Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— PLANNING & ZONING DEPARTMENT —

Trustees
John Newman II
Gloria Peterson
Karen Lovejoy Roe
LaResha Thornton

REGULAR MEETING AGENDA

Tuesday, August 26, 2025
6:30 P.M.

If you need any assistance due to a disability, please contact the Planning Department at least 48 hours in advance of the meeting at planning@ypsitownship.org or 734-544-4000 ext. 1.

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF THE JULY 22, 2025, REGULAR MEETING MINUTES
4. APPROVAL OF AGENDA
5. PUBLIC HEARINGS
   A. **SPECIAL LAND USE – CREEKSIDE VILLAGE NORTH – 6601 TUTTLE HILL – PARCEL K-11-26-300-009 –** TO CONSIDER RECOMMENDATION TO THE TOWNSHP BOARD OF TRUSTEES FOR THE SPECIAL LAND USE APPLICATION OF DIVERSE REAL ESTATE LLC TO PERMIT A 101-UNIT, SINGLE-FAMILY RESIDENTIAL SITE CONDOMINIUM ON A SITE ZONED R-3, ONE-FAMILY RESIDENTIAL.
6. OLD BUSINESS
7. NEW BUSINESS
   A. **PRELIMINARY SITE PLAN - CREEKSIDE VILLAGE NORTH – 6601 TUTTLE HILL – PARCEL K-11-26-300-009 –** TO CONSIDER RECOMMENDATION TO THE TOWNSHP BOARD OF TRUSTEES FOR THE PRELIMINARY SITE PLAN APPLICATION OF DIVERSE REAL ESTATE LLC TO PERMIT A 101-UNIT, SINGLE-FAMILY RESIDENTIAL SITE CONDOMINIUM ON A SITE ZONED R-3, ONE-FAMILY RESIDENTIAL.
   B. **PRELIMINARY SITE PLAN – U-HAUL YPSILANTI – U-BOX CONTAINER STORAGE–2251 AND 2269 PARKWOOD – PARCELS K-11-11-100-017 AND K-11-11-100-016 –** TO CONSIDER THE PRELIMINARY SITE PLAN APPLICATION OF KIMLEY-HORN TO PERMIT A U-BOX CONTAINER STORAGE BUILDING ON A SITE ZONED LOGISTICS AND MANUFACTURING (L-M).
8. OPEN DISCUSSION FOR ISSUES NOT ON THE AGENDA
   A. CORRESPONDENCE RECEIVED
   B. PLANNING COMMISSION MEMBERS
   C. MEMBERS OF THE AUDIENCE
9. TOWNSHIP BOARD REPRESENTATIVE REPORT
10. ZONING BOARD OF APPEALS REPRESENTATIVE REPORT

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11. TOWNSHIP ATTORNEY REPORT
12. PLANNING DEPARTMENT REPORT
13. OTHER BUSINESS
14. ADJOURNMENT

CHARTER TOWNSHIP OF YPSILANTI
PLANNING COMMISSION MEETING
Tuesday, July 22, 2025
6:30 pm

COMMISSIONERS PRESENT

Bill Sinkule
Elizabeth El-Assadi
Gloria Peterson
Larry Doe
Daryl Kirby
Amy Kehrer
Bianca Tyson

STAFF AND CONSULTANTS

Mark Yandrick – Township Planning Director
Sally Elmiger - Carlisle Wortman
Dennis McLain – Township Attorney

- **CALL TO ORDER/ESTABLISH QUORUM**
  MOTION: Ms. El-Assadi called the meeting to order at 6:30 pm.

- **APPROVAL OF MAY 13, 2025, REGULAR MEETING MINUTES**
  MOTION: Ms. Peterson **MOVED** to approve the May 13, 2025, regular meeting minutes. The **MOTION** was **SECONDED** by Mr. Sinkule and **PASSED** by unanimous consent.

- **APPROVAL OF AGENDA**
  MOTION: Mr. Kirby **MOVED** to approve the agenda as presented. The **MOTION** was **SECONDED** by Ms. Peterson and **PASSED** by unanimous consent.

- **PUBLIC HEARINGS**
  a. **SPECIAL LAND USE - ZIPPY CAR WASH – 1822 W MICHIGAN – PARCEL K-11-39-252-022** – TO CONSIDER THE SPECIAL LAND USE APPLICATION OF ZIPPY AUTO WASH/COREY WEAVER TO PERMIT A VEHICLE WASH ON A SITE ZONED REGIONAL CORRIDOR (RC) WITH A SITE TYPE C DESIGNATION.

Sally Elmiger (Planning Consultant- Carlisle Wortman) informed the Commission that the application is for special land use for a proposed car wash. This site was previously used as a car wash. Zippy Car Wash plans on re-developing the existing building. The ordinance states car wash requires special land use in the district. The only decision the Planning Commission would make is the postponing of the project due to variances, which would require a decision from the ZBA (Zoning Board of Appeals). This would be presented once again to the Planning Commission for the decision on the special land use.

Corey Weaver and Michelle Weaver (Owner of Zippy Car Wash) were present at the meeting. Mr. Weaver shared with the Planning Commission that he is part of Saline, Michigan community supporting the local government and donates to various local charitable and non-profit organizations. Mr. Weaver stated that 1822 West Michigan Avenue is an ideal site for redevelopment, and it would be replaced with Zippy Car Wash.

Zippy Car Wash has been in business for a long time and operates six new sites across Ann Arbor. Currently having four sites in development. Zippy Car Wash has earned the reputation for providing the highest quality auto wash in the area with outstanding customer service. Mr. Weaver shared about the various new sites: Scio Township (January 2025), Michigan Avenue (2024), Pittsfield Township (2021), Saline (2018). The original site was started in 2007 at Pittsfield (Ellsworth Road). Zippy Wash has the industry's most advanced cleaning equipment and solutions. Zippy also has express pay terminals, credit card acceptance with RFID readers for fast passes. All sites are electric with wash process using high efficiency (98% efficiency) (condensing process). Approximately one third of the water used for the washes is being recycled. The water recycling systems use cyclonic separation and oxygenation. Zippy Car Wash is part of the Washtenaw County Pollution Prevention Program and MDEQ solids

removal service program. Zippy Car Wash has donated over half a million dollars towards different programs.

Ypsilanti Township has an expansive choice of many drives through facilities, with a limited choice of modern express exterior washes. The site would provide employment opportunities and additional property tax/ utility service revenues for Ypsilanti Township. Zippy Car Wash offers six to ten full-time jobs plus part time opportunities at each site; starting at $20 an hour. Paid about $10 million into payroll since opening, with the majority of staff being local, city or township residents, and about $5 million into property tax, water bills and utility service revenues to both Pittsfield, Saline and Canton Township.

Mr. Weaver informed the Planning Commission that the current tunnel wash is on the opposite side of the site facing Ellsworth Road. Mr. Weaver stated that he was asked to consider the site plan with the auto wash facing Michigan Avenue to support the redevelopment of the Michigan Avenue corridor, which was followed as requested. Zippy Car Wash has twelve vacuum spaces and provides customer friendly sitting areas by providing extensive landscaping for street side appeal and vehicle screening.

Mr. Weaver talked about the concerns about the dumpster being viewed from Ellsworth Road, and the change that was made to move the dumpster closer to the building, and have it screened with landscaping. The site receives garbage services thrice a week and keeping the dumpster enclosure close to the vacuums helps in efficiency and tidiness. The hours of operation: Monday to Saturday (7 am – 8 pm); Sundays (8 am – 8 pm), seven days a week. The vacuums are shut at 8 pm.

Mr. Weaver talked about the traffic flow; the majority would come through Michigan Avenue. Zippy Car Wash has the provision to stack 25 cars (parking spaces).

Mr. Kirby inquired about the lighting; Mr. Weaver stated that the site meets the ordinance of the township. The building has accent lighting for architectural appeal and the vacuums have a strip light attached (low voltage).

Ms. Peterson inquired about the fence; dumpster located at the western property line and the delivery truck (points for the Planning Commission to consider) (Page

13 of the Board Packet). Ms. Elmiger stated that it would be discussed under the New Business.

PUBLIC HEARING OPENED AT 6:54 PM

(Hearing no comments)

PUBLIC HEARING CLOSED AT 6:55 PM

- **OLD BUSINESS**

  None to Report.

- **NEW BUSINESS**

  a. **SPECIAL LAND USE - ZIPPY CAR WASH – 1822 W MICHIGAN – PARCEL K-11-39-252-022 –** TO CONSIDER THE SPECIAL LAND USE APPLICATION OF ZIPPY AUTO WASH/COREY WEAVER TO PERMIT A VEHICLE WASH ON A SITE ZONED REGIONAL CORRIDOR (RC) WITH A SITE TYPE C DESIGNATION.

  Ms. Elmiger stated the Planning Department reviewed the special land use criteria in the ordinance, and the project does meet the criteria. The car wash location at the intersection of two large, high-volume roads is consistent with the vision of the regional corridor. The Planning Department suggested Michigan Avenue as the building site location instead of Ellsworth, since Michigan Avenue is the gateway to the community. This would beautify West Michigan Avenue and make it more in line with the vision for the corridor, the site can be served adequately with public facilities and services.

  b. **PRELIMINARY SITE PLAN - ZIPPY CAR WASH – 1822 W MICHIGAN – PARCEL K-11-39-252-022 –** TO CONSIDER THE PRELIMINARY SITE PLAN APPLICATION OF ZIPPY AUTO WASH/COREY WEAVER TO PERMIT A VEHICLE WASH ON A SITE ZONED REGIONAL CORRIDOR (RC) WITH A SITE TYPE C DESIGNATION.

Ms. Elmiger discussed the five recommendations for the Planning Commission to consider (Page 14 on the Board Packet).

- Consider proposed landscape screen (next to west property line that abuts W. Michigan Ave.) as an alternative to the six-foot-tall wall requirement or propose additional screening alternatives; Ms. Elmiger stated that the applicant has proposed 16 large evergreen trees to screen the site from the vacant residential lot. The ordinance requires a six-foot-tall masonry screen to be installed, when a nonresidential use is located next to a residential use.
- Consider requiring shrubs along the northerly maneuvering lane to screen Ellsworth Rd; Ms. Elmiger talked about the ordinance requiring an additional 13 parking interior or perimeter parking lot trees. Trees cannot be grown over a utility easement. Planting 4ft shrubs would help in screening the vehicle activities on the site from Ellsworth.
- Consider an alternative dumpster location that is not directly in view of Ellsworth Rd: Ms. Elmiger talked about the dumpster, required to be at a side or rear yard. The planning department recommends having the dumpster placed in an area less visible from Ellsworth.
- Discuss with applicant the possibility of relocating the pole-mounted light fixture at W. Michigan Ave. driveway from the east side of the driveway to the west side of the driveway to direct light away from the adjacent residential lot; Ms. Elmiger shared about the light fixture facing downwards that would shine towards the direction of the adjacent residential parcel. The planning department recommends a light pole fixture, that would eliminate the light spillage into the neighboring site.
- Consider counting the picnic table along the sidewalk shortcut between the W. Michigan Ave safety path and the Ellsworth Rd. safety path for the deficient transparency on the north side of the building; Ms. Elmiger suggested on replacing the picnic tables with benches.
- Ms. Elmiger presented a change for the Planning Commission to consider; elimination of a sidewalk at Ellsworth, considering the short cut that could be utilized by the pedestrians

  The Planning Commissioners talked about putting up a wall as an alternative in case the adjacent property gets occupied. Ms. Elmiger stated that she would have to review the ownership and verify if it was part of a big triangle development property.

Commissioner Peterson inquired about the dumpster; Mr. Weaver talked about each vacuum having its own dedicated trash receptacles; 14 individual trashes lined up against the sidewalk, that would facilitate the staff with a rollaway dumpster. This would facilitate quick emptying of the trash. One option to screen the dumpster is by moving it closer to the vacuum (southeast direction) that would take advantage of the existing sidewalk that services the dumpster. The provision of additional shrubs would help in the screening. All sites are serviced before opening hours (before 7 am). The dumpster enclosure would be masonry on three sides with a pair of gates on the front.

Commissioner Sinkule inquired if the applicant would consider adding shrubs on the northern part of the site towards Ellsworth; Mr. Weaver stated that he would consider the recommendations.

Ms. Elmiger informed the Planning Commission that the transparency on the parking lot side not being sufficient, and the ordinance does allow the Planning Commission to use other items such as benches or picnic tables to count towards the transparency requirement, and the recommendation is to have benches instead of picnic tables.

Greg O'Brien (Engineer for Zippy Car Wash) talked light poles having different fixtures and house side shield that would prevent the light from spilling into the adjacent property.

MOTION: Mr. Kirby **MOVED** to postpone the special land use as well as the preliminary site plan for the Zippy Car Wash at 1822 W. Michigan Parcel K-11-39-252-022 pending any ZBA (Zoning Board of Appeals) requirements.

The **MOTION** was **SECONDED** by Mr. Doe.

Roll Call Vote: Mr. Doe (Yes); Mr. Kirby (Yes); Mr. Sinkule (Yes); Ms. Peterson (Yes); Ms. Kehrer (Yes); Ms. El-Assadi (Yes); Ms. Tyson (Yes).

MOTION PASSED.

- **OPEN DISCUSSIONS FOR ISSUES NOT ON AGENDA**

- **Correspondence Received**
  None to Report.
- **Planning Commission members**
  None to Report.
- **Members of the audience**
  None to Report.

- **TOWNSHIP BOARD REPRESENTATIVE REPORT**
  None to Report
- **ZONING BOARD OF APPEALS REPRESENTATIVE REPORT**
  None to Report
- **TOWNSHIP ATTORNEY REPORT**
  None to Report.
- **PLANNING DEPARTMENT REPORT**
  None to Report
- **OTHER BUSINESS**
  None to Report
- **ADJOURNMENT**
  MOTION: Mr. Doe **MOVED** to adjourn at 7:29 pm. The **MOTION** was **SECONDED** by Mr. Sinkule and **PASSED** by unanimous consent.

==========

Respectively Submitted by Minutes Services

Planning Department Report

Project Name:	Creekside Village North Special Land Use / Preliminary Site Plan
Location:	6601 Tuttle Hill Road, Ypsilanti, MI 48198
Date:	06-30-2025

- [x] Full Preliminary Site Plan Review # 2
- [ ] Sketch Preliminary Site Plan Review #
- [ ] Administrative Preliminary Site Plan Review #
- [ ] Detailed Engineering/Final Site Plan Review #
- [ ] Special Use Permit
- [ ] Public Hearing
- [ ] Rezoning
- [ ] Tentative Preliminary Plat
- [ ] Final Preliminary Plat
- [ ] Final Plat Process
- [ ] Planned Development Stage I
- [ ] Planned Development Stage II

Contact / Reviewer	Consultants, Departments, & Agencies	Approved	Approved with Conditions	Denied	N/A	See email/letter attached or comments below
Planning Department	Township Planning Department	☐	☐	☐	☐	See comments below
Carlisle/Wortman Associates	Planning Consultant	☐	☑	☐	☐	See letter dated 3-24-2025
OHM / Stantec	Engineering Consultant	☐	☑	☐	☐	See letter dated 3-28-2025
Steven Wallgren, Fire Marshal	Township Fire Department	☑	☐	☐	☐	See letter dated 12-10-2024
Dave Bellers, Building Official	Township Building Department	☐	☐	☐	☐	
Brian McCleery, Deputy Assessor	Township Assessing Department	☐	☐	☐	☐	
Scott Westover, Engineering Manager	Ypsilanti Community Utilities Authority	☐	☑	☐	☐	See letter dated 03-28-2025
Gary Streight, Project Manager	Washtenaw County Road Commission	☑	☐	☐	☐	See email dated 6-19-2025
Theresa Marsik, Stormwater Engineer	Washtenaw County Water Resources Commission	☐	☑	☐	☐	See letter dated 04-02-2025
James Drury, Permit Agent	Michigan Department of Transportation	☐	☐	☐	☐	

Planning Department Recommended Action:

At this time, the Creekside Village North Special Land Use / Preliminary Site Plan is eligible for Preliminary Site Plan review by the Township Planning Commission and has been scheduled for the Commission's regularly scheduled meeting on August 26, 2025. The Planning Department recommends the Planning Commission making a recommendation of approval to the Township Board for the Special Land Use and Preliminary Site plan, contingent upon the applicant addressing the outstanding comments outlined in the attached review memos. We encourage the applicant to continue working with these agencies to resolve all outstanding review items.

Please contact the Charter Township of Ypsilanti Planning Department if you have any questions or concerns.

Carlisle | Wortman
ASSOCIATES, INC.
117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Date: January 3, 2025
August 22, 2025

Preliminary Site Plan and Special Land Use Review
For
Ypsilanti Township, Michigan

Applicant:	Diverse Real Estate, LLC.
Project Name:	Creekside Village North.
Plan Date:	March 6, 2025
Location:	NE corner of Turtle Hill & Merritt Roads.
Parcel ID:	K-11-26-300-009
Zoning:	R-3, One-Family Residential
Action Requested:	Planning Commission Recommendation

PROJECT AND SITE DESCRIPTION

An application has been submitted for a residential development consisting of 101 single-family lots (1.85 lots per acre). Each lot will have a minimum lot area of 14,000 square feet. The proposed 54.70-acre site is located in the northeast corner of Turtle Hill Road and Merritt Road. The site is currently vacant and contains woodlands and two (2) ponds. The site is currently zoned R-3, One-Family Residential. The site will be accessed with one access point of Merritt and one-off Tuttle Hill. The internal roads will be private, and there will be a connection to the subdivision to the north, Creekside East.

This site was previously approved in 2001. There is a comparison of the two plans in a section below. The 2001 plan has expired.

Figure 1 shows the aerial view of the property and the surrounding areas.

Figure 1.
Aerial View of Subject Property.



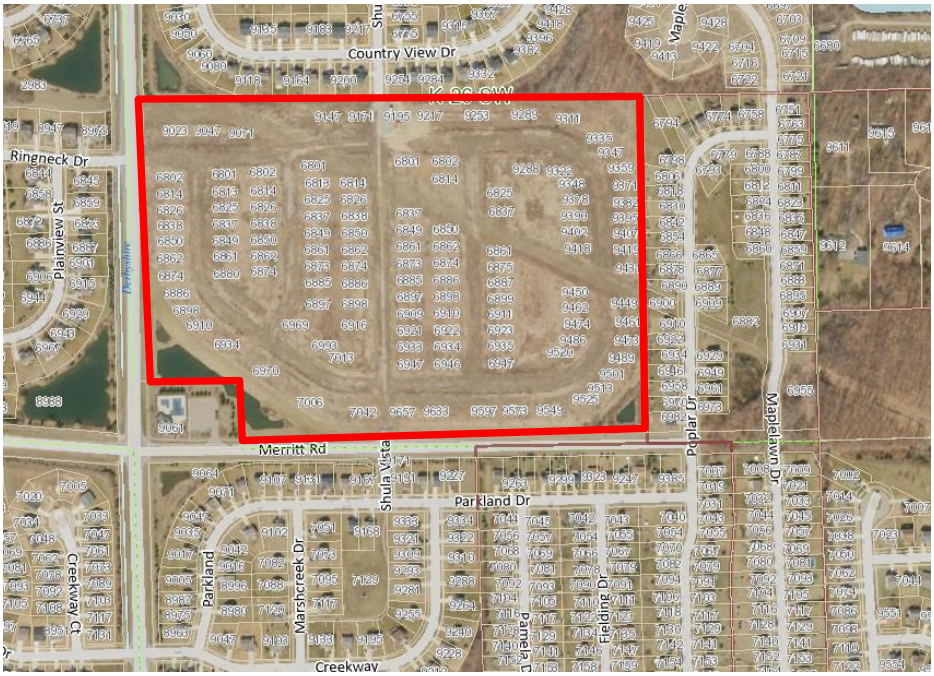
The proposed residential planned development is surrounded by other residential properties.

Items to be Addressed: *None.*

2001 PLAN

This site was originally approved in 2001 for development. Looking at the aerial photographs you can still see the basic layout of the 2001 plan (see aerial on right).

For Planning Commission consideration the table below compares the revised Creekside Village North Plan, dated May 5, 2021, to the approved 2001 plan.



	2001 Plan	2024 Plan
Lots	157 lots	101 lots
Min Lot Size	8,400 sq/ft	14,000 sq/ft
Min Lot Width	60 feet	80 feet
Open Space	5.19 acres	7.1 acres (see open space section below)

ZONING AND LAND USE

The zoning and existing land uses for the subject site and surrounding parcels below:

Direction	Zoning	Existing Use
Subject Site:	R-3, One-Family Residential	Vacant
North	PD, Planned Development	Residential
South	R-3, One-Family Residential	Residential
East	R-3, One-Family Residential	Residential
West	R-3, One-Family Residential	Residential

Figure 2 *depicts the current zoning districts mentioned above.* ***Figure 3*** *depicts the future land use according to the Ypsilanti Charter Township Master Plan.*

Figure 2.
Zoning Map

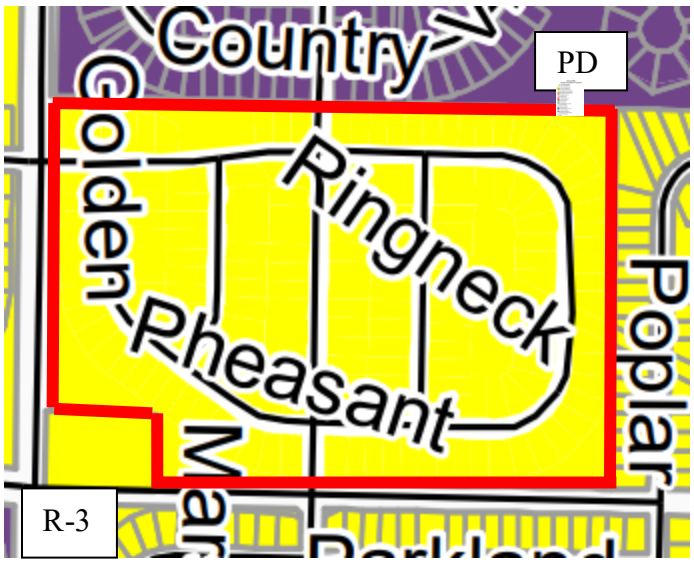
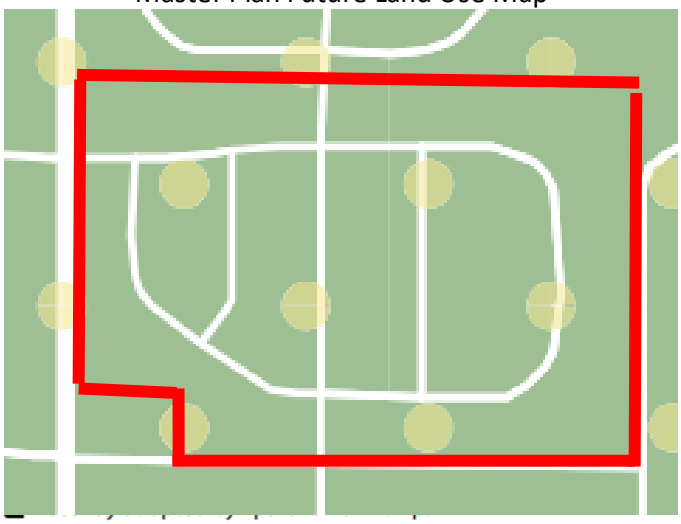


Figure 3.
Master Plan Future Land Use Map



EXISTING NEIGHBORHOODS:
The intent is to preserve and strengthen these neighborhoods through investment, maintenance and preservation of surrounding open space.

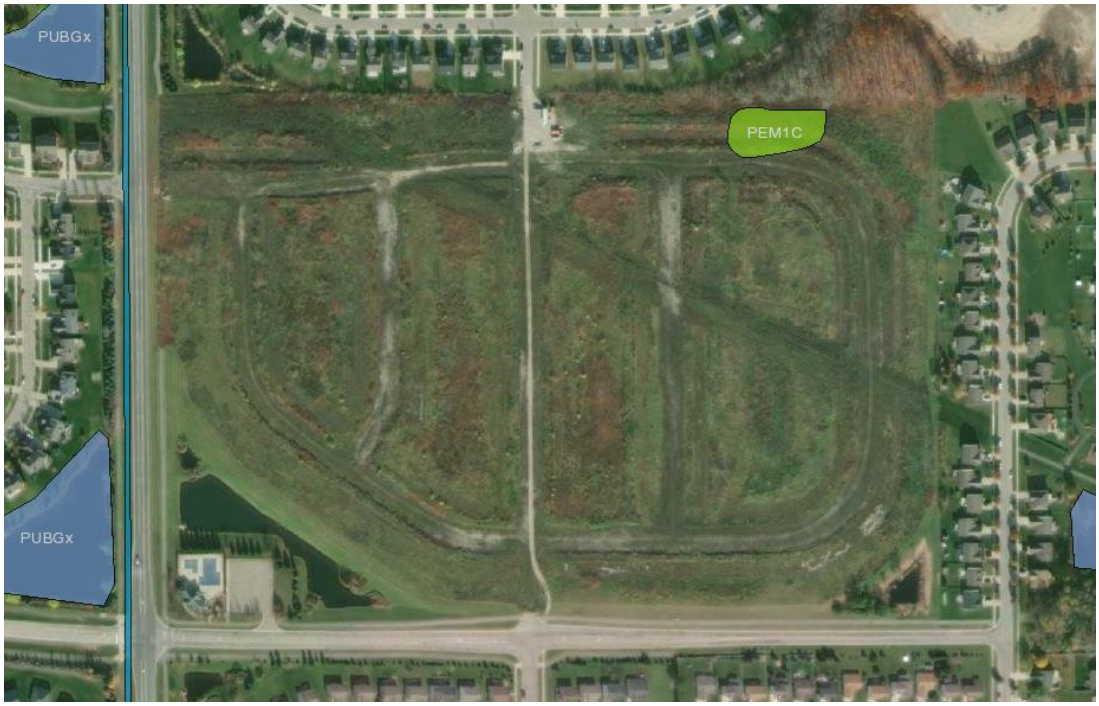
NATURAL RESOURCES

Topography: The site has some slopes along the outer boundaries of the site as well as along the proposed public/private streets.

Woodlands: No significant woodlands on site.

Wetlands: According to the National Wetland Inventory, there is a 0.56-acre Freshwater Emergent Wetland in the northeast corner of the site. There are two (2) existing detention ponds on site as well. **Figure 4** shows the exact location of the wetland. The applicant is protecting the wetland with an easement. The applicant should perform an updated wetland delineation to confirm if it is MDEQ regulated. If regulated, applicant shall receive MDEQ approval.

Figure 4
Wetlands On-Site.



Soils: Soils include BnB, Boyer loamy sand, 1 to 6 percent slopes; Gf, Gilford sandy loam, till plain, 0 to 2 slopes; and Wasepi sandy loam, 0 to 4 percent slopes.

Items to be Addressed: *Provide wetland delineation to confirm if wetland is MDEQ regulated*.

LAYOUT AND OPEN SPACE

The site will consist of 101 single-family homes. The proposed project is compatible with adjacent uses (residential). Detention Ponds are situated in the southwest and southeast corner of the properties. There are four (4) rain gardens to the interior to the site.

The applicant is proposing to preserve 7.38 acres (12.9%) of open space. However, we note that the proposed open space includes:

- Regulated and protected wetlands
- Raingardens, which are required to comply with stormwater requirements of the WCWRC
- Gas pipeline easement

There is little functional or usable open space. In our previous review we had encouraged the applicant to reconfigure the site or remove a few lots to provide functional open space. The applicant has chosen not to reconfigure the development and note that they need open space requirements. We continue to have this comment.

Items to be Addressed: *Provide additional/functional open space. We encourage the applicant to reconfigure the site or remove a few lots to provide functional open space.*

PEDESTRIAN CIRCULATION AND SAFETY PATHS

A sidewalk is provided along both sides of all roads. The applicant meets the 5-foot sidewalk width and is providing a ten (10)-foot wide bike path along both Merritt and Tuttle Hill.

Items to be Addressed: *None*

SITE ACCESS AND CIRCULATION

The development will be accessed via a drive from Turtle Hill Road on the west side of the property; a drive from Merritt Road on the south side; and from an existing road from another development (Lakewood Estates Condominium) on the north. For final approvals the applicant must provide all easements documents.

Items to be Addressed: *None*

PARKING, LOADING

Section 2104 requires single-family developments to provide two (2) parking spaces for each dwelling unit. 101 units require 202 parking spaces. Parking will be provided in garages and driveways. Applicant indicates that parking will be allowed on one-side of the road. On-street parking will provide guest parking.

Items to be Addressed: *None*

TRAFFIC IMPACT

The Traffic impact study has been reviewed by the Washtenaw County Road Commission. In their review the WCRC notes that the TIS does not warrant any additional turn lanes nor a traffic light at Merritt and Tuttle Hill. However, the TIS does require a future traffic study after the site is developed and built out. We encourage the applicant to work with the Road Commission in establishing the necessary escrow to complete the study and install the light if warranted.

Items to be Addressed: *Work with the Road Commission in establishing the necessary escrow to complete the study and install the light if warranted.*

LANDSCAPING

Applicant has provided a Street Tree plan and a Greenbelt and Entry plan. The landscaping should be compliant to landscaping requirements set forth in Section 2108:

Street Trees. According to Street Tree requirements in Section 1908, both sides of all internal roads shall be landscaped with street trees. For road frontages of individual lots or condominium sites, a minimum of two (2) canopy trees shall be provided per dwelling. For sections of road that do not abut lots or condominium sites, one canopy trees shall be provided on each side for every 40 feet or road. Existing trees to be preserved within five feet of the road right-of-way or easement may be credited towards meeting this requirement. ***2 trees x 101 dwellings = 202 trees. The applicant has provided 216 trees on Sheet L-1 which meets the requirement.***

Frontage Greenbelt. A minimum of one large deciduous tree shall be planted for each 40 lineal feet or portion thereof, plus a minimum of one ornamental tree shall be planted for each 100 lineal feet or portion thereof, plus a minimum of eight shrubs shall be planted for each 40 lineal feet, or portion thereof, plus Evergreen trees that are at least six feet high, shall be planted at 15 feet staggered intervals, to create a visual barrier for at least 50 percent of the berm length. ***Along Turtle Hill Road (654 lineal feet), 17 deciduous trees, 22 coniferous trees, 7 ornamental trees, and 131 shrubs are required and provided. Along Merritt Road (890 lineal feet), 22 deciduous trees, 30 coniferous trees, 9 ornamental trees, and 178 shrubs are required and provided.***

Pond/Detention Pond Landscaping: One deciduous shade or evergreen tree and ten shrubs shall be planted for every 50 lineal feet of pond perimeter as measured along the top of the bank elevation. ***There are three (2) ponds on-site. Pond A (1,782 lineal feet) requires 36 deciduous trees and 356 shrubs. Pond B (1,101 lineal feet) requires 22 deciduous trees and 220 shrubs.***

Buffering. Where nonresidential uses adjoin residentially zoned property, noise reduction and visual screening mechanisms such as landscape berms and/or decorative walls, shall be employed.
Proposed development does not abut a non-residential property.

For the Final Site Plan submittal, the applicant shall submit a detailed landscape plan.

Items to be Addressed: *None*

LIGHTING

The applicant proposes seven (7) pole lights spread throughout the development. Photometric calculations comply with ordinance requirements. The light fixture complies with section 2110 of the Ypsilanti Township Zoning Ordinance.

Items to be Addressed: *None*

SIGNS

An entry monument sign is proposed at the Merritt Road entrance to the south and Turtle Hill Road entrance to the west. The brick sign includes a decorative precast concrete cap, a decorative light, Pin-mounted letters for the name, and cultured stone veneer. The Township will review the sign under a separate sign permit application.

Items to be Addressed: *None*

FLOOR PLAN AND ELEVATIONS

Floor plans and elevations have been submitted. The proposed materials appear to be brick veneer first story and siding on the second story. Applicant shall confirm siding material.

Items to be Addressed: *Indicate siding material.*

SPECIAL USE REVIEW

Standards for Special Use review are set forth in Section 1003. The Planning Commission, and the Board of Trustees when required, shall review the particular circumstances and facts of each proposed use in terms of the following standards and required findings, and with respect to any additional standards set forth in this Ordinance. The Planning Commission, either as part of its final decision or in its recommendation, shall find and report adequate data, information, and evidence showing that the proposed use meets all required standards and:

1. Will be harmonious, and in accordance with the objectives, intent, and purpose of this Ordinance.
2. Will be compatible with the natural environment and existing and future land uses in the vicinity.
3. Will be compatible with the Township master plans.
4. Will be served adequately by essential public facilities and services, such as highways, streets, police and fire protection, drainage ways and structures, refuse disposal, or that the persons or agencies responsible for the establishment of the proposed use shall be able to provide adequately for such services
5. Will not be detrimental, hazardous, or disturbing to existing or future neighboring uses, persons, property, or the public welfare.

6. Will not create additional requirements at public costs for public facilities and services that will be detrimental to the economic welfare of the community.

For the most part we find that the special use standards have been met; however we still find that the applicant should provide functional and usable open space and shall confirm to the satisfaction of the Planning Commission and Township Board that additional traffic can be mitigated.

TOWNSHIP BOARD APPROVAL

As set forth in Section 420, all Single-Family Residential Plat or Site Condominium require Special Use approval by the Township Board, upon recommendation by the Planning Commission.

RECOMMENDATIONS

We recommend that the Planning Commission hold a public hearing, consider public testimony and have a discussion upon the following items:

1. Open Space
2. Traffic Impact
3. Wetland Impacts
4. Compliance with Standards for Special Use review as set forth in Section 1003

Based on the discussion, if the Planning Commission recommends approval, we recommend the following conditions:

1. Provide wetland delineation to confirm if wetland is MDEQ regulated.
2. Provide additional/functional open space. We encourage the applicant to reconfigure the site or remove a few lots to provide functional open space.
3. Work with the Road Commission in establishing the necessary escrow to complete the study and install the light if warranted.
4. Confirm siding material.

Ben R. Carl

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

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
— PLANNING & ZONING DEPARTMENT —

Trustees
John Newman II
Gloria Peterson
Karen Lovejoy Roe
LaResha Thornton

SUGGESTED MOTIONS:

Special Land Use:

Motion to Postpone:
"I move to postpone the Special Land Use Permit submitted by Diverse Real Estate, LLC to permit construction of a 101-unit, single-family residential site condominium on a 54.70-acre site zoned R-3, One-Family Residential, located at 6601 Tuttle Hill Road, Ypsilanti, MI 48197, Parcel K-11-26-300-009 to give the applicant time to address the comments made at this evening's meeting and resubmit, and/or provide additional information, as discussed tonight."

Motion to Approve:
"I move to recommend approval to the Township Board of the Special Land Use Permit submitted by Diverse Real Estate, LLC to permit construction of a 101-unit, single-family residential site condominium on a 54.70-acre site zoned R-3, One-Family Residential, located at 6601 Tuttle Hill Road, Ypsilanti, MI 48197, Parcel K-11-26-300-009, as the proposal meets the criteria in Article 10, Special Land Use with the following conditions:

1. The applicant shall address all outstanding comments from reviewing agencies prior to Final Site Plan Approval. The applicant shall revise all plan sheets to reflect the results of this evening's discussion.
2. The applicant shall obtain all applicable internal and outside agency permits prior to construction.
3. The applicant shall address the lack of usable open space in the Final Site Plan.
4. *(Any other conditions based upon Planning Commission discussion.)*

Motion to Deny:
"I move to recommend denial to the Township board of the Special Land Use Permit submitted by Diverse Real Estate, LLC to permit construction of a 101-unit, single-family residential site condominium on a 54.70-acre site zoned R-3, One-Family Residential, located at 6601 Tuttle Hill Road, Ypsilanti, MI 48197, Parcel K-11-26-300-009, due to the following reasons:"

1._____

2._____

3._____

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

Trustees
John Newman II
Gloria Peterson
Karen Lovejoy Roe
LaResha Thornton

Preliminary Site Plan:

Motion to Postpone:
"I move to postpone the request for Preliminary Site Plan approval, submitted by Diverse Real Estate, LLC to permit construction of a 101-unit, single-family residential site condominium on a 54.70-acre site zoned R-3, One-Family Residential, located at 6601 Tuttle Hill Road, Ypsilanti, MI 48197, Parcel K-11-26-300-009, to give the applicant time to address the comments made at this evening's meeting and resubmit, and/or provide additional information, as discussed tonight."

Motion to Approve:
"I move to recommend approval to the Township Board of the Preliminary Site Plan submitted by Diverse Real Estate, LLC to permit construction of a 101-unit, single-family residential site condominium on a 54.70-acre site zoned R-3, One-Family Residential, located at 6601 Tuttle Hill Road, Ypsilanti, MI 48197, Parcel K-11-26-300-009, with the following conditions:

1. The applicant shall address all outstanding comments from reviewing agencies prior to Final Site Plan Review by the Planning Commission and Township Board. The applicant shall revise all plan sheets to reflect the results of this evening's discussion.
2. The applicant shall obtain all applicable internal and outside agency permits prior to construction.
3. *(Any other conditions based upon Planning Commission discussion.)*

Motion to Deny:
"I move to recommend denial to the Township board of the Preliminary Site Plan submitted by Diverse Real Estate, LLC for construction of a 101-unit, single-family residential site condominium on a 54.70-acre site zoned R-3, One-Family Residential, located at 6601 Tuttle Hill Road, Ypsilanti, MI 48197, Parcel K-11-26-300-009, due to the following reasons:"

1._____

2._____

3._____

ARCHITECTS. ENGINEERS. PLANNERS.

OHM Advancing Communities®

March 28, 2025

Ms. Lauren Doppke
Township Staff Planner
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, MI 48197

RE: Creekside Village North
Preliminary Site Plan Review #2

Dear Ms. Doppke:

We have completed the second preliminary site plan review of the plans dated November 11, 2024, with a latest revision date of March 6, 2025, and received by OHM Advisors on March 18, 2025.

At this time, the plans are recommended for consideration by the Township Planning Commission, contingent on the following comment being addressed. Preliminary detailed engineering comments have been provided to the applicant as a courtesy and shall be addressed prior to submitting detailed engineering plans for review.

A brief description of the project has been provided below, followed by our comments and a list of anticipated required permits and approvals. Comments in Section C are detailed in nature, do not influence the overall site layout, and can be addressed during the detailed engineering drawing submittal.

A. PROJECT AND SITE DESCRIPTION

The applicant is proposing a 101-unit single-family residential community located at the northeast corner of Tuttle Hill Road and Merritt Road. The development is proposed to be developed in two (2) phases.

The site will be serviced by connection to the existing water main and sanitary sewer stubs near both Merritt Road and Tuttle Hill Road with a water main loop through the proposed development. Stormwater runoff will be managed by two (2) existing detention basins that are proposed to be modified, as well as five (5) rain gardens and an underground conveyance system.

B. PRELIMINARY SITE PLAN COMMENTS

Stormwater Management

1. It is noted that the first flush volume is proposed to be infiltrated within the rain gardens; however, per the Washtenaw County Water Resources Commissioner's Standards, the outlet control structures shall be designed based on the volumes of runoff excluding the infiltration volume. The applicant shall review and revise the basin storage volumes and all subsequent calculations accordingly.

2. The applicant noted on the plans that a minimum horizontal separation of ten (10) feet between all water main and storm sewer structures shall be provided, per EGLE permitting requirements; however, the applicant shall review and revise the horizontal separation distance accordingly, as there appears to be areas that may not meet this requirement, or note that deviations will be required to be reviewed and approved by EGLE and/or YCUA during the permitting process.

OHM Advisors
34000 PLYMOUTH ROAD
LIVONIA, MICHIGAN 48150
T 734.522.6711
F 734.522.6427
OHM-Advisors.com

C. PRELIMINARY DETAILED ENGINEERING COMMENTS

The following comments shall be addressed by the applicant during the detailed engineering drawing submittal, and do not affect the recommendation for approval to the Township of Ypsilanti Planning Commission. It should be noted that this is not an all-inclusive list and additional comments may be generated as new information is presented.

1. The applicant shall provide utility pipe profiles, including pipe diameter, material, length, slope, and hydraulic grade line (where applicable) for all proposed utilities (water, sanitary, storm).

2. It is recommended that all public utilities (water, sanitary) be constructed in Phase 1. This office defers to YCUA on the review and approval of the proposed phasing of public utilities.

3. The applicant shall provide spot elevations at all four (4) corners of all ramps and level landings, as well as along both sides of all proposed and existing sidewalk/pathway at 50-foot intervals. The applicant shall note that the cross-slope shall not exceed 2%, per ADA Standards. The applicant shall also verify the existing sidewalk/pathway along both Merritt Road and Tuttle Hill Road is ADA compliant and note that anything out of compliance will need to be removed and replaced.

4. The applicant shall provide a detailed drainage area map that provides drainage areas corresponding to each catch basin, including their acreages, C-factors, and C-factor calculations.

5. The applicant shall review and revise the proposed storm sewer layout in the as there appears to be a discrepancy between the Utility Plan and the Landscape Plan.

6. The applicant shall provide the location of the water and sanitary sewer services, as well as the curb stop boxes and the sanitary cleanouts. The applicant shall also clarify the material of the proposed water and sanitary services.

7. The applicant shall provide a quantity list for all proposed utilities (water, sanitary, storm) on the Cover Sheet, delineated by existing or proposed road right-of-way or easement, per Township Standards.

8. The applicant shall provide the Ypsilanti Township Standard Detail Sheets within the plan set, including the Ypsilanti Township SESC Standard Detail Sheet. These can be obtained by emailing stacie.monte@ohm-advisors.com.

D. REQUIRED PERMITS & APPROVALS

The following outside agency reviews and permits will be required for the project. Copies of any correspondence between the applicant and the review agencies, as well as the permit or waiver, shall be sent to both the Township and OHM Advisors (email: stacie.monte@ohm-advisors.com).

- **Ypsilanti Community Utilities Authority (YCUA):** Review and approval of all water main and sanitary sewer improvements is required.
- **Ypsilanti Township Fire Department:** Review and approval of hydrant coverage, site accessibility, and the temporary gravel turnaround is required.
- **Washtenaw County Water Resources Commissioner's Office (WCWRC):** Review and approval is required. A drain-use permit may be required.
- **Washtenaw County Road Commission (WCRC):** Review and approval is required.
- **Michigan Department of Environment, Great Lakes & Energy (EGLE):** An EGLE Act 399 and Part 41 permit will be required for construction of all public water main and sanitary sewer systems improvements.
- **Michigan Department of Environment, Great Lakes & Energy (EGLE):** An EGLE permit will be required for any work and/or stormwater discharge into the wetlands.

- **Wolverine Pipeline:** Review and approval of the proposed construction within the gas easement will be required.
- **Ypsilanti Township Office of Community Standards:** A Soil Erosion and Sedimentation Control permit shall be secured from the Ypsilanti Township Office of Community Standards.

Should you have any questions regarding this matter, please contact this office at (734) 466-4580.

Sincerely,
OHM Advisors

Stacie L. Monte

Matthew D. Parks, P.E.

SLM/MDP

cc: Doug Winters, Township Attorney
Sally Elmiger, CWA, Township Planning Consultant
Steven Wallgren, Township Fire Marshall
Scott Westover, P.E., YCUA
File

P:\0000_0100\SITE_YpsilantiTwp\2024\0098241060_6601 Tuttle Hill_Creekside Village North\MUNI\01_SITE\PSP#2\Creekside Village North_PSP#2_2025-03-28.docx

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT
BUREAU OF FIRE PREVENTION

222 South Ford Boulevard, Ypsilanti, MI 48198

December 10, 2024

Fletcher Reyher, Planning and Development Coordinator
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, MI 48197

RE: Preliminary (residential) Site Plan Review #1

Project Name:	Creekside Village North
Project Location:	Merritt & Tuttle Hill Rds. Ypsilanti, MI 48198
Plan Date:	11/11/2024
Applicable Codes:	IFC 2018
Engineer:	Atwell
Engineer Address:	311 North Main Ann Arbor, MI 48104

Status of Review

Status of review: Approved as Submitted

All pages were reviewed.

Site Access

Comments: Site Access is acceptable.

Hydrants

Comments: The proposed Hydrant coverage is acceptable.

Sincerely,

Steve Wallgren, Fire Marshal
Charter Township of Ypsilanti Fire Department
CFPS, CFI I

Dedicated to Providing Top Quality, Cost Effective, and
Environmentally Safe Water and Wastewater Services to Our Customers

YPSILANTI COMMUNITY UTILITIES AUTHORITY

2777 STATE ROAD
YPSILANTI, MICHIGAN 48198-9112
TELEPHONE: 734-484-4600
WEBSITE: www.ycua.org

March 28, 2025

VIA ELECTRONIC MAIL

Ms. Sally Elmiger, Planning Consultant
Office of Community Standards
CHARTER TOWNSHIP OF YPSILANTI
7200 S. Huron River Drive
Ypsilanti, MI 48197

Re: Preliminary (residential) Site Plan Review #2
Creekside Village North
Charter Township of Ypsilanti (Plan Date: 03-06-2025)

Dear Ms. Elmiger:

In response to the electronic mail message from your office dated March 18, 2025, we have reviewed the referenced plans with regards to water supply and wastewater system design. The plans are acceptable to YCUA for this stage of review. The following comments are offered for consideration by the Applicant and/or the Applicant's design engineer prior to the Detailed Engineering phase of the project.

1. The proposed phasing of the water main construction is unacceptable to YCUA. The phasing must be revised such that no residences will be connected to dead-end water mains that may never get extended to the required loop, such as proposed valves V1 (if moved the center of proposed unit 92) and V8. Further clarification is needed as to what exactly a "watertight boot" is at the proposed temporary dead-end locations on each water main.
2. The revised notes on plan sheet 7 indicate the proposed water main will be 12" diameter pipe. While this is acceptable to YCUA, all existing water mains that will be connected to by the proposed system are 8" diameter pipe, which would be also be acceptable for all proposed water main for the development.
3. The minimum width for sanitary sewer easements is 25'.
4. Proposed sanitary manhole S25 may syill need to be be moved southwest to increase the length of the sanitary sewer between it and proposed sanitary manhole S26. This will be reviewed when Detailed Engineeing plans are received by YCUA.

Enclosed is an Estimate of Costs – Application for Services, dated November 25, 2024, indicating connection fees for the proposed project. Please note that the connection fees can be paid on a unit-by-unit basis, with $1,066.00 due to YCUA prior to the building permit being applied for from the Township by the Applicant. **The construction phase escrow deposit, YCUA**

administration fee, and record plan guarantee, must be paid to YCUA by the Applicant, with a receipt delivered to the Township, before either any building permits or the soil and grading permit is issued. The construction phase escrow deposit and associated fees and deposits will be determined during the Detailed Engineering phase of the project in conjunction with your office and the Township Engineer. Should there be any questions please contact this office.

Sincerely,

SDW Digital Signature

SCOTT D. WESTOVER, P.E., Director of Engineering
Ypsilanti Community Utilities Authority

cc: Mr. Luke Blackburn, Mr. Sean Knapp, File, YCUA
Mr. Steve Wallgren, Township Fire Department
Mr. Matt Parks, P.E., Ms. Stacie Monte, Township Engineer
Ms. Aubrey Merhib, Applicant
Mr. Kyler Sheerin, P.E., Applicant's design engineer

G:\CDproj\YpsiTwp\2021 - Creekside Village North\PRSP Rev#2.docx

Outlook

WCRC App. 18057 - Creekside Village North

From Streight, Gary <streightg@wcroads.org>
Date Thu 6/19/2025 2:17 PM
To Sally Elmiger <selmiger@ypsitownship.org>; Kyler Sheerin <ksheerin@atwell.com>
Cc Brenda Stumbo <bstumbo@ypsitownship.org>; McLain <mcwinlaw@gmail.com>; Lauren Doppke <ldoppke@ypsitownship.org>; Yadykina, Elena <yadykinae@wcroads.org>; Smith, Erin <smithe@wcroads.org>; Taylor, Elizabeth <taylore@wcroads.org>

The review of the submitted revised Traffic Impact Study(TIS) has been completed and I offer the following comments for your consideration:

- Previous comments on the TIS have been addressed and the TIS is approved.
- The TIS concludes no mitigation measures are required with the proposed development.
- The paving of Merritt Road from Tuttle Hill Road to Shula Vista shall be performed as part of the project.

The review of the engineering plans shall be forthcoming. If there are any questions feel free to contact me.

Gary Streight, P.E.
Senior Project Manager

Washtenaw County Road Commission
555 N. Zeeb Road, Ann Arbor, Michigan

Direct: (734) 327-6692 | Main: (734) 761-1500
wcroads.org | Follow us on Facebook

GRETCHEN DRISKELL

Water Resources Commissioner
705 N Zeeb Road
Ann Arbor, MI 48103
734-222-6860

Drains@washtenaw.org

Harry Sheehan
Chief Deputy Water Resources Commissioner

Scott Miller, P.E.
Deputy Water Resources Commissioner

Theo Eggermont
Public Works Director

April 2, 2025

Steve Sills, PE
Atwell, LLC
331 N. Main Street
Ann Arbor, MI 48104

RE: Creekside Village North
661 Turtle Hill Road
WCWRC Project No. 4433

Dear Mr. Sills:

This office has reviewed the preliminary plans for the above referenced project in the Ypsilanti Township. These plans have project number of 15001707, are dated November 11, 2024, have a most recent revision date of March 6, 2025, and were received by this office on March 20, 2025. As a result of our review, we would like to offer the following comments:

1. The current preliminary plans are approved, contingent upon the inclusion of the piezometer results in the future construction plans. The piezometer results will impact the overall basin design and may significantly alter the stormwater design methodology.
2. The following comments are noted during the current preliminary plan review phase. These items should be addressed for the future construction plan review phase but are not required for preliminary plan approval. (Please note that a full construction plan review has not been completed and there may be additional comments at the time of review.
    a. The certificate of outlet must include hydraulic calculations to ensure that the receiving drains have capacity for the proposed flow.
    b. When available, please provide the executed agreement between the developer and Wolverine/Enbridge Pipeline.
    c. Provide calculations for worksheet W8 for both Basin A and Basin B. Include both surface flow and pipe flow travel time in accordance with the rules. The standard 20-minute initial time of concentration used in the conveyance calculations cannot be carried through to worksheet W8. For example, the pipe flow travel time from R44-R30 is 8.1 minutes. List this time in worksheet W8, in addition to the surface flow travel time upstream of R44. Use a similar approach for Basin B.
    d. Include an end section with a metal bar grate in the rain garden typical detail.
    e. Provide profiles for enclosed drains and piping.

f. Show the 10-year HGL (contained within the pipe) for all proposed pipes.

g. Ensure all invert elevations are above bankfull elevations. Multiple basin inlets are below the bankfull elevation.

h. Match the 8/10^{ths} line of pipes with differing sizes.

i. Include a minimum 0.1' drop at all structures.

j. Provide C values for each catchment.

k. Provide off-site topography for at least 150 feet.

l. Provide an emergency overflow/spillway for each basin and include design calculations on the plans.

m. A permanent forebay depth marker should be indicated on the detention basin profiles and in plan view.

n. Field verification of infiltration rates must be completed prior to planting. If the field measured infiltration rates do not meet or exceed design infiltration rates, then design modifications will be required.

o. Provide the geotechnical report including the infiltration testing results summary.

p. Revise the grading plan to meet the maximum impervious loading ratios for rain gardens #2, #4, and #5.

q. Revise the grading plan to meet the maximum total loading ratio for rain gardens #2 and #4.

r. Ensure velocities entering the rain gardens are non-erosive.

s. Ensure rain garden overflows are routed to avoid property damage.

3. Please see the attached invoice for the current fees and remit these fees upon receipt.

At your convenience, please send us a complete set of revised plans so that we may continue our review. If you have any questions, please do not hesitate to contact me via email at byrnem@washtenaw.org.

Sincerely,

Matt Byrne

Matt Byrne, P.E.
Stormwater Engineer

(drain district / Creekside Village North_rev4)

Cc: Lauren Doppke, Ypsilanti Township Planner
Belinda Kingsley, Ypsilanti Township Planning & Zoning Coordinator
Sally Elmiger, Ypsilanti Township Planning Consultant (Carlisle Wortman)
Doug Winters, Ypsilanti Township Attorney (McLain and Winters)
Matt Parks, PE, Ypsilanti Township Engineer (OHM)
Stacie Monte, Ypsilanti Township Engineer (OHM)

Washtenaw County Water Resources
PO Box 8645
Ann Arbor, MI 48107-8645
drains@washtenaw.org 734-222-6860

General Invoice

Customer Copy

CUSTOMER	INVOICE DATE	INVOICE NUMBER	AMOUNT PAID	DUE DATE	INVOICE TOTAL DUE
DIVERSE REAL ESTATE LLC	04/03/2025	15844	$0.00	**05/03/2025**	**$2,227.50**

DESCRIPTION	QUANTITY	PRICE	UOM	ORIGINAL BILL	ADJUSTED	PAID	AMOUNT DUE
Engineering Review Fees WO 4433 Engineering Review Fees	16.50	$135.000000	EACH	$2,227.50	$0.00	$0.00	$2,227.50

Invoice Total:	**$2,227.50**

WATER RESOURCES
CREEKSIDE VILLAGE NORTH
WCWRC PROJECT #4433

DETACH AND RETURN THE PORTION BELOW WITH YOUR PAYMENT

Washtenaw County Water Resources
PO Box 8645
Ann Arbor, MI 48107-8645
drains@washtenaw.org 734-222-6860

General Invoice

Remit Portion

Invoice Date	**04/03/2025**
Invoice Number	**15844**
Customer Number	**10322**
Amount Paid	
Due Date	**05/03/2025**
Invoice Total Due	**$2,227.50**

Please note your invoice number on your payment.

DIVERSE REAL ESTATE LLC
ROEBUCK, MARK
ATTN: MARK ROEBUCK
13001 23 MILE RD STE 200
SHELBY TOWNSHIP, MI 48315

Charter Township of Ypsilanti
Office of Community Standards
7200 S. Huron Drive, Ypsilanti, MI 48197
Phone: (734) 544-4000 ext. #1
Website: https://ypsitownship.org

SITE PLAN REVIEW APPLICATION

I. APPLICATION/DEVELOPMENT TYPE

Development:

- ☐ Subdivision
- ☐ Multi-family/Condominium
- ☑ Site Condominium
- ☐ Planned Development
- ☐ Non-residential

Application:

- ☐ Administrative Site Plan Review
- ☐ Sketch Site Plan Review
- ☑ Full Site Plan Review
- ☐ Revisions to approved plan
- ☐ Tentative Preliminary Plat
- ☐ Final Preliminary Plat
- ☐ Final Plat Process
- ☐ Stage I (for Planned Development)
- ☐ Stage II (for Planned Development)

II. PROJECT LOCATION

Address: 6601 Tuttle Hill Rd City: Ypsilanti Township State: MI Zip: 48197
Parcel ID #: K-11- 26-300-009 Zoning R3 - Single Family
Lot Number: _____ Subdivision: _____
Property dimensions: approx. 1,900'x1,300 Acreage: 43.179
Name of project/Proposed development: Creekside Village North
Legal description of Property:

See attached plans.

Describe Proposed Project (including buildings/ structures/ # units):

Creekside Village North is a 101-unit Single Family Residential development

III. APPLICANT INFORMATION

Applicant: Diverse Real Estate LLC Phone: [redacted]
Address: 13001 23 Mile Road, suite 200 City: Shelby Township State: MI Zip: 48315
Fax: _____ Email: [redacted]
Property owner (if different than applicant): SE MICHIGAN LAND HOLDING, LLC Phone: [redacted]
Address: 13001 23 Mile Road, suite 200 City: Shelby Township State: MI Zip: 48315
Fax: _____ Email: [redacted]
Engineer: _____ Phone: _____
Address: _____ City: _____ State: _____ Zip: _____
Fax: _____ Email: _____

Charter Township of Ypsilanti
Office of Community Standards
7200 S. Huron Drive, Ypsilanti, MI 48197
Phone: (734) 544-4000 ext. #1
Website: https://ypsitownship.org

SITE PLAN REVIEW APPLICATION

VI. SCHEDULE OF FEES

Preliminary Site Plan Review		
	Non-refundable fee	Refundable deposit
Full	$500	Less than one (1) acre: $2,000 One (1) acre to five acres: $4,000 Over five (5) acres to ten (10) acres: $5,500 Greater than ten (10) acres: $5,500 + $50 per acre over ten (10) acres
Sketch	$500	Less than one (1) acre: $1,500 One (1) acre to five acres: $2,000 Over five (5) acres to ten (10) acres: $2,500 Greater than ten (10) acres: 25,500 + $50 per acre over ten (10) acres
Administrative	$100	Less than one (1) acre: $1,000 One (1) acre to five acres: $1,200 Over five (5) acres to ten (10) acres: $1,500 Greater than ten (10) acres: $1,500 + $50 per acre over ten (10) acres
Planned Development Stage I and Rezoning	$1,500 + $20 per acre	Less than one (1) acre: $3,000 One (1) acre to five acres: $4,000 Over five (5) acres to ten (10) acres: $5,500 Greater than ten (10) acres: $5,500 + $50 per acre over ten (10) acres
Final Site Plan Review		
	Non-refundable fee	Refundable deposit
Full	$500	Less than one (1) acre: $3,000 One (1) acre to five acres: $4,000 Over five (5) acres to ten (10) acres: $5,500 Greater than ten (10) acres: $5,500 + $50 per acre over ten (10) acres
Sketch	$500	Less than one (1) acre: $1,500 One (1) acre to five acres: $2,000 Over five (5) acres to ten (10) acres: $2,500 Greater than ten (10) acres: $2,500 + $50 per acre over ten (10) acres
Administrative	$100	Less than one (1) acre: $1,000 One (1) acre to five acres: $1,200 Over five (5) acres to ten (10) acres: $1,500 Greater than ten (10) acres: $1,500 + $50 per acre over ten (10) acres
Planned Development Stage I and Rezoning	$1,500 + $20 per acre	Less than one (1) acre: $3,000 One (1) acre to five acres: $4,000 Over five (5) acres to ten (10) acres: $5,500 Greater than ten (10) acres: $5,500 + $50 per acre over ten (10) acres

$ 8,350 **FEE TOTAL**

V. APPLICANT SIGNATURE

Jessica Bliemeister — Applicant Signature

Jessica Bliemeister — Print Name

10-8-2024 — Date

Charter Township of Ypsilanti
Office of Community Standards
7200 S. Huron Drive, Ypsilanti, MI 48197
Phone: (734) 544-4000 ext. #1
Website: https://ypsilanti.org

SPECIAL CONDITIONAL USE/ USES SUBJECT TO SPECIAL CONDITIONS APPLICATION

I. PROJECT LOCATION

Address: 6601 Tuttle Hill Rd Parcel ID #: K-11- 26-300-009 Zoning R-3
Lot Number: _____ Subdivision: _____
Describe proposed use: ~~101-unit Single Family Residential development~~

II. APPLICANT/PROPERTY OWNER

Applicant: Diverse Real Estate LLC Phone: [redacted]
Address: 13001 23 Mile Road, suite 200 City: Shelby Township State: MI Zip: 48315
Property Owner (if different than applicant): SE MICHIGAN LAND HOLDING, LLC Phone: 239-273-8306
Address: 13001 23 Mile Road, suite 200 City: Shelby Township State: MI Zip: 48315

III. FEES

Total: $ 2,000 **Breakdown of fee:** **Non-refundable:** **$1,000**
Refundable: **$1,000**

IV. APPLICANT SIGNATURE

The following are attached to this application:

- [x] Name(s) and address(es) of all record owner(s) and proof of ownership.
  - [ ] If applicant is not the fee-simple owner, the owner's signed authorization for application must be attached to this application.
- [x] Scaled and accurate survey drawing, correlated with a legal description and showing all existing buildings, drives and other improvements.
- [ ] Section of Zoning Ordinance involved in this request 2122.(1): _____
- [ ] [Daycare only]
- [ ] Copy of State license.
- [ ] Copy of inspection reports.
- [ ] Drawing or pictures of the house layout, showing the rooms that you will utilize for the daycare.

Aubrey Merhib — Aubrey Merhib — 7/29/2025
Applicant Signature — Print Name — Date

- [ ] Approved
- [ ] Denied

_____ _____ _____
Zoning Administrator Signature — Print Name — Date

Please note: Application cannot be appealed to the Board of Appeals. If denied by the Planning Commission, re-application can be made to the Planning Commission after 365 days, after the date of this application, except on the grounds of new evidence or proof of changed conditions found by the Planning Commission to be valid.

Charter Township of Ypsilanti
Office of Community Standards
7200 S. Huron Drive, Ypsilanti, MI 48197
Phone: (734) 544-4000 ext. #1
Website: https://ypsitownship.org

OFFICE USE ONLY

All special conditional use applications	
☐ The application is filled out in its entirety and includes the signature of the applicant and, if different than the applicant, the property owner. ☐ Name(s) and address(es) of all record owner(s) and proof of ownership. If the applicant is not the property owner, written and signed permission from the property owner is required ☐ A detailed description of the proposed use. ☐ A site plan, if requested by the planning commission ☐ Fees	☐ Scaled and accurate survey drawing, correlated with a legal description and showing: ☐ All property lines and dimensions ☐ All existing and proposed structures and dimensions ☐ Locations of drives, sidewalks, and other paved areas on the property and on the adjacent streets ☐ Location and dimensions of the nearest structures on adjacent properties ☐ Easements and dimensions, if applicable

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
OFFICE OF THE CLERK

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

TO: Township Board

FROM: Brenda Stumbo, Supervisor
Debbie Swanson, Clerk
Stan Eldridge, Treasurer

DATE: July 9, 2025

RE: **Request authorization to proceed in partnership with Lombardo Homes to make improvements to the Merritt Road and Tuttle Hill Road intersection for signalization and pedestrian crossing.**

The Township has been requesting some type of traffic improvements at the intersection of Tuttle Hill and Merritt for many years to no avail from the Washtenaw County Road Commission. This week, Greg Wingerland, the developer of Lombardo Homes, requested a meeting and offered a financial contribution in the amount of $185,000 to assist with the cost of signalization of the intersection even though the Washtenaw County Road Commission did not require them to make any improvements to this intersection as part of their development.

We are requesting authorization for the three full-time officials and the township attorney to negotiate a road improvement agreement for the signalization of Merritt Road and Tuttle Hill Road, including push button pedestrian crossing with the Washtenaw County Road Commission. The agreement and the cost will be brought back to the board for approval.

We have been in communication with Washtenaw County Commissioners Justin Hodges and Annie Sommerville as well as County Administrator Greg Dill to help with resolving this safety concern.

We believe this is the fastest way forward to get the much-needed safety improvements at this intersection that the Township has been requesting for years on behalf of our residents. Our community needs and deserves a solution sooner rather than later.

Thank you for your consideration.

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

YPSILANTI TOWNSHIP
OFFICE OF THE CLERK

Trustees
Karen Lovejoy Roe
John Newman II
Gloria Peterson
LaResha Thornton

MEMORANDUM

To: Brenda Stumbo, Supervisor
Stan Eldridge, Treasurer

From: Debbie Swanson, Clerk

Date: July 21, 2025

Subject: **Request authorization to proceed in partnership with Lombardo Homes to make improvements to the Merritt Road and Tuttle Hill Road intersection for signalization and pedestrian crossing.**

At the regular meeting held on July 15, 2025 the Charter Township of Ypsilanti Board of Trustees authorized to proceed in partnership with Lombardo Homes to make improvements to the Merritt Road and Tuttle Hill Road intersection for signalization and pedestrian crossing.

Should you have any questions, please contact my office.

ajr

cc: Javonna Neel, Accounting Director
McLain & Winters, Township Attorney
File

PRELIMINARY SITE PLAN / SPECIAL LAND USE

CREEKSIDE VILLAGE NORTH

A SINGLE FAMILY RESIDENTIAL DEVELOPMENT
YPSILANTI, WASHTENAW COUNTY, MICHIGAN

DEVELOPMENT TEAM

DEVELOPER/APPLICANT
DIVERSE REAL ESTATE, LLC
13001 23 MILE ROAD, SUITE 200
SHELBY TOWNSHIP, MI 48315
PHONE: (248) 561-0001
EMAIL: AMERHIB@LOMBARDOCOMPANIES.COM

LANDSCAPE ARCHITECT
ALLEN DESIGN
557 CARPENTER
NORTHVILLE, MICHIGAN 48167
CONTACT: JIM ALLEN
PHONE: 248.467.4668

ENGINEER
ATWELL, LLC
311 NORTH MAIN STREET
ANN ARBOR, MICHIGAN 48104
CONTACT: KYLER SHEERIN, PE
PHONE: (517) 719-9669

PROJECT DESCRIPTION

CREEKSIDE VILLAGE NORTH IS A SINGLE FAMILY RESIDENTIAL COMMUNITY LOCATED ON THE NORTHEAST CORNER OF THE TUTTLE HILL ROAD AND MERRITT ROAD INTERSECTION. THE APPLICANT IS PROPOSING TO DEVELOP THE PROJECT AS A 101 – UNIT SITE CONDOMINIUM. THE PROPOSED LOT DIMENSIONS ARE 80' X 175' WITH A MINIMUM LOT SIZE OF 14,000 SF. THE HOMES WILL RANGE IN SIZE FROM 2,099 TO 3,775 SF WITH SALES PRICES STARTING IN THE $400,000S. THE DEVELOPMENT WILL BE CONSTRUCTED IN 2 PHASES. CREEKSIDE VILLAGE NORTH IS PROPOSED TO CONTAIN PRIVATE ROADS WITH SIDEWALKS ON BOTH SIDES. THE DEVELOPMENT WILL BE SERVICED BY PUBLIC SANITARY SEWER WHICH WILL BE DESIGNED AS EXTENSION OFF OF THE EXISTING STUBS FROM TUTTLE HILL ROAD AND MERRIT ROAD. PUBLIC WATER WILL BE LOOPED THROUGH THE DEVELOPMENT AND CONNECTED TO EXSTING STUBS FROM TUTTLE HILL ROAD AND MERRITT ROAD AND EXTENDED FROM THE EXISTING LAKEWOOD ESTATES CONDOMINIUM TO THE NORTH. STORMWATER MANAGEMENT WILL BE FACILITATED BY TWO ON-SITE DETENTION BASINS AND 5 INFILTRATION BASINS.

FIRE DEPARTMENT NOTES

1. ALL FIRE HYDRANTS AND WATER MAINS MUST BE INSTALLED AND IN SERVICE PRIOR TO ANY COMBUSTIBLE MATERIAL BEING BROUGHT TO THE SITE.
2. ALL ROADS SHALL BE PAVED AND CAPABLE OF SUPPORTING 35 TONS PRIOR TO CONSTRUCTION ABOVE FOUNDATION.
3. BUILDING ADDRESSES SHALL BE POSTED FACING THE STREET DURING ALL PHASES OF CONSTRUCTION. ADDRESSES SHALL BE A MINIMUM OF THREE INCHES IN HEIGHT ON A CONTRASTING BACKGROUND.
4. FIRE LANES SHALL BE POSTED WITH "FIRE LANE – NO PARKING" SIGNS IN ACCORDANCE WITH ORDINANCE #85.99.02.

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE YPSILANTI TOWNSHIP'S CURRENT STANDARDS AND SPECIFICATIONS, UNLESS OTHERWISE APPROVED IN THE PRO AGREEMENT.
2. THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE WASHTENAW COUNTY ROAD COMMISSION FOR ANY WORK WITHIN THE RIGHT-OF-WAY OF MERRITT ROAD AND TUTTLE HILL ROAD.
3. ALL PAVEMENT MARKINGS, TRAFFIC CONTROL SIGNS, AND PARKING SIGNS SHALL COMPLY WITH THE DESIGN AND PLACEMENT REQUIREMENTS OF THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. YPSILANTI TOWNSHIP HAS NO RESPONSIBILITY TO IMPROVE OR MAINTAIN THE PRIVATE STREETS CONTAINED WITHIN OR PRIVATE STREETS PROVIDING ACCESS TO THE PROPERTY DESCRIBED IN THIS PLAN.

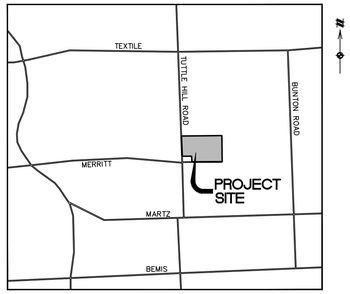
LEGAL DESCRIPTION

DESCRIPTION OF A 56.17 ACRE PARCEL OF LAND IN THE SOUTHWEST 1/4 OF SECTION 26, YPSILANTI TOWNSHIP, WASHTENAW COUNTY, MICHIGAN

COMMENCING AT THE SOUTHWEST CORNER OF SECTION 26, T3S, R7E, YPSILANTI TOWNSHIP, WASHTENAW COUNTY, MICHIGAN; THENCE N00°39'24"W 264.00 FEET ALONG WEST LINE OF SAID SECTION 26, THE EAST LINE OF CREEKSIDE VILLAGE WEST SUBDIVISION, AS RECORDED IN LIBER 35 OF PLATS, PAGE 66, WASHTENAW COUNTY RECORDS AND THE CENTERLINE OF TUTTLE HILL ROAD (VARIABLE WIDTH) FOR A **PLACE OF BEGINNING**; THENCE CONTINUING N00°39'24"W 1069.78 FEET ALONG SAID WEST LINE AND SAID CENTERLINE; THENCE N89°45'51"E (RECORDED AS N89°45'43"E) 1971.06 FEET ALONG THE NORTH LINE OF THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION 26 AND THE SOUTH LINE OF LAKEWOOD ESTATES CONDOMINIUM, WASHTENAW COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 554, MASTER DEED RECORDED IN LIBER 4627, PAGE 76, WASHTENAW COUNTY RECORDS; THENCE S00°26'09"E 1287.61 FEET ALONG THE WEST LINE OF GREENFIELDS SUBDIVISION NO. 3, AS RECORDED IN LIBER 34 OF PLATS, PAGE 34, WASHTENAW COUNTY RECORDS; THENCE S89°40'22"W 1553.58 FEET ALONG THE NORTH LINE OF MERRITT ROAD (VARIABLE WIDTH); THENCE N00°39'24"W 221.00 FEET; THENCE S89°40'22"W 412.50 FEET TO THE PLACE OF BEGINNING, BEING A PART OF THE SOUTHWEST 1/4 OF SAID SECTION 26, CONTAINING 56.17 ACRES OF LAND, MORE OR LESS, BEING SUBJECT TO THE RIGHTS OF THE PUBLIC OVER THE WESTERLY PORTION THEREOF AS OCCUPIED BY SAID TUTTLE HILL ROAD, ALSO BEING SUBJECT TO EASEMENTS, CONDITIONS, RESTRICTIONS AND EXCEPTIONS OF RECORD, IF ANY.



DEVELOPMENT MAP
SCALE: 1" = 120 FEET



VICINITY MAP
1" = 1900 FEET

SHEET INDEX

01	COVER SHEET
02	EXISTING CONDITIONS & DEMOLITION PLAN
03	NATURAL FEATURES IMPACT PLAN
04	OVERALL LAYOUT PLAN
05	LAYOUT PLAN – EAST
06	LAYOUT PLAN – WEST
6A	SIGHT DISTANCE PLAN
07	OVERALL UTILITY PLAN
08	OVERALL GRADING & SOIL EROSION CONTROL PLAN
09	GRADING PLAN – EAST
10	GRADING PLAN – WEST
11	GRADING & SOIL EROSION CONTROL DETAILS
12	OVERALL STORMWATER MANAGEMENT PLAN
13	STORMWATER BASIN A
14	STORMWATER BASIN A CALCULATIONS
15	STORMWATER BASIN B
16	STORMWATER CONVEYANCE CALCULATIONS
17	RAIN GARDEN INFILTRATION CALCULATIONS
18	ENBRIDGE & WOLVERINE PIPELINE PLAN & PROFILE 1
19	ENBRIDGE & WOLVERINE PIPELINE PLAN & PROFILE 2
20	FIRE PROTECTION PLAN
21	STANDARD DETAILS
22	ARCHITECTURAL FLOOR PLAN AND ELEVATIONS – 1
23	ARCHITECTURAL FLOOR PLAN AND ELEVATIONS – 2
24	ARCHITECTURAL FLOOR PLAN AND ELEVATIONS – 3
25	INFILTRATION TEST PITS
26	INFILTRATION TEST PITS
27	INFILTRATION TEST PITS
28	INFILTRATION TEST PITS
29	INFILTRATION TEST PITS
L-1	STREET TREE PLAN
L-2	GREENBELT AND ENTRY
L-3	STORM WATER PLAN
L-4	STORM WATER PLAN
L-5	LANDSCAPE DETAILS
P-1	PHOTOMETRIC LAYOUT
P-2	PHOTOMETRIC LAYOUT
P-3	PHOTOMETRIC LAYOUT

SITE DATA:

PARCEL ID#	11-26-300-009
PARCEL SIZE (GROSS):	56.17 AC
TUTTLE HILL RD. FUTURE ROW:	1.47 AC.
PARCEL SIZE (NET):	54.70 AC.
EXISTING ZONING:	R3
PROPOSED ZONING:	R3
FUTURE LAND USE:	EXISTING NEIGHBORHOODS
LOTS SHOWN:	101 LOTS
DENSITY SHOWN:	1.80 LOTS/AC (101 / 56.17)
OPEN SPACE:	13% (7.35 ACRES / 56.17 ACRES)

ZONING COMPLIANCE (R3):

	REQUIRED	PROVIDED	COMPLIES
LOT AREA (MIN):	14,000 SF	14,000 SF	YES
LOT WIDTH (MIN):	80'	80'	YES
SETBACKS:			
FRONT (MIN):	25'	25'	YES
SIDE (MIN):	5' / 16' TOTAL	5' / 16' TOTAL	YES
REAR (MIN):	35' MIN.	35'	YES
LOT COVERAGE (MAX):	30%	WILL COMPLY*	YES*
GROUND FLOOR AREA:	720 SF MIN.	WILL COMPLY*	YES*
BUILDING HEIGHT:	25' / 2 STY	WILL COMPLY*	YES*

* REVIEWED INDIVIDUALLY FOR EACH LOT AT TIME OF HOME CONSTRUCTION

STATE OF MICHIGAN
KYLER SHEERIN
No. 68966
LICENSED PROFESSIONAL ENGINEER

811 Know what's below. Call before you dig.
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SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

COVER SHEET

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

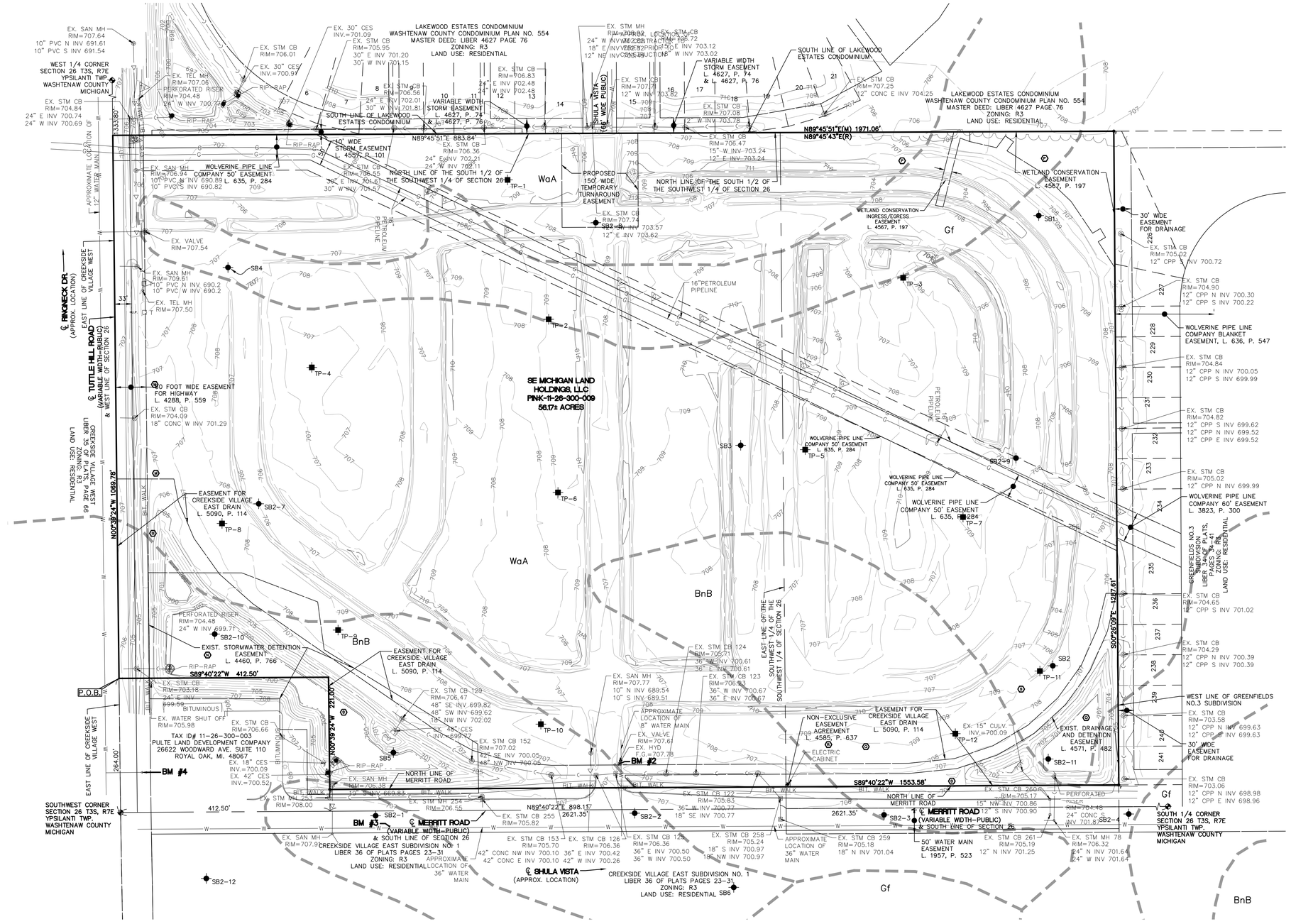
REVISIONS

SCALE 0 60 120
1" = 120 FEET
DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 01

CAD FILE: 15001707SP-01-CV.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

K:\15001707 - CREEKSIDE NORTH\DWG\PLAN SET\PRELIMINARY SITE PLAN\15001707SP-01-CV.DWG, 3/10/2025 1:58 PM, STEPHEN KESSEL



SURVEYOR'S NOTES

1. BEARINGS ARE BASED ON CREEKSIDE VILLAGE EAST SUBDIVISION NO. 1, RECORDED IN LIBER 36 OF PLATS, PAGES 23–31, WASHTENAW COUNTY RECORDS.

   ELEVATIONS ARE BASED UPON NAVD88.

2. FRANCHISE UNDERGROUND UTILITY LINE MAPS AND TOWNSHIP/CITY UTILITY MAPS HAVE BEEN REQUESTED, BUT NOT ALL MAPS HAVE BEEN RECEIVED AT THE DATE OF SURVEY AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, EXACTNESS OR CORRECTNESS OF THESE LOCATIONS.

3. UNDERGROUND UTILITY LINES ARE SHOWN PER FIELD OBSERVATIONS AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, EXACTNESS OR CORRECTNESS OF THESE LOCATIONS.

4. ALL MANHOLE INVERTS TAKEN FROM ATWELL–HICKS RECORD DRAWINGS FOR NOTED CREEKSIDE VILLAGE EAST SUBDIVISION NO. 1, GREENFIELDS NO. 3 SUBDIVISION, AND LAKEWOOD ESTATES CONDOMINIUM.

5. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT. EASEMENTS ARE SHOWN PER PREVIOUS ATWELL INFORMATION.

