOGETHER WITH EASEMENTS AND/OR RESTRICTIONS OF RECORD.




LOCATION MAP
NOT TO SCALE

## RESPONSIBLE PARTY

CASCADE LODGING, INC.
5401 28TH ST. CT. SE
GRAND RAPIDS, MI 49546

## SOIL EROSION & SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

| CONSTRUCTION SEQUENCE | OCT 2016 | NOV | DEC | JAN 2017 | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TEMPORARY EROSION CONTROL MEASURES | — | | | | | | | | | | | | |
| STRIP & STOCKPILE TOPSOIL / ROUGH GRADE | — | | | | | | | | | | | | |
| STORM SEWER | | — | | | | | | | | | | | |
| FOUNDATION / BLDG. CONSTRUCTION | — | — | — | — | — | — | — | — | — | — | — | — | — |
| SANITARY SEWER & WATER | | — | | | | | | | | | | | |
| INSTALL ALL OTHER UTILITIES | | | — | | | | | — | | | | | |
| SITE CONSTRUCTION & PAVEMENT | | | | | | | | — | — | | | | |
| PERMANENT EROSION CONTROL MEASURES | | | | | | | | | | | | | — |
| FINISH GRADING | | | | | | | | | | | | — | |
| LANDSCAPING | | | | | | | | | | | | | — |

DISTURBED AREA = 2.4± ACRES

## FLOODPLAIN INFORMATION

CASCADE TOWNSHIP
KENT COUNTY, MICHIGAN
MAP NUMBER: 260814 0025A
EFFECTIVE DATE: NOVEMBER 6, 1991
FLOOD ZONE: X
AREA OUTSIDE 500-YEAR FLOODPLAIN

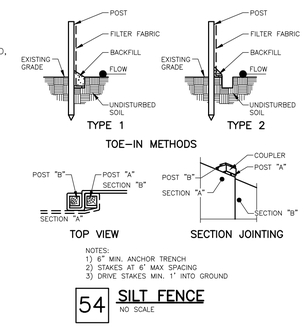
## TEMPORARY SEEDING GUIDE

| TYPE OF SEED | APRIL | MAY | JUNE | JULY | AUG. | SEPT. | OCT. | *RATE OF APPLICATION PER/1000 S.F. | *RATE OF APPLICATION PER ACRE |
|---|---|---|---|---|---|---|---|---|---|
| SPRING OATS/BARLEY OR DOMESTIC RYEGRASS | | | | | 4th | | | 2 LBS.<br>1/2 LB. | 3 BU.<br>20-25 LBS. |
| SUDANGRASS | | | | | | | | 1 LB. | 30-40 LBS. |
| RYE OR PERENNAL RYE | | | | | | | 4th | 3 LB.<br>1/2 LB. | 2-3 BU.<br>20-25 LBS. |
| WHEAT | | | | | | 4th | | 3 LBS. | 2-3 BU. |

## SOIL EROSION CONTROL MEASURES

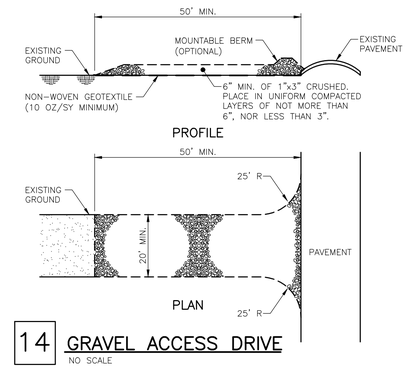
REFERENCE: MICHIGAN UNIFIED KEYING SYSTEM FOR EROSION AND SEDIMENT CONTROL MEASURES

| | | |
|---|---|---|
| 2 | SELECTIVE GRADING & SHAPING | WATER CAN BE DIVERTED TO MINIMIZE EROSION<br>FLATTER SLOPES EASE EROSION PROBLEMS |
| 5 | SEEDING | INEXPENSIVE AND VERY EFFECTIVE<br>STABILIZES SOIL, THUS MINIMIZING EROSION<br>PERMITS RUNOFF TO INFILTRATE SOIL, REDUCING RUNOFF VOLUME<br>SHOULD INCLUDE PREPARED TOPSOIL BED |
| 14 | AGGREGATE COVER | STABILIZES SOIL SURFACES, THUS MINIMIZING EROSION<br>PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER<br>MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS |
| 40 | FILTER BAG | SILTSACK (TERRAFIX OR OTHERWISE APPROVED EQUAL)<br>FILTER BAG<br>FILTERS SEDIMENT FROM RUNOFF |
| 54 | SILT FENCE | USES GEOTEXTILE FABRIC AND POSTS OR POLES.<br>EASY TO CONSTRUCT AND LOCATE AS NECESSARY. |

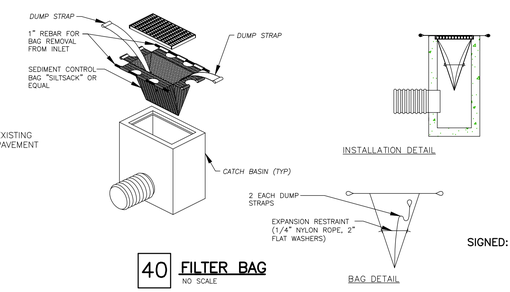



NOTES:
1) 6" MIN. ANCHOR TRENCH
2) STAKES AT 6' MAX SPACING
3) DRIVE STAKES MIN. 1' INTO GROUND

54 SILT FENCE
NO SCALE




14 GRAVEL ACCESS DRIVE
NO SCALE




40 FILTER BAG
NO SCALE

## SOIL CONDITIONS

USDA NRCS
WEB SOIL SURVEY
KENT COUNTY, MICHIGAN (MI081)

25B: OAKVILLE FINE SAND, 0 TO 6 PERCENT SLOPES
76: UDIPSAMMENTS, NEARLY LEVEL TO STEEP

SIGNED: _____

ANDREW ANDRE, P.E.
MICHIGAN PROFESSIONAL ENGINEER 47380
BUD DESIGN & ENGINEERING SERVICES, INC.

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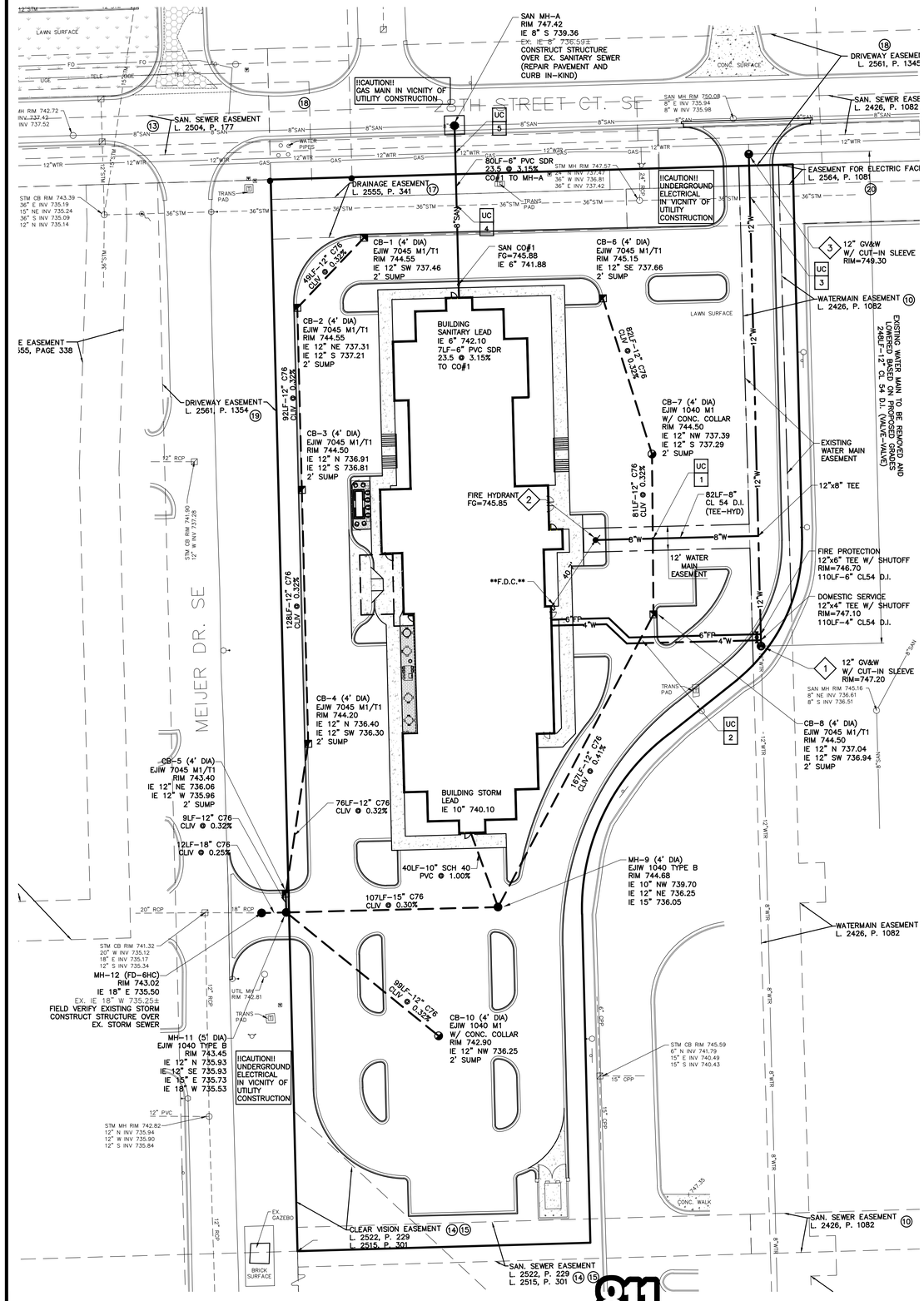


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0' 30' 60' 90'
SCALE: 1" = 30'

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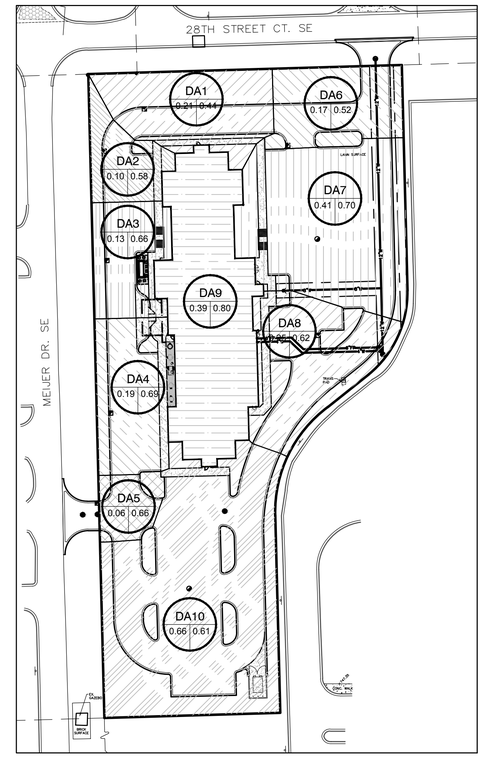



## DRAINAGE AREAS

SCALE: 1" = 60'

## DRAINAGE AREA KEY

### STORM MANAGEMENT

1. KENT COUNTY DRAIN COMMISSIONER'S OFFICE REVIEWED STORM MANAGEMENT SYSTEM AND BRAD BOOMSTRA, P.E. ACKNOWLEDGED IN AN EMAIL DATED AUGUST 17, 2016 THAT THE SITE IS WITHIN THE REGIONAL DETENTION AREA AND NO ON-SITE DETENTION IS REQUIRED.
2. THE FIRST DEFENSE FD-6HC STORM TREATMENT UNIT TO SATISFY THE REQUIREMENTS OF THE TOWNSHIP STORMWATER ORDINANCE.

## DRAINAGE AREAS

| Drainage Area | Area Total (S.F.) | Pervious Area (S.F.) | Impervious Area (S.F.) | C Perv | C Imperv. | Area Total (acres) | Cw |
|---|---|---|---|---|---|---|---|
| DA1 | 8948.75 | 5329.52 | 3619.23 | 0.20 | 0.80 | 0.21 | 0.44 |
| DA2 | 4150.78 | 1553.55 | 2597.23 | 0.20 | 0.80 | 0.10 | 0.58 |
| DA3 | 5871.77 | 1412.31 | 4459.46 | 0.20 | 0.80 | 0.13 | 0.66 |
| DA4 | 8203.64 | 1479.42 | 6724.22 | 0.20 | 0.80 | 0.19 | 0.69 |
| DA5 | 2746.66 | 660.72 | 2085.94 | 0.20 | 0.80 | 0.06 | 0.66 |
| DA6 | 7418.15 | 3417.23 | 4000.92 | 0.20 | 0.80 | 0.17 | 0.52 |
| DA7 | 17975.38 | 3113.83 | 14861.55 | 0.20 | 0.80 | 0.41 | 0.70 |
| DA8 | 10715.73 | 3229.62 | 7486.11 | 0.20 | 0.80 | 0.25 | 0.62 |
| DA9 | 17019.31 | 0.00 | 17019.31 | 0.20 | 0.80 | 0.39 | 0.80 |
| DA10 | 28943.15 | 9376.20 | 19566.95 | 0.20 | 0.80 | 0.66 | 0.61 |
| | | | | | Total | ***2.57*** | ***0.64*** |

## STORM SEWER CALCULATIONS

$Q_R = C * I * A$

$Q_P = A \times 1.486/n \times R^{2/3} \times S^{1/2}$

$I = 175/(t+25)$ for **10 year storm event**

(C imp = 0.80 / Cperv = 0.20)

| AREA NO. | FROM MH/CB | TO MH/CB | AREA A acres | COEFF. C * | | A x C | AREA TOTAL At acres | COEFF. Wt Cw | | At x Cw | TIME $t_C$ min. | INT. I in/hr | n | FLOW $Q_R$ Q=CIA c.f.s. | PIPE CAP. $Q_P$ c.f.s. | PIPE LENGTH ft. | PIPE DIA. in. | PIPE SLOPE % | VEL. FULL ft/sec | TIME FLOW min. | RIM ELEV HIGH ft. | RIM ELEV LOW ft. | H.G.L. HIGH END HGL | H.G.L. LOW END HGL | INVERT ELEV. HIGH END INV | INVERT ELEV. LOW END INV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DA1 | 1 | 2 | 0.21 | 0.44 | 0.09 | 0.21 | 0.44 | 0.09 | | 15.00 | 4.38 | 0.013 | | 0.40 | 2.02 | 49 | 12 | 0.32% | 2.57 | 0.32 | 744.55 | 744.55 | 739.30 | 739.09 | 737.46 | 737.31 |
| DA2 | 2 | 3 | 0.10 | 0.58 | 0.05 | 0.30 | 0.48 | 0.15 | | 15.32 | 4.34 | 0.013 | | 0.63 | 2.02 | 92 | 12 | 0.32% | 2.57 | 0.60 | 744.55 | 744.50 | 738.99 | 738.61 | 737.21 | 736.91 |
| DA3 | 3 | 4 | 0.13 | 0.66 | 0.09 | 0.44 | 0.54 | 0.23 | | 15.92 | 4.28 | 0.013 | | 1.00 | 2.02 | 128 | 12 | 0.32% | 2.57 | 0.83 | 744.50 | 744.20 | 738.51 | 737.99 | 736.81 | 736.40 |
| DA4 | 4 | 5 | 0.19 | 0.69 | 0.13 | 0.62 | 0.58 | 0.36 | | 16.75 | 4.19 | 0.013 | | 1.53 | 2.02 | 76 | 12 | 0.32% | 2.57 | 0.49 | 744.20 | 743.40 | 737.89 | 737.57 | 736.30 | 736.06 |
| DA5 | 5 | 11 | 0.06 | 0.66 | 0.04 | 0.69 | 0.59 | 0.41 | | 17.24 | 4.14 | 0.013 | | 1.68 | 2.02 | 9 | 12 | 0.32% | 2.57 | 0.06 | 743.40 | 743.45 | 737.47 | 737.44 | 735.96 | 735.93 |
| DA6 | 6 | 7 | 0.17 | 0.52 | 0.09 | 0.17 | 0.52 | 0.09 | | 15.00 | 4.38 | 0.013 | | 0.39 | 2.02 | 82 | 12 | 0.32% | 2.57 | 0.53 | 745.15 | 744.50 | 739.57 | 739.23 | 737.66 | 737.39 |
| DA7 | 7 | 8 | 0.41 | 0.70 | 0.29 | 0.58 | 0.65 | 0.38 | | 15.53 | 4.32 | 0.013 | | 1.63 | 2.02 | 81 | 12 | 0.32% | 2.57 | 0.53 | 744.50 | 744.50 | 739.13 | 738.80 | 737.29 | 737.04 |
| DA8 | 8 | 9 | 0.25 | 0.62 | 0.15 | 0.83 | 0.64 | 0.53 | | 16.06 | 4.26 | 0.013 | | 2.25 | 2.28 | 167 | 12 | 0.41% | 2.90 | 0.96 | 744.50 | 744.68 | 738.70 | 737.83 | 736.94 | 736.25 |
| DA9 | 9 | 11 | 0.39 | 0.80 | 0.31 | 1.22 | 0.69 | 0.84 | | 17.02 | 4.16 | 0.013 | | 3.50 | 3.54 | 107 | 15 | 0.30% | 2.88 | 0.62 | 744.68 | 743.45 | 737.63 | 737.24 | 736.05 | 735.73 |
| DA10 | 10 | 11 | 0.66 | 0.61 | 0.40 | 0.66 | 0.61 | 0.40 | | 15.00 | 4.38 | 0.013 | | 1.76 | 2.02 | 99 | 12 | 0.32% | 2.57 | 0.64 | 742.90 | 743.45 | 737.84 | 737.44 | 736.25 | 735.93 |
| DA6 | 11 | 12 | 0.00 | 0.00 | 0.00 | 1.91 | 0.65 | 1.25 | | 17.30 | 4.14 | 0.013 | | 5.16 | 5.25 | 12 | 18 | 0.25% | 2.97 | 0.07 | 743.45 | 743.02 | 737.04 | 737.00 | 735.53 | 735.50 |

### GENERAL NOTES

1. ALL WORK MUST BE DONE IN ACCORDANCE WITH CURRENT STANDARDS, SPECIFICATIONS AND GENERAL CONDITIONS OF CASCADE CHARTER TOWNSHIP.
2. SHOP DRAWINGS SHALL BE SUBMITTED BY THE UNDERGROUND CONTRACTOR FOR ALL SANITARY, WATER AND STORM INSTALLATION.
3. CONTRACTOR SHALL SUBMIT RECORD "AS-BUILT" PLANS AFTER CONSTRUCTION.
4. MAINTAIN A MINIMUM HORIZONTAL SEPARATION BETWEEN WATER SERVICE AND ANY OTHER UTILITY OF 10-FEET. THE MINIMUM VERTICAL CLEARANCE BETWEEN A WATER MAIN AND A SEWER SHALL BE 18-INCHES.
5. NO GROUNDWATER, STORM WATER, CONSTRUCTION WATER, DOWNSPOUT DRAINAGE OR WEEP TILE DRAINAGE SHALL BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
6. REFER TO PLUMBING PLANS TO VERIFY BUILDING UTILITY CONNECTION LOCATIONS. SITE UTILITY LOCATIONS TO TERMINATE 5' OUTSIDE OF BUILDING.
7. SANITARY CLEANOUT ASSEMBLIES TO BE ZURN 1402-HD, OR OTHERWISE APPROVED EQUAL.
8. THE LOCATION AND SIZE OF THE FRANCHISE UTILITY SERVICES SHALL BE DESIGNED AND INSTALLED BY THE UTILITY COMPANY.
9. MAINTAIN 6' MIN. DEPTH OF BURY TO FINISHED GRADE FOR WATER MAIN AND WATER SERVICE.
10. CONTRACTOR RESPONSIBLE FOR ALL REPAIRS TO EXISTING ROADWAYS AS A RESULT OF CONSTRUCTION ACTIVITIES.
11. CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND REPORT ALL FINDINGS TO THE ENGINEER.

### FIRE DEPARTMENT NOTES

1. BUILDING ADDRESS SHALL BE POSTED AND VISIBLE FROM 28TH STREET CT. SE.
2. FIRE DEPARTMENT CONNECTION SHALL BE 5-INCH STORZ WITH 30-DEGREE ELBOW.
3. "SUPRA BOX" SHALL BE PROVIDED IN LOCATION AS DIRECTED BY FIRE DEPARTMENT.

## UTILITY CROSSING SCHEDULE

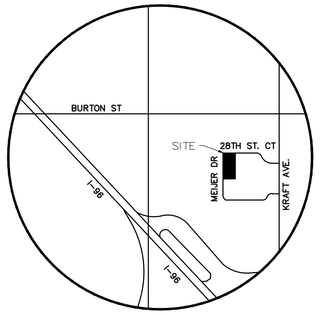
UC 1 — BOTTOM OF STORM = 736.98; TOP OF WATER = 735.48 (DEFLECT WATER MAIN); (18" MIN VERTICAL CLEARANCE)

UC 2 — BOTTOM OF STORM = 736.17; TOP OF WATER = 734.67 (DEFLECT WATER MAIN); (18" MIN VERTICAL CLEARANCE)

UC 3 — BOTTOM OF WATER = 741.39; TOP OF EX. STORM = 741.08± (VERIFY EX. CONDITIONS); (ENCASE CROSSING IN STEEL CASING)

UC 4 — BOTTOM OF SANITARY = 740.61; TOP OF EX. STORM = 739.59± (VERIFY EX. CONDITIONS); (ENCASE CROSSING IN STEEL CASING)

UC 5 — BOTTOM OF EX. WATER = 740.90± (ASSUME 6' COVER – VERIFY EX. CONDITIONS); TOP OF SANITARY = 740.48 (VERIFY EX. CONDITIONS); (ENCASE CROSSING IN STEEL CASING)




## LOCATION MAP

NOT TO SCALE

## SANITARY USE CALCULATIONS

***PROPOSED BUILDINGS***

| USAGE | AREA | | UNIT FACTOR | R.E.U. |
|---|---|---|---|---|
| Hotel | 102 | rooms | 0.25 units per room | 25.50 |
| Pool | 544 | sf | 3 units / 1000 sf | 1.63 |
| | | | | 25.50 |
| | | | Rounded= | *26.00* |

| | | | | |
|---|---|---|---|---|
| *POPULATION EQUIVALENT* = | 3.5 | Persons per R.E.U. | | |
| *POPULATION* = | 91.0 | Persons | | |
| *AVERAGE FLOW RATE* = | 100 | Gallons per capita per day | | |
| *AVERAGE FLOW* = | 9,100.00 | GPD | | |
| *PEAK FACTOR* = | 18 + SQRT(P) / 4 + SQRT (P) | = | 4.25 | |
| *PEAK FLOW* = | 38,716.46 GPD | = 0.058 CFS | 8"@3.15%(cfs) = | 2.79 |

## WATER MAIN BASIS OF DESIGN

***PROPOSED BUILDINGS***

| USAGE | AREA | | UNIT FACTOR | R.E.U. |
|---|---|---|---|---|
| Hotel | 102 | rooms | 0.25 units per room | 25.50 |
| Pool | 544 | sf | 3 units / 1000 sf | 1.63 |
| | | | | 25.50 |
| | | | Rounded= | *26.00* |

| | | | | |
|---|---|---|---|---|
| *POPULATION EQUIVALENT* = | 3.5 | Persons per R.E.U. | | |
| *POPULATION* = | 91.0 | Persons | | |
| *AVERAGE FLOW RATE* = | 100 | Gallons per capita per day | | |
| *AVERAGE FLOW* = | 9,100.00 | GPD | = 0.0091 MGD | |
| *PEAK FACTOR* = | 18 + SQRT(P) / 4 + SQRT (P) | = | 4.25 | |
| *PEAK FLOW* = | 38,716.46 GPD | = 0.038716 MGD | | |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# TOWNEPLACE SUITES
## CASCADE TWP, KENT CO, MI


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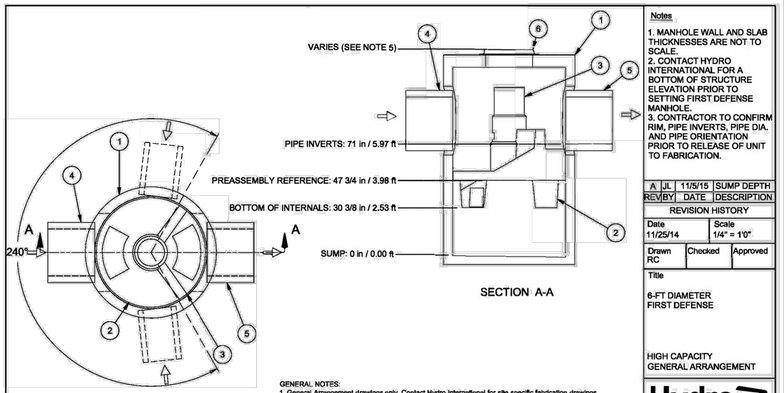
| ISSUED FOR | DATE |
|---|---|
| SPA | 08/17/16 |

DATE :
DRAWN : JDT
CHECKED : ACA
SCALE : 1"=30'
JOB NO : BD-15-338
SHEET TITLE :
**UTILITY PLAN**

SHEET

C5.0




SECTION A-A

**Notes**

1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.
3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

| REV BY | DATE | DESCRIPTION |
|---|---|---|
| A JL | 11/5/15 | SUMP DEPTH |

REVISION HISTORY

| Date | Scale |
|---|---|
| 11/25/14 | 1/4" = 1'0" |

| Drawn | Checked | Approved |
|---|---|---|
| RC | | |

Title

6-FT DIAMETER
FIRST DEFENSE

HIGH CAPACITY
GENERAL ARRANGEMENT

Hydro International

Stormwater Solutions
94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
stormwaterinquiry@hydro-int.com

GENERAL NOTES:
1. General Arrangement drawings only. Contact Hydro International for site specific fabrication drawings.
2. The maximum diameter of the inlet & outlet pipes is 30". For pipes larger than 30", please contact Hydro International for additional design assistance.
3. Multiple inlet pipes possible (refer to project plans).
4. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plans).
5. Peak flow rate and minimum height limited by available cover and pipe diameter.
6. Larger sediment storage capacity may be provided with a deeper sump depth.

PRODUCT SPECIFICATIONS:
A. The treatment system shall use an induced vortex to separate pollutants from stormwater runoff.
B. The treatment system shall fit within the limits of excavation (area and depth) as shown in the project plans and will not exceed the dimensions for the design flow rates specified herein.
C. The treatment system shall remove greater than or equal to 80% of TSS based on the Target Particle Size (TPS) of 106 microns and/or 80% of TSS based on the TPS of 230 microns at 2.2 cfs and 3.6 cfs, respectively.
D. The treatment system shall convey the Peak On-line Flow Rates of up to 32 cfs without causing upstream surcharge conditions. Full-scale independent laboratory scour testing shall demonstrate effluent control of less than or equal to 5 mg/l. for all flows up to 200% of MTFR-106.
E. The treatment system shall be capable of capturing and retaining fine silt and sand size particles. Analysis of captured sediment from full-scale field installations shall demonstrate particle sizes predominately in the 20-micron range.

Parts List

| ITEM | SIZE (in) | DESCRIPTION |
|---|---|---|
| 1 | 72 | I.D. PRECAST MANHOLE |
| 2 | | LEDGER SUPPORT |
| 3 | | SEPARATION MODULE |
| 4 | 30 | INLET PIPE (BY OTHERS) |
| 5 | 30 | OUTLET PIPE (BY OTHERS) |
| 6 | 30 | FRAME AND COVER (OR GRATE) (ROUND) |

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| | |
|---|---|
| CAD Ref: | FGHC-MAX |
| Project No. | xx-xxxx |
| Drawing No. | FGHCS1 Rev. A |

Hydro International

# First Defense®

Cost-effective stormwater treatment with adaptability to meet demanding site requirements

## Product Profile

The First Defense® is an enhanced vortex separator that combines an effective and economical stormwater treatment chamber with an integral peak flow bypass. It efficiently removes sediment total suspended solids (TSS), trash and hydrocarbons from stormwater runoff without washing out previously captured pollutants. The First Defense® is available in several model configurations to accommodate a wide range of pipe sizes, peak flows and depth constraints (Table 1, next page).

## Components

1. Inlet Grate (optional)
2. Inlet Chute
3. Inlet Pipe (optional)
4. Floatables Draw Off Slot (not pictured)
5. Precast Vortex Chamber
6. Internal Bypass
7. Outlet Chute
8. Outlet Pipe
9. Oil and Floatables Storage
10. Sediment Storage Sump

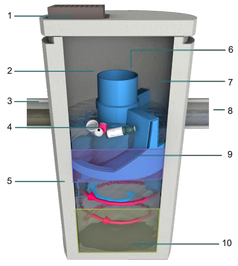


Fig.1 The First Defense® has internal components designed to efficiently capture pollutants and prevent washout at peak flows.

## Applications

- Stormwater treatment at the point of entry into the drainage line
- Sites constrained by space, topography or drainage profiles with limited slope and depth of cover
- Retrofit installations where stormwater treatment is placed on or tied into an existing storm drain line
- Pretreatment for filters, infiltration and storage

## Advantages

- Inlet options include surface grate or multiple inlet pipes
- Integral high capacity bypass conveys large peak flows without the need for "offline" arrangements using separate junction manholes
- Proven to prevent pollutant washout at up to 500% of its treatment flow
- Long flow path through the device ensures a long residence time within the treatment chamber, enhancing pollutant settling
- Delivered to site pre-assembled and ready for installation

## How it Works

The First Defense® has internal components designed to remove and retain gross debris, total suspended solids (TSS) and hydrocarbons (Fig.1).

Contaminated stormwater runoff enters the inlet chute from a surface grate and/or inlet pipe. The inlet chute introduces flow into the chamber tangentially to create a low energy vortex flow regime (magenta arrow) that directs sediment into the sump while oils, floating trash and debris rise to the surface.

Treated stormwater exits through a submerged outlet chute located opposite to the direction of the rotating flow (blue arrow). Enhanced vortex separation is provided by forcing the rotating flow within the vessel to follow the longest path possible rather than directly from inlet to outlet.

Higher flows bypass the treatment chamber to prevent turbulence and washout of captured pollutants. An integral bypass conveys infrequent peak flows directly to the outlet chute, eliminating the need for, and expense of, external bypass control structures. A floatables draw off slot functions to convey floatables into the treatment chamber prior to bypass.