SOIL LEGEND

SYMBOL	NAME
BnB	Boyer Loomy Sand, 1 to 6 percent slopes
Gf	Gilford Sand Loam, till plain, 0 to 2 percent slopes
WaA	Wasepi Sandy Loam, 0 to 4 percent Slopes

LEGAL DESCRIPTION

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EXCEPTIONS

SCHEDULE B – EXCEPTIONS (PER CHICAGO TITLE INSURANCE COMPANY, COMMITMENT NUMBER: CREEKSIDE EAST NO 2, EFFECTIVE DATE: MAY 14, 2015)

M. EASEMENT FOR HIGHWAY PURPOSES GRANTED TO BOARD OF COUNTY ROAD COMMISSIONERS OF THE COUNTY OF WASHTENAW AS SET FORTH IN INSTRUMENT RECORDED IN LIBER 4288, PAGE 559. **AS SHOWN**

N. EASEMENTS AND THE TERMS, CONDITIONS, AND PROVISIONS THEROF WHICH ARE RECITED IN DECLARATION OF STORMWATER DETENTION EASEMENT AS RECORDED IN LIBER 4460, PAGE 766. **AS SHOWN**

O. EASEMENTS AND THE TERMS, CONDITIONS, AND PROVISIONS THEREOF WHICH ARE RECITED IN AGREEMENT TO ESTABLISH THE CREEKSIDE VILLAGE EAST SUBDIVISION DRAIN DRAINAGE DISTRICT AS RECORDED IN LIBER 4553, PAGE 657.
COVERS ENTIRE SUBJECT PROPERTY – NOT PLOTTABLE

P. EASEMENTS AND THE TERMS, CONDITIONS, AND PROVISIONS THEROF WHICH ARE RECITED IN AGREEMENT FOR CONSERVATION EASEMENT AS RECORDED IN LIBER 4567, PAGE 197. **AS SHOWN**

Q. EASEMENTS AND THE TERMS, CONDITIONS, AND PROVISIONS THEREOF WHICH ARE RECITED IN DECLARATION OF STORMWATER DRAINAGE AND DETENTION EASEMENT AS RECORDED IN LIBER 4571, PAGE 482. **AS SHOWN**

R. EASEMENTS AND THE TERMS, CONDITIONS, AND PROVISIONS THEROF WHICH ARE RECITED IN NON–EXCLUSIVE EASEMENT AGREEMENT AS RECORDED IN LIBER 4585, PAGE 637. **AS SHOWN**

S. EASEMENTS AND THE TERMS, CONDITIONS, AND PROVISIONS THEROF WHICH ARE RECITED IN EASEMENT AGREEMENT AS RECORDED IN LIBER 5090, PAGE 114. **AS SHOWN**

BENCHMARKS

BENCHMARK #2:
ARROW ON HYDANT
ELEVATION: 709.63 (NAVD88)

BENCHMARK #3:
ARROW ON HYDANT
ELEVATION: 709.52 (NAVD88)

BENCHMARK #4:
ARROW ON HYDANT
ELEVATION: 709.35 (NAVD88)

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. EASE
- 890 EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- X X EXIST. FENCE
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WATER EDGE
- EXIST. SOILS LIMIT
- XxX EXIST. SOILS TYPE
- EXIST. TEST PITS/SOIL BORING
- OHE OHE EXIST. OVERHEAD ELEC. LINE
- OHT OHT EXIST. OVERHEAD TELE. LINE
- TV TV EXIST. CABLE LINE
- U U EXIST. UNSPECIFIED UTILITIES
- G G EXIST. GAS
- C C C EXIST. STORM
- W EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE

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SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

EXISTING CONDITIONS & DEMOLITION PLAN

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 50 100
1" = 100 FEET

DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 02

CAD FILE: 15001707SP-02-ECDWG

PRELIMINARY - NOT FOR CONSTRUCTION



WCWRC NATURAL FEATURES INVENTORY (W12)

W12 Natural Features Inventory

Ex. Nat'l Resource	Mapped	Area (ac)	Protected/Undisturbed Area (ac)
Waterbodies	-	0.00	0.00
Floodplains	-	0.00	0.00
Riparian Areas	-	0.00	0.00
Wetlands (Cons. Esmt)	Y	0.66	0.66
Woodlands	-	0.00	0.00
Natural Drainage Area	-	0.00	0.00
Steep Slopes 15-25%	-	0.00	0.00
Steep Slopes over 25%	-	0.00	0.00
Special Habitat Area	-	0.00	0.00
Other	-	0.00	0.00
Total Existing (ac)		0.66	0.66

NOTES: EXISTING DETENTION BASINS ARE NOT COUNTED AS NATURAL STEEP SLOPES

SITE HISTORY NARRATIVE

2001 – PREVIOUS PLATTED SUBDIVISION WAS SUBMITTED AND APPROVED, EXTENDED IN 2006
2006 – APPLICANT WAS GIVEN PERMITS AND BEGAN CONSTRUCTION
2008 – DEVELOPMENT PERMITS EXPIRED
2016 – SITE REMAINS VACANT FOR NEXT PHASE OF CONSTRUCTION

SOIL LEGEND

SYMBOL	NAME
BnB	Boyer Loomy Sand, 1 to 6 percent slopes
Gf	Gilford Sand Loam, till plain, 0 to 2 percent slopes
WaA	Wasepi Sandy Loam, 0 to 4 percent Slopes

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- EXIST. GRAVEL
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WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

NATURAL FEATURES IMPACT PLAN

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

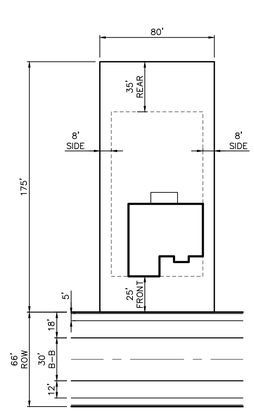
REVISIONS

SCALE 0 50 100
1" = 100 FEET
DR. SK CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 03

CAD FILE: 15001707SP-03-NF.DWG

N:\15001707 - CREEKSIDE NORTH\DWG\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-03-NF.DWG 3/12/2025 3:58 PM STEPHEN KESSEL



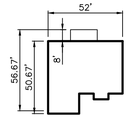


TYPICAL LOT DETAIL

1" = 50 FEET

ASSUMED PRODUCT OPTIONS
AUSTIN (39'-4" X 42')
BLOOMINGTON (39'-2" X 31'-6')
COLUMBIA (36' X 39'-4")
DAVENPORT (45' X 52')
FOREST (49'-4" X 41'-4")
HAMPTON (52' X 48-8') – SHOWN

NOTE
"•" BUILDING ENVELOPE REQUIRES SMALLER PRODUCT



HAMPTON BASE

1" = 50 FEET

PHASING SUMMARY

PHASE 1	53
PHASE 2	48
TOTAL	101

NOTES

1. PROPOSED SIDEWALK AND RAMPS SHALL CONFORM TO ADA REQUIREMENTS.
2. PROPOSED SIDEWALKS WITHIN THE DEVELOPMENT SHALL BE 5' WIDE CONCRETE.
3. EACH UNIT WILL HAVE SPACE ALLOCATED FOR A MINIMUM FOUR (4) PARKING SPACES – PROVIDED BY A MINIMUM TWO-CAR GARAGE, PLUS TWO SPACES IN EACH DRIVEWAY (MINIMUM 20-FEET LONG).
4. ALL ON-SITE SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE MMUTCD.
5. THE DEVELOPMENT WILL CONTAIN PRIVATE ROADS. THE PROPOSED CONNECTION WILL BE COORDINATED WITH THE WASHTENAW COUNTY ROAD COMMISSION.

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GAS
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WATER EDGE
- PHASE LINE
- PROP. BUILDING
- PROP. SETBACK
- PROP. BACK/EDGE CURB
- PROP. R.O.W. LINE
- PROP. LOT LINE
- PROP. ROAD CENTERLINE
- PROP. SIGN
- PROP. WALK
- PROP. ASPH.
- PROP. DRIVEWAY
- PROP. LIGHTPOLE

LOT AREA TABLE

LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET	LOT NO.	SQUARE FEET
1	15607	9	14000	17	14000	25	14092	33	15233	41	14000	49	14079	57	14120	65	14000	73	14922	81	14000	89	14000	97	14000
2	14382	10	15750	18	14000	26	14722	34	14244	42	14000	50	14076	58	14924	66	14000	74	16692	82	14175	90	14000	98	14000
3	14000	11	15686	19	15547	27	16833	35	14021	43	14000	51	14031	59	20674	67	14000	75	14000	83	14291	91	14000	99	14000
4	14473	12	14041	20	14552	28	15180	36	14021	44	14000	52	14095	60	14000	68	14000	76	18806	84	14291	92	14000	100	15534
5	16158	13	15378	21	14081	29	17754	37	14047	45	16748	53	15795	61	14000	69	15290	77	15706	85	14291	93	14768	101	16743
6	14000	14	14042	22	16337	30	16342	38	14560	46	14852	54	14121	62	14000	70	20658	78	15995	86	14541	94	14000		
7	14000	15	16136	23	19884	31	14092	39	14036	47	14074	55	15035	63	14000	71	20653	79	20136	87	14000	95	14000		
8	14000	16	15750	24	14209	32	14092	40	14131	48	14155	56	14935	64	14000	72	14234	80	14000	88	14000	96	14000		

811
Know what's below.
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THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
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SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

OVERALL LAYOUT PLAN

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 40 80
1" = 80 FEET
DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 04

CAD FILE: 15001707SP-04-LDWG

PRELIMINARY - NOT FOR CONSTRUCTION

X:\15001707 - CREEKSIDE NORTH\DWG\Civil 3D\15001707SP-04-LDWG 2/12/2025 1:59 PM STEPHEN KESSEL



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CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

LAYOUT PLAN – EAST

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. SK	CH. --
P.M. KS	
BOOK	
JOB 15001707	
SHEET NO. 05	

NO PARKING FIRE LANE R7-1

STOP R1-1

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GAS
- EXIST. GRAVEL
- EXIST. BUILDING
- EXIST. WATER EDGE
- PHASE LINE
- PROP. BUILDING
- PROP. SETBACK
- PROP. BACK/EDGE CURB
- PROP. R.O.W. LINE
- PROP. LOT LINE
- PROP. ROAD CENTERLINE
- PROP. SIGN
- PROP. WALK
- PROP. ASPH.
- PROP. DRIVEWAY
- PROP. LIGHTPOLE

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K:\15001707 - CREEKSIDE NORTH\DWG\PLAN SETS\PRELIMINARY SITE PLANS\15001707SP-04-L.DWG, 3/12/2025 1:59 PM, STEPHEN JACKSON

CAD FILE: 15001707SP-04-L.DWG



LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- SECTION LINE
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GAS
- EXIST. GRAVEL
- EXIST. BUILDING
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CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

LAYOUT PLAN – WEST

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

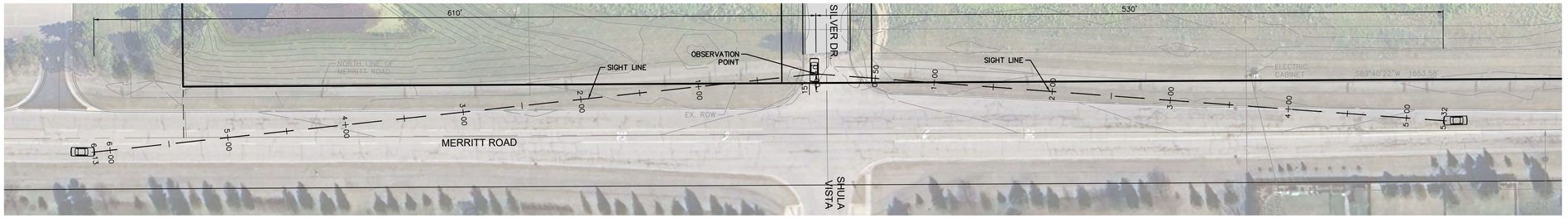
REVISIONS

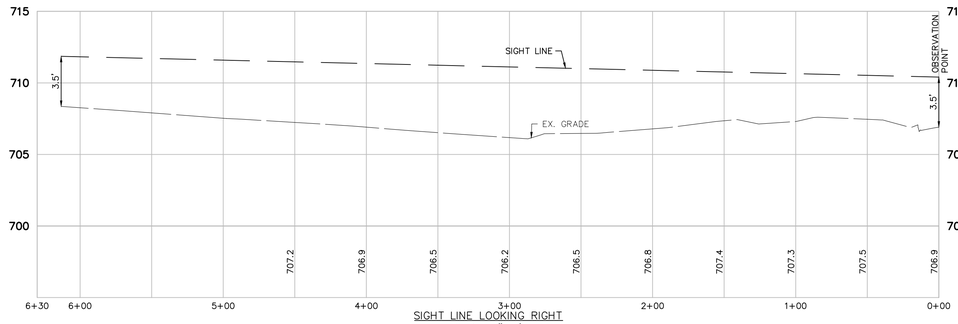
SCALE 0 25 50
1" = 50 FEET
DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 06

CAD FILE: 15001707SP-04-LDWG

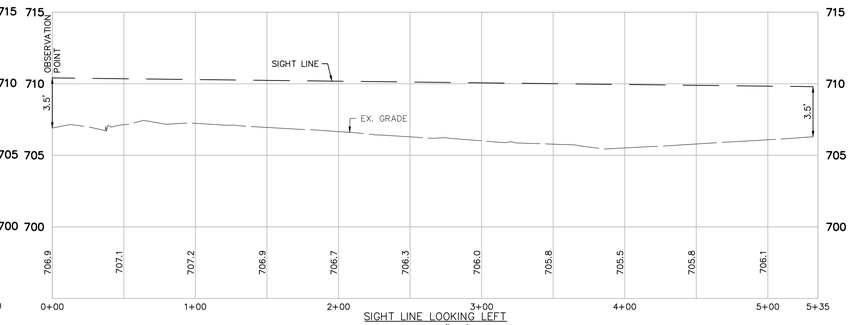
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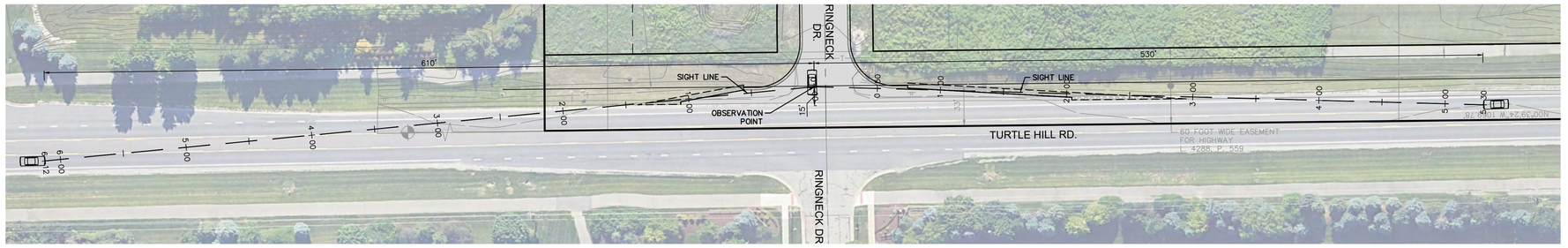


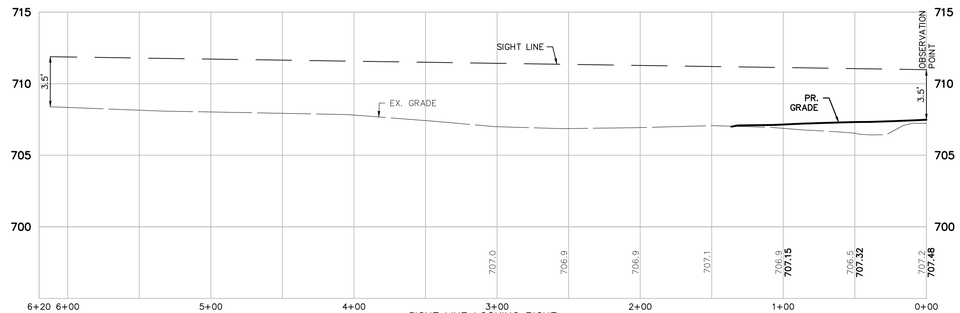


SIGHT LINE LOOKING RIGHT
VERT: 1"=5'
HORZ: 1"=50'

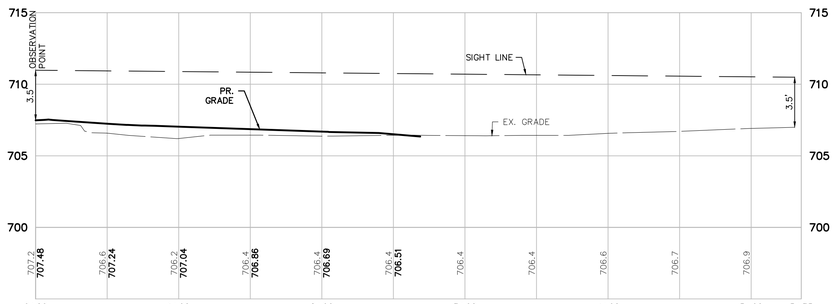


SIGHT LINE LOOKING LEFT
VERT: 1"=5'
HORZ: 1"=50'





SIGHT LINE LOOKING RIGHT
VERT: 1"=5'
HORZ: 1"=50'



SIGHT LINE LOOKING LEFT
VERT: 1"=5'
HORZ: 1"=50'

WCRC TABLE: SECTION 3.8

TABLE 5: INTERSECTION SIGHT DISTANCE FOR PASSENGER CARS FROM STOP

Design Speed (mph)	Left Turn (ft)	Right Turn or Crossing (ft)
25	280	240
30	335	290
35	390	335
40	445	385
45	500	430
50	555	480
55	610	530

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CLIENT
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CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

SIGHT DISTANCE PLAN

DATE
NOVEMBER 11, 2024

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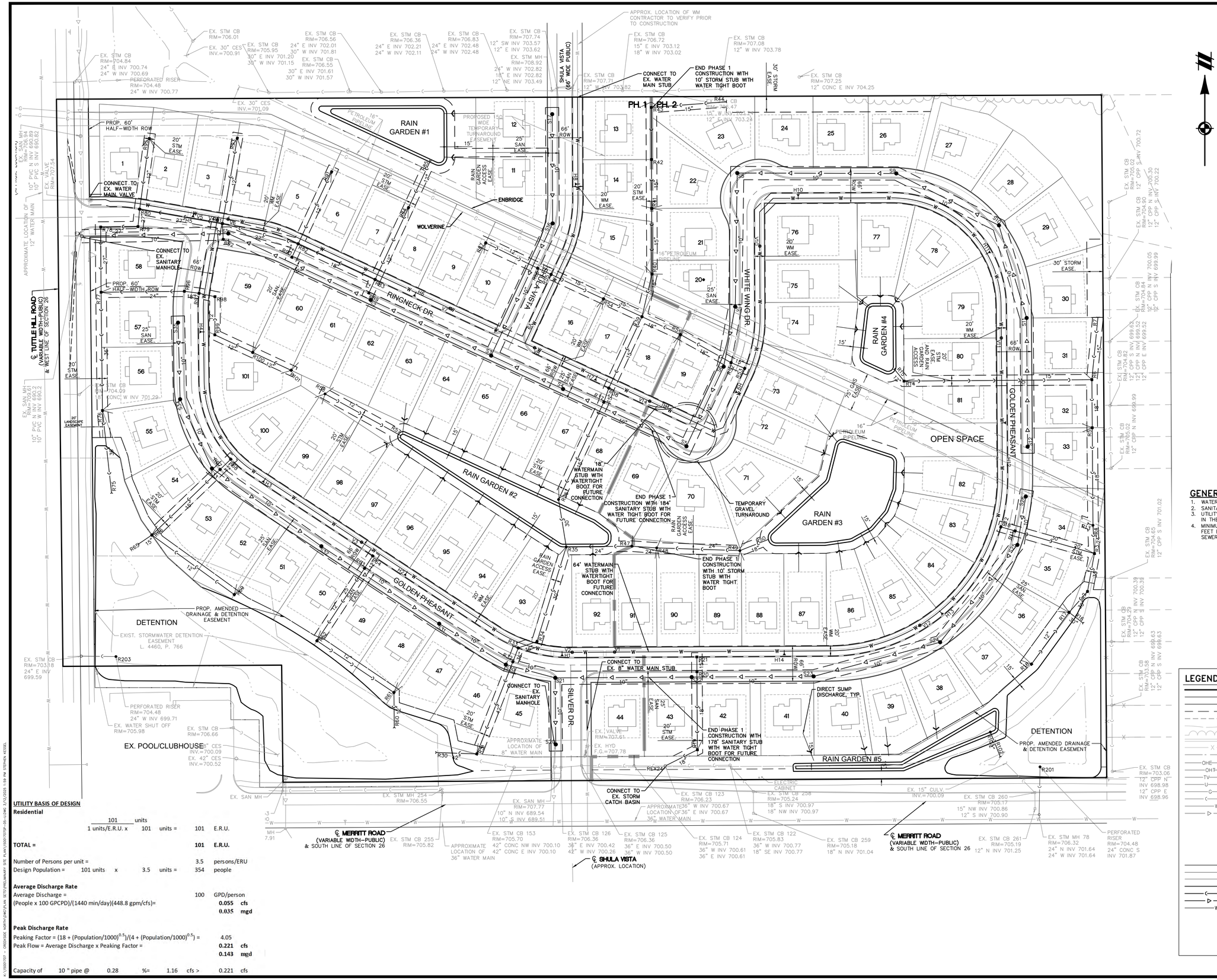
SCALE 0 25 50
1" = 50 FEET

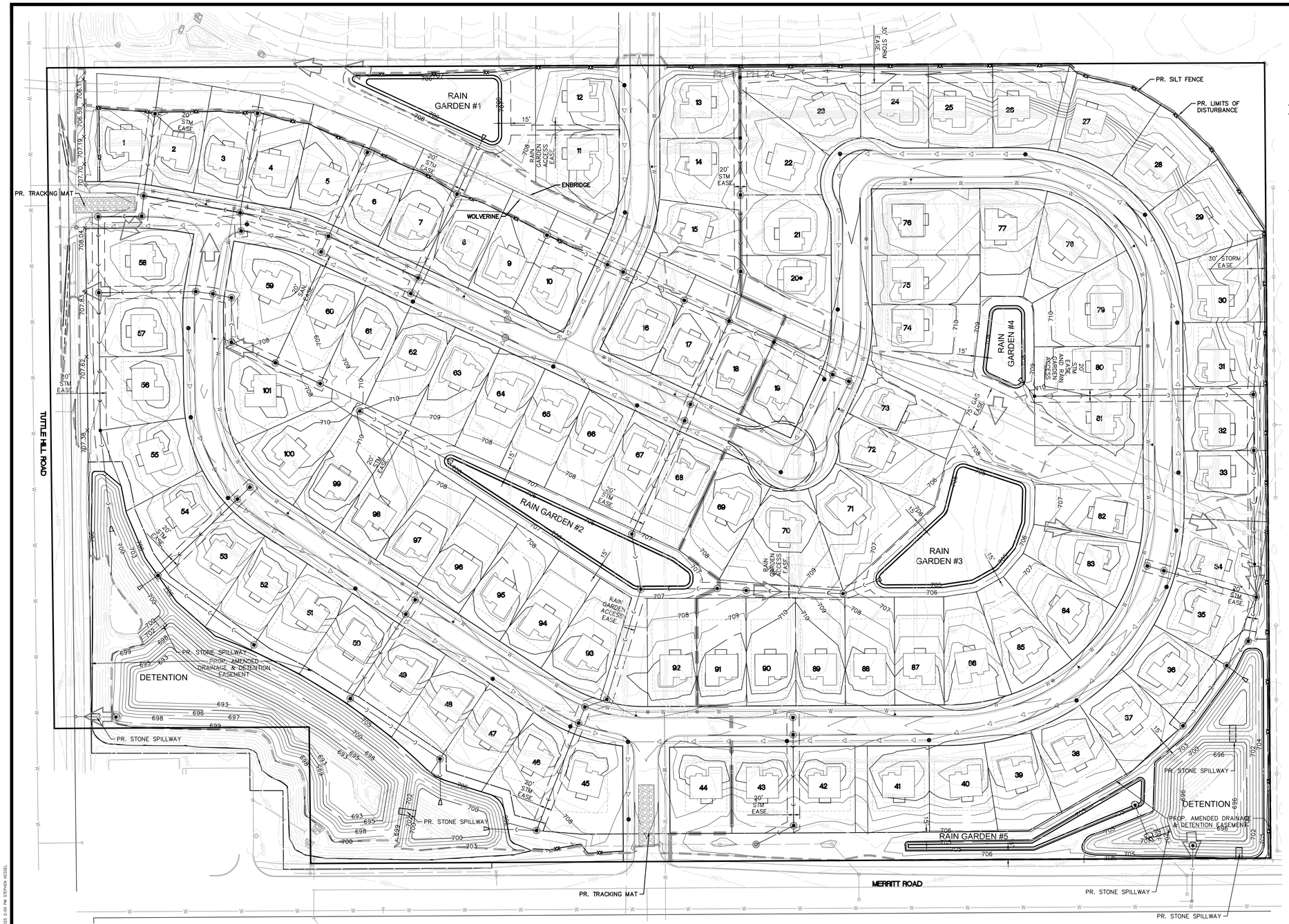
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BOOK
JOB 15001707
SHEET NO.
6A

CAD FILE: 15001707SP-12-SIGHT DISTANCE.DWG

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PH.1 PH.2
RAIN GARDEN #1
RAIN GARDEN #2
RAIN GARDEN #3
RAIN GARDEN #4
RAIN GARDEN #5
RINGNECK DR.
WHITE WING DR.
GOLDEN PHEASANT
SILVER DR.
SHULA VISTA
WOLVERINE
ENBRIDGE
OPEN SPACE
DETENTION
EX. POOL/CLUBHOUSE
℄ TUTTLE HILL ROAD (VARIABLE WIDTH-PUBLIC) & WEST LINE OF SECTION 26
℄ MERRITT ROAD (VARIABLE WIDTH-PUBLIC) & SOUTH LINE OF SECTION 26
℄ SHULA VISTA (APPROX. LOCATION)
APPROX. LOCATION OF WM CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION
END PHASE 1 CONSTRUCTION WITH 10' STORM STUB WITH WATER TIGHT BOOT
CONNECT TO EX. WATER MAIN STUB
CONNECT TO EX. WATER MAIN VALVE
CONNECT TO EX. SANITARY MANHOLE
CONNECT TO EX. 8" WATER MAIN STUB
CONNECT TO EX. SANITARY MANHOLE
CONNECT TO EX. STORM CATCH BASIN
END PHASE 1 CONSTRUCTION WITH 184' SANITARY STUB WITH WATER TIGHT BOOT FOR FUTURE CONNECTION
END PHASE 1 CONSTRUCTION WITH 178' SANITARY STUB WITH WATER TIGHT BOOT FOR FUTURE CONNECTION
18" WATERMAIN STUB WITH WATERTIGHT BOOT FOR FUTURE CONNECTION
64' WATERMAIN STUB WITH WATERTIGHT BOOT FOR FUTURE CONNECTION
END PHASE 1 CONSTRUCTION WITH 10' STORM STUB WITH WATER TIGHT BOOT
TEMPORARY GRAVEL TURNAROUND
PROPOSED 15Ω WIDE TEMPORARY TURNAROUND EASEMENT
PROP. AMENDED DRAINAGE & DETENTION EASEMENT
EXIST. STORMWATER DETENTION EASEMENT L. 4460, P. 766
PROP. AMENDED DRAINAGE & DETENTION EASEMENT
DIRECT SUMP DISCHARGE, TYP.
PROP. 60' HALF-WIDTH ROW
20' STM EASE.
20' WM EASE.
25' SAN EASE.
66' ROW
30' STORM EASE.
20' LANDSCAPE EASEMENT
RAIN GARDEN ACCESS EASE.
16" PETROLEUM PIPELINE
EX. STM CB RIM=704.84 24" E INV 700.74 24" W INV 700.69
PERFORATED RISER RIM=704.48 24" W INV 700.77
EX. 30" CES INV.=700.91
EX. STM CB RIM=705.95 30" E INV 701.20 30" W INV 701.15
EX. STM CB RIM=706.56 24" E INV 702.01 30" W INV 701.81
EX. STM CB RIM=706.55 30" E INV 701.61 30" W INV 701.57
EX. STM CB RIM=706.36 24" E INV 702.21 24" W INV 702.11
EX. STM CB RIM=706.83 24" E INV 702.48 24" W INV 702.48
EX. STM CB RIM=707.74 12" SW INV 703.57 12" E INV 703.62
EX. STM MH RIM=708.92 24" W INV 702.82 18" E INV 702.82 12" NE INV 703.49
EX. STM CB RIM=707.71 12" W INV 703.82
EX. STM CB RIM=706.72 15" E INV 703.12 18" W INV 703.02
EX. STM CB RIM=707.08 12" W INV 703.78
EX. STM CB RIM=707.25 12" CONC E INV 704.25
EX. STM CB RIM=704.47 12" W INV 703.24
EX. 30" CES INV.=701.09
EX. 10" PVC S INV 699.82
EX. 10" PVC N INV 699.89
EX. SAN MH RIM=706.94
EX. 12" WATER MAIN
EX. WATER LINE RIM=707.54
APPROXIMATE LOCATION OF 12" WATER MAIN
EX. SAN MH RIM=705.65
EX. STM CB RIM=704.09
CONC W INV 701.29
10" PVC N INV 690.2
10" PVC W INV 690.2
EX. STM MH 254 RIM=706.55
EX. SAN MH RIM=707.77 10" N INV 689.54 10" S INV 689.51
EX. STM CB 255 RIM=705.82
EX. STM CB 153 RIM=705.70 42" CONC NW INV 700.10 42" CONC E INV 700.10
EX. STM CB 126 RIM=706.36 36" E INV 700.42 42" W INV 700.26
EX. STM CB 125 RIM=706.36 36" E INV 700.50 36" W INV 700.50
EX. STM CB 124 RIM=705.71 36" W INV 700.61 36" E INV 700.61
EX. STM CB 123 RIM=706.23
EX. STM CB 258 RIM=705.24 18" S INV 700.97 18" NW INV 700.97
EX. STM CB 122 RIM=705.83 36" W INV 700.77 18" SE INV 700.77
EX. STM CB 259 RIM=705.18 18" N INV 701.04
EX. 15" CULV. INV.=700.09
EX. STM CB 260 RIM=705.17 15" NW INV 700.86 12" S INV 700.90
EX. STM CB 261 RIM=705.19 12" N INV 701.25
EX. STM MH 78 RIM=706.32 24" N INV 701.64 24" W INV 701.64
PERFORATED RISER RIM=704.48 24" CONC S INV 701.87
EX. STM CB RIM=704.65 12" CPP S INV 701.02
EX. STM CB RIM=704.29 12" CPP N INV 700.39 12" CPP S INV 700.39
EX. STM CB RIM=704.90 12" CPP N INV 700.05 12" CPP S INV 700.22
EX. STM CB RIM=704.84 12" CPP N INV 699.52 12" CPP E INV 699.52
EX. STM CB RIM=703.06 12" CPP N INV 699.02 12" CPP S INV 699.02 12" CPP E INV 699.02
EX. STM CB RIM=704.80 12" CPP N INV 700.72 12" CPP S INV 700.72
EX. STM CB RIM=704.65 12" CPP S INV 700.72
EX. STM CB RIM=703.18 24" E INV 699.59
EX. STM CB RIM=703.58 12" CPP N INV 699.63 12" CPP S INV 699.63
EX. STM CB RIM=706.66
EX. 30" CES INV.=700.09
EX. 42" CES INV.=700.52
EX. WATER SHUT OFF RIM=705.98
PERFORATED RISER RIM=704.48 24" W INV 699.71
EX. VALVE RIM=707.61
EX. HYD F.G.=707.78
APPROXIMATE LOCATION OF 8" WATER MAIN
APPROXIMATE LOCATION OF 42" CONC E INV 700.10 36" WATER MAIN
APPROXIMATE LOCATION OF 36" E INV 700.67 36" WATER MAIN
ELECTRIC CABINET
EX. STM MH RIM=703.06 12" CPP N INV 698.98 12" CPP E INV 698.96
EX. STM CB RIM=704.80 12" CPP N INV 698.99
EX. STM CB RIM=704.65 12" CPP S INV 699.99
EX. STM CB RIM=704.65 12" CPP S INV 700.22
EX. STM CB RIM=704.65 12" CPP S INV 700.72
EX. STM CB RIM=704.65 12" CPP S INV 700.72
EX. STM CB RIM=704.65 12" CPP S INV 700.72



SOIL EROSION / SEDIMENT CONTROL NOTES:

1. CONTRACTOR SHALL BOND EROSION CONTROL PERFORMANCE BOND, AS REQUIRED PRIOR TO ANY EARTH CHANGE.
2. CONSTRUCTION OPERATION SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.
3. BORROW AND FILL DISPOSAL AREAS WILL BE SELECTED BY THE CONTRACTOR WITH FULL CONSIDERATION FOR SOIL EROSION AND SEDIMENT CONTROL.
4. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
5. CLEANUP WILL BE DONE IN A MANNER TO ENSURE THAT EROSION CONTROL MEASURES ARE NOT DISTURBED.
6. THE PROJECT WILL CONTINUALLY BE INSPECTED FOR SOIL EROSION AND SEDIMENT CONTROL COMPLIANCE. DEFICIENCIES WILL BE CORRECTED BY THE CONTRACTOR WITHIN 24 HOURS.
7. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR STORM WATER DISCHARGE FROM THE CONSTRUCTION ACTIVITIES IS REQUIRED PRIOR TO ANY EARTH CHANGE.
8. DISTURBED DETENTION AND OPEN SPACE AREAS SHALL BE STABILIZED WITHIN 5 DAYS OF DISTURBANCE WITH SEED AND EROSION CONTROL MULCH BLANKETS OR SOD.
9. ALL OPEN SPACE, RIGHT OF WAY AREAS SHALL BE SEEDED PER M.DOT CLASS 'A' AND SPECIFICATIONS. ALL SEEDED AREAS SHALL BE COVERED WITH A LAYER OF STRAW MULCH PER MDOT AND W.C. DEPT OF ENV. STANDARDS.
10. CEREAL RYE SEEDING MAY BE USED FOR TEMPORARY EROSION CONTROL MEASURES AS DIRECTED BY THE W.C. DEPT OF ENV.

SOIL EROSION CONTROL SEQUENCE

1. INSTALL ALL PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES.
2. MASS GRADE SITE. STOCKPILE TOPSOIL IN LOCATION APPROVED BY OWNER AND ENGINEER. STABILIZE ALL OPEN SPACE AREAS AND SIDE SLOPES WITHIN FIVE DAYS OF COMPLETION OF MASS GRADING. IMMEDIATELY REPAIR OR REPLACE ALL PERIMETER SOIL EROSION CONTROL MEASURES DISTURBED DURING MASS GRADING.
3. CONSTRUCT SANITARY SEWER, WATER MAIN, AND STORM SEWER INCLUDING RIP-RAP AND INLET FILTERS. RE-STABILIZE ALL DISTURBED OPEN SPACE AREAS WITHIN FIVE DAYS OF COMPLETION OF UNDERGROUND WATER AND SEWER INSTALLATION. IMMEDIATELY REPAIR OR REPLACE ALL PERIMETER SOIL EROSION CONTROL MEASURES DISTURBED DURING MASS GRADING.
4. FINE GRADE ROADWAY AREAS, INSTALL CONCRETE CURB AND GUTTER.
5. INSTALL PAVEMENT COMPLETE.REPLACE INLET FILTERS AS REQUIRED.
6. INSTALL FRANCHISE UTILITIES (PHONE, GAS, AND ELECTRIC).
7. FINISH GRADE, REDISTRIBUTE TOPSOIL, SEED AND MULCH ALL AREAS WITHIN 30' OF BACK OF CURB AND ALL DISTURBED OPEN SPACE AREAS.
8. BEGIN HOME CONSTRUCTION.
9. INSTALL SILT FENCE AT FRONT AND REAR OF LOTS AS DIRECTED.
10. COMPLETE HOME CONSTRUCTION
11. VISUALLY INSPECT STORM SEWER SYSTEM INCLUDING DETENTION PONDS AND REMOVE ALL ACCUMULATED SEDIMENT FOLLOWING COMPLETION OF HOME CONSTRUCTION.
12. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES UPON STABILIZATION OF THE SITE.
13. APPLICANT WILL COMPLY WITH 1994 P.A. 451, AS AMENDED, PART 91 FOR SOIL EROSION AND SEDIMENTATION CONTROL.

SITE INFORMATION

1. APPROXIMATE AREA OF DISTURBANCE: 52.3± AC
2. ULTIMATE RECIEVING WATER: SWAN CREEK & PLINEY HARRIS

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- 890 EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. WATER EDGE
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BACK/EDGE CURB
- PROP. ROAD CENTERLINE
- PROP. R.O.W. LINE
- PROP. LOT LINE
- 890 PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE
- PROP. STORM SEWER
- PROP. SANITARY
- PROP. WATER MAIN
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- PROP. WATER VALVE
- PROP. FIRE HYDRANT
- PROP. MANHOLE
- 100-YR OVERLAND FLOW ROUTE

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ANN ARBOR, MI 48104
734.994.4000

SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

OVERALL GRADING & SOIL EROSION CONTROL PLAN

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 40 80
1" = 80 FEET
DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 08

CAD FILE: 15001707SP-06-G.DWG

K:\15001707 - CREEKSIDE NORTH\DWG\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-06-G.DWG, 3/12/2025 2:00 PM, STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION



NOTE

LOT GRADES DENOTED WITH "•" HAVE 7'4" BASEMENT WALLS. SEE DETAIL ON SH. 11.

LEGEND

- BOUNDARY LINE
- EXIST. EASEMENT
- BOUNDARY/PROPERTY LINE
- EXIST. SETBACK
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. WATER EDGE
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. SETBACK
- PROP. BACK/EDGE CURB
- PHASE LINE
- PROP. ROAD CENTERLINE
- PROP. BUILDING
- PROP. R.O.W. LINE
- PROP. LOT LINE
- PROP. CONTOUR
- PROP. INLET FILTER
- PROP. SILT FENCE
- PROP. STORM SEWER
- PROP. SANITARY
- PROP. WATER MAIN
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
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YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC
CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

GRADING PLAN – EAST

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 09

CAD FILE: 15001707SP-06-GDWG

K:\15001707 - CREEKSIDE NORTH\DWG\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-06-GDWG, 3/12/2025 2:05 PM, STEPHEN KESSEL

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YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC
CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

GRADING PLAN – WEST

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

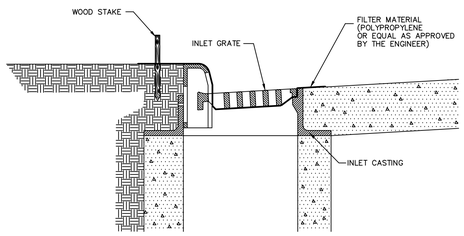
SCALE 0 25 50
1" = 50 FEET

DR. SK CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 10

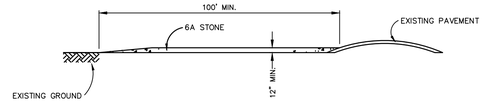
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CAD FILE: 15001707SP-06-GLDWG

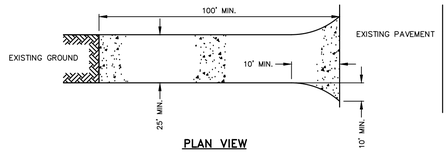
PRELIMINARY - NOT FOR CONSTRUCTION



INLET FILTER
NO SCALE

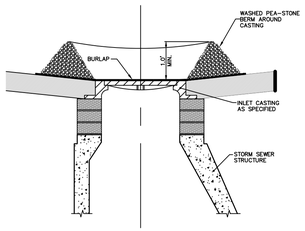


PROFILE

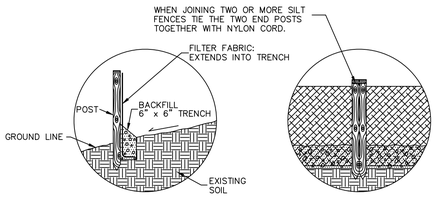


PLAN VIEW

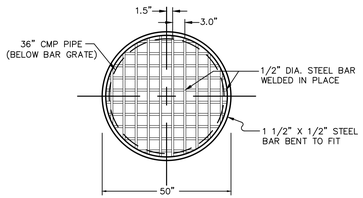
STONE MUD TRACKING FILTER
NO SCALE



CATCH BASIN STONE AND BURLAP FILTER
NO SCALE



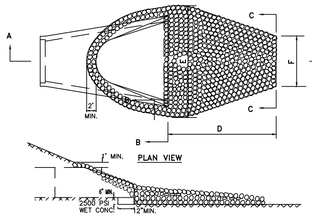
GEOTEXTILE SILT FENCE
NO SCALE



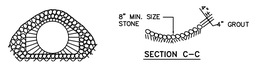
NOTE:

1. BAR GRATE IS TO BE REMOVABLE
2. APPROXIMATE WEIGHT OF GRATE IS 124 LBS.
3. A LOCKING MECHANISM SHALL BE USED FOR THE BAR GRATES.

BAR GRATE DETAIL
NO SCALE



SECTION A–A



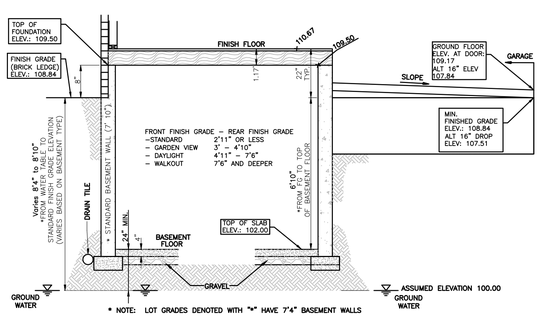
SECTION B–B

SECTION C–C

PIPE DIAM.	D	E	F	S.Y.
12"	5'–0"	6'–6"	3'–0"	4
15"	5'–0"	7'–0"	3'–0"	4
18"	5'–0"	7'–6"	3'–6"	4
21"	5'–6"	8'–0"	4'–0"	5
24"	6'–0"	8'–6"	4'–6"	6
27"	6'–6"	9'–0"	5'–0"	7
30"	7'–0"	9'–9"	5'–6"	8
36"	8'–0"	10'–9"	6'–0"	10
42"	9'–0"	11'–9"	6'–6"	12
48"	10'–0"	13'–0"	7'–0"	14

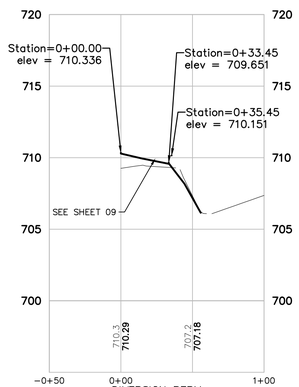
RIP–RAP BANK PROTECTION, WHERE CALLED FOR, SHALL BE GROUTED AND INSTALLED AS PROVIDED BY MDOT SPEC. 6.01.08. RIP–RAP MATERIAL SHALL MEET THE REQUIREMENTS OF MDOT SPEC. 8.19.02

GROUTED STONE RIP–RAP
NO SCALE



* NOTE: LOT GRADES DENOTED WITH "*" HAVE 7'4" BASEMENT WALLS

TYPICAL BUILDING GRADE DETAIL
NO SCALE



DIVERSION BERM
VERT: 1"=5'
HORZ: 1"=50'

SOIL EROSION CONTROL MAINTENANCE TASKS AND SCHEDULE

DURING CONSTRUCTION
TO BE PERFORMED BY CONTRACTOR

COMPONENTS	PAVED AREAS	PERVIOUS AREAS	RIP–RAP/SILT FENCE	STORM DRAINAGE SYSTEM	OUTLET STRUCTURE	SEDIMENT FOREBAY	DETENTION AREA	INFILTRATION BMP/RAIN GARDEN	INLET FILTERS / SILT SACKS	SCHEDULE
INSPECT FOR SEDIMENT ACCUMULATION	X		X	X	X	X	X	X	X	WEEKLY
REMOVAL OF SEDIMENT ACCUMULATION	X		X	X	X	X	X	X	X	AS NEEDED* AND PRIOR TO TURNOVER
INSPECT FOR FLOATABLES AND DEBRIS				X	X	X	X	X	X	QUARTERLY
CLEANING FOR FLOATABLES AND DEBRIS				X	X	X	X	X	X	QUARTERLY AND AT TURNOVER
INSPECTION FOR EROSION		X	X							WEEKLY
REESTABLISH PERMANENT VEGETATION ON ERODED SLOPES		X								AS NEEDED* AND PRIOR TO TURNOVER
CLEAN DRIVES AND PARKING LOTS	X									WEEKLY OR AS DETERMINED BY PERMITTING AGENCY
WATER DISTURBED AREAS TO PROVIDE DUST CONTROL	ALL DISTURBED AREAS OF SITE									AS NEEDED
INSPECT STRUCTURAL ELEMENTS DURING WET WEATHER AND COMPARE TO AS–BUILT PLANS (BY A PROFESSIONAL ENGINEER REPORTING TO THE OWNER)			X	X			X	X		ANNUALLY AND AT TURNOVER
MAKE ADJUSTMENTS OR REPLACEMENTS AS DETERMINED			X	X			X	X		AS NEEDED

* "AS NEEDED" MEANS WHEN SEDIMENT HAS ACCUMULATED TO A MAXIMUM OF ONE FOOT DEPTH

LONG TERM STORM WATER & BUDGET

1. THERE WILL BE A PRIVATE ROAD AGREEMENT IN PLACE AND MAINTENANCE OF THE ROAD SIDE DITCHES WILL BE THE RESPONSIBILITY OF THE INDIVIDUAL HOMEOWNERS.

TASKS	COMPONENTS: PAVED AREAS	PERVIOUS AREAS	RIP–RAP	STORM DRAINAGE SYSTEM	SEDIMENT FOREBAYS	INFILTRATION BASINS	OUTLET CONTROL STR	RAIN GARDENS	INFILTRATION TRENCHES	SCHEDULE	ANNUAL COST
INSPECT FOR SEDIMENT ACCUMULATION	X		X	X	X	X	X	X	X	SEMI–ANUALLY/AS NEEDED*	$100.00
REMOVAL OF SEDIMENT ACCUMULATION	X		X	X	X	X	X	X	X	5–10 YRS/AS NEEDED*	$200.00
INSPECT FOR FLOATABLES AND DEBRIS				X	X	X	X	X	X	ANNUALLY	$100.00
CLEANING FOR FLOATABLES AND DEBRIS				X	X	X	X	X	X	ANNUALLY	$300.00
INSPECTION FOR EROSION		X	X			X		X		ANNUALLY/AFTER MAJOR STORMS	$100.00
REESTABLISH PERMANENT VEGETATION ON ERODED SLOPES		X				X		X		AS NEEDED	$300.00
RAIN GARDEN MAINTENANCE								X		TWICE PER YEAR (SPRING AND FALL)	$500.00
CLEAN DRIVES AND PARKING LOTS	X									ANNUALLY	$500.00
MOWING		X								0–2 TIMES PER YEAR	$400.00
INSPECT FOLLOWING STORM 1" OR GREATER						X		X	X	AS NEEDED	$100.00
INSPECT STRUCTURAL ELEMENTS DURING WET WEATHER AND COMPARE TO AS–BUILT PLANS (BY A PROFESSIONAL ENGINEER REPORTING TO THE OWNER)			X	X	X	X	X	X	X	ANNUALLY	$100.00
MAKE ADJUSTMENTS OR REPLACEMENTS AS DETERMINED BY ANNUAL WET WEATHER INSPECTION			X	X	X	X	X	X	X	AS NEEDED	$100.00
KEEP RECORDS OF ALL INSPECTIONS AND MAINTENANCE ACTIVITIES AND REPORT TO PROPERTY OWNER										ANNUALLY	$50.00
KEEP RECORDS OF ALL COSTS FOR INSPECTIONS, MAINTENANCE AND REPAIRS. REPORT TO PROPERTY OWNER										ANNUALLY	$50.00
PROPERTY OWNER REVIEWS COST EFFECTIVENESS OF THE PREVENTATIVE MAINTENANCE PROGRAM AND MAKES NECESSARY ADJUSTMENTS										ANNUALLY	$50.00
OWNER TO HAVE A PROFESSIONAL ENGINEER CARRY OUT EMERGENCY INSPECTIONS UPON IDENTIFICATION OF SEVERE PROBLEMS										AS NEEDED	$150.00

* "AS NEEDED" MEANS WHEN SEDIMENT HAS ACCUMULATED TO A MAXIMUM OF ONE FOOT DEPTH

CONSTRUCTION SEQUENCE (SESC)

1. INSTALL TEMPORARY EROSION AND SEDIMENTATION MEASURES (1 WEEK) – SEP 2024
   - 1.1. INSTALL SEDIMENT FENCE AND TREE PROTECTION FENCING PRIOR TO ANY GRADING OPERATION
   - 1.2. INSTALL MUD TRACKING PAD
2. MINOR GRADING/EARTHMOVING IN PREPARATION FOR PAVING (10 DAYS) – SEP 2024
3. MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED.
4. BEGIN PAVING ACTIVITIES (2 WEEKS) – WEATHER DEPENDENT – SEP/OCT 2024
5. FINISH GRADE, REDISTRIBUTE TOPSOIL, SEED AND MULCH ALL DISTURBED AREAS – NOV/DEC 2024
6. INSPECT AND CLEAN ALL DITCHING OF ACCUMULATED SEDIMENT – NOV 2024
7. COMPLETE CONSTRUCTION ROAD. – OCT 2024
8. ENSURE ALL SOIL IS STABILIZED. – OCT/NOV 2024
9. DEMO OF EXISTING STRUCTURES. (LOTS 15 AND 16) – DEC 2024/ JAN 2025
10. INSTALL FRANCHISE UTILITIES. – MAR/APR 2025
11. INSTALL LANDSCAPING AND A WELL FOR IRRIGATION. – MAY/JUNE 2025
12. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. (1 WEEK) – MAY/JUNE 2025

NOTE: ADDITIONAL SESC MEASURES WILL BE REQUIRED IF THE SITE IS NOT PERMANENTLY STABILIZED BY THE END OF THE GROWING SEASON 2024 (10/15/24, OFFICIALLY). THIS WILL INCLUDE TEMPORARY SEED AND MULCH AND/OR EROSION CONTROL BLANKETS ON DISTURBED AREAS.

NOTE: NO STORM SEWER IS BEING CONSTRUCTED AS PART OF THIS PERMIT.

SITE INFORMATION:

SITE LOCATION: SECTION 4, SUPERIOR TOWNSHIP, MICHIGAN.

ULTIMATE RECEIVING WATER: ON–SITE, UN–NAMED WATERCOURSE

1. SITE SOILS INFORMATION: PER THE NRCS WEB SURVEY FOR WASHTENAW COUNTY; BnB, Br, HgtahA, MaA, MdA, Sb, WawabB, WawabC
2. APPROXIMATE AREA OF DISTURBANCE: 15± ACRES

STOCKPILE NOTE:

STOCKPILING IS NOT ANTICIPATED. IF NEEDED, SILT FENCE SHALL BE INSTALLED AND MAINTAINED AROUND THE PERIMETER OF ANY STOCKPILES, IF STOCKPILE WILL BE LARGE AND IS EXPECTED TO BE ON–SITE FOR A PERIOD OF TIME.

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SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT: SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

GRADING & SOIL EROSION CONTROL DETAILS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

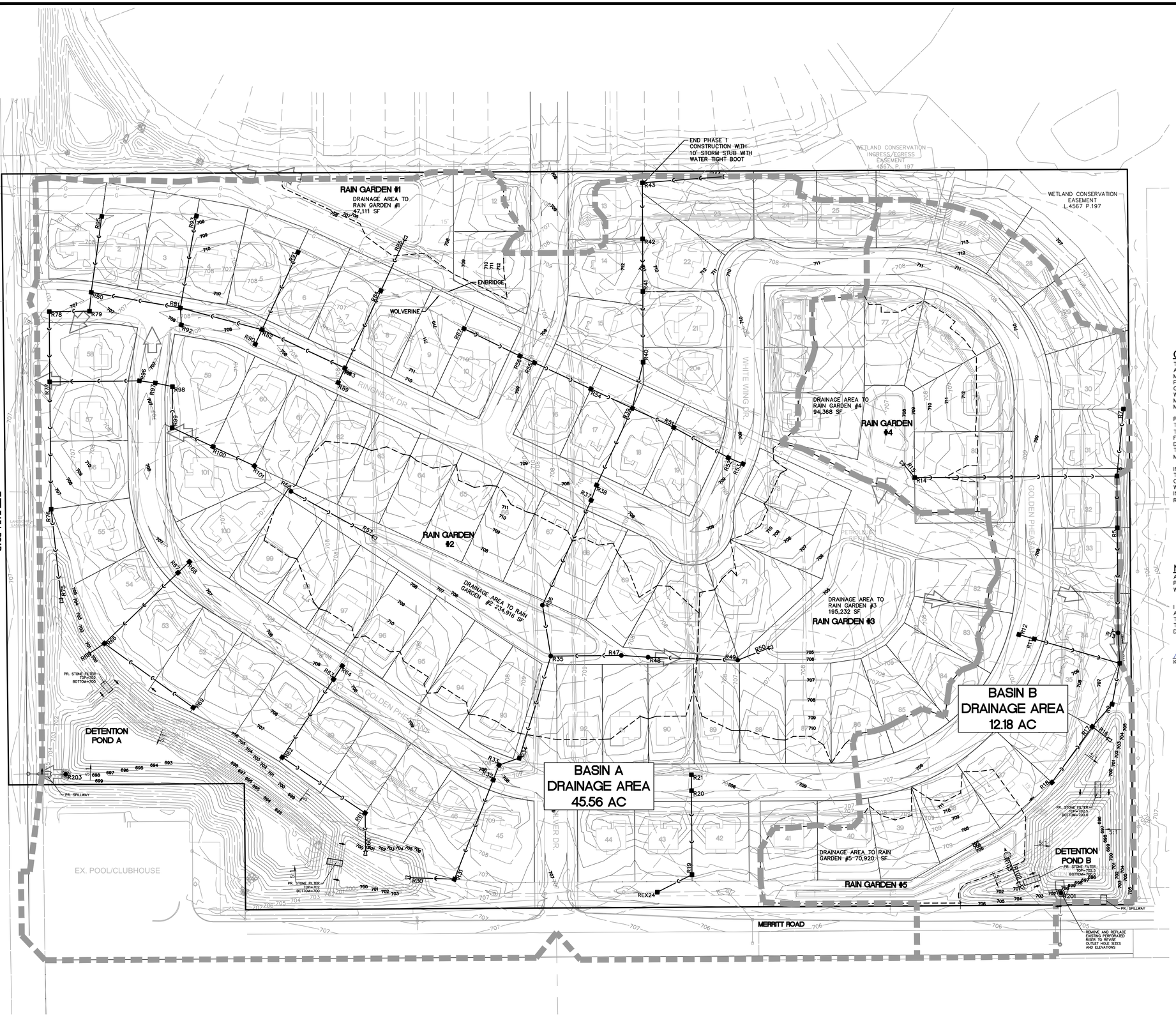
REVISIONS

SCALE 0 — — — NO SCALE
DR. SK | CH. — —
P.M. KS
BOOK
JOB 15001707
SHEET NO. 11

CAD FILE: 15001707SP–06–GDWG

K:\15001707 – CREEKSIDE NORTH\DWG\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP–06–GDWG 3/12/2025 2:01 PM STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION



CREEKSIDE VILLAGE NORTH DRAINAGE NARRATIVE

THE DEVELOPED DRAINAGE AREA FOR CREEKSIDE VILLAGE NORTH CONSISTS OF APPROXIMATELY 57.8 ACRES OF DEVELOPED SINGLE-FAMILY HOUSING. THE STORMWATER MANAGEMENT SYSTEM WILL ALSO ACCOMMODATE 1.8 ACRES OF DEVELOPED CLUBHOUSE AND POOL FACILITY. THE DEVELOPMENT WAS PREVIOUSLY APPROVED AS A PORTION OF CREEKSIDE VILLAGE EAST WHICH WAS DIVIDED INTO FOUR DRAINAGE AREAS. THE PONDS WERE CONSTRUCTED DURING DEVELOPMENT OF THE PORTION OF THE SITE THAT INCLUDES MERRITT ROAD AND THE LAND SOUTH OF THE ROAD. PONDS A AND B ARE PROPOSED TO BE MODIFIED TO COMPLY WITH THE CURRENT WCWRC STANDARDS.

POND A OUTLETS TO THE DERBYSHIRE DRAIN TO THE WEST OF THE SITE, RUNNING ALONG TUTTLE HILL ROAD. THE OUTLET FOR POND B IS THE PLINY-HARRIS DRAIN, RUNNING ALONG THE EAST SIDE OF THE SITE THROUGH A 36" STORM SEWER. THE MAXIMUM OUTLET RATE FROM BASIN A TO THE DERBYSHIRE DRAIN IS RESTRICTED PER THE DERBYSHIRE DEVELOPMENT PLAN AND IS SET TO 2.23 CFS. THE MAXIMUM OUTLET RATE FROM BASIN B TO THE PLINY-HARRIS DRAIN IS RESTRICTED PER THE YPSILANTI TOWNSHIP STORMWATER MANAGEMENT PROGRAM AND IS SET TO 0.095 CFS/AC OR A TOTAL OF 1.15 CFS.

INFILTRATION IS PROPOSED IN FIVE RAIN GARDENS DISTRIBUTED THROUGHOUT THE SITE WITHIN THE DRAINAGE AREAS OF BASINS A AND B. IF EXISTING SOILS ARE NOT REQUIRED BASED ON ELEVATIONS TO BE REMOVED ABOVE THE STRATUM IN WHICH THE INFILTRATION TESTING WAS PERFORMED, THE SOILS MUST BE TESTED AND CONFIRMED TO MEET THE MINIMUM INFILTRATION RATE SHOWN IN THE CALCULATIONS OR BE AMENDED TO PROVIDE THE REQUIRED RATE(S).

NOTE

AT THE TIME OF PLANT AND SEED DELIVERY, A WCWRC LANDSCAPE REVIEWER MUST BE PRESENT. THE QUANTITY AND SPECIES DELIVERED WILL BE REVIEWED ON SITE. CONTACT CATIE WYTYCHAK AT WYTYCHAKC@WASHTENAW. ORG OR (734) 222-6813 TO COORDINATE.

I HEREBY CERTIFY THAT DERBYSHIRE AND PLINY-HARRIS DRAINS ARE THE ONLY REASONABLY ACHIEVABLE STORMWATER OUTLET FOR THE PROPOSED STORMWATER MANAGEMENT SYSTEM, THESE DRAINS ARE THE SAME OUTLET LOCATIONS FOR THE DRAINAGE AREAS EFFECTED BY THE PROPOSED SITE WORK, AND THAT THE SITE WORK WILL NOT CAUSE DETRIMENT TO OR DIMINUTION TO EITHER DRAIN.

KYLER SHEERIN, PE

LEGEND

- BOUNDARY LINE
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. WATER EDGE
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. BACK/EDGE CURB
- PROP. R.O.W. LINE
- PROP. LOT LINE
- PROP. ROAD CENTERLINE
- PROP. CONTOUR
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- PROP. RAIN GARDEN AREA
- PROP. OVERALL DRAINAGE AREA
- 100-YR OVERLAND FLOW ROUTE

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

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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ANN ARBOR, MI 48104
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SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

OVERALL STORMWATER MANAGEMENT PLAN

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

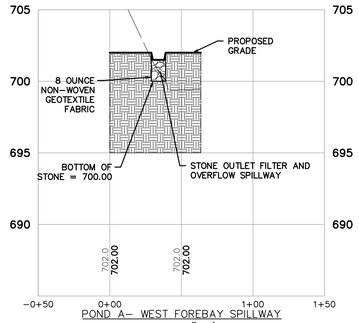
REVISIONS

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DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 12

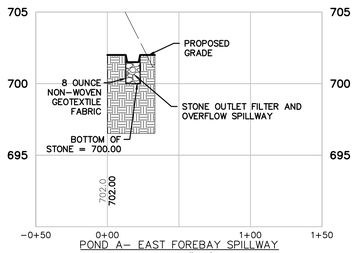
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PRELIMINARY - NOT FOR CONSTRUCTION

K:\15001707 - CREEKSIDE NORTH\CIVIL\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-07-STM.DWG, 3/7/2025 9:50 AM, KYLER SHEERIN



POND A– WEST FOREBAY SPILLWAY
VERT: 1"=5'
HORZ: 1"=50'



POND A– EAST FOREBAY SPILLWAY
VERT: 1"=5'
HORZ: 1"=50'

DETENTION BASIN A NARRATIVE:

EXISTING DETENTION BASIN A IS PROPOSED TO BE EXPANDED IN ORDER TO COMPLY WITH THE CURRENT WCWRC RULES FOR PERMANENT POOL VOLUME AND FREEBOARD ELEVATION. THREE INFILTRATION RAIN GARDENS ARE PROPOSED UPSTREAM OF BASIN A, THESE BMPs ACHIEVE THE REQUIRED INFILTRATION VOLUME FOR THE BASIN. THE OUTLET FOR THIS BASIN IS THE DERBYSHIRE DRAIN, WHICH REQUIRED A RESTRICTED OUTFLOW RATE OF 2.23 CFS PER THE DERBYSHIRE DEVELOPMENT PLAN. THE INFILTRATION VOLUMES ACHIEVED IN THE UPSTREAM BMPs ARE GREATER THAN THE FIRST FLUSH VOLUMES, THEREFORE NO FIRST FLUSH OUTLET HOLES ARE PROVIDED IN THE OUTLET CONTROL STRUCTURE.

LEGEND

- BOUNDARY LINE
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. WATER EDGE
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
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- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. BACK/EDGE CURB
- PROP. R.O.W. LINE
- PROP. LOT LINE
- PROP. ROAD CENTERLINE
- PROP. CONTOUR
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- PROP. RAIN GARDEN AREA
- PROP. OVERALL DRAINAGE AREA


R75
36" INV. 700.00 N
15" INV. 700.00 NE
R65
EAST FOREBAY
PR. STONE FILTER
TOP=702
BOTTOM=700
DETENTION POND A
R203
RIM 702.97
PR. SPILLWAY
PERFORATED RISER
RIM=704.48
24" W INV. 699.71
EX. STM CB
RIM=703.18
EX. STM CB
RIM=706.66
NOTE:
ALONG WEST AND SOUTH SIDES OF POND NO GRADING IS PROPOSED ABOVE PERMANENT WATER. CONTRACTOR TO PUMP DOWN AND GRADE UNDERWATER POND AREAS.
EX. POOL/CLUBHOUSE
RAIN GARDEN #2
GOLDEN PHEASANT
R60
12" INV. 700.00 N
WEST FOREBAY
R30
42" INV. 700.00 E
PR. STONE FILTER
TOP=702
BOTTOM=700
EX. 42" CES
INV. 700.12
EX. 42" CES
INV. 700.09
EX. 18" CES
INV. 700.09
EX. STM MH
RIM=705.03
EX. STM MH
RIM=705.25
EX. STM MH
RIM=705.25
EX. STM MH
RIM=705.25

DETENTION BASIN A DESIGN CALCULATIONS

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = 45.56 Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Impervious (Roofs, pavement)	B	462,580	10.6	0.95	439,451
Water Surfaces (Bankfull in Basin)	B	80,500	1.8	1.00	80,500
Developed Open Space, Good Condition	B	1,259,877	28.9	0.25	314,969
Developed Open Space, Good Condition	D	181,643	4.2	0.45	81,739
				Total - Sum (c)(Area) =	916,660
				Area Total (sf)=	1,984,600
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	**0.46**

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Developed Open Space, Good Condition	B	1,259,877	28.9	61	76,852,519
Developed Open Space, Good Condition	D	181,643	4.2	80	14,531,411
			0.0		0
		Total - Sum (CN)(Area) =			91,383,930
		Area Total - Sum(ac) of Sum(sf)=			1,441,520
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			**63**

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Impervious (Roofs, pavement)	-	462,580	10.6	98	45,332,840
Water Surfaces (Bankfull in Basin)	-	80,500	1.8	98	7,889,000
			0.0		0
		Total - Sum (CN)(Area) =			53,221,840
		Area Total - Sum(ac) of Sum(sf)=			543,080
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			**98**

W2 First Flush Runoff Calculations (Vff)

A Vff = (1") (1/12) (43560') (Q AC)= **76,076** cf

W3 Predevelopment Bankfull Runoff Calculations (Vbf-pre)

A	2 year/24 hour storm event	P =	2.35	in
B	Pervious Cover CN	CN =	58	HSGB, meadow
C	S= (1000/CN) -10	S=	7.24	in
D	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.10	in
E	Ste Area (excluding "Self-Crediting BMPs")	Area =	1,984,600	sf
F	$V_{bf\text{-}pre}$ = Q(1/12)Area	$V_{bf\text{-}pre}$ =	**16,514**	cf

W4 Pervious Cover Post-development Bankfull Runoff Calculations (Vbf-per-post)

A	2 year/24 hour storm event	P =	2.35	in
B	Pervious Cover CN (from Wt)	CN =	63	weighted average
C	S= (1000/CN) -10	S=	5.78	in
D	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.20	in
E	Pervious Cover Area (from Wt)	Area =	1,441,520	sf
F	$V_{bf\text{-}per\text{-}post}$ = Q(1/12)Area	$V_{bf\text{-}per\text{-}post}$ =	**24,608**	cf

W5 Impervious Cover Post-development Bankfull Runoff Calculations (Vbf-imp-post)

A	2 year/24 hour storm event	P =	2.35	in
B	Impervious Cover CN (from Wt)	CN =	98	
C	S= (1000/CN) -10	S=	0.20	in
D	Q = (P-0.2S)^2/(P+0.8S)	Q =	2.12	in
E	Impervious Cover Area (from Wt)	Area =	543,080	sf
F	$V_{bf\text{-}imp\text{-}post}$ = Q(1/12)Area	$V_{bf\text{-}imp\text{-}post}$ =	**96,020**	cf

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A	100 year storm event	P =	5.11	in
B	Pervious Cover CN (from Wt)	CN =	63	weighted average
C	S= (1000/CN) -10	S=	5.78	in
D	Surface Runoff, Q = (P-0.2S)^2/(P+0.8S)	Q =	1.61	in (SRO)
E	Pervious Cover Area (from Wt)	Area =	1,441,520	sf
F	$V_{100\text{-}imp\text{-}post}$ = Q(1/12)Area	$V_{100\text{-}imp\text{-}post}$ =	**193,104**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A	100 year storm event	P =	5.11	in
B	Impervious Cover CN (from Wt)	CN =	98	
C	S= (1000/CN) -10	S=	0.20	in
D	Surface Runoff, Q = (P-0.2S)^2/(P+0.8S)	Q =	4.87	in (SRO)
E	Impervious Cover Area (from Wt)	Area =	543,080	sf
F	$V_{100\text{-}imp\text{-}post}$ = Q(1/12)Area	$V_{100\text{-}imp\text{-}post}$ =	**220,536**	cf

W8 Determine Time of Concentration (Tc-hrs)

Tc as calculated from storm sewer converyence to basin outfall at R30

Time of Concentration = 0.50 hr

W9 Runoff Summary & Onsite Infiltration Requirement

A Runoff Summary from Previous Worksheets

V_{bf} =	**76,076**	cf
$V_{bf\text{-}pre}$ =	16,514	cf
$V_{bf\text{-}per\text{-}post}$ =	24,608	cf
$V_{bf\text{-}imp\text{-}post}$ =	96,020	cf
Total EF Volume ($V_{bf\text{-}post}$)	120,628	cf
$V_{100\text{-}per\text{-}post}$ =	193,104	cf
$V_{100\text{-}imp\text{-}post}$ =	220,536	cf
Total 100-year Volume (V_{100})	413,640	cf

B. Determine Onsite Infiltration Requirement

$V_{bf\text{-}post}$ =	120,628	cf
$V_{bf\text{-}pre}$ =	16,514	cf
Bankfull Volume Difference =	**104,114**	cf

Onsite Infiltration Requirement (V_{inf}) = **104,114** cf (bankfull difference)

W10 Detention / Retention Requirement

A	Q_o = 238.6 (T_c) ^ -0.82 (valid for Tc >1 hr per MDEQ Eq. 9.1, Sorrell 2010)	421.23	cfs/in-mi^2
B	Total Site Area	45.56	ac
C	Q_{100} = $Q_{100\text{-}per}$ + $Q_{100\text{-}imp}$	6.48	in > Precipitation, P
D	Peak Flow (PF) = (Q_o-Q_{100}-A)/640	194.324	cfs
E	Delta = PF - 0.15A	187.490	cfs
F	V_{det} = (Delta/PF) x V_{100}	**399,093**	cf

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft^2)	Storage Depth (ft)	Storage Volume (ft^3)	Ave. Design Infil. Rate (in/hr)	Infil. During Storm (ft^3)	Potential Volume Reduction (ft^3)	100-yr Contributing Runoff (cf)	Actual Reduction (cf)**
North Rain Garden 1	13,900	0.67	9,313	2.9	20,155	29,468	12,713	12,713
Central Rain Garden 2	18,520	0.67	12,408	5.9	54,633	67,041	43,681	43,681
Central Rain Garden 3	26,511	0.67	17,674	6.15	81,521	99,195	39,851	39,851

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **96,245** cf

** *Minimum of the calculated potential reduction and the 100-year storm volume over the tributary area.*

W12 Natural Features Inventory - See Sheet 3

W13 Infiltration / Detention Summary

Total Infiltration Required per WCARC Rules:	104,114	cf
Total Infiltration Provided:	96,245	cf
Difference:	(7,868)	cf
% Deficiency:	7.6%	
Pro-Rated 20% Detention Penalty:	**1.5%**	
Total Detention Required, Considering Infiltration Provided (V_{det} - V_{inf})	302,847	cf
Total Detention Required w/ Penalty (V100,det	**307,425**	cf

Basin Stage-Storage Summary

	Elev.	Area	Avg. Area	Depth	Total Vol.	Det. Vol.	
	706.0	148,600	142,650	1.0		686,906	
	705.0	136,700	131,125	1.0		544,256	
	704.0	125,550	120,275	1.0		413,131	
	703.0	115,000	109,500	1.0		292,856	
	702.0	104,000	97,550	1.0		183,356	
	701.0	91,100	85,806	1.0		85,806	
	700.0	80,512	80,512	0.0		0	Detention
Outlet	700.0	80,512	68,856	0.3	269,249		2.5xVff= 190190
	699.7	57,200	57,200	1.0	248,593		
	698.7	57,200	53,925	0.0	191,393		
	698.7	50,650	48,525	0.7	191,393		
	698.0	46,400	43,300	1.0	157,425		
	697.0	40,200	37,200	1.0	114,125		
	696.0	34,200	31,300	1.0	76,925		
	695.0	28,400	25,575	1.0	45,625		
	694.0	22,750	20,050	1.0	20,050		
	693.0	17,350	0	0.0	0		

Storage Volume Provided: **686,906** cf

Vff - Vinf= 0 cf ELXff = 700.00

Vbf - Vinf= 24,382 cf ELXbf = 700.28

V100,det = 307,425 cf ELX100 = 703.12

freeboard= 2.88

FOREBAY Forebay Sizing

Required Volume (Vfb)=0.05*V100	**15,371 cf**
North Forebay	8.29 acres
Required Volume (Vfb)=0.05*V100 (to North forebay)	**2,916 cf**

Forebay Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume
702.1	12,600	11,200	1.1	20,976
701.0	9,800	8,656	1.0	8,656
700.0	7,512	3,756		0

Southwest Forebay Drainage Area	3.34 acres
Required Volume (Vfb)=0.05*V100* (A_f/A_t)	**1,176 cf**
* Existing - no changes proposed	

Forebay Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume
702.1	875	700	1.1	1,035
701.0	500	265	1.0	265
700.0	30	15		0

East Forebay Drainage Area	32.05 acres
Required Volume (Vfb)=0.05*V100 (to East forebay)	**11,278 cf**

Forebay Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume
702.1	10,800	9,800	1.1	18,680
701.0	8,800	7,900	1.0	7,900
700.0	7,000	3,500		

Total Forebay Volume Below 702.1 = **40,691** cf

OUTLET Outlet Control Structure Sizing

1. Standpipe outlet holes sizing - "first flush" runoff

First Flush discharge should be detained for 24 hours

Q_{first} = V_{ff} / 24 hrs / 3600 sec Q_{ff} = 0.000 cfs

Determine the appropriate size orifice to release the first flush volume.

$h_{ff(ave)}$ = 2/3 x (X_{ff} - X_{bot}) $h_{ff(ave)}$ = 0.00 ft

$A_{freq'd}$ = Q_{ff} / 0.62 x sqrt(2*32.2*h) $A_{freq'd}$ = 0.0000 sf

Selected Orifice Diameter = **0** in

Area of each orifice = 0.0000 sf

Number of orifice holes provided = = **0** holes at elev. **700.00**

Check First Flush discharge release time

$A_{ff(actual)}$ = 0.0000 ft^2

Q_{ff} = A x 0.62 x sqrt(2*32.2*h) = 0.000 cfs

T_{ff}= V_{ff}/(Q_{ff} x 3600) 0.0 hrs No FF Holes Required

2. Standpipe outlet holes sizing - "Bankfull flood" discharge

Bankfull should discharge within 36 to 48 hours

Check release from first flush holes only

$h_{bf(ave)}$ = 2/3 x (X_{bf} - X_{bot}) $h_{bf(ave)}$ = 0.19 ft

Q_{bf} = A x 0.62 x sqrt(2*32.2*h) = Q_{bf} = 0.000 cfs

T_{bf} = V_{bf} / (Q_{bf} x 3600) = T_{bf} = 0.0 hrs

Add holes to decrease storage time if greater than 48 hours

The first flush volume will discharge in T_{ff} = 0.0 hrs

V_{rem} between X_{bf} and X_{rem} = V_{bf} - V_{ff} = 24,382 cf

Target Bankfull Discharge Time = 46.0 hrs

T_{rem} = Target Discharge Time - T_{ff} = 46.0 hrs

$H_{ff(ave)}$=(2/3)(X_{ff}-X_0)+(X_{ff}-X_{bot}) = 0.19 ft

$Q_{bf\text{-}ff}$=A_{ff}(.62)(SQRT(2gh)) = 0.00 cfs

$V_{bf\text{-}ff}$=T_{rem}x$Q_{bf\text{-}ff}$ = 0 cf

V_{bf}=V_{rem}-$V_{ff\text{-}bf}$ = 24,382 cf

Q_{bf}=V_f/T_{rem} = 0.15 cfs

$H_{bf(ave)}$=(2/3)(X_{bf}-X_0) = 0.19 ft

A_{bf} = 0.0680 sf

Selected Orifice Diameter = **1** in

Area of each orifice = 0.0055 sf

Maximum $\#_{orif}$ = = **12** holes at elev. **700.00**

Check Bankfull discharge release time

$A_{bf(actual)}$ = 0.0654 ft^2

$Q_{bf(act)}$ = A x 0.62 x sqrt(2*32.2*h) = 0.142 cfs

$T_{bf(act)}$ = T_{ff}+(V_{bf} / (($Q_{bf\text{-}ff}$+$Q_{bf(act)}$)*3600)) 47.7 hrs O.K

3. Standpipe outlet holes sizing - "100-yr flood" discharge

Q_{100} = Q_{allow} = 2.23 cfs Per Derbyshire Drain Development Plan Q_{100} = 2.23 cfs

Release from above holes

Q_{ff}+Q_{bf}=[0.62*($\#_{ff\text{-}orif}$)*($A_{ff\text{-}orif}$)*SQRT(2g(X_{100}-X_{bot}))]+ [0.62*($\#_{bf\text{-}orif}$)*($A_{bf\text{-}orif}$)*SQRT(2g(X_{100}-X_{bf}))] Q_{ff}+Q_{bf}= 0.58 cfs

Q_{max100} =Q_{allow} - (Q_{ff}+Q_{bf}) Q_{max100}= 1.655 cfs

A_{req100} = Q_{max100} /(.62 x sqrt(2*32.2*X_{100}-X_{ff})) $A_{req'd}$ = 0.1974 sf

Selected Orifice Diameter = **2** in

Area of each orifice = 0.0218 sf

Maximum $\#_{orif}$ = = **9** holes at elev. **700.28**

Check that the actual flow rate does not exceed the allowable flow rate

(Q_{ff}+Q_{bf})*0.62*$\#_{orif}$*A_{100}*sqrt(2*32.2*(X_{100}-X_{ff}))<Q_{allow} = 2.22 cfs

2.22 < 2.23

Check "100-yr discharge" holes discharge release time

$h_{all(ave)}$ = 2/3 x (X_{100} - X_{ff}) + (X_{ff} - X_{bot}) = $h_{all(ave)}$ = 2.18 ft

Q_{all} = .62 x $\#_{ff\text{-}orif}$ x $A_{ff\text{-}orif}$ x sqrt(2 x 32.2 x h) = Q_{all} = 0.00 cfs

$h_{ff(ave)}$ = 2/3 x (X_{100} - X_{ff}) +(X_{ff} - X_{bf}) = $h_{ff(ave)}$ = 2.18 ft

Q_{ff+100} = $A_{ff\text{-}orif}$ x 0.62 x $\#_{ffholes}$ x sqrt(2 x 32.2 x h) = Q_{ff+100} = 0.48 cfs

$h_{100(ave)}$ = 2/3 x (X_{100} - X_{bf}) = $h_{100(ave)}$ = 1.89 ft

Q_{100} = $A_{100\ orif}$ x 0.62 x $\#_{100\ orif}$ x sqrt(2 x 32.2 x h) = $Q_{100(ave)}$ = 1.34 cfs

Check to confirm the 100-year storm volume is discharged in less than 72 hours.

V_{rem} = V_{100}-V_{bf} = V_{rem} = 283,043 cf

T_{100} = T_{bf} + ((V_{rem})/(Q_{all}+Q_{bf+100}+Q_{100ave})) = T_{100} = 43.1 hrs O.K

Check that the actual flow rate does not exceed the allowable flow rate

Qff=.62 x #ff holes x A x sqrt(2 x 32.2 x (X100-Xo)) = 0 cfs

Qbf=.62 x #bf holes x A x sqrt(2 x 32.2 x (X100-Xff)) = 0.575 cfs

(Qff+Qbf)*.62*#orif*A100*sqrt(2*32.2*(X100-Xbf))<Qall = 2.221 cfs >Qa

2.221 < 2.175

4. Riser Outlet Pipe Design

Outlet pipe designed to handle the 100-year restricted flow

100-year restricted flow = Q= 2.23 cfs

Choose outflow pipe diameter = d= **24** in

Choose outflow pipe slope = S= **0.18** %

Assume roughness factor n = 0.013

Flow velocity at 100-yr restricted flow (Mannings) = V= 3.06 fps

Design Pipe Capacity = = 9.60 cfs

Basin Overflow Weir

Size of Overflow Manhole	=	4 ft
% of MH that can be used as a weir	=	50 %
Calculated length of weir	=	6.28
Drainage Area, A =	=	45.56 ac
C-Factor (C) =	=	0.46
Longest Tc from Pipe Calcs	=	31.7 min
Sum of all Flow into Basin	=	52.11 cfs
Volume of Basin	=	0 cf
Storage Elevation	=	703.12 ft
Freeboard Elevation	=	706.00 ft
Time to fill basin	=	0.00 min
I	=	3.09
Qexp=CIA	=	64.68 cfs
Qweir=3.33Lh^1.5 therefore h	=	2.06 ft
Water elevation while overflowing	=	705.18 OK

Outlet Pipe Sizing

Size of Pipe	=	24 inch
Area	=	3.142 sf
invert of pipe	=	699.70 ft
Springline	=	700.7 ft
h	=	2.42 ft
capacity	=	24.32 cfs (must exceed Qexp)

EXISTING PERVIOUS COVER CURVE NUMBER TABLE

Soil Class	Acres	CN	CNxA	
B	41.4	58	2398.88	
D	4.2	78	327.6	Overall CN
Total	45.6		2726.48	59.84372256

811 Know what's below. Call before you dig.
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NOTICE:
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SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC
CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

STORMWATER BASIN A CALCULATIONS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 — — —
NO SCALE

DR. SK CH. — —
P.M. KS
BOOK
JOB 15001707
SHEET NO. 14

CAD FILE: 15001707SP-07-STM.DWG

K:\15001707 - CREEKSIDE NORTH\CIVIL\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-07-STM.DWG 3/12/2025 3:15 PM STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION

DETENTION BASIN B DESIGN CALCULATIONS

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = **12.18** Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Impervious (Roofs, pavement)	B	117,209	2.7	0.95	111,349
Water Surfaces (Bankfull in Basin)	B	24,000	0.6	1.00	24,000
Developed Open Space, Good Condition	B	136,121	7.7	0.25	34,030
Developed Open Space, Good Condition	D	53,240	1.2	0.45	23,958
				Total - Sum (c)(Area) =	243,337
				Area Total (sf)=	530,570
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	**0.46**

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Developed Open Space, Good Condition	B	336,121	7.7	61	20,503,386
Developed Open Space, Good Condition	D	53,240	1.2	80	4,259,194
			0.0		0
				Total - Sum (CN)(Area) =	24,762,579
				Area Total - Sum(ac) of Sum(sf)=	389,361
				Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=	**64**

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Impervious (Roofs, pavement)	-	117,209	2.7	98	11,486,482
Water Surfaces (Bankfull in Basin)	-	24,000	0.6	98	2,352,000
			0.0		0
				Total - Sum (CN)(Area) =	13,838,482
				Area Total - Sum(ac) of Sum(sf)=	141,209
				Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=	**98**

W2 First Flush Runoff Calculations (Vff)

A. Vff = (1") (1/12) (43560/1) (C) AC = **20,338** cf

W3 Predevelopment Bankfull Runoff Calculations (Vbf-pre)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Pervious Cover CN	CN =	58	HSG B, meadow
C.	S = (1000/CN) -10	S =	7.24	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.10	in
E.	Site Area (excluding "Self-Crediting BMPs")	Area =	530,570	sf
F.	$V_{bf\text{-}pre}$ = Q(1/12)Area	$V_{bf\text{-}pre}$ =	**4,415**	cf

W4 Pervious Cover Post-development Bankfull Runoff Calculations (Vbf-per-post)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Pervious Cover CN (from W1)	CN =	64	weighted average
C.	S = (1000/CN) -10	S =	5.72	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	0.21	in
E.	Pervious Cover Area (from W1)	Area =	389,361	sf
F.	$V_{bf\text{-}per\text{-}post}$ = Q(1/12)Area	$V_{bf\text{-}per\text{-}post}$ =	**6,804**	cf

W5 Impervious Cover Post-development Bankfull Runoff Calculations (Vbf-imp-post)

A.	2 year/24 hour storm event	P =	2.35	in
B.	Impervious Cover CN (from W1)	CN =	98	
C.	S = (1000/CN) -10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	2.12	in
E.	Impervious Cover Area (from W1)	Area =	141,209	sf
F.	$V_{bf\text{-}imp\text{-}post}$ = Q(1/12)Area	$V_{bf\text{-}imp\text{-}post}$ =	**24,967**	cf

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN (from W1)	CN =	64	weighted average
C.	S = (1000/CN) -10	S =	5.72	in
D.	Surface Runoff, Q_s = (P-0.2S)^2/(P+0.8S)	Q_s =	1.62	in (SRO)
E.	Pervious Cover Area (from W1)	Area =	389,361	sf
F.	$V_{100\text{-}imp\text{-}post}$ = Q(1/12)Area	$V_{100\text{-}imp\text{-}post}$ =	**52,659**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A.	100 year storm event	P =	5.11	in
B.	Impervious Cover CN (from W1)	CN =	98	
C.	S = (1000/CN) -10	S =	0.20	in
D.	Surface Runoff, Q_s = (P-0.2S)^2/(P+0.8S)	Q_s =	4.87	in (SRO)
E.	Impervious Cover Area (from W1)	Area =	141,209	sf
F.	$V_{100\text{-}imp\text{-}post}$ = Q(1/12)Area	$V_{100\text{-}imp\text{-}post}$ =	**57,343**	cf

W8 Determine Time of Concentration (Tc-hrs)

Tc as calculated from storm sewer converyence to basin outfall at R16

Time of Concentration = 0.43 hr

W9 Runoff Summary & Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets

V_{ff} =	**20,338**	cf
$V_{bf\text{-}pre}$ =	4,415	cf
$V_{bf\text{-}per\text{-}post}$ =	6,804	cf
$V_{bf\text{-}imp\text{-}post}$ =	24,967	cf
Total BF Volume ($V_{bf\text{-}post}$)	31,770	cf
$V_{100\text{-}per\text{-}post}$ =	52,659	cf
$V_{100\text{-}imp\text{-}post}$ =	57,343	cf
Total 100-year Volume (V_{100})	110,002	cf

B. Determine Onsite Infiltration Requirement

$V_{bf\text{-}post}$ =	31,770	cf
$V_{bf\text{-}pre}$ =	4,415	cf
Bankfull Volume Difference =	**27,355**	cf

Onsite Infiltration Requirement (V_{inf}) = **27,355** cf **(bankfull difference)**

W10 Detention / Retention Requirement

A.	Q_k = 238.6 (Tc) ^ -0.82	473.67	cfs/in-mi^2
B.	Total Site Area	12.18	ac
C.	Q_{100} = $Q_{100\text{-}per}$ + $Q_{100\text{-}imp}$	6.50	in > Precipitation, P
D.	Peak Flow (PF) = (Q_k-Q_{100}-A)/640	58.558	cfs
E.	Delta = PF - 0.15A	56.731	cfs
F.	V_{det} = (Delta/PF) x V_{100} *	**106,569**	cf

* Refer to 'Summary' below for detention requirement minus infiltration provided.