**Stormwater Solutions**
Turning Water Around...®

# First Defense®

## Maintenance

The First Defense® needs minimal maintenance, but like all structural best management practices maintenance is necessary for the long-term protection of the environment.

Sediments captured by the First Defense® are stored in the sump; floatable trash and hydrocarbons are stored on the surface of the standing water. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables (Fig.2).

More information can be found in the First Defense® Operation and Maintenance Manual, available at http://www.hydro-int.com/us/products/first-defense.

Fig.2 Maintenance is performed with a vactor truck.

## First Defense® Sizing & Design

**Design Options for Inlet and Internal Bypass Arrangements**

For maximum flexibility the First Defense® inlet and internal bypass arrangements are available in two configurations (Fig.3a & 3b). Model parameters and design criteria are shown in Table 1.

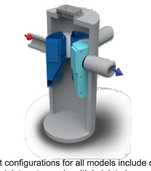

Fig.3a Inlet configurations for all models include options for inlet grates and multiple inlet pipes.

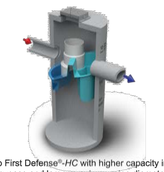

Fig.3b First Defense®-*HC* with higher capacity internal bypass and larger maximum pipe diameter.

Table 1. First Defense® Models and Design Criteria.

| First Defense® Model Number | Diameter | Typical Flow Rates for TSS Treatment | | Peak Online Flow Rate | Maximum Pipe Diameter[1] | Oil Storage Capacity | Typical Sediment Storage Capacity[2] | Minimum Distance from Outlet Invert to Top of Rim[3] | Standard Distance from Outlet Invert to Sump Floor |
|---|---|---|---|---|---|---|---|---|---|
| | | 106µm | 230µm | | | | | | |
| | (ft / m) | (cfs / L/s) | (cfs / L/s) | (cfs / L/s) | (in / mm) | (gal / L) | ($yd^3$ / $m^3$) | (ft / m) | (ft / m) |
| FD-4 | 4 / 1.2 | 0.7 / 20 | 1.2 / 34 | 6 / 170 | 18 / 450 | 180 / 681 | 1.3 / 1.0 | 3.1 / 1.1 | 5.47 / 1.7 |
| FD-4HC | | | | 18 / 510 | 24 / 600 | 191 / 723 | | 2.3 - 3.9 / 0.7 - 1.2 | |
| FD-6 | 6 / 1.8 | 2.2 / 63 | 3.8 / 108 | 18 / 510 | 24 / 600 | 420 / 1,590 | 3.3 / 2.5 | 4.0 / 1.2 | 6.52 / 2.0 |
| FD-6HC | | | | 32 / 906 | 30 / 750 | 496 / 1,878 | | 3.0 - 5.1 / 0.9 - 1.6 | |

[1]Contact Hydro International when larger pipe sizes are required.

[2]Contact Hydro International when custom sediment storage capacity is required.

[3]The minimum distance for the 4HC and 6HC models depends on pipe diameter.

Hydro International, 94 Hutchins Drive, Portland, ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212
Email: stormwaterinquiry@hydro-int.com Web: www.hydro-int.com

**Stormwater Solutions**
Turning Water Around...®
FDSS1502/F

## WORKSHEET - GRAPHICAL PEAK METHOD
## MDEQ STORMWATER MANAGEMENT GUIDEBOOK

| | | | | | |
|---|---|---|---|---|---|
| Project: | TownePlace Suites | By: | BDE | Date: | 8/16/2016 |
| Location: | Cascade Township | Chk: | ACA | Date: | 8/16/2016 |

1. Pertinent Data:

| | | |
|---|---|---|
| Drainage Area: | A = | 0.0040 square miles |
| Runoff Curve Number: | RCN = | 89 |
| Time of Concentration: | Tc = | 0.29 hr |
| Pond and Swamp Areas: | | 0 percent |

| | |
|---|---|
| 2. Frequency | 2-year, 24-hour |
| 3. Rainfall, P (24-hour), Appendix C | 2.69 inches |
| 4. Initial Abstration, Ia, Table 7.6 | 0.247 |
| 5. Compute Ia / P | 0.091822 |
| 6. Unit peak discharge, qu, Figure 7.10 | 750 (Interpolated) |
| 7. Runoff, Ro | 0.9 |
| 8. Pond and swamp adjustment factor, FP (Use table 7.5) | 1 |
| 9. Peak Discharge, qp (Where qp = qu * A * Ro * Fp) | **2.71 cfs** |

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# TOWNEPLACE SUITES
# CASCADE TWP, KENT CO, MI

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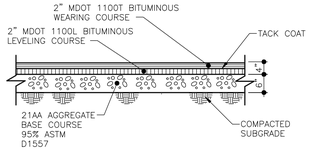
| ISSUED FOR | DATE |
|---|---|
| SPA | 08/17/16 |

DATE :
DRAWN : JDT
CHECKED : ACA
SCALE : AS NOTED
JOB NO : BD-15-338
SHEET TITLE :
**STORM MANAGEMENT PLAN**

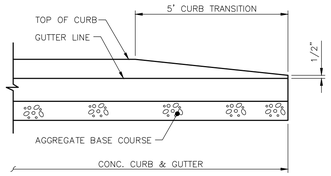
SHEET

C5.1

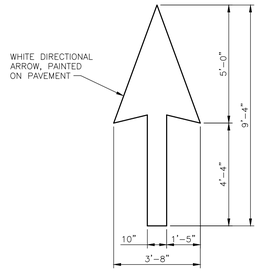



NOTE: A GEOTECHNICAL REPORT WITH PAVEMENT DESIGN RECOMMENDATIONS WAS NOT AVAILABLE, THEREFORE THE PAVEMENT SECTION REPRESENTS THE MINIMUM STANDARDS RECOMMENDED.

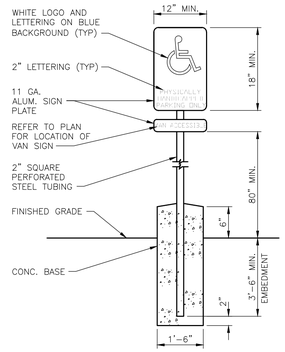
## BITUMINOUS PAVEMENT
NO SCALE



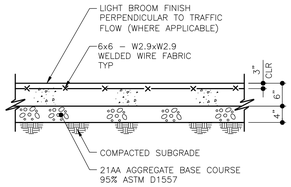

## TYPICAL CURB END TRANSITION
NO SCALE




## STRAIGHT DIRECTIONAL ARROW
NO SCALE



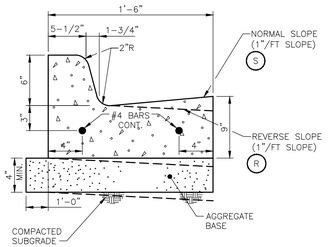

## TYPICAL HANDICAP SIGN
NO SCALE



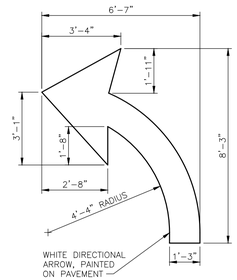

NOTE: A GEOTECHNICAL REPORT WITH PAVEMENT DESIGN RECOMMENDATIONS WAS NOT AVAILABLE, THEREFORE THE PAVEMENT SECTION REPRESENTS THE MINIMUM STANDARDS RECOMMENDED.

CONCRETE SHALL BE 3500 PSI

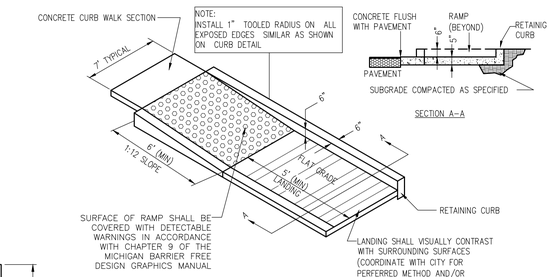
## CONCRETE PAVEMENT
NO SCALE



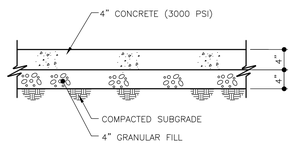

## CONC. CURB & GUTTER
NO SCALE




## TURN DIRECTIONAL ARROW
NO SCALE

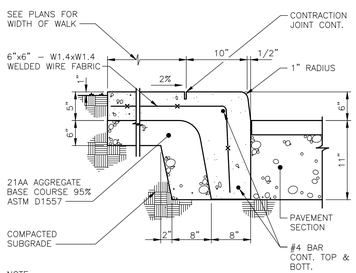



## BARRIER FREE RAMP
NO SCALE



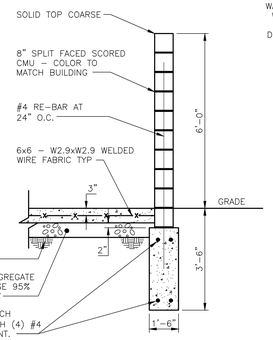

NOTE:
CONTRACTION JOINT SHALL BE 1/4"x2 3/4" DEEP, SPACED AT 5'–0" INTERVALS. EXPANSION JOINTS SHALL BE 1/2" PREMOLDED FILLER, SPACED AT A MAXIMUM 30' APART. EXPANSION JOINTS TO BE PLACED BETWEEN NEW AND EXISTING CONCRETE.

## CONCRETE WALK
NO SCALE

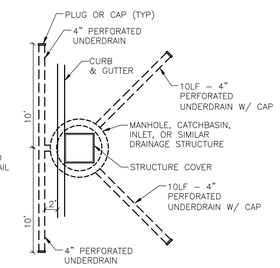



NOTE:
WHERE WALK DOES NOT ABUTT ASPHALT PAVEMENT, EXTEND THICKNESS FOR REQUIRED WIDTH AND OMIT CURB PORTION. CONTRACTION JOINTS TO BE 2 1/2" DEEP, SPACED AT 5' INTERVALS (TOOLED). EXPANSION JOINTS TO BE 1/2 " PREMOLDED FILLER, SPACED A MAXIMUM OF 30' APART.

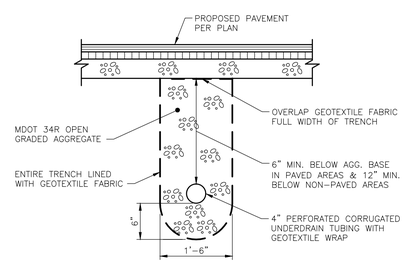
## CONCRETE CURB WALK
NO SCALE



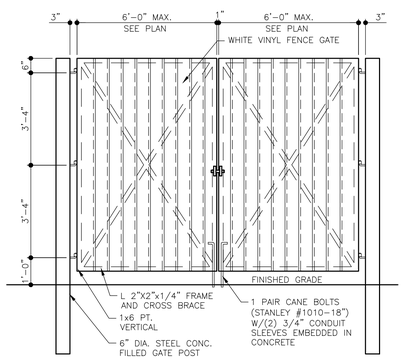

## DUMPSTER WALL
NO SCALE



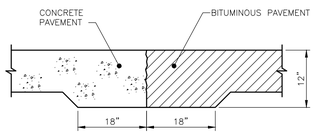

## TYP CURB CATCH BASIN UNDERDRAIN
NO SCALE



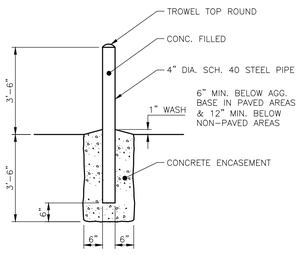

## UNDERDRAIN
NO SCALE



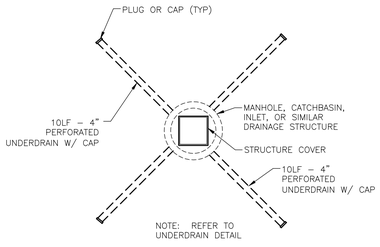

## DUMPSTER GATE DETAIL
NO SCALE




## TURNDOWN PAVEMENT SECTION
NO SCALE




## BOLLARD
NO SCALE




## TYP CURB CATCH BASIN UNDERDRAIN
NO SCALE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# TOWNEPLACE SUITES
# CASCADE TWP, KENT CO, MI


THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, SITE CONDITIONS, PLANS, SPECIFICATIONS, ORDINANCES, CODES, AND REGULATIONS PRIOR TO CONSTRUCTION. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR CHANGES AND ERRORS AND/OR OMISSIONS IN THE CONSTRUCTION DOCUMENTS UNLESS THE ARCHITECT IS NOTIFIED IMMEDIATELY. ALL DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS PREPARED BY THE ARCHITECT ARE THE PROPERTY OF THE ARCHITECT AND MUST BE RETURNED UPON REQUEST. ©2016 COPYRIGHT BUD DESIGN AND ENGINEERING SVC, INC. ALL RIGHTS RESERVED


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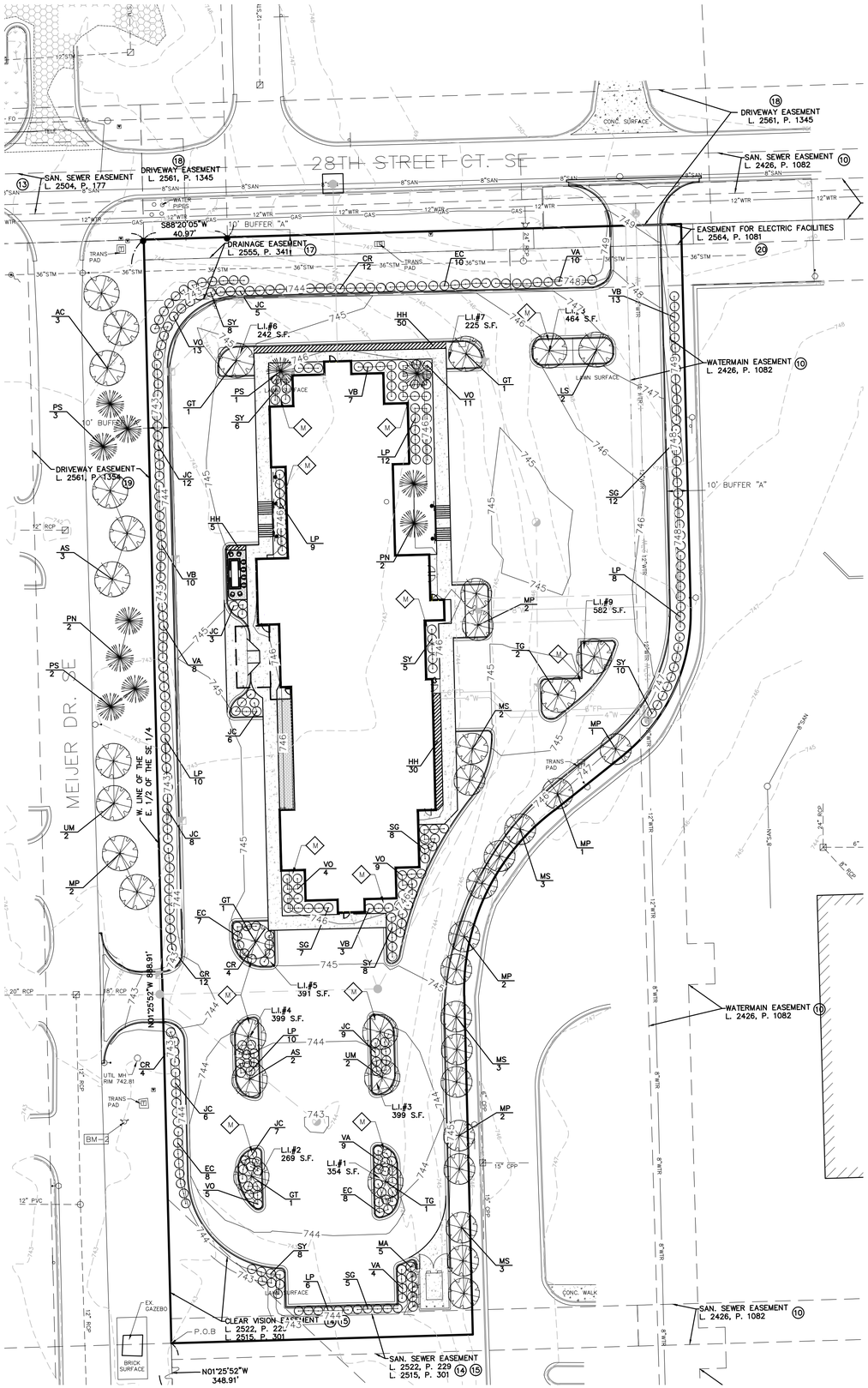
| SPA | 08/17/16 |

DATE :
DRAWN : JDT
CHECKED : ACA
SCALE : NTS
JOB NO : BD-15-338
SHEET TITLE :
**SITE DETAILS**

SHEET
C6.0




## GENERAL NOTES

1. CONTRACTOR TO PROVIDE DESIGN AND INSTALLATION OF UNDERGROUND IRRIGATION SYSTEM IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND REGULATORY AGENCY REQUIREMENTS. ALL LANDSCAPING AND GRASS AREAS TO BE IRRIGATED. IRRIGATION CONTROL PANEL SHALL BE LOCATED WITHIN THE HVAC ENCLOSURE.
2. ALL GREEN SPACES AND PLANTING AREAS SHALL BE IRRIGATED.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE ALL PERMITS AND POST ALL BONDS PRIOR TO CONSTRUCTION.
4. REFER TO PLUMBING PLANS FOR LOCATION OF IRRIGATION METER.
5. ALL GRASS/LAWN AREAS SHALL BE SOD OVER 4-INCHES OF TOPSOIL.
6. SPACE ALL SHRUBS AT 5-FEET ON CENTER UNLESS OTHERWISE INDICATED ON THE PLANS
7. ALL DISTURBED LAWN AREAS SHALL BE RESTORED TO AT LEAST PREVIOUS CONDITION IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
8. THE GENERAL CONTRACTOR SHALL INCLUDE TOPSOIL IN BASE BID. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE AMOUNT OF TOPSOIL AVAILABLE ON-SITE.

## INTERIOR LANDSCAPING

REQUIRED
30 S.F. PER PARKING SPACE
PARKING SPACES = 104
REQUIRED = 103 * 30 = 3,090 S.F.

PROVIDED
PROVIDED = 3,325 S.F.

## KEY NOTES

M — MULCH (SHREDDED BARK) 5" DEPTH

S — 4" STEEL EDGING

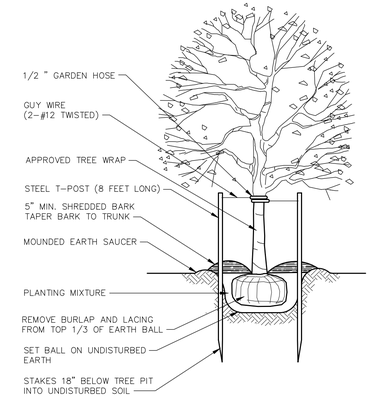
## BUFFER LANDSCAPING

WEST SIDE - BUFFERYARD "A"
BUFFER LENGTH = 540.00'
REQUIREMENT
MIN. WIDTH = 10'
CANOPY TREE = 1 / 100LF
UNDERSTORY TREE = 2 / 100LF
SHRUBS = N/A
EVERGREEN = N/A
REQUIREMENT
CANOPY = 540.00 / 100 = 5.4 = 6
UNDERSTORY = 2(540.00 / 100) = 10.8 = 11
PROVIDED
CANOPY = 10
UNDERSTORY = 7

NORTH SIDE - BUFFERYARD "A"
BUFFER LENGTH = 263.00'
REQUIREMENT
MIN. WIDTH = 10'
CANOPY TREE = 1 / 100LF
UNDERSTORY TREE = 2 / 100LF
SHRUBS = N/A
EVERGREEN = N/A
REQUIREMENT
CANOPY = 263.00 / 100 = 2.6 = 3
UNDERSTORY = 2(263.00 / 100) = 5.2 = 6
PROVIDED
CANOPY = 0
UNDERSTORY = 0

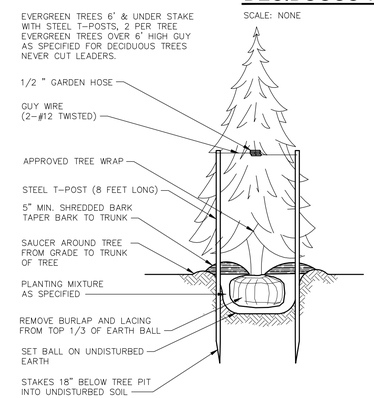
EAST SIDE - BUFFERYARD "A"
BUFFER LENGTH = 583.84'
REQUIREMENT
MIN. WIDTH = 10'
CANOPY TREE = 1 / 100LF
UNDERSTORY TREE = 2 / 100LF
SHRUBS = N/A
EVERGREEN = N/A
REQUIREMENT
CANOPY = 583.84 / 100 = 5.8 = 6
UNDERSTORY = 2(583.84 / 100) = 11.6 = 12
PROVIDED
CANOPY = 0
UNDERSTORY = 15

SOUTH SIDE - BUFFERYARD "A"
BUFFER LENGTH = 147.53'
REQUIREMENT
MIN. WIDTH = 10'
CANOPY TREE = 1 / 100LF
UNDERSTORY TREE = 2 / 100LF
SHRUBS = N/A
EVERGREEN = N/A
REQUIREMENT
CANOPY = 147.53 / 100 = 1.5 = 2
UNDERSTORY = 2(147.53 / 100) = 3
PROVIDED
CANOPY = 0
UNDERSTORY = 0




## DECIDUOUS TREE PLANTING

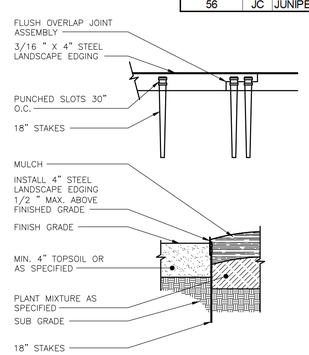
SCALE: NONE




## EVERGREEN TREE PLANTING

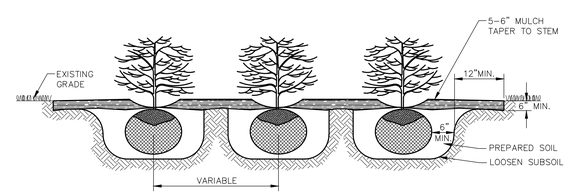
SCALE: NONE

| QUANTITY | KEY | BOTANICAL NAME | COMMON NAME | SIZE |
|---|---|---|---|---|
| 85 | HH | HEMERCALUS HYPERION | HYPERION DAYLILY | 2YD #2 CONT |
| 4 | GT | GLEDITSIA T.I. 'SKYLINE' | SKYLINE HONEYLOCUST | 2-1/2" B&B |
| 3 | TG | TILIA CORDATA 'GREENSPIRE' | GREEN MOUNTAIN LINDEN | 2-1/2" B&B |
| 4 | UM | ULMUS AMERICANA 'VALLEY FORGE' | VALLEY FORGE AMERICAN ELM | 2-1/2" B&B |
| 2 | LS | LIQUIDAMBAR STYRACIFLUA | AMERICAN SWEETGUM | 2-1/2" B&B |
| 5 | AS | ACER SACCHARUM 'GREEN MOUNTAIN' | GREEN MOUNTAIN SUGER MAPLE | 2-1/2" B&B |
| 11 | MS | MALUS 'SNOWDRIFT' | SNOWDRIFT CRABAPPLE | 2" B&B |
| 10 | MP | MALUS 'PRAIREFIRE' | PRAIRIFIRE CRABAPPLE | 2" B&B |
| 3 | AC | AMELANCHIER CANADENSIS | SHADBLOW SERVICEBERRY | 2" B&B |
| 5 | MA | THUJA OCCIDENTALIS 'TECHNY' | MISSION ARBORVITAE | 4' HT |
| 5 | PN | PINUS NIGRA | AUSTRIAN PINE | 6' HT |
| 6 | PS | PICEA OMORIKA | SERBIAN SPRUCE | 6' HT |
| 42 | VO | VIBURNUM OPULUS 'COMPACTUM' | COMPACT EUROPEAN CRANBERRY BUSH | 24" B&B |
| 31 | VA | VIBURNUM DENTATUM | ARROWWOOD VIBURNUM | 24" B&B |
| 33 | VB | VIBURNUM DENTATUM 'BLUE MUFFIN' | BLUE MUFFIN ARROWWOOD VIBURNUM | 24" B&B |
| 55 | LP | SPIRAEA JAPONICA 'LITTLE PRINCESS' | LITTLE PRINCESS SPIRAEA | 24" B&B |
| 32 | SG | SPIRAEA JAPONICA 'GOLDFLAME' | GOLDFLAME SPIRAEA | 24" B&B |
| 33 | EC | EUONYMUS ALATUS 'COMPACTUM' | DWARF BURNING BUSH | 24" B&B |
| 32 | CR | CORNUS SERICEA 'STOLONIFERA' | RED OSIER DOGWOOD | 24" B&B |
| 45 | SY | TAXUS X.MEDIA 'SEBIAN' | SEBIAN YEW | 24" B&B |
| 56 | JC | JUNIPERUS C. 'SEAGREEN' | SEA GREEN JUNIPER | 24" B&B |




## 4" STEEL LANDSCAPE EDGE

NO SCALE




-FIRST AND SECOND WATERING AND CULTIVATION SHALL INCLUDE SHRUB BEDS.
-CUT 6" X 12" (MIN.) EDGING AROUND THE PERIMETER OF ALL SHRUB BEDS SHOWN ON THE PLANS. SPRAY A NON-PERSISTANT GLYPHOSATE HERBICIDE TO ENTIRE SHRUB BEDS PRIOR TO PLANTING AND BARK PLACEMENT.
-SHRUB BEDS ARE TO BE PAID FOR BY THE PAY ITEM 'SITE PREPARATION'.
-ALL PLANTS SHALL BE SET PLUMB AND HAVE THE BEST SIDE OF PLANT FACING THE MAIN VIEWING DIRECTION.

## SHRUB BED DETAIL

SCALE: NONE

## DESCRIPTION

THIS WORK SHALL CONSIST OF PROVIDING ALL NECESSARY MATERIALS, LABOR, EQUIPMENT, TOOLS AND SUPERVISION REQUIRED FOR THE EXECUTION AND GUARANTEE OF ALL PLANTINGS AND RELATED WORK AS SHOWN ON THE DRAWINGS.

PLANT MATERIALS SHALL CONFORM TO THE SIZES STATED ON THE PLANT LIST AND SHALL BE OF A MINIMUM SIZE OR LARGER. ALL MEASUREMENTS OF SPREAD, CALIPER, BALL SIZE, TRUNK CROWN RATIO, QUALITY DESIGNATIONS, ETC., SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "ANSI STANDARDS FOR NURSERY STOCK". PLANT MATERIAL SHALL BE NURSERY GROWN AND INSPECTED BY THE OWNER'S REPRESENTATIVE AT THE SITE PRIOR TO PLANTING. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL AT ANY TIME.

NURSERY STOCK SHALL BE PREPARED FOR SHIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT ANSI SPECIFICATION Z60.1 AND SHALL BE ENCLOSED OR COVERED DURING TRANSPORTATION TO PREVENT DRYING.

## SITE PREPARATION

THE CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND PROTECT AND REPAIR UTILITIES ENCOUNTERED DURING CONSTRUCTION WHETHER SHOWN ON THE PLANS OR NOT.

INDIVIDUAL HOLES SHALL BE CENTERED AT STAKED PLANT LOCATIONS. CONTRACTOR IS TO STAKE PRIOR TO PLACEMENT OF PLANT MATERIAL AND OBTAIN APPROVAL FROM THE OWNER'S REPRESENTATIVE. PLANTING HOLES SHALL BE DUG LARGE ENOUGH TO PERMIT PLACING PREPARED TOPSOIL 18" LATERALLY BEYOND THE ENDS OF THE ROOT BALLS FOR SHADE AND EVERGREEN TREES AND 6" LATERALLY FOR SHRUBS UNLESS OTHERWISE SPECIFIED.

EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE AT THE TIME THE HOLE IS DUG. THE PLANTING HOLE SHALL BE BACKFILLED WITH PREPARED TOPSOIL THE SAME DAY THEY ARE DUG.

TOPSOIL SHALL AT FERTILE, FRIABLE NATURAL TOPSOIL OF CLAY LOAM CHARACTER CONTAINING AT LEAST 5% BUT NOT MORE THAN 20% BY WEIGHT OF ORGANIC MATTER WITH A PH RANGE FROM 6.0 TO 7.0. TOPSOIL SHALL BE FREE OF CLAY LUMPS, COURSE SAND, STONES, PLANT ROOTS, STICKS OR OTHER FOREIGN MATTER.

## CARE FOR PLANTS BEFORE PLANTING

PLANTS DESIGNATED "BB" SHALL BE BALLED AND BURLAPPED WITH FIRM NATURAL BALLS OF EARTH. CRACKED, LOOSENED OR BROKEN BALLS SHALL NOT BE PLANTED. THEY SHALL BE MARKED WITH SPRAY PAIN AND IMMEDIATELY REMOVED FROM THE JOB SITE. IMMEDIATELY FOLLOWING DELIVERY AT THE JOB SITE, ALL PLANTS THAT WILL NOT BE PLANTED THAT SAME DAY SHALL BE "HEELED IN" WITH SHREDDED BARK OR MOIST SOIL AND KEPT MOIST UNTIL PLANTED.

THE TRUNKS AND BRANCHES OF ALL TREES SHALL BE PROTECTED FROM INJURY OF ANY KIND DURING ALL OPERATIONS. THE OWNER'S REPRESENTATIVE SHALL REJECT ANY TREES THAT ARE INJURED.

## PLANTING

THE CONTRACTOR IS RESPONSIBLE FOR PLANTING MATERIALS PLUMB. SET THE TOP OF THE ROOT BALL AT OR SLIGHTLY HIGHER THAN THE SURROUNDING GRADE. PLANTS SHALL BE FACED TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO ADJACENT STRUCTURES. NO FILLING WILL BE PERMITTED AROUND TRUNK OR STEMS. WHEN THE PLANT HAS BEEN PROPERLY SET, THE HOLE SHALL BE BACKFILLED TO 1/2 THE DEPTH OF THE BALL WITH PREPARED TOPSOIL MIXTURE, FIRMLY PACKED AND WATERED-IN AT TIME OF PLANTING. LOOSED AND REMOVE BURLAP AND LACING FROM UPPER 1/3 OF THE ROOT BALL. BACKFILL WITH PREPARED TOPSOIL, WHICH AFTER COMPACTION IS FLUSH WITH THE SURROUNDING GROUND.