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Storage Depth (ft)	Storage Volume (ft³)	Ave. Design Infil. Rate (in/hr)	Infil. During Storm (ft³)	Potential Volume Reduction (ft³)	100-yr Contributing Runoff (cf)	Actual Reduction (cf)**
North East Rain Garden 4	6,848	0.67	4,588	2.75	9,416	14,004	17,651	14,004
South East Rain Garden 5	7,130	0.67	4,777	5.5	19,606	24,383	14,602	14,602

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **28,606** cf

** *Minimum of the calculated potential reduction and the 100-year storm volume over the tributary area.*

W12 Natural Features Inventory - See Sheet 3

W13 Site Infiltration / Detention Summary

Total Infiltration Required per WCWRC Rules:	27,355	cf
Total Infiltration Provided:	28,606	cf
Difference:	1,251	cf
% Deficiency:	0.0%	
Pro-Rated 20% Detention Penalty:	**0.0%**	
Total Detention Required, Considering Infiltration Provided (V_{det} - V_{inf})	77,963	cf
Total Detention Required w/ Penalty (V100,det)	**77,963**	cf

Basin Stage-Storage Summary

	Elev.	Area	Avg. Area	Depth	Total Vol.	Det. Vol	
	705.5	49,750	48,385	0.5		143,916	
	705.0	47,020	44,343	1.0		119,724	
	704.0	41,665	39,305	1.0		75,381	
	703.0	36,945	31,270	0.5		36,076	
	702.5	25,595	24,823	0.5		20,441	
	702.0	24,050	23,855	0.13		3,837	
Outlet	701.87	23,660	22,385	0.9	93,380		2.5cVff= 50845
	701.00	21,110	19,730	1.00	73,905		
	700.0	18,350	17,068	1.00	54,175		
	699.0	15,785	14,593	1.0	37,108		
	698.0	13,400	12,308	1.0	22,515		
	697.0	11,215	10,208	1.0	10,208		
	696.0	9,200	4,600	0.0	0		

Storage Volume Provided: **143,916** cf

Vff-Vinf= 0 cf EL Vff = 701.87

Vbf-Vinf= 3,164 cf EL Xbf = 701.98

V100,det = 77,963 cf EL X100 = 704.06

freeboard= 1.44

FOREBAY Forebay Sizing

Required Volume (Vfb)=0.05*V100	**3,898 cf**
East Forebay Drainage Area	10.29 acres
Required Volume (Vfb)=0.05*V100 (to East forebay)	**3,292 cf**

Forebay Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume
702.5	5,225	4,778	0.5	3,128
702.0	4,330	4,220	0.13	549
701.87	4,110			0

West Forebay Drainage Area	1.89 acres
Required Volume (Vfb)=0.05*V100 (to West forebay)	**606 cf**

Forebay Stage-Storage Summary:

Elev.	Area	Avg. Area	Depth	Volume
702.5	2,010	1,755	0.5	1,065
702.0	1,500	1,440	0.1	187
701.87	1,380			0

Total forebay volume provided **4,193 cf**

OUTLET Outlet Control Structure Sizing

1. Standpipe outlet holes sizing - "first flush" runoff

First Flush discharge should be detained for 24 hours

$Q_{ff\text{-}hour}$ = V_{ff} / 24 hrs / 3600 sec = Q_{ff} = 0.000 cfs

Determine the appropriate size orifice to release the first flush volume.

$h_{ff(ave)} = 2/3 \times (X_{ff} - X_{bf})$ $h_{ff(ave)}$ = 0.00 ft

$A_{required} = Q_{ff} / 0.62 \times sqrt(2*32.2*h)$ $A_{required}$ = 0.0000 sf

Selected Orifice Diameter = **0** in

Area of each orifice = 0.0000 sf

Number of orifice holes provided = **0** holes at elev. **701.87**

Check first Flush discharge release time

$A_{ff(actual)}$ = 0.0000 ft²

Q_{ff} = A x 0.62 x sqrt(2*32.2*h) = 0.000 cfs

$T_{ff} = V_{ff} / (Q_{ff} \times 3600)$ = 0.0 hrs No FF Holes Required

2. Standpipe outlet holes sizing - "Bankfull flood" discharge

Bankfull should discharge within 36 to 48 hours

Check release from first flush holes only

$h_{bf(ave)} = 2/3 \times (X_{bf} - X_{ff})$ $h_{bf(ave)}$ = 0.00 ft

$Q_{bf} = A \times 0.62 \times sqrt(2*32.2*h)$ = Q_{bf} = 0.000 cfs

$T_{bf} = V_{bf} / (Q_{bf} \times 3600)$ = T_{bf} = 0.0 hrs

Add holes to decrease storage time if greater than 48 hours

The first flush volume will discharge in T_{ff} = 0.0 hrs

Additional volume between X_{bf} and X_{ff} = $V_{bf} - V_{ff}$ = 3,164 cf

Target Bankfull Discharge Time = 40.0 hrs

T_{max} = Target Discharge Time - T_{ff} = 40.0 hrs

$h_{(open)} = (2/3)(X_{ff}-X_{bf})+(X_{ff}-X_{(bo)})$ = 0.07 ft

$Q_{bf\text{-}act} = A_{bf}(.62)(SQRT(2gh)$ = 0.00 cfs

$V_{bf\text{-}act} = T_{min} Q_{bf\text{-}act}$ = 0 cf

$V_{bf} = V_{min} - V_{bf\text{-}act}$ = 3,164 cf

$Q_{bf} = V_{bf} / T_{min}$ = 0.02 cfs

$h_{(open)} = (2/3)(X_{ff}-X_{bf})$ = 0.07 ft

A_{bf} = 0.0165 sf

Selected Orifice Diameter = **1.00** in

Area of each orifice = 0.0055 sf

Maximum $#_{bf}$ = **3** holes at elev. **701.87**

Check Bankfull discharge release time

$A_{bf(actual)}$ = 0.0164 ft²

$Q_{bf(act)} = A \times 0.62 \times sqrt(2*32.2*h)$ = 0.0218 cfs

$T_{bf(act)} = T_{bf}(V_{bf} / ((Q_{bf(act)}*Q_{bf(act)}*3600))$ 40 hrs O.K.

3. Standpipe outlet holes sizing - "100-yr flood" discharge

Q100 = Q_{allow} = 0.095 x Drainage Area Q_{100} = 1.157 cfs

Release from above holes

$Q_{bf}+Q_{ff}=[0.62*(\#_{bf\text{-}act})*(A_{bf\text{-}act})*SQRT(2g(X_{100}-X_{bf}))]+[0.62*(\#_{ff\text{-}act})*(A_{ff\text{-}act})*SQRT(2g(X_{100}-X_{ff}))]$ $Q_{bf}+Q_{ff}$ = 0.120 cfs

$Q_{max100} = Q_{allow} - (Q_{bf}+Q_{ff})$ Q_{max100} = 1.037 cfs

$A_{max100} = Q_{max100} / (.62 \times sqrt(2*32.2*(X_{100}-X_{ff}))$ $A_{(required)}$ = 0.1444 sf

Selected Orifice Diameter = **1** in

Area of each orifice = 0.0055 sf

Number of orifice holes required = **7** holes at elev. **701.98**

Check that the actual flow rate does not exceed the allowable flow rate

Qff=.62 x #ff holes x A x sqrt(2 x 32.2 x (X100-Xo)) = 0.000 cfs

Qbf=.62 x #bf holes x A x sqrt(2 x 32.2 x (X100-Xff)) = 0.120 cfs

[Qff+Qbf]*0.62*#orif*A100*sqrt(2*32.2*(X100-Xbf)]<Qall = 0.394 cfs O.K.

0.394 < 1.157

Check "100-yr discharge" holes discharge release time

$h_{ff(ave)} = 2/3 \times (X_{100} - X_{ff}) + (X_{ff} - X_{bf})$ = $h_{ff(ave)}$ = 1.49 ft

$Q_{ff} = .62 \times \#_{ff\text{-}act} \times A_{ff\text{-}act} \times sqrt(2 \times 32.2 \times h)$ = Q_{ff} = 0.000 cfs

$h_{bf(ave)} = 2/3 \times (X_{100} - X_{ff}) + (X_{ff} - X_{bf})$ = $h_{bf(ave)}$ = 1.49 ft

$Q_{bf\text{-}h100} = A_{bf\text{-}orif} \times 0.62 \times \#_{bf\text{-}holes} \times sqrt(2 \times 32.2 \times h)$ = $Q_{bf\text{-}h100}$ = 0.100 cfs

$h_{100(ave)} = 2/3 \times (X_{100} - X_{bf}) + (X_{bf} - X_{ff})$ = $h_{100(ave)}$ = 1.39 ft

$Q_{100} = A_{h100\text{-}orif} \times 0.62 \times \#_{100\text{-}orif} \times sqrt(2 \times 32.2 \times h)$ = $Q_{100(ave)}$ = 0.224 cfs

Check to confirm the 100-year storm volume is discharged in less than 72 hours.

$V_{min} = V_{100} - V_{bf}$ = V_{min} = 74,799 cf

$T_{100} = T_{bf} + ((V_{min})/(Q_{all}-Q_{bf}-Q_{100}*Q_{100ave}))$ = T_{100} = 64.3 hrs O.K.

4. Riser Outlet Pipe Design

Outlet pipe designed to handle the 100-year restricted flow

100-year restricted flow = Q = 0.39 cfs

Choose outflow pipe diameter = d = **24** in

Choose outflow pipe slope = S = **0.26** %

Assume roughness factor n = 0.013

Flow velocity at 100-yr restricted flow (Mannings) = V = 3.67 fps

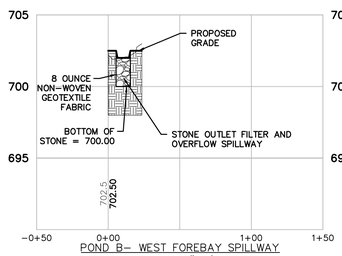
Design Pipe Capacity = = 11.54 cfs

Basin Overflow Weir

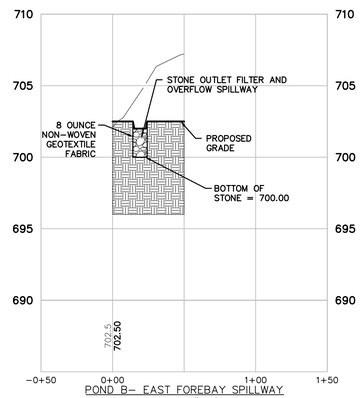
Size of Overflow Manhole	=	**4** ft
% of MH that can be used as a weir	=	**50** %
Calculated length of weir	=	6.28
Drainage Area, A =	=	12.18 ac
C-Factor (C) =	=	0.46
Longest Tc from Pipe Calcs	=	17.5 min
Sum of all Flow into Basin	=	7.78 cfs
Volume of Basin	=	237,296 cf
Storage Elevation	=	704.06 ft
Freeboard Elevation	=	705.50 ft
Time to fill basin	=	507.69 min
I	=	0.32
Qexp=CIA	=	1.78 cfs
Qweir=3.33Lh^1.5 therefore h	=	0.06 ft
Water elevation while overflowing	=	704.12 OK

Outlet Pipe Sizing

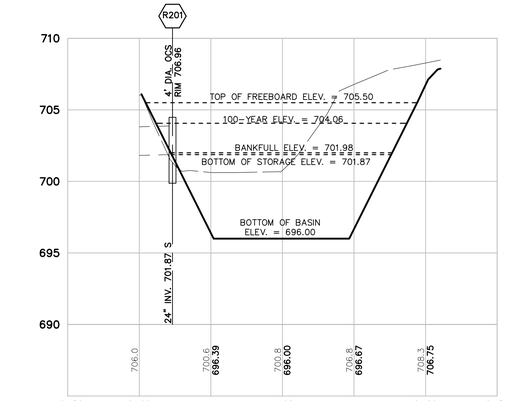
Size of Pipe	=	**24** inch
Area	=	3.142 sf
invert of pipe	=	701.87 ft
Springline	=	702.87 ft
h	=	1.19 ft
capacity	=	17.04 cfs (must exceed Qexp)



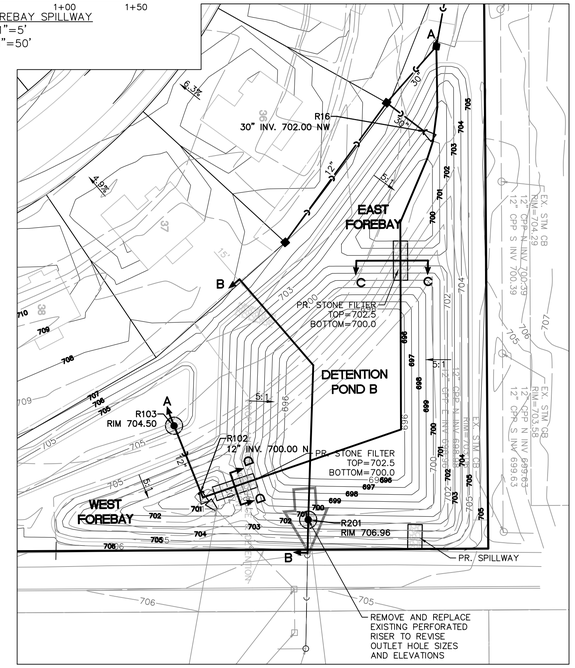
POND B– WEST FOREBAY SPILLWAY
VERT: 1"=5'
HORZ: 1"=50'

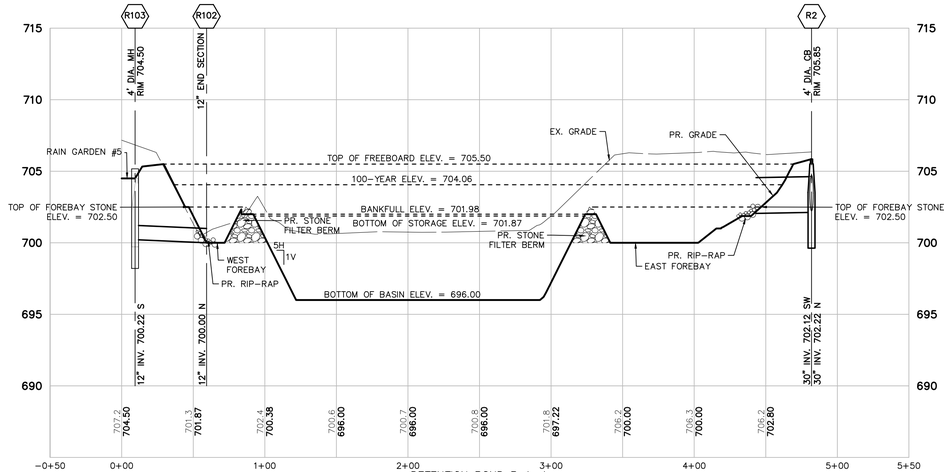


POND B– EAST FOREBAY SPILLWAY
VERT: 1"=5'
HORZ: 1"=50'



DETENTION BASIN B B–B
VERT: 1"=5'
HORZ: 1"=50'





DETENTION POND B A–A
VERT: 1"=5'
HORZ: 1"=50'

DETENTION BASIN B NARRATIVE:

EXISTING DETENTION BASIN A IS PROPOSED TO BE EXPANDED IN ORDER TO COMPLY WITH THE CURRENT WCWRC RULES FOR PERMANENT POOL VOLUME AND FREEBOARD ELEVATION. TWO INFILTRATION RAIN GARDENS ARE PROPOSED UPSTREAM OF BASIN B, THESE BMPs ACHIEVE THE REQUIRED INFILTRATION VOLUME FOR THE BASIN. THE OUTLET FOR THIS BASIN IS THE PLINY–HARRIS DRAIN, WHICH REQUIRED A RESTRICTED OUTFLOW RATE OF 0.095 CFS PER THE YPSILANTI TOWNSHIP STORMWATER MANAGEMENT PROGRAM. THE INFILTRATION VOLUMES ACHIEVED IN THE UPSTREAM BMPs ARE GREATER THAN THE FIRST FLUSH VOLUMES, THEREFORE NO FIRST FLUSH OUTLET HOLES ARE PROVIDED IN THE OUTLET CONTROL STRUCTURE.

LEGEND

- BOUNDARY LINE
- EXIST. CONTOUR
- EXIST. TREE LINE
- EXIST. CURB AND GUTTER
- EXIST. FENCE
- EXIST. GRAVEL
- EXIST. WATER EDGE
- EXIST. GAS
- EXIST. STORM
- EXIST. WATER MAIN
- EXIST. SANITARY
- EXIST. UNSPECIFIED UTILITY
- EXIST. CULVERT
- EXIST. CATCH BASIN/INLET
- EXIST. HYDRANT
- EXIST. VALVE
- EXIST. SANITARY SEWER
- PROP. BACK/EDGE CURB
- PROP. R.O.W. LINE
- PROP. LOT LINE
- PROP. ROAD CENTERLINE
- PROP. CONTOUR
- PROP. STORM SEWER
- PROP. END SECTION
- PROP. CATCH BASIN/INLET
- PROP. RAIN GARDEN AREA
- PROP. OVERALL DRAINAGE AREA

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ANN ARBOR, MI 48104
734.994.4000

SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC
CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

STORMWATER BASIN B

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 50 100
1" = 100 FEET

DR.	SK
CH.	--
P.M.	KS
BOOK	
JOB	15001707
SHEET NO.	15

K:\15001707 - CREEKSIDE_NORTH\CIVIL\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-07-STM.DWG 3/12/2025 2:10 PM STEPHEN.KESSEL

CAD FILE: 15001707SP-07-STM.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

CONVEYANCE CALCULATIONS

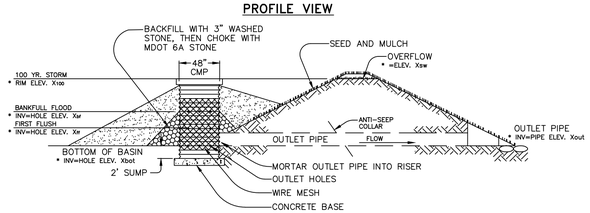
I = B/(T+D)^E B = 175.0 D = 25.00 E = 1.00

C = Varies Tmin = 20 n = 0.013 Vmin = 3.0

* = Check Rim-HGL clearance

FROM STRUCT INPUT	TO STRUCT	A AREA (AC)	C RUNOFF COEFF	AxC EQUIV AREA (AC)	CA DESIGN SUM AxC (AC)	T TIME CONC. (MIN)	I INTEN-SITY (IN/HR)	Q FLOW CAxI (CFS)	Qc PIPE CAPAC. (CFS) * see above	D PIPE DIAM. (IN)	L PIPE LENGTH (FT)	S PIPE SLOPE (%)	HGq MIN HG for Q (%)	HGv MIN HG for Vmin (%)	HG HGL SLOPE (%)	Vf VEL. FULL (FPS)	Tf TIME OF FLOW (MIN)	H.G.L. ELEV. UPPER END	H.G.L. ELEV. LOWER END	RIM/GROUND ELEV. UPPER END	RIM/GROUND ELEV. LOWER END	INVERT ELEV. UPPER END	INVERT ELEV. LOWER END
R18	R17	0.14	0.55	0.08	0.08	20.0	3.89	0.31	2.36	12	121	0.44	0.01	0.44	0.44	3.0	0.7	705.09	704.57	707.00	706.40	702.59	702.06
R17	R16	0.19	0.49	0.10	4.77	20.7	3.83	18.27	18.27 *	30	33	0.17	0.20	0.13	0.20	3.4	0.2	704.57	704.50	706.40	703.25	702.06	702.00
R7	R6	2.08	0.36	0.75	0.75	20.0	3.89	2.92	3.65	15	118	0.32	0.20	0.32	0.32	3.0	0.7	707.77	707.39	706.44	709.47	706.44	706.07
R6	R5	0.17	0.52	0.09	1.71	20.7	3.83	6.55	6.55 *	18	91	0.25	0.39	0.25	0.39	3.0	0.5	707.39	707.04	709.47	709.40	705.87	705.64
R5	R4	0.11	0.60	0.07	1.78	21.2	3.79	6.74	6.74 *	18	184	0.25	0.41	0.25	0.41	3.0	1.0	707.04	706.28	709.40	708.20	705.54	705.08
R4	R3	0.00	0.00	0.00	1.89	22.2	3.71	7.01	9.33	24	53	0.17	0.10	0.17	0.17	3.0	0.3	704.86	704.76	708.20	706.71	702.81	702.72
R3	R2	0.16	0.43	0.07	4.52	22.5	3.68	16.65	16.65 *	30	73	0.13	0.16	0.13	0.16	3.0	0.4	704.76	704.64	706.71	705.85	702.32	702.22
R2	R17	0.12	0.57	0.07	4.59	22.9	3.65	16.77	16.77 *	30	52	0.13	0.17	0.13	0.17	3.0	0.3	704.64	704.56	705.85	706.40	702.12	702.06
R12	R11	2.10	0.56	1.18	1.18	20.0	3.89	4.59	5.25	18	28	0.25	0.19	0.25	0.25	3.0	0.2	705.04	704.96	707.12	707.12	703.49	703.42
R11	R3	2.52	0.55	1.38	2.56	20.2	3.87	9.91	14.79	30	156	0.13	0.06	0.13	0.13	3.0	0.9	704.96	704.76	707.12	706.71	702.62	702.42
R13	R4	0.26	0.40	0.11	0.11	20.0	3.89	0.43	7.56	12	10	4.50	0.01	0.44	0.44	9.6	0.0	706.49	706.45	707.63	708.20	706.10	705.65
R15	R14	2.17	0.40	0.87	0.87	20.0	3.89	3.38	6.27	12	29	3.10	0.90	0.44	0.90	8.0	0.1	708.92	708.66	708.96	710.74	708.76	707.86
R14	R6	0.00	0.00	0.00	0.87	20.1	3.88	3.38	3.65	15	354	0.32	0.27	0.32	0.32	3.0	2.0	708.54	707.39	710.74	709.47	707.20	706.07
R64	R63	0.46	0.61	0.28	0.28	20.0	3.89	1.09	2.36	12	28	0.44	0.09	0.44	0.44	3.0	0.2	703.00	702.88	707.46	707.46	702.20	702.08
R63	R62	0.48	0.60	0.29	0.57	20.2	3.87	2.21	2.36	12	163	0.44	0.38	0.44	0.44	3.0	0.9	702.78	702.06	707.46	706.20	701.98	701.26
R62	R61	0.06	0.35	0.02	0.59	21.1	3.80	2.24	2.36	12	175	0.44	0.40	0.44	0.44	3.0	1.0	702.05	701.29	706.20	706.60	701.16	700.39
R61	R60	0.06	0.35	0.02	0.61	22.1	3.72	2.27	2.36	12	66	0.44	0.40	0.44	0.44	3.0	0.4	701.29	701.00	706.60	697.25	700.29	700.00
BASIN B																							
BASIN A																							
R44	R43	0.00	0.00	0.00	0.00	20.0	3.89	0.00	3.65	15	142	0.32	0.00	0.32	0.32	3.0	0.8	724.35	723.89	707.75	710.50	707.81	707.36
R43	R42	0.31	0.44	0.14	0.14	20.8	3.82	0.53	3.65	15	98	0.32	0.01	0.32	0.32	3.0	0.5	723.89	723.57	710.70	710.40	707.26	706.95
R42	R41	0.51	0.40	0.20	0.34	21.3	3.78	1.29	3.65	15	92	0.32	0.04	0.32	0.32	3.0	0.5	723.57	723.27	710.40	710.10	706.85	706.55
R41	R40	0.31	0.40	0.12	0.46	21.8	3.74	1.72	3.65	15	124	0.32	0.07	0.32	0.32	3.0	0.7	723.27	722.87	710.10	709.65	706.45	706.05
R40	R39	0.76	0.42	0.32	0.78	22.5	3.68	2.87	3.65	15	83	0.32	0.20	0.32	0.32	3.0	0.5	722.87	722.60	709.65	709.65	705.95	705.69
R39	R38	0.15	0.53	0.08	3.26	23.0	3.65	11.89	11.89 *	15	149	0.32	3.39	0.32	3.39	3.0	0.8	722.60	717.58	708.22	707.16	704.15	703.67
R38	R37	0.77	0.61	0.47	3.73	23.8	3.59	13.38	13.38 *	15	28	0.32	4.29	0.32	4.29	3.0	0.2	717.58	716.37	707.16	707.18	703.57	703.48
R37	R36	1.05	0.54	0.57	4.30	24.0	3.57	15.36	15.36 *	15	203	0.32	5.65	0.32	5.65	3.0	1.1	716.37	704.92	707.18	706.88	703.38	702.74
R36	R35	0.00	0.00	0.00	4.30	25.1	3.49	15.36	15.36 *	30	90	0.13	0.14	0.13	0.14	3.0	0.5	704.92	704.80	706.88	706.75	701.74	701.62
R35	R34	5.39	0.42	2.27	8.41	25.6	3.46	29.09	29.09 *	30	187	0.13	0.50	0.13	0.50	3.0	1.0	704.80	703.86	706.75	708.90	701.52	701.28
R34	R33	0.00	0.00	0.00	8.41	26.6	3.39	29.09	29.09 *	36	37	0.10	0.19	0.10	0.19	3.0	0.2	703.86	703.79	708.90	707.54	700.88	700.84
R33	R32	0.44	0.54	0.24	8.65	26.8	3.38	29.22	29.22 *	36	28	0.10	0.19	0.10	0.19	3.0	0.2	703.79	703.73	707.54	707.54	700.74	700.71
R32	R31	0.42	0.57	0.24	8.89	27.0	3.37	29.92	29.92 *	42	187	0.08	0.09	0.08	0.09	3.0	1.1	703.73	703.57	707.54	706.52	700.31	700.16
R31	R30	0.29	0.45	0.13	9.02	28.1	3.30	29.92	29.92 *	42	77	0.08	0.09	0.08	0.09	3.0	0.4	703.57	703.50	706.52	704.75	700.06	700.00
R53	R52	1.10	0.58	0.64	0.64	20.0	3.89	2.49	3.65	15	28	0.32	0.15	0.32	0.32	3.0	0.2	723.22	723.13	708.43	708.43	705.16	705.07
R52	R51	1.38	0.54	0.75	1.39	20.2	3.87	5.38	5.38 *	18	109	0.26	0.26	0.25	0.26	3.0	0.6	723.13	722.84	708.43	707.90	704.87	704.59
R51	R39	0.24	0.47	0.11	1.50	20.8	3.82	5.73	5.75	18	80	0.30	0.30	0.25	0.30	3.3	0.4	722.84	722.60	707.90	708.22	704.49	704.25
R87	R56	0.59	0.42	0.25	0.25	20.0	3.89	0.97	2.36	12	109	0.44	0.07	0.44	0.44	3.0	0.6	723.82	723.34	709.00	708.58	705.86	705.38
R56	R55	0.36	0.60	0.22	0.47	20.6	3.84	1.80	2.36	12	28	0.44	0.26	0.44	0.44	3.0	0.2	723.34	723.22	708.58	708.58	705.28	705.15
R55	R54	0.61	0.58	0.35	0.82	20.8	3.82	3.13	3.65	15	109	0.32	0.24	0.32	0.32	3.0	0.6	723.22	722.86	708.58	709.02	704.95	704.61
R54	R39	0.14	0.54	0.08	0.90	21.4	3.77	3.39	3.65	15	80	0.32	0.28	0.32	0.32	3.0	0.4	722.86	722.60	709.02	708.22	704.51	704.25
R50	R49	4.48	0.41	1.84	1.84	20.0	3.89	7.16	7.16 *	18	57	0.46	0.46	0.25	0.46	4.0	0.2	705.63	705.37	705.51	707.50	703.37	703.11
R49	R48	0.00	0.00	0.00	1.84	20.2	3.87	7.16	9.60	24	157	0.18	0.10	0.17	0.17	3.1	0.9	705.37	705.09	707.50	707.20	702.71	702.43
R48	R47	0.00	0.00	0.00	1.84	21.1	3.80	7.16	9.60	24	47	0.18	0.10	0.17	0.17	3.1	0.3	705.09	705.01	707.20	707.20	702.33	702.24
R47	R35	0.00	0.00	0.00	1.84	21.4	3.77	7.16	9.60	24	124	0.18	0.10	0.17	0.17	3.1	0.7	705.01	704.80	707.20	706.75	702.14	701.92
R58	R57	0.00	0.00	0.00	0.00	20.0	3.89	0.00	2.36	12	163	0.44	0.00	0.44	0.44	3.0	0.9	707.46	706.75	710.47	706.62	706.47	705.75
R68	R67	0.98	0.58	0.57	0.57	20.0	3.89	2.22	2.36	12	28	0.44	0.39	0.44	0.44	3.0	0.2	703.06	702.93	706.26	706.26	702.26	702.13
R67	R66	0.82	0.56	0.46	1.03	20.2	3.87	3.99	4.09	15	178	0.40	0.38	0.32	0.38	3.3	0.9	702.90	702.22	706.26	706.00	701.93	701.22
R66	R65	0.08	0.35	0.03	1.08	21.1	3.80	4.10	4.10 *	15	30	0.40	0.40	0.32	0.40	3.3	0.2	701.37	701.25	706.00	699.20	700.12	700.00
R69	R66	0.06	0.35	0.02	0.02	20.0	3.89	0.08	2.36	12	192	0.44	0.00	0.44	0.44	3.0	1.1	702.86	702.02	706.21	706.00	702.06	701.22
R85	R84	1.08	0.40	0.43	0.43	20.0	3.89	1.67	2.36	12	97	0.44	0.22	0.44	0.44	3.0	0.5	707.46	707.04	707.92	708.50	706.67	706.24
R84	R83	0.39	0.42	0.16	0.59	20.5	3.85	2.27	2.36	12	150	0.44	0.41	0.44	0.44	3.0	0.8	705.24	704.58	708.50	708.28	704.14	703.48
R83	R82	0.36	0.59	0.21	1.04	21.3	3.78	3.93	5.25	18	160	0.25	0.14	0.25	0.25	3.0	0.9	704.58	704.17	708.28	707.34	703.08	702.68
R82	R81	0.46	0.61	0.28	1.85	22.2	3.71	6.86	11.99	27	148	0.15	0.05	0.15	0.15	3.0	0.8	704.17	703.95	707.34	707.85	702.08	701.86
R81	R80	0.09	0.47	0.04	2.12	23.0	3.65	7.73	11.99	27	158	0.15	0.06	0.15	0.15	3.0	0.9	703.95	703.72	707.85	706.50	701.76	701.52
R80	R79	0.53	0.55	0.29	2.65	23.9	3.58	9.48	11.99	27	33	0.15	0.09	0.15	0.15	3.0	0.2	703.72	703.67	706.50	706.43	701.42	701.37
R79	R78	0.20	0.39	0.08	2.73	24.1	3.56	9.73	11.99	27	70	0.15	0.10	0.15	0.15	3.0	0.4	703.67	703.57	706.43	707.13	701.27	701.16
R78	R77	0.02	0.73	0.02	2.75	24.5	3.54	9.73	11.99	27	123	0.15	0.10	0.15	0.15	3.0	0.7	703.57	703.38	707.13	707.30	701.06	700.88
R77	R76	0.48	0.47	0.23	5.02	25.2	3.49	17.50	21.09	36	223	0.10	0.07	0.10	0.10	3.0	1.2	703.38	703.16	707.30	706.00	700.48	700.26
R76	R75	0.33	0.43	0.14	5.16	26.4	3.40	17.57	21.09	36	157	0.10	0.07	0.10	0.10	3.0	0.9	703.16	703.00	706.00	701.03	700.16	700.00
R89	R83	0.39	0.61	0.24	0.24	20.0	3.89	0.93	2.36	12	28	0.44	0.07	0.44	0.44	3.0	0.2	704.70	704.58	707.74	708.28	703.60	703.48
R90	R82	0.35	0.58	0.21	0.21	20.0	3.89	0.82	2.36	12	28	0.44	0.05	0.44	0.44	3.0	0.2	704.30	704.17	707.34	707.34	703.20	703.08
R91	R82	0.84	0.38	0.32	0.32	20.0	3.89	1.24	2.36	12	150	0.44	0.12	0.44	0.44	3.0	0.8	704.83	704.17	707.27	707.34	703.74	703.08
R92	R81	0.04	0.61	0.02	0.02	20.0	3.89	0.08	2.36	12	30	0.44	0.00	0.44	0.44	3.0	0.2	704.69	704.56	707.89	707.85	703.89	703.76
R93	R81	0.53	0.40	0.21	0.21	20.0	3.89	0.82	2.36	12	163	0.44	0.05	0.44	0.44	3.0	0.9	704.67	703.95	707.47	707.85	703.48	702.76
R95	R80	0.61	0.40	0.24	0.24	20.0	3.89	0.93	2.36	12	134	0.44	0.07	0.44	0.44	3.0	0.7	704.31	703.72	706.58	706.50	703.01	702.42
R101	R100	0.53	0.40	0.21	0.21	20.0	3.89	0.82	2.36	12	80	0.44	0.05	0.44	0.44	3.0	0.4	704.87	704.52	707.20	706.90	703.87	703.52
R100	R99	0.40	0.45	0.18	0.39	20.4	3.85	1.50	2.36	12	79	0.44	0.18	0.44	0.44	3.0	0.4	704.52	704.18	706.90	707.77	703.42	703.07
R99	R98	0.02	0.35	0.01	0.40	20.8	3.82	1.53	2.36	12	72	0.44	0.18	0.44	0.44	3.0	0.4	704.18	703.86	707.77	707.44	702.97	702.65
R98	R97	0.15	0.44	0.06	0.46	21.2	3.79	1.74	2.36	12	31	0.44	0.24	0.44	0.44	3.0	0.2	703.86	703.73	707.44	706.47	702.55	702.42
R97	R96	0.31	2.43	0.76	1.22	21.4	3.77	4.60	5.25	18	28	0.25	0.19	0.25	0.25	3.0	0.2	703.73	703.66	706.47	706.47	702.02	701.95
R96	R77	0.50	1.64	0.82	2.04	21.6	3.76	7.66	9.33	24	157	0.17	0.11	0.17	0.17	3.0	0.9	703.66	703.38	706.47	707.30	701.55	701.28
R21	R20	1.08	0.58	0.63	0.63	20.0	3.89	2.45	3.65	15	28	0.32	0.14	0.32	0.32	3.0	0.2	704.17	704.08	707.17	707.18	702.96	702.87
R20	R19	0.85	0.56	0.48	1.11	20.2	3.87	4.30	5.25	18	147	0.25	0.17	0.25	0.25	3.0	0.8	704.08	703.70	707.18	707.02	702.67	702.30
R19	REX24	0.92	0.44	0.40	1.51	21.0	3.80	5.74	5.75	18	68	0.30	0.30	0.25	0.30	3.3	0.3	703.70	703.50	707.02	706.23	702.20	702.00
R103	R102	0.00	0.00	0.00	0.00	20.0	3.89	0.00	2.36	12	50	0.44	0.00	0.44	0.44	3.0	0.3	701.22	701.00	704.50	696.26	700.22	700.00
R201	R200	0.00	0.00	0.00	0.00	20.0	3.89	0.00	11.53	24	90	0.26	0.00	0.17	0.17	3.7	0.4	703.80	703.64	706.96	698.96	701.87	701.64

PROFILE VIEW



* SEE CALCULATIONS FOR NUMBER AND SIZE OF HOLES.

TYPICAL POND OUTLET RISER DETAIL

NO SCALE

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

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

STORMWATER CONVEYANCE CALCULATIONS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 — — — —
NO SCALE

DR. SK | CH. — —
P.M. KS
BOOK
JOB 15001707
SHEET NO. 16

CAD FILE: 15001707SP-07-STM.DWG

K:\15001707 - CREEKSIDE NORTH\DWG\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-07-STM.DWG, 3/12/2025, 2:11 PM, STEPHEN KROEGEL

PRELIMINARY - NOT FOR CONSTRUCTION

RAIN GARDEN #1 DESIGN CALCS

Description: Rain Garden #1

C Factor

	Quantity	Unit			S.F. Imperv.
Pond	13,900	sf	-	=	13900
House	2	ea	2500 SF	=	5000
Multi Bldg	0	ea	4975	=	0
Driveway	0	ea	800 SF	=	0
Road & Walk	0	lf	39' wide	=	0

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = 1.08 Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Paved Parking Lots, roofs, driveways	B	5,000	0.11	0.95	4.750
Water Surfaces	B	13,900	0.32	1.00	13.900
Developed Open Space, Good Condition	B	42,111	0.97	0.30	12.633
			1.4	Total - Sum (c)(Area) =	31.283
				Area Total (sf)=	61,011
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	0.51

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Developed open space	B	42,111	0.97	61	2,568.771
			0.00		0
			0.00		0
			0.97		
		Total - Sum (CN)(Area) =			2,568.771
		Area Total - Sum(ac) of Sum(sf)=			42,111
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			61

NRCS Variables

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Paved Parking Lots, roofs, driveways	B	5,000	0.11	98	490.000
Impervious, Ponds	B	13,900	0.32	98	1,362.200
			0.00		0
			0.43		
		Total - Sum (CN)(Area) =			1,852.200
		Area Total - Sum(ac) of Sum(sf)=			18,900
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			98

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	61	
C.	S = (1000/CN)-10	S =	6.39	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	1.44	in
E.	Pervious Cover Area	Area =	42,111	sf
F.	$V_{100\text{-inp-post}}$ = Q(1/12)Area	$V_{100\text{-inp-post}}$ =	**5,038**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	4.87	in
E.	Pervious Cover Area	Area =	18,900	sf
F.	$V_{100\text{-imp-post}}$ = Q(1/12)Area	$V_{100\text{-imp-post}}$ =	**7,675**	cf

W9 Runoff Summary & Onsite Infiltration Requirement

$V_{100\text{-per-post}}$ =	5,038 cf	**Total 100-year Volume (V_{100})**	
$V_{100\text{-imp-post}}$ =	7,675 cf	12,713	cf

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Storage Depth (ft)	Storage Volume (ft³)	Ave. Design Infil. Rate (in/hr)*	Infil. During Storm (ft³)	Potential Volume Reduction (ft³)	Actual Reduction (cf)**
			Surface				
Rain Garden #1	13,900	0.67	9,313	2.9	20,155	29,468	12,713

* *Per Geotechnical Investigation by McDowell & Associates Test Pits 11 and 12. Includes a factor of safety of 2.*
** *Minimum of the calculated potential reduction and the 100-year storm volume over the tributary area. See W11A.*

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **12,713** cf

W11A Infiltration Loading Ratios and Storage Volume Drawdown Times

Proposed BMP	100-yr Contributing Runoff (cf)*	Tributary Area (sf)	Overall Loading Ratio	Imperv. Area (sf)	Impervious Loading Ratio	Drawdown Time (hrs)
Rain Garden #1	12,713	47,111	3.4	42,111	3.0	2.77

Test Pit Information	Test Pit 1		
Existing Grade	708.2		
Elevation of stratum tested	703.45		
Bottom of Rain Garden Elevation	706		
S.H.G.W.	702.9		
Depth to S.H.G.W.	3.1		
Minimum Infiltration Rate	2.9	in/hr	

RAIN GARDEN #2 DESIGN CALCS

Description: Rain Graden #2

C Factor

	Quantity	Unit			S.F. Imperv.
Pond	18,520	sf	-	=	18,520
House	11.25	ea	2500 SF	=	28125
Multi Bldg	0	ea	4975	=	0
Driveway	0	ea	16' x 32'	=	0
Road & Walk	0	lf	41' wide	=	0

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = 5.39 Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Paved Parking Lots, roofs, driveways	B	28,125	0.65	0.95	26.719
Water Surfaces	B	18,520	0.43	1.00	18.520
Developed Open Space, Good Condition	B	206,791	4.75	0.30	62.037
			5.8	Total - Sum (c)(Area) =	107.276
				Area Total (sf)=	253,436
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	0.42

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Developed open space	B	206,791	4.75	61	12,614.251
			0.00		0
			0.00		0
			4.75		
		Total - Sum (CN)(Area) =			12,614.251
		Area Total - Sum(ac) of Sum(sf)=			206,791
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			61

NRCS Variables

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Paved Parking Lots, roofs, driveways	B	28,125	0.65	98	2,756.250
Impervious, Ponds	B	18,520	0.43	98	1,814.911
			0.00		0
			1.07		
		Total - Sum (CN)(Area) =			4,571.161
		Area Total - Sum(ac) of Sum(sf)=			46,645
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			98

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	61	
C.	S = (1000/CN)-10	S =	6.39	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	1.44	in
E.	Pervious Cover Area	Area =	206,791	sf
F.	$V_{100\text{-inp-post}}$ = Q(1/12)Area	$V_{100\text{-inp-post}}$ =	**24,740**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	4.87	in
E.	Pervious Cover Area	Area =	46,645	sf
F.	$V_{100\text{-imp-post}}$ = Q(1/12)Area	$V_{100\text{-imp-post}}$ =	**18,942**	cf

W9 Runoff Summary & Onsite Infiltration Requirement

$V_{100\text{-per-post}}$ =	24,740 cf	**Total 100-year Volume (V_{100})**	
$V_{100\text{-imp-post}}$ =	18,942 cf	43,681	cf

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Storage Depth (ft)	Storage Volume (ft³)	Ave. Design Infil. Rate (in/hr)*	Infil. During Storm (ft³)	Potential Volume Reduction (ft³)	Actual Reduction (cf)**
			Surface				
Rain Garden #2	18,520	0.67	12,408	5.9	54,633	67,041	43,681

* *Per Geotechnical Investigation by McDowell & Associates, Test Pit 9. Includes a factor of safety of 2.*
** *Minimum of the calculated potential reduction and the 100-year storm volume over the tributary area. See W11A.*

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **43,681** cf

W11A Infiltration Loading Ratios and Storage Volume Drawdown Times

Proposed BMP	100-yr Contributing Runoff (cf)*	Tributary Area (sf)	Overall Loading Ratio	Imperv. Area (sf)	Impervious Loading Ratio	Drawdown Time (hrs)
Rain Garden #2	43681	234916	12.7	206,791	11.2	1.36

Test Pit Information	Test Pit 4	Test Pit 6		
Existing Grade	706.94	708.8		
Elevation of stratum tested	703.44	702.3		
Bottom of Rain Garden Elevation		705.75		
S.H.G.W.		702.9		
Depth to S.H.G.W.		2.85		
Minimum Infiltration Rate	8.7	5.9	in/hr	

RAIN GARDEN #3 DESIGN CALCS

Description: Rain Garden #3

C Factor

	Quantity	Unit			S.F. Imperv.
Pond	26,511	sf	-	=	26,511
House	8	ea	2500 SF	=	20000
Multi Bldg	0	ea	4975	=	0
Driveway	0	ea	16' x 32'	=	0
Road & Walk	0	lf	41' wide	=	0

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = 4.48 Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Paved Parking Lots, roofs, driveways	B	20,000	0.46	0.95	19.000
Water Surfaces	B	26,511	0.61	1.00	26.511
Developed Open Space, Good Condition	B	175,232	4.02	0.30	52.570
			5.1	Total - Sum (c)(Area) =	98.081
				Area Total (sf)=	221,743
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	0.44

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Developed open space	B	175,232	4.02	61	10,689.152
			0.00		0
			0.00		0
			4.02		
		Total - Sum (CN)(Area) =			10,689.152
		Area Total - Sum(ac) of Sum(sf)=			175,232
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			61

NRCS Variables

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Paved Parking Lots, roofs, driveways	B	20,000	0.46	98	1,960.000
Impervious, Ponds	B	26,511	0.61	98	2,598.078
			0.00		0
			1.07		
		Total - Sum (CN)(Area) =			4,558.078
		Area Total - Sum(ac) of Sum(sf)=			46,511
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			98

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	61	
C.	S = (1000/CN)-10	S =	6.39	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	1.44	in
E.	Pervious Cover Area	Area =	175,232	sf
F.	$V_{100\text{-inp-post}}$ = Q(1/12)Area	$V_{100\text{-inp-post}}$ =	**20,964**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	4.87	in
E.	Pervious Cover Area	Area =	46,511	sf
F.	$V_{100\text{-imp-post}}$ = Q(1/12)Area	$V_{100\text{-imp-post}}$ =	**18,887**	cf

W9 Runoff Summary & Onsite Infiltration Requirement

$V_{100\text{-per-post}}$ =	20,964 cf	**Total 100-year Volume (V_{100})**	
$V_{100\text{-imp-post}}$ =	18,887 cf	39,851	cf

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Storage Depth (ft)	Storage Volume (ft³)	Ave. Design Infil. Rate (in/hr)*	Infil. During Storm (ft³)	Potential Volume Reduction (ft³)	Actual Reduction (cf)**
			Surface				
Infiltration Trench #1	26,511	0.67	17,674	6.15	81,521	99,195	39,851

* *Per Geotechnical Investigation by McDowell & Associates Test Pits 11 and 12. Includes a factor of safety of 2.*
** *Minimum of the calculated potential reduction and the 100-year storm volume over the tributary area. See W11A.*

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **39,851** cf

W11A Infiltration Loading Ratios and Storage Volume Drawdown Times

Proposed BMP	100-yr Contributing Runoff (cf)*	Tributary Area (sf)	Overall Loading Ratio	Imperv. Area (sf)	Impervious Loading Ratio	Drawdown Time (hrs)
Infiltration Trench #1	39,851	195,232	7.4	175,232	6.6	1.30

Test Pit Information	Test Pit 5	Test Pit 7		
Existing Grade	708.83	709.2		
Elevation of stratum tested	703.33	702.7		
Bottom of Rain Garden Elevation		704.84		
S.H.G.W.		702.6		
Depth to S.H.G.W.		2.24		
Minimum Infiltration Rate	5.05	6.15	in/hr	

RAIN GARDEN #4 DESIGN CALCS

Description: Rain Garden #4

C Factor

	Quantity	Unit			S.F. Imperv.
Pond	6,848	sf	-	=	6848
House	5	ea	2500 SF	=	12500
Multi Bldg	0	ea	4975	=	0
Driveway	0	ea	800 SF	=	0
Road & Walk	0	lf	39' wide	=	0

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = 2.17 Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Paved Parking Lots, roofs, driveways	B	12,500	0.29	0.95	11.875
Water Surfaces	B	6,848	0.16	1.00	6.848
Developed Open Space, Good Condition	B	81,868	1.88	0.30	24.560
			2.3	Total - Sum (c)(Area) =	43.283
				Area Total (sf)=	101,216
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	0.43

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Developed open space	B	81,868	1.88	61	4,993.948
			0.00		0
			0.00		0
			1.88		
		Total - Sum (CN)(Area) =			4,993.948
		Area Total - Sum(ac) of Sum(sf)=			81,868
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			61

NRCS Variables

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Paved Parking Lots, roofs, driveways	B	12,500	0.29	98	1,225.000
Impervious, Ponds	B	6,848	0.16	98	671.089
			0.00		0
			0.44		
		Total - Sum (CN)(Area) =			1,896.089
		Area Total - Sum(ac) of Sum(sf)=			19,348
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			98

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	61	
C.	S = (1000/CN)-10	S =	6.39	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	1.44	in
E.	Pervious Cover Area	Area =	81,868	sf
F.	$V_{100\text{-inp-post}}$ = Q(1/12)Area	$V_{100\text{-inp-post}}$ =	**9,794**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	4.87	in
E.	Pervious Cover Area	Area =	19,348	sf
F.	$V_{100\text{-imp-post}}$ = Q(1/12)Area	$V_{100\text{-imp-post}}$ =	**7,857**	cf

W9 Runoff Summary & Onsite Infiltration Requirement

$V_{100\text{-per-post}}$ =	9,794 cf	**Total 100-year Volume (V_{100})**	
$V_{100\text{-imp-post}}$ =	7,857 cf	17,651	cf

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Storage Depth (ft)	Storage Volume (ft³)	Ave. Design Infil. Rate (in/hr)*	Infil. During Storm (ft³)	Potential Volume Reduction (ft³)	Actual Reduction (cf)**
			Surface				
Rain Garden #3	6,848	0.67	4,588	2.75	9,416	14,004	14,004

* *Per Geotechnical Investigation by McDowell & Associates Test Pits 11 and 12. Includes a factor of safety of 2.*
** *Minimum of the calculated potential reduction and the 100-year storm volume over the tributary area. See W11A.*

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **14,004** cf

W11A Infiltration Loading Ratios and Storage Volume Drawdown Times

Proposed BMP	100-yr Contributing Runoff (cf)*	Tributary Area (sf)	Overall Loading Ratio	Imperv. Area (sf)	Impervious Loading Ratio	Drawdown Time (hrs)
Rain Garden #3	17,651	94,368	13.8	81,868	12.0	2.92

Test Pit Information	Test Pit 3		
Existing Grade	705.64		
Elevation of stratum tested	701.14		
Bottom of Rain Garden Elevation	707.5		
S.H.G.W.	702.8		
Depth to S.H.G.W.	4.7		
Minimum Infiltration Rate	2.75	in/hr	

RAIN GARDEN #5 DESIGN CALCS

Description: Rain Garden #5

C Factor

	Quantity	Unit			S.F. Imperv.
Pond	7,130	sf	-	=	7,130
House	4.5	ea	2500 SF	=	11250
Multi Bldg	0	ea	4975	=	0
Driveway	0	ea	16' x 32'	=	0
Road & Walk	0	lf	41' wide	=	0

W1 Determining Post-Development Cover Types, Areas, Curve Numbers and runoff coefficients

Total Contributing Drainage Area = 1.63 Acres

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coef	(c)(Area)
Paved Parking Lots, roofs, driveways	B	11,250	0.26	0.95	10.688
Water Surfaces	B	7,130	0.16	1.00	7.130
Developed Open Space, Good Condition	B	59,670	1.37	0.30	17.901
			1.8	Total - Sum (c)(Area) =	35.718
				Area Total (sf)=	78,050
				Weighted C-Sum(c)(Area)/Sum(ac) or Sum(sf)=	0.46

NRCS Variables

Pervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Developed open space	B	59,670	1.37	61	3,639.870
			0.00		0
			0.00		0
			1.37		
		Total - Sum (CN)(Area) =			3,639.870
		Area Total - Sum(ac) of Sum(sf)=			59,670
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			61

NRCS Variables

Impervious Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)(Area)
Paved Parking Lots, roofs, driveways	B	11,250	0.26	98	1,102.500
Impervious, Ponds	B	7,130	0.16	98	698.691
			0.00		0
			0.42		
		Total - Sum (CN)(Area) =			1,801.191
		Area Total - Sum(ac) of Sum(sf)=			18,380
		Weighted CN-Sum(CN)(Area)/Sum(ac) or Sum(sf)=			98

W6 Pervious Cover Post-development 100-year Storm Runoff Calculations (V100-per-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	61	
C.	S = (1000/CN)-10	S =	6.39	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	1.44	in
E.	Pervious Cover Area	Area =	59,670	sf
F.	$V_{100\text{-inp-post}}$ = Q(1/12)Area	$V_{100\text{-inp-post}}$ =	**7,139**	cf

W7 Impervious Cover Post-development 100-year Storm Runoff Calculations (V100-imp-post)

A.	100 year storm event	P =	5.11	in
B.	Pervious Cover CN	CN =	98	
C.	S = (1000/CN)-10	S =	0.20	in
D.	Q = (P-0.2S)^2/(P+0.8S)	Q =	4.87	in
E.	Pervious Cover Area	Area =	18,380	sf
F.	$V_{100\text{-imp-post}}$ = Q(1/12)Area	$V_{100\text{-imp-post}}$ =	**7,464**	cf

W9 Runoff Summary & Onsite Infiltration Requirement

$V_{100\text{-per-post}}$ =	7,139 cf	**Total 100-year Volume (V_{100})**	
$V_{100\text{-imp-post}}$ =	7,464 cf	14,602	cf

W11 Determine Applicable BMPs and Associated Volume Credits

Proposed BMP	Area (ft²)	Storage Depth (ft)	Storage Volume (ft³)	Ave. Design Infil. Rate (in/hr)*	Infil. During Storm (ft³)	Potential Volume Reduction (ft³)	Actual Reduction (cf)**
			Surface				
Rain Garden #5	7,130	0.67	4,777	5.5	19,606	24,383	14,602

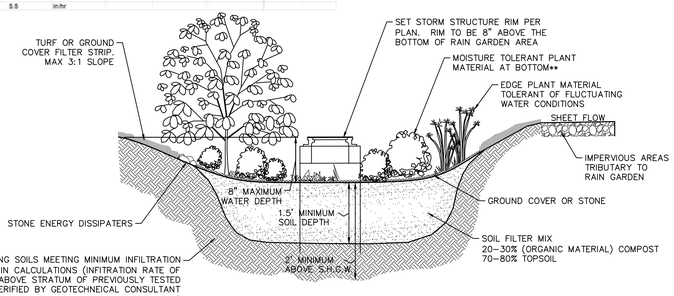
* *Per Geotechnical Investigation by McDowell & Associates Test Pits 11 and 12. Includes a factor of safety of 2.*
** *Minimum of the calculated potential reduction and the 100-year storm volume over the tributary area. See W11A.*

Total Volume Reduction Credit by Proposed Structural BMPs (Vinf) = **14,602** cf

W11A Infiltration Loading Ratios and Storage Volume Drawdown Times

Proposed BMP	100-yr Contributing Runoff (cf)*	Tributary Area (sf)	Overall Loading Ratio	Imperv. Area (sf)	Impervious Loading Ratio	Drawdown Time (hrs)
Rain Garden #5	14,602	70,920	9.9	59,670	8.4	1.46

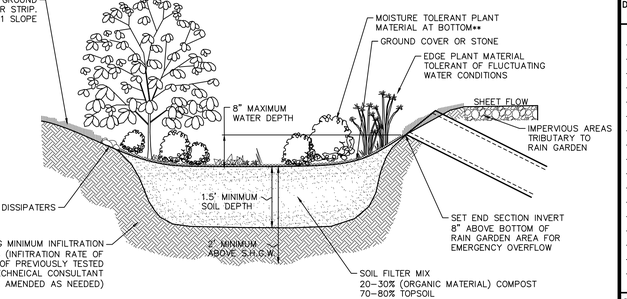
Test Pit Information	Test Pit 11	Test Pit 12		
Existing Grade	708.12	709.04		
Elevation of stratum tested	701.29	701.04		
Bottom of Rain Garden Elevation		706.33		
S.H.G.W.		702		
Depth to S.H.G.W.		4.33		
Minimum Infiltration Rate	7.4	5.5	in/hr	



** SWALE SEED MIX, PER JF NEW NURSERY – WALKERTON, ID (574) 586–3400, OR EQUAL. THE SEED MIX CONTAINS NATIVE PLANTS THAT WILL HELP FILTER POLLUTANTS FROM YARD AND ROAD RUNOFF. THE MIX CAN BE USED IN YARD AREAS THAT RETAIN WATER FOR SOMETIME AFTER A RAIN EVENT. THE SEED MIX CONTAINS NATIVE GRASS, SEDGES AND FORB SPECIES INCLUDING BIG BLUE STERN, BRISTLY SEDGE, PORCUPINE SEDGE, BROWN FOX SEDGE, CANADA WILD RYE, FOWL MANNA GRASS, SWITCH GRASS, DARK GREEN RUSH, WOOL GRASS, WATER PLANTAIN, SWAMP MILKWEED, NEASTER, TALL COREOPSIS, SPOTTED JOE–PYE WEED, BLUE FLAG IRIS, MARSH MORNING STAR, CAROINAL FLOWER, BLUE LOBELIA, ARROWHEAD, ROUGH GOLDENROD, BLUE VERVAIN, GOLDEN ALEXANDERS AND TEMPORARY COVER OF SEED OATS, SEEDING RATE: 26.44 LBS. PER ACRE.

RAIN GARDEN TYPICAL DETAIL (OVERFLOW STRUCTURE)

NO SCALE



** SWALE SEED MIX, PER JF NEW NURSERY – WALKERTON, ID (574) 586–3400, OR EQUAL. THE SEED MIX CONTAINS NATIVE PLANTS THAT WILL HELP FILTER POLLUTANTS FROM YARD AND ROAD RUNOFF. THE MIX CAN BE USED IN YARD AREAS THAT RETAIN WATER FOR SOMETIME AFTER A RAIN EVENT. THE SEED MIX CONTAINS NATIVE GRASS, SEDGES AND FORB SPECIES INCLUDING BIG BLUE STERN, BRISTLY SEDGE, PORCUPINE SEDGE, BROWN FOX SEDGE, CANADA WILD RYE, FOWL MANNA GRASS, SWITCH GRASS, DARK GREEN RUSH, WOOL GRASS, WATER PLANTAIN, SWAMP MILKWEED, NEASTER, TALL COREOPSIS, SPOTTED JOE–PYE WEED, BLUE FLAG IRIS, MARSH MORNING STAR, CAROINAL FLOWER, BLUE LOBELIA, ARROWHEAD, ROUGH GOLDENROD, BLUE VERVAIN, GOLDEN ALEXANDERS AND TEMPORARY COVER OF SEED OATS, SEEDING RATE: 26.44 LBS. PER ACRE.

RAIN GARDEN TYPICAL DETAIL (OVERFLOW END SECTION)

NO SCALE

811 Know what's below. Call before you dig.
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SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC
CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

RAIN GARDEN INFILTRATION CALCULATIONS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR.	SK
CH.	--
P.M.	KS
BOOK	
JOB	15001707
SHEET NO.	17

CAD FILE: 15001707SP-07-STN.DWG

K:\15001707 - CREEKSIDE NORTH\DWG\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-07-STN.DWG, 3/12/2025 2:11 PM, STEPHEN KESEL

PRELIMINARY - NOT FOR CONSTRUCTION

ENBRIDGE PIPELINE NOTES:

1. A ONE CALL MUST BE PLACED PRIOR TO THE COMMENCEMENT OF ANY GROUND DISTURBANCE. ENBRIDGE'S REPRESENTATIVE MUST BE CONTACTED AT LEAST 72 HOURS PRIOR TO ANY ACTIVITIES NEAR, OVER OR CLOSE TO ANY ENBRIDGE PIPELINE OR RIGHT–OF– WAY. NO WORK MAY COMMENCE WITHOUT THEIR PRESENCE OR PRIOR APPROVAL.
2. CROSSING APPLICANT SHALL ENSURE THAT ALL WORK ASSOCIATED WITH THEIR APPLICATION COMPLIES WITH LOCAL, STATE AND FEDERAL RULES, LAWS AND REGULATIONS.
3. ENBRIDGE PIPELINES SHALL BE POSITIVELY IDENTIFIED (I.E. DAYLIGHTED) PRIOR TO ANY GROUND DISTURBANCE. THE DESIGN SHALL BE AMENDED AS NECESSARY IN ORDER TO MAINTAIN THE REQUIRED MINIMUM CLEARANCES.
4. CONTACT ENBRIDGE FOR REMARKING A PIPELINE IF CROSSING APPLICANT BELIEVES EXISTING MARKERS TO BE INADEQUATE FOR ANY REASON, INCLUDING DISTURBANCE DURING CONSTRUCTION.
5. CROSSING APPLICANT SHALL ENSURE ITS FIELD CREWS PERFORMING THE CROSSING WORK HAVE COPIES OF THE ENBRIDGE APPROVED CROSSING APPLICATION AND LETTER OF AGREEMENT.
6. IF APPLICABLE, ALL ENBRIDGE SIGNAGE AND TEST STATIONS SHALL BE PROTECTED DURING CONSTRUCTION. SHOULD ANY OF THESE NEED RELOCATION DUE TO CONSTRUCTION, THIS WORK SHALL ONLY BE PERFORMED BY OR UNDER THE SUPERVISION OF AN ENBRIDGE REPRESENTATIVE AND AT THE COST OF THE CROSSING APPLICANT.
7. THERE SHALL BE NO STORAGE OF MATERIAL, EQUIPMENT OR PARKING OVER ANY ENBRIDGE PIPELINE. SHOULD SOIL STOCKPILES BE REQUIRED TO BE PLACED CLOSE TO ANY ENBRIDGE PIPELINE, THE ENBRIDGE REPRESENTATIVE SHALL BE CONTACTED FIRST IN ORDER TO APPROVE PLACEMENT (A MINIMUM OF FIVE (5) FEET FROM ANY ENBRIDGE PIPELINE AND LIMITED HEIGHT SHALL BE FIVE (5) FEET ABOVE GRADE).
8. BELOW GRADE STRUCTURES SHALL NOT BE ALLOWED WITHIN THE ENBRIDGE RIGHT–OF–WAY OR WITHIN TEN (10) FEET OF ANY ENBRIDGE PIPELINE AND SHALL REQUIRE FURTHER TECHNICAL EVALUATION.
9. NO EXISTING TREES WITHIN TEN (10) FEET OF ANY ENBRIDGE PIPELINE SHALL BE REMOVED WITHOUT THE PRESENCE OF AN ENBRIDGE REPRESENTATIVE. DUE TO POTENTIAL ROOT ENTANGLEMENT ISSUES AND COATING DAMAGE ON THE PIPELINE, TREE REMOVAL AT LESS THAN TEN (10) FEET FROM THE PIPELINE MAY HAVE TO BE COMPLETED BY AN ENBRIDGE APPROVED CONTRACTOR AT THE COST OF THE CROSSING APPLICANT.
10. CROSSING APPLICANT TO PROVIDE DESIGNS RELATED TO EARTH RETENTION SYSTEM (ERS) OR SHEET PILING OCCURRING WITHIN THE ENBRIDGE RIGHT–OF–WAY OR WITHIN TWENTY–FIVE (25) FEET OF ANY ENBRIDGE PIPELINE FOR FURTHER TECHNICAL EVALUATION.
11. REGARDING ANY HEAVY LIFTING IN CLOSE PROXIMITY TO ANY ENBRIDGE PIPELINE;

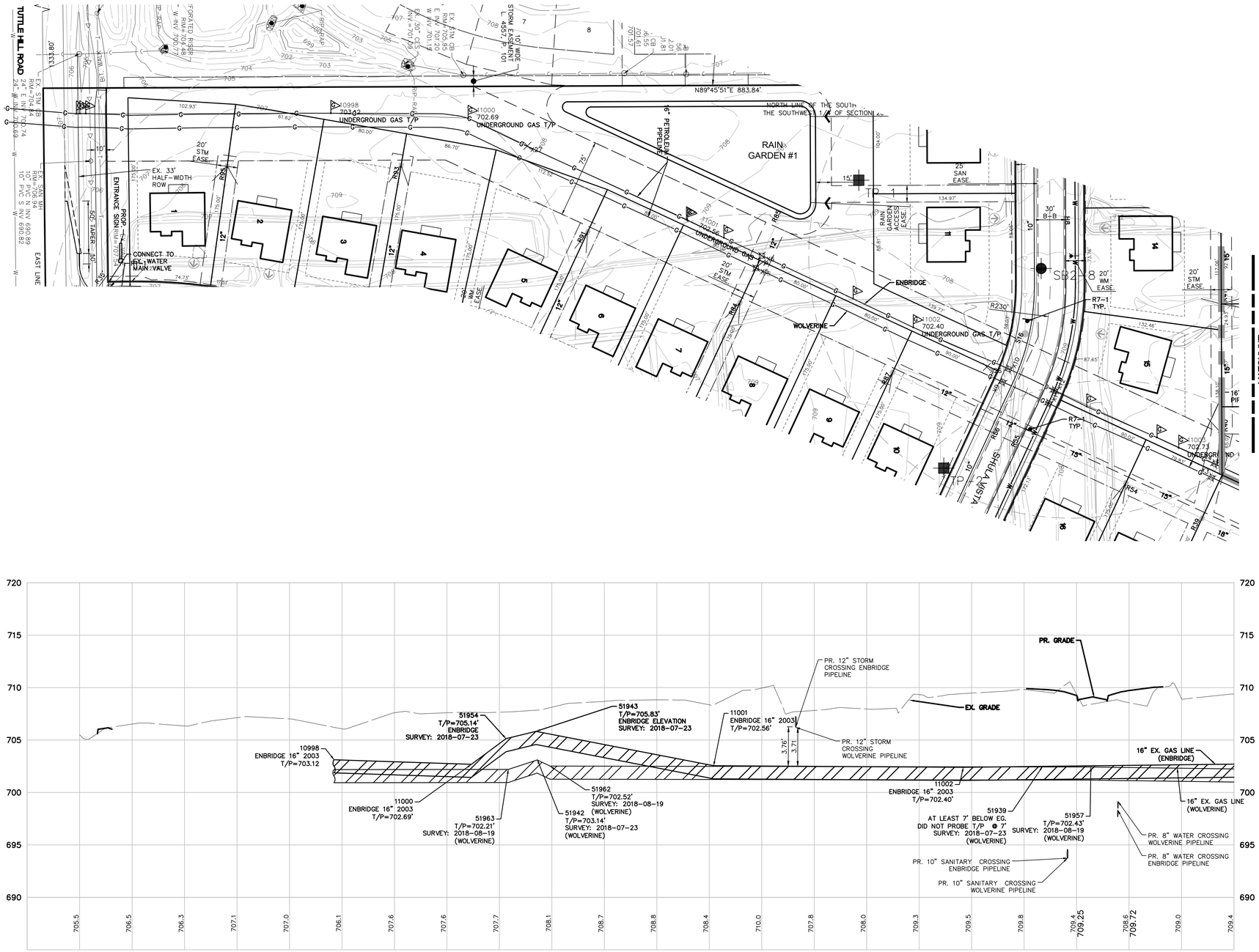
    A. RIGGING SHALL BE PROPERLY MAINTAINED, CHECKED, RATED AND SIZED CORRECTLY FOR INTENDED LOAD.

    B. NO HEAVY LIFTS SHALL BE DIRECTLY OVER OR SWING OVER ANY ENBRIDGE PIPELINE IF EXCAVATED AT THE TIME.

    C. IF HEAVY LIFTS SHALL BE OVER ANY BURIED PIPELINE, THE AREA ABOVE THE PIPELINE SHALL BE MATTED IN CASE OF A DROPPED LOAD.
12. BURNING WITHIN FIFTY (50) FEET OF ANY ENBRIDGE PIPELINE SHALL REQUIRE FURTHER TECHNICAL EVALUATION.
13. CROSSING ANGLE FOR INSTALLATIONS MUST BE WITHIN:
    A. FORTY–FIVE AND NINETY (45–90) DEGREES (WITH PREFERENCE FOR AS CLOSE TO NINETY (90) DEGREES AS POSSIBLE);

    OR

    B. IF THE CROSSING ANGLE IS DESIGNED TO BE LESS THAN FORTY–FIVE (45) DEGREES BUT THE PROPOSED INSTALLATION FOLLOWS OR PARALLELS AN EXISTING UTILITY CORRIDOR THEN THE LOWER CROSSING ANGLE MAY BE APPROVED;
14. CROSSING INSTALLATIONS OF CATHODICALLY PROTECTED STEEL PIPES AND/OR ELECTRICAL POWER ABOVE 480V AC WILL REQUIRE FURTHER TECHNICAL EVALUATION
15. APPLICATIONS REQUESTING TO GO ABOVE AN ENBRIDGE PIPELINE WILL BE REJECTED. HOWEVER, AN EXCEPTION MAY BE ALLOWED IF THE CROSSING APPLICANT PROVIDES A VALID REASON AS TO WHY A CROSSING UNDER THE ENBRIDGE PIPELINE IS NOT FEASIBLE.
16. A MINIMUM CLEARANCE OF TWENTY–FOUR (24) INCHES (MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE) SHALL BE ACHIEVED.
17. UTILITY WARNING TAPE SHALL BE UTILIZED TWELVE (12) INCHES BELOW GRADE, IN ACCORDANCE WITH A.P.W.A. UNIFORM COLOR CODE, AND IN THE BOTTOM OF THE TRENCH (COLOR CODED TO CORRESPONDING ENBRIDGE PIPELINE).
18. IF AN AGGREGATE BASE IS UTILIZED AT THE BOTTOM OF THE PROPOSED TRENCH, TWO LAYERS OF GEOTEXTILE MATERIAL SHALL BE INITIALLY ADDED.
19. FOR INSTALLATIONS THAT ARE NOT HEAVY GRADE; THEY SHALL BE INSTALLED IN CONDUIT CASING (SCHEDULE 80 MINIMUM OR EQUIVALENT) OR CONCRETE ENCASEMENT (DYED RED IF ELECTRICAL) WITH TRACER WIRE. THIS SHALL BE MAINTAINED AT A MINIMUM OF TEN (10) FEET TO EACH SIDE OF ANY ENBRIDGE PIPELINE (MEASURED FROM OUTSIDE OF PIPE) OR THE ENTIRE WIDTH OF THE ENBRIDGE RIGHT–OF–WAY, WHICHEVER IS THE GREATER DISTANCE.
20. A MINIMUM CLEARANCE OF THIRTY–SIX (36) INCHES (MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE) SHALL BE ACHIEVED.
21. APPROPRIATE MEASURES SHALL BE TAKEN TO PREVENT TRENCH/PIPE SETTLEMENT. SPECIAL CARE MUST BE TAKEN TO ENSURE THAT THE COMPACTION BETWEEN THE UTILITY AND THE ENBRIDGE PIPELINE IS SUFFICIENT TO MITIGATE SETTLEMENT AND VOIDS.
22. MAXIMUM ENBRIDGE PIPELINE UNSUPPORTED SPAN IS TWENTY (20) FEET. IF MAXIMUM UNSUPPORTED SPAN IS EXCEEDED THEN THE APPLICATION WILL REQUIRE FURTHER TECHNICAL EVALUATION.



EX. GAS MAINS
VERT: 1"=8'
HORZ: 1"=80'

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WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

ENBRIDGE & WOLVERINE PIPELINE
PLAN & PROFILE 1

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 18

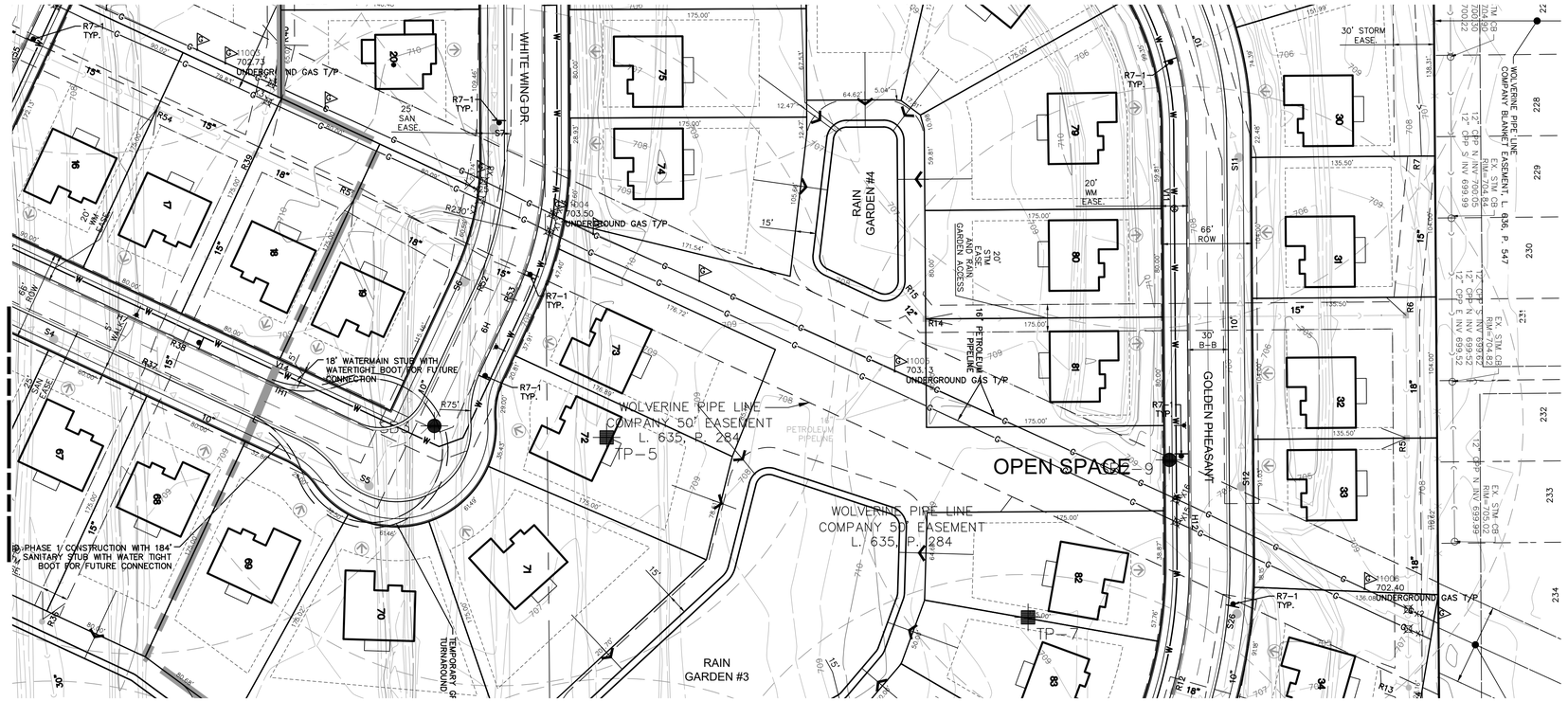
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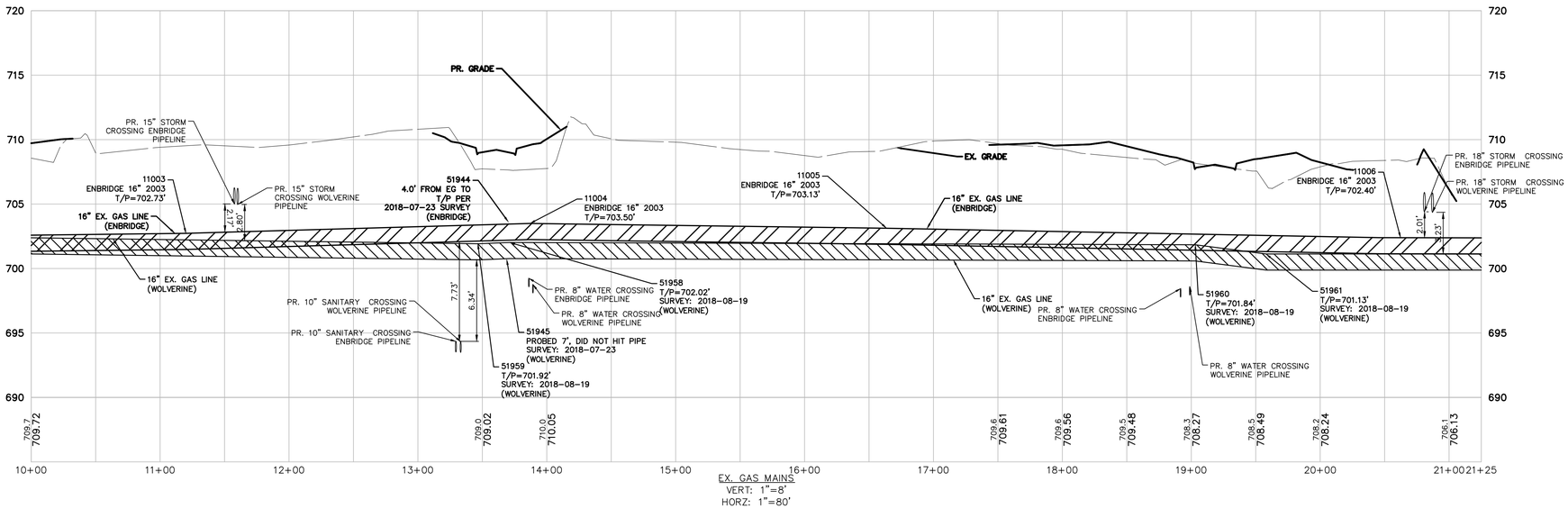
X:\15001707 - CREEKSIDE NORTH\DWG\PLAN SET\PRELIMINARY SITE PLAN\15001707SP-10- PIPE.DWG 3/3/2025 3:47 PM STEPHEN KEISEL

PRELIMINARY - NOT FOR CONSTRUCTION

WOLVERINE PIPELINE NOTES:

1. CONTACT THE APPROPRIATE ONE-CALL SYSTEM(S) (MICHIGAN 'MISS DIG', INDIANA'S 'INDIANA UNDERGROUND PLANT PROTECTION SERVICE' AND ILLINOIS 'JULIE' OR ALL ARE AVAILABLE BY DIALING '811') AND WPLCO AT LEAST 48 HOURS BEFORE COMMENCING WORK, OR AS REQUIRED BY REGULATIONS.
2. NO EXCAVATION WORK MAY COMMENCE ON WPLCO EASEMENT OR PROPERTY UNTIL A WPLCO REPRESENTATIVE HAS AUTHORIZED IT TO BEGIN. NOTICE OF DESIRED WORK START DATE SHOULD BE GIVEN 48 HOURS IN ADVANCE. A WPLCO REPRESENTATIVE WILL NORMALLY BE ON-SITE DURING EXCAVATION.
3. ON-SITE WPLCO REPRESENTATION IS RECOMMENDED ANY TIME EXCAVATION/CONSTRUCTION ACTIVITIES OCCUR ON WPLCO ROW AND IS REQUIRED IF THESE ACTIVITIES ARE WITHIN 10' OF WPLCO PIPELINE(S).
4. CONSTRUCTION OF ANY ROADS, HIGHWAYS, OR STREETS IN THE EASEMENT AREA OR BLASTING WITHIN 500 FEET OF THE PIPELINES WILL REQUIRE AN APPROVED EXCAVATION/BLASTING PLAN.
5. NO PERPENDICULAR DIGGING WILL OCCUR TO INITIALLY EXPOSE THE PIPELINE(S) UNLESS THERE ARE NO OTHER OPTIONS.
6. MECHANICAL EXCAVATION WILL CEASE ONCE THE EARTH HAS BEEN REMOVED TO WITHIN TWO (2) FEET OF WPLCO'S PIPELINE (EXCAVATORS MUST ADHERE TO THE DESIGNATED STATE REQUIRED TOLERANCE (OR CAUTION) ZONE. SHOVELS WILL BE USED TO MANUALLY CLEAN THE AREA ABOVE AND BELOW THE LINE. AFTER THE LINE HAS BEEN INITIALLY LOCATED, THE LINE SHALL BE KEPT VISIBLE TO THE EQUIPMENT OPERATOR DURING THE EXCAVATION PROCESS. MECHANICAL DIGGING WILL NOT BE ALLOWED CLOSER THAN ONE (1) FOOT FROM THE SIDE AND BOTTOM OF THE PIPELINE AFTER THE LINE HAS BEEN EXPOSED PER THE ABOVE PROCEDURE.
7. NO EXCAVATIONS SHALL BE MADE ON LAND ADJACENT TO THE PIPELINE(S) WHICH WILL IN ANY WAY IMPAIR OR WITHDRAW THE LATERAL SUPPORT AND CAUSE ANY SUBSIDENCE OR DAMAGE TO THE PIPELINE(S). SHEET PILING MAY BE REQUIRED.
8. ALL CONSTRUCTION MUST BE DONE IN ACCORDANCE WITH THE APPLICABLE LAWS AND REGULATIONS INCLUDING OSHA REQUIREMENTS FOR EXCAVATION AND TRENCHING.
9. EXCAVATOR SHOULD MARK THE AREA OF PROPOSED EXCAVATION IN WHITE (PAINT, STAKES, ETC.)
10. NEW PIPELINES OR UTILITIES SHOULD CROSS WPLCO'S PIPELINE(S) WITH AT LEAST 24 INCHES OF CLEARANCE. CROSSINGS SHALL ALLOW WPLCO'S PIPELINE(S) TO BE LOWERED IN THE FUTURE TO OBTAIN RECOMMENDED DEPTH FOR NEW CONSTRUCTION. ANY CHANGE IN THE SURFACE GRADE OR ELEVATION OVER OR ALONG THE PIPELINE(S) AND RIGHT-OF-WAY MUST BE APPROVED IN ADVANCE.
11. AT LEAST 36-INCHES OF COMPACTED COVER IS REQUIRED FOR ALL PARKING OR DRIVING AREAS WITHIN THE EASEMENT. CONCRETE PAVING AND CURBING MUST BE CONSTRUCTED IN BREAK-OUT SECTIONS.
12. PIPELINE/UTILITY CROSSINGS SHOULD BE AS CLOSE TO 90 DEGREES TO WPLCO'S PIPELINE AS POSSIBLE, BUT IN ANY EVENT AT AN ANGLE OF 30° OR MORE, (BUT NOT LENGTHWAYS AND ATOP) OF THE PIPELINE(S).
13. ALL NON-STEEL UNDERGROUND CROSSINGS SHALL BE ENCASED ACROSS THE WIDTH OF WPLCO'S EASEMENT.
14. FIBER-OPTIC CABLE AND LONG-DISTANCE CARRIER UNDERGROUND CROSSINGS SHOULD BE CASED ACROSS THE WIDTH OF WPLCO'S EASEMENT OR A MINIMUM OF 60 FEET.
15. ALL BACKFILL ON WPLCO'S EASEMENT SHALL BE MECHANICALLY COMPACTED TO THE TOP OF THE PIPELINE(S) AFTER REMOVAL OF WATER AND TRASH. ALSO SEE 11 ABOVE FOR PARKING OR DRIVING AREAS WITHIN THE EASEMENT.
16. TEMPORARY CONSTRUCTION ROADS MAY BE REQUIRED TO PROTECT WPLCO'S PIPELINE(S). WPLCO MUST APPROVE ABOVEGROUND CROSSINGS ON THE EASEMENT FOR EXCAVATION OR HEAVY EQUIPMENT. WPLCO WILL ALSO REQUIRE INFORMATION ABOUT ANY HEAVY EQUIPMENT THAT WILL BE CROSSING THE PIPELINE IN ORDER TO PERFORM LOAD CALCULATIONS.
17. PERMANENT ABOVEGROUND MARKERS IDENTIFYING AN UNDERGROUND CROSSING PIPELINE OR UTILITY SHALL BE INSTALLED AND MAINTAINED AT THE LIMITS OF WPLCO'S EASEMENT AND/OR THE CROSSING.
18. IF IT IS IMPRACTICAL TO INSTALL AND MAINTAIN ABOVEGROUND MARKERS DUE TO THE CROSSING LOCATION, PLASTIC MARKER TAPE SHALL BE INSTALLED BELOW CULTIVATION LEVEL AND OVER WPLCO'S PIPELINE(S), EXTENDING THE WIDTH OF THE EASEMENT OR A MINIMUM OF 60 FEET.
19. POSTS, POLES, AND UNDERGROUND SUPPORT SYSTEMS, WHERE PERMITTED BY WPLCO, SHALL NOT BE PLACED WITHIN 4 FEET OF THE PIPELINE(S).
20. DISTRIBUTION UTILITY POLES AND GUYS SHALL NOT BE PLACED WITHIN 8 FEET OF THE PIPELINE(S).
21. NO STRUCTURES, FENCES, TREES, OR LANDSCAPE PLANTS WITH A MATURE HEIGHT GREATER THAN 5-FEET TALL ARE ALLOWEDWITHIN THE EASEMENT.
22. IF WPLCO DEEMS IT NECESSARY, THE EXCAVATOR SHALL INSTALL A BAR ACROSS THE TEETH OF THE BUCKET DURING EXCAVATION.
23. IF WPLCO'S PIPELINE(S) IS EXPOSED DURING THE EXCAVATION, THE HOLE WILL BE MADE SAFE FOR ENTRY AND LEFT OPEN UNTIL WPLCO INSTALLS TEST LEADS AND INSPECTS WPLCO'S EXPOSED PIPE.
24. EXCAVATOR SHALL ABIDE BY ALL STATE AND FEDERAL SAFETY LAWS, RULES, AND REGULATIONS. EXCAVATOR SHALL OPERATE EQUIPMENT THAT IS IN GOOD WORKING CONDITION, CONDUCIVE TO A SAFE WORKING ENVIRONMENT, WHILE WORKING ON OR NEAR WPLCO'S FACILITIES.
25. 25. AN APPROPRIATE WPLCO REPRESENTATIVE WILL REVIEW CONTRACTOR'S BORING PLANS AND SPECIFICATIONS FOR APPROVAL PRIOR TO COMMENCING WORK.