## MULCHING

ALL PLANT MATERIAL SHALL BE ENCIRCLED WITH A 5" MINIMUM COVERING OF NON-DYED SHREDDED BARK MULCH TO 6" OUTSIDE THE PLANTING HOLE, TAPERING MULCH TO 2" AROUND THE TRUNK OF ALL PLANTS. SUBMIT SAMPLE TO THE OWNER'S REPRESENTATIVE FOR APPROVAL BEFORE PLACEMENT. WOOD CHIPS SHALL NOT BE ALLOWED ON THIS JOB. MULCH SHALL BE TREATED WITH PRE-EMERGENT HERBICIDE.

## WRAPPING DECIDUOUS TREES

TREE WRAP SHALL COVER TRUNKS OF ALL DECIDUOUS TREES BEGINNING BELOW THE SOIL LINE JUST ABOVE THE ROOTS. TIE WITH TWINE IN 5 PLACES, INCLUDING THE TOP AND BOTTOM OF WRAPPING. MASKING TAPE OR WIRE WILL NOT BE ALLOWED.

## BRACING AND GUYING

GUYING SHALL BE EMPLOYED TO PREVENT LEANING OR LOOSENING OF THE TREE FROM THE BALL. BRACING MATERIAL SHALL BE T-POSTS PAINTED GREEN. GUYING MATERIAL SHALL BE 12 GAUGE WIRE AND GARDEN HOSE 1/2 INCH DIAMETER. GUY WIRE SHALL BE ENCASED IN HOSE TO PREVENT DIRECT CONTACT WITH THE TREE. DECIDUOUS TREES SHALL BE BRACED OR GUYED IMMEDIATELY AFTER THE TREE WRAPPING IS COMPLETE.

## STEEL LANDSCAPE EDGING

4" STEEL LANDSCAPE EDGING SHALL BE USED ON THIS PROJECT. ALUMINUM OR PLASTIC EDGING WILL NOT BE ALLOWED.

## PRUNING

UPON COMPLETION, ALL PLANT MATERIAL MUST BE PRUNED. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE MINIMUM NECESSARY TO REMOVE DEAD OR INJURED BRANCHES AND TO COMPENSATE FOR THE LOSS OF ROOTS FROM TRANSPLANTING. ALL CUTS SHALL BE MADE FLUSH LEAVING NOT STUBS. PRUNING PAIN SHALL NOT BE USED.

## FINISHING AND CLEANING UP

IMMEDIATELY UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL CLEAN UP THE AREA OF SURPLUS MATERIALS. THE CONTRACTOR SHALL REPAIR AND RE-ESTABLISH TURF IN RUTTED AREAS.

## WARRANTY

THE LANDSCAPE INSTALLATION CONTRACTOR SHALL REPLACE ALL UNHEALTHY VEGETATION AND PLANTINGS WITHIN ONE (1) YEAR OF INITIAL PLANTING OR SUBSEQUENT PLANTING PERIOD.

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

0' 30' 60' 90'
SCALE: 1" = 30'

THE LOCATION OF ALL UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE BASED ON RECORDS PROVIDED BY THE UTILITY OWNERS AND VISIBLE EVIDENCE OBTAINED IN THE FIELD. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED TO THE COMPLETENESS OR ACCURACY THEREOF.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# TOWNEPLACE SUITES
# CASCADE TWP, KENT CO, MI


MAKE NO EXPLICIT REPRESENTATIONS NORM MADE TO VERTICAL DATUM BEYOND THOSE INDICATED. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR THE CLIENT TO VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE OWNER AND/OR THE CLIENT ASSUMES ALL RESPONSIBILITY FOR CHANGES AND ERRORS AND/OR OMISSIONS NOT REPORTED TO BUD DESIGN & ENGINEERING SERVICES, INC. AND/OR THE ARCHITECT. THE ARCHITECT AND/OR BUD DESIGN & ENGINEERING SERVICES, INC. AND/OR THE ARCHITECT HAVE BEEN RETAINED BY THE OWNER AND/OR THE CLIENT TO PERFORM THE PROFESSIONAL SERVICES AS SPECIFIED IN THE CONTRACT. THE ARCHITECT AND/OR BUD DESIGN & ENGINEERING SERVICES, INC. HAVE BEEN RETAINED BY THE OWNER AND/OR THE CLIENT TO PERFORM THE PROFESSIONAL SERVICES AS SPECIFIED IN THE CONTRACT. THE ARCHITECT AND/OR BUD DESIGN & ENGINEERING SERVICES, INC. HAVE NO EXPLICIT REPRESENTATIONS NORM MADE TO VERTICAL DATUM BEYOND THOSE INDICATED. IT IS THE RESPONSIBILITY OF THE OWNER AND/OR THE CLIENT TO VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE OWNER AND/OR THE CLIENT ASSUMES ALL RESPONSIBILITY FOR CHANGES AND ERRORS AND/OR OMISSIONS NOT REPORTED TO BUD DESIGN & ENGINEERING SERVICES, INC. AND/OR THE ARCHITECT.

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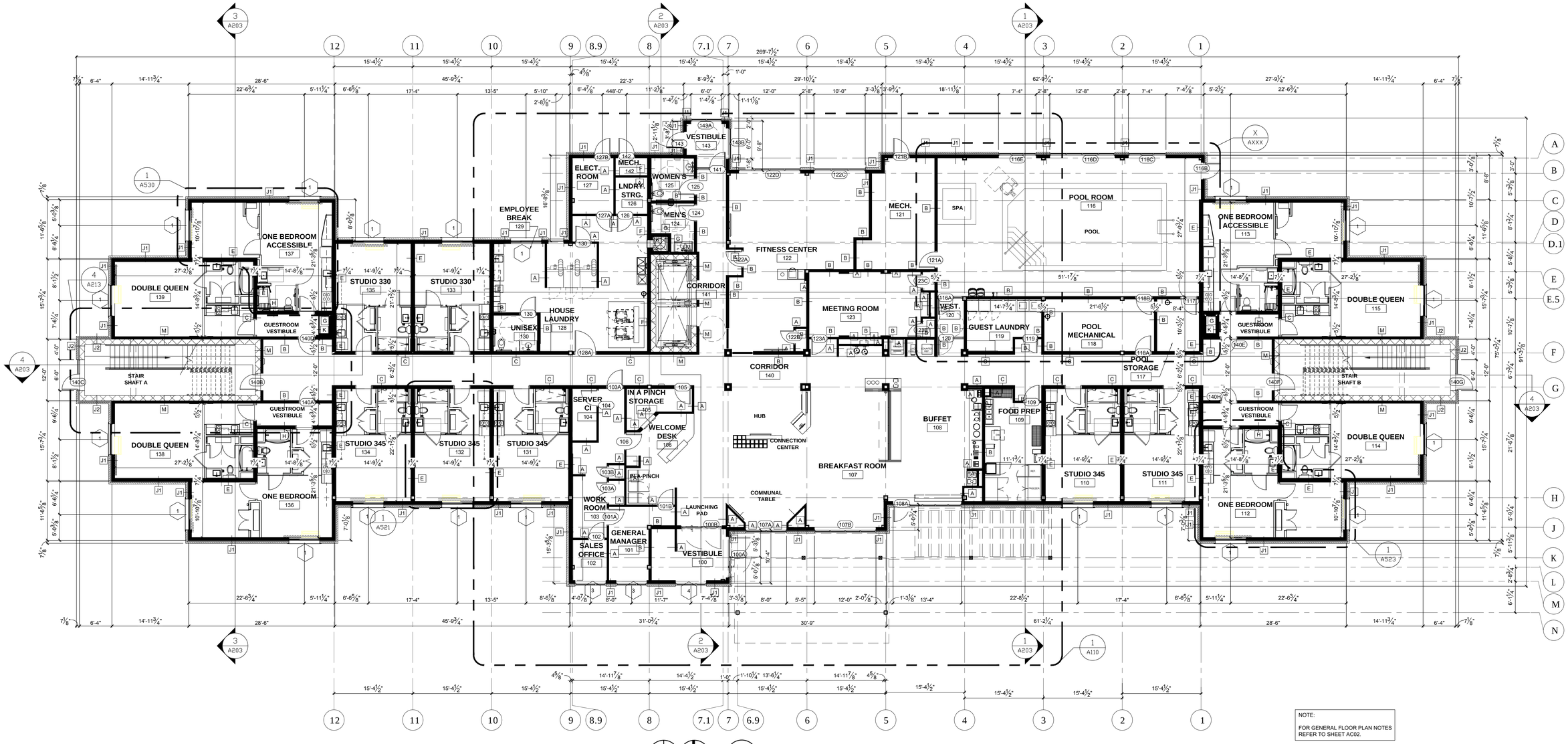
DATE :
DRAWN : JDT
CHECKED : ACA
SCALE : 1"=30'
JOB NO : BD-15-338
SHEET TITLE :
**LANDSCAPE PLAN AND DETAILS**

SHEET
L1.0




NOTE:

FOR GENERAL FLOOR PLAN NOTES REFER TO SHEET AC02.

TRUE NORTH PLAN NORTH

1 A100 A100 **FIRST FLOOR PLAN**

SCALE: 1/8"=1'-0"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|---|---|
| MARRIOTT 30% | 06.30.16 |
| OWNER REVIEW | 07.29.16 |

DATE :

DRAWN : AM

CHECKED : –

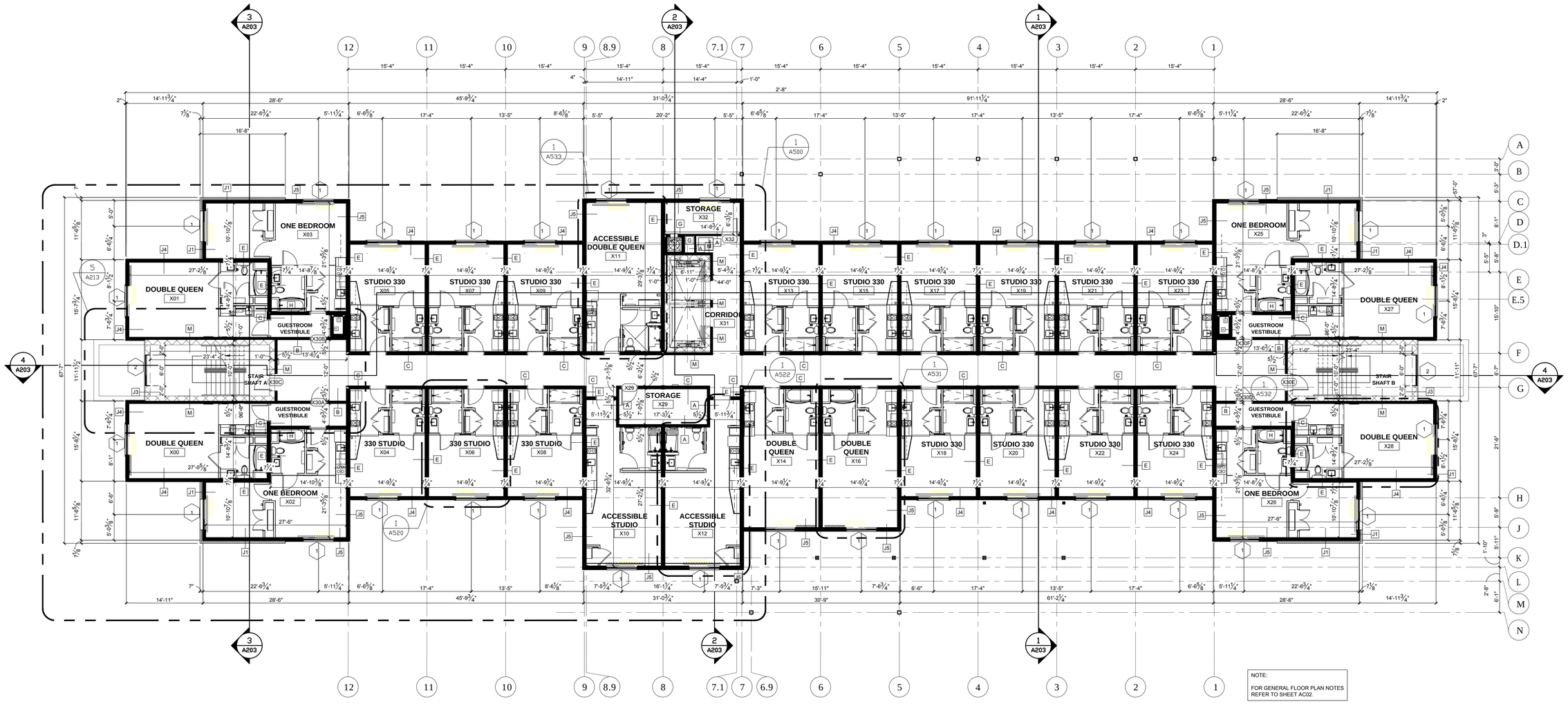
SCALE : 1/8" = 1'–0"

JOB NO : BD–15–338

SHEET TITLE :
FIRST FLOOR PLAN

SHEET

A100




NOTE:

FOR GENERAL FLOOR PLAN NOTES REFER TO SHEET AC02.