EX. GAS MAINS
VERT: 1"=8'
HORZ: 1"=80'

PRELIMINARY - NOT FOR CONSTRUCTION

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

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CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

ENBRIDGE & WOLVERINE PIPELINE
PLAN & PROFILE 2

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 25 50
1" = 50 FEET

DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 19

CAD FILE: 15001707SP-10- PIPE.DWG

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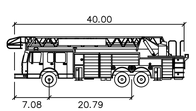


FIRE TRUCK TURNING TEMPLATE

1" = 200'

NO PARKING FIRE LANE

R7-1



T-2 Fire Truck

	feet
Width	: 6.90
Track	: 6.90
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

PRELIMINARY - NOT FOR CONSTRUCTION

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CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

FIRE PROTECTION PLAN

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

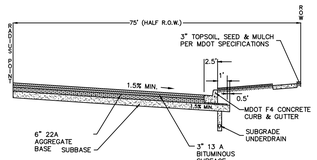
REVISIONS

SCALE 0 40 80
1" = 80 FEET

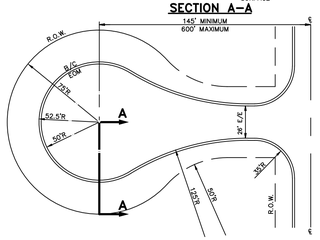
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CH.	--
P.M.	KS
BOOK	
JOB	15001707
SHEET NO.	20

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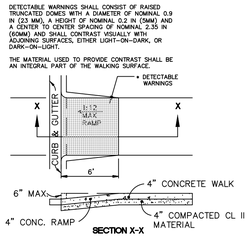


SECTION A–A



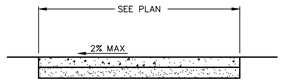
TYPICAL TEMPORARY MEDIUM DENSITY URBAN CUL-DE-SAC

NO SCALE



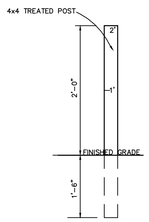
CURB RAMP AND TYPICAL SIDEWALK DETAIL

NO SCALE



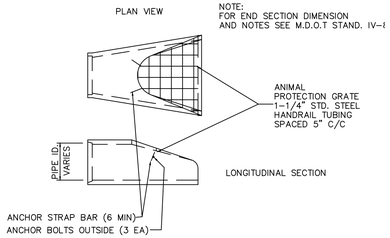
CONCRETE SIDEWALK SECTION

NOT TO SCALE



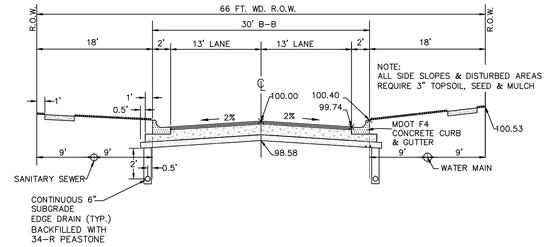
SEDIMENTATION MARKER

NO SCALE



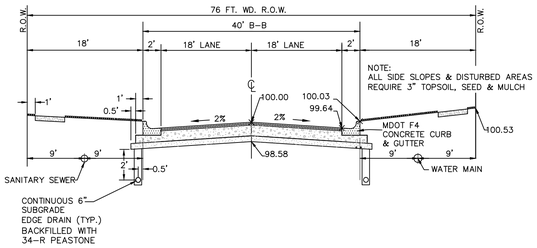
PRECAST CONCRETE END SECTION WITH ANIMAL PROTECTION GRATE

NO SCALE



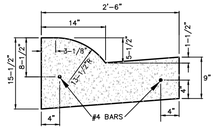
66' WIDE ROW TYPICAL ROAD CROSS SECTION

NO SCALE



76' WIDE ROW TYPICAL ROAD CROSS SECTION

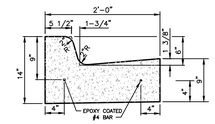
NO SCALE



MDOT B2 MOUNTABLE CURB & GUTTER DETAIL

NO SCALE

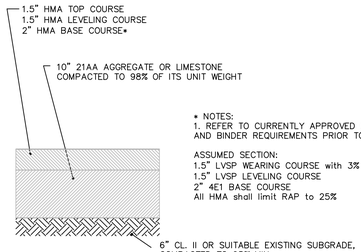
(MDOT "C" TYPE CASTING SHALL BE USED)
FOR USE WITHIN COUNTY ROAD R.O.W.



MDOT F4 CURB DETAIL

NO SCALE

(MDOT "K" TYPE CASTING SHALL BE USED)
FOR USE ON-SITE

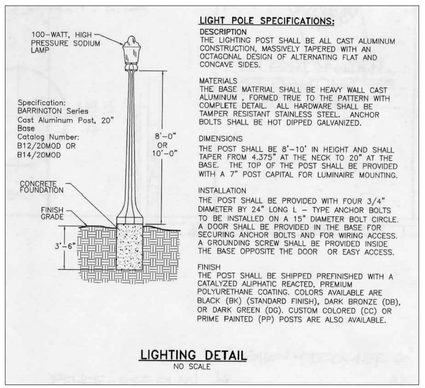


* NOTES:
1. REFER TO CURRENTLY APPROVED WCRC HMA MIX DESIGNS AND BINDER REQUIREMENTS PRIOR TO CONSTRUCTION.

ASSUMED SECTION:
1.5" LVSP WEARING COURSE with 3% max air voids
1.5" LVSP LEVELING COURSE
2" 4E1 BASE COURSE
All HMA shall limit RAP to 25%

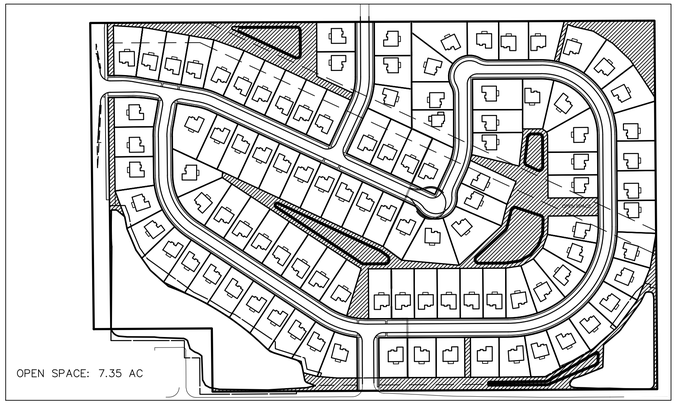
DRIVE ENTRANCE & PRIVATE ROAD BITUMINOUS PAVEMENT

NO SCALE



LIGHTING DETAIL

NO SCALE



OPEN SPACE EXHIBIT

1" = 250'

811
Know what's below.
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ANN ARBOR, MI 48104
734.994.4000

SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

STANDARD DETAILS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

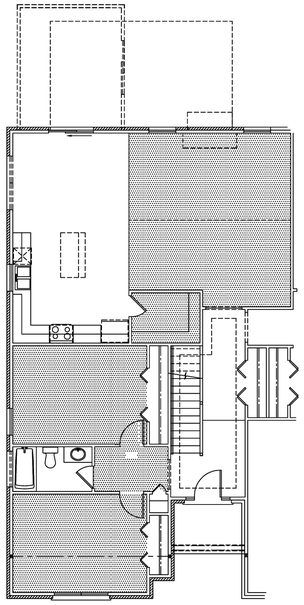
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NO SCALE

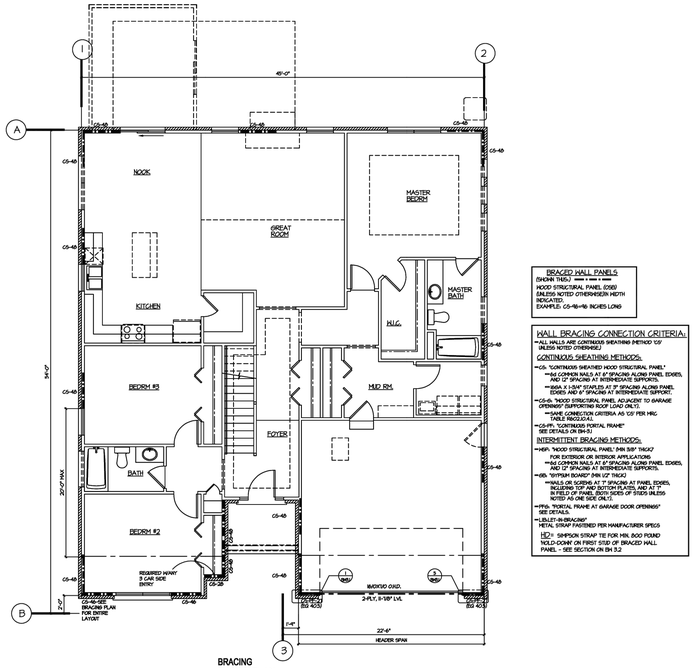
DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 21

CAD FILE: 15001707SP-08-DT.DWG

K:\15001707 - CREEKSIDE NORTH\CIVIL\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-08-DT.DWG, 3/12/2025 2:02 PM, STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION





BRACING
FLOOR PLAN
SCALE: 1/8" = 1'-0"

BRACED WALL PANELS
(SHOWN THUS) ═══ = ▭ = ▭▭
WOOD STRUCTURAL PANEL (OSB)
UNLESS NOTED OTHERWISE IN WIDTH INDICATED.
EXAMPLE: C5-48=48 INCHES LONG

WALL BRACING CONNECTION CRITERIA:
- ALL WALLS ARE CONTINUOUS SHEATHING (METHOD GB UNLESS NOTED OTHERWISE)

CONTINUOUS SHEATHING METHODS:
- C5: "CONTINUOUS SHEATHED WOOD STRUCTURAL PANEL"
  - 8d COMMON NAILS AT 6" SPACING ALONG PANEL EDGES, AND 12" SPACING AT INTERMEDIATE SUPPORTS.
  - 8GGA X 1-3/4" STAPLES AT 3" SPACING ALONG PANEL EDGES AND 6" SPACING AT INTERMEDIATE SUPPORT.
- C5-S: "WOOD STRUCTURAL PANEL ADJACENT TO GARAGE OPENING" (SEE DETAILS ON SHEET S-DN.1).
  - MINIMUM CONNECTION CRITERIA AS C5 PER IRC TABLE R602.3(4).
- C5-PP: "CONTINUOUS PORTAL FRAME" (SEE DETAILS ON SH-5)

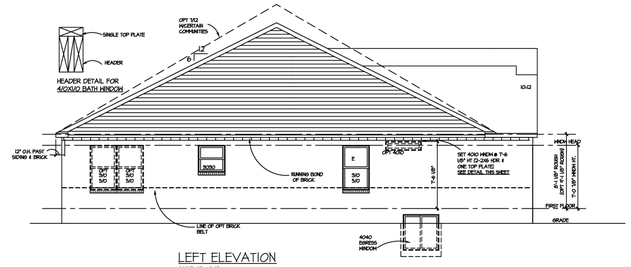
INTERMITTENT BRACING METHODS:
- HSP: "WOOD STRUCTURAL PANEL" (MIN 3/8" THICK)
  - FOR EXTERIOR OR INTERIOR APPLICATIONS.
  - 8d COMMON NAILS AT 6" SPACING ALONG PANEL EDGES, AND 12" SPACING AT INTERMEDIATE SUPPORTS.
- GB: "GYPSUM BOARD" (MIN 1/2" THICK)
  - NAILS OR SCREWS AT 7" SPACING AT PANEL EDGES, INCLUDING TOP AND BOTTOM PLATES, AND AT 7" IN FIELD OF PANEL. BOTH SIDES OF STUDS UNLESS NOTED AS ONE SIDE ONLY.
- PFH: "PORTAL FRAME AT GARAGE DOOR OPENINGS" (SEE DETAILS)
- LIB/LET-IN-BRACING*
  - METAL STRAP FASTENED PER MANUFACTURER SPECS
- HD*: SIMPSON STRAP TIE FOR MIN. 800 POUND HOLD-DOWN ON FIRST STUD OF BRACED WALL PANEL - SEE SECTION ON SH-3.2

NO.	DATE	ISSUE/REVISION SHEET #
4	9/5/25	PER TWP
3	8/26/25	PER TWP
2	7/30/25	PER TWP
1	7/2/25	PER TWP

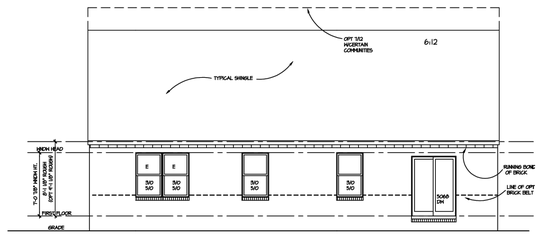
PLAN NAME: THE DAVENPORT
JOB NUMBER: 4453-516
MI
SHEET NO.: 3.4.1-B

Lombardo HOMES
1300 23 MILE RD. SUITE 200
Shelby Township, MI 48317

SHEET SCALE: (UNLESS NOTED OTHERWISE) 1/8" = 1'-0" ON 11X17 PAPER, 1/4" = 1'-0" ON 24X36 PAPER WHEN PRINTED AT 200%

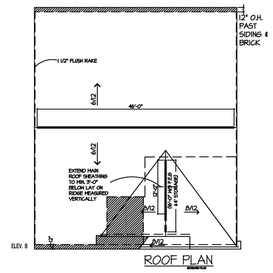


LEFT ELEVATION
SCALE: 1/8" = 1'-0"

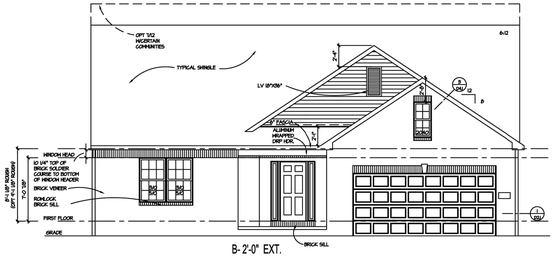


REAR ELEVATION
SCALE: 1/8" = 1'-0"

OPT 2' EXTENSION ROOF PLAN



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



B- 2'-0" EXT.
FRONT ELEVATION
SCALE: 1/8" = 1'-0"

ELEV. B

MAIN ROOF RIDGE VENT CALCULATION: 2' EXTENSION

MAIN ROOF AREA = 2444 SQ FT

MIN VENT AREA = 2444 SF/300 = 8.15 SF X 144 = 1173 SQ. IN

HIGH (EXHAUST) PROVIDED: 56 LIN FT X 11 SUFT = 616 SQ.IN (52% OF TOTAL)

LOW (INTAKE) PROVIDED: 24 LIN FT, X 4.13 SUFT =99 SI
40 LIN FT, X 6.2=250
PORCH 78 SF X 6.2 =13
TOTAL=1059 (90% OF TOTAL)

TOTAL VENTILATING AREA PROVIDED = 1473 SI

MEETS CODE *

DESIGN BASED ON:
1LO SI NFA RIDGE VENT

MAIN ROOF RIDGE VENT CALCULATION: STANDARD

MAIN ROOF AREA = 2540 SQ FT

MIN VENT AREA = 2540 SF/300 = 7.8 SF X 144 = 1125 SQ. IN

HIGH (EXHAUST) PROVIDED: 54 LIN FT X 11 SUFT = 594 SQ.IN (52% OF TOTAL)

LOW (INTAKE) PROVIDED: 22 LIN FT, X 4.13 SUFT =90.9 SI
44 LIN FT, X 6.2=272
PORCH 78 SF X 6.2 =473
TOTAL =835 SI (73% OF TOTAL)

TOTAL VENTILATING AREA PROVIDED = 1421 SI

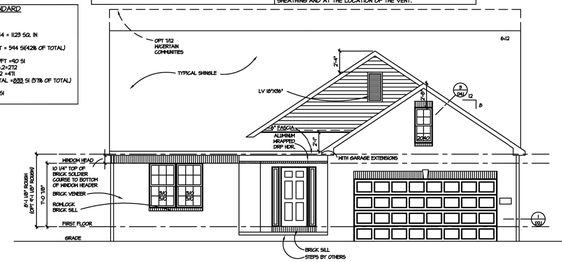
MEETS CODE *

ATTIC VENT LEGEND

VENT TYPE & NET FREE AREA (N.F.A.)

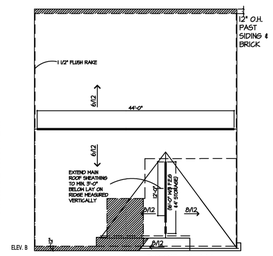
	VENTS, SUPPLY-AIR	=
	RIDGE VENT (LOW-PROFILE, WALL-O-RIDGE VENT)	=
	LOW-PROFILE TENT-STRETCH AIR VENT	=
	ROOF CAP (LOW-PROFILE TYPE)	=
	ROOF CAP (LOW-PROFILE TYPE)	=

CODE REQUIREMENT:
MRC SEC. R806.2 SPECIFIES REQUIRED ROOF VENTILATION AS FOLLOWS:
- THE MINIMUM NET FREE VENTILATION AREA SHALL BE 1/150 OF VENTED SPACE, PROVIDED THAT NOT LESS THAN 40% AND NOT MORE THAT 60% OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE ATTIC OR RAFTER SPACE. UPPER VENTILATORS SHALL BE LOCATED NOT MORE THEN 3 FT. BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE, MEASURED VERTICALLY, WITH THE REMAINDER OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS.
- WHERE EAVE OR CORNICE VENTS ARE INSTALLED, INSULATION SHALL NOT BLOCK THE FREE FLOW OF AIR. NOT LESS THAN A 1" SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND THE ROOF SHEATHING AND AT THE LOCATION OF THE VENT.



B
FRONT ELEVATION
SCALE: 1/8" = 1'-0"

STANDARD ROOF PLAN



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

NO.	DATE	ISSUE/REVISION SHEET #
4	9/5/25	PER TWP
3	8/26/25	PER TWP
2	7/30/25	PER TWP
1	7/2/25	PER TWP

PLAN NAME: THE DAVENPORT
JOB NUMBER: 4453-516
MI
SHEET NO.: 5.1.1

Lombardo HOMES
1300 23 MILE RD. SUITE 200
Shelby Township, MI 48317

SHEET SCALE: (UNLESS NOTED OTHERWISE) 1/8" = 1'-0" ON 11X17 PAPER, 1/4" = 1'-0" ON 24X36 PAPER WHEN PRINTED AT 200%

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734.994.4000

CLIENT: SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

ARCHITECTURAL FLOOR PLAN AND ELEVATIONS – 1

SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

DATE: NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 — — —
NO SCALE

DR.	SK
CH.	— —
P.M.	KS
BOOK	
JOB	15001707
SHEET NO.	22

CAD FILE: 15001707SP-08-DT.DWG

K:\15001707 - CREEKSIDE NORTH\CAD\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-08-DT.DWG, 3/12/2025 2:02 PM, STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION

Legacy Series

THE CHARLEVOIX

2,161-2,191 Sq. Ft. | 3 Bedrooms | 2.5 Baths

Lombardo HOMES









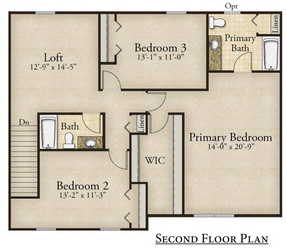
Rev. 1/1/23 | 13001 23 Mile Road, Suite 200, Shelby Township, MI 48315 | LombardoHomes.com

Legacy Series

THE CHARLEVOIX

2,161-2,191 Sq. Ft. | 3 Bedrooms | 2.5 Baths

Lombardo HOMES



SECOND FLOOR PLAN



FIRST FLOOR PLAN

Rev. 5/15/24. This depiction represents an artist's conception of the elevation and floor plan and is not intended to be an exact representation or show specific detailing. Plans remain subject to change without notice. Drawings are not to scale. All measurements shown are approximate and not necessarily to scale. Location, size and construction of doors, windows, wall, fireplaces and any other items depicted may vary depending on elevation preference or choice of options and are subject to change without notice. Some options and elevations shown may not be available in every neighborhood; see Sales Manager for details. Due to normal construction tolerances, the room sizes shown may vary slightly. The Builder may change home design, materials, features and methods of construction without prior notice. Model homes may contain some optional features not available through the Builder.

View our interactive design tool and floor plan options!

Legacy Series

THE HOUGHTON

2,018-2,041 Sq. Ft. | 3 Bedrooms | 2.5 Baths

Lombardo HOMES







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Legacy Series

THE HOUGHTON

2,018-2,041 Sq. Ft. | 3 Bedrooms | 2.5 Baths

Lombardo HOMES



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Legacy Series

THE LUDINGTON

2,052-2,094 Sq. Ft. | 3 Bedrooms | 2.5 Baths

Lombardo HOMES









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Legacy Series

THE LUDINGTON

2,052-2,094 Sq. Ft. | 3 Bedrooms | 2.5 Baths

Lombardo HOMES



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Legacy Series

THE MACKINAC

2,745-2,772 Sq. Ft. | 4 Bedrooms | 2.5 Baths

Lombardo HOMES









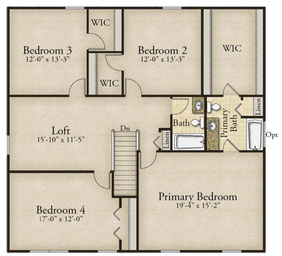
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Legacy Series

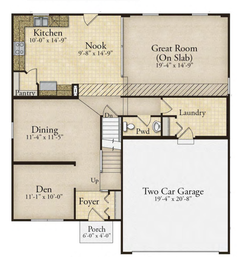
THE MACKINAC

2,745-2,772 Sq. Ft. | 4 Bedrooms | 2.5 Baths

Lombardo HOMES



SECOND FLOOR PLAN



FIRST FLOOR PLAN

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ANN ARBOR, MI 48104
734.994.4000

SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

ARCHITECTURAL FLOOR PLAN AND ELEVATIONS – 2

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 NO SCALE

DR.	SK
CH.	--
P.M.	KS
BOOK	
JOB	15001707
SHEET NO.	23

CAD FILE: 15001707SP-08-07.DWG

K:\15001707 - CREEKSIDE NORTH\DWG\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-08-07.DWG, 3/12/2025 3:02 PM, STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION

Legacy Series

THE MANISTIQUE

1,808-1,834 Sq. Ft. | 3 Bedrooms | 2.5 Baths

Lombardo HOMES


Elevation I


Elevation J


Elevation F


Elevation H

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Legacy Series

THE MANISTIQUE

1,808-1,834 Sq. Ft. | 3 Bedrooms | 2.5 Baths

Lombardo HOMES



Second Floor Plan



First Floor Plan

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View our interactive design tool and floor plan options!

Legacy Series

THE PETOSKEY

2,320-2,347 Sq. Ft. | 4 Bedrooms | 2.5 Baths

Lombardo HOMES


Elevation I


Elevation J


Elevation F


Elevation H

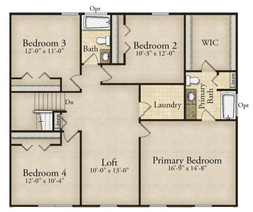
Rev. 1/1/23 | 13001 23 Mile Road, Suite 200, Shelby Township, MI 48315 | LombardoHomes.com

Legacy Series

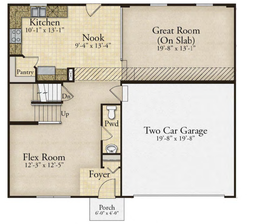
THE PETOSKEY

2,320-2,347 Sq. Ft. | 4 Bedrooms | 2.5 Baths

Lombardo HOMES



Second Floor Plan



First Floor Plan

Rev. 5/15/24. This depiction represents an artist's conception of the elevation and floor plan and is not intended to be an exact representation or show specific detailing. Plans remain subject to change without notice. Drawings are not to scale. All measurements shown are approximate and not necessarily to scale. Location, size and construction of doors, windows, wall, fireplaces and any other items depicted may vary depending on elevation preference or choice of options and are subject to change without notice. Some options and elevations shown may not be available in every neighborhood; see Sales Manager for details. Due to normal construction tolerances, the room sizes shown may vary slightly. The Builder may change home design, materials, features and methods of construction without prior notice. Model homes may contain some optional features not available through the Builder.

View our interactive design tool and floor plan options!

Legacy Series

THE TAMARACK

1,385-1,397 Sq. Ft. | 3 Bedrooms | 2 Baths

Lombardo HOMES


Elevation I


Elevation J


Elevation F


Elevation H

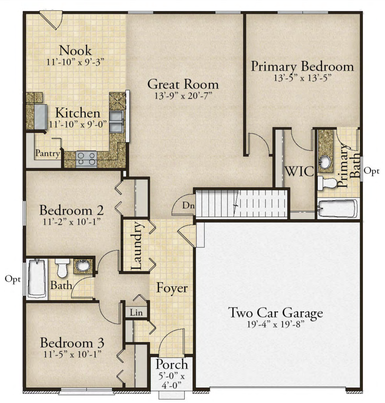
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Legacy Series

THE TAMARACK

1,385-1,397 Sq. Ft. | 3 Bedrooms | 2 Baths

Lombardo HOMES



First Floor Plan

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View our interactive design tool and floor plan options!

Legacy Series

THE TRAVERSE

2,592-2,628 Sq. Ft. | 4 Bedrooms | 2.5 Baths

Lombardo HOMES


Elevation I


Elevation J


Elevation F


Elevation H

Rev. 1/1/23 | 13001 23 Mile Road, Suite 200, Shelby Township, MI 48315 | LombardoHomes.com

Legacy Series

THE TRAVERSE

2,592-2,628 Sq. Ft. | 4 Bedrooms | 2.5 Baths

Lombardo HOMES



Second Floor Plan



First Floor Plan

Rev. 5/15/24. This depiction represents an artist's conception of the elevation and floor plan and is not intended to be an exact representation or show specific detailing. Plans remain subject to change without notice. Drawings are not to scale. All measurements shown are approximate and not necessarily to scale. Location, size and construction of doors, windows, wall, fireplaces and any other items depicted may vary depending on elevation preference or choice of options and are subject to change without notice. Some options and elevations shown may not be available in every neighborhood; see Sales Manager for details. Due to normal construction tolerances, the room sizes shown may vary slightly. The Builder may change home design, materials, features and methods of construction without prior notice. Model homes may contain some optional features not available through the Builder.

View our interactive design tool and floor plan options!

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734.994.4000

SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

ARCHITECTURAL FLOOR PLAN AND ELEVATIONS – 3

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

SCALE 0 — — —
NO SCALE

DR. SK | CH. — —

P.M. KS

BOOK

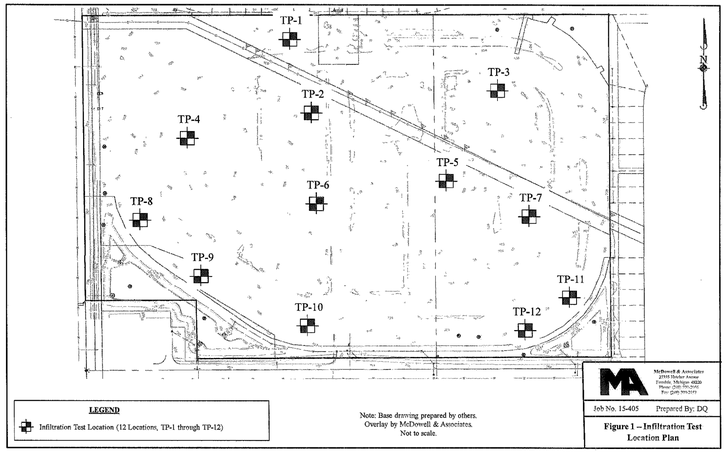
JOB 15001707

SHEET NO.
24

CAD FILE: 15001707SP-08-07.DWG

K:\15001707 – CREEKSIDE NORTH\DWG\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-08-07.DWG, 1/13/2025 3:02 PM, STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION



LEGEND

Infiltration Test Location (12 Locations, TP-1 through TP-12)

Note: Base drawing prepared by others.
Overlay by McDowell & Associates.
Not to scale.

McDowell & Associates
1595 Oakbrook Drive
Ferndale, Michigan 48220
Phone: (248) 399-2345
Fax: (248) 399-2393

Job No. 15-405 Prepared By: DQ

Figure 1 – Infiltration Test Location Plan

McDowell & Associates

Test Pit #: 1

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/10/2015
Weather: Cloudy T=45°F
Ground Elv.:

Soil Stratigraphy:	
0" - 9"	Moist dark brown silty sandy topsoil
9" - 1'6"	Moist brown silty sand with clay (Fill)
1'6" - 2'2"	Moist black silty sandy topsoil
2'2" - 4'4"	Moist yellowish brown silty fine sand
4'4" - 8'0"	Moist to wet gravelly fine to medium sand with traces of silt and occasional stones
8'0" - 8'6"	Wet gravelly fine to medium sand with occasional stones

Groundwater Depth: 8'0"

Pipe Installation #1	
Soil Depth:	4'9"
Pipe Diameter:	6"
Embedment:	6"
Stick-up:	12"
Total Length:	1'6"

Pipe Installation #2	
Soil Depth:	4'9"
Pipe Diameter:	6"
Embedment:	6"
Stick-up:	12"
Total Length:	1'6"

Pipe Distance: 2'5"

Soak Period (Pipe #1)			
Start Date:	12/10/2015		
Start Time:	9:02 AM	Water Head:	12 inches
Notes:			
Time:	10:30 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	11:30 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	12:45 PM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:		Water Head:	inches
Notes:			
Time:		Water Head:	inches
Notes:			
End Date:	12/10/2015		
End Time:	1:05 PM	Water Head:	6.8 inches

Total Soak Duration: 4 hours 3 minutes

Notes:

Soak Period (Pipe #2)			
Start Date:	12/10/2015		
Start Time:	9:02 AM	Water Head:	12 inches
Notes:			
Time:	10:30 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	11:30 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	12:45 PM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:		Water Head:	inches
Notes:			
Time:		Water Head:	inches
Notes:			
End Date:	12/10/2015		
End Time:	1:05 AM	Water Head:	5.8 inches

Total Soak Duration: 4 hours 3 minutes

Notes:

McDowell & Associates

Test Pit #: 2

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/10/2015
Weather: Cloudy T=45°F
Ground Elv.:

Soil Stratigraphy:	
0" - 3'9"	Moist dark brown to black silty clay with sand and topsoil layers (Fill)
3'9" - 5'3"	Moist brown silty fine sand with traces of gravel
5'3" - 7'0"	Moist brown gravelly fine to medium sand with traces of silt and occasional cobbles
7'0" - 9'6"	Moist to wet gray gravelly fine to coarse sand with traces of silt and occasional cobbles

Groundwater Depth: 9'0"

Pipe Installation #1	
Soil Depth:	5'0"
Pipe Diameter:	6"
Embedment:	6"
Stick-up:	12"
Total Length:	1'6"

Pipe Installation #2	
Soil Depth:	5'0"
Pipe Diameter:	6"
Embedment:	6"
Stick-up:	12"
Total Length:	1'6"

Pipe Distance: 2'7"

Soak Period (Pipe #1)			
Start Date:	12/10/2015		
Start Time:	8:10 AM	Water Head:	12 inches
Notes:			
Time:	9:15 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	10:30 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	11:45 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:		Water Head:	inches
Notes:			
Time:		Water Head:	inches
Notes:			
End Date:	12/10/2015		
End Time:	12:15 PM	Water Head:	3 inches

Total Soak Duration: 4 hours 5 minutes

Notes:

Soak Period (Pipe #2)			
Start Date:	12/10/2015		
Start Time:	8:10 AM	Water Head:	12 inches
Notes:			
Time:	9:15 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	10:30 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	11:45 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:		Water Head:	inches
Notes:			
Time:		Water Head:	inches
Notes:			
End Date:	12/10/2015		
End Time:	12:15 PM	Water Head:	1 inches

Total Soak Duration: 4 hours 5 minutes

Notes:

McDowell & Associates

Test Pit #: 2

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/10/2015
Weather: Cloudy T=45°F

Infiltration Test Data

Pipe #1				Pipe #2			
	Water Head (in.)				Water Head (in.)		
Time (min.)	Test #1	Test #2	Test #3	Time (min.)	Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1	11.75	11.63	11.75	1	11.63	11.50	11.44
2	11.31	11.38	11.38	2	11.25	11.06	11.00
3	11.00	11.06	11.00	3	10.38	10.69	10.56
4	10.75	10.75	10.69	4	10.13	10.38	10.13
5	10.38	10.50	10.63	5	9.75	9.75	9.81
6	10.00	10.06	10.13	6	9.38	9.38	9.50
7	9.56	9.75	9.75	7	8.88	9.00	8.88
8	9.25	9.44	9.44	8	8.50	8.56	8.38
9	9.00	9.13	9.19	9	8.38	8.13	8.00
10	8.56	8.75	8.81	10	7.38	7.63	7.56
15	7.44	7.38	7.44	15	5.81	6.13	6.00
20	5.63	5.81	5.88	20	4.50	4.25	4.25
25	4.38	4.56	4.88	25	2.56	2.81	2.94
30	3.06	3.44	3.63	30	1.00	1.13	1.06
40	0.56	1.19	1.50	40	0 @ 33:40	0 @ 33:20	0 @ 33:35
50	0 @ 42:08	0 @ 44:19	0 @ 44:40	50			
60				60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 12:15 PM

McDowell & Associates

Test Pit #: 3

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/10/2015
Weather: Cloudy T=45°F
Ground Elv.: 705.64

Soil Stratigraphy:	
0" - 1'0"	Moist dark brown silty sandy topsoil
1'0" - 3'4"	Moist variegated clayey sand with silt and traces of gravel
3'4" - 6'0"	Moist brown gravelly fine to coarse sand with traces of silt
6'0" - 8'0"	Wet grey gravelly fine to coarse sand with traces of silt

Groundwater Depth: 6'0"

Pipe Installation #1	
Soil Depth:	4'6"
Pipe Diameter:	6"
Embedment:	6"
Stick-up:	12"
Total Length:	1'6"

Pipe Installation #2	
Soil Depth:	4'6"
Pipe Diameter:	6"
Embedment:	6"
Stick-up:	12"
Total Length:	1'6"

Pipe Distance: 2'3"

Soak Period (Pipe #1)			
Start Date:	12/10/2015		
Start Time:	9:50 AM	Water Head:	12 inches
Notes:			
Time:	10:45 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	12:00 PM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	12:50 PM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	1:40 PM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:		Water Head:	inches
Notes:			
End Date:	12/10/2015		
End Time:	1:55 PM	Water Head:	6.3 inches

Total Soak Duration: 4 hours 5 minutes

Notes:

Soak Period (Pipe #2)			
Start Date:	12/10/2015		
Start Time:	8:10 AM	Water Head:	12 inches
Notes:			
Time:	10:45 AM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	12:00 PM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	12:50 PM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:	1:40 PM	Water Head:	0 inches
Notes:	Refill to 12"		
Time:		Water Head:	inches
Notes:			
End Date:	12/10/2015		
End Time:	1:55 PM	Water Head:	7 inches

Total Soak Duration: 4 hours 5 minutes

Notes:

McDowell & Associates

Test Pit #: 3

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/10/2015
Weather: Cloudy T=45°F

Infiltration Test Data

Pipe #1				Pipe #2			
	Water Head (in.)				Water Head (in.)		
Time (min.)	Test #1	Test #2	Test #3	Time (min.)	Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	11.31	11.38	11.44	2	11.50	11.50	11.56
3				3			
4	10.31	10.50	10.63	4	10.75	10.75	10.81
5				5			
6	9.56	9.69	9.69	6	9.94	10.06	10.13
7				7			
8	8.75	8.88	8.88	8	9.25	9.31	9.44
9				9			
10	8.00	8.13	8.13	10	8.44	8.63	8.75
15	6.56	6.38	6.50	15	7.25	7.06	7.19
20	4.75	4.94	5.00	20	5.44	5.63	5.88
25	3.38	3.56	3.63	25	4.19	4.44	4.56
30	2.25	2.38	2.38	30	3.13	3.25	3.50
40	0 @ 38:45	0.13	0.44	40	1.19	1.38	1.63
50		0 @ 41:00	0 @ 42:00	50	0 @ 45:00	0 @ 48:00	0 @ 49:00
60				60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 1:55 PM

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

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TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

INFILTRATION TEST PITS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

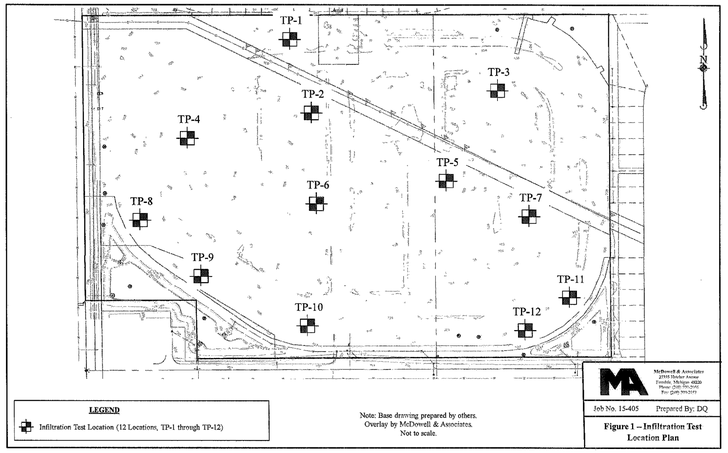
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DR. SK | CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 25

CAD FILE: 15001707SP-09-TP.DWG

K:\15001707 - CREEKSIDE NORTH\CAD\PLANS\ SITE PLANS\15001707SP-09-TP.DWG, 3/12/2025 2:02 PM, STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION



LEGEND

Infiltration Test Location (12 Locations, TP-1 through TP-12)

Note: Base drawing prepared by others.
Overlay by McDowell & Associates.
Not to scale.

McDowell & Associates
1395 South Main Street
Fowlerville, Michigan 48836
Phone: (517) 223-3152
Fax: (517) 223-3153

Job No. 15-405 Prepared By: DQ

Figure 1 – Infiltration Test Location Plan

McDowell & Associates

Test Pit #: 4

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/8/2015
Weather: Cloudy T=41°F
Ground Elv.: 706.94

Soil Stratigraphy:

0" - 2" Moist dark brown sandy topsoil (Fill)
2" - 2'8" Moist brown silty fine sand with occasional topsoil and clay streaks (Fill)
2'8" - 7'4" Moist brown gravelly fine to medium sand with traces of gravel
7'4" - 9'0" Wet grey gravelly fine to coarse sand

Groundwater Depth: 7'4"

Pipe Installation #1

Soil Depth: 3'6"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Installation #2

Soil Depth: 3'6"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Distance: 4'8"

Soak Period (Pipe #1)

Start Date: 12/8/2015
Start Time: 8:30 AM Water Head: 12 inches
Notes:
Time: 9:15 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 10:45 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:55 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:31 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/8/2015
End Time: 12:55 PM Water Head: 7.4 inches

Total Soak Duration: 4 hours 25 minutes

Notes:

Soak Period (Pipe #2)

Start Date: 12/8/2015
Start Time: 8:30 AM Water Head: 12 inches
Notes:
Time: 9:15 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 10:45 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:55 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:31 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/8/2015
End Time: 12:15 PM Water Head: 6.9 inches

Total Soak Duration: 4 hours 25 minutes

Notes:

McDowell & Associates

Test Pit #: 4

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/8/2015
Weather: Cloudy T=46°F

Infiltration Test Data

Time (min.)	Pipe #1 Water Head (in.) Test #1	Test #2	Test #3	Time (min.)	Pipe #2 Water Head (in.) Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	10.00	10.06	10.06	2	9.63	9.69	9.69
3				3			
4	8.19	8.25	8.25	4	7.38	7.63	7.56
5				5			
6	6.50	6.56	6.56	6	5.31	5.69	5.63
7				7			
8	4.88	5.06	5.13	8	3.50	3.88	3.88
9				9			
10	3.44	3.63	3.69	10	1.81	2.38	2.38
15	0 @ 14:40			15	0 @ 12:00	0 @ 13:00	0 @ 13:00
20		0 @ 15:10	0 @ 15:20	20			
25				25			
30				30			
40				40			
50				50			
60				60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 12:55 PM

McDowell & Associates

Test Pit #: 5

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/9/2015
Weather: Cloudy T=52°F

Infiltration Test Data

Time (min.)	Pipe #1 Water Head (in.) Test #1	Test #2	Test #3	Time (min.)	Pipe #2 Water Head (in.) Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	10.63	10.63	10.63	2	10.63	10.88	10.94
3				3			
4	9.31	9.38	9.38	4	9.31	9.63	9.69
5				5			
6	8.06	8.13	8.19	6	8.06	8.44	8.56
7				7			
8	6.88	7.00	7.06	8	6.88	7.31	7.44
9				9			
10	5.75	5.81	5.94	10	5.69	6.25	6.44
15	3.19	3.31	3.50	15	3.19	3.88	4.00
20	1.00	1.06	1.31	20	1.00	1.88	2.00
25	0 @ 22:30	0 @ 22:45	0 @ 23:30	25	0 @ 22:30	0 @ 24:50	0 @ 25:15
30				30			
40				40			
50				50			
60				60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 1:03 PM

McDowell & Associates

Test Pit #: 5

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/9/2015
Weather: Cloudy T=41°F
Ground Elv.: 708.83

Soil Stratigraphy:

0" - 3'0" Moist dark brown sandy silty clay with topsoil (Fill)
3'0" - 4'2" Moist black sandy topsoil with clay
4'2" - 5'0" Moist brown silty fine to medium sand
5'0" - 9'5" Moist brown gravelly fine to medium sand with traces of silt
9'5" - 10'0" Wet brown gravelly fine to medium sand

Groundwater Depth: 9'5"

Pipe Installation #1

Soil Depth: 5'6"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Installation #2

Soil Depth: 6'0"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Distance: 4'0"

Soak Period (Pipe #1)

Start Date: 12/9/2015
Start Time: 8:37 AM Water Head: 12 inches
Notes:
Time: 9:24 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 10:42 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:55 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:58 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/9/2015
End Time: 1:03 PM Water Head: 8 inches

Total Soak Duration: 4 hours 26 minutes

Notes:

Soak Period (Pipe #2)

Start Date: 12/9/2015
Start Time: 8:37 AM Water Head: 12 inches
Notes:
Time: 9:24 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 10:42 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:55 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:58 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/9/2015
End Time: 1:03 PM Water Head: 8.2 inches

Total Soak Duration: 4 hours 26 minutes

Notes:

McDowell & Associates

Test Pit #: 6

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/8/2015
Weather: Cloudy T=43°F
Ground Elv.: 708.82

Soil Stratigraphy:

0" - 3'10" Moist dark brown sandy silty clay with traces of gravel and topsoil (Fill)
3'10" - 4'6" Moist black sandy topsoil with silt
4'6" - 6'0" Moist brown silty fine sand with traces of gravel
6'0" - 9'0" Moist brown gravelly fine to medium sand with traces of silt
9'0" - 10'0" Wet grey gravelly fine to coarse sand

Groundwater Depth: 9'0"

Pipe Installation #1

Soil Depth: 6'6"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Installation #2

Soil Depth: 6'6"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Distance: 4'6"

Soak Period (Pipe #1)

Start Date: 12/8/2015
Start Time: 11:25 AM Water Head: 12 inches
Notes:
Time: 11:55 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:44 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:50 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 2:48 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 3:16 PM Water Head: 0 inches
Notes: Refill to 12"
End Date: 12/8/2015
End Time: 3:29 PM Water Head: 5.4 inches

Total Soak Duration: 4 hours 26 minutes

Notes:

Soak Period (Pipe #2)

Start Date: 12/8/2015
Start Time: 11:25 AM Water Head: 12 inches
Notes:
Time: 11:55 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:44 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:50 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 2:48 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 3:16 PM Water Head: 0 inches
Notes: Refill to 12"
End Date: 12/8/2015
End Time: 3:29 PM Water Head: 3.1 inches

Total Soak Duration: 4 hours 26 minutes

Notes:

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

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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734.994.4000

SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

INFILTRATION TEST PITS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

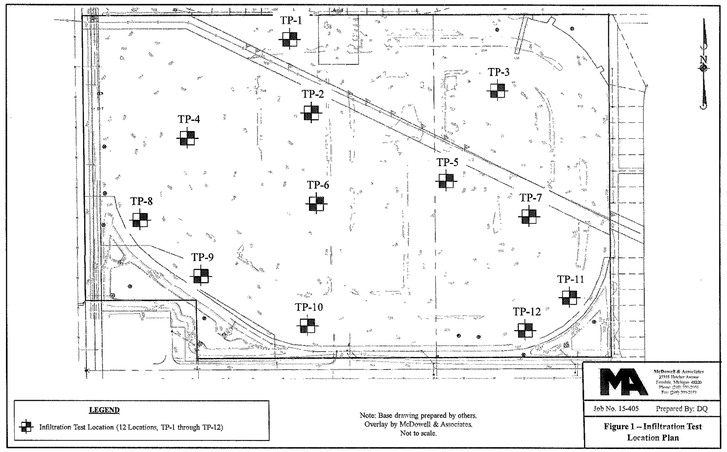
REVISIONS

SCALE 0 -- --
NO SCALE
DR. SK CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 26

CAD FILE: 15001707SP-09-TP.DWG

K:\15001707 - CREEKSIDE NORTH\CIVIL\PLANS\SITE PLANS\15001707SP-09-TP.DWG, 3/12/2025 2:02 PM, STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION



LEGEND

Infiltration Test Location (12 Locations, TP-1 through TP-12)

Note: Base drawing prepared by others.
Overlay by McDowell & Associates.
Not to scale.

McDowell & Associates
1595 Oakbrook Drive
Ferndale, Michigan 48220
Phone (248) 399-2345
Fax (248) 399-2395

Job No. 15-405 Prepared By: DQ

Figure 1 – Infiltration Test Location Plan

McDowell & Associates

Test Pit #: 6

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/8/2015
Weather: Cloudy T=46°F

Infiltration Test Data

Pipe #1				Pipe #2			
Time (min.)	Water Head (in.)			Time (min.)	Water Head (in.)		
	Test #1	Test #2	Test #3		Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	10.69	10.75	10.75	2	10.25	10.19	10.25
3				3			
4	9.44	9.44	9.44	4	8.50	8.44	8.56
5				5			
6	8.25	8.25	8.31	6	7.00	7.38	7.31
7				7			
8	7.06	7.19	7.19	8	5.50	6.00	5.94
9				9			
10	6.00	6.13	6.13	10	4.13	4.88	4.88
15	3.50	3.63	3.38	15	1.06	2.00	2.00
20	1.25	1.44	1.56	20	0 @ 16:50	0 @ 18:50	0 @ 18:45
25	0 @ 23:00	0 @ 23:30	0 @ 23:45	25			
30				30			
40				40			
50				50			
60				60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 3:29 PM

McDowell & Associates

Test Pit #: 7

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/9/2015
Weather: Cloudy T=46°F
Ground Elv.: 709.02

Soil Stratigraphy:

0" - 2'6" Moist dark brown sandy clay with topsoil, silt and sandy clay layers (Fill)
2'6" - 4'3" Moist dark brown silty sand with traces of topsoil and clay (Fill)
4'3" - 5'5" Moist brown silty fine sand
5'5" - 9'10" Moist brown gravelly fine to medium sand with traces of silt
9'10" - 11'0" Wet grey gravelly fine to coarse sand

Groundwater Depth: 9'10"

Pipe Installation #1

Soil Depth: 6'6"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Installation #2

Soil Depth: 6'6"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Distance: 4'11"

Soak Period (Pipe #1)

Start Date: 12/9/2015
Start Time: 10:24 AM Water Head: 12 inches
Notes:
Time: 11:17 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:20 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:11 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 2:18 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/9/2015
End Time: 2:26 PM Water Head: 9.1 inches

Total Soak Duration: 4 hours 2 minutes

Notes:

Soak Period (Pipe #2)

Start Date: 12/9/2015
Start Time: 11:25 AM Water Head: 12 inches
Notes:
Time: 11:17 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:20 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:11 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 2:18 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/9/2015
End Time: 3:29 PM Water Head: 3.1 inches

Total Soak Duration: 4 hours 2 minutes

Notes:

McDowell & Associates

Test Pit #: 7

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/9/2015
Weather: Cloudy T=49°F

Infiltration Test Data

Pipe #1				Pipe #2			
Time (min.)	Water Head (in.)			Time (min.)	Water Head (in.)		
	Test #1	Test #2	Test #3		Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	11.44	11.44	11.50	2	9.75	9.63	9.75
3				3			
4	10.63	10.88	11.75	4	7.44	7.38	7.44
5				5			
6	9.88	10.25	10.06	6	5.25	5.19	5.31
7				7			
8	9.19	9.56	9.44	8	3.38	3.25	3.44
9				9			
10	8.50	9.06	9.00	10	1.63	1.50	1.75
15	7.00	7.56	7.44	15	0 @ 12:15	0 @ 12:00	0 @ 12:30
20	5.50	6.31	6.19	20			
25	4.19	5.25	5.13	25			
30	2.81	4.13	4.00	30			
40	0.81	2.13	2.00	40			
50	0 @ 42:30	0.50	0.44	50			
60		0 @ 51:45	0 @ 51:30	60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 2: 26 PM

McDowell & Associates

Test Pit #: 8

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/8/2015
Weather: Cloudy T=41°F
Ground Elv.: 707.68

Soil Stratigraphy:

0" - 4'0" Moist dark brown sandy clay with silt, topsoil, silty sand layers and topsoil layers (Fill)
4'0" - 4'6" Moist brown silty fine sand
4'6" - 7'9" Moist brown gravelly fine to medium sand with traces of silt
7'9" - 9'0" Wet grey gravelly fine to coarse sand

Groundwater Depth: 7'9"

Pipe Installation #1

Soil Depth: 5'4"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Installation #2

Soil Depth: 5'4"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Distance: 3'7"

Soak Period (Pipe #1)

Start Date: 12/8/2015
Start Time: 10:24 AM Water Head: 12 inches
Notes:
Time: 11:26 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:28 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:31 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 2:32 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/8/2015
End Time: 2:37 PM Water Head: 9.5 inches

Total Soak Duration: 4 hours 13 minutes

Notes:

Soak Period (Pipe #2)

Start Date: 12/8/2015
Start Time: 10:24 AM Water Head: 12 inches
Notes:
Time: 11:26 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:28 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:31 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 2:32 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/8/2015
End Time: 2:37 PM Water Head: 9.4 inches

Total Soak Duration: 4 hours 13 minutes

Notes:

McDowell & Associates

Test Pit #: 8

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/8/2015
Weather: Cloudy T=45°F

Infiltration Test Data

Pipe #1				Pipe #2			
Time (min.)	Water Head (in.)			Time (min.)	Water Head (in.)		
	Test #1	Test #2	Test #3		Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	11.69	11.63	11.75	2	11.44	11.56	11.63
3				3			
4	11.19	11.25	11.31	4	10.81	10.88	10.88
5				5			
6	10.69	10.75	10.81	6	10.00	10.25	10.25
7				7			
8	10.25	10.25	10.38	8	9.38	9.56	9.50
9				9			
10	9.75	9.75	10.00	10	8.63	8.88	8.94
15	8.56	8.75	8.88	15	6.94	7.38	7.38
20	7.50	7.69	7.88	20	5.50	6.00	5.94
25	6.38	6.63	6.75	25	3.94	4.50	4.50
30	5.50	5.75	5.94	30	0.75	3.44	3.44
40	3.56	4.00	4.19	40	0.19	1.25	1.31
50	2.00	2.38	2.50	50	0 @ 42:00	0 @ 45:00	0 @ 46:00
60	0.50	0.88	1.00	60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 2:37 PM

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

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ANN ARBOR, MI 48104
734.994.4000

SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

INFILTRATION TEST PITS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

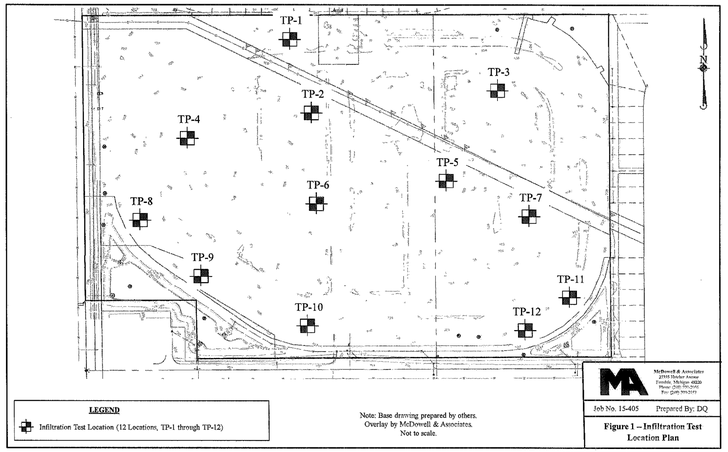
REVISIONS

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DR. SK CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 27

CAD FILE: 15001707SP-09-TP.DWG

K:\15001707 - CREEKSIDE NORTH\CIVIL\PLANS SETS\PRELIMINARY SITE PLAN\15001707SP-09-TP.DWG, 3/12/2025 2:02 PM, STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION



LEGEND

Infiltration Test Location (12 Locations, TP-1 through TP-12)

Note: Base drawing prepared by others.
Overlay by McDowell & Associates.
Not to scale.

McDowell & Associates
2395 Oakland Drive
Okemos, Michigan 48836
Phone (248) 391-5192
Fax (248) 391-5193

Job No. 15-405 Prepared By: DQ

Figure 1 – Infiltration Test Location Plan

McDowell & Associates

Test Pit #: 9

Job Number: 15-405 **Date:** 12/8/2015
Project: Creekside North Infiltration Study **Weather:** Cloudy T=39°F
Location: Ypsilanti Twp., Washtenaw County, Michigan **Ground Elv.:** 708.21

Soil Stratigraphy:

0" - 4'0" Moist dark brown sandy silty clay with topsoil and traces of gravel (Fill)
4'0" - 5'2" Moist brown silty fine sand
5'" - 8'6" Moist brown gravelly fine to medium sand with traces of silt
8'6" - 10'0" Wet grey gravelly fine to coarse sand

Groundwater Depth: 8'6"

Pipe Installation #1

Soil Depth: 5'8"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Installation #2

Soil Depth: 5'8"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Distance: 2'8"

Soak Period (Pipe #1)

Start Date: 12/8/2015
Start Time: 9:43 AM Water Head: 12 inches
Notes:
Time: 10:30 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:17 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:55 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:37 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/8/2015
End Time: 1:44 PM Water Head: 7.8 inches

Total Soak Duration: 4 hours 1 minutes

Notes:

Soak Period (Pipe #2)

Start Date: 12/8/2015
Start Time: 9:43 AM Water Head: 12 inches
Notes:
Time: 10:30 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:17 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:55 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:37 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/8/2015
End Time: 1:44 PM Water Head: 8.3 inches

Total Soak Duration: 4 hours 1 minutes

Notes:

McDowell & Associates

Test Pit #: 9

Job Number: 15-405 **Date:** 12/8/2015
Project: Creekside North Infiltration Study **Weather:** Cloudy T=45°F
Location: Ypsilanti Twp., Washtenaw County, Michigan

Infiltration Test Data

Time (min.)	Pipe #1 Water Head (in.) Test #1	Test #2	Test #3	Time (min.)	Pipe #2 Water Head (in.) Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	10.63	10.63	10.75	2	11.06	11.06	11.06
3				3			
4	9.31	9.38	9.44	4	10.06	10.06	10.13
5				5			
6	8.06	8.19	8.19	6	9.06	9.13	9.13
7				7			
8	6.88	7.13	7.19	8	8.13	8.19	8.25
9				9			
10	5.63	6.06	6.13	10	7.13	7.31	7.38
15	3.13	3.63	3.75	15	5.06	5.25	5.38
20	0.88	1.44	1.69	20	3.25	3.56	3.63
25	0 @ 22:10	0 @ 23:40	0 @ 23:50	25	1.63	1.81	1.94
30				30	0 @ 29:15	0 @ 30:30	0 @ 31:00
40				40			
50				50			
60				60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 1:44 PM

McDowell & Associates

Test Pit #: 10

Job Number: 15-405 **Date:** 12/8/2015
Project: Creekside North Infiltration Study **Weather:** Cloudy T=39°F
Location: Ypsilanti Twp., Washtenaw County, Michigan **Ground Elv.:** 707.95

Soil Stratigraphy:

0" - 11" Moist dark brown sandy clay with gravel and topsoil (Fill)
11" - 4'0" Moist brown to dark brown silty sandy clay with traces of gravel (Fill)
4'0" - 5'8" Moist brown silty fine sand
5'8" - 8'0" Moist brown gravelly fine to medium sand with traces of silt
8'0" - 9'0" Wet grey gravelly medium to coarse sand

Groundwater Depth: 8'0"

Pipe Installation #1

Soil Depth: 5'6"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Installation #2

Soil Depth: 6'0"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Distance: 4'0"

Soak Period (Pipe #1)

Start Date: 12/8/2015
Start Time: 9:08 AM Water Head: 12 inches
Notes:
Time: 9:59 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 10:44 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:22 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:37 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:03 PM Water Head: 0 inches
Notes: Refill to 12"
End Date: 12/8/2015
End Time: 1:13 PM Water Head: 7.4 inches

Total Soak Duration: 4 hours 5 minutes

Notes:

Soak Period (Pipe #2)

Start Date: 12/8/2015
Start Time: 9:08 AM Water Head: 12 inches
Notes:
Time: 9:59 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 10:44 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:22 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:37 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:03 PM Water Head: 0 inches
Notes: Refill to 12"
End Date: 12/8/2015
End Time: 1:13 PM Water Head: 5.1 inches

Total Soak Duration: 4 hours 5 minutes

Notes:

McDowell & Associates

Test Pit #: 10

Job Number: 15-405 **Date:** 12/8/2015
Project: Creekside North Infiltration Study **Weather:** Cloudy T=45°F
Location: Ypsilanti Twp., Washtenaw County, Michigan

Infiltration Test Data

Time (min.)	Pipe #1 Water Head (in.) Test #1	Test #2	Test #3	Time (min.)	Pipe #2 Water Head (in.) Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	10.69	10.69	10.75	2	10.06	10.44	10.50
3				3			
4	9.25	9.25	9.25	4	8.25	8.50	8.56
5				5			
6	7.88	7.88	7.88	6	6.56	6.81	7.06
7				7			
8	6.56	6.63	6.63	8	4.81	5.38	5.50
9				9			
10	5.38	5.44	5.38	10	3.44	3.88	4.13
15	2.63	2.69	2.69	15	0.25	0.63	0.94
20	0 @ 20:00	0 @ 20:15	0 @ 20:15	20	0 @ 15:30	0 @ 16:00	0 @ 16:30
25				25			
30				30			
40				40			
50				50			
60				60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 1:13 PM

McDowell & Associates

Test Pit #: 11

Job Number: 15-405 **Date:** 12/9/2015
Project: Creekside North Infiltration Study **Weather:** Partly Cloudy T=°F
Location: Ypsilanti Twp., Washtenaw County, Michigan **Ground Elv.:** 708.12

Soil Stratigraphy:

0" - 4'0" Moist dark brown sandy clay to clayey sand with silt, gravel and topsoil (Fill)
4'0" - 5'2" Moist black sandy topsoil with clay
5'2" - 5'10" Moist brown silty fine sand
5'10" - 9'8" Moist brown gravelly fine to medium sand with traces of silt
9'8" - 10'0" Wet grey gravelly fine to coarse sand

Groundwater Depth: 9'8"

Pipe Installation #1

Soil Depth: 6'10"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Installation #2

Soil Depth: 6'10"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Distance: 4'0"

Soak Period (Pipe #1)

Start Date: 12/9/2015
Start Time: 9:44 AM Water Head: 12 inches
Notes:
Time: 10:05 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:02 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:33 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:59 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:46 PM Water Head: 0 inches
Notes: Refill to 12"
End Date: 12/9/2015
End Time: 1:50 PM Water Head: 8.4 inches

Total Soak Duration: 4 hours 6 minutes

Notes:

Soak Period (Pipe #2)

Start Date: 12/9/2015
Start Time: 9:44 AM Water Head: 12 inches
Notes:
Time: 10:05 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:02 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:33 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:59 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:46 PM Water Head: 0 inches
Notes: Refill to 12"
End Date: 12/9/2015
End Time: 1:50 PM Water Head: 8.0 inches

Total Soak Duration: 4 hours 6 minutes

Notes:

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

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
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734.994.4000

SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

INFILTRATION TEST PITS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

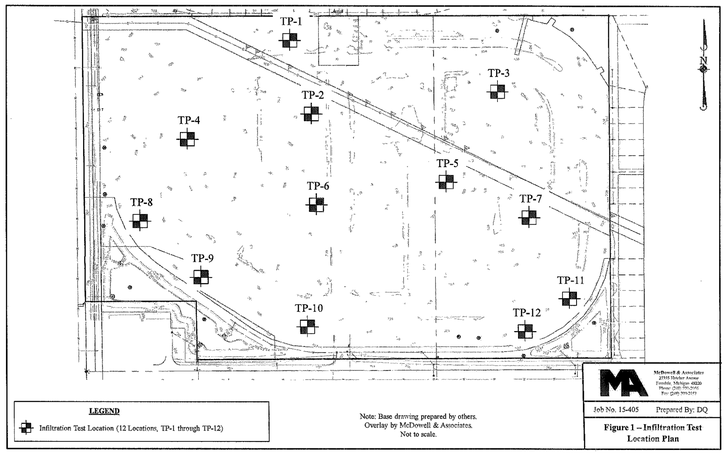
REVISIONS

SCALE 0 -- --
NO SCALE
DR. SK CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 28

CAD FILE: 15001707SP-09-TP.DWG

K:\15001707 - CREEKSIDE NORTH\CIVIL\PLAN SETS\PRELIMINARY SITE PLAN\15001707SP-09-TP.DWG, 3/12/2025 2:03 PM, STEPHEN KESSEL

PRELIMINARY - NOT FOR CONSTRUCTION



LEGEND

Infiltration Test Location (12 Locations, TP-1 through TP-12)

Note: Base drawing prepared by others.
Overlay by McDowell & Associates.
Not to scale.

McDowell & Associates
2395 Oak Valley Drive
Ann Arbor, Michigan 48103
Phone: (248) 391-3721
Fax: (248) 391-3191

Job No. 15-405 Prepared By: DQ

Figure 1 – Infiltration Test Location Plan

McDowell & Associates

Test Pit #: 11

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/9/2015
Weather: Cloudy T=48°F

Infiltration Test Data

Time (min.)	Pipe #1 Water Head (in.) Test #1	Test #2	Test #3	Time (min.)	Pipe #2 Water Head (in.) Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	10.00	10.13	10.19	2	10.13	10.13	10.00
3				3			
4	8.06	8.44	8.38	4	8.25	8.38	8.19
5				5			
6	6.19	6.94	6.81	6	6.63	6.88	6.69
7				7			
8	4.69	5.38	5.31	8	5.00	5.38	5.31
9				9			
10	3.25	4.00	4.00	10	3.63	4.00	3.94
15		1.13	1.06	15		1.06	1.00
20	0 @ 15:10	0 @ 17:00	0 @ 17:00	20	0 @ 15:50	0 @ 17:00	0 @ 17:00
25				25			
30				30			
40				40			
50				50			
60				60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 1:50 PM

McDowell & Associates

Test Pit #: 12

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/9/2015
Weather: Partly Cloudy T=41°F
Ground Elv.: 709.04

Soil Stratigraphy:

0" - 4'3" Moist dark brown sandy silty clay with topsoil (Fill)
4'3" - 5'4" Moist black sandy topsoil with silt and clay
5'4" - 8'0" Brown silty fine to medium sand
8'0" - 10'6" Brown gravelly fine to coarse sand with seams of fine silty sand
10'6" - 11'0" Wet grey gravelly fine to coarse sand

Groundwater Depth: 10'6"

Pipe Installation #1

Soil Depth: 8'0"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Installation #2

Soil Depth: 8'0"
Pipe Diameter: 6"
Embedment: 6"
Stick-up: 12"
Total Length: 1'6"

Pipe Distance: 3'6"

Soak Period (Pipe #1)

Start Date: 12/9/2015
Start Time: 9:06 AM Water Head: 12 inches
Notes:
Time: 10:25 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:13 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:27 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:02 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/9/2015
End Time: 1:09 PM Water Head: 7.3 inches

Total Soak Duration: 4 hours 3 minutes

Notes:

Soak Period (Pipe #2)

Start Date: 12/9/2015
Start Time: 9:06 AM Water Head: 12 inches
Notes:
Time: 10:25 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 11:13 AM Water Head: 0 inches
Notes: Refill to 12"
Time: 12:27 PM Water Head: 0 inches
Notes: Refill to 12"
Time: 1:02 PM Water Head: 0 inches
Notes: Refill to 12"
Time: Water Head: inches
Notes:
End Date: 12/9/2015
End Time: 1:09 PM Water Head: 9.8 inches

Total Soak Duration: 4 hours 3 minutes

Notes:

McDowell & Associates

Test Pit #: 12

Job Number: 15-405
Project: Creekside North Infiltration Study
Location: Ypsilanti Twp., Washtenaw County, Michigan

Date: 12/9/2015
Weather: Cloudy T=48°F

Infiltration Test Data

Time (min.)	Pipe #1 Water Head (in.) Test #1	Test #2	Test #3	Time (min.)	Pipe #2 Water Head (in.) Test #1	Test #2	Test #3
0	12.00	12.00	12.00	0	12.00	12.00	12.00
1				1			
2	10.25	10.25	10.31	2	11.31	11.19	11.31
3				3			
4	8.50	8.63	8.56	4	10.25	10.19	10.25
5				5			
6	6.88	6.88	6.88	6	9.25	9.25	9.25
7				7			
8	5.38	5.44	5.50	8	8.31	8.31	8.38
9				9			
10	4.00	4.13	4.13	10	7.44	7.50	7.50
15	0.75	1.00	1.06	15	5.38	5.31	5.38
20	0 @ 16:15	0 @ 16:40	0 @ 16:45	20	3.50	3.81	3.75
25				25	1.88	2.13	2.19
30				30	0.25	0.50	0.63
40				40	0 @ 31:00	0 @ 31:30	0 @ 31:35
50				50			
60				60			
70				70			
80				80			
90				90			
100				100			
110				110			
120				120			

Notes: Start at 1:09 P.M

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SECTION 26
TOWN 3 SOUTH, RANGE 7 EAST
YPSILANTI TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

CLIENT
SE MICHIGAN LAND HOLDINGS, LLC

CREEKSIDE VILLAGE NORTH
PRELIMINARY SITE PLAN

INFILTRATION TEST PITS

DATE
NOVEMBER 11, 2024

3/6/2025: PER TWP

REVISIONS

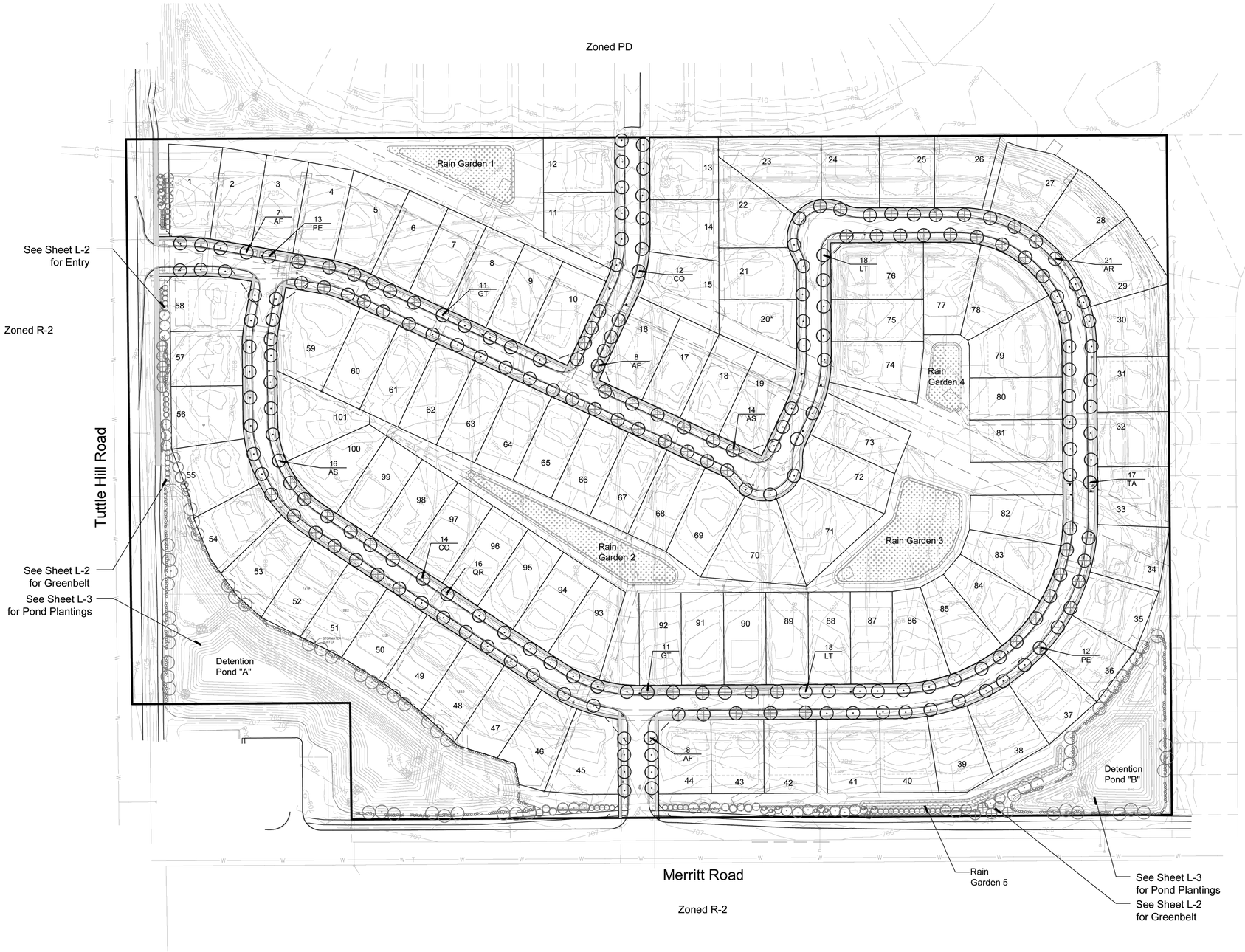
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DR. SK CH. --
P.M. KS
BOOK
JOB 15001707
SHEET NO. 29

CAD FILE: 15001707SP-09-TP.DWG

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PRELIMINARY - NOT FOR CONSTRUCTION



Landscape Summary

Street Trees

Street Frontage	10,798 l.f.
Street Trees Required	215.9 Trees (10,798 / 50)
Street Trees Provided	216 Trees

Key

Rain Garden - See Sheet L-4

Plant List - Sheet L-1

sym.	qty.	botanical name	common name	caliper	spacing	root
Street Trees						
AF	23	Acer x. freemanii 'Autumn Blaze'	Autumn Blaze Maple	2.5"	as shown	B&B
AR	21	Acer rubrum 'October Glory'	October Glory Red Maple	2.5"	as shown	B&B
AS	30	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	2.5"	as shown	B&B
CO	26	Celtis occidentalis	Northern Hackberry	2.5"	as shown	B&B
GT	22	Gleditsia triacanthos var. Inermis	Honey Locust	2.5"	as shown	B&B
LT	36	Liriodendron tulipifera	Tulip Tree	2.5"	as shown	B&B
PE	25	Platanus x acerifolia 'Exclamation'	Exclamation London Planetree	2.5"	as shown	B&B
QR	16	Quercus rubra	Red Oak	2.5"	as shown	B&B
TA	17	Tilia americana 'Redmond'	Redmond Linden	2.5"	as shown	B&B
	216	Trees Provided				

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557 Carpenter
Northville, Michigan 48167
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t. 248.467.4668

Seal:

STATE OF MICHIGAN
JAMES C. ALLEN
Landscape Architect
No. 1301
REGISTERED LANDSCAPE ARCHITECT

Title:

Street Tree Plan

Project:

Creekside
Ypsilanti Township, Michigan

Prepared for:

SE Michigan Land Holdings LLC
13001 23 Mile Road, Suite 200
Shelby Township, Michigan 48315

Revision:	Issued:
Submission	October 10, 2024

Job Number:

21-031

Drawn By:	Checked By:
jca	jca

0' 25' 50' 100'

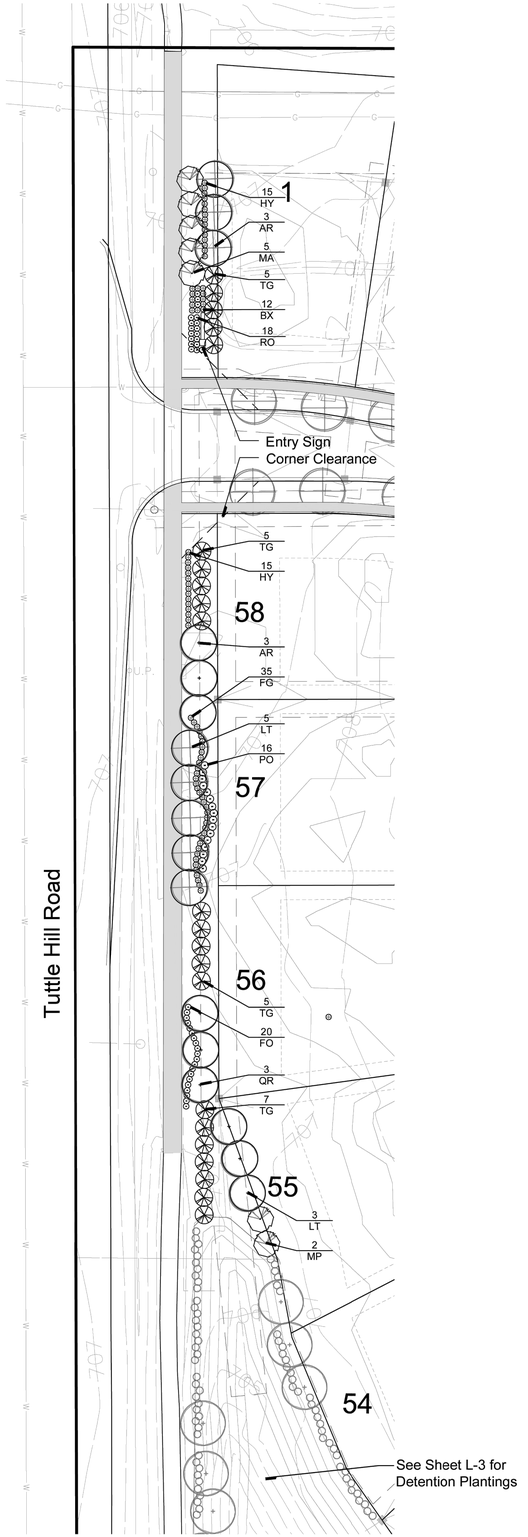
NORTH
1"=100'

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

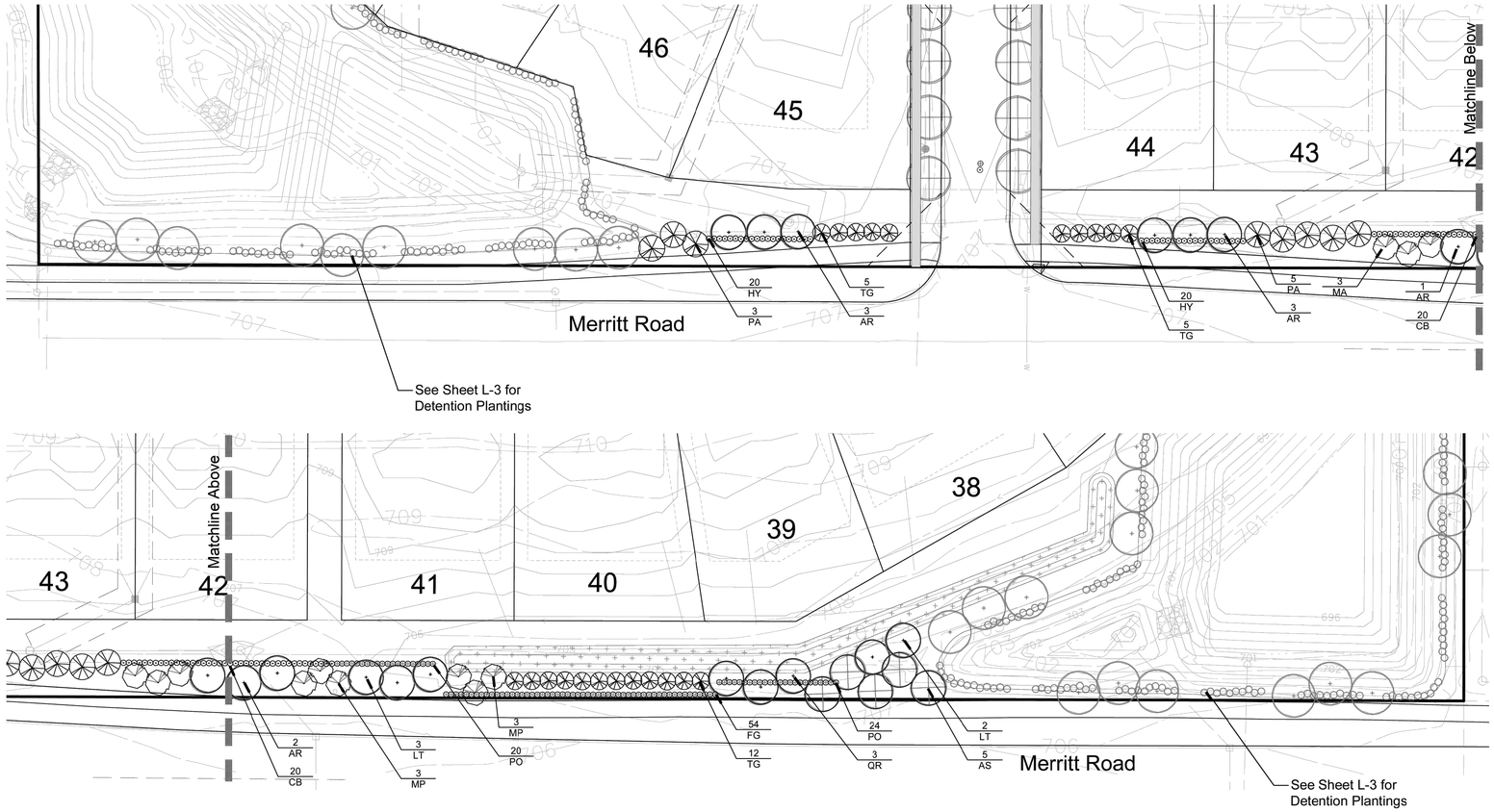
Sheet No.