TRUE NORTH PLAN NORTH

1 A102 A102 **UPPER FLOOR PLAN (TYP.)**

SCALE: 1/8"=1'-0"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| OWNER REVIEW | 07.29.16 |

DATE :

DRAWN : AM

CHECKED : -

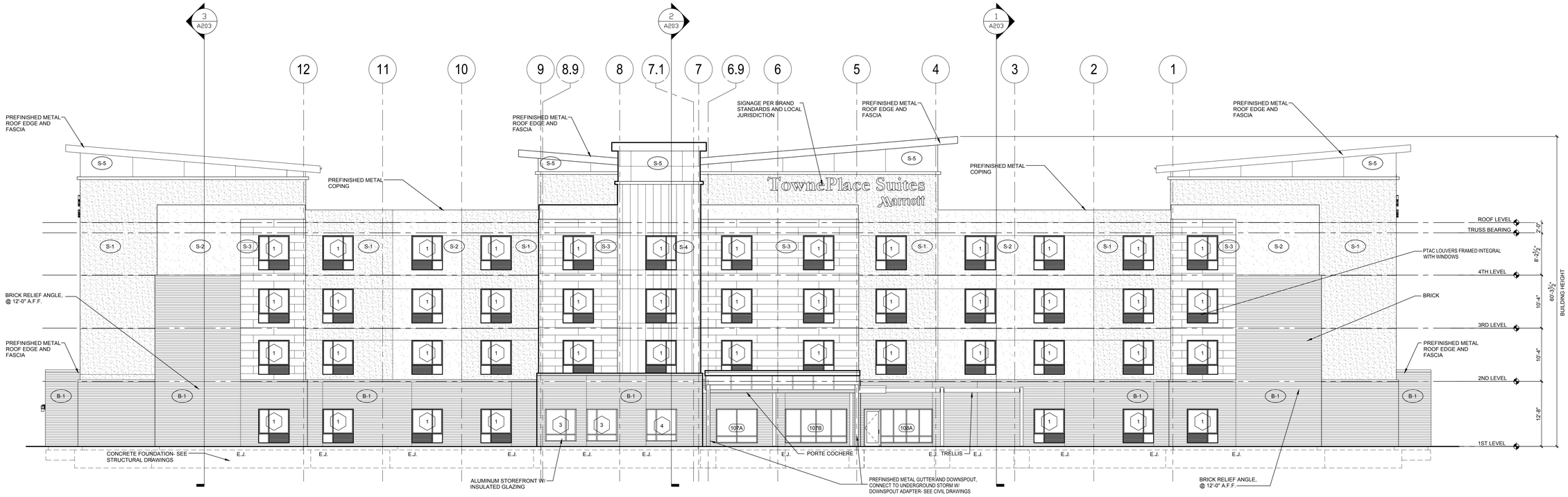
SCALE : 1/8" = 1'-0"

JOB NO : BD-15-338

SHEET TITLE :
UPPER FLOOR PLAN (TYP)

SHEET

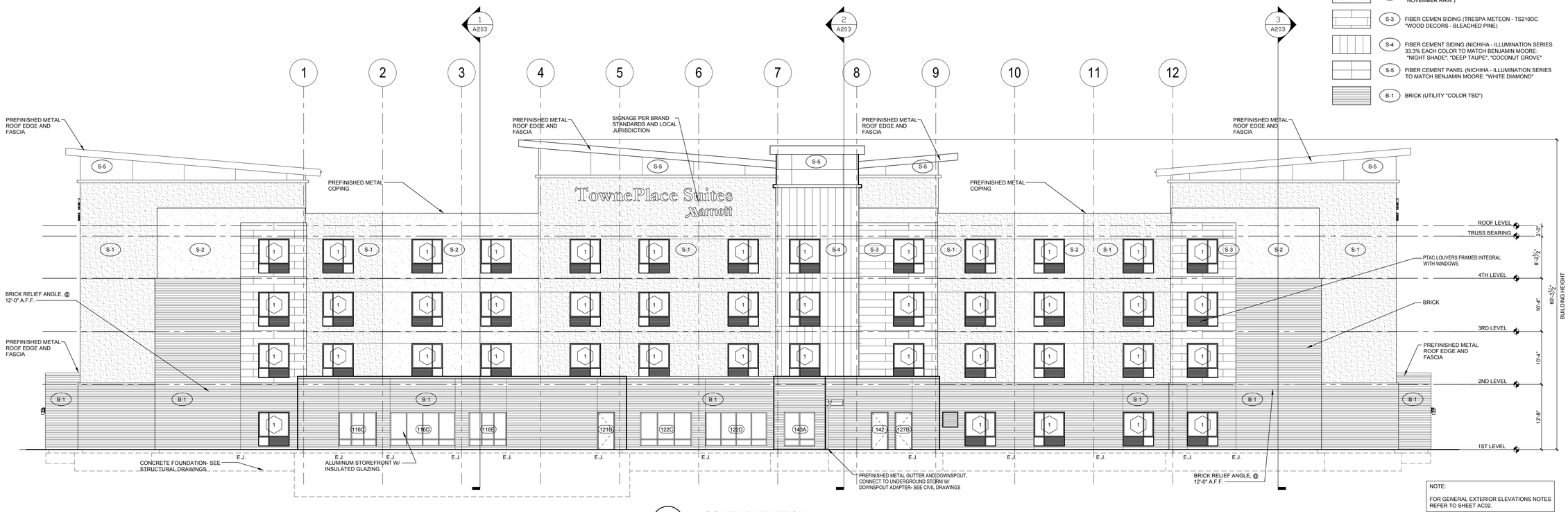
A102




1 A200 | A200 **NORTH ELEVATION**
SCALE: 1/8"=1'-0"

## EXTERIOR FINISH KEY

- S-1 EIFS (BENJAMIN MOORE "MANOR BLUE")
- S-2 EIFS (BENJAMIN MOORE "NOVEMBER RAIN")
- S-3 FIBER CEMEN SIDING (TRESPA METEON - TS210DC "WOOD DECORS - BLEACHED PINE)
- S-4 FIBER CEMENT SIDING (NICHIHA - ILLUMINATION SERIES 33.3% EACH COLOR TO MATCH BENJAMIN MOORE: "NIGHT SHADE", "DEEP TAUPE", "COCONUT GROVE"
- S-5 FIBER CEMENT PANEL (NICHIHA - ILLUMINATION SERIES TO MATCH BENJAMIN MOORE: "WHITE DIAMOND"
- B-1 BRICK (UTILITY "COLOR TBD")




2 A200 | A200 **SOUTH ELEVATION**
SCALE: 1/8"=1'-0"

NOTE:

FOR GENERAL EXTERIOR ELEVATIONS NOTES REFER TO SHEET AC02.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DATE :
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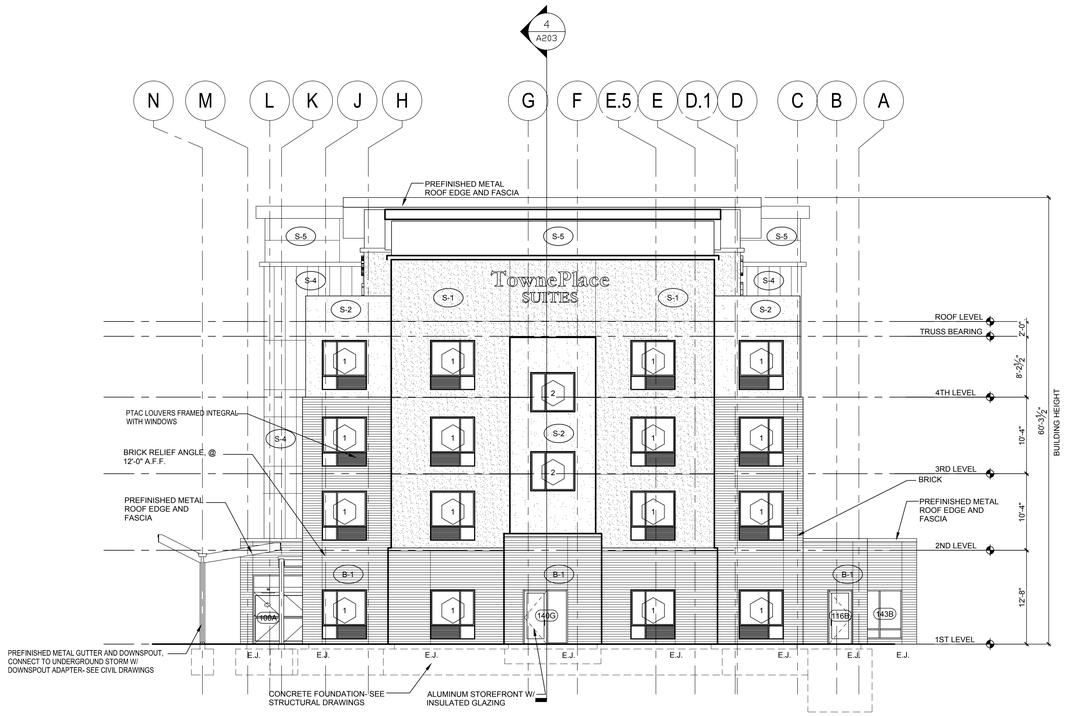
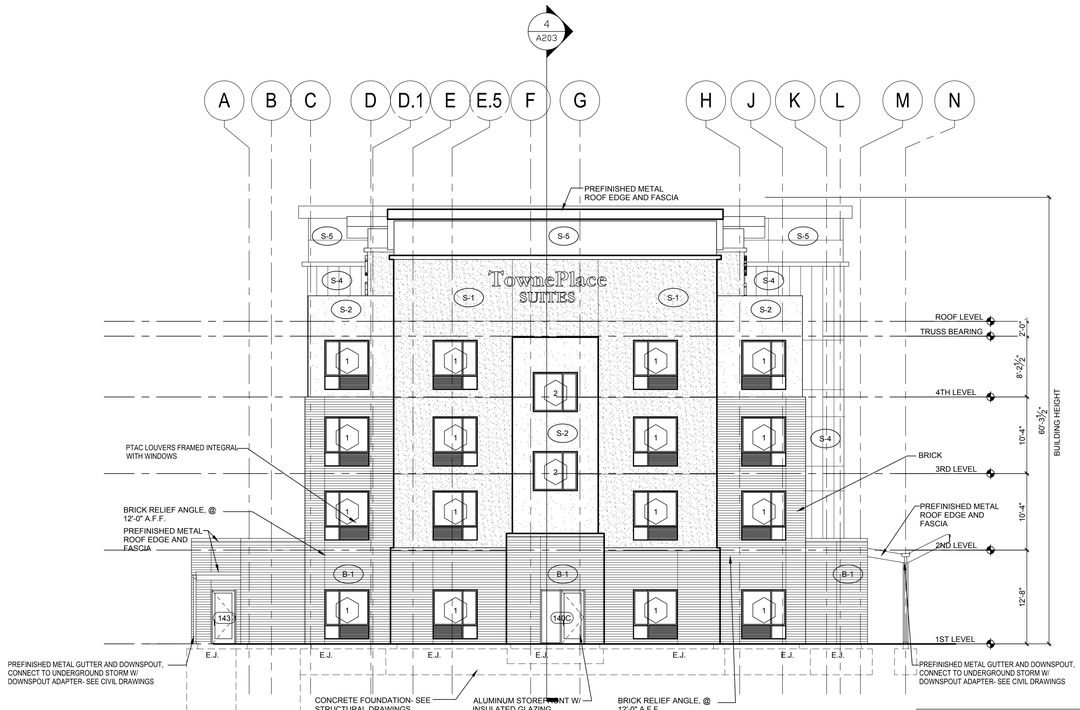
CHECKED : -
SCALE : 1/8" = 1'-0"
JOB NO : BD-15-338
SHEET TITLE : EXTERIOR ELEVATIONS

SHEET
A200




1 A201 A201 **WEST ELEVATION**
SCALE: 1/8"=1'-0"




2 A201 A201 **EAST ELEVATION**
SCALE: 1/8"=1'-0"

NOTE:

FOR GENERAL EXTERIOR ELEVATIONS NOTES REFER TO SHEET AC02.

## EXTERIOR FINISH KEY

| | |
|---|---|
| S-1 | EIFS (BENJAMIN MOORE "MANOR BLUE") |
| S-2 | EIFS (BENJAMIN MOORE "NOVEMBER RAIN") |
| S-3 | FIBER CEMEN SIDING (TRESPA METEON - TS210DC "WOOD DECORS - BLEACHED PINE) |
| S-4 | FIBER CEMENT SIDING (NICHIHA - ILLUMINATION SERIES 33.3% EACH COLOR TO MATCH BENJAMIN MOORE: "NIGHT SHADE", "DEEP TAUPE", "COCONUT GROVE" |
| S-5 | FIBER CEMENT PANEL (NICHIHA - ILLUMINATION SERIES TO MATCH BENJAMIN MOORE: "WHITE DIAMOND" |
| B-1 | BRICK (UTILITY "COLOR TBD") |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| **OWNER REVIEW** | **07.29.16** |

DATE :
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SCALE : **1/8" = 1'-0"**
JOB NO : BD-15-338
SHEET TITLE :
**EXTERIOR ELEVATIONS**

SHEET
**A201**

## *STAFF ANALYSIS*

A. The applicant is requesting Basic Plan Review in order to develop two fast food restaurants along 28th st.

B. They currently have only one user identified as taco bell.

C. This property has been the subject of a couple different plans that we have approved. The last plan approved was in 2007 and included a large retail strip along 28th st. as well as an office in the rear of the parcel.

D. Obviously nothing has ever been built.

E. Since the last plan was approved the township has changed some of the underlying zoning in the area. In 2010 the Centennial Park Overlay zoning district was created. In short, the new district allowed for more development in the park by allowing more than just offices. It also reduced the minimum lot size and more closely follows the current office district.

F. Historically we have used the underlying zoning district to dictate the number of buildings in a development. The underlying zone allows for 50,000 sq ft lots. That would allow for as much as 4 lots/buildings.

G. They are showing the ability to develop three buildings on the site. Two restaurants up front and possible one office in the rear.

H. The current Master Plan designation for this property is Mixed use. This designation is a reflection of the transitional area of centennial park. This is also our most flexible designation in the master plan.

I. We should discuss whether or not to require a traffic study given the change in the project. In general, this type of commercial development can have a high turnover. This section of 28th st has plenty of capacity and the development provides for multiple ways out by connecting through the parking area to the east. I do not believe a traffic study is necessary but if you feel otherwise we should be prepared to outline what items we want studied.

J. They have provided for pedestrian access, which is a goal of the centennial park overlay as well as the master plan.

K. The plan will need to be reviewed by the centennial park review board.

L. The storm water design for the site will need to be meet our storm water ordinance. The developer has also been working on plans to address sewer and water to accommodate the project. These will all need to be approved prior to scheduling the Planning Commission public hearing.

M. Any outdoor lighting will need to meet our lighting regulations.

on Kraft ave and the KCRC is already looking into possible changes to the timing of the lights at the Kraft and 28th St intersection.

G. They have provided me with a document that indicates Meijer cannot give access to the private road that they are on, nor does it allow for access to Kraft Ave. This should be addressed to ensure that the hotel can indeed use all the available drives for access to Kraft and 28th St. if not addressed they would only be allowed to enter/exit off from 28th st.

H. The applicant has not indicated any signage deviations.

I. The applicant has indicated that the storm water from the site will be addressed and improved to comply with our storm water ordinance. This area is handled by regional storm water system that will need to be approved by the KCDC.

J. The applicant has submitted this package as required by Section 16.05 (2) of the Zoning Ordinance for Basic Plan Review.

K. If you find that all of the procedural information has been provided, this application should proceed to a public hearing and consideration of a Preliminary Development Plan. It will be at that stage of the review process that the *merits* of the request will be considered and the detailed site plans will be required and reviewed.

Before proceeding to the Preliminary Development plan review (Public Hearing), I would recommend that the Planning Commission address the following:

1. The need for a traffic study
2. Have the applicant provide the required site plan information.
3. Approval from the KCDC for storm water information plan.
4. Provide documentation of easements rights to all drives to Kraft and 28th st.

Attachments: Application
Site plan
Master plan excerpts
Current approved site plan

# CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan 49546-7140

PLANNING & ZONING APPLICATION

APPLICANT:
Name: JAMES VANDEN BERGE - JVB
Address: 2065 FOXRIDGE
City & Zip Code: GRAND RAPIDS MI 49505
Telephone: 616-443-2524
Email Address: JVBCIVILARCH@COMCAST.NET

OWNER * (If different from Applicant)
Name: MICHAEL A. BASILE (CHI. DIV. FOODS)
Address: 400 EAST 22nd STREET SUITE E
City & Zip Code: LOMBARD IL 60148
Telephone: 616-437-2908
Email Address: basilemike@aol.com

NATURE OF THE REQUEST: (Please check the appropriate box or boxes)

| | | | |
|---|---|---|---|
| ☐ | Administrative Appeal | ☐ | Administrative Site Plan Review |
| ☐ | Deferred Parking | ☒ | P.U.D. – Rezoning * |
| ☐ | P.U.D. – Site Condominium * | ☐ | Rezoning |
| ☒ | Site Plan Review * | ☐ | Sign Variance |
| ☒ | Special Use Permit | ☐ | Subdivision Plat Review * |
| ☐ | Zoning Variance | ☐ | Other: _____ * |

* Requires an initial submission of 5 copies of the completed site plan

BRIEFLY DESCRIBE YOUR REQUEST:**

PRODUCE A NEW PUD WITH 2 QUICK SERVE REST. ON 28TH ST. & FUTURE DEVELOPMENT AT REAR OF SITE

(** Use Attachments if Necessary)

-SEE OTHER SIDE-

LEGAL DESCRIPTION OF PROPERTY(**):

SEE PLANS

(**Use Attachments if Necessary)

PERMANENT PARCEL (TAX) NUMBER: 41-19 - 17 - 201 - 005

ADDRESS OF PROPERTY: 6010 68TH ST. SE.