L-1

Tuttle Hill Greenbelt

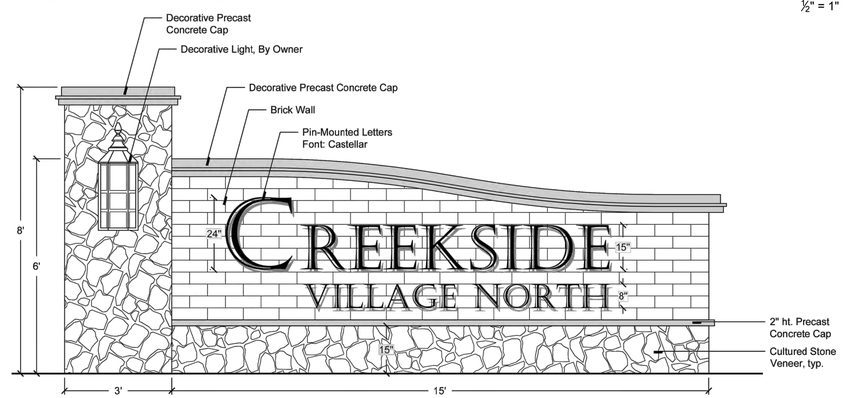


Merritt Greenbelt



Entry Monument Sign

½" = 1"



Plant List

sym.	qty.	botanical name	common name	caliper	spacing	root	height
Greenbelt							
AR	15	Acer x. freemanii 'Autumn Blaze'	Autumn Blaze Maple	2.5"	as shown	B&B	
AS	5	Acer saccharum 'Green Mountain'	Sugar Maple	2.5"	as shown	B&B	
BX	12	Buxus 'Green Mountain'	Green Mountain Boxwood		as shown	cont.	24"
CB	40	Cornus stolinifera 'Bailey's'	Bailey's Red Osier Dogwood		as shown	cont.	30"
FG	89	Forsythia 'Gold Tide'	Gold Tide Forsythia		as shown	cont.	30"
FO	20	Forsythia x intermedia 'Spectabilis'	Showy Forsythia		as shown	cont.	30"
HY	70	Hydrangea 'Lime Light'	Lime Light Hydrangea		as shown	cont.	30"
LT	13	Liriodendron tulipifera	Tulip Tree	2.5"	as shown	B&B	
MA	8	Malus 'Royal Raindrops'	Royal Raindrops Crab Apple	2.0"	as shown	B&B	
MP	8	Malus 'Profusion'	Profusion Crab	2.0"	as shown	B&B	
PA	8	Picea abies	Norway Spruce		as shown	B&B	6'-7'
PO	60	Physocarpus opulifolius 'Summer Wine'	Summer Wine Ninebark		as shown	cont.	30"
QR	6	Quercus rubra	Red Oak	2.5"	as shown	B&B	
RO	18	Rosa 'Oso Double Red'	Double Red Oso Rose		as shown	cont.	#2
TG	44	Thuja 'Green Giant'	Green Giant Arborvitae		as shown	B&B	6'-7'
	39	Trees Provided					
	52	Evergreens Provided					
	16	Ornamentals Provided					
	309	Shrubs Provided					

Landscape Summary

Greenbelt
Tuttle Hill Road

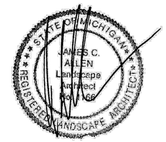
Road Frontage	1,070 l.f.
Less Detention within Greenbelt	416 l.f.
Net Greenbelt	654 l.f.
Trees Required	16.4 Trees (654 / 40)
Trees Provided	17 Trees
Evergreens Required	21.8 Trees (654 x 50%) / 15
Evergreens Provided	22 Trees
Ornamental Trees Required	6.5 Trees (654 / 100)
Ornamental Trees Provided	7 Trees
Shrubs Required	130.8 Shrubs (654 / 40) x 8
Shrubs Provided	131 Shrubs

Greenbelt
Merritt Road

Road Frontage	1,553 l.f.
Less Detention within Greenbelt	663 l.f.
Net Greenbelt	890 l.f.
Trees Required	22 Trees (890 / 40)
Trees Provided	22 Trees
Evergreens Required	29.6 Trees (890 x 50%) / 15
Evergreens Provided	30 Trees
Ornamental Trees Required	8.9 Trees (890 / 100)
Ornamental Trees Provided	9 Trees
Shrubs Required	178 Shrubs (890 / 40) x 8
Shrubs Provided	178 Shrubs

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Northville, Michigan 48167
e. jca@wideopenwest.com
t. 248.467.4668

Seal:



Title:

Greenbelt and Entry

Project:

Creekside
Ypsilanti Township, Michigan

Prepared for:

SE Michigan Land Holdings LLC
13001 23 Mile Road, Suite 200
Shelby Township, Michigan 48315

Revision:	Issued:
Submission	October 10, 2024

Job Number:

21-031

Drawn By:	Checked By:
jca	jca

0' 10' 20' 40'

NORTH
1"=40'

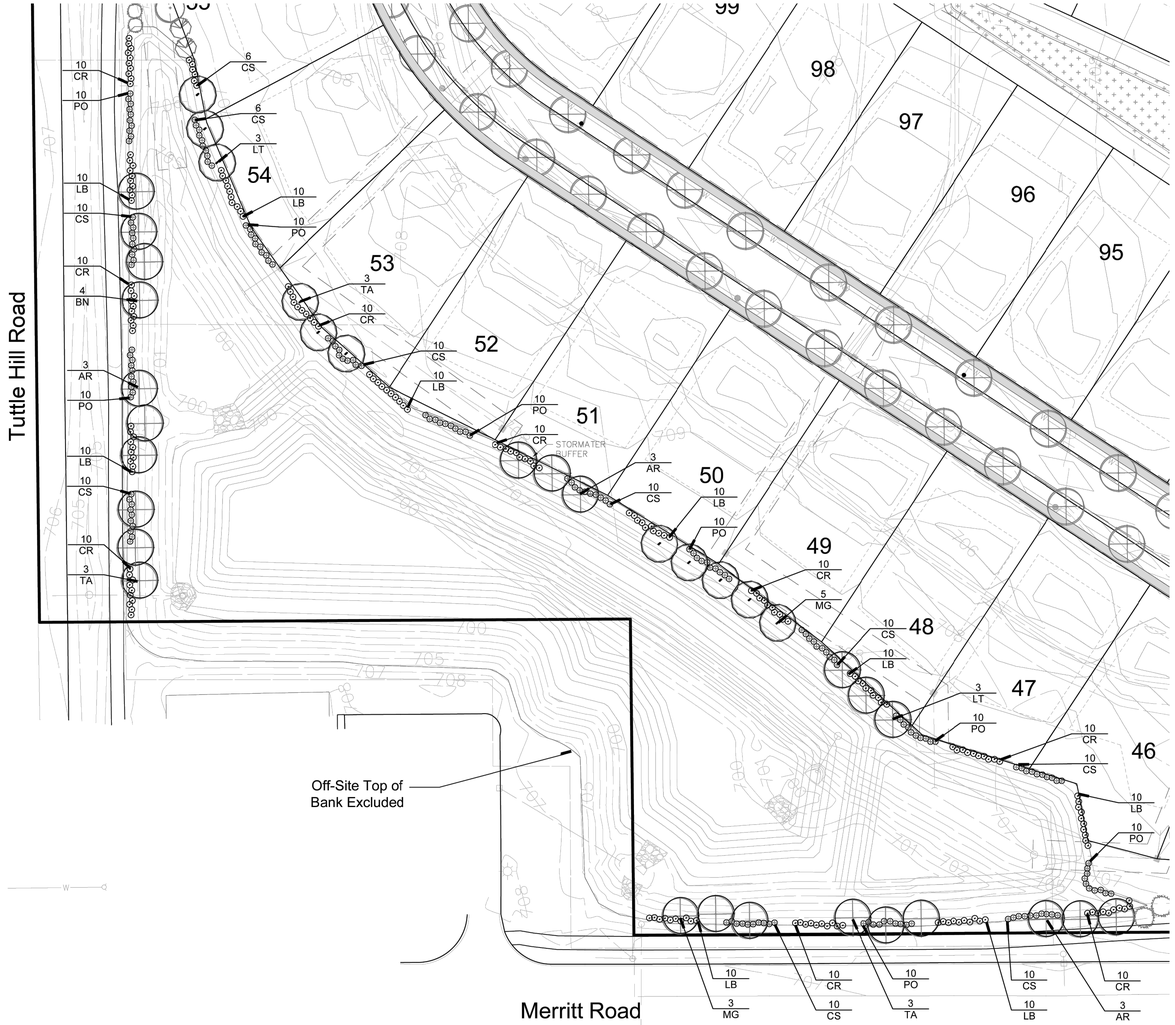
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Sheet No.

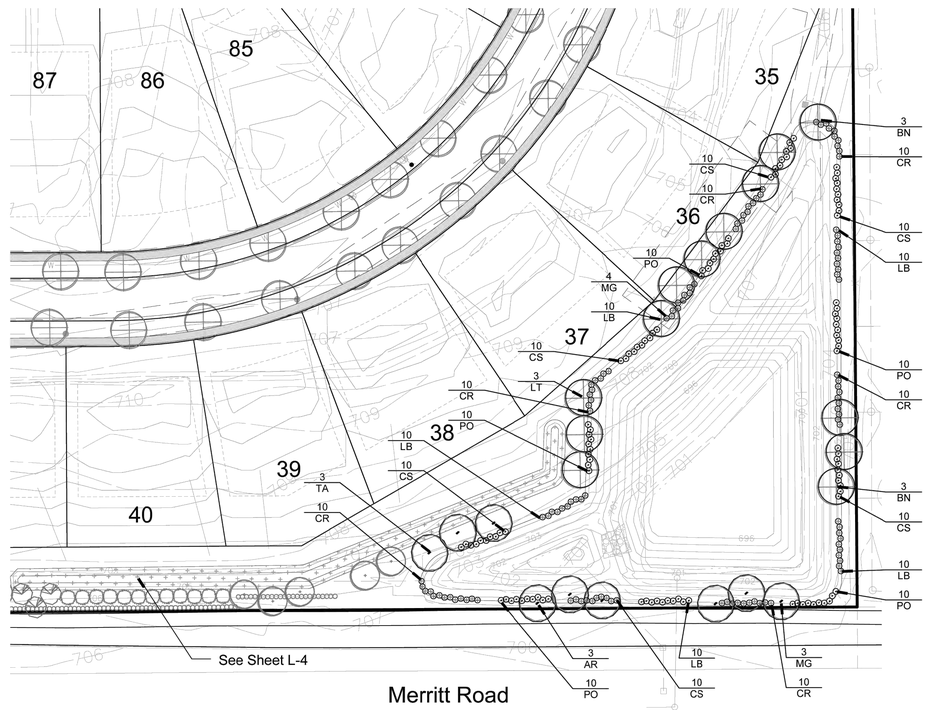
L-2

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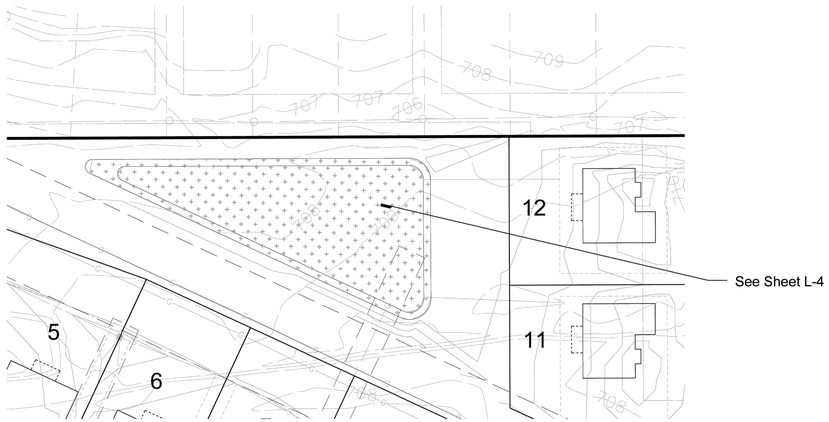
Pond A



Pond B and Rain Garden 5



Rain Garden 1



Key

Rain Garden - See Sheet L-4

Landscape Summary

Pond A	
Top of Bank Length	1,782 l.f.
Trees Required	35.6 Trees (1,782 / 50)
Trees Provided	36 Trees
Shrubs Required	356 Shrubs (1,782 / 50) x 10
Shrubs Provided	356 Shrubs
Pond B	
Top of Bank Length	1,101 l.f.
Trees Required	22 Trees (1,101 / 50)
Trees Provided	22 Trees
Shrubs Required	220 Shrubs (1,101 / 50) x 10
Shrubs Provided	220 Shrubs

Plant List - L-3

sym.	qty.	botanical name	common name	caliper	spacing	root	height
Detention Plantings							
AR	12	Acer rubrum 'October Glory'	Red Maple 'October Glory'	2.5"	as shown	B&B	
BN	10	Betula nigra	Multi-stem River Birch		as shown	B&B	10'
CR	150	Cornus racemosa	Gray Dogwood		as shown	Cont	30"
CS	156	Cornus stolonifera	Red-osier Dogwood		as shown	Cont	30"
LB	140	Lindera benzoin	Spicebush		as shown	Cont	30"
LT	9	Liriodendron tulipifera	Tulip Tree	2.5"	as shown	B&B	
MG	15	Metasequoia glyptostroboides	Dawn Redwood	2.5"	as shown	B&B	
PO	130	Physocarpus opulifolius	Eastern Ninebark		as shown	Cont	30"
TA	12	Tilia americana 'Redmond'	Redmond Linden	2.5"	as shown	B&B	
	58	Trees Provided					
	576	Shrubs Provided					

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Seal:

STATE OF MICHIGAN
JAMES C. ALLEN
Landscape Architect
No. 1301
REGISTERED LANDSCAPE ARCHITECT

Title:

Storm Water Plan

Project:

Creekside
Ypsilanti Township, Michigan

Prepared for:

SE Michigan Land Holdings LLC
13001 23 Mile Road, Suite 200
Shelby Township, Michigan 48315

Revision:	Issued:
Submission	October 10, 2024

Job Number:

21-031

Drawn By:	Checked By:
jca	jca

0' 25' 50'

NORTH
1"=50'

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

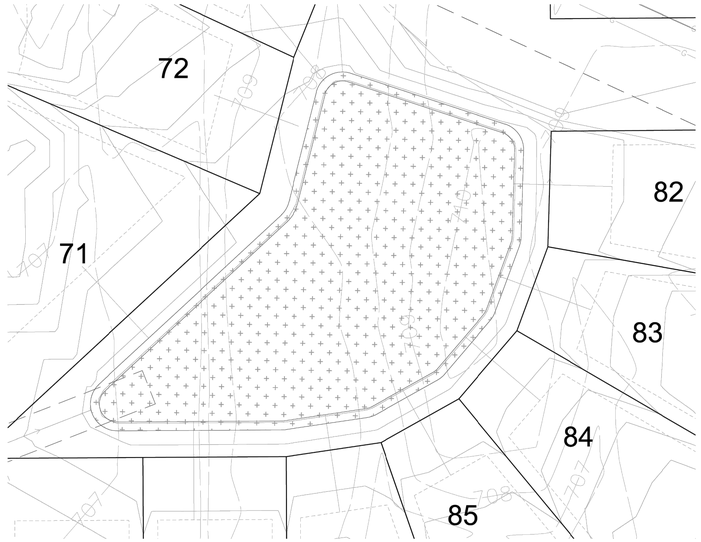
Sheet No.

L-3

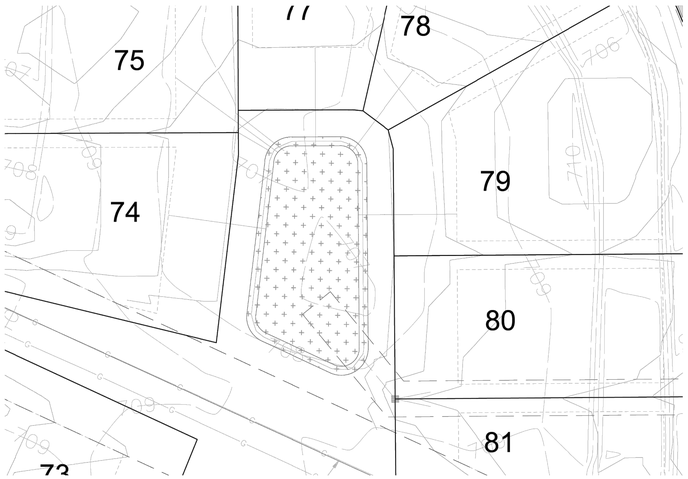
Rain Garden 2



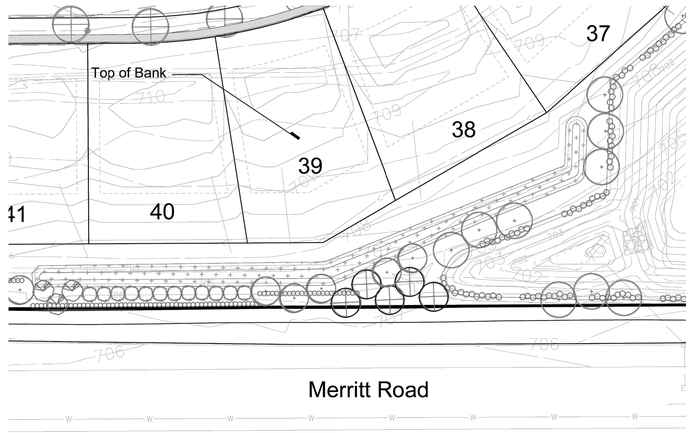
Rain Garden 3



Rain Garden 4



Rain Garden 5



Live Plantings Plant List

Rain Garden				
qty.	botanical name	common name	spacing	Container
1,790	Agastache nepetoides	Yellow Giant Hyssop	24" o.c.	2" Pot or cells
1,790	Asclepias incarnata	Swamp Milkweed	24" o.c.	2" Pot or cells
1,790	Carex grayi	Gray's Sedge	24" o.c.	2" Pot or cells
1,790	Doellingeria umbellata	Flat-Top White Aster	24" o.c.	2" Pot or cells
1,790	Eupatorium perfoliatum	Boneset	24" o.c.	2" Pot or cells
1,790	Eutrochium maculatum	Joe-Pye Weed	24" o.c.	2" Pot or cells
1,790	Helenium autumnale	Sneezeweed	24" o.c.	2" Pot or cells
1,790	Liatris spicata	Marsh Blazing Star	24" o.c.	2" Pot or cells
1,790	Lobelia siphilitica	Big Blue Lobelia	24" o.c.	2" Pot or cells
1,790	Penstemon digitalis	Smooth Penstemon	24" o.c.	2" Pot or cells
1,790	Silphium terebinthinaceum	Prarie Dock	24" o.c.	2" Pot or cells
78,898 s.f. of Rain Garden Area				

Key

Rain Garden

Notes

1. No Chemicals are Allowed in Stormwater Features or Buffer Zones with the Following Exception: Invasive Spacies may be Treated with Chemicals by a Certified Applicator. Mowing is Allowed Only Twice a Year.
2. Soils Must be Amended with a Composted Organic Material. Soils Must be Free of Construction Debris and Subsoils. Soils Must Contain 20%-30% Compost.
3. Rain Garden Soils must Contain 20%-30% Compost, 70%-80% Topsoil with a Maximum of 10% Clay.
4. At the time of plant and seed delivery, a WCWRC landscape reviewer must be present. The quantity and species delivered will be reviewed on site. Contact Catie Wytychak at wytychakc@ewashtenaw.org or (734) 222-6813 to coordinate.

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ALLENDESIGN
LAND PLANNING / LANDSCAPE ARCHITECTURE
557 Carpenter
Northville, Michigan 48167
e. jca@wideopenwest.com
t. 248.467.4668

Seal:



Title:

Storm Water Plan

Project:

Creekside
Ypsilanti Township, Michigan

Prepared for:

SE Michigan Land Holdings LLC
13001 23 Mile Road, Suite 200
Shelby Township, Michigan 48315

Revision:	Issued:
Submission	October 10, 2024

Job Number:

21-031

Drawn By:	Checked By:
jca	jca

0' 10' 25' 50'

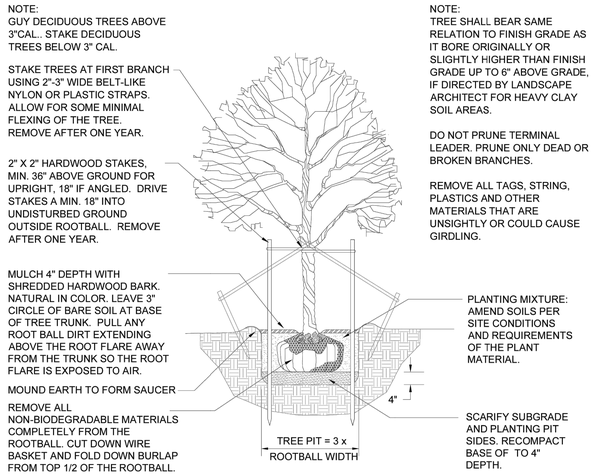
NORTH
1"=50'

Know what's below. Call before you dig.

Sheet No.

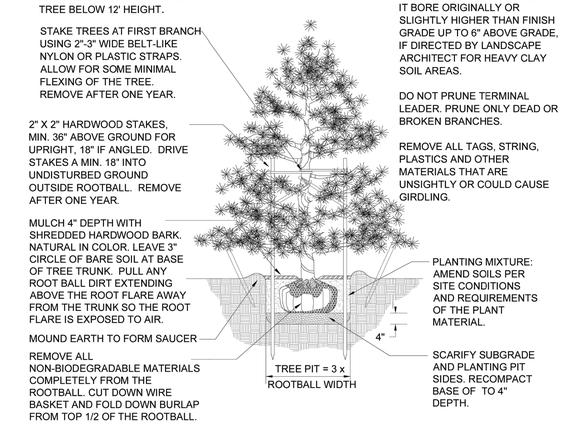
L-4

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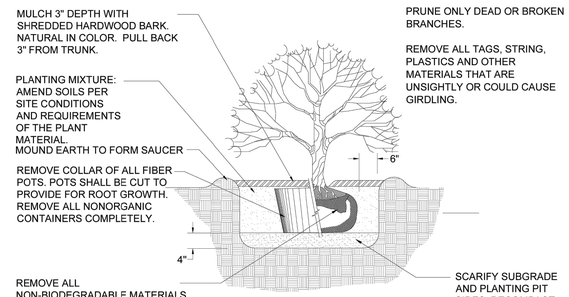
DECIDUOUS TREE PLANTING DETAIL

Not to scale



EVERGREEN TREE PLANTING DETAIL

Not to scale

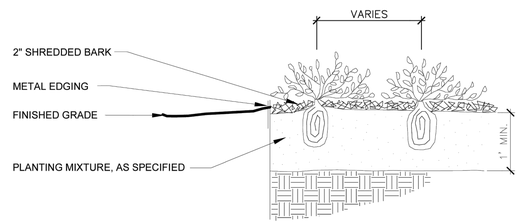


SHRUB PLANTING DETAIL

NOT TO SCALE

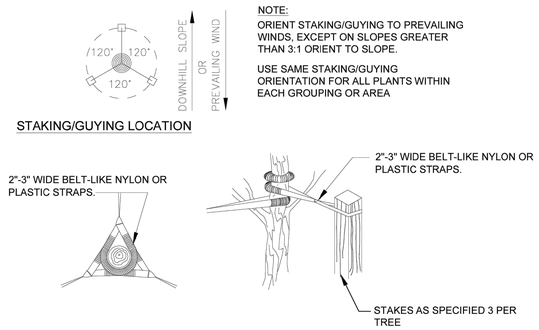
LANDSCAPE NOTES

1. All plants shall be north Midwest American region grown, No. 1 grade plant materials, and shall be true to name, free from physical damage and wind burn.
2. Plants shall be full, well-branched, and in healthy vigorous growing condition.
3. Plants shall be watered before and after planting is complete.
4. All trees must be staked, fertilized and mulched and shall be guaranteed to exhibit a normal growth cycle for at least two (2) full years following Township approval.
5. All material shall conform to the guidelines established in the most recent edition of the American Standard for Nursery Stock.
6. Provide clean backfill soil, using material stockpiled on site. Soil shall be screened and free of any debris, foreign material, and stone.
7. "Agriform" tabs or similar slow-release fertilizer shall be added to the planting pits before being backfilled.
8. Amended planting mix shall consist of 1/3 screened topsoil, 1/3 sand and 1/3 peat, mixed well and spread to the depth as indicated in planting details.
9. All plantings shall be mulched per planting details located on this sheet.
10. The Landscape Contractor shall be responsible for all work shown on the landscape drawings and specifications.
11. No substitutions or changes of location, or plant types shall be made without the approval of the Landscape Architect.
12. The Landscape Architect shall be notified in writing of any discrepancies between the plans and field conditions prior to installation.
13. The Landscape Contractor shall be responsible for maintaining all plant material in a vertical condition throughout the guaranteed period.
14. The Landscape Architect shall have the right, at any stage of the installation, to reject any work or material that does not meet the requirements of the plans and specifications, if requested by owner.
15. Contractor shall be responsible for checking plant quantities to ensure quantities on drawings and plant list are the same. In the event of a discrepancy, the quantities on the plans shall prevail.
16. The Landscape Contractor shall seed and mulch or sod (as indicated on plans) all areas disturbed during construction, throughout the contract limits.
17. A pre-emergent weed control agent, "Preen" or equal, shall be applied uniformly on top of all mulching in all planting beds.
18. All landscape areas shall be provided with an underground automatic sprinkler system.
19. Sod shall be two year old "Baron/Cheriadelphi" Kentucky Blue Grass grown in a sod nursery on loam soil.



PERENNIAL PLANTING DETAIL

Not to scale

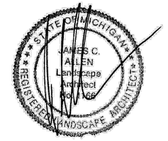


TREE STAKING DETAIL

Not to scale

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Seal:



Title:

Landscape Details

Project:

Creekside
Ypsilanti Township, Michigan

Prepared for:

SE Michigan Land Holdings LLC
13001 23 Mile Road, Suite 200
Shelby Township, Michigan 48315

Revision:	Issued:
Submission	October 10, 2024

Job Number:

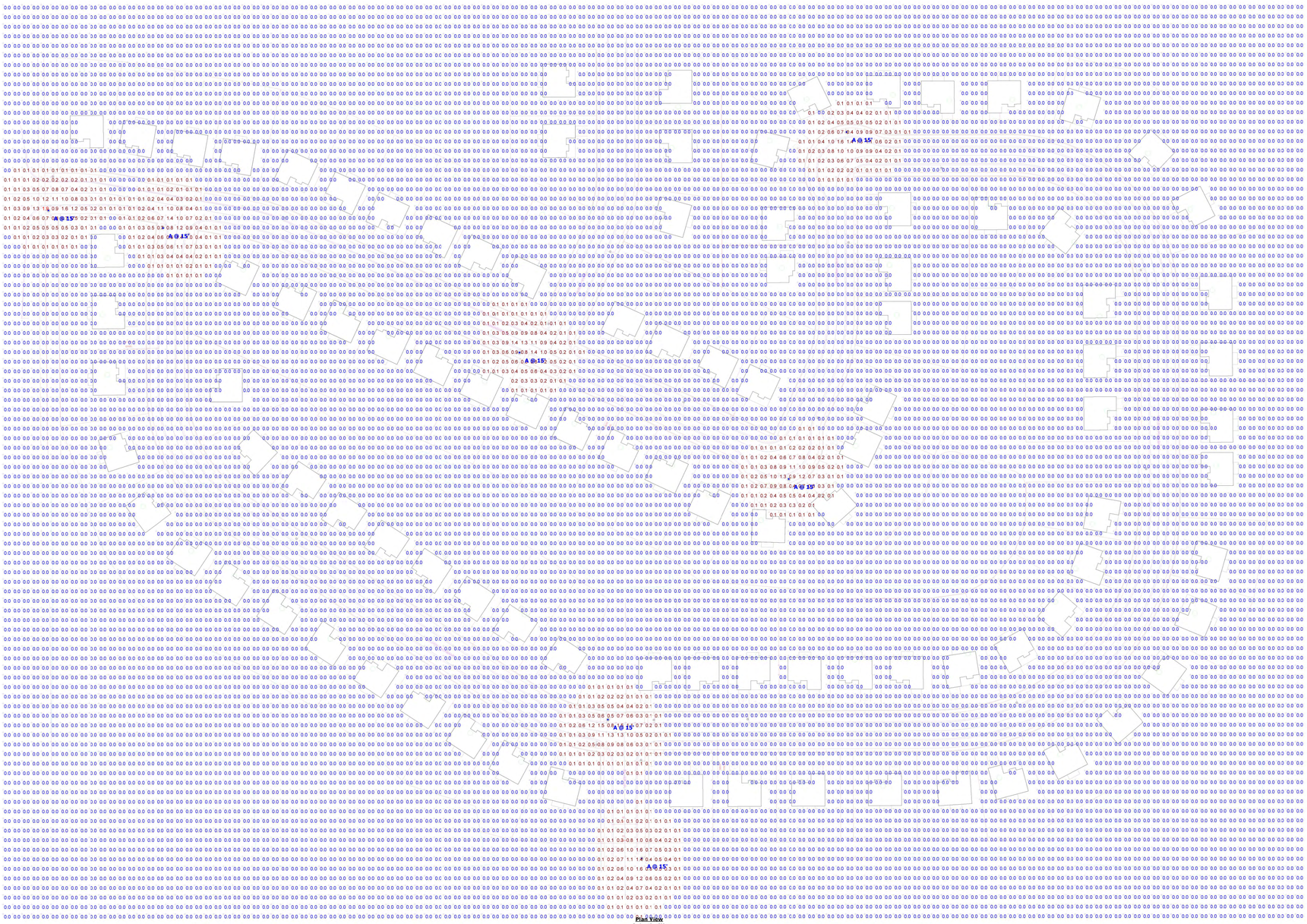
21-031

Drawn By:	Checked By:
jca	jca

Know what's below. Call before you dig.

Sheet No.

L-5



Plan View
Scale - 1" = 60ft



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Overall	+	0.0 fc	1.9 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Description	Lamp Output	LLF	Input Power	Mounting Height
□	A	7	Holophane	GPD3 P40 40K XXXX GL3	Granville Premier Gen3, P40 Performance Package, 4000K CCT, Type 3 distribution	11703	0.9	77	15'

General Note

1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
3. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIRMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT CONTROLS@GASSERBUSH.COM OR 734-266-6705.

Alternates Note
THE USE OF FIXTURE ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

Ordering Note
FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

Drawing Note
THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

Mounting Height Note
MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

CREEKSIDE VILLAGE NORTH
PHOTOMETRIC LAYOUT
GASSER BUSH ASSOCIATES
WWW.GASSERBUSH.COM

Designer
KS
Date
10/09/2024
Scale
Not to Scale
Drawing No.
#24-34766_V1

Planning Department Report

Project Name:	U-HAUL / U-BOX Warehouse
Location:	2251 / 2269 Parkwood Avenue, Ypsilanti, MI 48198
Date:	August 19, 2025

- [x] Full Preliminary Site Plan Review # 3
- [ ] Sketch Preliminary Site Plan Review #
- [ ] Administrative Preliminary Site Plan Review #
- [ ] Detailed Engineering/Final Site Plan Review #
- [ ] Special Use Permit
- [ ] Public Hearing
- [ ] Rezoning
- [ ] Tentative Preliminary Plat
- [ ] Final Preliminary Plat
- [ ] Final Plat Process
- [ ] Planned Development Stage I
- [ ] Planned Development Stage II

Contact / Reviewer	Consultants, Departments, & Agencies	Approved	Approved with Conditions	Denied	N/A	See email/letter attached or comments below
Planning Department	Township Planning Department	☐	☐	☐	☐	See comments below
Carlisle/Wortman Associates	Planning Consultant	☐	☑	☐	☐	See letter dated 8-19-2025
OHM / Stantec	Engineering Consultant	☐	☑	☐	☐	See letter dated 7-21-2025
Steven Wallgren, Fire Marshal	Township Fire Department	☐	☑	☐	☐	See letter dated 7-31-2024
Dave Bellers, Building Official	Township Building Department	☐	☐	☐	☑	
Brian McCleery, Deputy Assessor	Township Assessing Department	☐	☐	☐	☑	
Scott Westover, Engineering Manager	Ypsilanti Community Utilities Authority	☐	☑	☐	☐	See letter dated 7-31-20205
Gary Streight, Project Manager	Washtenaw County Road Commission	☐	☑	☐	☐	See email dated 7-28-2025
Theresa Marsik, Stormwater Engineer	Washtenaw County Water Resources Commission	☐	☐	☐	☐	See letter dated 3-31-2025
Jonathon Pelukas	Washtenaw County Health Department	☐	☐	☐	☐	See email dated 10-07-2024

Planning Department Recommended Action:

At this time, the Preliminary Site Plan drawings have been revised, and are ready for Planning Commission review, based on the attached letters.

Please continue to coordinate with the Washtenaw County Road Commission, Washtenaw County Water Resources Commission, and the Washtenaw County Health Department as their review and approval are required for this project.

Please do not hesitate to contact the Planning Department with any questions you may have.

Carlisle | Wortman
ASSOCIATES, INC.
117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Date: October 18, 2024
Rev.: March 29, 2025
Rev.: August 19, 2025

Preliminary Site Plan Review
For
Ypsilanti Township, Michigan

Applicant:	Mackenzy Shega-Fox (Representing Kimley-Horn)
Project Name:	U-Haul Ypsilanti – U-Box Container Storage
Plan Date:	June 13, 2024
Latest Revision Date:	July 3, 2025
Location:	2225, 2251 and 2269 Parkwood (3 parcels) (K-11-11-100-003, K-11-11-100-017, K-11-11-100-016)
Zoning:	L-M, Logistics and Manufacturing
Action Requested:	Preliminary Site Plan Approval

PROJECT AND SITE DESCRIPTION

The applicant is proposing to build a 24,000 square foot warehouse building, and associated pavement, to store up to 1,400 "U-Box" portable storage and moving containers (assuming filled and empty) on two parcels, and coordinate with an existing U-Haul Self-Storage facility adjacent to the west property line (third parcel). The property is accessed by two driveways off Parkwood Avenue. This new site will *not* be accessible by the public; only U-Haul employees will have access to the site.

Portable storage and moving containers are used to assist customers in moving to a new home or location. The portable container is dropped off on a customer's driveway, and the customer fills the container with their possessions. U-Haul picks up and stores the filled container in the U-Haul warehouse until it is delivered to the customer's new location.

An aerial of the proposed site is shown on the next page, along with an image of a portable storage and moving container.

Benjamin R. Carlisle, *President* John L. Enos, *Vice President*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* Craig Strong, *Principal* Douglas J. Lewan, *Principal*
Richard K. Carlisle, *Past President/Senior Principal* R. Donald Wortman, *Past Principal*

Figure 1: Subject Site



Source: Nearmap (Image captured June 12, 2024)
ACM = American Center for Mobility

Figure 2: Portable Storage and Moving Container



Source: uhaul.com

Size of Subject Site:
- Existing U-Haul property: 3 acres (1,050 office/10,033 s.f. self-storage warehouse)
- Vacant Parcel 1 (2251 Parkwood): 2.67 acres
- Vacant Parcel 2 (2269 Parkwood): 2.5 acres

Current Use of Subject Site(s):
Self-Storage facility and Vacant

Proposed Use of Subject Site:
Warehouse and indoor storage of filled U-Box containers. These are permitted uses on the subject site. (Also note that the existing self-storage facility is also a permitted use in this district.)

Table 1: Adjacent Zoning and Existing Land Uses

Direction	Zoning	Use
North	L-M, Logistics and Manufacturing	Caflor Industries
South	US-12 ROW and I-C, Industrial and Commercial	American Center for Mobility
East	US-12 ROW and I-C, Industrial and Commercial	American Center for Mobility
West	L-M, Logistics and Manufacturing	U-Haul Self Storage and Light Industrial Park

Because the project is proposing to use the two easterly properties for the U-Box storage, these parcels should be combined. This is also a requirement of the Washtenaw County Health Department to construct a new septic system on this site to serve the new building. We recommend the Planning Commission condition any approval on the two easterly parcels being combined.

Items to be Addressed: *1) Recommend Planning Commission to condition any approval on the two easterly parcels being combined.*

MASTER PLAN

The site is designated as "Innovation and Employment District" in the Master Plan. The Innovation and Employment District is intended to be the major employment area of the Township. The area is targeted for companies that are at the cutting edge of innovation with a combination of technology, office, craft manufacturing or light industrial uses. Warehouses are a contemplated use for this district.

Design concepts included the Master Plan that apply to this site include:
- *Durable metal, glass, masonry and other materials should be used to promote the scientific image of emerging technology.*
- *"Back of house" operations such as trash enclosures and loading docks shall be oriented to back of site, screened, and not visible from the public street.*

We find some of these design considerations are addressed in the site plan and submitted architecture. See the remaining sections of this review for more detail.

We find that the proposed use of the site as warehouse to be consistent with the Master Plan.

NATURAL FEATURES

Topography:

The site to be developed is relatively flat, with no significant topography evident. Two ponds (in a drainage easement) exist on this parcel to the northwest. In our previous review, we asked if this easement (and existing ponds) serves the self-storage property to the west, as well as this project. Sheet C4.3, *Drainage Area Map*, shows that the existing ponds serve both the self-storage property and the subject site.

Woodlands:

Sec. 1403, *Preservation of Environmental Quality*, requires certain information if natural features exist on a site. The submission includes a tree survey showing the location of existing trees on site and whether they are to remain or be removed (Sheet T1.0, *Tree Survey Impact Plan*), and a table providing the species, size and condition of each (Sheet T1.1, *Tree Inventory*) as required. The proposal removes 119 trees 8-inch Diameter at Breast Height (DBH) or larger.

Chapter 24, Article III, *Woodlands Protection*, subsection 24-67 states that removals shall be limited when necessary for the location of a structure or site improvements, and when no feasible alternative location for the structure or improvements can be achieved without causing undue hardship. The ordinance exempts tree removal in areas above from the tree replacement requirements. In our previous review, we asked the applicant to consider reducing the amount of pavement near the basin to preserve trees in this area. The following trees are now slated for preservation, which we consider positive:

- #3447 – 11” Cottonwood
- #3448 – 10” Cottonwood
- #3450 – 8” Cottonwood
- #3451 – 8” Cottonwood
- #3452 – 8” Cottonwood
- #3453 – 9” Cottonwood
- #3454 – 9” Cottonwood
- #3455 – 9” Cottonwood

Also as required, the plans identify a Tree Protection Fence around trees to remain, which will protect them during construction. The Tree Survey Impact Plan (Sheet T1.0) shows the adjusted location of the Tree Protection Fence, which follows the new pavement edge on the west side of the site at the dripline of vegetation/trees to remain. This symbol for the Tree Protection Fence needs to be changed on the *Site Plan* and *Grading Plan*, to be consistent with the *Tree Survey Impact Plan*. A Tree Protection Fence detail is provided on Sheet C6.1, *Construction Details*. Lastly, a note prohibiting parking or storing construction equipment and materials within the dripline of trees to remain has also been added to the notes on the *Site Plan* and *Grading Plan*, as requested.

Wetlands:

The submission includes a wetland delineation report, dated September 26, 2023. It identifies the small pond on the west side of the site as a

0.10-acre scrub-shrub wetland. However, it is the wetland scientist's opinion that this wetland is likely *not* regulated by EGLE. However, they recommend that EGLE verifies this opinion before any work in this pond is conducted. This smaller pond functions as the forebay to the larger pond. Note that the Township Engineer's latest review letter (dated July 21, 2025) states that an EGLE permit will be required for stormwater discharge into the wetlands.

Sec. 1405, *Protection of Water Quality and Quantity*, has specific standards for discharge into a wetland, prohibiting modification of existing water levels or flows, and direct discharge of untreated stormwater into a wetland. The project shows construction of a second forebay (on its easterly bank) where stormwater from this project will enter the larger pond. We defer evaluation of the stormwater system to the Township Engineer during Final Site Plan review.

Items to be Addressed: *1) Adjust location of Tree Protection Fencing on the Site Plan and Grading plan to new edge of proposed pavement on the west side of the site at the dripline of vegetation/trees to remain, to be consistent with the Tree Protection Fencing on the Tree Survey Impact Plan. 2) Defer evaluation of stormwater system to the Township Engineer during Final Site Plan review.*

AREA, WIDTH, HEIGHT, SETBACKS

Table 2. Bulk Requirements

	Required / Allowed	Provided	Complies with Ordinance
Min. Lot Size	None	5.17 acres (vacant)	--
Min. Lot Width	None	Approx. 705 feet	--
Min. Setbacks			
Front (Parkwood)	40 feet	137 feet	Complies
Side Setback – East Property Lines	40 feet	77 feet and 143 feet	Complies
Rear Setback – West Property Line	50 feet	107 feet	Complies
Max. Lot Coverage	None	11.5% (225,205 s.f. / 26,000 s.f.)	--
Max. Building Height (Feet)	50 feet	38.75 feet	Complies
Storage Location	All storage shall be in the rear yard and completely screened from public streets.	No outdoor storage proposed	Complies

Items to be Addressed: *None.*

PARKING, LOADING

Using the figures on the Site Plan, the table below compares the required number of parking spaces, and the number of spaces provided on the plans.

Table 3. Number of Parking Spaces

Parking Requirements	Number of Spaces Required	Number of Spaces Provided	Complies with Ordinance
Warehouse	5 spaces plus one (1) for every one (1) employee in the largest working shift, OR 5 spaces plus one (1) for every 1,700 s.f. of usable floor area, whichever is greater (5 spaces + 3 employees during largest shift) = **8 spaces** OR 5 + (24,120 / 1,700) = **19 spaces**	6 spaces	**(See Below)**
Barrier-Free Spaces	1 space	1 space	Complies
Bicycle parking	2 spaces	None	Complies
Loading spaces	No numerical requirement	2-3 spaces	Complies

Number of Spaces
The ordinace requires 19 parking spaces for this use. However, the ordinance also allows the Planning Commission to defer some of the parking, provided the site plan designates portions of the site for future construction of the required parking spaces. The Site Plan identifies six (6) parking spaces on the south side of the building; and also locates 13 "future" parking spaces along this same building façade. Since this operation is accessible only to U-Haul employees (and not customers), we would recommend that the Planning Commission consider this alternative.

Loading Spaces
The plans show a loading/unloading area 41-feet-wide and 55-feet-in-length on the northeast side of the building, which is labeled a "truck dock." The applicant's previous response memo states that they expect to receive approximately 3-4 deliveries per day during the busiest shift.

Items to be Addressed: *1) Planning Commission to consider deferring 13 required parking spaces as shown on the Site Plan.*

SITE ACCESS, CIRCULATION, TRAFFIC

The site is adjacent to Parkwood Ave. The plans show two (2) new 40-foot-wide driveways into the site from this road. Sec. 1203, *Access Management and Driveway Standards*, states that the number of access points shall be limited to the minimum needed to provide reasonable access. In our previous review, we asked the applicant to explain the need for two driveways. The previous response memo states that both are needed to allow traffic to flow safely through the site and provide a designated entrance and exit for the U-Haul truck and employee vehicle traffic.

We also observed in our previous review that the previous site plan showed an extensive amount of pavement. Compared to the original set of plans, this most recent set has reduced the amount of pavement slightly over one-half-acre (or 25,700 s.f.) of pavement, which is a positive change.

As requested, the type and size of vehicles entering and exiting the site for the proposed use has been provided on Sheet C2.1, *Truck Turn Plan*. This sheet also shows how the U-Haul trucks and the Township fire trucks would circulate on the site.

Sec. 1204, *Traffic Impact Analysis*, states that the Zoning Administrator may require a traffic impact analysis to analyze the effect of development upon existing street traffic. As requested, the applicant's previous response memo states that the site will be receiving 3-4 deliveries per day. With this information, and the fact that only 3 employees at the largest shift will be on-site at one time, a traffic impact analysis is not warranted.

Items to be Addressed: *None.*

LANDSCAPING

A Landscape Plan has been provided. Revisions have been made in response to our previous reviews, bringing the plans into compliance with the ordinance. The following table compares the proposal to the ordinance requirements:

Table 4. Landscaping Requirements

	Required	Provided	Complies with Ordinance
General Landscaping – Mix of Evergreen/Deciduous at: • 1 tree per 1,000 s.f. lawn • 1 shrub per 500 s.f. lawn	25,623 s.f. of lawn / 1,000 s.f. = **26 trees** AND 25,623 s.f. of lawn / 500 s.f. = **51 shrubs**	64 trees and 51 shrubs	Complies

	Required	Provided	Complies with Ordinance
Street Yard Landscaping - • 1 large dec. tree per 40 l.f. of frontage • 1 orn. tree per 100 l.f. of frontage • 1 shrub per 10 l.f. of frontage • 3' tall berm/hedge along street	724 l.f. / 40 l.f. = **18 lg. trees** 724 l.f. / 100 l.f. = **7 orn. trees** 724 l.f. / 10 l.f. = **72 shrubs** 3' tall berm/hedge along street	18 lg. dec trees; 7 orn. trees; 73 shrubs Hedge along street	Complies
Parking Lot - • Interior: 1 large dec. tree per 2,000 s.f. of paved driveway & parking lot. • Perimeter: 1 tree per 40 l.f. of perimeter	Interior: 64,085 s.f. / 2,000 s.f. = **32 trees** AND Perimeter: 925 l.f. / 40 = **23 trees**	Interior: 34 existing trees to remain Perimeter: 23 trees	Complies
Stormwater Basin* - • 1 tree and 5 shrubs per 50 l.f. pond perimeter	725 l.f. / 50 = **15 trees** AND 15 trees x 10 **= 150 shrubs**	15 trees and 150 shrubs	Complies

Stormwater Basin
Sheet 4.0, *Grading and Drainage Plan*, has contradicting notes; One note says: "Existing basin (To be modified)", and the other note says: "Existing basin as forebay (not modified)." The latest response memo (dated July 3, 2025) explains that the small existing pond will not be modified. The first note needs to be removed from Sheet 4.0, *Grading and Drainage Plan*.

Proposed Plant Material
The proposed species are either Michigan natives, cultivars of natives, or are not harmful species. We consider this a positive aspect of this plan. Proposed plant sizes meet ordinance requirements. Also, as requested, the proposed seed mix that will stabilize the stormwater basin slopes has been added to the Landscape Plan.

Trash and Recycling Containers
Sec. 1302, *Trash and Recycling Receptacles*, requires that all non-residential uses shall provide trash and recycling enclosures. The applicant's response memo states that trash will be stored inside the building, and a note (Note #7) has been added to the Site Plan stating this. This ordinance section does not give the Planning Commission the ability to waive or modify a trash receptacle enclosure requirement.

Items to be Addressed: *1) Remove note from Sheet 4.0, Grading and Drainage Plan, stating that the stormwater basin forebay will be modified. 2) Planning Commission to consider waiving the requirement for an outdoor trash enclosure, since trash will be stored inside the building.*

LIGHTING

Lighting information has been provided. The plan shows seven (7) building-mounted fixtures, and nine (9) pole-mounted fixtures. Sheet ES.1, *Electrical Site Plan*, provides the names of the fixtures, but does not provide any manufacturer specifications. Manufacturer specifications for each proposed light fixture should be provided to confirm they are downward-facing and shielded.

We have a question about the location of two (2) pole-mounted fixtures on the west side of the paved area. The poles are not located at the new edge of the pavement, but in the preserved, wooded area that will not be disturbed. We assume this was an oversight, and the poles will be moved to the new edge of pavement. The applicant should address this.

Regarding the proposed light levels, the ordinance allows up to 1.0 footcandle at the property lines with non-residential uses, and 20 footcandles anywhere on the site. The photometric plan (Sheet ES.2) does not indicate the light levels at the property lines. It is unlikely that this layout will meet ordinance requirements (i.e., result in a 1.0 footcandle reading at the northeast property line) since a 6.0 footcandle reading is indicated only 15 feet away. The photometric plan needs to be revised to meet the maximum footcandle readings at all the property lines in the vicinity of the fixtures.

The height of the pole-mounted fixtures is proposed at 22-feet-tall. The ordinance allows up to 25 feet. The proposal meets this standard.

The ordinance also has a light color standard of 3500 Kelvin. The fixture details show that they will produce a color temperature of 5000K; the color temperature of the fixtures needs to be brought down to 3500K to meet this requirement.

Lastly, the ordinance requires all outdoor lighting to be reduced to at least 50% full illumination one hour after closing. The plans should specify that the proposed fixtures are dimmable.

To keep the project moving forward, the Planning Commission could consider conditioning any Preliminary Site Plan approval on providing revised lighting information at Final Site Plan review.

Items to be Addressed: *1) Provide manufacturer cut sheets of each light fixture to allow confirmation that the fixtures are downward-facing and able to accept a shield. 2) Applicant to address two pole-mounted light fixtures that are not located at the new edge of pavement on the west side of the site. 3) Revise photometric plan to show the proposal meets the maximum footcandle readings at all property lines in the vicinity of the fixtures. 4) Adjust color temperature of all fixtures so they meet the 3500 Kelvin requirement. 5) Plans to specify all light fixtures are dimmable. 6) Planning Commission to consider conditioning any Preliminary Site Plan approval on the applicant providing revised lighting information at Final Site Plan review.*

ELEVATIONS AND FLOOR PLANS

Floor plans were provided with the initial submittal, and rendered elevations have been provided with the revised submittal.

Elevations:
As described above, the Master Plan designates these properties as "Innovation and Employment District," which is intended to be the major employment area of the township. The area is targeted for companies that are at the cutting edge of innovation with a combination of technology, office, craft manufacturing or light industrial uses. The desired design concepts call for: "*Durable metal, glass, masonry and other materials to promote the scientific image of emerging technology."* While this warehouse use is not involved in emerging technologies, the façade design should still be consistent with the vision for this district, as this use of this building may change to a different use in the future.

To assist the Planning Commission in understanding what this building will look like, the applicant has supplied rendered elevations. Sheet A1.0, *U-Haul Renderings*, provides these illustrations as well as additional information about the proposed siding materials and architectural detail. Most of the exterior is clad with stucco-like insulated metal panels. A faux wood accent area is proposed on the street-facing façade and wraps around the southwest corner of the building. The northeast end of the building uses the same stucco-like panels. Faux storage doors line the base of the street-side façade. "Architectural Details" are also identified on the street-facing side of the building. We would ask if the faux overhead doors on the east elevation contribute to the desired image.

Floor Plan:
The floor plan shows a large open area in which to store the filled storage containers. It also shows a small bump-out at the southeast corner that contains the riser room, and an accessible rest room. The applicant's response memo states that there will not be any office space in the warehouse.

Items to be Addressed: *1) Planning Commission to evaluate the proposed design to determine if it is consistent with the desired image for this part of the Township.*

RECOMMENDATIONS

The proposed use is in line with the Master Plan and zoning district. The site design has been revised substantially to be in better conformance with the ordinance requirements. Our review summarizes several points that the Planning Commission may wish to discuss with the applicant, and consider the flexibility allowed the Commissioners by the ordinance. If the Commissioners resolve these issues, we recommend Preliminary Site Plan approval, conditioned upon the results of this discussion and addressing the outstanding site plan issues listed below in the Final Site Plan stage.

Planning Commission Discussion Points
1) *Recommend Planning Commission to condition any approval on the two easterly parcels being combined.*
2) *Parking and Loading. Planning Commission to consider deferring 13 additional required parking spaces; if so, deferred spaces shall be shown on the Site Plan.*
3) *Dumpster Screen. Planning Commission to consider waiving the requirement for an outdoor trash enclosure, since trash will be stored inside the building.*
4) *Building Elevations. Planning Commission to evaluate the proposed building design to determine if it is consistent with the desired image for this part of the Township.*
5) *Lighting. Planning Commission to consider conditioning any Preliminary Site Plan approval on the applicant providing revised lighting information at Final Site Plan review.*

Remaining Site Plan Issues:

Natural Features

1) *Adjust location of Tree Protection Fencing on the Site Plan and Grading plan to new edge of proposed pavement on the west side of the site at the dripline of vegetation/trees to remain, to be consistent with the Tree Protection Fencing on the Tree Survey Impact Plan.*
2) *Defer evaluation of stormwater system to the Township Engineer during Final Site Plan review.*

Landscaping

1) *Remove note from Sheet 4.0, Grading and Drainage Plan, stating that the stormwater basin forebay will be modified.*

Lighting

1) *Provide manufacturer cut sheets of each light fixture to allow confirmation that the fixtures are downward-facing and able to accept a shield.*
2) *Applicant to address two pole-mounted light fixtures that are not located at the new edge of pavement on the west side of the site.*
3) *Revise photometric plan to show the proposal meets the maximum footcandle readings at all property lines in the vicinity of the fixtures.*
4) *Adjust color temperature of all fixtures so they meet the 3500 Kelvin requirement.*
5) *Plans to specify all light fixtures are dimmable.*

Benjamin R. Carlisle

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

Sally M. Elmiger

CARLISLE/WORTMAN ASSOC., INC.
Sally M. Elmiger, AICP, LEED AP
Principal

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

Trustees
John Newman II
Gloria Peterson
Karen Lovejoy Roe
LaResha Thornton

SUGGESTED MOTIONS:

Preliminary Site Plan:

Motion to Postpone:
"I move to postpone the Preliminary Site Plan, submitted by Kimley Horn of Michigan, Inc. (Representatives of U-Haul) to permit construction of a 24,000 s.f. U-Box storage building on two parcels totaling 5.17-acres that are zoned L-M, Logistics and Manufacturing, located at 2251 and 2269 Parkwood Ave., Ypsilanti, MI 48197, Parcels K-11-11-100-017 and K-11-11-100-016, to give the applicant time to address the comments made at this evening's meeting and resubmit, and/or provide additional information, as discussed tonight."

Motion to Approve:
"I move to approve the Preliminary Site Plan, submitted by Kimley Horn of Michigan, Inc. (Representatives of U-Haul) to permit construction of a 24,000 s.f. U-Box storage building on two parcels totaling 5.17-acres that are zoned L-M, Logistics and Manufacturing, located at 2251 and 2269 Parkwood Ave., Ypsilanti, MI 48197, Parcels K-11-11-100-017 and K-11-11-100-016, with the following conditions:

1. The applicant shall address all outstanding comments from reviewing agencies during Final Site Plan review. The applicant shall revise all plan sheets to reflect the results of this evening's discussion.
2. The applicant shall obtain all applicable internal and outside agency permits prior to construction.
3. The applicant shall combine the two parcels during the Final Site Plan stage of plan review.
4. The applicant shall provide revised lighting information as outlined in the Carlise/Wortman memo of August 19, 2025, during the Final Site Plan stage.
5. The Planning Commission approves deferring 13 parking spaces, as shown on the Preliminary Site plan.
6. The Planning Commission waives the requirement for an outdoor dumpster and screen, as trash is stored inside the building.
7. The Planning Commission considers the proposed architecture to be consistent with the desired image for this part of the Township.
8. *(Any other conditions based upon Planning Commission discussion.)*

Motion to Deny:
"I move to deny the Preliminary Site Plan, submitted by Kimley Horn of Michigan, Inc. (Representatives of U-Haul) to permit construction of a 24,000 s.f. U-Box storage building on two parcels totaling 5.17-acres that are zoned L-M, Logistics and Manufacturing,

Township Supervisor
Brenda L. Stumbo
Township Clerk
Debbie Swanson
Township Treasurer
Stan Eldridge

Trustees
John Newman II
Gloria Peterson
Karen Lovejoy Roe
LaResha Thornton

located at 2251 and 2269 Parkwood Ave., Ypsilanti, MI 48197, Parcels K-11-11-100-017 and K-11-11-100-016, due to the following reasons:"

1._____

2._____

3._____

July 21, 2025

Mr. Mark Yandrick
Township Planning Director
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, MI 48197

RE: U-Box Warehouse (2251 and 2269 Parkwood Ave)
Preliminary Site Plan Review #3

Dear Mr. Yandrick:

We have completed the third preliminary site plan review of the plans dated June 13, 2024, with a latest revision date of July 3, 2025, and received by OHM Advisors on July 18, 2025.

At this time, the plans are recommended for consideration by the Township Planning Commission. Preliminary detailed engineering comments have been provided to the applicant as a courtesy and shall be addressed prior to submitting detailed engineering plans for review.

A brief description of the project has been provided below, followed by our comments and a list of anticipated required permits and approvals. Comments in Section C are detailed in nature, do not influence the overall site layout, and can be addressed during the detailed engineering drawing submittal.

A. PROJECT AND SITE DESCRIPTION

The applicant is proposing a 24,000 square-foot warehouse on an approximately 8.18-acre property that will be operated by U-Haul and will only be accessible by their employees. The site is currently proposed to be serviced by connection to the existing water main along both the western and southeastern property lines and by a new on-site septic drain field. Stormwater runoff will be managed by sheet flowing to an existing detention basin that will be modified to accommodate the proposed changes to the site.

B. SITE PLAN COMMENTS

SITE LAYOUT

1. This office defers to the Township Planning Department and/or the Planning Consultant on the requirement(s) of an external dumpster enclosure.

C. PRELIMINARY DETAILED ENGINEERING COMMENTS

The following comments shall be addressed by the applicant during the detailed engineering drawing submittal, and do not affect the recommendation for approval to the Township of Ypsilanti Planning Commission. It should be noted that this is not an all-inclusive list and additional comments may be generated as new information is presented.

1. The applicant noted that the Drainage Calculations (Sheet C4.1) have been revised; however, there still appear to be discrepancies. The applicant shall address the following:
    a. Verify the total required detention volume, including penalty, in Sheet 13 as there appears to be a math error in the calculation.

OHM Advisors
34000 PLYMOUTH ROAD
LIVONIA, MICHIGAN 48150
T 734.522.6711
F 734.522.6427
OHM-Advisors.com

b. Review and revise the H values within the outflow structure calculations as they appear to be incorrect.
c. Note that all detention outlet calculations will be reviewed again in the next submittal and additional comments may arise.

D. REQUIRED PERMITS & APPROVALS

The following outside agency reviews and permits will be required for the project. Copies of any correspondence between the applicant and the review agencies, as well as the permit or waiver, shall be sent to both the Township and OHM Advisors (email: stacie.monte@ohm-advisors.com).

- **Ypsilanti Community Utilities Authority (YCUA):** Review and approval of all water main improvements is required.
- **Ypsilanti Township Fire Department:** Review and approval is required.
- **Washtenaw County Water Resources Commissioner's Office (WCWRC):** Review and approval is required. A drain-use permit may be required.
- **Washtenaw County Road Commission (WCRC):** Review and approval is required.
- **Michigan Department of Environment, Great Lakes & Energy (EGLE):** An EGLE Act 399 permit will be required for construction of all public water main improvements.
- **Michigan Department of Environment, Great Lakes & Energy (EGLE):** An EGLE permit will be required for any work and/or stormwater discharge into the wetlands.
- **Ypsilanti Township Office of Community Standards:** A Soil Erosion and Sedimentation Control permit shall be secured from the Ypsilanti Township Office of Community Standards.
- **Washtenaw County Health Department:** Review and approval of the proposed drain field is required.

Should you have any questions regarding this matter, please contact this office at (734) 466-4580.

Sincerely,
OHM Advisors

Stacie L. Monte

Stacie L. Monte

Matthew D. Parks, P.E.

SLM/MDP

cc: Lauren Doppke, Township Staff Planner
Doug Winters, Township Attorney
Sally Elmiger, CWA, Township Planning Consultant
Steven Wallgren, Township Fire Marshall
Scott Westover, P.E., YCUA
File

P:\0000_0100\SITE_YpsilantiTwp\2023\0098231060_2251-2269 Parkwood Ave_U-Box Warehouse\MUNI\01_SITE\PSP#3\U-Box Warehouse_PSP#3_2025-07-21.docx

Dedicated to Providing Top Quality, Cost Effective, and
Environmentally Safe Water and Wastewater Services to Our Customers

YPSILANTI COMMUNITY UTILITIES AUTHORITY

2777 STATE ROAD
YPSILANTI, MICHIGAN 48198-9112
TELEPHONE: 734-484-4600
WEBSITE: www.ycua.org

July 31, 2025

VIA ELECTRONIC MAIL

Mr. Mark Yandrick, Planning Director
Office of Community Standards
CHARTER TOWNSHIP OF YPSILANTI
7200 S. Huron River Drive
Ypsilanti, MI 48197

Re: Preliminary (non-residential) Site Plan Review #3
Ubox
Charter Township of Ypsilanti (Plan Date: 07-03-2025)

Dear Mr. Yandrick:

In response to the electronic mail message from your office dated July 18, 2025, we have reviewed the referenced plans with regards to water supply and wastewater system design. The plans are acceptable to YCUA for this stage of review. However, the following comments need to be addressed by the Applicant and/or the Applicant's design engineer prior to Detailed Engineering plans being deemed acceptable to YCUA.

1. Utility notes related to water supply system items shall be deleted as they may contradict the YCUA Engineering Standards and Design Specifications, such as the note referring to AWWA C900 sanitary sewer pipe.
2. The proposed water main easement needs to be extended to include all piping and appurtenances between the currently depicted water main easement and proposed hydrant W5.
3. It is felt that proposed hydrant W5 could be located closer to the proposed water main shown in the currently depicted easement such that it could satisfy the maximum length of 40' for 6" diameter fire hydrant service pipe.
4. Both the isolation valve on the proposed fire suppression water service and the curb stop and box on the proposed domestic water service shall be located where each respective pipe crosses from the proposed water main easement onto private property.

As noted in the October 21, 2024, letter from this office, connection fees apply to the proposed project. Please note that the total cash price for connection fees, **$35,202.85 plus the construction phase escrow deposit, Authority administration fee, and record plan guarantee**, must be paid to YCUA by the Applicant, with a receipt delivered to the Township, before either the building or soil and grading permit is issued. The construction phase escrow deposit and associated fees and deposits and the entity responsible for maintaining those accounts will be determined during the Detailed Engineering phase of the project in conjunction with your office and the Township Engineer. Should there be any questions please contact this office.

Sincerely,

SDW Digital Signature

SCOTT D. WESTOVER, P.E., Director of Engineering
Ypsilanti Community Utilities Authority

cc: Mr. Luke Blackburn, Mr. Sean Knapp, File, YCUA
Ms. Sally Elmiger, Ms. Lauren Doppke, Township Planning Department
Mr. Steve Wallgren, Township Fire Department
Mr. Matt Parks, P.E., Ms. Stacie Monte, Township Engineer
Mr. Jeff Steffani, Applicant
Mr. Kaleb Sondergrath, P.E., Applicant's design engineer

G:\CDproj\YpsiTwp\2024 - Ubox\PNRSP Rev#3.docx

Outlook

RE: U-Haul / U-Box Preliminary Site Plan Review #3

From Streight, Gary [redacted]
Date Mon 7/28/2025 7:09 AM
To Sally Elmiger [redacted]

Sally,

The main comment I have would be that the driveways need to have tapers on them per our standards.

Gary Streight, P.E.
Senior Project Manager

Washtenaw County Road Commission
555 N. Zeeb Road, Ann Arbor, Michigan

Direct: (734) 327-6692 | Main: (734) 761-1500
wcroads.org | Follow us on Facebook

From: Sally Elmiger [redacted]
Sent: Friday, July 18, 2025 9:42 AM
[redacted]
Subject: U-Haul / U-Box Preliminary Site Plan Review #3

Good morning, everyone,

Please use this email as a formal transmittal for the review of the **U-Haul Ypsilanti - U-Box Container Storage / Preliminary Site Plan Review #3, located at 2251 & 2269 Parkwood, Ypsilanti, MI 48197, Parcel K-11-11-100-017 and Parcel K-11-11-**

100-016. This project proposes to construct a 24,000 s.f. warehouse building to store up to 1,400 "U-Box" portable storage and moving containers on a 5-acre site.

The revised plans and response letters can be accessed by the link below. The Planning Department kindly requests that you submit all your review comments back to us by **Friday, August 1, 2025.** Please do not hesitate to contact the Planning Department if you have any questions.

[redacted]

Note that the survey sheets (first two sheets after the Cover Sheet) in this plan set seem to have an error...however, these sheets were included in the previous two sets that you received. If you have any issues with the files, please let me know.

Thank you,
Sally Elmiger
Ypsilanti Township Planning Consultant
Carlisle/Wortman Associates, Inc.

CAUTION - External Sender: This email was received from an external sender. Please be careful clicking links or opening attachments. When in doubt, contact WCRC IT.

GRETCHEN DRISKELL

Water Resources Commissioner
705 N Zeeb Road
Ann Arbor, MI 48103
734-222-6860

Drains@washtenaw.org

Harry Sheehan
Chief Deputy Water Resources Commissioner

Scott Miller P.E.
Deputy Water Resources Commissioner

Theo Eggermont
Public Works Director

March 31, 2025

Mr. Tyler Smith, P.E.
Kimley-Horn of Michigan, Inc.
3000 Town Center, Suite 2600
Southfield, Michigan 48075

RE: U-Haul - Ypsilanti
Ypsilanti Township, Michigan
WCWRC Project No. 10400

Dear Mr. Smith:

This office has reviewed the site plans for the above-referenced project to be located in Ypsilanti Township. These plans have a job number of 168737004, a date of March 5, 2025, and were received on March 18, 2025. As a result of our review, we would like to offer the following comments:

1. With your next submittal, include a letter indicating your response to the comments in this review letter.
2. The site is occupied by an existing basin and forebay. The plans must include the following information **(Repeat Comment)**:
    a. The original design calculations for the entire drainage area that is tributary to the existing detention basin.
    b. The detention volume that was actually constructed to verify if there was excess capacity provided (under the previous rules). If insufficient volume was provided, the pre-existing shortfall has to be addressed.
    c. The required detention volume for the proposed construction area as existing based on the previous rules.
    d. The required detention volume for the proposed construction area as designed based on the current rules (including any penalties). This was included on plan sheet C4.1 but should be modified based on the comments included in this letter.
    e. A summary outlining the difference in the pre-construction and post-construction detention volumes for the proposed development area. Any excess capacity from the previously constructed detention basin to the difference can be applied.

   f. If there is not enough pre-existing excess capacity (or an existing shortfall) to accommodate the post-construction detention requirement, create additional detention volume as part of the new design.

3. Based on available site information, portions of the site are covered by hydrologic soil types B, C, and D/B soils. The soil types and the areas that they cover should be presented on the grading plan. The curve numbers and runoff coefficients used on Worksheet W1 should be revised to reflect the both the proposed impervious and pervious areas that are underlain by hydrologic soil groups B, C, and D/B. **Repeat Comment.**
   a. As a reminder for soil groups with a split designation, the first letter is the undrained classification which should be used for the runoff calculations, as noted in Section VIII, Part H of the rules of this office.
4. The curve number used on Worksheet W3 (pre-development bankfull runoff volume) is incorrect. The weighted average calculations used for W3 list incorrect curve numbers for "Meadow, type C soils" and "Meadow, type D soils," and include a pre-development impervious cover area. Pre-development, as it is used on W3, refers to when the area was undeveloped and only covered by either woods or meadow vegetation. **Repeat Comment.**
5. Worksheet W10 was modified to include a 20% penalty for no infiltration. This modification should be deleted and Worksheet W13 should be included in the plans. **Repeat Comment.**
6. The calculation of the total required detention volume including penalty is incorrect on Worksheet W13.
7. There appears to be an error in the storage volume table on plan sheet C4.1. There should be no accumulated or incremental volume at the bottom of basin elevation.
8. The outlet calculations will be reviewed with the next submittal, once the comments of this letter have been adequately addressed.
9. The long-term stormwater maintenance plan shown on plan sheet C4.4 must be revised to identify the responsible party.
   a. The title of plan sheet C4.4 should be modified, as it currently is labeled "Infiltration Borings."
10. A separate task should be added for sediment removal within infiltration BMPs. Sediment removal from infiltration BMPs should occur when ponded water is observed for more than 48 hours within the infiltration BMP. **Repeat Comment.**

11. Please see the attached invoice for the current fees and remit these fees upon receipt. As requested, the invoice is being submitted directly to U-Haul International.

At your convenience, please send us a complete set of revised plans and the additional information requested above so that we may continue our review. If you have any questions, please contact our office.

Sincerely,

Theresa M. Marsik, P.E.
Stormwater Engineer
(permit\U-Haul - Ypsilanti rev2)

cc: Jeff Steffani, U-Haul International
John Ackerman, Kimley-Horn of Michigan, Inc.
Lauren Doppke, Ypsilanti Township Staff Planner
Sally Elmiger, Ypsilanti Township Planning Department (Carlisle Wortman Associates)
Doug Winters, McLain and Winters
Matt Parks, P.E., Ypsilanti Township Engineer (OHM)
Stacie Monte, Ypsilanti Township Engineer (OHM)

Washtenaw County Water Resources
PO Box 8645
Ann Arbor, MI 48107-8645
drains@washtenaw.org 734-222-6860

General Invoice

Customer Copy

CUSTOMER	INVOICE DATE	INVOICE NUMBER	AMOUNT PAID	DUE DATE	INVOICE TOTAL DUE
UHAUL	03/31/2025	15837	$0.00	**04/30/2025**	**$607.50**

DESCRIPTION	QUANTITY	PRICE	UOM	ORIGINAL BILL	ADJUSTED	PAID	AMOUNT DUE
Engineering Review Fees WO 10400 Engineering Review Fees	4.50	$135.000000	EACH	$607.50	$0.00	$0.00	$607.50

Invoice Total:	**$607.50**

WATER RESOURCES
U-HAUL- YPSILANTI
WCWRC PROJECT #10400

DETACH AND RETURN THE PORTION BELOW WITH YOUR PAYMENT

Washtenaw County Water Resources
PO Box 8645
Ann Arbor, MI 48107-8645
drains@washtenaw.org 734-222-6860

General Invoice

Remit Portion

Invoice Date	**03/31/2025**
Invoice Number	**15837**
Customer Number	**10641**
Amount Paid	
Due Date	**04/30/2025**
Invoice Total Due	**$607.50**

Please note your invoice number on your payment.

UHAUL
STEFANI, JEFF
ATTN: KARA SIMMONS/SCOTT BAKER
29600 MICHIGAN AVE
INKSTER, MI 48141

2251 & 2269 Parkwood Avenue - UBOX - Preliminary Site Plan Review #1

non- resid...2.docx non- resid...2.docx

JP

Jonathon Pelukas [redacted]

To: Fletcher Reyher

Mon 10/7/2024 10:08 AM

non- residential app require...
150 KB

Hello

This project will require a soil evaluation to determine the site suitability for an onsite septic system.

Here is the application for conducting a soil evaluation: https://www.washtenaw.org/DocumentCenter/View/4428/Application-for-Non-Residential-Onsite-Well-or-Sewage-Project-PDF The current fee for a soil evaluation is: $619. This provides up to 2 hours of our site time and a letter with our findings. The applicant is responsible for providing a contractor with a machine that can dig the test holes – which must be conducted while we are present. There are additional fees for the plan review and permits for the well and septic systems – assuming we get to that point in the process.
Here is a link to our complete fee schedule: https://www.washtenaw.org/DocumentCenter/View/33079/2024-Environmental-Health-Fee-Schedule-PDF

I have also attached a generic "scope of use" document that needs to be completed. Some of the questions may not be applicable to this project. This will help in determining septic system sizing, the type of well classification and other site-specific requirements. A design professional for the actual septic system design is required.

I looked at the proposed site plan and I am concerned that there is very little space (if any) left for the installation of the onsite septic system and well. It appears that the current design was made with the assumption of municipal water and sewer services.

Jonathan Pelukas, REHS, RS
Senior Sanitarian
Washtenaw County Health Department
Environmental Health Division
P: 734-222-6861 • F: 734-222-3930
705 N Zeeb Road, Ann Arbor, MI 48107

Washtenaw County
Health Department

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Kimley»Horn
of Michigan, Inc.

September 16, 2024

Ypsilanti Township,
Planning and Zoning Department
7200 S. Huron River Drive
Ypsilanti, MI 48197

RE: U-Haul Ypsilanti Site Plan Submittal

To Whom is May Concern,

Please find the following documents attached for the submittal of the SESC Permit Renewal:

- Signed Site Plan Application
- 1 copy of 24"x36" signed and sealed site plans.
- 1 copy of 11"x17" signed and sealed site plans
- USB Drive containing a PDF copy of the signed and sealed site plans
- The site legal description.

The review fee of $6000 will be delivered under separate cover. Please let us know if you have any questions. I can best be reached at 313-548-7456.

Sincerely,
KIMLEY HORN OF MICHIGAN, INC

Mackenzy Shega-Fox

Legal Description

Parcel 1:
Commencing at the Southeast corner of Lot 722 of Devonshire Subdivision No. 4, as recorded in Liber 8 of Plats, Page 23, Washtenaw County Records; said point also being the intersection of the North line of Russell Street with the East line of said Devonshire Subdivision No. 4, Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan; thence North 0 degrees 31 minutes 45 seconds West 1873.23 feet along the East line of said Devonshire Subdivision No. 4 to a point that lies South 0 degrees 31 minutes 45 seconds East 6.14 feet from the Northeast corner of Outlot J of said Devonshire Subdivision No. 4; thence North 77 degrees 11 minutes 45 seconds East 1309.09 feet along the present Southerly line of the New York Central Railroad Right of Way and 6.0 feet South of and parallel with the Southerly line of the original 100.00 foot wide Michigan Central Railroad Right of Way; thence South 1 degree 29 minutes 05 seconds East 286.54 feet along the East line of the West 1/2 of the Southeast 1/4 of Fractional Section 2, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan; thence South 1 degree 32 minutes 17 seconds East 765.74 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11 for a place of beginning; thence continuing South 1 degree 32 minutes 17 seconds East 524.97 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence South 36 degrees 22 minutes West 325.55 feet along the Northwesterly right of way line of U.S. 12 By-Pass and M-17; thence North 1 degree 32 minutes 17 seconds West 781.84 feet parallel with the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence North 88 degrees 27 minutes 43 seconds East 200.00 feet to the place of beginning, being a part of the North 1/2 of said Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan.

THE ABOVE DESCRIBED PARCEL ALSO BEING DESCRIBED AS FOLLOWS:
Commencing at the Northeast corner of Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan; thence South 88 degrees 57 minutes 08 seconds West 1320.85 feet along the North line of said Section 11, thence South 1 degree 32 minutes 17 seconds East 765.74 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11 for a place of beginning; thence continuing South 1 degree 32 minutes 17 seconds East 524.97 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence South 36 degrees 22 minutes West 325.55 feet along the Northwesterly right of way line of U.S. 12 By-Pass and M-17; thence North 1 degree 32 minutes 17 seconds West 781.84 feet parallel with the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence North 88 degrees 27 minutes 43 seconds East 200.00 feet to the place of beginning, being a part of the North 1/2 of said Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan.

Together with a 20.00 foot wide easement for storm drainage purposes being described as follows: Commencing at the Northeast corner of Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan; thence South 88 degrees 57 minutes 08 seconds West 1320.85 feet along the North line of said Section 11; thence

South 1 degree 32 minutes 17 seconds East 289.74 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11 for a place of beginning; thence continuing South 1 degree 32 minutes 17 seconds East 476.00 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence South 88 degrees 27 minutes 43 seconds West 20.00 feet; thence North 1 degree 32 minutes 17 seconds West 476.00 feet parallel with the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence North 88 degrees 27 minutes 43 seconds East 20.00 feet to the place of beginning; being a part of the North 1/2 of said Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan.

Parcel 2:
Part of the Northeast 1/4 of Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan, described as: Commencing at the Northeast corner of Section 11, Town 3 South, Range 7 East; thence along the East line of Section 11 and the centerline of Wiard Road South 01 degree 03 minutes 47 seconds East 70.89 feet; thence along the Northerly line of Parkwood Drive and along the arc of a curve to the left 1279.97 feet, radius 4899.63 feet, central angle of 14 degrees 58 minutes 04 seconds, chord bears South 48 degrees 58 minutes 16 seconds West 1276.34 feet to the point of beginning; thence continuing along the Northerly line of Parkwood Drive, the following Two Courses:
along the arc of a curve to the left, 437.88 feet, radius 4899.63 feet, central angle 05 degrees 07 minutes 14 seconds, chord bears South 38 degrees 55 minutes 37 seconds West 437.73 feet; and 2) South 36 degrees 22 minutes 00 seconds West 82.14 feet; thence along the West line of the East 1/2 of the Northeast 1/4 of Section 11, as monumented, North 01 degree 32 minutes 17 seconds West 710.08 feet; thence South 48 degrees 30 minutes 46 seconds East 457.62 feet to the point of beginning.

Parcel 3:
Part of the Northeast 1/4 of Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan, described as: Commencing at the Northeast corner of Section 11, Town 3 South, Range 7 East; thence along the East line of Section 11 and the centerline of Wiard Road, South 01
degree 03 minutes 47 seconds East 70.89 feet; thence along the Northerly line of Parkwood Drive and along the arc of a curve to the left, 1029.97 feet, radius 4899.63 feet, central angle of 12 degrees 02 minutes 40 seconds, chord bears South 50 degrees 25 minutes 58 seconds West 1028.08 feet to the point of beginning; thence continuing along the Northerly line of Parkwood Drive and along the arc of a curve to the left, 250.00 feet, radius 4899.63 feet, central angle 02 degrees 55 minutes 24 seconds, chord bears South 42 degrees 56 minutes 56 seconds West 249.97 feet; thence North 48 degrees 30 minutes
46 seconds West 457.62 feet; thence along the West line of the East 1/2 of the Northeast 1/4 of Section 11, as monumented, North 01 degree 32 minutes 17 seconds West 111.06 feet; thence North 88 degrees
27 minutes 43 seconds East 193.50 feet; thence South 53 degrees 46 minutes 21 seconds East 400.00 feet to the point of beginning.

Charter Township of Ypsilanti
Office of Community Standards
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Website: https://ypsitownship.org

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SITE PLAN REVIEW APPLICATION

I. APPLICATION/DEVELOPMENT TYPE

Development:

- ☐ Subdivision
- ☐ Multi-family/Condominium
- ☐ Site Condominium
- ☐ Planned Development
- ☑ Non-residential

Application:

- ☐ Administrative Site Plan Review
- ☐ Sketch Site Plan Review
- ☑ Full Site Plan Review
- ☐ Revisions to approved plan
- ☐ Tentative Preliminary Plat
- ☐ Final Preliminary Plat
- ☐ Final Plat Process
- ☐ Stage I (for Planned Development)
- ☐ Stage II (for Planned Development)

II. PROJECT LOCATION

Address: 2269 Parkwood Avenue City: Ypsilanti State: MI Zip: 48198
Parcel ID #: K-11- Multiple Parcel ID's Zoning L-M Parcel ID's:11-100-003, 11-100-017, 11-100-016
Lot Number: 2225, 2251, 2269 Subdivision: N/A
Property dimensions: Varies Acreage: 8.18
Name of project/Proposed development: U-Haul Ypsilanti
Legal description of Property:

See attached for legal description of property

Describe Proposed Project (including buildings/ structures/ # units):

A 24,000 S.F. building constructed and operated by U-Haul. The intent of the development is to construct a storage unit only accessible by U-Haul employees.

III. APPLICANT INFORMATION

Applicant: Mackenzy Shega-Fox Phone: [redacted]
Address: 3000 Town Center, Suite 2600 City: Southfield State: MI Zip: 48075
Fax: N/A Email: [redacted]
Property owner (if different than applicant): Jeff Steffani - Amerco Real Estate Company Phone: [redacted]
Address: 2727 N. Central Ave 5N City: Phoenix State: AZ Zip: 85004
Fax: N/A Email: [redacted]
Engineer: Tyler Smith Phone: [redacted]
Address: 1000 Town Center, Suite 1900 City: Southfield State: MI Zip: 48075
Fax: N/A Email: [redacted]

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SITE PLAN REVIEW APPLICATION

VI. SCHEDULE OF FEES

Preliminary Site Plan Review		
	Non-refundable fee	Refundable deposit
Full	$500	Less than one (1) acre: $2,000 One (1) acre to five acres: $4,000 Over five (5) acres to ten (10) acres: $5,500 Greater than ten (10) acres: $5,500 + $50 per acre over ten (10) acres
Sketch	$500	Less than one (1) acre: $1,500 One (1) acre to five acres: $2,000 Over five (5) acres to ten (10) acres: $2,500 Greater than ten (10) acres: 25,500 + $50 per acre over ten (10) acres
Administrative	$100	Less than one (1) acre: $1,000 One (1) acre to five acres: $1,200 Over five (5) acres to ten (10) acres: $1,500 Greater than ten (10) acres: $1,500 + $50 per acre over ten (10) acres
Planned Development Stage I and Rezoning	$1,500 + $20 per acre	Less than one (1) acre: $3,000 One (1) acre to five acres: $4,000 Over five (5) acres to ten (10) acres: $5,500 Greater than ten (10) acres: $5,500 + $50 per acre over ten (10) acres
Final Site Plan Review		
	Non-refundable fee	Refundable deposit
Full	$500	Less than one (1) acre: $3,000 One (1) acre to five acres: $4,000 Over five (5) acres to ten (10) acres: $5,500 Greater than ten (10) acres: $5,500 + $50 per acre over ten (10) acres
Sketch	$500	Less than one (1) acre: $1,500 One (1) acre to five acres: $2,000 Over five (5) acres to ten (10) acres: $2,500 Greater than ten (10) acres: $2,500 + $50 per acre over ten (10) acres
Administrative	$100	Less than one (1) acre: $1,000 One (1) acre to five acres: $1,200 Over five (5) acres to ten (10) acres: $1,500 Greater than ten (10) acres: $1,500 + $50 per acre over ten (10) acres
Planned Development Stage I and Rezoning	$1,500 + $20 per acre	Less than one (1) acre: $3,000 One (1) acre to five acres: $4,000 Over five (5) acres to ten (10) acres: $5,500 Greater than ten (10) acres: $5,500 + $50 per acre over ten (10) acres

$ 6,000 **FEE TOTAL**

V. APPLICANT SIGNATURE

M Shega Fox
Applicant Signature

Mackenzy Shega-Fox
Print Name

9-16-24
Date

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SITE PLAN REVIEW APPLICATION

Site Plan Review applications

- [x] The application is filled out in its entirety and includes the signature of the applicant and, if different than the applicant, the property owner.
- [x] Fees
  - [x] Check made out to Ypsilanti Township with appropriate fees. *Please note: The same preliminary site plan review fee will be charged for each subsequent submittal*
  - [ ] Fees paid separately to Ypsilanti Community Utilities Authority
  - [ ] Fees paid separately to Washtenaw County Road Commission and Water Resources Commissioner's Office
- [ ] Additional Documents:
  - [ ] Woodland Protection application or the No Tree Affidavit, if applicable
  - [ ] Traffic Impact Questionnaire
  - [ ] Appropriate application and plans submitted to the Washtenaw County Road Commission and Water Resources Commissioner's Office

- [x] Proposed Plans
  - [x] One (1) signed and sealed copies (24"x36") of the proposed plan
  - [x] One (1) copy (11"x17") of the proposed plan
  - [x] One (1) PDF digital copy of the proposed plan
  - [x] All contents detailed on the next pages for administrative, sketch, and full site plans.

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SITE PLAN REVIEW APPLICATION

Administrative Site Plan Review
Application Form: The application form shall contain the following information:
Name and address of the applicant and property owner
Address and common description of property and complete legal description
Dimensions of land and total acreage
Zoning on the site and all adjacent properties
Description of proposed project or use, type of building or structures, and name of proposed development, if applicable
Name and address of firm or individual who prepared site plan
Proof of property ownership
Site Plan Descriptive and Identification Data:
Site plans shall consist of an overall plan for the entire development, drawn to an engineer's scale of not less than 1 inch = 50 feet for property less than three acres, or one inch = 100 feet for property three acres or more in size. Sheet size shall be at least 24 × 36 inches. If a large development is shown in sections on multiple sheets, then one overall composite sheet shall be included
Written project description, including proposed use, building(s) and site improvement
Title block with sheet number/title; name, address and telephone number of the applicant and firm or individual who prepared the plans; and date(s) of submission and any revisions (month, day, year)
Scale and north-point
Legal and common description of property
Zoning classification of petitioner's parcel and all abutting parcels
Net acreage (minus rights-of-way) and total acreage
Site Analysis:
Environmental impact analysis and natural features protection documentation meeting the requirements of Chapter 26 of the Municipal Code, Environment
Survey of existing lot lines, building lines, structures, parking areas and other improvements on the site and within 100 feet of the site
Inventory of the location, sizes, and types of existing trees, hedgerows and landmark trees as required by the township woodlands ordinance and the general location of all other existing plant materials
Location of existing drainage courses, floodplains, lakes and streams, and wetlands with elevations
Surface drainage flows including high points, low points and swales
All existing easements
Existing roadways and driveways within 250 feet of the site
Existing sidewalks and nonmotorized pathways
Site Plan:
Proposed lot lines, lot dimensions, property lines and setback dimensions
Structures, and other improvements
Proposed easements
Location of trash and recycling receptacle(s) and transformer pad(s) and method of screening
Extent of any outdoor sales or display area

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SITE PLAN REVIEW APPLICATION

Access and Circulation:
Dimensions, curve radii and centerlines of existing and proposed access points, roads and road rights-of-way or access easements
Dimensions of parking spaces, islands, circulation aisles and loading zones
Calculations for required number of parking and loading spaces
Designation of fire lanes
Location of existing and proposed sidewalks/pathways within the site or right-of-way
Location, height, and outside dimensions of all storage areas and facilities
Landscape Plans:
Location, sizes, and types of existing trees as required by the township woodlands ordinance and the general location of all other existing plant materials, with an identification of materials to be removed and preserved
The location of existing and proposed lawns and landscaped areas
Building and Structure Details:
Location, height, and outside dimensions of all proposed buildings or structures
Location, size, height, and lighting of all proposed site and wall signs
Location, size, height and material of construction for all obscuring wall(s) or berm(s) with cross-sections, where required
Drainage, Soil Erosion and Sedimentation Control:
Location and size of existing and proposed storm sewers
Stormwater retention and detention ponds, including grading, side slopes, depth, high water elevation, volume and outfalls
Stormwater drainage and retention/detention calculations
Indication of site grading, drainage patterns and stormwater management measures, including sediment control and temperature regulation
Soil erosion and sedimentation control measures
Lighting Plan:
Location of all freestanding, building-mounted and canopy light fixtures on the site plan and building elevations
Specifications and details for the type of fixture being proposed including the total lumen output, type of lamp and method of shielding
Use of the fixture proposed

Sketch Plan Review
Application Form: The application form shall contain the following information:
Name and address of the applicant and property owner
Address and common description of property and complete legal description
Dimensions of land and total acreage
Zoning on the site and all adjacent properties
Description of proposed project or use, type of building or structures, and name of proposed development, if applicable
Name and address of firm or individual who prepared site plan
Proof of property ownership

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SITE PLAN REVIEW APPLICATION

Site Plan Descriptive and Identification Data:
Site plans shall consist of an overall plan for the entire development, drawn to an engineer's scale of not less than 1 inch = 50 feet for property less than three acres, or one inch = 100 feet for property three acres or more in size. Sheet size shall be at least 24 × 36 inches. If a large development is shown in sections on multiple sheets, then one overall composite sheet shall be included
Written project description, including proposed use, building(s) and site improvements
Title block with sheet number/title; name, address and telephone number of the applicant and firm or individual who prepared the plans; and date(s) of submission and any revisions (month, day, year);
Scale and north-point
Legal and common description of property
Zoning classification of petitioner's parcel and all abutting parcels
Net acreage (minus rights-of-way) and total acreage
Site Analysis:
Environmental impact analysis and natural features protection documentation meeting the requirements of Chapter 26 of the Municipal Code, Environment
Survey of existing lot lines, building lines, structures, parking areas and other improvements on the site and within 100 feet of the site
Inventory of the location, sizes, and types of existing trees, hedgerows and landmark trees as required by the township woodlands ordinance and the general location of all other existing plant materials
Location of existing drainage courses, floodplains, lakes and streams, and wetlands with elevations
Surface drainage flows including high points, low points and swales
All existing easements
Existing roadways and driveways within 250 feet of the site
Existing sidewalks and nonmotorized pathways
Site Plan:
Proposed lot lines, lot dimensions, property lines and setback dimensions
Structures, and other improvements
Proposed easements
Location of trash and recycling receptacle(s) and transformer pad(s) and method of screening
Extent of any outdoor sales or display area
Access and Circulation:
Dimensions, curve radii and centerlines of existing and proposed access points, roads and road rights-of-way or access easements
Dimensions of parking spaces, islands, circulation aisles and loading zones
Calculations for required number of parking and loading spaces
Designation of fire lanes
Location of existing and proposed sidewalks/pathways within the site or right-of-way
Location, height, and outside dimensions of all storage areas and facilities
Landscape Plans:
Location, sizes, and types of existing trees as required by the township woodlands ordinance and the general location of all other existing plant materials, with an identification of materials to be removed and preserved
The location of existing and proposed lawns and landscaped areas

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Building and Structure Details:
Location, height, and outside dimensions of all proposed buildings or structures
Location, size, height, and lighting of all proposed site and wall signs
Location, size, height and material of construction for all obscuring wall(s) or berm(s) with cross-sections, where required
Drainage, Soil Erosion and Sedimentation Control:
Location and size of existing and proposed storm sewers
Stormwater retention and detention ponds, including grading, side slopes, depth, high water elevation, volume and outfalls
Stormwater drainage and retention/detention calculations
Indication of site grading, drainage patterns and stormwater management measures, including sediment control and temperature regulation
Soil erosion and sedimentation control measures
Lighting Plan:
Location of all freestanding, building-mounted and canopy light fixtures on the site plan and building elevations
Specifications and details for the type of fixture being proposed including the total lumen output, type of lamp and method of shielding
Use of the fixture proposed

Full Site Plan Review
Application Form: The application form shall contain the following information:
Name and address of the applicant and property owner
Address and common description of property and complete legal description
Dimensions of land and total acreage
Zoning on the site and all adjacent properties
Description of proposed project or use, type of building or structures, and name of proposed development, if applicable
Name and address of firm or individual who prepared site plan
Proof of property ownership

Continue to next page

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SITE PLAN REVIEW APPLICATION

Site Plan Descriptive and Identification Data:
Site plans shall consist of an overall plan for the entire development, drawn to an engineer's scale of not less than 1 inch = 50 feet for property less than three acres, or one inch = 100 feet for property three acres or more in size. Sheet size shall be at least 24 × 36 inches. If a large development is shown in sections on multiple sheets, then one overall composite sheet shall be included
Location map drawn to a separate scale with north-point, showing surrounding land, water features, zoning and streets within a quarter mile
Identification and seal of architect, engineer, land surveyor, or landscape architect who prepared drawings
Proximity to section corner and major thoroughfares
Written project description, including proposed use, building(s) and site improvements
Title block with sheet number/title; name, address and telephone number of the applicant and firm or individual who prepared the plans; and date(s) of submission and any revisions (month, day, year)
Scale and north-point
Legal and common description of property
Zoning classification of petitioner's parcel and all abutting parcels
Net acreage (minus rights-of-way) and total acreage
Location map drawn to a separate scale with north-point, showing surrounding land, water features, zoning and streets within a quarter mile
Identification and seal of architect, engineer, land surveyor, or landscape architect who prepared drawings
Proximity to section corner and major thoroughfares
Site Analysis:
An aerial photograph of the entire development area with all environmental features labeled on the photo in a "bubbled" fashion to include woodlands, wetlands, groundwater recharge areas, drains, creeks, surface water, severe changes in topography, erodible soils, and floodplains. Sheet size of the aerial photograph shall be at least 24 × 36 inches
Survey of on parcels more than one acre, topography on the site and within 100 feet of site at two-foot contour intervals, referenced to a U.S.G.S. benchmark
Surrounding land uses and zoning
Soils and water table
Cultural resources and indication of human activities, such as paths
Environmental impact analysis and natural features protection documentation meeting the requirements of Chapter 26 of the Municipal Code, Environment
Survey of existing lot lines, building lines, structures, parking areas and other improvements on the site and within 100 feet of the site
Inventory of the location, sizes, and types of existing trees, hedgerows and landmark trees as required by the township woodlands ordinance and the general location of all other existing plant materials
Location of existing drainage courses, floodplains, lakes and streams, and wetlands with elevations
Surface drainage flows including high points, low points and swales
All existing easements
Existing roadways and driveways within 250 feet of the site
Existing sidewalks and nonmotorized pathways

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SITE PLAN REVIEW APPLICATION

Site Plan:
Proposed lot lines, lot dimensions, property lines and setback dimensions
Structures, and other improvements
Location of exterior lighting (site and building lighting) in accordance with site lighting standards
Proposed easements
Location of trash and recycling receptacle(s) and transformer pad(s) and method of screening
Extent of any outdoor sales or display area
Access and Circulation:
Dimensions, curve radii and centerlines of existing and proposed access points, roads and road rights-of-way or access easements
Dimensions of parking spaces, islands, circulation aisles and loading zones
Calculations for required number of parking and loading spaces
Designation of fire lanes
Location of existing and proposed sidewalks/pathways within the site or right-of-way
Location, height, and outside dimensions of all storage areas and facilities
Opposing driveways and intersections within 250 feet of site
Cross section details of proposed roads, driveways, parking lots, sidewalks and nonmotorized paths illustrating materials and thickness
Dimensions of acceleration, deceleration, and passing lanes
Traffic regulatory signs and pavement markings
Landscape Plans:
Location, sizes, and types of existing trees as required by the township woodlands ordinance and the general location of all other existing plant materials, with an identification of materials to be removed and preserved
The location of existing and proposed lawns and landscaped areas
Description of methods to preserve existing plant materials
Planting plan, including location and type of all proposed shrubs, trees, and other live plant material
Planting list for proposed landscape materials with caliper size or height of material, method of installation, botanical and common names, and quantity
Proposed dates of plant installation
Landscape maintenance schedule
Building and Structure Details:
Location, height, and outside dimensions of all proposed buildings or structures
Location, size, height, and lighting of all proposed site and wall signs
Location, size, height and material of construction for all obscuring wall(s) or berm(s) with cross-sections, where required
Building floor plans and total floor area
Details on accessory structures and any screening
Building facade elevations for all sides, drawn at an appropriate scale
Description of exterior building materials and colors (samples may be required)

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SITE PLAN REVIEW APPLICATION

Drainage, Soil Erosion and Sedimentation Control:
Location and size of existing and proposed storm sewers
Stormwater retention and detention ponds, including grading, side slopes, depth, high water elevation, volume and outfalls
Stormwater drainage and retention/detention calculations
Indication of site grading, drainage patterns and stormwater management measures, including sediment control and temperature regulation
Soil erosion and sedimentation control measures
Information Concerning Utilities:
Location of sanitary sewers and septic systems, existing and proposed
Location and size of existing and proposed water mains, well sites, water service and fire hydrants
Location of existing and proposed gas, electric and telephone lines, above and below ground
Location of transformers and utility boxes
Assessment of potential impacts from the use, processing, or movement of hazardous materials or chemicals, if applicable
Lighting Plan:
Location of all freestanding, building-mounted and canopy light fixtures on the site plan and building elevations
Specifications and details for the type of fixture being proposed including the total lumen output, type of lamp and method of shielding
Use of the fixture proposed
Photometric grid overlaid on the proposed site plan indicating the overall light intensity throughout the site (in foot-candles)
Additional Information Required for Residential Development:
The number and location of each type of residential unit (one bedroom units, two bedroom units, etc.)
Density calculations by type of residential unit (dwelling units per acre)
Garage and/or carport locations and details, if proposed;
Mailbox cluster location and design, if required by post master
Location, dimensions, floor plans and elevations of common building(s) (e.g., recreation, laundry, etc.), if applicable
Swimming pool fencing detail, including height and type of fence, if applicable
Location and size of recreation and open space areas
Indication of type of recreation facilities proposed for recreation area
Where the site is located within 500 feet of the I-94 right-of-way, delineate that area of the site with sound levels of 61 dBA or greater

Drawing name: K:\DET_DFS\168737004_Shared yprjt mVS Design\CAD\plansheets\C0.0 TITLE SHEET.dwg 02.0 Jul 04, 2025 1:01pm by TylerSmith
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811 Know what's **below.** **Call** before you dig.

PRELIMINARY SITE PLAN

U-HAUL YPSILANTI

2269 PARKWOOD AVENUE
YPSILANTI, MICHIGAN 48198

DEVELOPER/OWNER
AMERCO REAL ESTATE COMPANY
2727 N. CENTRAL AVE 5N,
PHOENIX, AZ 85004
TEL: (248) 263-6555
CONTACT: JEFF STEFFANI

CIVIL ENGINEER
KIMLEY-HORN OF MICHIGAN, INC.
3000 TOWN CENTER, SUITE 2600
SOUTHFIELD, MI 48075
TEL: (313) 548-7062
CONTACT: TYLER SMITH, P.E.

LANDSCAPE ARCHITECT
KIMLEY-HORN OF MICHIGAN, INC.
3000 TOWN CENTER, SUITE 2600
SOUTHFIELD, MI 48075
TEL: (331) 218-3272
CONTACT: AUTUMN MCNINCH
JOHN ACKERMAN, P.L.A.

LAND SURVEYOR
BLEW & ASSOCIATES, P.A.
3825 N. SHILOH DRIVE
FAYETTEVILLE, AK, 72703
TEL: (479) 443-4506
CONTACT: ROBERT J. WINNICKI

UTILITY AND GOVERNING AGENCY CONTACTS

SERVICE / JURISDICTION	COMPANY / DEPT.	ADDRESS	PHONE NUMBER	CONTACT
SANITARY SEWER	YPSILANTI COMMUNITY UTILITIES AUTHORITY SANITARY SEWER	2777 STATE ROAD, YPSILANTI, MI 48198	734-484-4600	
STORM SEWER	WASHTENAW COUNTY WATER RESOURCES COMMISSIONERS OFFICE	705 N. ZEEB ROAD, ANN ARBOR, MI 48103	734-222-6860	
WATER	YPSILANTI COMMUNITY UTILITIES AUTHORITY POTABLE WATER	2777 STATE ROAD, YPSILANTI, MI 48198	734-323-1699	
NATURAL GAS	TC ENERGY	450 1 ST SW CALGARY, AB, T2P 5HI CANADA	304-357-3179	
ELECTRICITY	DTE ELECTRIC	1 ENERGY PLAZA, DETROIT, MI	313-407-5364	
TELEPHONE / COMMUNICATIONS	AT&T TELEPHONE	444 MICHIGAN AVENUE, DETROIT, MI 48226	616-881-2268	
STREETS	CITY OF YPSILANTI DEPARTMENT OF PUBLIC SERVICES	14 W FOREST AVENUE, YPSILANTI, MI 48197	734-483-1421	
PLANNING AND ZONING	CITY OF YPSILANTI PLANNING AND ZONING DEPARTMENT	1 S HURON ST, YPSILANTI, MI 48197	734-483-9646	

LEGAL DESCRIPTION

Parcel 1:
Commencing at the Southeast corner of Lot 722 of Devonshire Subdivision No. 4, as recorded in Liber 8 of Plats, Page 23, Washtenaw County Records; said point also being the intersection of the North line of Russell Street with the East line of said Devonshire Subdivision No. 4, Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan; thence North 0 degrees 31 minutes 45 seconds West 1873.23 feet along the East line of said Devonshire Subdivision No. 4 to a point that lies South 0 degrees 31 minutes 45 seconds East 6.14 feet from the Northeast corner of Outlot J of said Devonshire Subdivision No. 4; thence North 77 degrees 11 minutes 45 seconds East 1309.09 feet along the present Southerly line of the New York Central Railroad Right of Way and 6.0 feet South of and parallel with the Southerly line of the original 100.00 foot wide Michigan Central Railroad Right of Way; thence South 1 degree 29 minutes 05 seconds East 286.54 feet along the East line of the West 1/2 of the Southeast 1/4 of Fractional Section 2, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan; thence South 1 degree 32 minutes 17 seconds East 765.74 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11 for a place of beginning; thence continuing South 1 degree 32 minutes 17 seconds East 524.97 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence South 36 degrees 22 minutes West 325.55 feet along the Northwesterly right of way line of U.S. 12 By-Pass and M-17; thence North 1 degree 32 minutes 17 seconds West 781.84 feet parallel with the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence North 88 degrees 27 minutes 43 seconds East 200.00 feet to the place of beginning, being a part of the North 1/2 of said Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan.

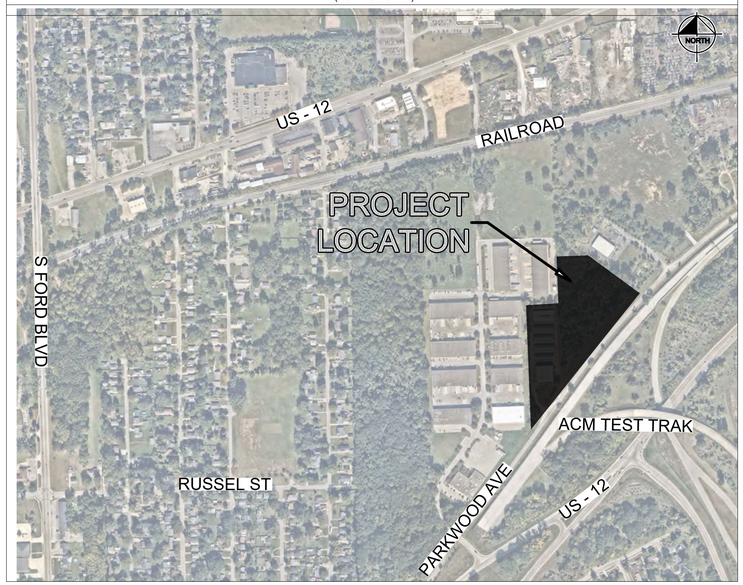
THE ABOVE DESCRIBED PARCEL ALSO BEING DESCRIBED AS FOLLOWS:
Commencing at the Northeast corner of Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan; thence South 88 degrees 57 minutes 08 seconds West 1320.85 feet along the North line of said Section 11, thence South 1 degree 32 minutes 17 seconds East 765.74 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11 for a place of beginning; thence continuing South 1 degree 32 minutes 17 seconds East 524.97 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence South 36 degrees 22 minutes West 325.55 feet along the Northwesterly right of way line of U.S. 12 By-Pass and M-17; thence North 1 degree 32 minutes 17 seconds West 781.84 feet parallel with the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence North 88 degrees 27 minutes 43 seconds East 200.00 feet to the place of beginning, being a part of the North 1/2 of said Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan.

Together with a 20.00 foot wide easement for storm drainage purposes being described as follows: Commencing at the Northeast corner of Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan; thence South 88 degrees 57 minutes 08 seconds West 1320.85 feet along the North line of said Section 11; thence South 1 degree 32 minutes 17 seconds East 289.74 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11 for a place of beginning; thence continuing South 1 degree 32 minutes 17 seconds East 476.00 feet along the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence South 88 degrees 27 minutes 43 seconds West 20.00 feet; thence North 1 degree 32 minutes 17 seconds West 476.00 feet parallel with the East line of the West 1/2 of the Northeast 1/4 of said Section 11; thence North 88 degrees 27 minutes 43 seconds East 20.00 feet to the place of beginning; being a part of the North 1/2 of said Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan.

Parcel 2:
Part of the Northeast 1/4 of Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan, described as: Commencing at the Northeast corner of Section 11, Town 3 South, Range 7 East; thence along the East line of Section 11 and the centerline of Ward Road South 01 degree 03 minutes 47 seconds East 70.89 feet; thence along the Northerly line of Parkwood Drive and along the arc of a curve to the left 1279.97 feet, radius 4899.63 feet, central angle of 14 degrees 58 minutes 04 seconds, chord bears South 48 degrees 58 minutes 16 seconds West 1276.34 feet to the point of beginning; thence continuing along the Northerly line of Parkwood Drive, the following Two Courses:
along the arc of a curve to the left, 437.88 feet, radius 4899.63 feet, central angle 05 degrees 07 minutes 14 seconds, chord bears South 38 degrees 55 minutes 37 seconds West 437.73 feet; and 2) South 36 degrees 22 minutes 00 seconds West 82.14 feet; thence along the West line of the East 1/2 of the Northeast 1/4 of Section 11, as monumented, North 01 degree 32 minutes 17 seconds West 710.08 feet; thence South 48 degrees 30 minutes 46 seconds East 457.62 feet to the point of beginning.

Parcel 3:
Part of the Northeast 1/4 of Section 11, Town 3 South, Range 7 East, Ypsilanti Township, Washtenaw County, Michigan, described as: Commencing at the Northeast corner of Section 11, Town 3 South, Range 7 East; thence along the East line of Section 11 and the centerline of Ward Road, South 01
degree 03 minutes 47 seconds East 70.89 feet; thence along the Northerly line of Parkwood Drive and along the arc of a curve to the left, 1029.97 feet, radius 4899.63 feet, central angle of 12 degrees 02 minutes 40 seconds, chord bears South 50 degrees 25 minutes 58 seconds West 1028.08 feet to the point of beginning; thence continuing along the Northerly line of Parkwood Drive and along the arc of a curve to the left, 250.00 feet, radius 4899.63 feet, central angle 02 degrees 55 minutes 24 seconds, chord bears South 42 degrees 56 minutes 56 seconds West 249.97 feet; thence North 48 degrees 30 minutes
46 seconds West 457.62 feet; thence along the West line of the East 1/2 of the Northeast 1/4 of Section 11, as monumented, North 01 degree 32 minutes 17 seconds West 111.06 feet; thence North 88 degrees
27 minutes 43 seconds East 193.50 feet; thence South 53 degrees 46 minutes 21 seconds East 400.00 feet to the point of beginning.

LOCATION MAP
(NOT TO SCALE)



WASHTENAW COUNTY
SECTION 11 OF T3S, R7E IN WASHTENAW COUNTY, MICHIGAN

SITE NARRATIVE

U-HAUL IS PROUD TO PRESENT THE U-HAUL YPSILANTI DEVELOPMENT. THE DEVELOPMENT IS A 24,000 S.F. BUILDING BEING CONSTRUCTED AND OPERATED BY U-HAUL ON APPROXIMATELY 8.18 ACRES OF PROPERTY DESIGNATED AS LM - LOGISTICS AND MANUFACTURING. THE INTENT OF THE DEVELOPMENT IS TO CONSTRUCT A STORAGE UNIT ONLY ACCESSIBLE BY U-HAUL EMPLOYEES.

UTILITY QUANTITIES

SANITARY SERVICE – 6"	±216 LF
WATERMAIN – 8"	426 LF
WATER SERVICE – 1.5"	25 LF
STORM SEWER – 30"	34 LF
STORM SEWER – 24"	86 LF
STORM SEWER – 21"	151 LF
STORM SEWER – 15"	173 LF
STORM SEWER – 8"	35 LF

THESE QUANTITIES ARE AN ESTIMATE, AND MAY CHANGE DUE TO DESIGN CHANGES RELATED TO THE PROPOSED SEPTIC SYSTEM UNDER REVIEW WITH THE WASHTENAW COUNTY HEALTH DEPARTMENT. SEE UTILITY PLAN SHEET.

Sheet List Table

Sheet Number	Sheet Title
C0.0	TITLE SHEET
V1.0	SURVEY SHEET
V1.1	SURVEY SHEET
C1.0	SITE ANALYSIS PLAN
C2.0	SITE PLAN
C2.1	TRUCK TURN PLAN
C3.0	EROSION CONTROL PLAN
C3.1	EROSION CONTROL DETAILS
C3.2	YPSILANTI TOWNSHIP SESC DETAILS
C4.0	GRADING AND DRAINAGE PLAN
C4.1	DRAINAGE CALCULATIONS
C4.2	MAINTENANCE PLANS
C4.3	DRAINAGE AREA MAP
C4.4	INFILTRATION BORINGS
C5.0	UTILITY PLAN
C5.1	STORM PROFILE
C6.0	CONSTRUCTION DETAILS
C6.1	CONSTRUCTION DETAILS
C6.2	CONSTRUCTION DETAILS
C6.3	CONSTRUCTION DETAILS
C6.4	CONSTRUCTION DETAILS
C6.5	CONSTRUCTION DETAILS
C6.6	CONSTRUCTION DETAILS
C6.7	CONSTRUCTION DETAILS
C6.8	CONSTRUCTION DETAILS
T1.0	TREE SURVEY IMPACT PLAN
T1.1	TREE INVENTORY
L1.0	LANDSCAPE PLAN
L1.2	LANDSCAPE NOTES & DETAILS
A1.0	U-HAUL RENDERINGS
A1.1	PROPOSED FLOOR PLAN
A1.2	PROPOSED ELEVATION PLAN
E1.0	ELECTRICAL SYMBOL/FIXTURE LEGEND
ES1	ELECTRICAL SITE PLAN
ES2	SITE PHOTOMETRIC PLAN

NO.	REVISIONS	DATE	BY
1	SITE PLAN UPDATES	11/26/24	MSF
2	REV. PER CITY/COUNTY	03/05/25	MSF,TES
3	REV. PER CITY/COUNTY	07/03/25	TES

Kimley»Horn of Michigan, Inc.
3000 TOWN CENTER, SUITE 2600
SOUTHFIELD, MI 48075
PHONE: 630-487-3550
WWW.KIMLEY-HORN.COM

©2025 KIMLEY-HORN OF MICHIGAN

SCALE: AS NOTED | DESIGNED BY: TES | DRAWN BY: DKE | CHECKED BY: TES

STATE OF MICHIGAN TYLER SMITH 63971 PROFESSIONAL ENGINEER
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

AMERCO REAL ESTATE COMPANY

TITLE SHEET

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C0.0

ALTA/NSPS LAND TITLE SURVEY

2225, 2251, & 2269 PARKWOOD AVENUE

LOCATED IN: SECTION 11, TOWNSHIP 3 SOUTH, RANGE 7 EAST

YPSILANTI, WASHTENAW COUNTY, MICHIGAN 48198

SITE INFORMATION

N/F: AREC 19, LLC
MAILING ADDRESS: P.O. BOX 21517, PHOENIX, AZ 85036
APN: K -11-11-100-003
356,131 ± SQUARE FEET, OR 8.176 ± ACRES

TITLE COMMITMENT INFORMATION

THE PROPERTY HEREON DESCRIBED IS THE SAME AS THE PERTINENT PROPERTY AS DESCRIBED IN COMMONWEALTH LAND TITLE INSURANCE COMPANY, TITLE COMMITMENT ORDER NUMBER: GLT2200277, WITH A COMMITMENT DATE OF JULY 11, 2022 AT 12:00 A.M.

SCHEDULE A DESCRIPTION

Land Situated in the State of Michigan, County of Washtenaw, Township of Ypsilanti.

Parcel 1:
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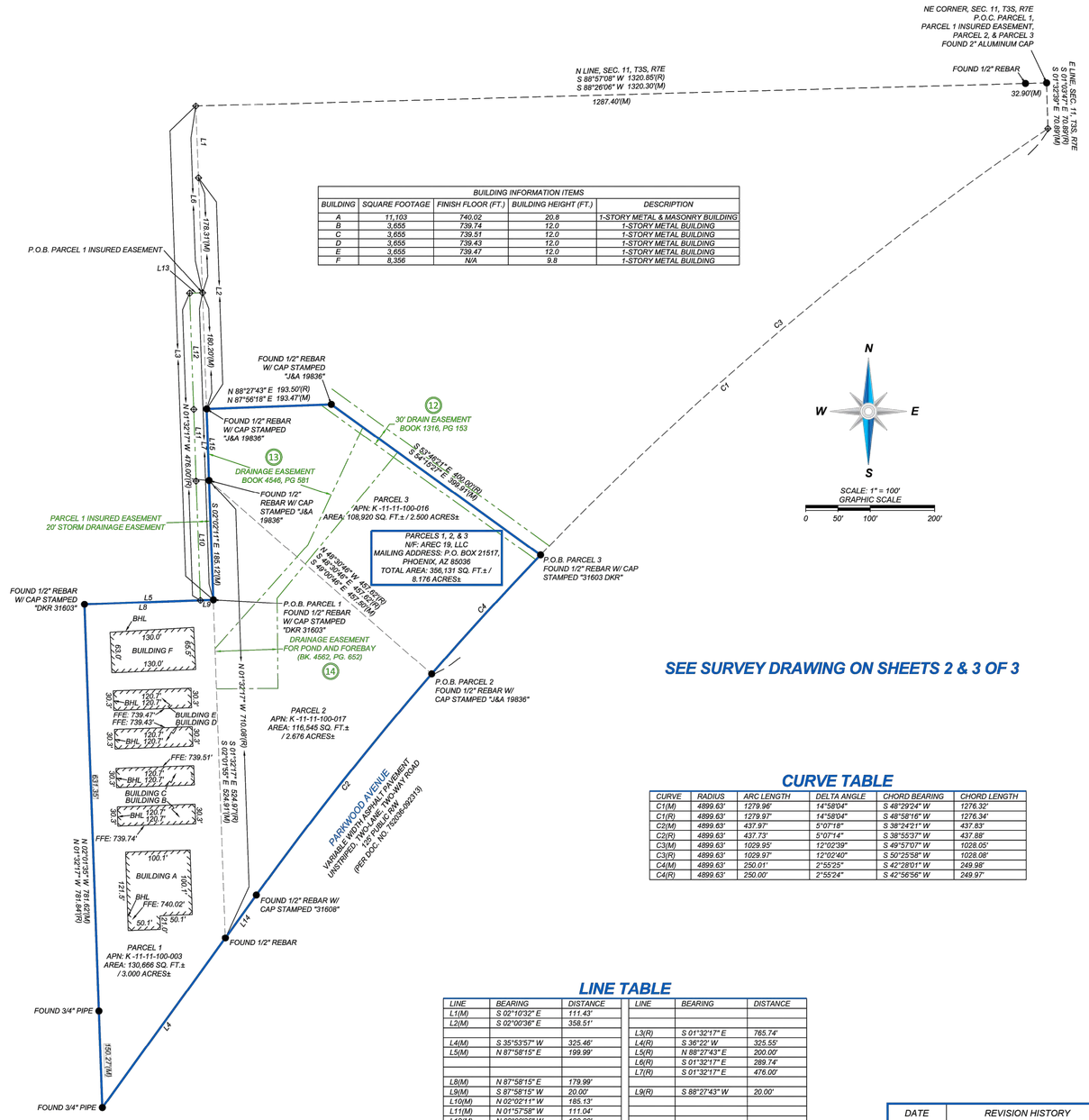
FOR INFORMATION ONLY:

Commonly known as: 2225 Parkwood, Ypsilanti, Michigan (Parcel 1)
2251 Parkwood, Ypsilanti, Michigan (Parcel 2)
2269 Parkwood, Ypsilanti, Michigan (Parcel 3)
Tax Parcel Numbers: K11-11-100-003 (Parcel 1)
K11-11-100-017 (Parcel 2)
K11-11-100-016 (Parcel 3)

LEGEND & SYMBOLS

- FOUND MONUMENT AS NOTED
- COMPUTED POINT
- HANDICAP PARKING
- POWER POLE
- GUY WIRE ANCHOR
- AIR CONDITIONING UNIT
- ELECTRIC VAULT
- TELEPHONE PEDESTAL
- SATELLITE DISH
- FIRE HYDRANT
- WATER MANHOLE
- GAS METER
- GAS LINE MARKER
- DRAIN GRATE (DG#)
- STORM CULVERT PIPE (SC#)
- DECIDUOUS TREE (T#)
- CONIFEROUS TREE (T#)
- BOLLARD
- SIGN
- KEYPAD
- MAILBOX
- BHL — BUILDING HEIGHT LOCATION
- FFE — FINISHED FLOOR ELEVATION
- PS — PARKING SPACE(S)
- DIA. — DIAMETER
- FT. — FOOT
- P.O.B. — POINT OF BEGINNING
- P.O.C. — POINT OF COMMENCEMENT
- N/F — NOW OR FORMERLY
- (M) — MEASURED/CALCULATED DIMENSION
- (R) — RECORD DIMENSION
- AP — ASPHALT
- BP — BRICK PAVERS
- CLF — CHAINLINK FENCE
- CS — CONCRETE SIDEWALK
- CW — CONCRETE WALL
- GR — GRAVEL
- SLG — SLIDING GATE
- SWG — SWINGING GATE
- WIF — WROUGHT IRON FENCE
- BB — BOTTOM OF BANK
- BOC — BACK OF CURB
- CR — CROWN OF ROAD
- EA — EDGE OF ASPHALT
- EC — EDGE OF CONCRETE
- EW — EDGE OF WATER
- FL — FLOW LINE
- NG — NATURAL GROUND
- TA — TOP OF ASPHALT
- TB — TOP OF BANK
- TC — TOP OF CONCRETE
- TG — TOP OF GRAVEL
- TW — TOP OF WALL
- CMP — CORRUGATED METAL PIPE
- RCP — REINFORCED CONCRETE PIPE
- BOUNDARY LINE
- EASEMENT LINE
- R/W — RIGHT-OF-WAY LINE
- C/L — CENTERLINE OF ROAD
- FENCE LINE
- FOREST CANOPY
- EDGE OF WATER
- OHP — OVERHEAD POWER LINE
- UGE — UNDERGROUND ELECTRIC LINE
- BTL — UNDERGROUND TELEPHONE LINE
- WL — UNDERGROUND WATER LINE
- GAS — UNDERGROUND GAS LINE
- SD — STORM SEWER LINE

SITE EXHIBIT



SEE SURVEY DRAWING ON SHEETS 2 & 3 OF 3

BUILDING INFORMATION ITEMS				
BUILDING	SQUARE FOOTAGE	FINISH FLOOR (FT.)	BUILDING HEIGHT (FT.)	DESCRIPTION
A	11,103	740.02	20.8	1-STORY METAL & MASONRY BUILDING
B	3,655	739.74	12.0	1-STORY METAL BUILDING
C	3,655	739.51	12.0	1-STORY METAL BUILDING
D	3,655	739.43	12.0	1-STORY METAL BUILDING
E	3,655	739.47	12.0	1-STORY METAL BUILDING
F	8,356	N/A	9.8	1-STORY METAL BUILDING

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1(M)	4899.63'	1279.96'	14°58'04"	S 46°29'24" W	1276.32'
C1(R)	4899.63'	1279.97'	14°58'04"	S 46°58'16" W	1276.34'
C2(M)	4899.63'	437.97'	5°07'18"	S 38°24'21" W	437.83'
C2(R)	4899.63'	437.73'	5°07'14"	S 38°55'37" W	437.88'
C3(M)	4899.63'	1029.95'	12°02'39"	S 49°57'07" W	1028.05'
C3(R)	4899.63'	1029.97'	12°02'40"	S 50°25'58" W	1028.08'
C4(M)	4899.63'	250.01'	2°55'25"	S 42°28'01" W	249.98'
C4(R)	4899.63'	250.00'	2°55'24"	S 42°56'56" W	249.97'

LINE TABLE

LINE	BEARING	DISTANCE
L1(M)	S 02°10'32" E	111.43'
L2(M)	S 02°00'36" E	358.51'
L4(M)	S 35°53'57" W	325.46'
L5(M)	N 87°58'15" E	199.99'
L8(M)	N 87°58'15" E	179.99'
L9(M)	S 87°58'15" W	20.00'
L10(M)	N 02°02'11" W	185.13'
L11(M)	N 01°57'58" W	111.04'
L12(M)	N 02°00'36" W	180.20'
L13(M)	N 87°59'24" E	20.00'
L14(M)	S 35°56'58" W	82.05'
L15(M)	N 01°57'58" W	111.05'

LINE	BEARING	DISTANCE
L3(R)	S 01°32'17" E	765.74'
L4(R)	S 36°22' W	325.55'
L5(R)	N 88°27'43" E	200.00'
L6(R)	S 01°32'17" E	289.74'
L7(R)	S 01°32'17" E	476.00'
L9(R)	S 88°27'43" W	20.00'
L13(R)	N 88°27'43" E	20.00'
L14(R)	S 36°22'00" W	82.14'
L15(R)	N 01°32'17" W	111.06'

NOTES CORRESPONDING TO SCHEDULE B

12 — EASEMENTS, TERMS, COVENANTS, AND CONDITIONS OF RELEASE OF RIGHT OF WAY IN FAVOR OF THE YPSILANTI TOWNSHIP DRAIN NO. 7 DRAINAGE DISTRICT AS SET FORTH BELOW: RECORDING NO: LIBER 1316, PAGE 153
(AFFECTS, PLOTTED AND SHOWN)

13 — EASEMENTS, TERMS, COVENANTS, AND CONDITIONS OF EASEMENT FOR DRAINAGE INTO DRAINAGE BASIN AREA AS SET FORTH BELOW: RECORDING NO: LIBER 4546, PAGE 581
(AFFECTS, PLOTTED AND SHOWN)

14 — EASEMENTS, TERMS, COVENANTS, AND CONDITIONS OF EASEMENT FOR DRAINAGE INTO DRAINAGE BASIN AREA AS SET FORTH BELOW: RECORDING NO: LIBER 4562, PAGE 652
(AFFECTS, PLOTTED AND SHOWN)

15 — A LEASE WITH CERTAIN TERMS, COVENANTS, CONDITIONS AND PROVISIONS SET FORTH THEREIN. DATED: OCTOBER 4, 2013 LESSOR: AREC 19, LLC, A NEVADA LIMITED LIABILITY COMPANY LESSEE: UHII, 19, LLC, A NEVADA LIMITED LIABILITY COMPANY RECORDING DATE: OCTOBER 17, 2013 RECORDING NO: LIBER 5005, PAGE 683
(AFFECTS, CONTAINS NO PLOTTABLE ITEMS)

BASIS OF BEARING

THE BASIS OF BEARING OF THIS SURVEY IS GRID NORTH BASED ON NORTHWEST LINE OF THE SUBJECT PROPERTY. THE BEARING IS DENOTED AS N 02°01'35" W PER GPS COORDINATE OBSERVATIONS MICHIGAN STATE PLANE, SOUTH ZONE NAD83-2011.
LATITUDE = N42°14'32.2392"
LONGITUDE = W83°34'08.0320"
CONVERGENCE ANGLE = N 00°32'34.4583" W

SIGNIFICANT OBSERVATIONS

NONE OBSERVED AT THE TIME OF THE ALTA/NSPS SURVEY.

PARKING INFORMATION

REGULAR= 8
HANDICAP= 1
TOTAL= 9

UTILITY INFORMATION

THE UTILITIES SHOWN ON THIS DRAWING HEREON HAVE BEEN LOCATED BY FIELD MEASUREMENTS, UTILITY MAP DRAWINGS, MICHIGAN 811 DIG UTILITY LOCATE REQUEST, AND PRIVATE UTILITY LOCATE CONDUCTED BY BLEW AND ASSOCIATES 11/26/2023. BLEW AND ASSOCIATES MAKES NO WARRANTY TO THE EXACT LOCATION OF ANY UNDERGROUND UTILITIES SHOWN OR NOT SHOWN ON THIS DRAWING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ANY AND ALL UTILITIES PRIOR TO CONSTRUCTION. THERE WERE NO OBSERVED SANITARY SEWER STRUCTURES OR LINES ON THE SUBJECT PROPERTY AT THE TIME THE FIELDWORK WAS CONDUCTED.
TICKET NUMBER: 2023112004699

COMPANY:	CONTACT:
AT&T TELEPHONE	616-881-2268
COMCAST CABLE TV	855-962-8525
DTE ENERGY ELECTRIC	313-407-5364
DTE ENERGY GAS	248-318-7839
MCI/VERIZON BUSINESS FIBER OPTICS	800-624-9675
TRANSCANADA/ANR GAS	304-357-3179
YPSILANTI COMMUNITY UTILITIES AUTHORITY POTABLE WATER	734-323-1699
YPSILANTI COMMUNITY UTILITIES AUTHORITY SANITARY SEWER	734-323-1699

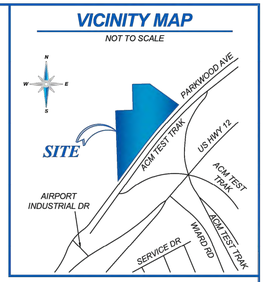
FLOOD ZONE INFORMATION

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 26161C0430E, WHICH BEARS AN EFFECTIVE DATE OF 04/03/2012 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA

ZONE "X" - AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRMS AS ABOVE THE 500-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD AND PROTECTED BY LEVEE FROM 100-YEAR FLOOD.

VICINITY MAP

NOT TO SCALE



GENERAL NOTES

1. SOME FEATURES SHOWN ON THIS PLAT MAY BE SHOWN OUT OF SCALE FOR CLARITY.
2. DIMENSIONS ON THIS PLAT ARE EXPRESSED IN FEET AND DECIMAL PARTS THEREOF UNLESS OTHERWISE NOTED. MONUMENTS WERE FOUND AT POINTS WHERE INDICATED.
3. IN REGARD TO ALTA/NSPS TABLE A ITEM 16, THERE WAS NO OBSERVABLE EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR ADDITIONS EXCEPT AS SHOWN HEREON.
4. IN REGARD TO ALTA/NSPS TABLE A ITEM 17, THERE WERE NO KNOWN PROPOSED CHANGES IN RIGHT OF WAY LINES, RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS EXCEPT AS SHOWN HEREON.
5. AT THE TIME OF THE ALTA/NSPS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF SITE USE AS A SOLID WASTE DUMP, SUMP, OR SANITARY LANDFILL.
6. AT THE TIME OF THE ALTA/NSPS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF SITE USE AS A CEMETERY, ISOLATED GRAVE SITE OR BURIAL GROUNDS.
7. COMPLETED FIELD WORK WAS DECEMBER 6, 2023.
8. THE DISTANCES SHOWN HEREON ARE UNITS OF GROUND MEASUREMENT.
9. THE SUBJECT PROPERTY HAS DIRECT PHYSICAL ACCESS TO PARKWOOD AVENUE, BEING A PUBLICLY DEDICATED RIGHT-OF-WAY, BEING A 44.4' ACCESS WIDTH AT THE SOUTHEAST PROPERTY LINE.
10. EXCEPT AS SPECIFICALLY STATED OR SHOWN ON THIS PLAT, THIS SURVEY DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT PROPERTY: EASEMENTS, OTHER THAN POSSIBLE EASEMENTS WHICH WERE VISIBLE AT THE TIME OF SURVEY, RESTRICTIVE COVENANTS; SUBDIVISION RESTRICTIONS OR OTHER LAND USE REGULATIONS; AND ANY OTHER FACTS WHICH AN ACCURATE TITLE SEARCH MAY DISCLOSE.
11. NO SURVEYOR OR ANY OTHER PERSON OTHER THAN A LICENSED MICHIGAN ATTORNEY MAY PROVIDE LEGAL ADVICE CONCERNING THE STATUS OF TITLE TO THE PROPERTY DESCRIBED IN THIS SURVEY ("THE SUBJECT PROPERTY"). THE PURPOSE OF THIS SURVEY, AND THE COMMENTS RELATED TO THE SCHEDULE B-II EXCEPTIONS, IS ONLY TO SHOW THE LOCATION OF BOUNDARIES AND PHYSICAL OBJECTIONS IN RELATION THERETO. TO THE EXTENT THAT THE SURVEY INDICATES THAT THE LEGAL INSTRUMENT "AFFECTS" THE SUBJECT PROPERTY, SUCH STATEMENT IS ONLY INTENDED TO INDICATE THAT PROPERTY BOUNDARIES INCLUDED IN SUCH INSTRUMENT INCLUDE SOME OR ALL OF THE SUBJECT PROPERTY. THE SURVEYOR DOES NOT PURPORT TO DESCRIBE HOW SUCH INSTRUMENT AFFECTS THE SUBJECT PROPERTY OR THE ENFORCEABILITY OR LEGAL CONSEQUENCES OF SUCH INSTRUMENT.
12. NAMES AND ADDRESSES OF ADJOINING PROPERTY OWNERS WERE TAKEN FROM WASHTENAW COUNTY GIS.
13. THE SUBJECT PROPERTY SHOWN HEREON FORMS A MATHEMATICALLY CLOSED FIGURE AND IS CONTIGUOUS WITH THE ADJOINING PUBLIC RIGHT-OF-WAY AND/OR ADJOINING PARCELS WITH NO GAPS OR OVERLAPS.
14. THE BOUNDARY FORMS A MATHEMATICALLY CLOSED FIGURE WITH NO GAPS, GORES, OR OVERLAPS.
15. A PRIVATE UTILITY LOCATE WAS CONDUCTED ON THE SUBJECT PROPERTY BY BLEW & ASSOCIATES ON NOVEMBER 26, 2023.
16. ELEVATIONS ESTABLISHED WITH GPS STATIC OBSERVATIONS UTILIZING ONLINE POSITIONING USER SERVICE (OPUS) FOR POST PROCESSING, VERTICAL DATUM BASED UPON NORTH AMERICAN VERTICAL DATUM (NAVD88) IN US SURVEY FEET. CONTOURS SHOWN ARE 1' INTERVALS.
17. THERE WERE NO OBSERVED POSTED ADDRESSES ON ANY BUILDINGS IN THE SUBJECT PROPERTY.
18. THERE IS NO EVIDENCE OF ANY DELINEATED WETLAND AREAS, PER THE U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY WEBSITE. NO MARKERS FROM A FIELD DELINEATION OF WETLANDS CONDUCTED BY A QUALIFIED SPECIALIST WERE OBSERVED DURING THE COURSE OF THE ALTA SURVEY.

SURVEYOR'S CERTIFICATE

TO: AREC 19, LLC, A NEVADA LIMITED LIABILITY COMPANY; UHII, 19, LLC, A NEVADA LIMITED LIABILITY COMPANY; VOYA INVESTMENT MANAGEMENT LLC, A DELAWARE LIMITED LIABILITY COMPANY, AND ITS SUCCESSORS AND ASSIGNS, AS ADMINISTRATIVE AGENT FOR THE LENDERS OF A LOAN IN CONNECTION WITH THE PROPERTY REFERENCED AND DESCRIBED HEREIN, AND THEIR RESPECTIVE SUCCESSORS, ASSIGNS AND PARTICIPANTS; COMMONWEALTH LAND TITLE INSURANCE COMPANY; AND REED SMITH, LLP:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 7a, 7b1, 7c, 8, 9, 11B, 13, 16, 17, 19, AND 20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 12/06/2023.

DATE OF PLAT OR MAP: 12/14/2023

PRELIMINARY

ROBERT J. WINNICKI
LICENSED PROFESSIONAL SURVEYOR 4001071203
STATE OF MICHIGAN

DATE	REVISION HISTORY	BY

BLEW & ASSOCIATES, P.A.
Surveying
Engineering
Mapping
3825 N. SHILOH DRIVE - FAYETTEVILLE, AR 72703
EMAIL: SURVEY@BLEWINC.COM
OFFICE: 479.443.4506 FAX: 479.582.1883
WWW.BLEWINC.COM

SURVEYOR JOB NUMBER: 23-7788	SURVEY DRAWN BY: AK - 12/14/2023
SURVEY REVIEWED BY: LT	SHEET: 1 OF 3

V1.0

ALTA/NSPS LAND TITLE SURVEY

2225, 2251, & 2269 PARKWOOD AVENUE

LOCATED IN: SECTION 11, TOWNSHIP 3 SOUTH, RANGE 7 EAST

YPSILANTI, WASHTENAW COUNTY, MICHIGAN 48198

LEGEND & SYMBOLS

- FOUND MONUMENT AS NOTED
- COMPUTED POINT
- HANDICAP PARKING
- POWER POLE
- GUY WIRE ANCHOR
- AIR CONDITIONING UNIT
- ELECTRIC VAULT
- TELEPHONE PEDESTAL
- SATELLITE DISH
- FIRE HYDRANT
- WATER MANHOLE
- GAS METER
- GAS LINE MARKER
- DRAIN GRATE (DG#)
- STORM CULVERT PIPE (SC#)
- DECIDUOUS TREE (T#)
- CONIFEROUS TREE (T#)
- BOLLARD
- SIGN
- KEYPAD
- MAILBOX
- BHL — BUILDING HEIGHT LOCATION
- FFE — FINISHED FLOOR ELEVATION
- PS — PARKING SPACE(S)
- DIA. — DIAMETER
- FT. — FOOT
- P.O.B. — POINT OF BEGINNING
- P.O.C. — POINT OF COMMENCEMENT
- N/F — NOW OR FORMERLY
- (M) — MEASURED/CALCULATED DIMENSION
- (R) — RECORD DIMENSION
- AP — ASPHALT
- BP — BRICK PAVERS
- CLF — CHAINLINK FENCE
- CS — CONCRETE SIDEWALK
- CW — CONCRETE WALL
- GR — GRAVEL
- SLG — SLIDING GATE
- SWG — SWINGING GATE
- WIF — WROUGHT IRON FENCE
- BB — BOTTOM OF BANK
- BOC — BACK OF CURB
- CR — CROWN OF ROAD
- EA — EDGE OF ASPHALT
- EC — EDGE OF CONCRETE
- EW — EDGE OF WATER
- FL — FLOW LINE
- NG — NATURAL GROUND
- TA — TOP OF ASPHALT
- TB — TOP OF BANK
- TC — TOP OF CONCRETE
- TG — TOP OF GRAVEL
- TW — TOP OF WALL
- CMP — CORRUGATED METAL PIPE
- RCP — REINFORCED CONCRETE PIPE
- BOUNDARY LINE
- EASEMENT LINE
- R/W — RIGHT-OF-WAY LINE
- C/L — CENTERLINE OF ROAD
- FENCE LINE
- FOREST CANOPY
- EDGE OF WATER
- OHP — OVERHEAD POWER LINE
- UGE — UNDERGROUND ELECTRIC LINE
- BTL — UNDERGROUND TELEPHONE LINE
- WL — UNDERGROUND WATER LINE
- GAS — UNDERGROUND GAS LINE
- SD — STORM SEWER LINE

LINE TABLE

LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE
L1(M)	S 02°10'32" E	111.43'			
L2(M)	S 02°00'36" E	358.51'			
			L3(R)	S 01°32'17" E	765.74'
L4(M)	S 35°53'57" W	325.46'	L4(R)	S 36°22' W	325.55'
L5(M)	N 87°58'15" E	199.99'	L5(R)	N 88°27'43" E	200.00'
			L6(R)	S 01°32'17" E	289.74'
			L7(R)	S 01°32'17" E	476.00'
L8(M)	N 87°58'15" E	179.99'			
L9(M)	S 87°58'15" W	20.00'	L9(R)	S 88°27'43" W	20.00'
L10(M)	N 02°02'11" W	185.13'			
L11(M)	N 01°57'58" W	111.04'			
L12(M)	N 02°00'36" W	180.00'			
L13(M)	N 87°59'24" E	20.00'	L13(R)	N 88°27'43" E	20.00'
L14(M)	S 35°56'58" W	82.05'	L14(R)	S 36°22'00" W	82.14'
L15(M)	N 01°57'58" W	111.05'	L15(R)	N 01°32'17" W	111.06'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1(M)	4899.63'	1279.96'	14°58'04"	S 48°29'24" W	1276.32'
C1(R)	4899.63'	1279.97'	14°58'04"	S 48°58'16" W	1276.34'
C2(M)	4899.63'	437.97'	5°07'18"	S 38°24'21" W	437.83'
C2(R)	4899.63'	437.73'	5°07'14"	S 38°55'37" W	437.88'
C3(M)	4899.63'	1029.95'	12°02'39"	S 49°57'07" W	1028.05'
C3(R)	4899.63'	1029.97'	12°02'40"	S 50°25'58" W	1028.08'
C4(M)	4899.63'	250.01'	2°55'25"	S 42°28'01" W	249.98'
C4(R)	4899.63'	250.00'	2°55'24"	S 42°56'56" W	249.97'

TREE TABLE

TREE	TYPE	TRUNK DIA.
T1	RED MAPLE	6"
T2	RED MAPLE	14"
T3	RED MAPLE	6"
T4	BLACK CHERRY	20"
T5	BRADFORD PEAR	8"
T6	BRADFORD PEAR	10"
T7	CRABAPPLE	6"
T8	CRABAPPLE (DEAD)	3"
T9	CRABAPPLE	4"
T10	CRABAPPLE	12"
T11	SIBERIAN CRABAPPLE	8"
T12	ELM	40" (DOUBLE TRUNK)
T13	SWEET CHERRY	13"
T14	SWEET CHERRY	14"
T15	SWEET CHERRY	13"
T16	RED OAK	18"
T17	RED OAK	36"
T18	SWEET CHERRY	13"
T19	SWEET CHERRY	13"
T20	RED OAK	24"
T21	SWEET CHERRY	10"
T22	SWEET CHERRY	8"
T23	SWEET CHERRY	14"
T24	SWEET CHERRY	10"
T25	CEDAR	14"
T26	CEDAR	12"
T27	CEDAR	12"
T28	RED MAPLE	10"
T29	RED MAPLE	10"
T30	BRADFORD PEAR	6"
T31	BRADFORD PEAR	10"
T32	BRADFORD PEAR	8"
T33	BRADFORD PEAR	8"
T34	BRADFORD PEAR	6"
T35	BRADFORD PEAR	8"
T36	BRADFORD PEAR	6"
T37	BRADFORD PEAR	2"

INVERT TABLE

- DG1 — RIM ELEVATION: 740.49' / 12" RCP INVERT NW: 736.7' / SUMP ELEVATION: 734.9'
- DG2 — RIM ELEVATION: 739.26' / 12" RCP INVERT SE: 736.1' / 12" RCP INVERT N: 736.2' / SUMP ELEVATION: 734.9'
- DG3 — RIM ELEVATION: 739.17' / 12" RCP INVERT N: 735.6' / 12" RCP INVERT S: 735.5' / SUMP ELEVATION: 734.3'
- DG4 — RIM ELEVATION: 739.14' / 12" RCP INVERT S: 735.2' / 12" RCP INVERT E: 735.1' / SUMP ELEVATION: 733.3'
- DG5 — RIM ELEVATION: 738.80' / 12" RCP INVERT E: 735.0' / 12" RCP INVERT W: 734.9' / SUMP ELEVATION: 733.5'
- DG6 — RIM ELEVATION: 738.76' / 12" RCP INVERT S: 734.4' / 12" RCP INVERT W: 734.3' / 15" RCP INVERT N: 734.2' / SUMP ELEVATION: 732.6'
- DG7 — RIM ELEVATION: 738.87' / 12" RCP INVERT N: 735.0' / SUMP ELEVATION: 734.7'
- DG8 — RIM ELEVATION: 738.33' / 15" RCP INVERT S: 734.1' / 12" RCP INVERT W: 734.1' / 18" RCP INVERT N: 734.0' / SUMP ELEVATION: 732.8'
- DG9 — RIM ELEVATION: 738.71' / 12" RCP INVERT E: 734.7' / SUMP ELEVATION: 734.4'
- DG10 — RIM ELEVATION: 738.43' / 18" RCP INVERT S: 733.9' / 12" RCP INVERT W: 734.0' / 18" RCP INVERT N: 733.6' / SUMP ELEVATION: 732.7'
- DG11 — RIM ELEVATION: 738.73' / 12" RCP INVERT E: 734.8' / SUMP ELEVATION: 734.4'
- DG12 — RIM ELEVATION: 738.55' / 18" RCP INVERT S: 733.7' / 12" RCP INVERT W: 734.0' / 18" RCP INVERT N: 733.7' / SUMP ELEVATION: 731.8'
- DG13 — RIM ELEVATION: 738.61' / 12" RCP INVERT E: 734.4' / SUMP ELEVATION: 734.2'
- DG14 — RIM ELEVATION: 738.50' / 18" RCP INVERT S: 733.5' / 12" RCP INVERT W: 733.4' / 12" RCP INVERT N: 733.5' / 24" RCP INVERT NE: 733.4' / SUMP ELEVATION: 731.4'
- DG15 — RIM ELEVATION: 738.45' / 12" RCP INVERT E: 734.8' / SUMP ELEVATION: 734.7'
- DG16 — RIM ELEVATION: 738.35' / 12" RCP INVERT W: 734.4' / 12" RCP INVERT S: 734.6' / SUMP ELEVATION: 732.6'
- DG17 — RIM ELEVATION: 739.01' / 12" RCP INVERT E: 735.2' / SUMP ELEVATION: 733.1'
- DG18 — RIM ELEVATION: 734.76' / 24" CMP INVERT NE: 726.6' / SUMP ELEVATION: 726.5'
- DG19 — RIM ELEVATION: 735.08' / 30" RCP INVERT SW: 726.1' / 30" RCP INVERT NE: 726.0' / SUMP ELEVATION: 725.9'
- SC1 — 12" RCP FLOW LINE: 736.1'
- SC2 — 12" RCP FLOW LINE: 736.1'
- SC3 — 24" RCP FLOW LINE: 733.2'

N

W E

S

SCALE: 1" = 30'
GRAPHIC SCALE
0 15' 30' 60'

BLEW & ASSOCIATES, P.A.
Surveying
Engineering
Mapping
3825 N. SHILOH DRIVE - FAYETTEVILLE, AR 72703
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WWW.BLEWINC.COM

SURVEYOR JOB NUMBER: 23-7788	SURVEY DRAWN BY: AK - 12/14/2023
SURVEY REVIEWED BY: LT	SHEET: 3 OF 3

SHEET 3
SHEET 2

MATCH LINE

V1.1

Drawing name: K:\VET_DFS\168737006_uhaul_ypsi_mi\2 Design\CADD\plansets\C1.0 SITE ANALYSIS PLAN.dwg C1.0 Jul 04, 2025 1:04pm by TylerESmith
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NORTH

GRAPHIC SCALE IN FEET
0 20' 40' 80'

EXISTING LEGEND

BOLLARD	MISC LID	YARD LIGHT
CONTROL BENCHMARK	MONITOR WELL	SANITARY CLEANOUT
ROW MONUMENT	GAS MARKER	SANITARY MANHOLE
FLAG POLE	GAS METER	VENT PIPE
MAIL BOX	GAS VALVE	STORM CURB INLET
UTILITY POLE	AC UNIT	STORM INLET
POST	AREA LIGHT	STORM ROOF DRAIN
SOIL BORING	ELECTRICAL BOX	STORM DRAIN MANHOLE
HANDICAP SYMBOL	ELECTRICAL HAND HOLE	STORM YARD DRAIN
SIGN	ELECTRICAL METER	FIRE DEPT CONNECTION
CABLE MANHOLE	ELECTRICAL MANHOLE	FIRE HYDRANT
CABLE PEDESTAL	ELECTRICAL MARKER	IRRIGATION VALVE
TELEPHONE PEDESTAL	ELECTRICAL TRANSFORMER	POST INDICATOR VALVE
TELEPHONE HAND HOLE	GUY POLE/WIRE	WELL
TELEPHONE MARKER	POWER POLE	WATER METER
TELEPHONE MANHOLE	TRAFFIC SIGNAL POLE	WATER VALVE
FIBER OPTIC MAKER	TRAFFIC MANHOLE	TREE / STUMP

SWALE		TOE OF SLOPE	TS
FENCE LINE	X	TOP OF BANK	TB
SANITARY SEWER	SS	UNDERGROUND FIBER OPTIC	FIB
STORM DRAIN	SD	OVERHEAD ELECTRICAL	OHE
WATER LINE	W	UNDERGROUND GAS	GAS
TREE LINE		UNDERGROUND TELEPHONE	TEL

LEGEND

A. SAWCUT LINE
B. CURB REMOVAL
C. ITEM TO BE REMOVED
EXISTING FLOW PATH ARROW

National Flood Hazard Layer FIRMette

FEMA



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/18/2024 at 8:29 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Basemap Imagery Source: USGS National Map 2022

BENCHMARKS

SITE BENCHMARKS:
(LOCATIONS SHOWN ON SURVEY)

SBM #1 TOP OF NUT ON FIRE HYDRANT
ELEVATION=741.87

SBM #2 TOP OF NUT ON FIRE HYDRANT
ELEVATION=740.11

Hydrologic Soil Group—Washtenaw County, Michigan
(168737006 Uhaul Ypsi)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Rating Polygons: A; A/D; B; B/D; C; C/D; D; Not rated or not available
- Soil Rating Lines: A; A/D; B; B/D; C; C/D; D; Not rated or not available
- Soil Rating Points: A; A/D; B; B/D; C; C/D; D; Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washtenaw County, Michigan
Survey Area Data: Version 22, Aug 25, 2023

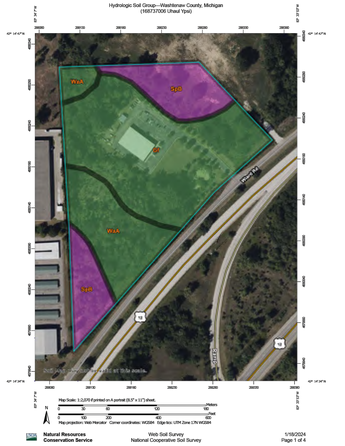
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 8, 2022—Oct 4, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Natural Resources Conservation Service — Web Soil Survey — National Cooperative Soil Survey — 1/18/2024 — Page 2 of 4

Hydrologic Soil Group—Washtenaw County, Michigan
(168737006 Uhaul Ypsi)



Natural Resources Conservation Service — Web Soil Survey — National Cooperative Soil Survey — 1/18/2024 — Page 1 of 4

NO.	REVISIONS	DATE	BY
1	SITE PLAN UPDATES	11/26/24	MSF
2	REV. PER CITY/COUNTY	03/05/25	MSF/TES
3	REV. PER CITY/COUNTY	07/03/25	TES

Kimley»Horn of Michigan, Inc.
2550 S. WOODWARD AVENUE, SUITE 240
BLOOMFIELD HILLS, MI 48073
PHONE: 630-487-3050
WWW.KIMLEY-HORN.COM
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SCALE: AS NOTED
DESIGNED BY: TES
DRAWN BY: OKE
CHECKED BY: TES

STATE OF MICHIGAN — TYLER E. SMITH — 68371 — ENGINEER — NOT APPROVED FOR CONSTRUCTION — 28975 — PROFESSIONAL ENGINEER

AMERCO REAL ESTATE COMPANY

SITE ANALYSIS PLAN

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE:
06/13/24

KHA PROJECT NO.
168737004

SHEET NUMBER
C1.0

Drawing name: K:\DET_DS\168737006_uhaul ypsi mi\2 Design\CADD\plansheets\C2.0 SITE PLAN.dwg C2.0 Jul 04, 2025 1:06pm by: TylerE.Smith
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NORTH

GRAPHIC SCALE IN FEET
0 20' 40' 80'

PAVING LEGEND

STANDARD DUTY ASPHALT PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION

HEAVY DUTY CONCRETE PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION

SITE SUMMARY

SITE ZONING	=	LOGISTICS & MANUFACTURING
SITE ACREAGE	=	8.18 AC.±
BUILDING AREA	=	24,000 SF
BUILDING HEIGHT	=	43' 8" FT
SETBACK REQUIREMENTS = 50' REAR	=	40' FRONT
	=	40' SIDE
PARKING SPACES (STANDARD) REQUIRED	=	19 SPACES
PARKING SPACES (ACCESSIBLE) REQUIRED	=	1 SPACES
PARKING SPACES (STANDARD) PROVIDED	=	5 SPACES
PARKING SPACES (ACCESSIBLE) PROVIDED	=	1 SPACES
PARKING SPACES (DEFERRED)	=	13 SPACES
TOTAL PARKING SPACES PROVIDED	=	19 SPACES

KEY NOTES

1. ROLL-AWAY TRASH RECEPTACLE STORAGE AREA (SEE ARCH PLANS)
2. CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
3. CONCRETE PARKING BUMPER TYP. (SEE DETAILS)
4. ACCESSIBLE PAVEMENT MARKINGS, TYP. (SEE DETAILS)
5. 4" WIDE PAVEMENT MARKING, YELLOW SOLID LINE, TYP.
6. TRUCK DOCK
7. DEFERRED PARKING, TYP.
8. DOOR (INGRESS, FIRE, ETC.)
9. TREE PROTECTION FENCE
10. BIKE RACK

SITE NOTES

1. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS, DOOR LOCATIONS, PRIOR TO ORDERING MATERIALS.
4. RADII ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3-FEET, TYPICAL.
5. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.
6. NO VEHICLE, OTHER CONSTRUCTION EQUIPMENT, OR CONSTRUCTION MATERIALS OR DEBRIS SHALL BE PARKED OR STORED WITHIN THE DRIPLINE OF ANY TREE OR PLANT MATERIAL INTENDED TO BE SAVED
7. THE APPLICANT NOTES THAT TRASH IS TEMPORARILY STORED INSIDE THE BUILDING, ELIMINATING THE NEED FOR AN EXTERNAL DUMPSTER ENCLOSURE.

PROPOSED BUILDING
24,000 S.F.
F.F. =737.25

EXISTING (MODIFIED)
DETENTION POND
TOP: 735.10
100YR: 734.01
BOT: 730.0 (EX)

LIMITS OF BASIN MODIFICATION

EX. BASIN AS FOREBAY (NOT MODIFIED)

FOREBAY

APPROX. SEPTIC FIELD LOCATION

20' WATER EASEMENT

TYLER DAM DRAIN

PARKWOOD AVE.
125' PUBLIC R.O.W.

NO.	REVISIONS	DATE	BY
1	REV. PER CITY/COUNTY	03/05/25	MSF, TES
2	REV. PER CITY/COUNTY	07/03/25	TES
	SITE PLAN UPDATES	11/26/24	MSF

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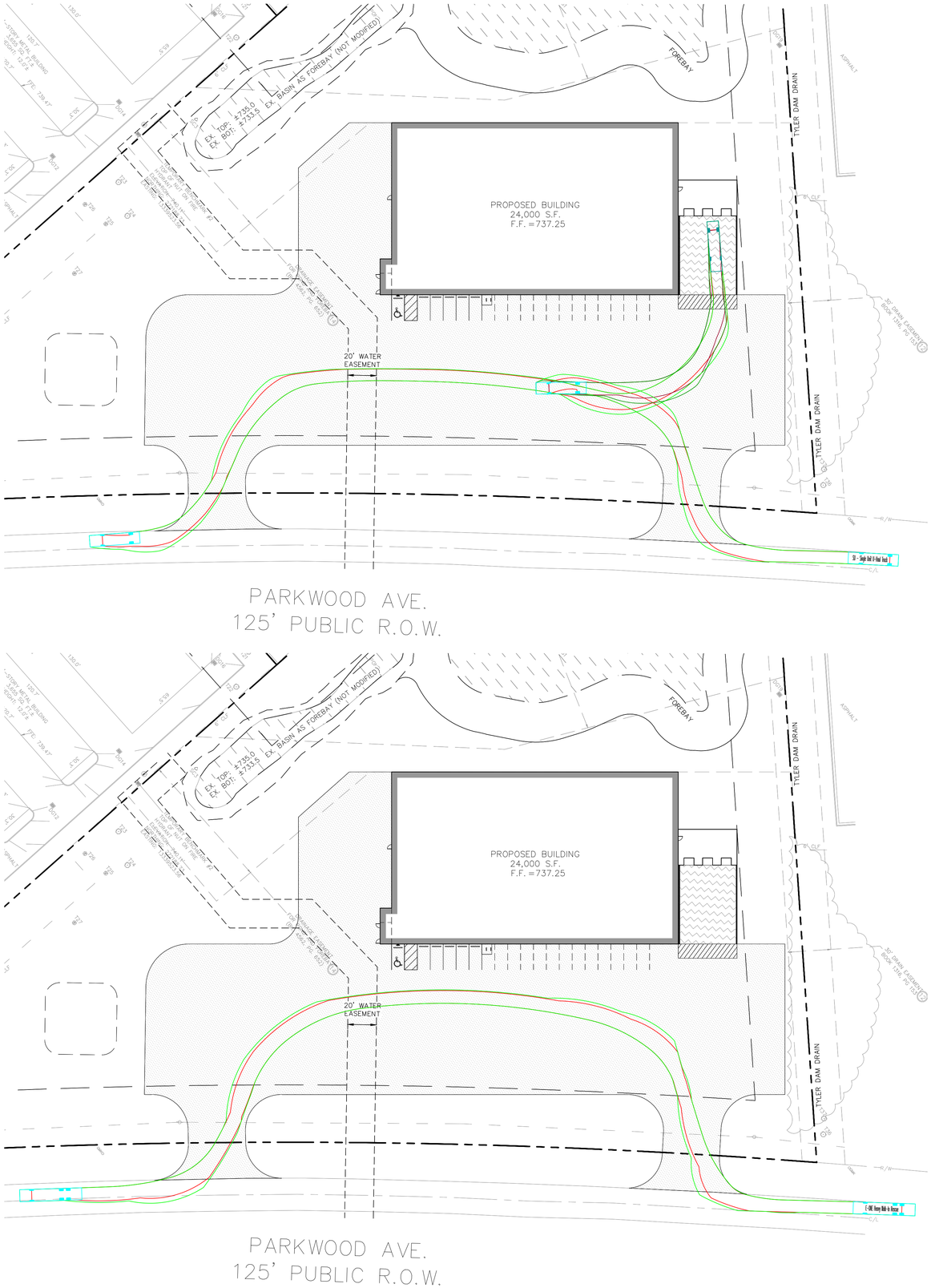
STATE OF MICHIGAN
TYLER E. SMITH
47891
PROFESSIONAL ENGINEER
NOT APPROVED FOR CONSTRUCTION

AMERCO REAL ESTATE COMPANY

SITE PLAN

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

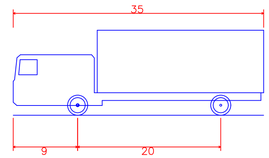
ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER C2.0



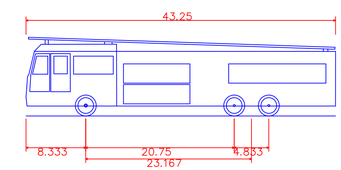
811 Know what's **below.** **Call** before you dig.

NORTH

GRAPHIC SCALE IN FEET
0 20' 40' 80'



SU – Single Unit U–Haul Truck	
Overall Length	35.000ft
Overall Width	8.000ft
Overall Body Height	11.881ft
Min Body Ground Clearance	1.367ft
Track Width	8.000ft
Lock–to–lock time	5.00s
Max Steering Angle (Virtual)	31.70°



E–ONE Heavy Walk–In Rescue	
Overall Length	43.250ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock–to–lock time	6.00s
Max Wheel Angle	45.00°

NO.	REVISIONS	DATE	BY
1	SITE PLAN UPDATES	11/26/24	MSF
2	REV. PER CITY/COUNTY	03/05/25	MSF, TES
3	REV. PER CITY/COUNTY	07/03/25	TES

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STATE OF MICHIGAN — TYLER E. SMITH — 58975 — ENGINEER — NOT APPROVED FOR CONSTRUCTION

Tyler Smith

AMERCO REAL ESTATE COMPANY

TRUCK TURN PLAN

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24

KHA PROJECT NO. 168737004

SHEET NUMBER

C2.1

Drawing name: K:\DET_DFS\168737004_uhaul ypsi mi\2 Design\CAD\Drawings\C2.1 TRUCK TURN PLAN.dwg C2.1 Jul 04, 2025 1:07pm by TylerE.Smith
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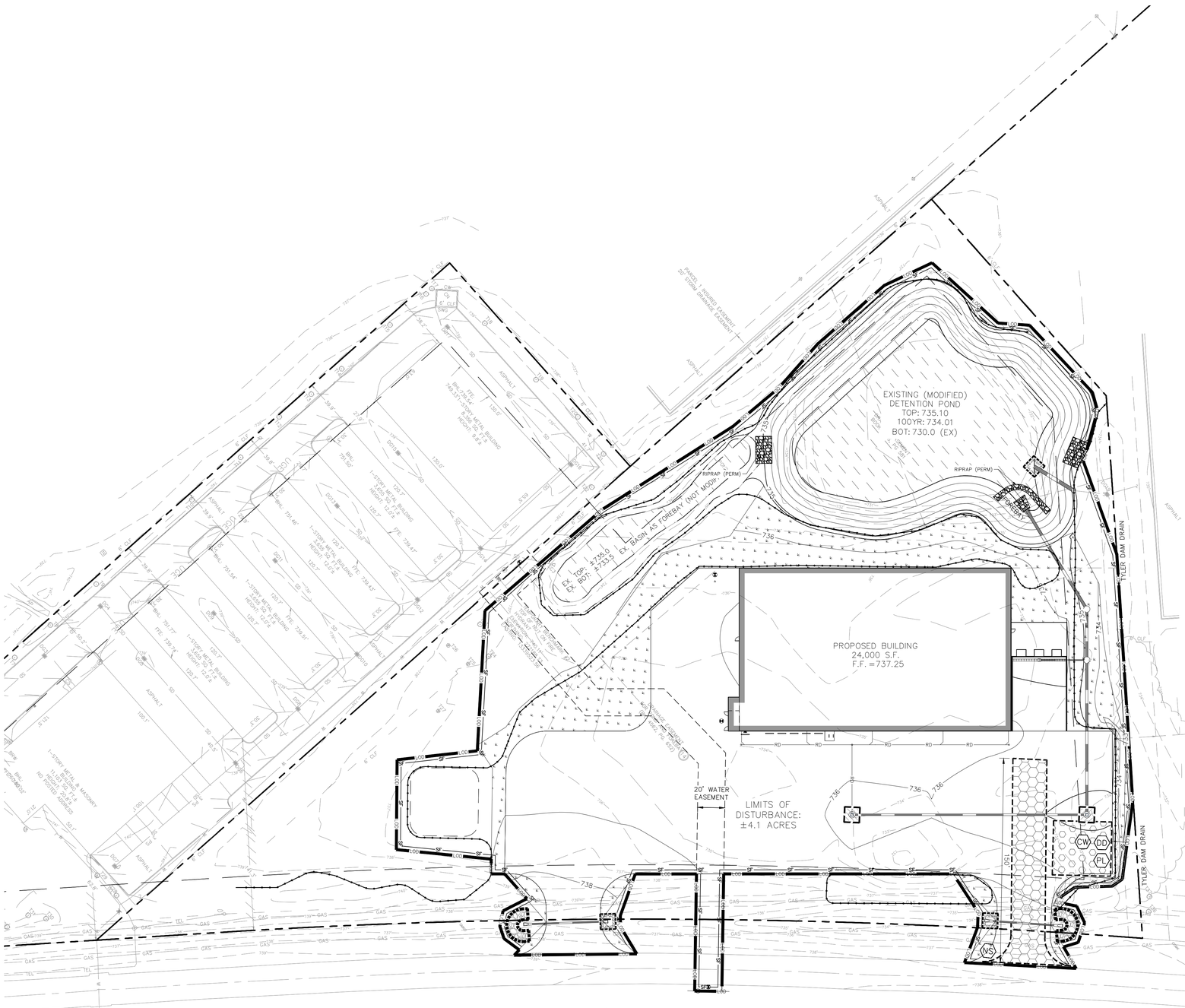
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Drawing Name: K:\DET_DFS\168737004\...\Shout yrdr mnt\2 Design\CADD\plan sheets\C3.0 EROSION CONTROL PLAN.dwg C3.0 Jul 04, 2025 1:08pm by TylerE.Smith

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

NORTH

GRAPHIC SCALE IN FEET
0 20' 40' 80'



EROSION CONTROL LEGEND

- TEMPORARY SEEDING (SEE EROSION CONTROL DETAILS)
- TEMPORARY EROSION CONTROL BLANKET (SEE TEMPORARY EROSION CONTROL NOTE #3)
- CONSTRUCTION ENTRANCE (SEE EROSION CONTROL DETAILS)
- SILT FENCE (SEE EROSION CONTROL DETAILS)
- AREA INLET PROTECTION (SEE EROSION CONTROL DETAILS)
- CW — CONCRETE WASHOUT (SEE EROSION CONTROL DETAILS) (TO BE DETERMINED BY CONTRACTOR)
- RIP RAP (SEE EROSION CONTROL DETAILS)
- ROCK DONUT (SEE EROSION CONTROL DETAILS)
- LOD — LIMITS OF DISTURBANCE
- 620 — EXISTING CONTOURS
- 620 — PROPOSED CONTOURS
- NS — N.O.I. SIGN
- STAGING AREA
- DD — DEBRIS DUMPSTER
- PL — PORT-O-LET
- TREE PROTECTION FENCING

EROSION CONTROL NOTES

TEMPORARY EROSION CONTROL NOTES

1. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
2. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST, OR ARBORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY THE PLANNING AND DEVELOPMENT DEPARTMENT AND THE DRAINAGE UTILITY DEPARTMENT. MINOR CHANGES OR ADDITIONAL CONTROL MEASURES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES AT NO ADDITIONAL COST TO THE OWNER.
3. CONTRACTOR SHALL PLACE EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S150 OR APPROVED EQUAL) ON ALL SITE AREAS WITH SLOPES GREATER THAN 4:1, AND IN THE BOTTOM AND SIDE SLOPES OF ALL SWALES.
4. PRIOR TO FINAL ACCEPTANCE, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
5. PERMANENT, FINAL PLANT COVERING OR STRUCTURES SHALL BE INSTALLED PRIOR TO FINAL ACCEPTANCE.
6. ALL CONTROL DEVICES THAT FUNCTION SIMILARLY TO SILT FENCE OR FIBER ROLLS MUST BE REPAIRED, REPLACED OR SUPPLEMENTED WITH EFFECTIVE CONTROLS WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES ONE-THIRD THE HEIGHT OF THE DEVICE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF THE RAINFALL EVENT OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.
7. ALL SEDIMENT DELTAS AND DEPOSITS MUST BE REMOVED FROM SURFACE WATERS, DRAINAGE WAYS, CATCH BASINS AND OTHER DRAINAGE SYSTEMS. ALL AREAS WHERE SEDIMENT REMOVAL RESULTED IN EXPOSED SOIL MUST BE RESTABILIZED. THE REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS AFTER THE RAINFALL EVENT UNLESS PRECLUDED BY LEGAL, REGULATORY OR PHYSICAL ACCESS CONSTRAINTS. ALL REASONABLE EFFORTS MUST BE USED TO OBTAIN ACCESS. ONCE ACCESS IS OBTAINED, REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS LATER. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL APPROPRIATE AUTHORITIES AND RECEIVING THE APPLICABLE PERMITS PRIOR TO CONDUCTING ANY WORK.
8. ACCUMULATIONS OF TRACKED AND DEPOSITED SEDIMENT MUST BE REMOVED FROM OFF-SITE PAVED SURFACES WITHIN 24 HOURS OR SOONER IF REQUIRED. SEDIMENT TRACKING MUST BE MINIMIZED BY THE APPROPRIATE MANAGEMENT PRACTICE, LIKE A DEDICATED SITE EXIT WITH AN AGGREGATE SURFACE OR DESIGNATED OFFSITE PARKING AREA. CONTRACTOR IS RESPONSIBLE FOR STREET SWEEPING AND/OR SCRAPING IF YOUR PRACTICES ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED FROM THE SITE.
9. SURFACE WATERS, DRAINAGE DITCHES AND CONVEYANCE SYSTEMS MUST BE INSPECTED FOR SEDIMENT DEPOSITS.
10. PUMPING SEDIMENT LADEN WATER INTO ANY STORMWATER FACILITY THAT IS NOT DESIGNATED TO BE A SEDIMENT TRAP, DRAINAGEWAY, OR OFFSITE AREA EITHER DIRECTLY OR INDIRECTLY WITHOUT FILTRATION IS PROHIBITED.
11. SOIL STOCKPILES SHALL NOT BE LOCATED IN A DRAINAGEWAY, FLOOD PLAIN AREA OR A DESIGNATED BUFFER, UNLESS OTHERWISE APPROVED, UNDER SPECIFIC CONDITIONS TO BE ESTABLISHED BY THE DIRECTOR OR ADMINISTRATOR.
12. STOCKPILES TO REMAIN IN PLACE FOR MORE THAN THREE DAYS SHALL BE PROVIDED WITH SESC MEASURES. MATERIAL IS TO BE HAULED OFF IMMEDIATELY AND LEGALLY IF NO STOCKPILE IS TO REMAIN IN PLACE.
13. ALL TEMPORARY SESC MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED.TRAPPED SEDIMENT AND OTHER DISTURBED SOILS RESULTING FROM TEMPORARY MEASURES SHALL BE PROPERLY DISPOSED OF PRIOR TO PERMANENT STABILIZATION.
14. WATER REMOVED FROM TRAPS, BASINS, AND OTHER WATER HOLDING DEPRESSIONS OR EXCAVATIONS MUST FIRST PASS THROUGH A SEDIMENT CONTROL AND/OR FILTRATION DEVICE. WHEN DEWATERING DEVICES ARE USED, DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION.

No.	REVISIONS	DATE	BY
1	SITE PLAN UPDATES	11/26/24	MSF
2	REV. PER CITY/COUNTY	03/05/25	MSF, TES
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STATE OF MICHIGAN — TYLER E. SMITH — 49321 — 28975 — ENGINEER — NOT APPROVED FOR CONSTRUCTION — 7/3/25

Tyler Smith

AMERCO REAL ESTATE COMPANY

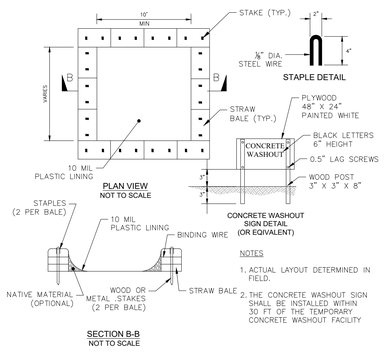
EROSION CONTROL PLAN

U-HAUL
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ORIGINAL ISSUE: 06/13/24

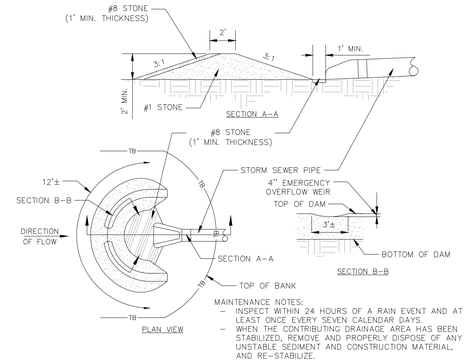
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SHEET NUMBER
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CONCRETE WASHOUT

N.T.S.



ROCK DONUT DETAIL

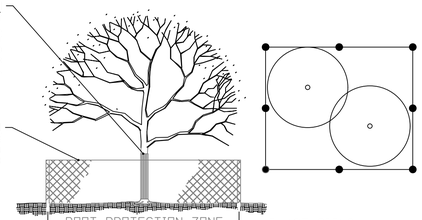
N.T.S.