PRESENT USE OF THE PROPERTY: EMPTY, SMALL PARKING LOT

NAME(S) & ADDRESS(ES) OF ALL OTHER PERSONS, CORPORATIONS, OR FIRMS HAVING A LEGAL OR EQUITABLE INTEREST IN THE PROPERTY:

| Name(s) | Address(es) |
|---|---|
| | |
| | |

SIGNATURES

*I (we) the undersigned certify that the information contained on this application form and the required documents attached hereto are to the best of my (our) knowledge true and accurate. I (we) also agree to reimburse the Cascade Charter Township for all costs including consultant costs, to review this request in a timely manner. I (we) understand that these costs may also include administrative reviews which may occur after the Township has taken action on my (our) request.*

***I (we) the undersigned also acknowledge that the proposed project does not violate any known property restrictions (i.e. plat restrictions, deed restrictions, covenants, etc.)***

Russell H. Spees CASCADE RAPIDS

Owner – Print or Type Name
(*If different from Applicant)

Owner's Signature & Date
(*If different from Applicant)

JAMES VANDER BERG (OWNERS REP)

Applicant – Print or Type Name

Applicant's Signature & Date

PLEASE ATTACH ALL REQUIRED DOCUMENTS NOTED IN THE PROCESS REVIEW SHEET – THANK YOU

Rev. 7/24/04

SCALE: 1" = 30'
1' Contour Interval

LEGEND

- IRON STAKE FOUND
- IRON STAKE SET
- MONUMENT
- UTILITY POLE & GUY WIRE
- LIGHT POLE
- SIGN
- HYDRANT
- VALVE
- CATCH BASIN
- MANHOLE
- BURIED UTILITY MARKER
- FIRE HYDRANT VALVE
- WELL BORING
- FENCE LINE
- CHIMNEY WIRES
- T - TOP OF CURB ELEVATION
- S - GUTTER ELEVATION

SURVEY NOTES:
1. Utility structures visible on the ground surface have been located and shown per actual measurements.
2. Underground utility lines have been shown per available records and should not be interpreted as the exact location nor the only utilities in this area.

GENERAL NOTES:

1. LEGAL DESCRIPTION:
   This West 2/3 feet of the North 871.2 feet of the N 1/2 of the NE 1/4 of Section 17, T6N, R10W, Cascade Township, Kent County, Michigan.

   ALSO the East 30 feet of Lot 12, of the Amended Plat of Lot 12 of the Plat of Foremost Centennial Park No. 1, according to the recorded plat thereof.

   ALSO that part of Lot 12, Foremost Centennial Park No. 1, Section 17, T6N, R10W, Cascade Township, Kent County, Michigan, described as: Beginning at the NE corner of Lot 10, thence S01°00'27"E 37.56 feet along the Westerly line of Lucern Drive (66 feet wide); thence Southerly 288.74 feet along said Westerly line on a 1132.92 foot radius curve to the right, the chord of which bears S01°43'37"W 287.92 feet; thence S07°13'37"W 167.33 feet along said Westerly line; thence N79°13'37"W 259.34 feet along the Northerly line of the Southerly 49 feet of said Lot 10; thence N01°00'27"W 474.66 feet along the East line of the West 30 feet of Lot 10, thence S89°00'33"W 418.48 feet along the Northerly line of 28th Street to the place of beginning.

2. MAPPING AND SURVEY USED:
   6010 - 28th Street - Existing features per field topography/GPS survey, January 2006. Land is currently vacant.
   6020 - 28th Street - Existing features per plan by Driveways & Associates (February 2006) and aerial photo.

3. ZONING:
   Current Zoning: 6010 - 28th Street - PUD; 6020 - 28th Street - B-2
   Proposed Zoning: PUD - underlying B-2
   Net site area: 9.34 Acres (includes R.O.W.)

4. SITE DATA

| Building Setbacks | B-3 | Proposed PUD | Proposed Deviation |
|---|---|---|---|
| Front Yard | 100' | 100' | - |
| Side Yard | [illegible] | [illegible] | - |
| Rear Yard | 30' | 30' | - |
| Building Height | 35' | [illegible] | - |
| Min. Lot Area | 3 acres | 1.1 acres | 1.96 acres |
| Min. Lot Width | [illegible] | irregular | - |

   Proposed Building Area:
   Existing Building (6060 - 28th) = 21,400 s.f.
   Proposed Building (6010 - 28th) = [illegible]
   Future Building = [illegible]

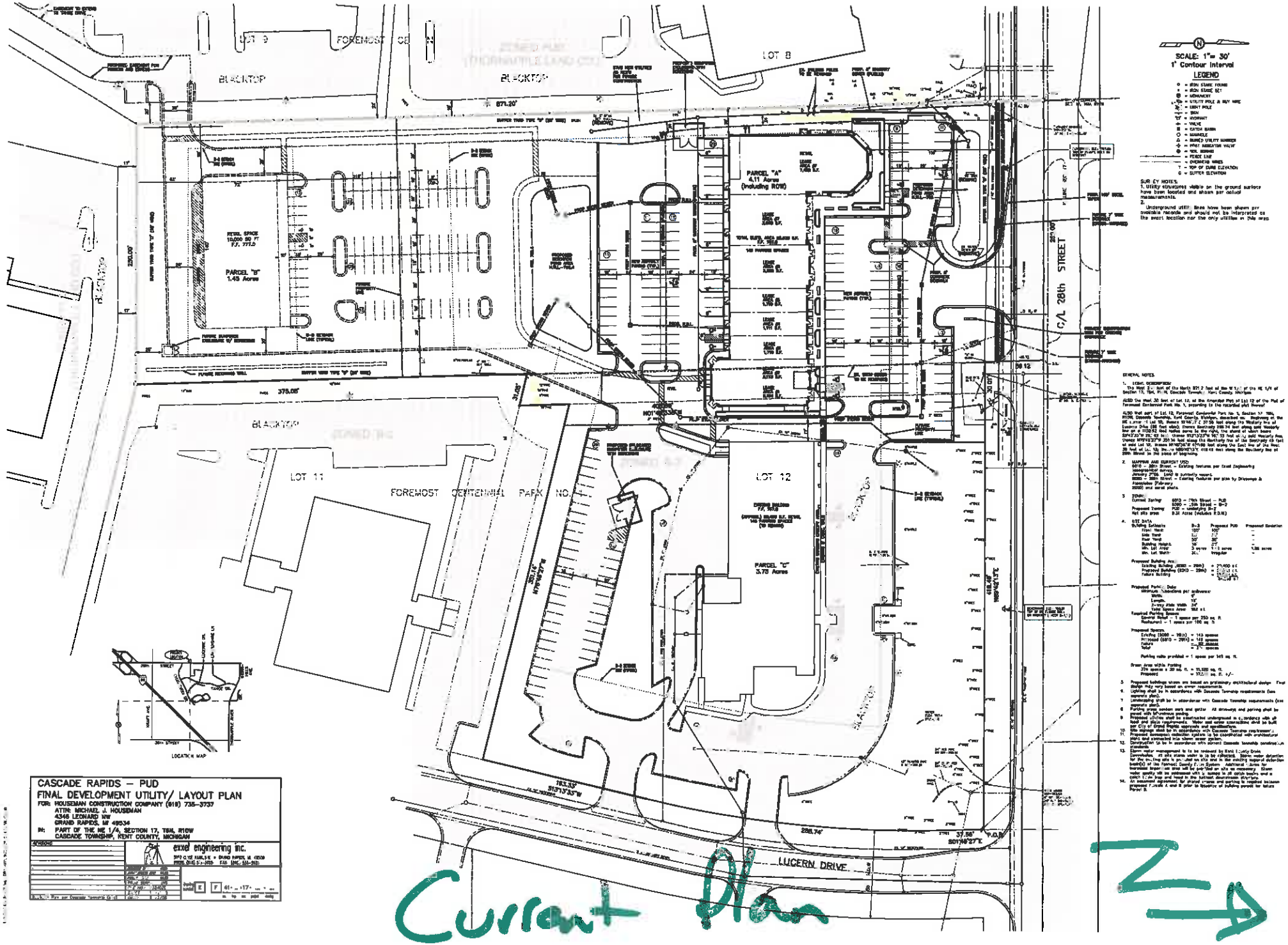
   Proposed Parking Data:
   Minimum Dimensions per ordinance:
   Width: 9'
   Length: 19'
   2-way Aisle Width: 24'
   Total Space Area: 162 s.f.
   Required Parking Spaces
   General Retail - 1 space per 250 sq. ft.
   Restaurant - 1 space per 100 sq. ft.

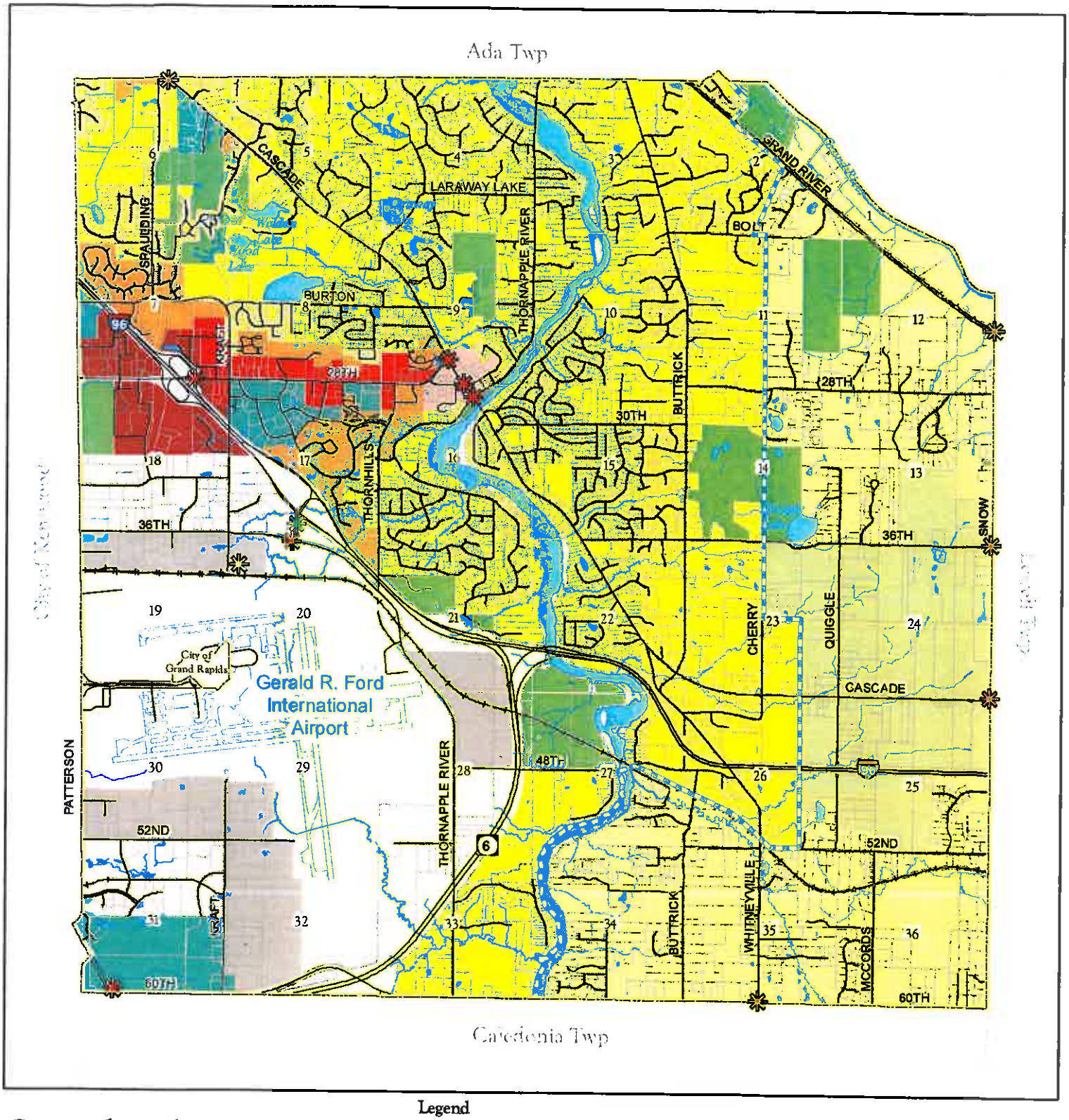
   Proposed Spaces:
   Existing (6060 - 28th) = 143 spaces
   Proposed (6010 - 28th) = 148 spaces
   Future = [illegible] spaces
   Total = [illegible] spaces

   Parking ratio provided = 1 space per 345 sq. ft.

   Green Area within Parking:
   20% space x 20 sq. ft. = 11,020 sq. ft.
   Proposed = 17,[illegible] sq. ft. +/-

5. Proposed buildings shown are based on preliminary architectural design. Final design may vary based on owner requirements.
6. Lighting shall be in accordance with Cascade Township requirements (see separate plan).
7. Landscaping shall be in accordance with Cascade Township requirements (see separate plan).
8. Parking areas contain curb and gutter. All driveways and parking shall be paved with bituminous paving.
9. Proposed utilities shall be constructed underground in accordance with all local and state requirements. Water and sewer connections shall be built per City of Grand Rapids approvals and specifications.
10. Site signage shall be in accordance with Cascade Township requirements.
11. Proposed lawnscape irrigation system is to coordinated with architectural plans and connected into sheet water system.
12. Development to be in accordance with current Cascade township conditions standards.
13. Storm water management is to be reviewed by Kent County Drain Commission. At site storm water is to be collected. Storm water detention for the building site is provided on site and in the existing regional detention basin(s) of the Foremost County Drain System. Additional funds for downstream improvements are also will be provided on site as necessary. Storm water quality will be addressed with a sump in all catch basins and a grass filter and level in the Northeast downstream detention.
14. An easement agreement for shared drives and parking is required between parcels 7 (Lots A and B) prior to issuance of building permit for future Parcel B.






# Cascade Charter Township

Kent County, Michigan

## Map 15
## Future Land Use

**Legend**

- Gateway Feature
- Park 'n' Ride
- Rail Station
- Utility Service Area
- Farmland Preservation
- Rural Residential
- Suburban Residential
- Community Residential
- Village Commercial
- General Commercial
- Highway Commercial
- Mixed Use
- Heavy Industrial
- Light Industrial
- Community Facility / Golf Course

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Williams & Works

April 22, 2009

The village commercial area is intended to be a walkable commercial district, where architectural style is paramount, but not rigid. Low shrubbery, picket fences and other features should be in place along the roadway to delineate the use and create interest for pedestrians.

**Location:** The village commercial land use category is located at the heart of Cascade Charter Township where Cascade Road, 28th Street and the Thornapple River converge. It is not the intent of this land use category to expand beyond the current commercially-zoned properties along Cascade Road.

**Desired Uses and Densities:** Desired uses include retail commercial, personal service establishments, eating and drinking establishments, financial institutions, and convenience stores with or without fuel stations. Residential uses are also planned, including above retail or office uses. Townhome, retirement centers, assisted living, and other elderly care facilities are also recommended. Other uses should be phased out and encouraged to locate to a more automobile-oriented commercial corridor. Residential densities would be 6-8 dwelling units to the acre. Pedestrian/bicycle circulation plans should be prepared for new development that includes access from sidewalks and non-motorized paths to any building entry. Bicycle racks are encouraged. Traffic calming, crosswalk demarcations, countdown walk signs, plantings and signage are encouraged at 28th Street and Cascade Road at the Village to create a sense of place for shopping, strolling, biking, and walking. Water and sewer must be available for development in this land use category. Additionally, any natural features should be preserved and protected in projects located in the village commercial land use area. The Township hopes that the village commercial area is served by mass transit in the future.

### GENERAL COMMERCIAL

**Description:** This land use designation is intended to provide goods and services to meet the needs of the immediate neighborhood and the larger region. Facilities will be developed in harmony with the area's natural features and in a scale and form to encourage pedestrian access and to minimize auto-pedestrian conflicts. Cross-access easements and access roads will be encouraged to reduce the proliferation of curb-cuts. In addition, landscape standards and signage limitations will be utilized to promote attractive and functional developments. The current three acre minimum lot area requirement may be reduced for projects that incorporate certain green/eco-friendly building technologies, or provide a specific amount of green space, such as 35%.

**Location:** The general commercial land use designation includes properties fronting 28th street from Cascade Village west to the Township boundary.

**Desired Uses:** Uses include retail, office, personal services, professional services, automobile repair, convenience stores with or without fuel pumps, drive-though establishments, eating and drinking establishments, fitness centers, financial institutions, automobile sales, and other similar uses. Water and sewer must be available for development in this land use category. Additionally, any natural features should be preserved and protected in projects located in the general commercial land use area. The Township hopes that the general commercial area is served by mass transit in the future.

### HIGHWAY COMMERCIAL

**Description:** The highway commercial land use category calls for more intense land uses in terms of traffic generation and building height. This use would include hotels, eating and drinking establishments, and convenience shopping capturing consumers from the region. Multi-story development, up to 5-stories, may be permitted based on locational factors. Additional height in excess of 5-stories may be considered in areas with elevation differences along the highway, while less height may be appropriate in areas where the highway commercial land use abuts residential uses. Maximum floor area may also be restricted to encourage taller buildings.

Careful planning and design should occur with any new mixed use or large-scale commercial projects to ensure that traffic safety and on-site traffic flow is considered, appropriate access management techniques have been incorporated into site planning and building height would not interfere with Federal Aviation Administration requirements or other height requirements of the Gerald R. Ford International Airport. Minimum lot area requirements could be reduced for projects that incorporate certain green/eco-friendly building technologies at the time of site plan review, or provide a minimum amount of green space, such as 35%. Architectural standards are appropriate to ensure buildings over 3 stories incorporate step-backs, vertical and horizontal design elements, and varied building materials to minimize bulk and massing.

**Location:** This use is located west and east of the I-96 interchange along 28th street.

**Desired Uses:** Desired uses include hotels, eating and drinking establishments, convenience shopping, fitness centers, and offices. Water and sewer must be available for development in this land use

category. The Township hopes that the highway commercial area is served by mass transit in the future.

### MIXED USE

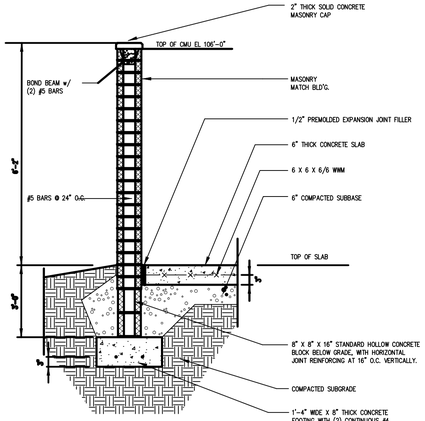
**Description and Desired Uses:** The mixed use land use is intended to provide for offices, light industrial, townhome and other types of attached residential development, and retail/commercial uses. The intent is to allow for uses in a master-planned project, giving a greater potential for walkable neighborhoods. Mixed use residential areas are especially desirable where future mass transportation can serve the area.

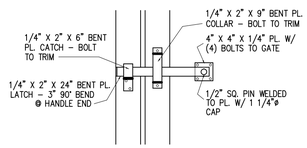
**Location:** The mixed use land use category is planned for the northern portion of Centennial Park, the southern portion of Meadowbrooke and along the already developed office park on Cascade Road.

**Densities:** Within the mixed use category, residential densities would be 6-8 dwelling units to the acre. Density bonuses may be available for development that incorporates certain green/eco-friendly building technologies at the time of site plan review and approval. Building heights would be the lesser of 40' or 3 stories where surrounding uses and buildings are of comparable heights; however, along Cascade Road where the mixed use area is already developed, existing building heights would remain unchanged.

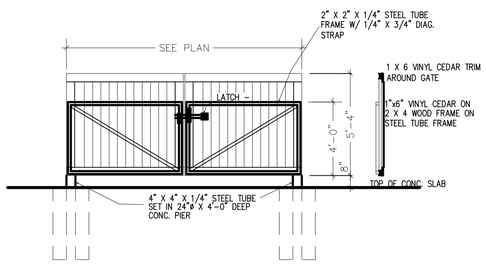
### HEAVY INDUSTRIAL

**Description and Desired Uses:** This land use designation is intended to provide employment for area residents, manufacture goods and provide services to meet the needs of the larger West Michigan Region. Facilities will be developed with appropriate utility and transportation connections and in harmony with the area's natural features. Industrial uses may include warehousing, manufacturing and assembly, mini-storage, contractor's offices and yards, and shipping facilities. In the vicinity of the airport, industrial land uses should be compatible with the airport and aviation requirements. The Township supports industrial uses near the airport having direct access to the airport property to facilitate greater interconnectedness, growth of transportation-related industry, and limit off-site vehicular movement/trips. Truck traffic leaving industrial land uses will be directed efficiently to regional arterials without traversing residential areas. Landscape credits, credits for energy efficient design, or other types of credits may be offered that may reduce the current front yard setback requirements, landscaping requirements, and/or lot area requirements.

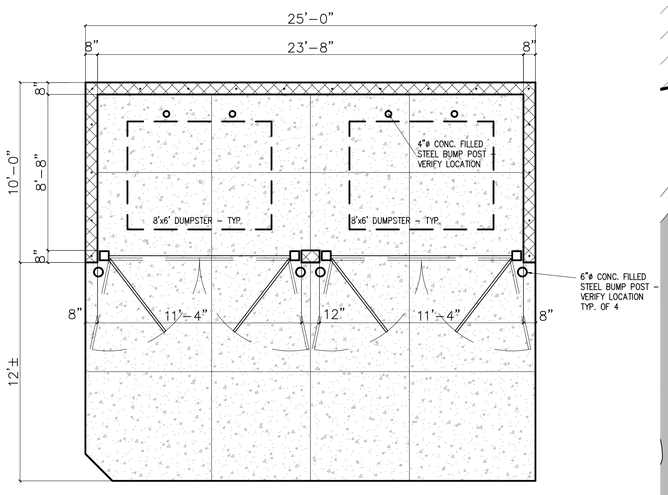


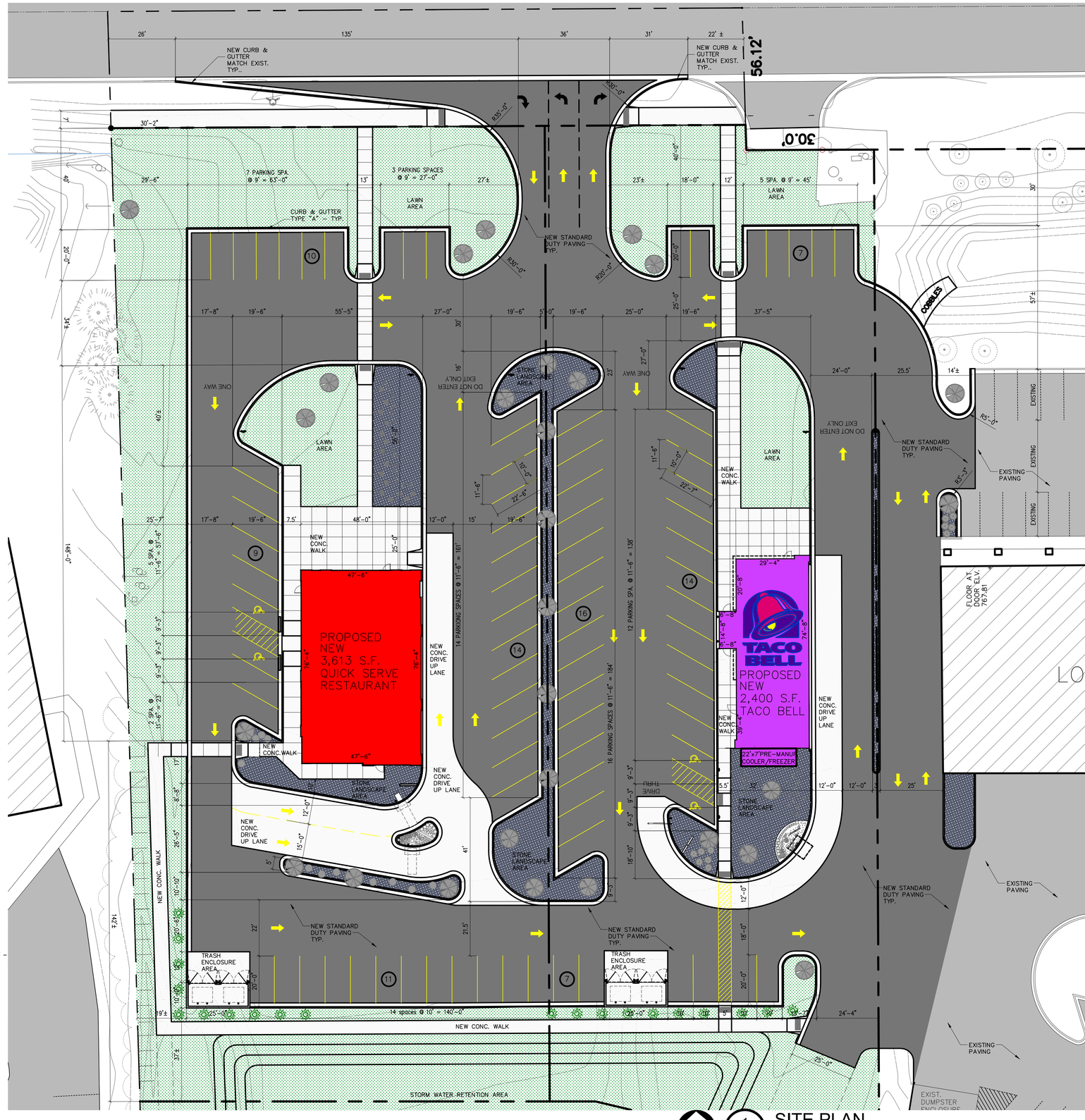

## LATCH DETAIL




## DOOR DETAIL




2 C1.1 TRASH ENCLOSURE DETAIL
SCALE: 1/4" = 1'-0"




1 C1.1 SITE PLAN
SCALE: 1" = 20'-0"

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TACO BELL

# TACO BELL # CHICAGO DIVERSIFIED FOODS CORP.

6010 28TH STREET
CASCADE TOWNSHIP, KENT COUNTY, MICHIGAN

PUD HEARING 8/22/16

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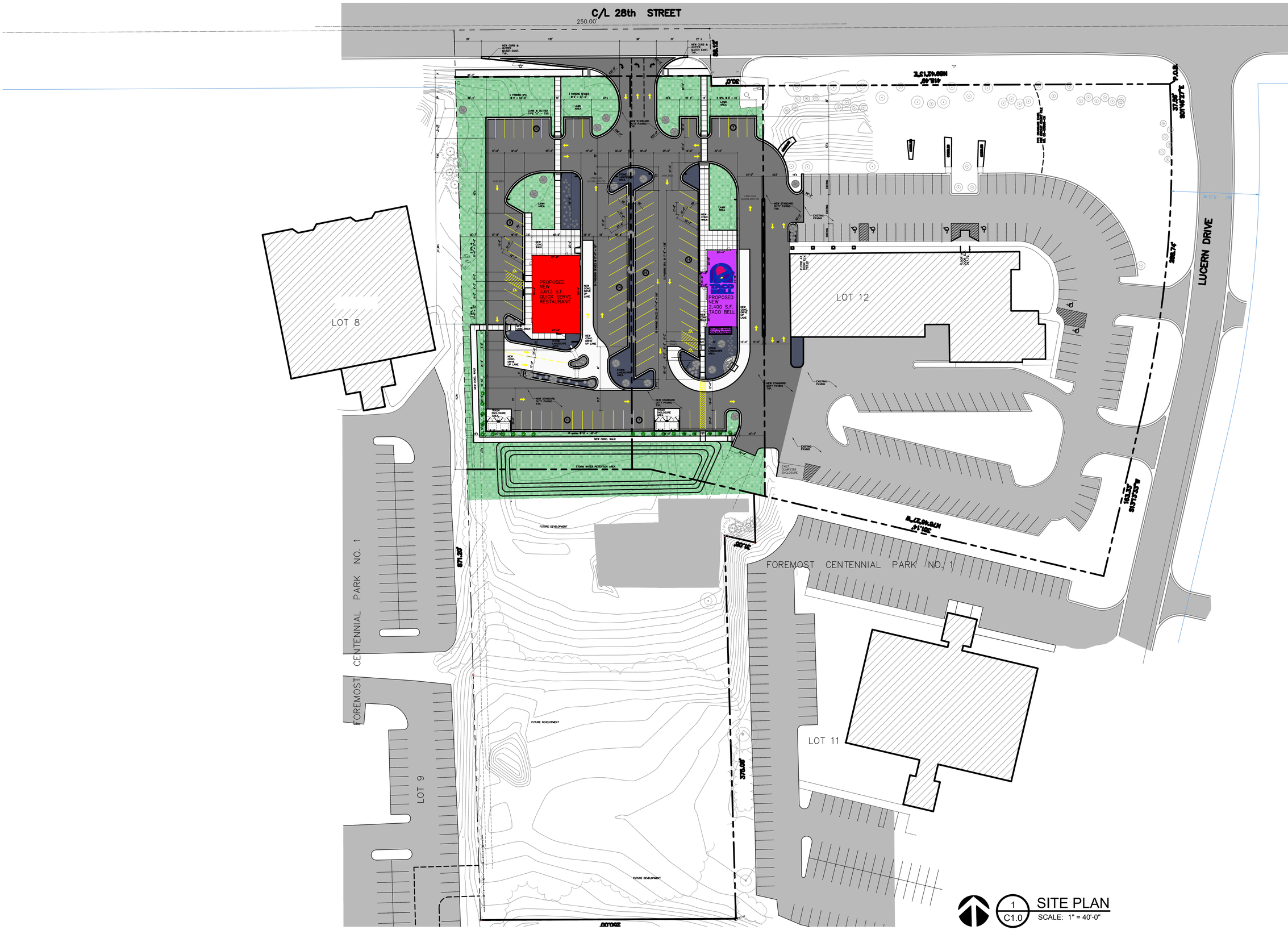


1 C1.0 SITE PLAN
SCALE: 1" = 40'-0"

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