TRUNK PROTECTION

REQUIRED IF WHEELED CONSTRUCTION EQUIPMENT INVOLVED WITHIN 20' OR LESS. 1" BOARDS NOT LESS THAN 5' LONG OR TO REACH FIRST SCAFFOLD BRANCH. WIRE TO HOLD BOARDS IN PLACE, NO NAILS PERMITTED. INCLUDE WRAPPING OF BURLAP UNDER BOARDS.

BRANCH PROTECTION

PROTECT LOWER BRANCHES OF TREE CANOPY. PROVIDE CONSTRUCTION FENCING OR EQUAL AT DRIPLINE (MIN.)



ROOT PROTECTION ZONE
VARIES PER TREE SIZE
EXTENDS FROM DRIPLINE TO DRIPLINE

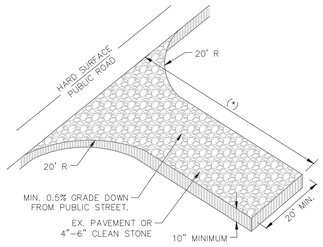
PLACE SIGNS:
KEEP OUT
TREE PROTECTION AREA
EVERY 50' ATTACHED TO FENCING

TREE PROTECTION NOTES

1. ALL TREES TO BE PROTECTED AND PRESERVED SHALL BE PER DETAIL. GROUPING OF MORE THAN ONE TREE MAY OCCUR.
2. TREES TO BE PROTECTED AND PRESERVED SHALL BE IDENTIFIED ON THE TRUNK WITH WHITE SURVEY TAPE.
3. TO PREVENT ROOT SMOTHERING, SOIL STOCKPILES, SUPPLIES, EQUIPMENT OR ANY OTHER MATERIAL SHALL NOT BE PLACED OR STORED WITHIN THE DRIP LINE OR WITHIN 15 FEET OF A TREE TRUNK, WHICHEVER IS GREATER.
4. TREE ROOTS SHALL NOT BE CUT UNLESS CUTTING IS UNAVOIDABLE.
6. WHEN ROOT CUTTING IS UNAVOIDABLE, A CLEAN SHARP CUT SHALL BE MADE TO AVOID SHREDDING OR SMASHING. ROOT CUTS SHOULD BE MADE BACK TO A LATERAL ROOT. WHENEVER POSSIBLE, ROOTS SHOULD BE CUT BETWEEN LATE FALL AND BUD OPENING, WHEN ROOT ENERGY SUPPLIES ARE HIGH AND CONDITIONS ARE LEAST FAVORABLE FOR DISEASE CAUSING AGENTS. EXPOSED ROOTS SHALL BE COVERED IMMEDIATELY TO PREVENT DEHYDRATION. ROOTS SHALL BE COVERED WITH SOIL OR BURLAP AND KEPT MOIST.
7. WATERING OF PROTECTED TREES IN WHICH ROOTS WERE CUT SHALL BE PROVIDED BY THE CONTRACTOR.
8. AUGER TUNNELING RATHER THAN TRENCHING SHOULD BE USED FOR UTILITY PLACEMENT WITHIN DRIP LINE.
9. FENCING MATERIAL SHALL ENCIRCLE ANY TREE OR SHRUB WHOSE OUTER DRIP LINE EDGE IS WITHIN 20 FEET OF ANY CONSTRUCTION ACTIVITIES.
10. FENCING MATERIAL SHALL BE BRIGHT, CONTRASTING COLOR, DURABLE, AND A MINIMUM OF FOUR FEET IN HEIGHT.
11. FENCING MATERIAL SHALL BE SET AT THE DRIP LINE OR 15 FEET FROM TREE TRUNK, WHICHEVER IS GREATER, AND MAINTAINED IN AN UPRIGHT POSITION THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES.
12. ANY GRADE CHANGES (SUCH AS THE REMOVAL OF TOPSOIL OR ADDITION OF FILL MATERIAL) WITHIN THE DRIP LINE SHOULD BE AVOIDED FOR EXISTING TREES TO REMAIN. RETAINING WALLS AND TREE WELLS ARE ACCEPTABLE ONLY WHEN CONSTRUCTED PRIOR TO GRADE CHANGE.
13. REFER TO PLANS FOR FENCE STAKING LOCATIONS.

1 TREE PROTECTION

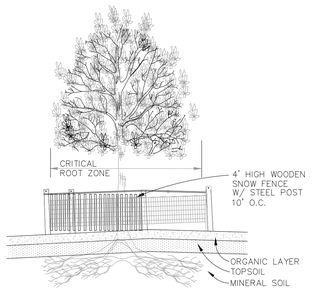
NTS



NOTE:
(*) 50' FOR LAND DISTURBANCE SMALLER THAN 2.0 AC.
150' FOR LAND DISTURBANCE LARGER THAN 2.0 AC.

CONSTRUCTION ENTRANCE

N.T.S.



PROVIDE FENCE AROUND CRITICAL ROOT ZONE OF TREE. FENCE SHALL BE PLACED IN A CIRCLE WITH A RADIUS OF 1' PER 1" DIAMETER OF THE TREE MEASURED AT 4.5' ABOVE GROUND FOR INDIVIDUAL TREES OR STANDS OF TREES.

TREE PROTECTION

N.T.S.

STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING			A			*		A *				
DORMANT SEEDING	B											B
TEMPORARY SEEDING			C					D				
SODDING				E								
				**								
MULCHING	F											

A KENTUCKY BLUEGRASS 90 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 30 LBS/ACRE

B KENTUCKY BLUEGRASS 135 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 45 LBS/ACRE + 2 TONS STRAW MULCH/ACRE

C SPRING OATS 100 LBS/ACRE

D WHEAT OR CEREAL RYE 150 LBS/ACRE

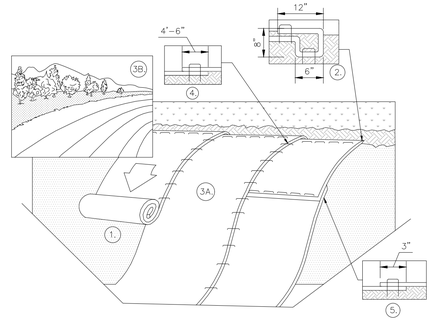
E SOD

F STRAW MULCH 2 TONS/ACRE

* IRRIGATION NEEDED DURING JUNE AND AUGUST

** IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD DURING ANY PART OF THE YEAR

SEEDING CHART



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.

2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH AS SHOWN IN DETAIL. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.

3. ROLL THE BLANKETS (3A.) DOWN OR (3B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURES RECOMMENDATION.

4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.

5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.

7. PLACE STAPLES/STAKES PER MANUFACTURER'S RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.

NOTES:
1. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

2. FOLLOW EROSION CONTROL TECHNOLOGY COUNCIL SPECIFICATION FOR PRODUCT SELECTION.

EROSION CONTROL BLANKET (SLOPE INSTALLATION)

N.T.S.

NO.	DATE	BY	REVISIONS
1	11/26/24	MSF	SITE PLAN UPDATES
2	03/05/25	MSF,TES	REV. PER CITY/COUNTY
3	07/03/25	TES	REV. PER CITY/COUNTY

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SCALE: AS NOTED
DESIGNED BY: TES
DRAWN BY: OKE
CHECKED BY: TES

STATE OF MICHIGAN TYLER E. SMITH 63211 PROFESSIONAL ENGINEER
NOT APPROVED FOR CONSTRUCTION
28975
Tyler Smith

AMERCO REAL ESTATE COMPANY

EROSION CONTROL DETAILS

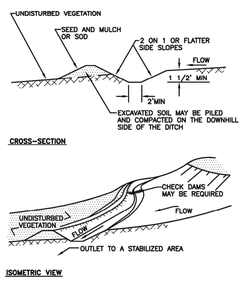
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ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER C3.1

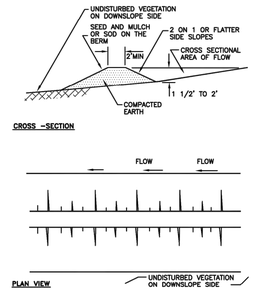
Drawing name: K:\DET_DS\168737006_uhaul ypsi mi\2 Design\CAD\plansheets\C3.1 EROSION CONTROL DETAILS.dwg C3.1 Jul 04, 2025 1:09pm by TylerE.Smith
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Drawing name: K:\DET_DO\168737006_sheet sets\3 Design\CADD\plansheets\06.10 CONSTRUCTION DETAILS.dwg 06.10 Jul 04, 2025 11:11am by: TylerE.Smith
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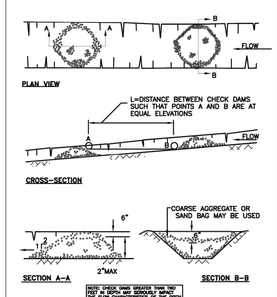
DIVERSION DITCH (E-1)



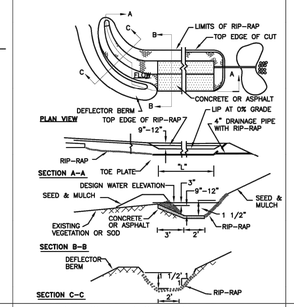
EARTH DIVERSION BERM (E-2)



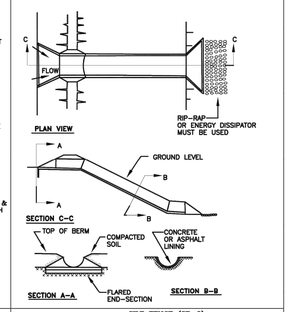
CHECK DAMS (E-3)



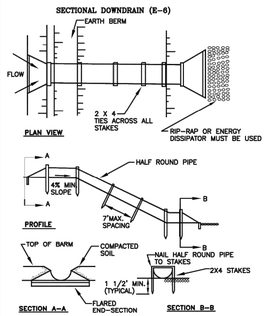
LEVEL SPREADER (E-4)



FLUME (E-5)



SECTIONAL DOWNDRAIN (E-6)

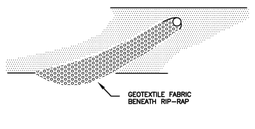


RIP-RAP (E-7)

DEFINITION — RIP-RAP IS A ROCK-TYPE MATERIAL PLACED ON THE LAND SURFACE TO RESIST THE ACTIONS OF FLOWING WATER

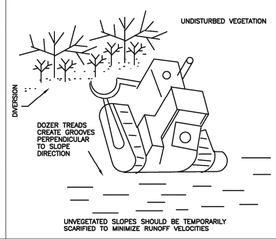
PURPOSE — THE PURPOSE OF RIP-RAP IS (1) TO DISSIPATE ENERGY RESULTING FROM FLOWING WATER, THUS REDUCING THE FLOW VELOCITY TO A LEVEL THAT IS NON-EROSIVE, AND (2) TO PROTECT THE LAND SURFACE FROM EROSION RESULTING FROM THE ENERGY FORCES GENERATED BY FLOWING WATER.

WHERE APPLICABLE — RIP-RAP IS USED (1) AT THE OUTLET OF A STORM DRAIN, (2) AS A CHANNEL LINING WHEN FLOW VELOCITIES AND CONCENTRATION ARE HIGH AND/OR THE CHANNEL SLOPE IS STEEP, (3) ON THE BANKS OF CHANNELS AT CHANGES IN FLOW DIRECTION, AND (4) TO STABILIZE ERODIBLE SLOPES.



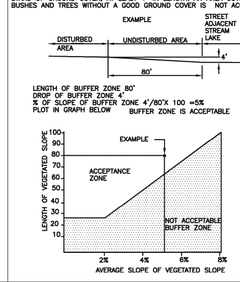
SURFACE ROUGHENING (E-8) AND SCARIFICATION

THIS IS AN EASY AND ECONOMICAL WAY TO REDUSE SOIL EROSION. IT IS SIMPLY THE PLACING OF HORIZONTAL GROOVES IN A SLOPE PERPENDICULAR TO THE FLOW OF RUNOFF. THIS CAN BE DONE BY EITHER DISC HARROWING, BACK BLADING OR JUST RUNNING THE TREADS OF A CRAWLER TRACTOR PERPENDICULAR TO THE SLOPE AS SHOWN BELOW.

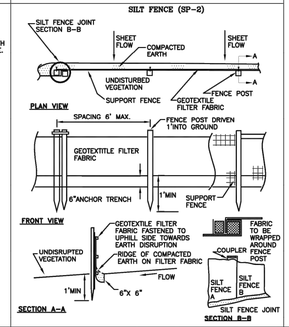


VEGETATION BUFFER ZONE (SP-1)

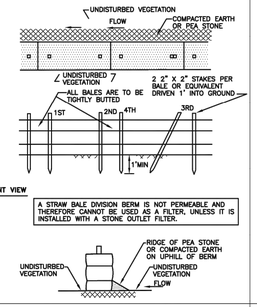
THE GRAPH LISTED BELOW IS USED TO DETERMINE THE ADEQUACY OF AN EXISTING VEGETATION BUFFER ZONE FOR USE AS A SEDIMENT FILTER. THIS GRAPH IS ONLY APPLICABLE IF THE VEGETATION IS A DENSE WELL-GROWN STAND OF GROUND COVER, AT LEAST 4" IN LENGTH, AN AREA COVERED WITH BUSHES AND TREES WITHOUT A GOOD GROUND COVER IS NOT ACCEPTABLE.



SILT FENCE (SP-2)

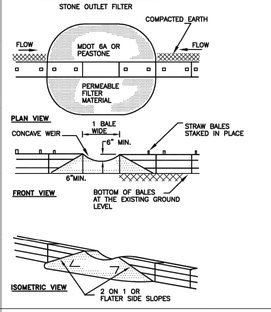


STRAW BALE DIVERSION BERM (SP-3)



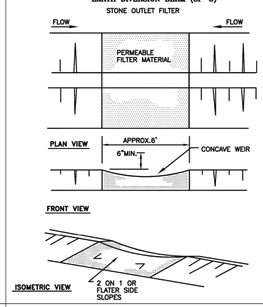
STRAW BALE DIVERSION BERM (SP-4)

STONE OUTLET FILTER

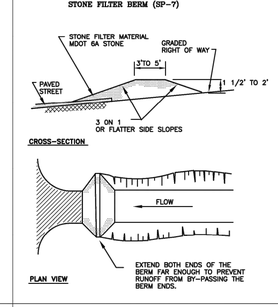


EARTH DIVERSION BERM (SP-5)

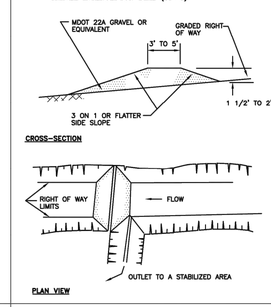
STONE OUTLET FILTER



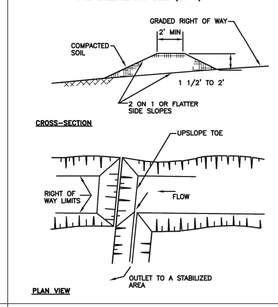
STONE FILTER BERM (SP-7)



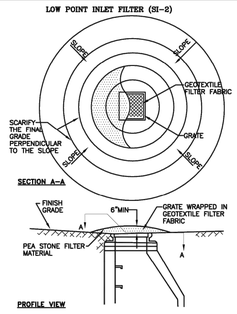
GRAVEL INTERCEPTOR DIKE (SP-8)



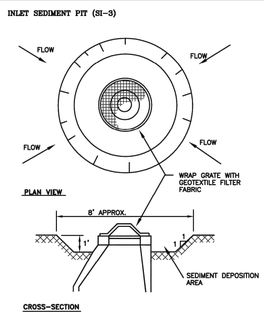
SOIL INTERCEPTOR DIKE (SP-9)



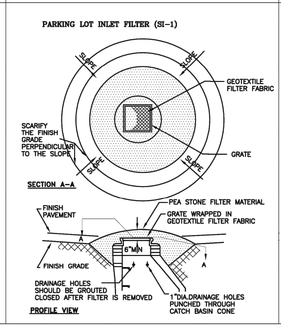
LOW POINT INLET FILTER (SI-2)



INLET SEDIMENT PIT (SI-3)

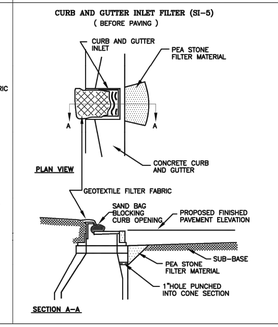


PARKING LOT INLET FILTER (SI-1)



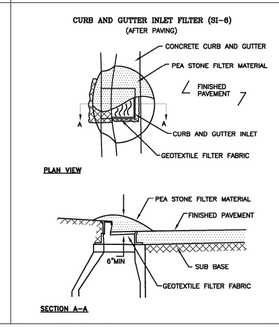
CURB AND GUTTER INLET FILTER (SI-5)

(BEFORE PAVING)



CURB AND GUTTER INLET FILTER (SI-6)

(AFTER PAVING)

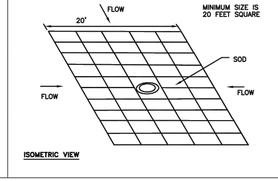


SOD INLET FILTER (SI-8)

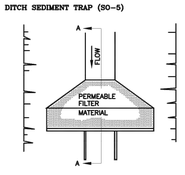
DEFINITION — SOD INLET FILTER ARE PADS OF SOD PLACED AROUND A STORM DRAIN INLET OR CATCH BASIN.

PURPOSE — SOD INLET FILTERS ARE INSTALLED TO SLOW THE FLOW OF WATER INTO AN INLET OR CATCH BASIN AND TO FILTER OUT APPRECIABLE AMOUNTS OF SEDIMENT IN IN THE PROCESS.

WHERE APPLICABLE — SOD INLET FILTERS SHOULD ONLY BE USED TO HANDLE LIGHT CONCENTRATIONS OF SEDIMENT, THEY ARE BEST USED AFTER FINAL GRADING IS COMPLETE AND DURING THE ESTABLISHMENT OF A VEGETATIVE COVER.



DITCH SEDIMENT TRAP (SO-5)



RULE 323.1703
SOIL EROSION AND SEDIMENTATION CONTROL PLAN REQUIREMENTS.

A PERSON SHALL PREPARE A SOIL EROSION AND SEDIMENTATION CONTROL PLAN FOR ANY EARTH CHANGE IDENTIFIED IN R 323.1704. A PERSON SHALL DESIGN THE PLAN TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND SEDIMENTATION AND SHALL IDENTIFY FACTORS THAT MAY CONTRIBTUE TO SOIL EROSION OR SEDIMENTATION, OR BOTH. THE PLAN SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL OF THE FOLLOWING:

(A) A MAP OR MAPS AT A SCALE OF NOT MORE THAN 200 FEET TO THE INCH OR AS OTHERWISE DETERMINED BY THE COUNTY OR LOCAL ENFORCING AGENCY. A MAP SHALL INCLUDE A LEGAL DESCRIPTION AND SITE LOCATION SKETCH THAT INCLUDES THE PROXIMITY OF ANY PROPOSED EARTH CHANGE TO LAKES OR STREAMS, OR BOTH; PREDOMINATE LAND FEATURES; AND CONTOUR INTERVALS OR SLOPE DESCRIPTION.

(B) A SOILS SURVEY OR A WRITTEN DESCRIPTION OF THE SOIL TYPES OF THE EXPOSED LAND AREA CONTEMPLATED FOR THE EARTH CHANGES.

(C) DETAILS FOR PROPOSED EARTH CHANGES, INCLUDING ALL OF THE FOLLOWING:

(i) A DESCRIPTION AND THE LOCATION OF THE PHYSICAL LIMITS OF EACH PROPOSED EARTH CHANGE.

(ii) A DESCRIPTION AND THE LOCATION OF ALL EXISTING AND PROPOSED ON-SITE DRAINAGE AND DEWATERING FACILITIES.

(iii) THE TIMING SEQUENCE OF EACH PROPOSED EARTH CHANGE.

(iv) THE LOCATION AND DESCRIPTION FOR INSTALLING AND REMOVING ALL PROPOSED TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.

(v) A DESCRIPTION AND THE LOCATION OF ALL PROPOSED PERMANENT SOIL EROSION AND SEDIMENTATION MEASURES.

(v) A PROGRAM PROPOSAL FOR THE CONTINUED MAINTENANCE OF ALL PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES THAT REMAIN AFTER PROJECT COMPLETION, INCLUDING THE DESIGNATION OF THE PERSON RESPONSIBLE FOR THE MAINTENANCE. MAINTENANCE RESPONSIBILITIES SHALL BECOME A PART OF ANY SALES OR EXCHANGE AGREEMENT FOR THE LAND ON WHICH THE PERMANENT SOIL EROSION CONTROL MEASURES ARE LOCATED.

NO.	REVISIONS	DATE	BY
	SITE PLAN UPDATES	11/26/24	MSF
1	REV. PER CITY/COUNTY	03/05/25	MSF,TES
2	REV. PER CITY/COUNTY	07/03/25	TES

SCALE: AS NOTED
DESIGNED BY: TES
DRAWN BY: OKE
CHECKED BY: TES

STATE OF MICHIGAN — TYLER E. SMITH — 58975 — ENGINEER — NOT APPROVED FOR CONSTRUCTION

Kimley»Horn of Michigan, Inc.
©2025 KIMLEY-HORN OF MICHIGAN
39500 HIGH POINTE BLVD, SUITE 260
SOUTHFIELD, MI 48075-5550
PHONE: 630-487-5550
WWW.KIMLEY-HORN.COM

AMERCO REAL ESTATE COMPANY

YPSILANTI TOWNSHIP SESC DETAILS

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C3.2

REVISIONS:

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ISSUE NO.	BID DATE
B.G. DRN.	DATE 03/25/04
TOPO DRN.	DESIGN
PROFILE DRN.	ENG. DRN.
APPROVED	SCALE V: H: NTS

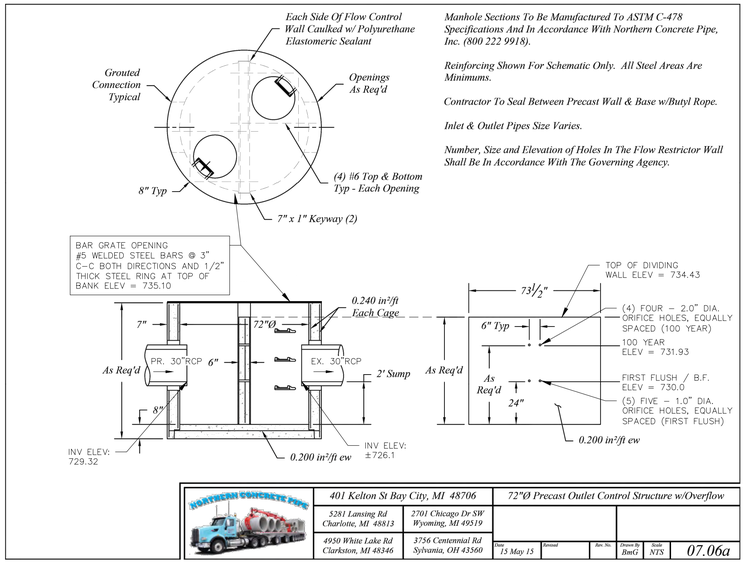
YPSILANTI TOWNSHIP
TOWNSHIP STANDARD
SOIL EROSION CONTROL DETAILS

CLIENT: YPSILANTI TOWNSHIP

ORCHARD, HILTZ & MCCLIMENT, INC.
CONSULTING ENGINEERS
34000 Plymouth Road
Livonia, MI 48150
(734) 522-6711
(734) 522-6427 FAX

TOPO: CAD
DRAWING: SESC.dwg
LAYOUT: SESC
SHEET
JOB NO.

Drawing name: K:\DET_DO\168737006_uhaul ypsi mi\3 Design\CADD\drawings\CS-D-GRADING AND DRAINAGE PLAN_168737006.dwg 04.0 Jul 04, 2025 1:16pm by: TylerE.Smith
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Manhole Sections To Be Manufactured To ASTM C-478 Specifications And In Accordance With Northern Concrete Pipe, Inc. (800 222 9918).

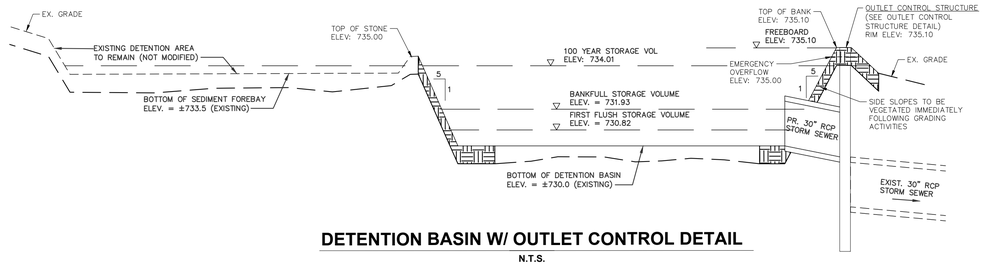
Reinforcing Shown For Schematic Only. All Steel Areas Are Minimums.

Contractor To Seal Between Precast Wall & Base w/Butyl Rope.

Inlet & Outlet Pipes Size Varies.

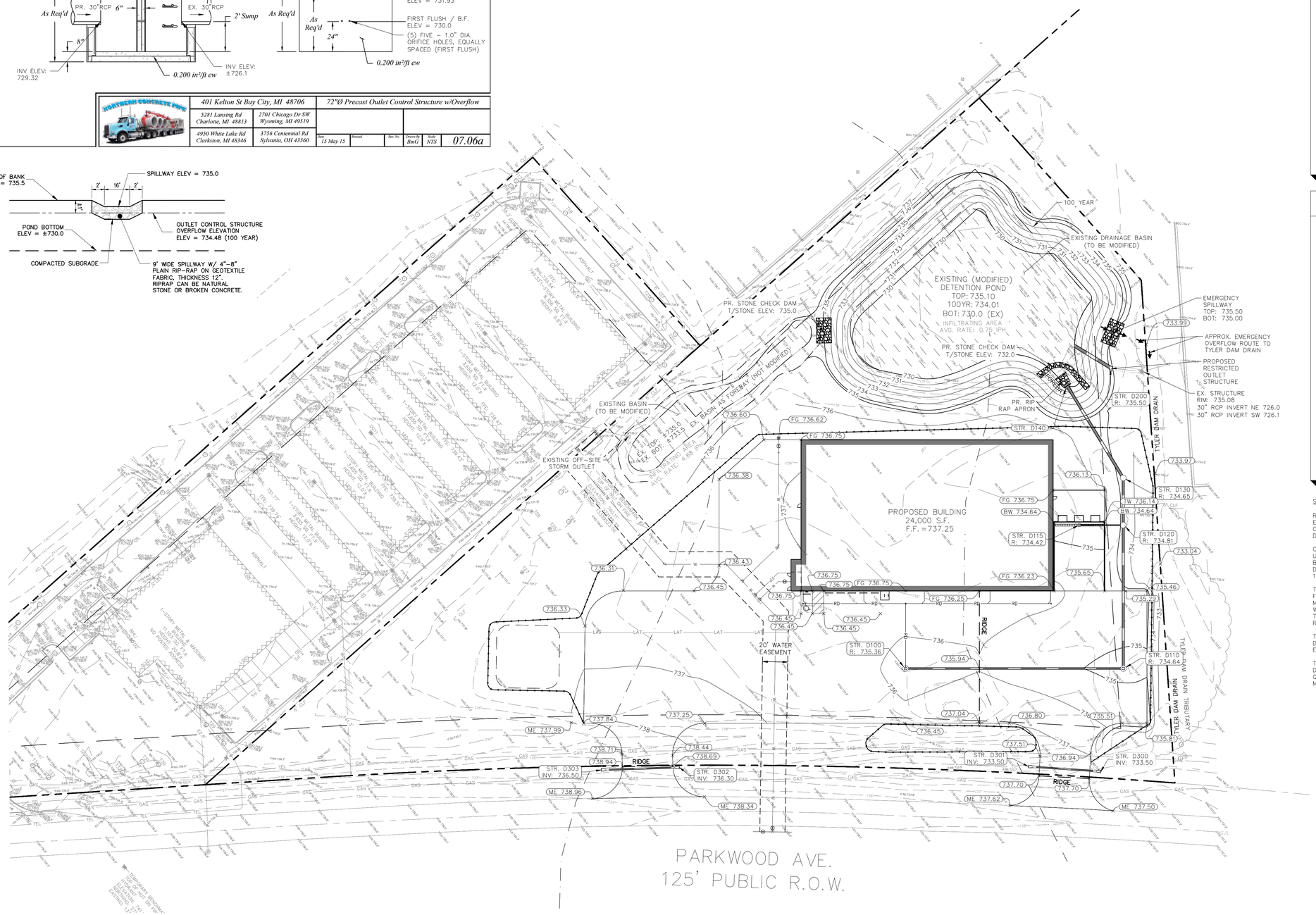
Number, Size and Elevation of Holes In The Flow Restrictor Wall Shall Be In Accordance With The Governing Agency.

NORTHERN CONCRETE PIPE	*401 Kelton St Bay City, MI 48706*	*72"Ø Precast Outlet Control Structure w/Overflow*	
	3281 Lansing Rd Charlotte, MI 48813	*2701 Chicago Dr SW Wyoming, MI 49519*	
	4950 White Lake Rd Clarkston, MI 48346	*3756 Centennial Rd Sylvania, OH 43560*	
	Date: *15 May 15*	Revised	Rev. No. / Drawn By: *BmG* / Scale: *NTS* / *07.06a*



DETENTION BASIN W/ OUTLET CONTROL DETAIL

N.T.S.



GRADING LEGEND

XXX.XX	FINISHED GRADE SPOT ELEVATION
ME XXX.XX	MATCH EXISTING SPOT ELEVATION
FG XXX.XX	FINISHED GRADE NEAR BUILDING SPOT ELEVATION
TW XXX.XX	TOP OF WALL SPOT ELEVATION
BW XXX.XX	BOTTOM OF WALL SPOT ELEVATION
R XXX.XX	RIM ELEVATION
STR XX R XXX.XX	STRUCTURE ID & RIM ELEVATION
STR XX INV XXX.XX	STRUCTURE ID & INVERT ELEVATION
620	PROPOSED CONTOUR
RIDGE	RIDGE LINE
	100-YEAR OVERLAND OVERFLOW ROUTE
	PROPOSED STORM SEWER
	PROPOSED STORM STRUCTURES
	PROPOSED SANITARY MANHOLE
	PROPOSED STORM/SANITARY CLEANOUT
	PROPOSED WATER STRUCTURES
	PROPOSED LIGHT POLES
	PROPOSED TREE PROTECTION FENCE

GRADING NOTES

1. CONTRACTOR TO VERIFY ALL EXISTING TOPOGRAPHY AND STRUCTURES ON THE SITE AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.
2. ALL PAVEMENT SPOT GRADE ELEVATIONS AND RIM ELEVATIONS WITHIN OR ALONG CURB AND GUTTER REFER TO EDGE OF PAVEMENT ELEVATIONS UNLESS OTHERWISE NOTED.
3. ALL ELEVATIONS SHOWN DEPICT FINISHED GRADE OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED. GENERAL CONTRACTOR TO COORDINATE WITH EXCAVATION, LANDSCAPE AND PAVING SUBCONTRACTORS REGARDING TOPSOIL THICKNESS FOR LANDSCAPE AREAS AND PAVEMENT SECTION THICKNESS FOR PAVED AREAS TO PROPERLY ENSURE ADEQUATE CUT TO ESTABLISH SUBGRADE ELEVATIONS.
4. NO EARTHEN SLOPE SHALL BE GREATER THAN 3:1, UNLESS OTHERWISE NOTED.
5. MAXIMUM SLOPE IN ACCESSIBLE PARKING SPACES AND LOADING ZONES SHALL NOT EXCEED 2.0% IN ALL DIRECTIONS.
6. MAXIMUM RUNNING SLOPE SHALL NOT EXCEED 5% AND CROSS SLOPE SHALL NOT EXCEED 2% ON ALL SIDEWALKS AND ACCESSIBLE ROUTES UNLESS OTHERWISE NOTED.
7. WHEN NATURAL FLOW OF DRAINAGE IS AWAY FROM CURB, CONTRACTOR TO INSTALL REVERSE GUTTER PITCH.
8. MATCH EXISTING ELEVATIONS AT THE PROPERTY LIMITS.
9. ALL STOOPS OR PEDESTRIAN EGRESS POINTS FROM THE BUILDING(S) SHALL BE NO GREATER THAN 2% FOR THE FIRST 5'.
10. NO VEHICLE, OTHER CONSTRUCTION EQUIPMENT, OR CONSTRUCTION MATERIALS OR DEBRIS SHALL BE PARKED OR STORED WITHIN THE DRIPLINE OF ANY TREE OR PLANT MATERIAL INTENDED TO BE SAVED

STORMWATER NARRATIVE:

ROADSIDE DITCH/OFF SITE DRAINAGE:
EXISTING DITCHES ALONG NW SIDE OF PARKWOOD AVE DISCHARGE NEAR NE CORNER OF PROPERTY FROM YPSILANTI TOWNSHIP #07 EVENTUALLY DISCHARGING TO TYLER DAM DRAIN.

ON SITE STORMWATER:
UTILIZE COMBINATION OF SHEET FLOW ACROSS PAVEMENT AND VEGETATIVE BUFFERS AND ENCLOSURED STORM SEWER TO CONVEY TO THE EXISTING DETENTION BASIN, WHICH IS DESIGNED TO ADEQUATE CAPACITY FOR UP TO THE 100-YEAR STORM PER WCWRCO GUIDELINES.

THE EXISTING EAST DETENTION BASIN WILL BE MODIFIED TO INCLUDE SEDIMENT FOREBAYS VIA STONE WALLS. THE EXISTING DETENTION SYSTEM WILL ALSO BE MODIFIED TO INCLUDE A RESTRICTED OUTLET STRUCTURE AT THE OUTFALL PIPE WITH A DIVIDED WEIR WALL. THE WEIR WALL WILL HAVE ORIFICE HOLES DESIGNED TO RELEASE THE STORMWATER DISCHARGE AT A CONTROLLED RATE AS REQUIRED FOR THE PROPERTY.

THE EXISTING EAST DETENTION BASIN HAS BEEN ESTIMATED TO HAVE A TOTAL DETENTION VOLUME STORAGE OF APPROXIMATELY 69,500 CFT, ESTIMATED FROM EXISTING BASIN BOTTOM 730 TO 734 TOP OF BANK.

THE EXISTING WEST DETENTION BASIN AREA WILL NOT BE MODIFIED AND IS DESIGNED TO BE INCORPORATED INTO THE NEW DEVELOPMENT AS A WATER QUALITY BMP, SEDIMENT FOREBAY PRIOR TO SLOW-RELEASE FLOW INTO THE MODIFIED EAST BASIN.

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

NORTH

GRAPHIC SCALE IN FEET
0 20' 40' 80'

NO.	DATE	BY
	SITE PLAN UPDATES	NSF
1	11/26/24	NSF
2	REV. PER CITY/COUNTY 03/05/25	MSF/TES
3	REV. PER CITY/COUNTY 07/03/25	TES

SCALE: AS NOTED | DESIGNED BY: TES | DRAWN BY: OKE | CHECKED BY: TES

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Ann Arbor, MI 48104-5550
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WWW.KIMLEY-HORN.COM

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STATE OF MICHIGAN
TYLER E. SMITH
63971
LICENSED LANDSCAPE ARCHITECT
NOT APPROVED FOR CONSTRUCTION
28975
ENGINEER
Tyler Smith

AMERCO REAL ESTATE COMPANY

GRADING AND DRAINAGE PLAN

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER C4.0

WORKSHEET W1

Storm Water Calculations
UHaul Ypsilanti, 2025/07/03
Existing Detention Basin - Modified

1. **Post Development Cover Types, Areas, Curve Numbers, and Runoff Coefficients**
Rational Method Variables
** Includes 2.22 acres of off-site drainage*

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coeff.	C x A (ac)
Pond-Det @ B.F.		116,496	2.67	1	2.67
Pavt (post-dev)		69,526	1.60	0.95	1.52
Buildings		58,079	1.33	0.95	1.27
Grass	A	52,978	1.22	0.2	0.24
Grass			0.00		0.00
Grass			0.00		0.00
	Total	297,079		Total of C x A	5.70
				Area Total	6.820
				Weighted C	0.84

Aside:

Ex Pavt (pre-dev)		96,703	2.22	0.95	2.11
Ex Grass (pre-dev)		180,583	4.15	0.95	3.94

NCRS Variables (Pervious)

Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	CN x A (ac)
Grass	A	52,978	1.22	39	47.43
	Total Area =	52,978		Total of C x A	47.43
				Area Total	1.22
				Weighted C	39.00

NCRS Variables (Impervious)

Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	CN x A
Building		58,079	1.33	98	130.66
Pavement		69,526	1.60	98	156.42
Pond		116,496	2.67	98	262.09
	Total Area =	244,101		Total of C x A	549.17
				Area Total	5.60
				Weighted C	98.00

WORKSHEETS: W2-W13

2. **First Flush Calculations**
A. V_{ff} = (1"/12) x (43560 cf / 1 ac) x A x C
V_{ff} = (1"/12) x (43560 cf / 1 ac) x 6.82 x 0.84 = 20,693 cf

3. **Standard Runoff Volume Calculations**
Pre-development Bankfull Runoff Calculations ($V_{bf\text{-}pre}$)
A. 2 year/ 24 hour event P = 2.35 in
B. Pre-developed land
Meadow , type A soils, CN= 39 Area = 1.22 ac.
Meadow , type C soils, CN= 0 Area = 0.00 ac.
Meadow , type D soils, CN= 0 Area = 0.00 ac.
Impervious, CN= 98 Area = 5.60 ac.
Weighted CN CN = 87.48
C. S = (1000/CN) - 10 S = 1.431
D. Q = (P - 0.2S)^2 /(P + 0.8S) Q = 1.219 in
E. Total Site Area (sf) excluding Self-Crediting BMP's 297,079 sf
F. $V_{bf\text{-}pre}$ = Q (1/12) Area 30,167 cf

4. **Standard Runoff Volume Calculations**
Pervious Cover Post-development Bankfull Runoff Calculations ($V_{bf\text{-}per\text{-}post}$)
A. 2 year/ 24 hour event P = 2.35 in
B. Developed land
Pervious Cover, Weighted CN CN = 39.00
C. S = (1000/CN) - 10 S = 15.641
D. Q = (P - 0.2S)^2 /(P + 0.8S) Q = 0.041 in
E. Pervious Cover Area 52,978 sf
F. $V_{bf\text{-}per\text{-}post}$= Q (1/12) Area 180 cf

5. **Standard Runoff Volume Calculations**
Impervious Cover Post-development Bankfull Runoff Calculations ($V_{bf\text{-}imp\text{-}post}$)
A. 2 year/ 24 hour event P = 2.35 in
B. Developed land
Buildings CN = 98.00
Pavement CN = 98.00
Pond CN = 98.00
Weighted CN = 98.00
C. S = (1000/CN) - 10 S = 0.204
D. Q = (P - 0.2S)^2 /(P + 0.8S) Q = 2.122 in
E. Pervious Cover Area 244,101 sf
F. $V_{bf\text{-}imp\text{-}post}$ = Q (1/12) Area 43,159 cf

6. **Standard Runoff Volume Calculations**
Pervious Cover Post-development 100 Year Runoff Calculations ($V_{100\text{-}per\text{-}post}$)
A. 100 year/ 24 hour event P = 5.11 in
B. Developed land
Pervious Cover, Weighted CN CN = 39.00
C. S = (1000/CN) - 10 S = 15.641
D. Q = (P - 0.2S)^2 /(P + 0.8S) Q = 0.223 in
E. Pervious Cover Area 52,978 sf
F. $V_{100\text{-}per\text{-}post}$ = Q (1/12) Area 984 cf

WORKSHEETS: W2-W13

7. **Standard Runoff Volume Calculations**
Impervious Cover Post-development 100 Year Runoff Calculations ($V_{100\text{-}imp\text{-}post}$)
A. 100 year/ 24 hour event P = 5.11 in
B. Developed land
Buildings CN = 98
Pavement CN = 98
Pond CN = 98
Weighted CN = 98.00
C. S = (1000/CN) - 10 S = 0.204
D. Q = (P - 0.2S)^2 /(P + 0.8S) Q = 4.873 in
E. Pervious Cover Area 244,101 sf
F. $V_{100\text{-}imp\text{-}post}$ = Q (1/12) Area 99,125 cf

8. **Time of Concentration**
Due to small site size, Tc of 15 minutes will be used. 0.25 hours

9. **Runoff Summary and Onsite Infiltration Requirement**
A. **Runoff Summary from Previous Worksheets**
First Flush Volume V_{ff} = 20,693 cf
Pre-Development Bankfull Volume $V_{bf\text{-}pre}$ = 30,167 cf
Pervious Cover Post-Development Bankfull Volume $V_{bf\text{-}per\text{-}post}$ = 180 cf
Impervious Cover Post-Development Bankfull Volume $V_{bf\text{-}imp\text{-}post}$ = 43,159 cf
Total Bankfull Volume $V_{bf\text{-}post}$ = 43,338 cf
Pervious Cover Post-Development 100-yr Volume $V_{100\text{-}per\text{-}post}$ = 984 cf
Impervious Cover Post-Development 100-yr Volume $V_{100\text{-}imp\text{-}post}$ = 99,125 cf
Total 100-yr Volume $V_{100\text{-}post}$ = 100,109 cf

B. **Determine Onsite Infiltration Requirement**
Total Post-Development Bankfull Volume $V_{bf\text{-}per\text{-}post}$ = 43,338 cf
Pre-Development Bankfull Volume $V_{bf\text{-}pre}$ = 30,167 cf
Bankfull Volume Difference 13,171 cf
Infiltration Req't is greater of ΔBankfull Volume or First Flush **20,693** cf

10. **Detention Requirement**
A. Q_p= 238.6 * $Tc^{A-0.82}$ 743.6 cfs/in-mi^2
B. Total Site Area Excluding "Self-Crediting" BMP's 6.82 ac
C. Q_{100} = $Q_{100\text{-}per}$ + $Q_{100\text{-}imp}$ 5.096 in
D. Peak Flow (PF) = (Q_p x Q_{100} x Area (ac)) / 640 PF = 40.4 cfs
E. Δ = PF - 0.15 * Area (ac) = Δ = 39.4 cfs
F. V_{det} = Δ / PF x V_{100} = V_{det} = 97,573 cf
V_{det} + 20% penalty (no infiltration) V_{det} = 117,088 cf

V_{det} + 20% penalty (minus infiltration credits) V_{det} = **99,160** cf
(See W13 Infiltration Credit Calculations)

11. **Applicable BMP's and Associated Volume Credits**

Proposed BMP	Area (sf)	Storage Vol. (cf) Surface	Storage Vol. (cf) Soil	Inf. Rate (in/hr) FOS=2	Inf. Volume During Storm (cf)	Total Volume Reduction (cf)
Infiltration Area #1	3,547	0	0	4.88	8,646	8,646
Infiltration Area #2	16,784	0	0	0.75	6,294	6,294

Total Volume Reduction Credit by Proposed Structural BMPs (cf) 14,940
Runoff Volume Infiltration Requirement (V_{inf}) from Worksheet 9 20,693
Runoff Volme Credit (cf) -

12. **Natural Features Inventory**

Existing Natural Resources	Mapped	Total Area (ac)	Protected/Undisturbed Area (ac)
	Y	5.18	1.6
Total Existing (ac)			

13. **Summary**
A. Stormwater Management Summary

Minimum Onsite Infiltration Requirement, V_{inf}, cf	20,693
Designed/Provided Infiltration Volume, $V_{inf\text{-}prov}$, cf	14,940
% Minimum Required Infiltration Provided	72%
Total Calculated Detention Volume, V_{det}, cf	97,573
Net Required Detention Volume, V_{det} - $V_{inf\text{-}prov}$, cf	82,633

B. Detention Volume Increase for sites where the req'd infiltration volume can't be achieved

% Required Infiltration NOT provided (100%-% Minimum Req'd Inf. Prov.)	28%
Net % Penalty (20% x %Required Infiltration NOT provided)	6%
Total Req'd Detention Volume, inluding penalty (100% + Net % Penalty) x Net Req'd Det. Vol.	**99,160**

DETENTION VOL. & ORIFICE CALCS

A. First Flush Volume Required 20,693 cf
Bankfull (2 year/24-hour storm Required) 43,338 cf
*100 - Year Storage Volume Required 99,160 cf
**Includes infiltration credits*

B. Detention Volume Proposed

Incremental Storage - Exist Detention Basin

	Elev.	Area(sf)	Vol (cf)	Vol.(cf)
Elev $_b$ =	730.00	16,950	5,650	5,650
	731.00	19,643	18,280	23,930
	732.00	22,600	21,104	45,034
	733.00	25,743	24,154	69,189
	734.00	33,850	29,704	98,893
	734.50	36,582	17,603	116,496
	735.00	39,313	18,970	135,466
1 ft free	735.10	42,057	4,068	139,534

Total Provided: 99,200 CF
Total Required: 99,160 CF

Sediment Forebay Design - West (Existing Basin)
Volume req. for sediment forebay = V_{fb} = 0.05x$V_{det,100}$ (prorated for sub drainage ratio)
Calculate ratio of subdrainage vs. total drainage area
Ratio = 4.06 / 6.82 = 0.59531
Vfb = 2,952 cft

Incremental Calcs

	Elev.	Area(sf)	Vol (cf)	Vol.(cf)
Elev $_b$ =	733.50	2,641	0	0
	734.00	3,500	1,530	1,530
	735.00	3,875	3,686	5,216
	735.50	4,250	2,031	7,247

Sediment Forebay Design - East (Proposed)
Volume req. for sediment forebay = V_{fb} = 0.05x$V_{det,100}$ (prorated for sub drainage ratio)
Calculate ratio of subdrainage vs. total drainage area
Ratio = 1.07 / 6.82 = 0.15689
Vfb = 778 cft

Incremental Calcs

	Elev.	Area(sf)	Vol (cf)	Vol.(cf)
Elev $_b$ =	730.00	100	0	0
	731.00	220	156	156
	732.00	350	282	439
	733.00	500	423	861

The following interpolations determine the pond water elevations for the three different storm events:

First Flush: 730.0 - 731.0 = x - 731.0
5,650 - 23,930 20,693 - 23,930
x = Elev $_{ff}$ = 730.82

Bankfull Flood: 732.0 - 733.0 = x - 733.0
45,034 - 69,189 43,338 - 69,189
x = Elev $_{bf}$ = 731.93

100 Yr. Flood: 734.0 - 735.0 = x - 735.0
98,893 - 135,466 99,160 - 135,466
x = 734.01

These yield pond water elevations of 730.82 for the First Flush,
731.93 for the Bankfull Flood,
and 734.01 for the 100 Yr. Storm Event

C. Outflow Structure
The Detention Pond will have a 3-stage outlet. This will consist of a precast concrete manhole with a series of holes in three (3) tiers. The lower tier of holes will detain the first-flush volume in a timeframe to exceed 24 hours. The middle tier along with the lower tier will detain and drain the bankfull flood volume in a timeframe not-to-exceed 48 hours. The upper tier along with the middle and lower tiers will detain the runoff from the site.

1. First Flush:
The average allowable release rate for runoff is 1" over area of site in 24 hrs.
Q_{ff} = (1/24 hrs) x (1 hr /3600 sec) x 20,693 CF = 0.240 CFS
Orifice area at Elev. 730.00 to produce this average discharge:
H = 4.32 FT
H_A = (2/3 H) = 2.88 FT
Area of Orifice = Q_{ff} / (0.62 x (2xgxH_A)^0.5) = 0.02836 SF
Where, H = Head
H_A = Average Head
g = Gravitational Const (32.2 fps)
Area of 1.000 " hole = 0.0055 SF
No. of 1.000 " hole(s) = 0.0284 / 0.0055 = 5.20 hole(s)
Therefore, use
Five (5) 1.000 " hole(s) at Elev. = 730.00 (Ex Outlet Elev)
The detention time for
Five (5) 1.000 " hole(s) is:
Q(new)$_{ff}$ = A(new)$_{ff}$ x (0.62(2gH$_A$)^0.5
Q(new)$_{ff}$ = (5 x 0.0055) x (0.62(2gH$_A$)^0.5
Q(new)$_{ff}$ = 0.230 CFS
T(new)$_{ff}$ = V$_{ff}$ /Q(new)$_{ff}$
T(new)$_{ff}$ = 20693 /(0.230 x 3600) = 25.0 hrs.
>24 hrs (Ok)

2. Bankfull Flood:
The bankfull flood must be detained in 36-48 hrs, check the discharge through the first-flush orifice to see if additional holes are necessary:
H = 5.43 FT
H_A = (2/3 H) = 3.62 FT
Q_{ff} = 0.62 (5) holes x 0.0055 sf/hole x (2 x 32.2 x 3.62)^0.5
Q_{ff} = 0.258 CFS
Time to empty Basin at this discharge:
T_{ff} = (sec/ 0.258 CF) x (43338 CF) x (1 hr /3600sec)
T_{ff} = 46.6 hrs.
Since T_{ff} < 48 hrs, no additional holes are necessary for the bankfull storm.

3. 100 yr. Flood:
This basin is designed to pass the 100-year storm event without overtopping the basin.
Flow Required to pass:
Q_A = (0.15 x 6.82 Ac.) = 1.023 CFS
At the required 100-year detention volume elevation, the
Five (5) 1.000 " hole(s) designed for the first flush
Q = 0.62(5 x 0.0055) x (2 x 32.2 x 7.51)^0.5 0.37177 CFS
The remaining allowable outflow= 1.023 - 0.37177 = 0.651 CFS
0.62(A)(2 x 32.2 x (734.01 - 731.93) ^ 0.5 = 0.651 CFS
A = 0.0908 SF
Area of 2.000 " hole = 0.0218 SF
No. of 2.000 " hole(s) = 0.0908 / 0.0218 = 4.16 hole(s)
Therefore, use
Four (4) 2.000 " hole(s) at Elev. = 731.93

BASIN SPILLWAY CALCS

Detention Basin Emergency Overflow Spillway
Sized for 100 Year Peak Inflow - Q_{100}

Q_{100} = 100 Year Peak Inflow in CFS
H= Depth of Water over Spillway in ft
W = Width of spillway in ft
$Q_{Spillway}$ = Capacity of Spillway in CFS calculated using the Cipoletti Weir Equation

$Q_{Spillway} = (3.367)(W)(H^{1.5})$

Q100 = C*I*A =	29.13 cfs
H	0.5 ft
W	25 ft
$Q_{spillway}$	29.76 cfs

NO.	REVISIONS	DATE	BY
1	SITE PLAN UPDATES	11/26/24	MSF
2	REV. PER CITY/COUNTY	03/05/25	MSF,TES
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STATE OF MICHIGAN
TYLER
SMITH
47871
28975
ENGINEER
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

AMERCO REAL ESTATE COMPANY

DRAINAGE CALCULATIONS

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C4.1

Drawing name: K:\DET_DIS\168737006_uhaul ypsi mi\2 Design\CADD\plansheets\C5.0-GRADING AND DRAINAGE PLAN_168737006.dwg C4.1 Jul 04, 2025 1:16pm by Tyler.Smith
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STORMWATER MANAGEMENT SYSTEM MAINTENANCE TASKS AND SCHEDULE - ACTIVE CONSTRUCTION

TASKS	COMPONENTS: Storm Sewer System	Catch Basin Sumps	Catch Basin Inlets	Channels & Ditches	Basin Outlet Filters	Pretreatment Structures	Storm Basins	Overflow Structures	Discharge Outlets	SCHEDULE
Install & maintain soil erosion control measures					X	X	X			Per plans or as required
Inspect for accumulated sediment	X	X		X	X	X	X		X	Weekly or after rain event
Removal of accumulated sedinement >1' deep	X	X		X			X	X	X	As required
Inspect for erosion				X			X	X	X	Weekly or after rain event
Reestablish permanent & temporary controls			X	X			X	X	X	As required
Inspect for floatables and debris	X	X	X		X		X	X		Weekly or after rain event
Remove floatables and debris	X	X	X		X		X	X		As required
Replace Outlet Filter gravel jackets					X					As required
Replace rip-rap or stone check dams				X		X	X	X		As required
Mowing				X		X	X	X	X	Two times, annually
Certified Stormwater Manager Inspections	X	X	X	X	X	X	X	X	X	Weekly or after rain event
Professional engineer, reporting to developer, construction observations	X	X	X	X	X	X	X	X	X	As requried
Modifications per engineering recommendation	X	X	X	X	X	X	X	X	X	Monthly
Certfified Storwmater Manager maintenance and inspection records	X	X	X	X	X	X	X	X	X	Weekly

STORMWATER MANAGEMENT SYSTEM MAINTENANCE TASKS AND SCHEDULE - POST CONSTRUCTION

TASKS	COMPONENTS: Storm Sewer System	Catch Basin Sumps	Catch Basin Inlets	Channels & Ditches	Basin Outlet Filters	Pretreatment Structures	Storm Basins	Infiltration BMP's	Overflow Structures	Discharge Outlets	SCHEDULE
Inspect for accumulated sediment	X	X			X	X	X	X			Annually, and when ponding occurs for greater than 48 hours in Infiltration BMP's
Removal of accumulated sedinement >1' deep	X	X			X	X	X				Every 2 years or as required
Inspect for erosion				X							Annually
Reestablish permanent, eroded areas				X			X		X	X	As required
Inspect for floatables and debris and erosion	X	X	X		X		X		X		Annually
Remove floatables and debris, fix erosion	X	X	X		X		X		X		As required
Replace Outlet Filter gravel jackets					X						Every 3-5 years as needed
Replace rip-rap or stone check dams				X							As required
Mowing				X		X	X		X		Two times, annually
Vegetation and animal control				X		X	X		X		Annually, or as required
Professional engineer observation during rain event	X	X	X	X	X	X	X		X	X	Annually
Modifications per engineering recommendation	X	X	X	X	X	X	X		X	X	As required
Professional engineer, emergency observations	X	X	X	X	X	X	X	X	X	X	As required
Maintenance & Inspection records by Owner	X	X	X	X	X	X	X	X	X	X	Annually
Inspection after 1" or greater rain event								X			As required

STORMWATER MANAGEMENT SYSTEM BUDGET

TASKS	COST
Inspect for accumulated sediment	$200.00
Removal of accumulated sedinement >1' deep	$1,000.00
Inspect for erosion	$150.00
Reestablish permanent, eroded areas	$300.00
Inspect for floatables and debris and erosion	$200.00
Remove floatables and debris, fix erosion	$200.00
Replace Outlet Filter gravel jackets	$2,200.00
Replace rip-rap or stone check dams	$200.00
Mowing	$300.00
Vegetation and animal control	$150.00
Professional engineer observation during rain event	$300.00
Modifications per engineering recommendation	$150.00
Professional engineer, emergency observations	$300.00
Maintenance & Inspection records by Owner	$200.00
TOTAL YEARLY BUDGET	$5,850.00

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MAINTENANCE PLANS

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YPSILANTI, MI 48198

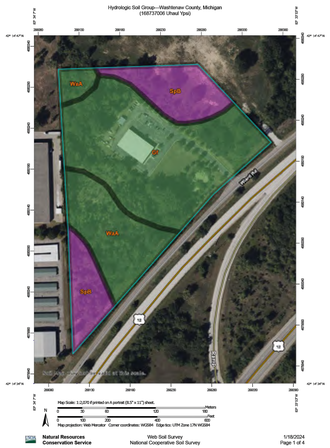
ORIGINAL ISSUE: 06/13/24

KHA PROJECT NO. 168737004

SHEET NUMBER
C4.2

STORMWATER MANAGEMENT SYSTEM BUDGET

TASKS	COST
Inspect for accumulated sediment	$200.00
Removal of accumulated sedinement >1' deep	$1,000.00
Inspect for erosion	$150.00
Reestablish permanent, eroded areas	$300.00
Inspect for floatables and debris and erosion	$200.00
Remove floatables and debris, fix erosion	$200.00
Replace Outlet Filter gravel jackets	$2,200.00
Replace rip-rap or stone check dams	$200.00
Mowing	$300.00
Vegetation and animal control	$150.00
Professional engineer observation during rain event	$300.00
Modifications per engineering recommendation	$150.00
Professional engineer, emergency observations	$300.00
Maintenance & Inspection records by Owner	$200.00
TOTAL YEARLY BUDGET	$5,850.00



HATCH LEGEND

OFF-SITE DRAINAGE TO DETENTION BASIN

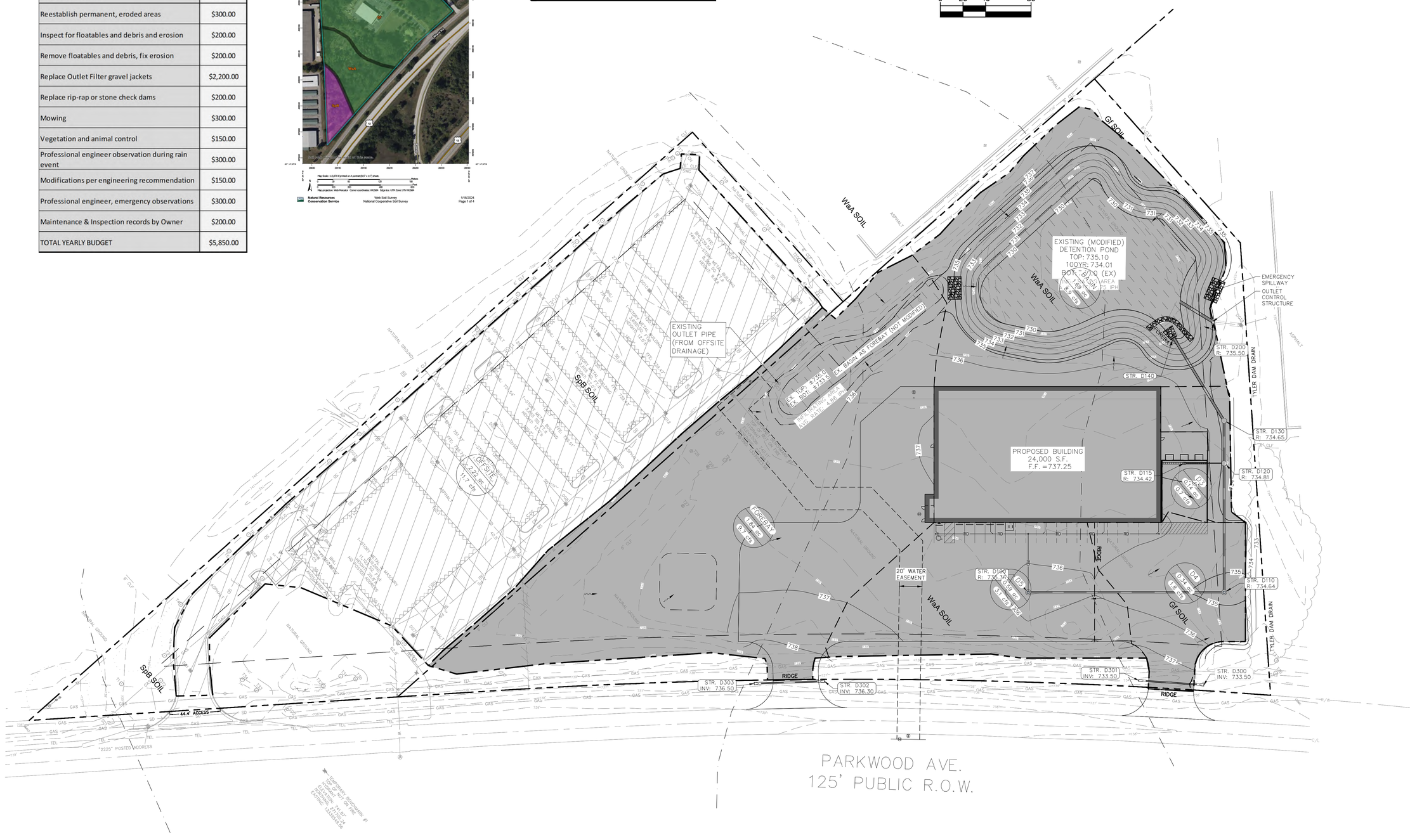
ON-SITE DRAINAGE TO DETENTION BASIN

EXISTING SOIL CONDITIONS

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NORTH

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0 20 40 80



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DRAINAGE AREA MAP

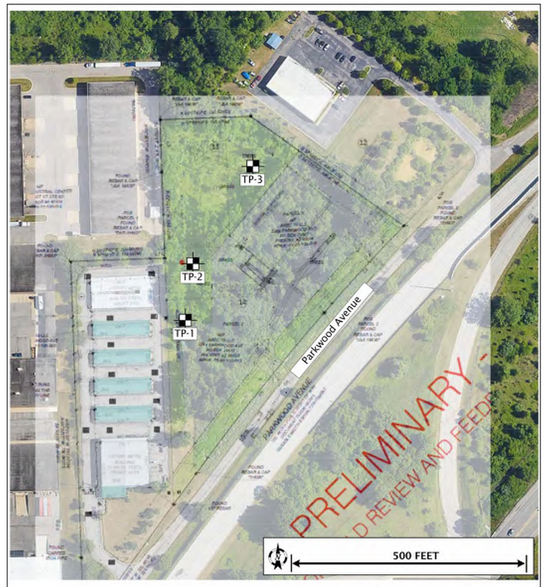
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ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER C4.3

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Legend

Test pits performed by Maulbetsch Excavating, LLC on October 18, 2023

Test Pit Location Plan

U-Haul Moving and Storage Development
2225 Parkwood Avenue
Ypsilanti Township, Michigan 48198

CONSULTING GROUP	Project No. 233653
	Drawn by: KAC
	Date: 10-20-23
	Scale: NTS
	Plate No. 1

Project Name: U-Haul Moving and Storage Development

Project Location: 2225 Parkwood Avenue, Ypsilanti Township, Michigan

G2 Project No. 233653

Latitude: 42.24406° Longitude: -83.56819°

Test Pit No. TP-1

CONSULTING GROUP

ELEV. (ft)	PROFILE	GROUND SURFACE ELEVATION: 736.0 ft ±	DEPTH (ft)	SAMPLE TYPE/NO.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	PERCENT COMPACTION	UNCOF. COMP. ST. (PSF)
		Topsoil: Dark Brown Silty Sand (6 inches) 0.5						
		Grayish Brown Silty Sand with trace gravel 2.5		BS-1				
731.0		Brown Sand with trace silt and gravel (Observed Infiltration Rate = 9.75 iph) (Passing No. 200 Sieve = 3.9%) 9.5	5	BS-2				
726.0		Gray Gravelly Sand with trace silt 10.0	10	BS-3				
		End of Test Pit @ 10 ft						

Total Depth: 10 ft
Excavation Date: October 18, 2023
Inspector: K. Crow
Contractor: Maulbetsch Excavating, LLC
Operator: P. Maulbetsch

Excavation Equipment:
CAT 308 mini-excavator equipped with a 42-inch bucket

Water Level Observation:
9-1/2 feet during and upon completion

Excavation Backfilling Procedure:
Excavated soil

Figure No. 1

Project Name: U-Haul Moving and Storage Development

Project Location: 2225 Parkwood Avenue, Ypsilanti Township, Michigan

G2 Project No. 233653

Latitude: 42.24439° Longitude: -83.56814°

Test Pit No. TP-2

CONSULTING GROUP

ELEV. (ft)	PROFILE	GROUND SURFACE ELEVATION: 736.0 ft ±	DEPTH (ft)	SAMPLE TYPE/NO.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	PERCENT COMPACTION	UNCOF. COMP. ST. (PSF)
		Topsoil: Dark Brown Silty Sand (12 inches) 1.0						
		Brown Sand with trace silt and gravel (Observed Infiltration Rate = 3.00 iph) (Passing No. 200 Sieve = 7.0%) 6.0	5	BS-1				
731.0		Gray Gravelly Sand with trace silt 8.0		BS-2				
726.0		End of Test Pit @ 8 ft	10	BS-3				

Total Depth: 8 ft
Excavation Date: October 18, 2023
Inspector: K. Crow
Contractor: Maulbetsch Excavating, LLC
Operator: P. Maulbetsch

Excavation Equipment:
CAT 308 mini-excavator equipped with a 42-inch bucket

Water Level Observation:
8 feet during and upon completion

Excavation Backfilling Procedure:
Excavated soil

Figure No. 2

Project Name: U-Haul Moving and Storage Development

Project Location: 2225 Parkwood Avenue, Ypsilanti Township, Michigan

G2 Project No. 233653

Latitude: 42.24496° Longitude: -83.56766°

Test Pit No. TP-3

CONSULTING GROUP

ELEV. (ft)	PROFILE	GROUND SURFACE ELEVATION: 730.0 ft ±	DEPTH (ft)	SAMPLE TYPE/NO.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	PERCENT COMPACTION	UNCOF. COMP. ST. (PSF)
		Topsoil: Dark Brown Silty Sand (4 inches) 0.3						
		Gray Gravelly Sand with trace silt 2.5		BS-1				
		Gray Silty Sand with trace gravel 4.0		BS-2				
725.0		End of Test Pit @ 4 ft	5					
720.0			10					

Total Depth: 4 ft
Excavation Date: October 18, 2023
Inspector: K. Crow
Contractor: Maulbetsch Excavating, LLC
Operator: P. Maulbetsch

Excavation Equipment:
CAT 308 mini-excavator equipped with a 42-inch bucket

Water Level Observation:
2 feet during and upon completion

Excavation Backfilling Procedure:
Excavated soil

Figure No. 3

NO.	REVISIONS	DATE	BY
1	SITE PLAN UPDATES	11/26/24	MSF
2	REV. PER CITY/COUNTY	03/05/25	MSF,TES
3	REV. PER CITY/COUNTY	07/03/25	TES

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SCALE: AS NOTED | DESIGNED BY: TES | DRAWN BY: DKE | CHECKED BY: TES

STATE OF MICHIGAN — TYLER E. SMITH — 48975 — LICENSED LANDSCAPE ARCHITECT
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

AMERCO REAL ESTATE COMPANY

INFILTRATION BORINGS

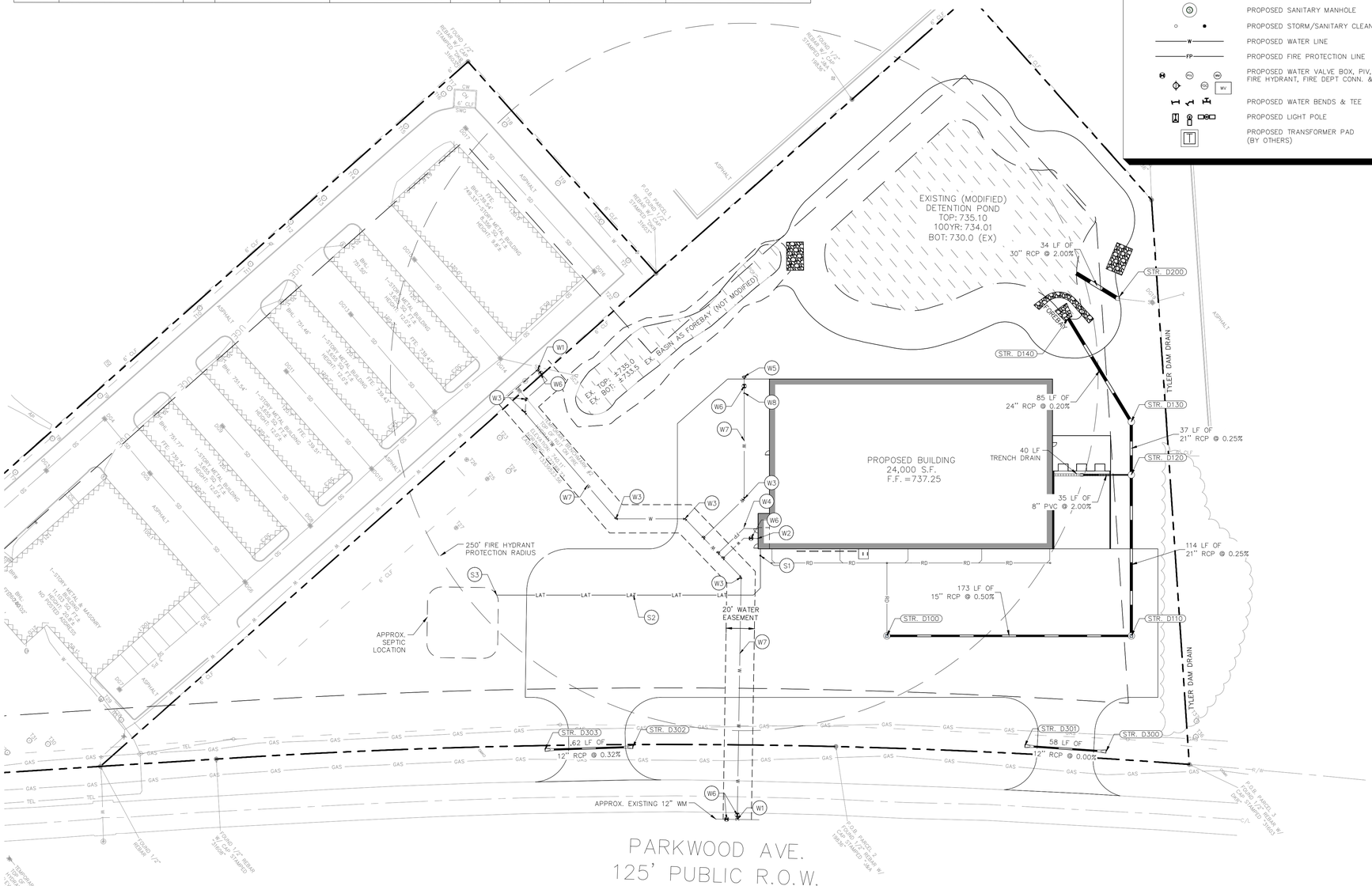
U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24

KHA PROJECT NO. 168737004

SHEET NUMBER C4.4

STORM SEWER STRUCTURE DATA TABLE NOTE: DEBRIS GUARD REQUIRED ON ALL END SECTIONS ALL CASTINGS SHALL BE LABELED "DUMP NO WASTE–DRAINS TO WATERWAY"									
STR. NO:	STRUCTURE/CASTING TYPE NOTE: NEENAH CASTINGS	T.O.R.	INCOMING PIPE DATA (DIRECTION) [FROM STR]	OUTGOING PIPE DATA (DIRECTION) [TO STR]	OUTGOING PIPE L.F.	OUTGOING PIPE SIZE	OUTGOING GRADE (%)	CONNECT TO STRUCTURE	REMARKS
D100	48" MH – OPEN LID	735.36		15" RCP 731.79 (NE) [D110]	173'	15"	0.50%	D110	
D110	48" MH – OPEN LID	734.64	15" RCP 730.92 (SW) [D100]	21" RCP 730.67 (NW) [D120]	114'	21"	0.25%	D120	
D115	TRENCH DRAIN	734.42		8" PVC 732.70 (NE) [D120]	35'	8"	2.00%	D120	
D120	48" MH – CLOSED LID	734.81	21" RCP 730.39 (SE) [D110] 8" PVC 732.00 (SW) [D115]	21" RCP 730.39 (NW) [D130]	37'	21"	0.25%	D130	
D130	48" MH – CLOSED LID	734.65	21" RCP 730.30 (SE) [D120]	24" RCP 730.17 (W) []	85'	24"	0.20%		
D140	FLARED END SECTION								
D200	OUTLET CONTROL STRUCTURE	735.50	30" RCP 729.32 (W) []	EXISTING STORM 726.60 (NE) []	25'	30"	2.02%		SEE DETAIL
D300	FLARED END SECTION		12" RCP 733.50 (SW) [D301]						
D301	FLARED END SECTION			12" RCP 733.50 (NE) [D300]	58'	12"	0.00%	D300	
D302	FLARED END SECTION		12" RCP 736.30 (SW) [D303]						
D303	FLARED END SECTION			12" RCP 736.50 (NE) [D302]	62'	12"	0.32%	D302	



UTILITY LEGEND

- PROPOSED TRENCH DRAIN
- PROPOSED STORM SEWER LINE
- STR XX — STRUCTURE ID
- PROPOSED STORM STRUCTURES
- SS — PROPOSED SANITARY SEWER LINE
- LAT — PROPOSED SANITARY LATERAL LINE
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM/SANITARY CLEANOUT
- W — PROPOSED WATER LINE
- FP — PROPOSED FIRE PROTECTION LINE
- PROPOSED WATER VALVE BOX, PIV, METER FIRE HYDRANT, FIRE DEPT CONN. & VAULT
- PROPOSED WATER BENDS & TEE
- PROPOSED LIGHT POLE
- T — PROPOSED TRANSFORMER PAD (BY OTHERS)

KEY NOTES

(S) SANITARY SEWER
S1. SANITARY CLEANOUT
S2. SANITARY LATERAL LINE – 6" @ 1%
S3. CONNECT TO EXISTING DRAIN FIELD – TO BE DESIGNED BY OTHERS

(W) WATER LINE
W1. CONNECT TO EXISTING WATER – CUT IN TEE
W2. DOMESTIC WATER SERVICE LINE – 1 ½" TYPE K COPPER
W3. WATER BEND
W4. FIRE PROTECTION WATER LINE – 6"
W5. FIRE HYDRANT
W6. GATE VALVE
W7. D.I. WATERMAIN – 8"
W8. 8" X 6" REDUCER

(G) GAS LINE
G1. GAS SERVICE LINE

(E) ELECTRIC / TELEPHONE / CABLE
E1. ELECTRIC SERVICE LINE
E2. ELECTRIC TRANSFORMER
E3. TELECOMMUNICATIONS LINE

(M) MISCELLANEOUS
M1. CONTRACTOR TO COORDINATE CONNECTION WITH UTILITY PROVIDER.
M2. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH AND SIZE OF EXISTING UTILITY TO ENSURE CONFLICTS DO NOT EXIST WITH PROPOSED UTILITIES.
M3. POTENTIAL UTILITY CONFLICT. ALL (WATER, SANITARY, DRAINAGE STORM) CROSSINGS TO HAVE 18" MIN. VERTICAL CLEARANCE. ALL WATER SERVICE LINES TO REMAIN PERPENDICULAR AT CROSSING IN SUCH THAT IT FORMS AN ANGLE BETWEEN 45° AND 90°.

NOTE: CONTRACTOR TO VERIFY WATER, SANITARY, GAS, & ETC LOCATIONS, SIZES AND TYPES WITH MEP PLANS PRIOR TO ORDERING MATERIALS.

UTILITY NOTES

GENERAL UTILITY NOTES

1. REFER TO THE YPSILANTI COMMUNITY UTILITIES AUTHORITY ENGINEERING STANDARDS AND DESIGN SPECIFICATIONS FOR ALL PUBLIC UTILITIES.
2. ALL SANITARY SEWER LINES SHALL BE PVC MEETING, ASTM D–3034 SDR 26 EXCEPT FOR SANITARY SEWER THAT CROSSES ABOVE WATER MAIN, THIS PIPE SHALL BE AWWA C900 (UNLESS WATER MAIN CASING IS UTILIZED).
3. CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.
4. ALL ELECTRIC AND TELEPHONE EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
5. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED BY THE ENGINEER FROM THE APPROPRIATE GOVERNING AUTHORITY AND CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER.
6. CONTRACTOR TO CALL MISS DIG (1–800–482–7171) TO COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
7. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OTHER UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE ENGINEER AND THE OWNER/ DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION. THE MUNICIPALITY SHALL BE NOTIFIED OF ANY AND ALL CHANGES TO THE DESIGN PLANS.
8. CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS REQUIRED BY OSHA.
9. CONTRACTOR TO AVOID DISRUPTION OF ANY ADJACENT TENANT'S TRAFFIC OPERATIONS DURING INSTALLATION OF UTILITIES.
10. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE OR CENTER OF MANHOLE UNLESS NOTED OTHERWISE.
11. SEE ARCHITECTURAL AND MEP PLANS FOR EXACT UTILITY CONNECTION LOCATIONS AT BUILDING.
12. LIGHT POLES SHOWN FOR COORDINATION PURPOSES ONLY AND DO NOT REPRESENT ACTUAL SIZE. SEE SITE LIGHTING PLANS BY OTHERS FOR MORE INFORMATION.
13. STORMWATER FACILITIES MUST BE FUNCTIONAL BEFORE BUILDING CONSTRUCTION BEGINS.

Know what's below. Call before you dig.

NORTH

GRAPHIC SCALE IN FEET
0 20' 40' 80'

No.	REVISIONS	DATE	BY
1	SITE PLAN UPDATES	11/26/24	MSF
2	REV. PER CITY/COUNTY	03/05/25	MSF, TES
3	REV. PER CITY/COUNTY	07/03/25	TES

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SCALE: AS NOTED | DESIGNED BY: TES | DRAWN BY: DKE | CHECKED BY: TES

STATE OF MICHIGAN
TYLER J. SMITH
47933
28975
ENGINEER
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

AMERCO REAL ESTATE COMPANY

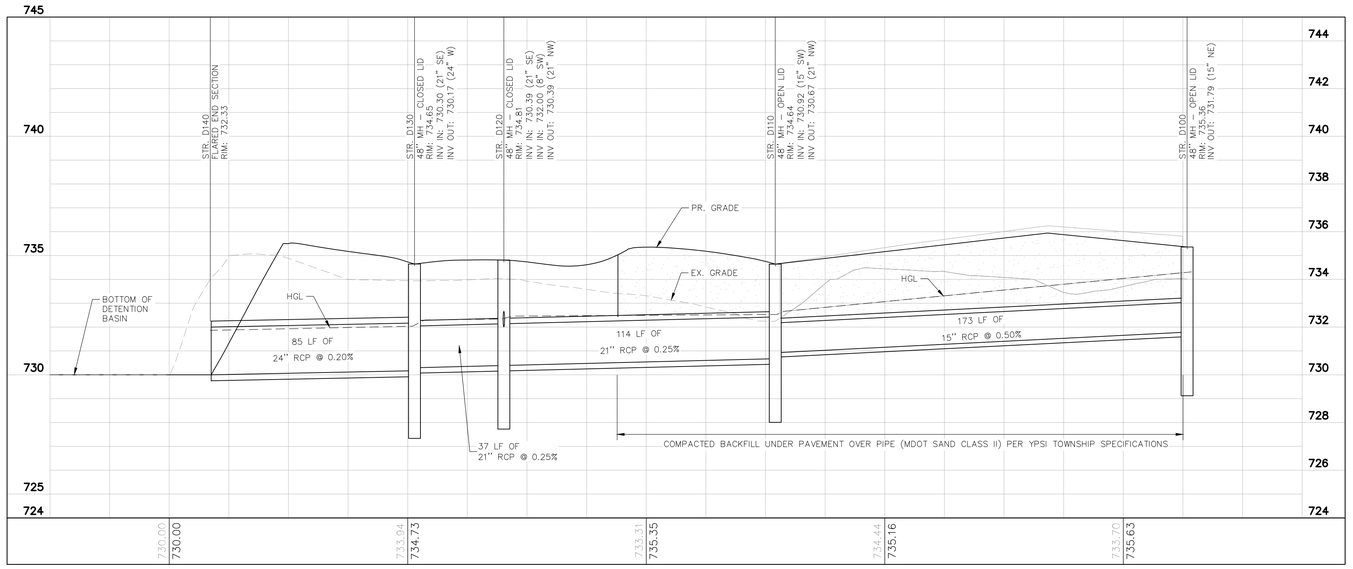
UTILITY PLAN

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C5.0

Drawing name: K:\DET_PSV\168737004_uhaul psv_Design\CAD\Grandrenk\AS-1 STORM PROFILE.dwg C5.0 Jul 04, 2025 1:21pm bjr Tyler.Smith
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811 Know what's below. Call before you dig.



PROPOSED STORM SEWER PROFILE #1
H: 1"=40 | V: 1"=4

STORM CASTING DESIGN REQUIREMENTS	
STORM SEWER FREQUENCY	10-Year
HYDRAULIC GRADELINE FREQUENCY	100-Year
INVERT CONNECTIVITY	Invert Drop
INVERT DROP	-
MAX INLET DEPTH	0.5
HGL STARTING ELEVATION	(dc+D)/2

STORM CASTING DESIGN REQUIREMENTS	
CASTING CAPACITY FREQUENCY	10-Year
MAXIMUM HEAD (ft)	-
CLOGGING (%)	50%

UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	PIPE LENGTH	PIPE MATERIAL	PAVEMENT CONDITION	CURB CONDITION	OUTLET DEFLECTION ANGLE	STREET INLET?	DRAINAGE AREA					c*A			CUMULATIVE Tc	INTENSITY			FLOW			PIPE SIZE	PIPE SLOPE	MANNING'S N
								CASTING		DIRECT TO INLET		Tc	CASTING	INLET	CUMULATIVE		CASTING	SEWER	HGL	CASTING	SEWER	HGL			
								c	AREA	c	AREA						10-Year	10-Year	100-Year	10-Year	10-Year	100-Year			
		(ft)				(deg)			(acres)		(acres)	(min)				(min)	(in/hr)	(in/hr)	(in/hr)	(cfs)	(cfs)	(cfs)	(in)	(%)	
D100	D110	173.00	RCP	Paved	Sag	<90	YES	0.95	0.59	0.95	0.59	20.00	0.56	1.12	1.12	20.00	3.93	3.93	5.00	2.20	4.40	5.61	15	0.50	0.013
D110	D120	114.00	RCP	Paved	Sag	180	NO	0.95	0.34	0.95	0.34	20.00	0.32	0.65	1.77	20.77	3.93	3.86	4.92	1.27	6.82	8.70	21	0.25	0.013
D120	D130	37.00	RCP	Paved	Sag	180	NO	0.95	0.14	0.95	0.14	20.00	0.13	0.27	2.03	21.35	3.93	3.81	4.86	0.52	7.75	9.89	21	0.25	0.013
D130	D140	85.00	RCP	Paved	Sag	180	NO					20.00	-	-	2.03	21.54	3.93	3.80	4.85	-	7.72	9.85	24	0.20	0.013

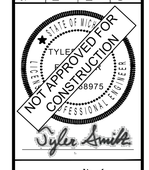
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	FULL PIPE CAPACITY	VELOCITY			RIM		INVERT			STRUCTURE DATA		COVER		CAPACITY UTILIZATION								MAX	Travel Time	HGL CALCULATIONS	
			FULL FLOW	FLOW VELOCITY	HGL FLOW VELOCITY	ELEV.		ELEV.		ADDT. DROP	STRUCTURE TYPE	CASTING TYPE				FLOW DEPTH	TRAVEL TIME	cum cA	cum cA	# US Strs.	Tcum	Tcum	Ttrav	Ttrav	U.S. HGL ELEV.	U.S. STR. CROWN
						U.S.	D.S.	U.S.	D.S.				U.S.	D.S				(Above)	(Below)		(Above)	(Below)		(min)	(ft.)	(ft.)
		(cfs)	(ft/sec)	(ft/sec)	(ft/sec)	(ft)	(ft)	(ft)	(ft)				(ft)	(ft)	(%)	(ft)	(min)									
D100	D110	4.57	3.72	#NAME?	#NAME?	735.80	734.64	731.41	730.55	-	TYPE "C" MANHOLE	R-3287-SB10	2.95	2.66	96%	#NAME?	0.77	1.12	1.12	0	20.00	20.00	0.00	0.77	#NAME?	732.66
D110	D120	7.92	3.29	#NAME?	#NAME?	734.64	734.81	730.55	730.26	-	TYPE "C" MANHOLE	R-3010	2.11	2.57	86%	#NAME?	0.58	1.77	0.65	1	20.77	20.77	0.77	0.58	#NAME?	732.30
D120	D130	7.92	3.29	#NAME?	#NAME?	734.81	734.64	730.26	730.17	-	TYPE "C" MANHOLE	R-3010	2.57	2.49	98%	#NAME?	0.19	2.03	0.27	1	21.35	21.35	0.58	0.19	#NAME?	732.01
D130	D140	10.12	3.22	#NAME?	#NAME?	734.64	-	730.17	730.00	-	TYPE "C" MANHOLE	R-1772	2.22	-	76%	#NAME?	0.44	2.03	0.00	1	21.54	21.54	0.19	0.44	#NAME?	732.17

Drawing name: K:\DET_DFA\168737006_ypsi mi\2 Design\CADD\plansheets\C5.1 STORM PROFILE.dwg C5.1 Jul 04, 2025 1:22pm by: TylerE.Smith
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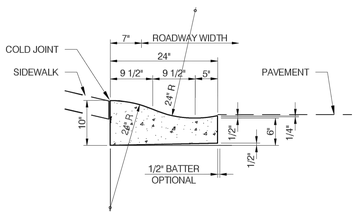
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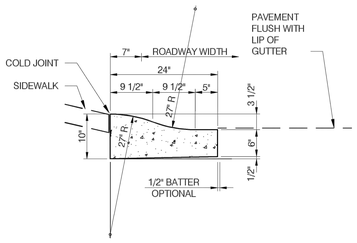
STORM PROFILE

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C5.1

MOUNTABLE ROLLED CURB DETAIL



ROLL CURB AND GUTTER (A)



ROLL CURB AND GUTTER (B)

ROLL CURB NOTES (A & B)

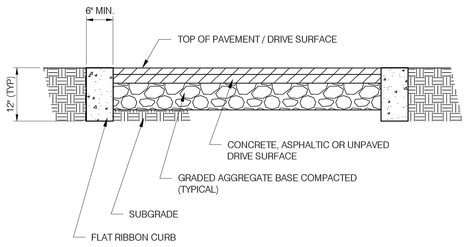
1. ONLY USE WHEN RIBBON CURB IS NOT ALLOWED OR WHEN REQUIRED FOR DRAINAGE.
2. CONTRACTION JOINT SPACING 10' MAXIMUM.
3. MINIMUM OF 3000 PSI CONCRETE AT 28 DAYS.

AMERCO REAL ESTATE COMPANY	ROLL CURB DETAILS	SHEET:
	FILE NAME: CURB PROFILES.dwg	CP-2
	SECTION #: Division-3 (3300)	
	REVISED: 04.08.2020	DETAIL
	SCALE: NOT TO SCALE	

CONSTRUCTION & RENOVATION - 2727 NORTH CENTRAL AVENUE, 9-NORTH - PHOENIX, ARIZONA 85004 PH: (602) 263-6502

RIBBON CURB DETAIL

USE AT ALL INTERIOR LOT LOCATIONS

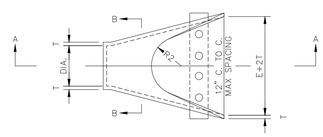


RIBBON CURB NOTES:

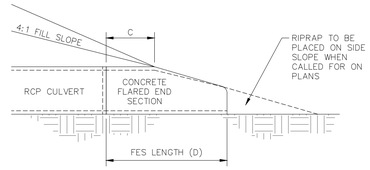
1. RIBBON CURB MUST BE A FLAT CURB TOP FLUSH WITH PAVED OR UNPAVED DRIVE SURFACES.
2. RIBBON CURB SHALL BE A MINIMUM OF 3000 PSI CONCRETE AT 28 DAYS.
3. ALONG RIBBON CURB:
   - 1/2-INCH EXPANSION JOINTS OR PREMOLDED BITUMINOUS EXPANSION JOINT MATERIAL SHALL BE PROVIDED AT ALL STRUCTURES, RADIUS POINTS, AND AT INTERVALS NOT TO EXCEED 50 FEET.
   - CONSTRUCTION JOINT SHALL BE INSTALLED 1/2-INCH AT 10-FT INTERVALS.

AMERCO REAL ESTATE COMPANY	RIBBON CURB DETAIL	SHEET:
	FILE NAME: CURB PROFILES.dwg	CP-1
	SECTION #: Division-3 (3300)	
	REVISED: 04.08.2020	DETAIL
	SCALE: NOT TO SCALE	

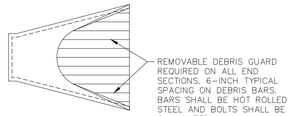
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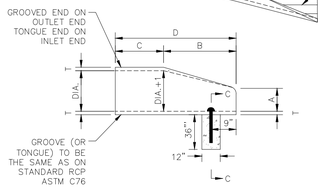
PLAN VIEW



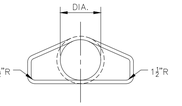
SLOPE DETAIL



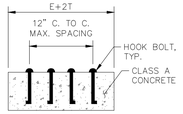
REMOVABLE DEBRIS GUARD REQUIRED ON ALL END SECTIONS. 6-INCH TYPICAL SPACING ON DEBRIS BARS. BARS SHALL BE HOT ROLLED STEEL AND BOLTS SHALL BE GALVANIZED.



SECTION A–A



SECTION B–B



SECTION C–C

NOTES:

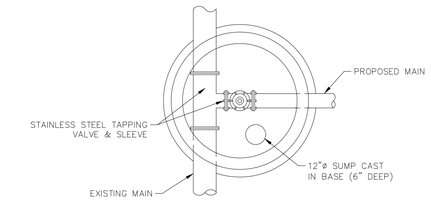
1. CONCRETE AND REINFORCEMENT IN THE PRECAST FES SHALL BE THE SAME GRADE AND STRENGTH AS LISTED IN ASTM C76.
2. THE END OF THE PIPE CULVERT SHALL BE P LACED IN THE FES SO THAT THE FLOW LINES ARE FLUSH. THE JOINT SHALL BE COMPLETELY FILLED WITH MORTAR.
3. IN 3:1 OR 4:1 FILL SLOPE, CHANGE THE SLOPE OF THE FES TO TO PROVIDE A SMOOTH TRANSITION APPROXIMATELY 10' IN LENGTH.
4. THE FES AND PIPE CULVERT DIMENSIONS SHALL MEET ASTM C76.
5. CONCRETE KEY–IN TOES SHALL BE REQUIRED ON ALL FES.

DIA.	T (MIN)	A*	C*	D*	E*	K	R1	R2	~WEIGHT (LB)
12"	2"	5"	4'–3"	6'–2"	2'–0"	1.3	10⅞"	9"	800
15"	2¼"	7"	4'–0"	6'–3"	2'–6"	1.5	12¾"	11"	1100
18"	2½"	11"	4'–1"	6'–2"	3'–0"	1.8	15½"	12"	1300
21"	2¾"	11"	3'–6"	6'–3"	3'–6"	2.1	16⅝"	13"	1500
24"	3"	12"	2'–8"	6'–3"	4'–0"	2.3	16⅝"	14"	1800
27"	3¼"	13"	2'–5"	6'–3"	4'–6"	2.6	18⅝"	14½"	2100
30"	3½"	14"	1'–10"	6'–3"	5'–0"	2.9	18½"	15"	2400
33"	3¾"	15"	3'–6"	8'–3"	5'–6"	3.1	23⅝"	17½"	4100
36"	4"	17"	3'–1"	8'–3"	6'–0"	3.4	24⅝"	20"	4200

* 1" TOLERANCE

END SECTION AND KEY–IN DETAIL

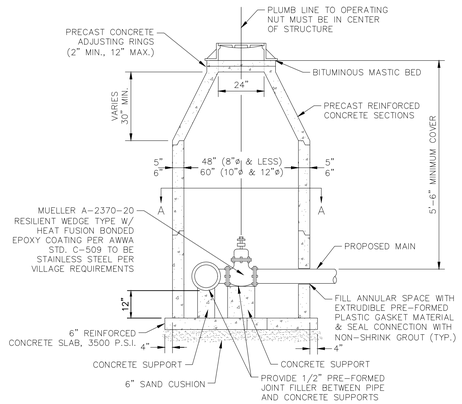
N.T.S.



SECTION A–A

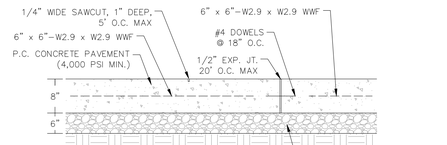
NOTES:

1. UNLESS OTHERWISE NOTED, USE THE FOLLOWING FRAMES & GRATES:
   – IN PAVED AREAS: NEENAH R–1712 W/TYPE B COVER (CLOSED)
   – IN GRASS: NEENAH R–1772–A W/TYPE B COVER (CLOSED)
2. EAST JORDAN EQUIVALENTS ALSO MAY BE USED.
3. ALL COVERS SHALL BE SELF–SEALING WITH CONCEALED PICK HOLES AND HAVE "WATER" CAST INTO THE COVER.



PRESSURE CONNECTION

N.T.S.

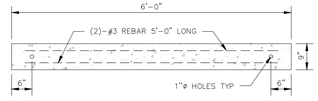


NOTE:

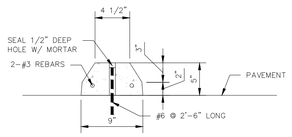
1. CURRENT MDOT SPECIFICATIONS. CONTRACTOR TO ENSURE COMPLIANCE WITH GEOTECHNICAL ENGINEERING RECOMMENDATIONS.

HEAVY DUTY CONCRETE PAVEMENT SECTION

N.T.S.



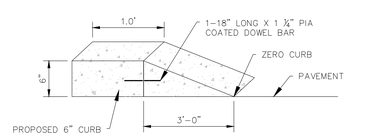
PLAN VIEW

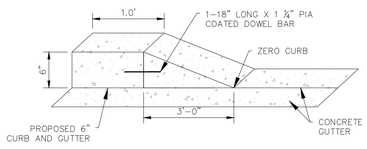


SECTION VIEW

CONCRETE PARKING BUMPER

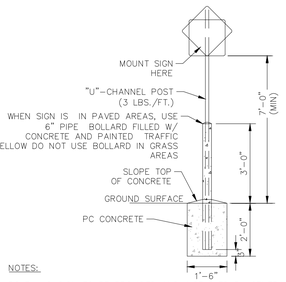
N.T.S.





3FT TRANSITION CURB

N.T.S.



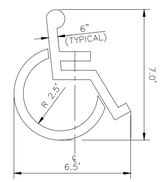
NOTES:

POLE AND SIGN TO BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR.

ALL SIGNS SHALL COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LOCAL CODES AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

STANDARD SIGN BASE

N.T.S.

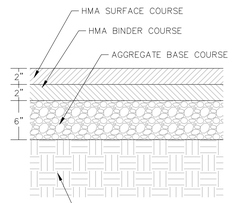


ACCESSIBLE PARKING SYMBOL

N.T.S.

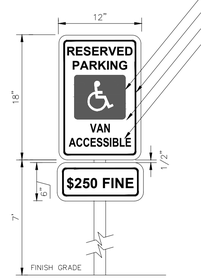
STANDARD DUTY ASPHALT PAVEMENT SECTION

N.T.S.



NOTE:

1. CURRENT MDOT SPECIFICATIONS. CONTRACTOR TO ENSURE COMPLIANCE WITH GEOTECHNICAL ENGINEERING RECOMMENDATIONS.
2. SEE PAVING NOTES ON THE GENERAL NOTES FOR PRIME COAT AND TACK–COAT REQUIREMENTS.



SIGNAGE

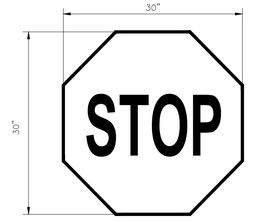
WHITE SYMBOL ON BLUE BACKGOUND
LEGEND & BORDER: GREEN
BACKGROUND: WHITE
"VAN ACCESSIBLE" TO BE PROVIDED WHERE PARKING SPACE AND ADJACENT ACCESS AISLE IS 16' MINIMUM TOTAL WIDTH

NOTES:

1. ALL LETTERS ARE 1" AERIES "C" PER MUTCD.
2. SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH GREEN REFLECTORIZED LEGEND AND BORDER.
3. FINE NOTIFICATION SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WITH GREEN LEGEND AND BORDER.
4. CONTRACTOR SHALL VERIFY FINE AMOUNT.
5. ONE(1) SIGN REQUIRED FOR EACH PARKING SPACE.
6. INSTALLED HEIGHT OF SIGN SHALL BE IN ACCORDANCE WITH SECTION 24–2.3 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
7. ALL ACCESSIBLE FEATURES TO BE IN STRICT ACCORDANCE WITH A.D.A STANDARDS AND LOCAL LAWS.

ACCESSIBLE PARKING SIGNAGE

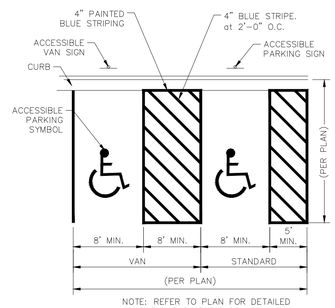
N.T.S.



30" X 30" R1–1

STOP SIGN

N.T.S.



NOTE: REFER TO PLAN FOR DETAILED LAYOUT AND DIMENSIONS

ACCESSIBLE PAVEMENT MARKINGS

N.T.S.

NO.	DATE	BY
	REVISIONS	
1	SITE PLAN UPDATES	MSF
2	REV. PER CITY/COUNTY	MSF, TES
3	REV. PER CITY/COUNTY	TES

11/26/24
03/05/25
07/03/25

Kimley»Horn of Michigan, Inc.

2723 SOUTH STATE STREET, SUITE 2600
SOUTHFIELD, MI 48075-5555
PHONE: 630–487–5550
WWW.KIMLEY–HORN.COM

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SCALE: AS NOTED
DESIGNED BY: TES
DRAWN BY: OKE
CHECKED BY: TES

STATE OF MICHIGAN
TYLER
SMITH
21073
NOT APPROVED FOR CONSTRUCTION
28975
ASSIGNED ENGINEER
Tyler Smith

AMERCO REAL ESTATE COMPANY

CONSTRUCTION DETAILS

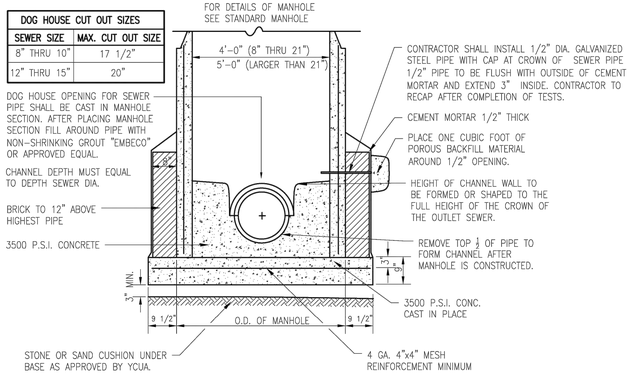
U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C6.0

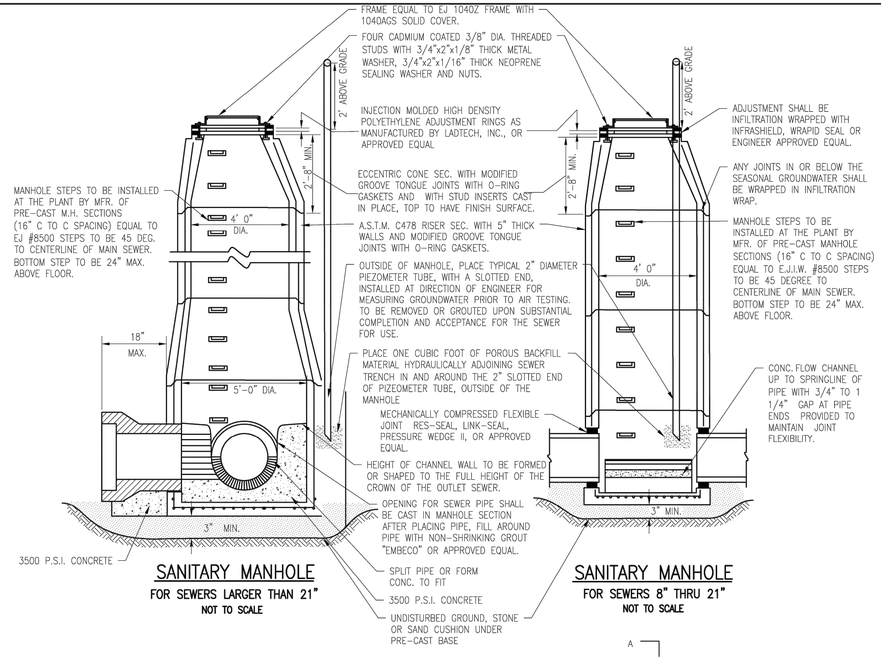
Drawing name: K:\DET_DO\168737004_uhaul ypsi mi\3 Design\CADD\plansheets\C6.0 CONSTRUCTION DETAILS.dwg C6.0 Jul 04, 2025 1:23pm by Tyler.Smith
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Drawing name: K:\DET_GIS\168737006_uhaul ypsi mi\2 Design\CAD\Documents\CB10 CONSTRUCTION DETAILS.dwg 03.2 Jul 04, 2025 1:28pm by TylerE.Smith
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DOG HOUSE CUT OUT SIZES	
SEWER SIZE	MAX. CUT OUT SIZE
8" THRU 10"	17 1/2"
12" THRU 15"	20"

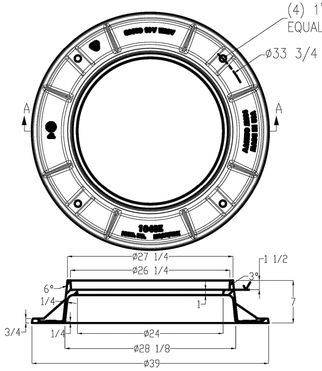


SANITARY MANHOLE
ON EXISTING SEWERS 8" THRU 42"
NOT TO SCALE

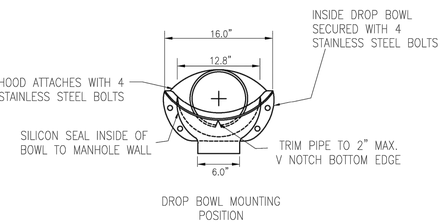


SANITARY MANHOLE
FOR SEWERS LARGER THAN 21"
NOT TO SCALE

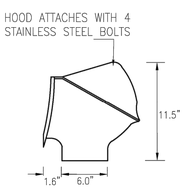
SANITARY MANHOLE
FOR SEWERS 8" THRU 21"
NOT TO SCALE



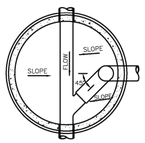
1040Z FRAME



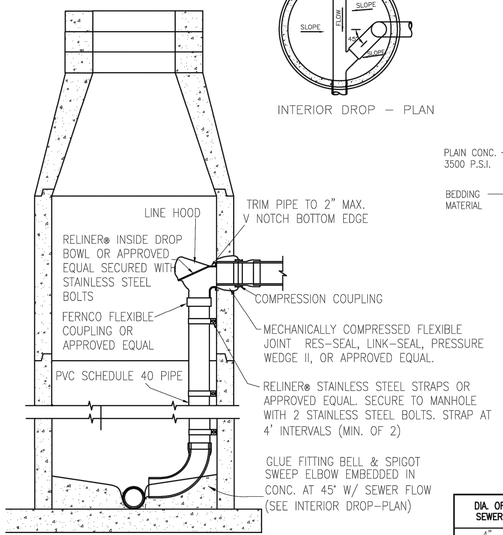
DROP BOWL MOUNTING POSITION



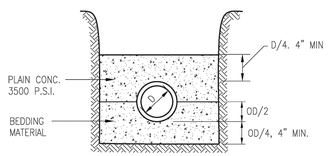
DROP BOWL WITH LINE HOOD



INTERIOR DROP – PLAN

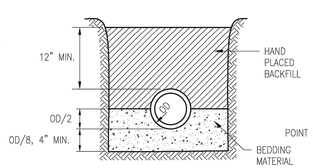


INTERIOR DROP CONNECTION
NOT TO SCALE



LOAD FACTORS
2.8 PLAIN CONC.
OD + 8" MIN.
11/4 OD

CLASS A



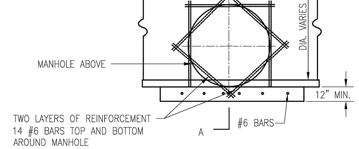
LOAD FACTOR
1.9

CLASS B

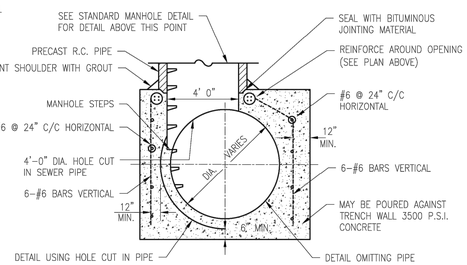
MAX. WIDTH OF TRENCH 12" ABOVE TOP OF PIPE
6" THRU 12" PIPE 30" WIDE
15" THRU 36" PIPE – OD+16"
42" THRU 60" PIPE – OD+20"
OVER 60" PIPE OUTSIDE DIA. OF PIPE+24"
MIN. WIDTH OF TRENCH 12" ABOVE THE TOP OF THE PIPE SHALL BE 6" ON EACH SIDE OF PIPE.

PIPE BEDDING DETAILS

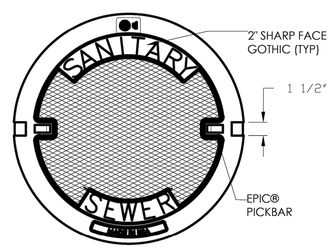
DIA. OF SEWER	DIA. OF DROP CONNECTION
4"	4"
6"	4"
8"	6"
10"	8"

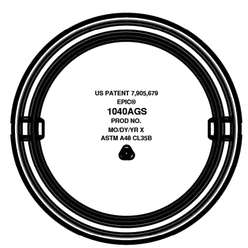


MANHOLE PLAN
48" & LARGER SEWERS
NOT TO SCALE

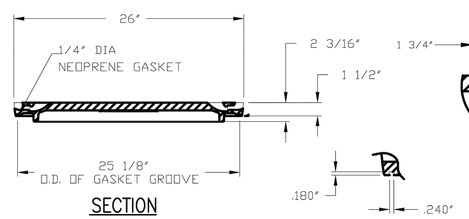


MANHOLE SECTION
48" & LARGER SEWERS
NOT TO SCALE

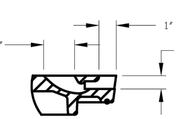




BOTTOM VIEW



SECTION



EPIC® DETAIL



GROOVE DETAIL

1040 AGS COVER

Know what's below. Call before you dig.

OHM

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STANDARD SANITARY SEWER DETAILS

YPSILANTI COMMUNITY UTILITIES AUTHORITY
2777 STATE ROAD
YPSILANTI, MICHIGAN 48198-9112
(734) 484-4600
FAX: (734) 544-7221
WWW.YCUA.ORG
YCUA ENVIRONMENTAL LEADERS

DATE	SCALE	SHEET
10/25/19	NO SCALE	

NO.	DATE	BY	REVISIONS
1	11/26/24	MSF	SITE PLAN UPDATES
2	03/05/25	MSF-TES	REV. PER CITY/COUNTY
3	07/03/25	TES	REV. PER CITY/COUNTY

Kimley»Horn of Michigan, Inc.
3000 TOWN CENTER, SUITE 2600
SOUTHFIELD, MI 48075-1255
PHONE: 630-487-3550
WWW.KIMLEY-HORN.COM

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SCALE: AS NOTED | DESIGNED BY: TES | DRAWN BY: DKE | CHECKED BY: TES

STATE OF MICHIGAN TYLER E. SMITH 58975 ENGINEER NOT APPROVED FOR CONSTRUCTION

Tyler Smith

AMERCO REAL ESTATE COMPANY

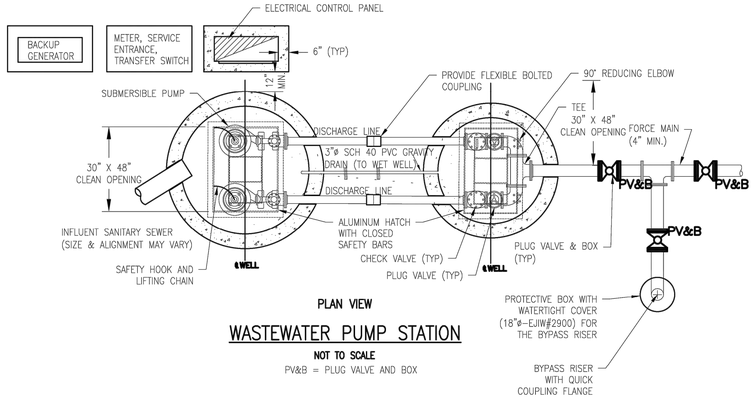
CONSTRUCTION DETAILS

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24

KHA PROJECT NO. 168737004

SHEET NUMBER
C6.1

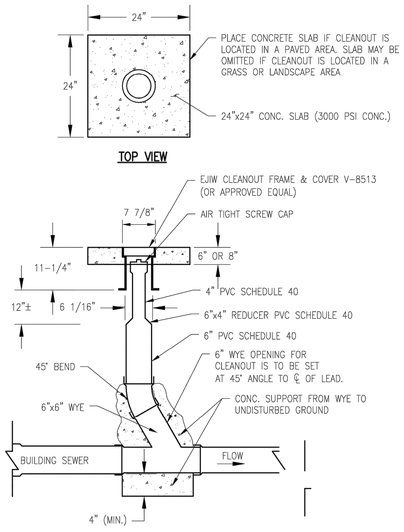


PLAN VIEW

WASTEWATER PUMP STATION

NOT TO SCALE

PV&B = PLUG VALVE AND BOX

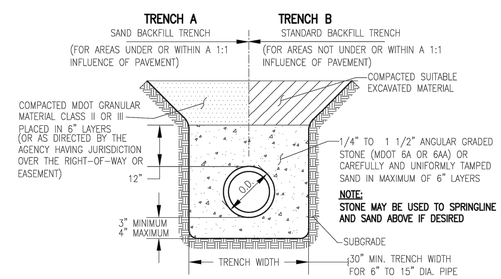


TOP VIEW

ELEVATION

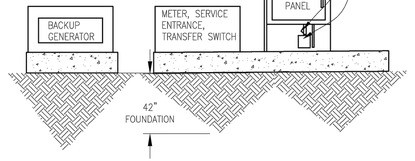
SANITARY SEWER CLEANOUT

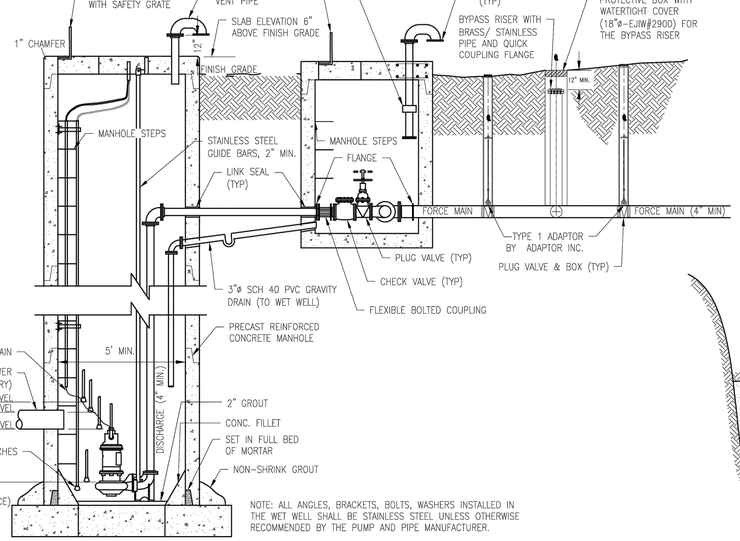
NOT TO SCALE



FLEXIBLE PIPE (8" TO 15" DIA SOLID WALL PVC PIPE) STANDARD BEDDING AND TRENCH BACKFILL DETAIL

NOT TO SCALE





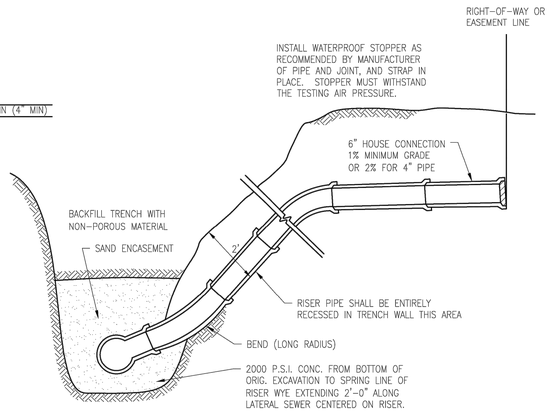
NOTE: ALL ANGLES, BRACKETS, BOLTS, WASHERS INSTALLED IN THE WET WELL SHALL BE STAINLESS STEEL UNLESS OTHERWISE RECOMMENDED BY THE PUMP AND PIPE MANUFACTURER.

PROFILE VIEW

WASTEWATER PUMP STATION

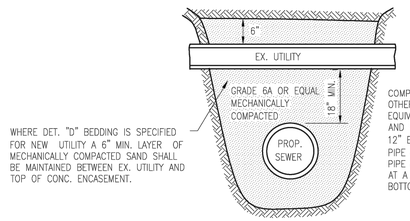
NOT TO SCALE

DETAILS ARE FOR LAYOUT AND GENERALITIES ONLY. THE SPECIFIC COMPONENTS AND EXACT DETAILS MUST BE IDENTIFIED OR CREATED ON A CASE BY CASE BASIS THROUGH A DETAILED SUBMITTAL REVIEW PROCESS.



BUILDING SEWER

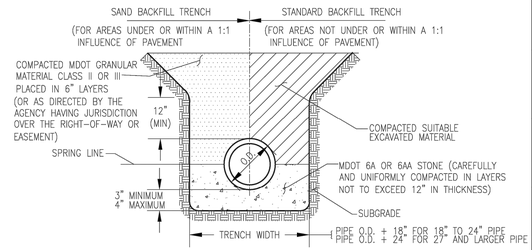
NOT TO SCALE



STANDARD PIPE SUPPORT

SANITARY OR STORM

NOT TO SCALE



RIGID PIPE (18" DIAMETER AND LARGER) STANDARD BEDDING AND TRENCH BACKFILL DETAIL

NOT TO SCALE

Know what's below. Call before you dig.

OHM

REVISIONS

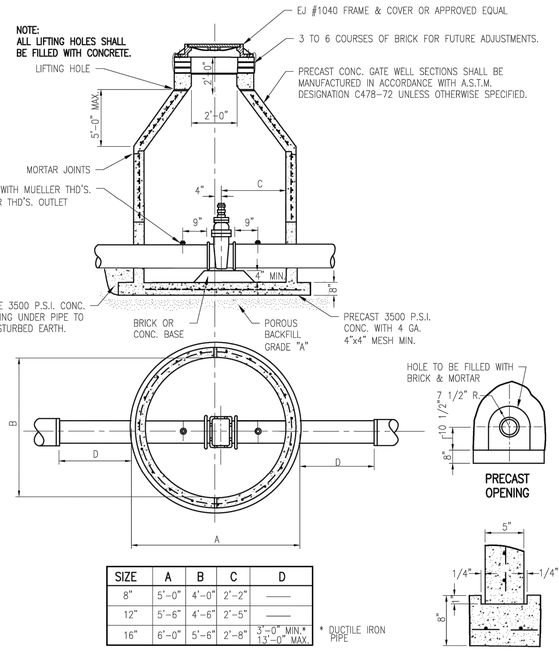
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STANDARD SANITARY SEWER DETAILS

YPSILANTI COMMUNITY UTILITIES AUTHORITY
2777 STATE ROAD
YPSILANTI, MICHIGAN 48198-9112
(734) 484-4600
FAX: (734) 544-7221
WWW.YCUA.ORG
ENVIRONMENTAL LEADERS

DATE	SCALE	SHEET
10/25/19	NO SCALE	

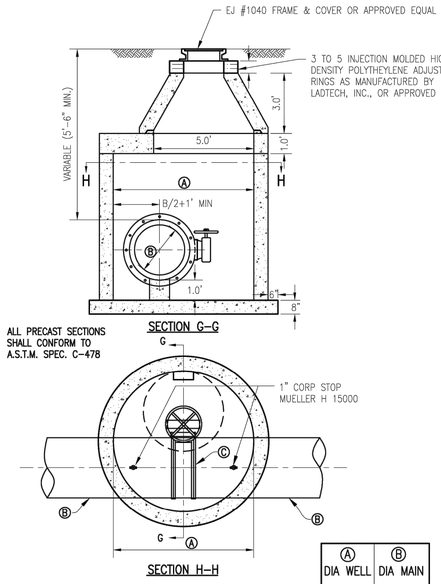
NO.	DATE	BY



SIZE	A	B	C	D
8"	5'-0"	4'-0"	2'-2"	——
12"	5'-6"	4'-6"	2'-5"	——
16"	6'-0"	5'-6"	2'-8"	3'-0" MIN.* 13'-0" MAX.

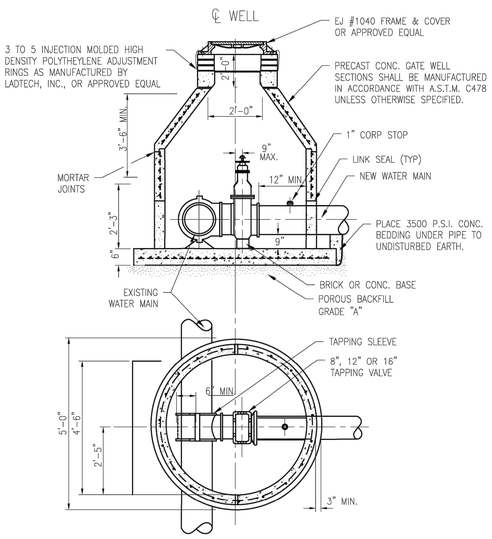
* DUCTILE IRON PIPE

STANDARD PRECAST GATE VALVE & WELL
(CONCENTRIC)

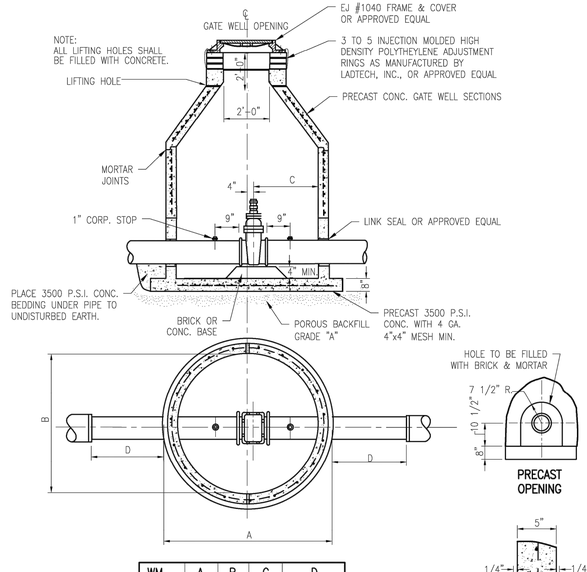


Ⓐ DIA WELL	Ⓑ DIA MAIN
7'-0"	20"
7'-0"	24"
8'-0"	30"
8'-0"	36"

BUTTERFLY VALVE AND WELL
(CONCENTRIC)
NOT TO SCALE



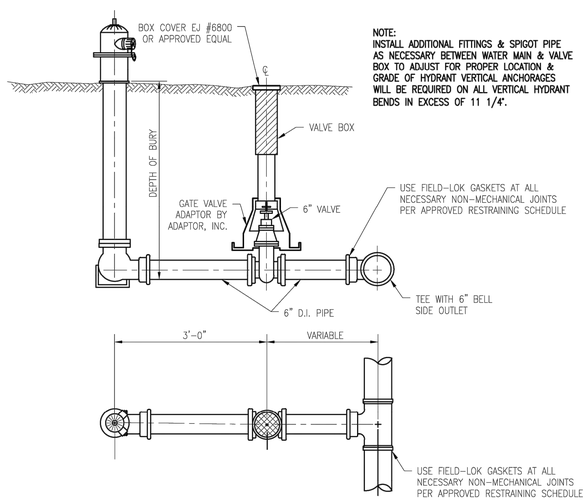
TAPPING SLEEVE, VALVE & WELL
(CONCENTRIC)
NOT TO SCALE



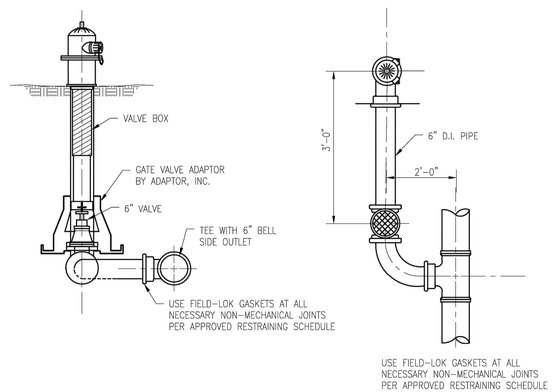
WM	A	B	C	D
8"	5'-0"	4'-0"	2'-2"	——
12"	5'-6"	4'-6"	2'-5"	——
16"	6'-0"	5'-6"	2'-8"	3'-0" MIN.* 13'-0" MAX.

* DUCTILE IRON PIPE

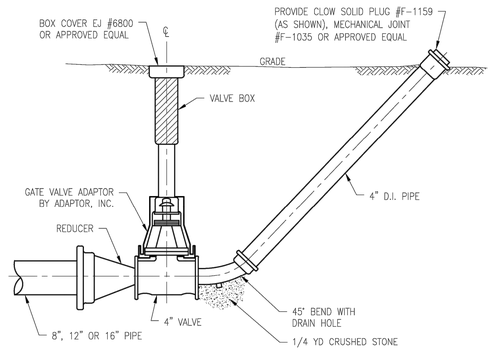
GATE VALVE & WELL
(CONCENTRIC)
NOT TO SCALE



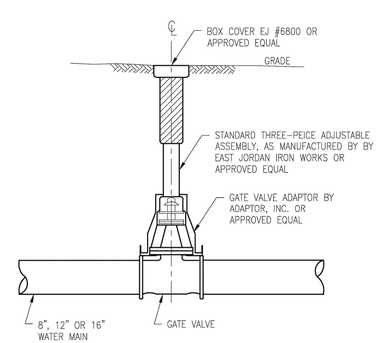
STANDARD HYDRANT SETTING
NOT TO SCALE



CLOSE COUPLE HYDRANT SETTING
NOT TO SCALE



4" BLOWOFF
NOT TO SCALE



GATE VALVE & BOX
NOT TO SCALE

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

REVISIONS	STANDARD WATER MAIN DETAILS	YPSILANTI COMMUNITY UTILITIES AUTHORITY 2777 STATE ROAD YPSILANTI, MICHIGAN 48198-9112 (734) 484-4600 FAX: (734) 544-7221 WWW.YCUA.ORG
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NO.	DATE	BY	REVISIONS
1	11/26/24	MSF	SITE PLAN UPDATES
2	03/05/25	MSF	REV. PER CITY/COUNTY
3	07/03/25	TES	REV. PER CITY/COUNTY

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3200 GREEN COURT, SUITE 2600
SOUTHFIELD, MI 48075-5550
PHONE: 630-487-3550
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED · DESIGNED BY: TES · DRAWN BY: DKE · CHECKED BY: TES

STATE OF MICHIGAN · TYLER SMITH · 28975 · REGISTERED LANDSCAPE ARCHITECT
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

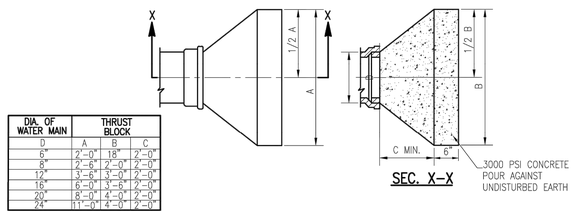
AMERCO REAL ESTATE COMPANY

CONSTRUCTION DETAILS

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C6.3

Drawing name: K:\DET_DES\168737004_uhaul ypsi mi\2 Design\CAD\plansheets\C6.10 CONSTRUCTION DETAILS.dwg 03.4 Jul 04, 2025 1:29pm by TylerESmith
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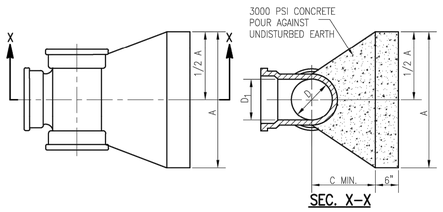


DIA. OF WATER MAIN	THRUST BLOCK		
D	A	B	C
6"	2'-0"	1'-8"	2'-0"
8"	2'-6"	2'-0"	2'-0"
12"	3'-6"	3'-0"	2'-0"
16"	5'-0"	3'-6"	2'-0"
20"	8'-0"	4'-0"	2'-0"
24"	11'-0"	4'-0"	2'-0"

THRUST BLOCK AT PLUG OR HYDRANT SHOE

NOT TO SCALE

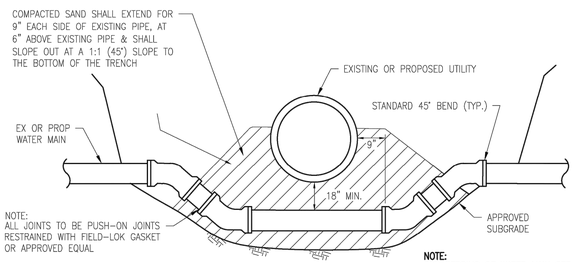
DIA. OF TEE		THRUST BLOCK	
D	Dh	A	C
8"	8"	2'-6"	2'0"
12"	8"	2'-6"	2'0"
16"	8"	2'-6"	2'0"
12"	12"	3'-6"	2'0"
16"	12"	3'-6"	2'0"
20"	12"	3'-6"	2'0"
24"	12"	3'-6"	2'0"
16"	16"	6'-0"	2'3"
20"	16"	6'-0"	2'3"
24"	16"	6'-0"	2'3"



THRUST BLOCK AT TAPPING SLEEVE TEE

NOT TO SCALE

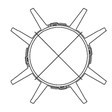
NOTE:
CONCRETE THRUST BLOCKS WILL NOT BE PERMITTED EXCEPT BEHIND HYDRANT SHOES AND TAPPING SLEEVES. USE OF CONCRETE THRUST BLOCKS IN OTHER LOCATIONS WILL NOT BE PERMITTED WITHOUT THE WRITTEN APPROVAL OF YCUA. ALL OTHER VERTICAL AND HORIZONTAL BENDS SHALL BE RESTRAINED WITH FIELD-LOK GASKETS OR APPROVED MECHANICAL JOINTS.



NOTE:
FOR BEDDING OF WATER MAIN SEE STANDARD PIPE SUPPORT DETAIL

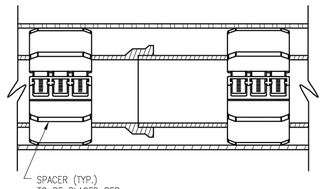
WATER MAIN LOWERING

NOT TO SCALE



SPACER END VIEW

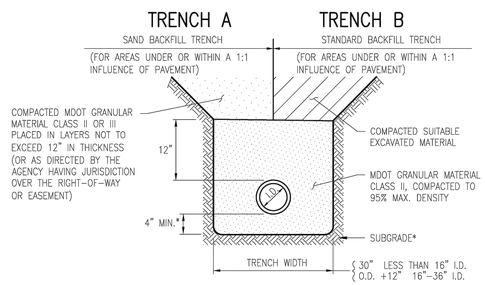
NOT TO SCALE



STANDARD CASING SECTION

NOT TO SCALE

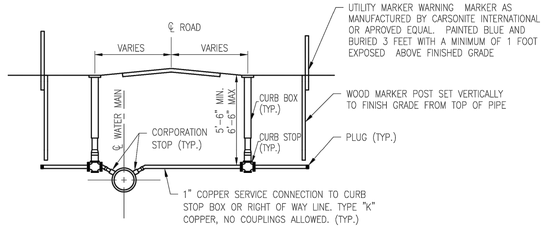
NOTES:
1. SPACERS FOR PLACEMENT IN THE ANNULAR SPACE BETWEEN THE CARRIER PIPE AND A CASING PIPE SHALL BE RANGER II AS MANUFACTURED BY PSI OR APPROVED EQUAL.
2. END SEALS SHALL BE MODEL C RUBBER SEAL WITH STAINLESS STEEL BANDS AS MANUFACTURED BY PSI OR APPROVED EQUAL.



BEDDING AND TRENCH BACKFILL DETAIL FOR WATER MAIN

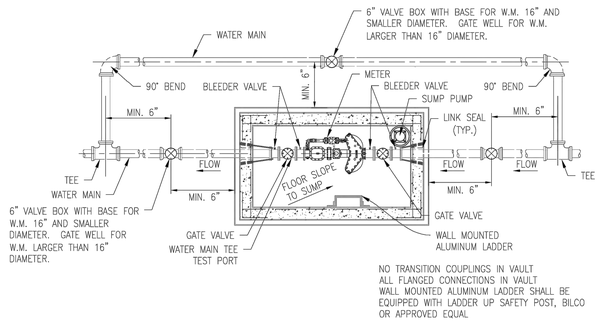
NOT TO SCALE

*** NOTE: IF THE EXISTING SUBGRADE MATERIAL MEETS THE REQUIREMENTS FOR MDOT GRANULAR MATERIAL CLASS II (MINIMUM 4" THICK), THEN THE WATER MAIN MAY BE LAID DIRECTLY ON THE COMPACTED EXISTING SUBGRADE MATERIAL.**



TYPICAL WATER SERVICE

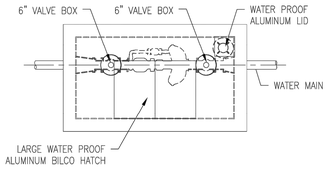
NOT TO SCALE



MASTER METER VAULT CONFIGURATION (WITHOUT COVER)

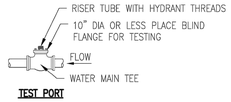
NOT TO SCALE

NOTES:
1. WHERE POSSIBLE THE METER VAULT SHALL BE LOCATED AWAY FROM TRAFFIC AREAS, ROADS, PARKING LOTS, ETC.
2. THE ACCESS HATCH SHALL BE SIZED LARGE ENOUGH TO ACCOMMODATE REMOVAL OF THE LARGEST METER OR THE LARGEST APPURTENANCE FOR MAINTENANCE PURPOSES. THE HATCH SHALL BE MANUFACTURED BY THE BILCO COMPANY. METER VAULT HATCH SHALL BE WATER TIGHT.
3. THE METER VAULT FLOOR SHALL BE SLOPED TO THE SUMP.
4. ELECTRICAL SERVICE SHALL BE SUPPLIED TO THE VAULT.



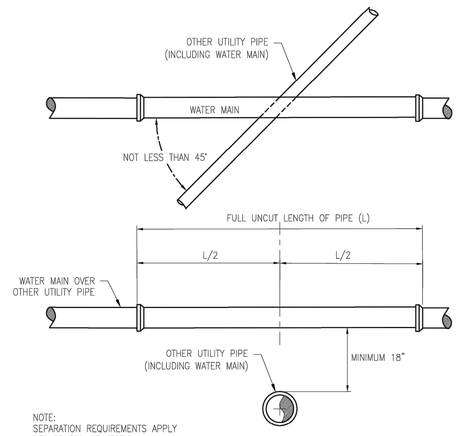
MASTER METER VAULT CONFIGURATION WITH COVER

NOT TO SCALE



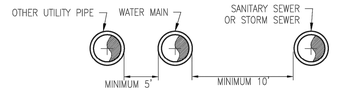
TEST PORT

PIPE DIA	TEST PORT SIZE
6"	6"
8"	8"
10"	10"
12"	10"
16"	10"



NOTE:
SEPARATION REQUIREMENTS APPLY REGARDLESS OF VERTICAL ALIGNMENTS OF UTILITIES

VERTICAL SEPARATION



HORIZONTAL SEPARATION

WATER MAIN CROSSING OTHER UTILITIES

NOT TO SCALE

Know what's below. Call before you dig.

OHM

REVISIONS	STANDARD WATER MAIN DETAILS	YPSILANTI COMMUNITY UTILITIES AUTHORITY
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		ENVIRONMENTAL LEADERS
	DATE: 09/25/19	SCALE: NO SCALE
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3001 LAFAYETTE BLVD, SUITE 24600
SOUTHFIELD, MI 48075-3550
PHONE: 630-487-3550
WWW.KIMLEY-HORN.COM

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STATE OF MICHIGAN 63371 TYLER SMITH 28975 PROFESSIONAL ENGINEER
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

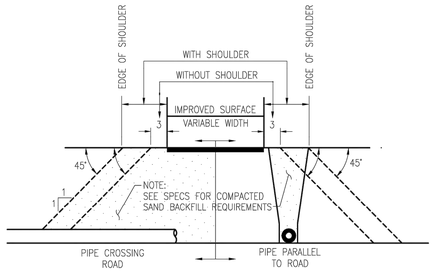
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2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

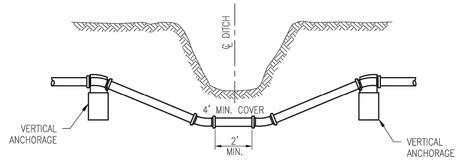
ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C6.4

Drawing name: K:\DET_DO\168737008_uhaul ypsi mi\3 Design\CADD\plansheets\06.0 CONSTRUCTION DETAILS.dwg 06.5 Jul 04, 2025 1:29pm by TylerESmith
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BACKFILL IN THE AREA OF STREETS, ALLEYS SIDEWALKS, DRIVES & PARKING LOTS

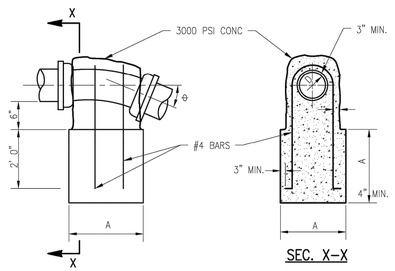
NOT TO SCALE



USE FIELD-LOK GASKETS AT ALL NECESSARY NON-MECHANICAL JOINTS PER APPROVED RESTRAINING SCHEDULE

STANDARD DITCH CROSSING

NOT TO SCALE



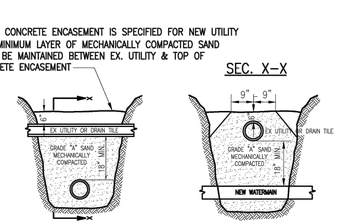
SEC. X-X

DETAIL OF VERTICAL ANCHORAGE

NOT TO SCALE

DIA. OF WATER MAIN	BEND	A	NUMBER OF BARS
D	θ		
6"	22 1/2°	2'-0"	2
	45°	3'-3"	2
8"	22 1/2°	3'-3"	2
	45°	4'-0"	3
12"	11 1/4°	3'-3"	2
	22 1/2°	4'-0"	3
16"	11 1/4°	3'-3"	2
	22 1/2°	4'-0"	3
20"	11 1/4°	4'-0"	2
	22 1/2°	5'-0"	3
24"	11 1/4°	4'-0"	2
	22 1/2°	5'-0"	3

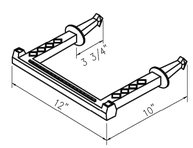
NOTE:
WHERE CONCRETE ENCASEMENT IS SPECIFIED FOR NEW UTILITY A 6" MINIMUM LAYER OF MECHANICALLY COMPACTED SAND SHALL BE MAINTAINED BETWEEN EX. UTILITY & TOP OF CONCRETE ENCASEMENT



COMPACTED SAND SHALL EXTEND FOR 9" EACH SIDE OF EXISTING PIPE, AT 6" ABOVE EXISTING PIPE & SHALL SLOPE OUT AT A 1:1 (45°) SLOPE TO THE BOTTOM OF THE TRENCH

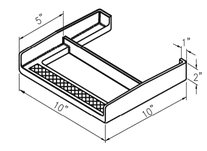
STANDARD PIPE SUPPORT

NOT TO SCALE



MANHOLE STEP

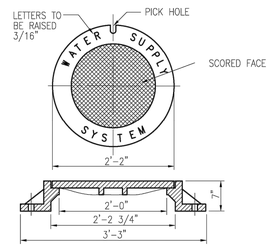
M.A. PSI-375
USE AS REQUIRED



STANDARD MANHOLE STEP

EJ 8500
USE AS REQUIRED

INSTALLED IN ECCENTRIC WELLS ONLY.
CONCENTRIC WELLS WILL NOT BE INSTALLED WITH STEPS.



STANDARD FRAME & COVER

EJ #1040
USE AS REQUIRED

PIPE RESTRAINT SCHEDULE

THE FOLLOWING TABLE IS A JOINT RESTRAINT SCHEDULE (DIPRA) FOR GROUND-BURIED DUCTILE IRON OR PVC PIPE. LENGTHS OF PIPE RESTRAINT ARE GIVEN IN FEET.

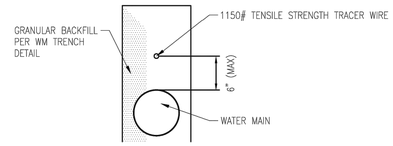
PIPE DIAMETER	TEES, 90°, PLUGS	45° BENDS	22 ½° BENDS	REDUCERS
6"	40	25	25	30
8"	55	25	25	30
12"	80	35	25	55
16"	100	40	25	60
24"	135	56	25	65

BASED UPON

INTERNAL PRESSURE:	180
PIPE DEPTH:	5
BEDDING CLASS:	TYPE 4
SOIL TYPE:	GOOD SAND
SAFETY FACTOR:	2

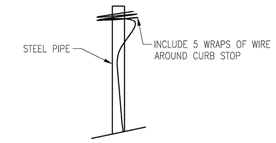
1. IF PIPE DIAMETER IS NOT LISTED IN THIS TABLE; THE NEXT LARGEST PIPE SHALL BE USED. THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE PLUS WATER HAMMER).
2. FOR OTHER TEST PRESSURES, ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY. THE VALUES PROVIDED OF RESTRAINT LENGTH ARE IN EACH DIRECTION FROM THE POINT OF DEFLECTION OR TERMINATION EXCEPT FOR TEES, AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE STEM.
3. IF TIE RODS ARE USED, USE FOUR RODS MINIMUM AND ADD 1/8 INCH TO BAR DIAMETER AS CORROSION ALLOWANCE. SIZE REDUCTION IS BASED UPON THE PIPE DIAMETER SHOWN IN THIS TABLE.
4. MANUFACTURER'S RESTRAINT SCHEDULE AND SPECIFIC SITE CONDITIONS MAY MODIFY THE ABOVE SCHEDULE. ANY ALTERNATIVE SCHEDULE SHALL BE SUBMITTED TO YCUA FOR APPROVAL.

TRACER WIRE DETAILS



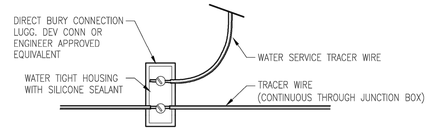
OPEN CUT MAIN LINE TRENCH

NOT TO SCALE



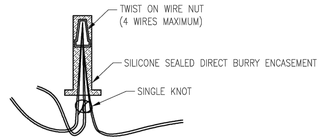
CURB BOX WIRE COIL

NOT TO SCALE



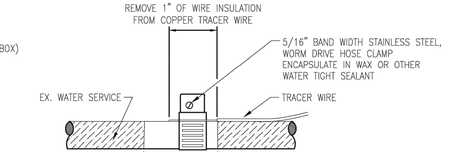
MAIN LINE JUNCTION BOX

NOT TO SCALE



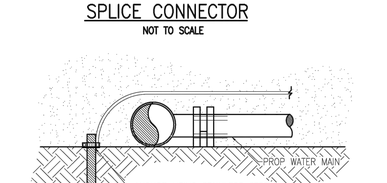
SPLICE CONNECTOR

NOT TO SCALE



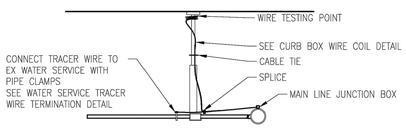
WATER SERVICE TERMINATION

NOT TO SCALE



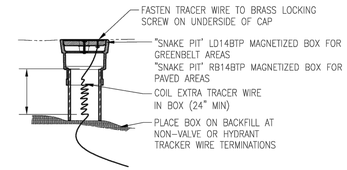
GROUNDING ROD TERMINATION

NOT TO SCALE



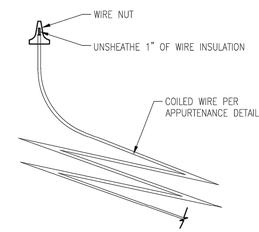
CURB STOP CONNECTION

NOT TO SCALE



TRACER WIRE TEST POINT

NOT TO SCALE



WIRE TESTING POINT

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YPSILANTI, MICHIGAN 48198-9112
(734) 484-4600
FAX: (734) 544-7221
WWW.YCUA.ORG
YCUA ENVIRONMENTAL LEADERS

DATE 09/25/19 | SCALE NO SCALE | SHEET

NO.	DATE	BY	REVISIONS
1	11/26/24	MSF	SITE PLAN UPDATES
2	03/05/25	MSF,TES	REV. PER CITY/COUNTY
3	07/03/25	TES	REV. PER CITY/COUNTY

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PHONE: 630-487-5550
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STATE OF MICHIGAN 63971 TYLER SMITH 28975 NOT APPROVED FOR CONSTRUCTION ASSIGNMENT EXPIRES
Tyler Smith

AMERCO REAL ESTATE COMPANY

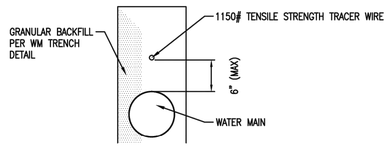
CONSTRUCTION DETAILS

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2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

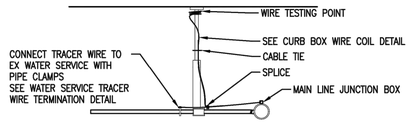
ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C6.5

Drawing name: K:\DET_DFW\168737006_ypsi mi\2 Design\CADD\ypsimiset\C6.10 CONSTRUCTION DETAILS.dwg C6.6 Jul 04, 2025 1:29pm by TylerE.Smith
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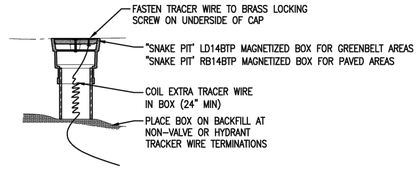
TRACER WIRE SHALL BE INCLUDED WITH ALL PVC WATER MAIN INSTALLATIONS



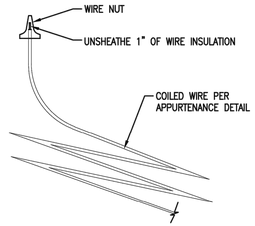
OPEN CUT MAIN LINE TRENCH
N.T.S.



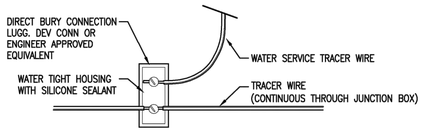
CURB STOP CONNECTION
N.T.S.



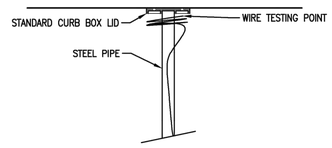
TRACER WIRE TEST POINT
N.T.S.



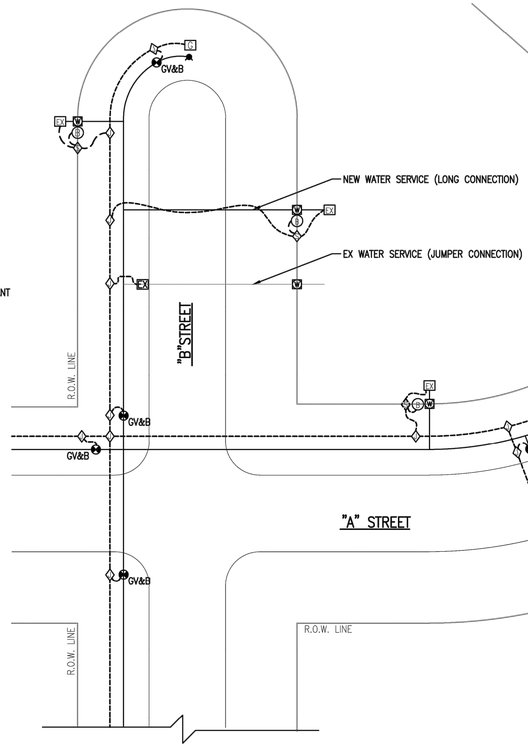
WIRE TESTING POINT
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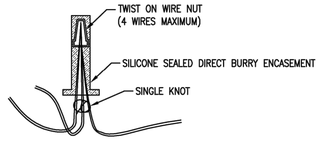
MAIN LINE JUNCTION BOX
N.T.S.



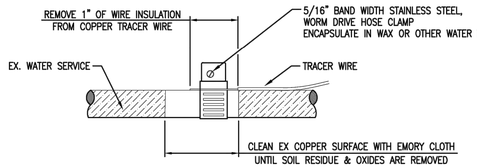
CURB BOX WIRE COIL
N.T.S.



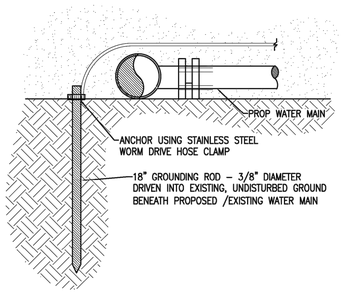
TRACER WIRE SYSTEM SCHEMATIC



SPLICE CONNECTOR
N.T.S.



WATER SERVICE TERMINATION
N.T.S.



GROUNDING ROD TERMINATION
N.T.S.

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REV. PER CITY/COUNTY	03/05/25	MSF,TES
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STATE OF MICHIGAN TYLER SMITH 63971 PROFESSIONAL ENGINEER
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Tyler Smith

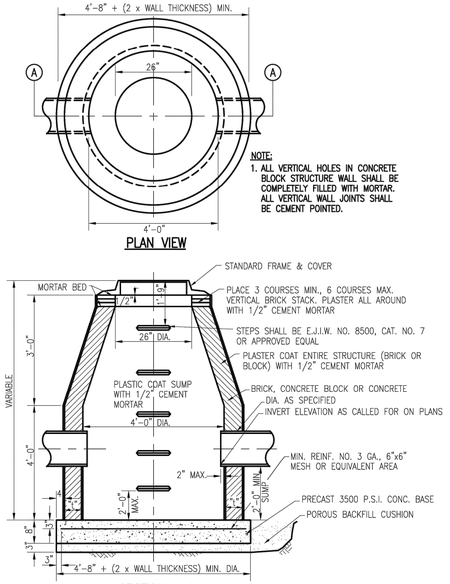
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CONSTRUCTION DETAILS

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YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C6.6

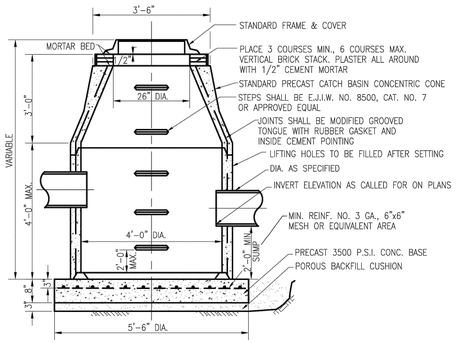
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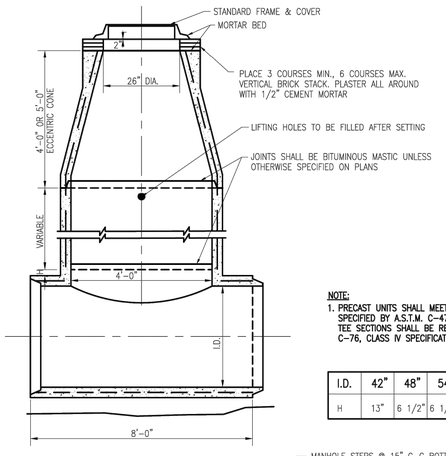
NOTE:
1. ALL VERTICAL HOLES IN CONCRETE BLOCK STRUCTURE WALL SHALL BE COMPLETELY FILLED WITH MORTAR. ALL VERTICAL WALL JOINTS SHALL BE CEMENT POINTED.

PLAN VIEW

SECTION A–A
CATCH BASIN "A"



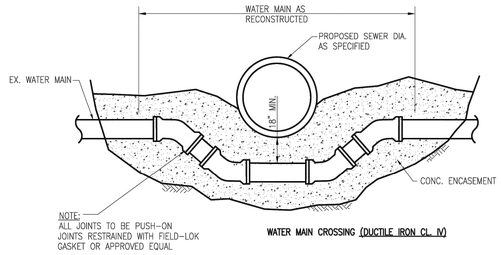
CROSS–SECTION
CATCH BASIN "B"



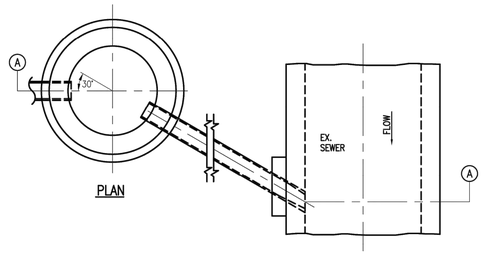
NOTE:
1. PRECAST UNITS SHALL MEET THE REQUIREMENTS SPECIFIED BY A.S.T.M. C–478–68. ALL MANHOLE TEE SECTIONS SHALL BE REINFORCED TO A.S.T.M. C–76, CLASS IV SPECIFICATIONS

H DIMENSION

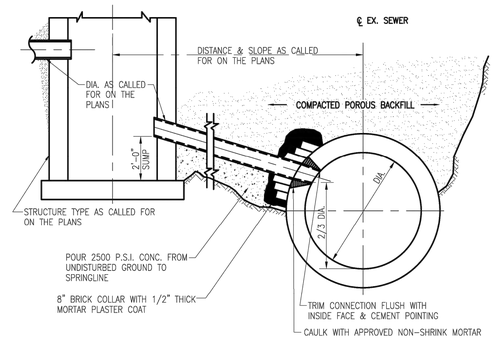
I.D.	42"	48"	54"	60"	66"	72"	78"	84"	OVER 84"
H	1.3"	6 1/2"	6 1/2"	1"	1 3/4"	2 1/2"	4"	6"	7"



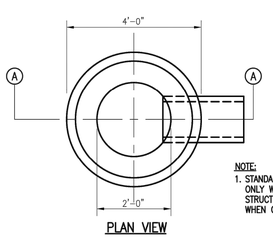
WATER MAIN CROSSING



PLAN

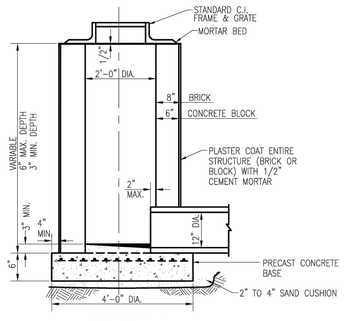


SECTION A–A
TYPICAL CONNECTIONS TO EXISTING SEWERS

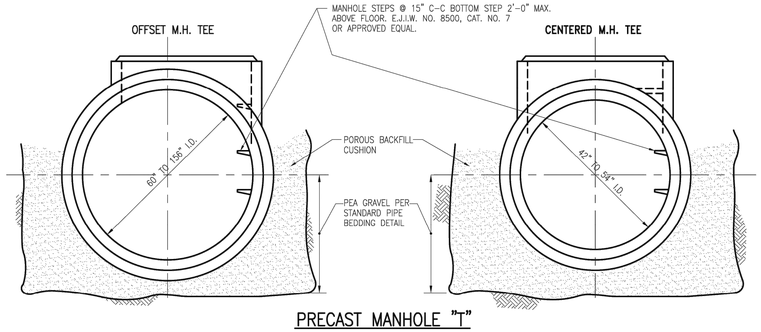


NOTE:
1. STANDARD INLET WILL BE USED ONLY WHEN OUTLETTING TO A STRUCTURE HAVING A SUMP OR WHEN OUTLETTING TO A DITCH

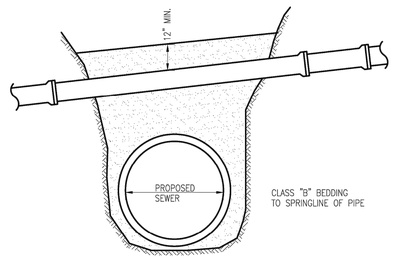
PLAN VIEW



SECTION A–A
STANDARD INLET

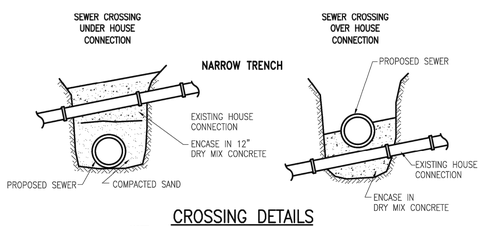


PRECAST MANHOLE "T"



HOUSE CONNECTION CROSSING

NOTE:
1. M.D.O.T. GRANULAR MATERIAL CLASS II PLACED IN 6" LAYERS AND COMPACTED TO A MINIMUM OF 95% OF ITS MAXIMUM UNIT WEIGHT TO A HEIGHT OF 12" ABOVE THE TOP OF THE SEWER LEAD.



CROSSING DETAILS

NOTE:
1. WHEN UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED STONE, SLAG OR DRY MIX CONCRETE SHALL BE USED TO BACKFILL THE TRENCH TO A HEIGHT 12" ABOVE THE TOP OF THE SEWER LEAD.

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1	11/26/24	MSF
2	03/05/25	MSF, TES
3	07/03/25	TES

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REV. PER CITY/COUNTY
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REVISIONS

SCALE: AS NOTED
DESIGNED BY: TES
DRAWN BY: OKE
CHECKED BY: TES

VERT DATUM | HORIZ DATUM | JOB # | SCALE: V: H: | CITY/VILLAGE/TOWNSHIP | COUNTY | CLIENT: | TOWN | RANGE | SECTION | PROJ MGR | ENG/ARCH | CADD | DATE | REVISIONS

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SOUTHFIELD, MI 48075
PHONE: 630–487–5550
WWW.KIMLEY–HORN.COM

STATE OF MICHIGAN
TYLER J. SMITH
28975
ENGINEER
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

AMERCO REAL ESTATE COMPANY

CONSTRUCTION DETAILS

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

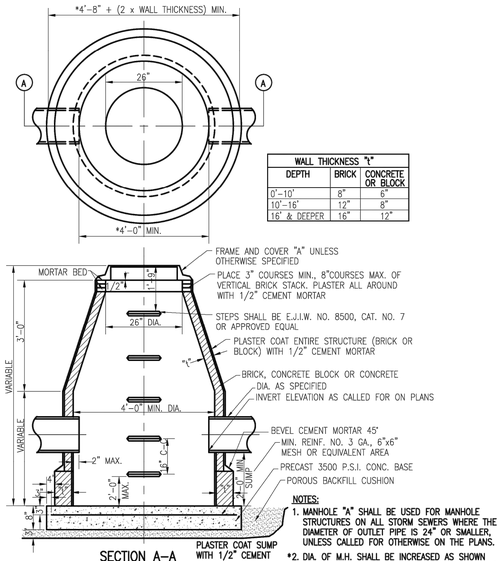
YPSILANTI TOWNSHIP / Y.C.U.A.
STANDARD STORM SEWER DETAILS

SHEET
OF ##

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C6.7

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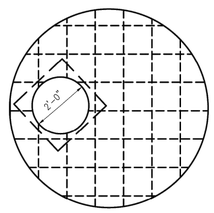
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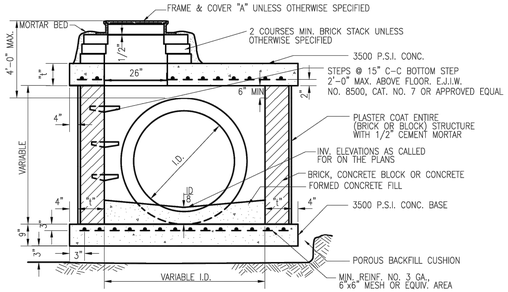
WALL THICKNESS "t"		
DEPTH	BRICK	CONCRETE OR BLOCK
0'-10'	8"	6"
10'-16'	12"	8"
16' & DEEPER	16"	12"

SECTION A-A
MANHOLE "A"

NOTES:
1. MANHOLE "A" SHALL BE USED FOR MANHOLE STRUCTURES ON ALL STORM SEWERS WHERE THE DIAMETER OF OUTLET PIPE IS 24" OR SMALLER, UNLESS CALLED FOR OTHERWISE ON THE PLANS.
*2. DIA. OF M.H. SHALL BE INCREASED AS SHOWN ON THE PLANS OR IN THE PROPOSAL DEPENDING ON THE DIAMETERS AND ANGLES OF THE SEWERS.



TOP SLAB

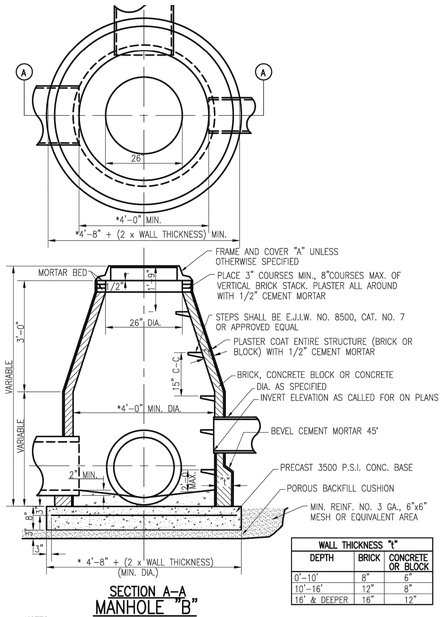


OUTLET I.D.	M.H. D	TOP SLAB "T"	WALLS "t"	REINFORCING STEEL (SLAB)
24" OR LESS	4'-0"	9"	8"	3/4" @ 9" EACH WAY
30"	*4'-0"	9"	8"	3/4" @ 9" EACH WAY
36"	*4'-0"	9"	12"	3/4" @ 9" EACH WAY
42"	*5'-0"	10"	12"	3/4" @ 9" EACH WAY
48" 54"	*6'-0"	11"	12"	7/8" @ 9" EACH WAY

TYPICAL SECTION
MANHOLE "D"

M.H. D	TOP SLAB "T"	WALLS "t"	REINFORCING STEEL (SLAB)
7'-0"	12"	12"	7/8" @ 9" EACH WAY
8'-0"	12"	12"	1" @ 9" EACH WAY

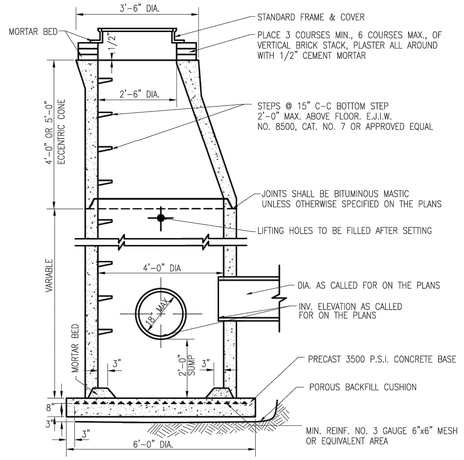
NOTES:
*1. DIA. SHALL BE INCREASED AS SHOWN ON PLANS OR IN THE PROPOSAL DEPENDING ON THE ANGLE OF THE SEWERS.
2. MH. "D" SHALL BE USED WHERE THE DEPTH OF COVER FROM THE TOP OF CASTING TO THE TOP OF SEWER IS LESS THAN 4'-0". MH. "D" SHALL BE CONSTRUCTED WITH A 2' SUMP WHERE DIAMETER OF OUTLET SEWER IS 24" OR LESS.



WALL THICKNESS "t"		
DEPTH	BRICK	CONCRETE OR BLOCK
0'-10'	8"	6"
10'-16'	12"	8"
16' & DEEPER	16"	12"

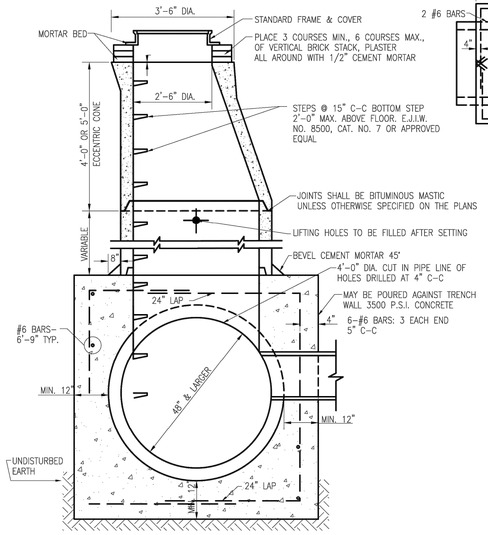
SECTION A-A
MANHOLE "B"

NOTES:
1. MANHOLE "B" SHALL BE USED FOR MANHOLE STRUCTURES ON ALL STORM SEWERS WHERE THE DIAMETER OF OUTLET PIPE IS 24" OR SMALLER, UNLESS CALLED FOR OTHERWISE ON THE PLANS.
*2. DIA. OF M.H. SHALL BE INCREASED AS SHOWN ON THE PLANS OR IN THE PROPOSAL DEPENDING ON THE DIAMETERS AND ANGLES OF THE SEWERS.



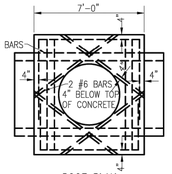
TYPICAL SECTION
PRECAST MANHOLE "E"

NOTES:
1. THIS MANHOLE SHALL BE USED ONLY WHEN MEETING CONDITIONS STATED IN THE "GENERAL MANHOLE NOTES", ITEM NO. 2A
2. PRECAST UNITS SHALL MEET THE REQUIREMENTS SPECIFIED BY A.S.T.M. C-478-68.



TYPICAL SECTION
PRECAST MANHOLE "C"

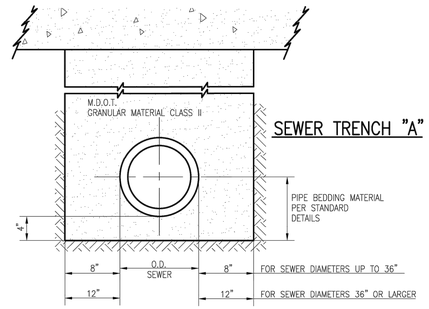
NOTES:
1. MANHOLE "C" SHALL BE USED FOR MANHOLE STRUCTURES ON ALL STORM SEWERS WHERE 48" OR LARGER DIA. PIPES INTERSECT.
2. PRECAST UNITS SHALL MEET THE REQUIREMENTS SPECIFIED BY A.S.T.M. C-478-68.



ROOF PLAN
SCALE: 1/4"=1'

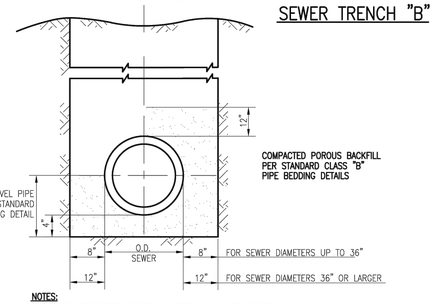
GENERAL NOTES FOR
STORM SEWER MANHOLES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE TOWNSHIP OF YPSILANTI AND YCUA.
2. CONTRACTOR SHALL CONSTRUCT MANHOLES WITH PRECAST REINFORCED CONCRETE UNITS ("E", "F", AND "I") IN LIEU OF CONCRETE, BRICK AND BLOCK MANHOLES ("A" AND "B") IN ACCORDANCE WITH THE FOLLOWING CONDITIONS:
   A. MAXIMUM DIAMETER OF SEWER OUTLET IN ANY PRECAST UNIT SHALL BE 18" (MANHOLE "E" ONLY).
   B. NO OPENINGS SHALL BE MADE IN PRECAST UNITS WHICH WOULD LEAVE LESS THAN 24" OF UNDISTURBED PRECAST PIPE OR WOULD REMOVE MORE THAN 30% OF THE CIRCUMFERENCE ALONG ANY HORIZONTAL PLANE.
   C. STRUCTURES FOR SEWERS LARGER THAN 18", OR THOSE NOT MEETING THE OPENING REQUIREMENTS, SHALL BE BUILT OF BLOCK OR BRICK UP TO A MINIMUM OF 8" ABOVE THE TOP OF SEWER, WITH PRECAST UNITS BEING USED ABOVE THIS POINT. WHERE PRECAST UNITS REST ON THE BLOCK OR BRICK, THE GROOVE IN THE PRECAST UNIT SHALL BE FILLED WITH MORTAR.
   D. OPENINGS FOR THE OUTLET SEWER SHALL BE PRECAST WITH A DIAMETER OF 3 INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE OUTLET PIPE. ALL OTHER OPENINGS SHALL BE MADE IN THE FIELD AFTER MANHOLE HAS BEEN CONSTRUCTED.
3. ALL VERTICAL OPENINGS IN CONCRETE BLOCK STRUCTURE WALLS SHALL BE COMPLETELY FILLED WITH MORTAR. ALL VERTICAL WALL JOINTS SHALL BE CEMENT POINTED.
4. A "POURED 3500 P.S.I. CONCRETE BASE" WITHOUT STEEL REINFORCEMENT MAY BE SUBSTITUTED FOR PRECAST BASE WHEN APPROVED BY THE TOWNSHIP ENGINEER. A POROUS BACKFILL CUSHION WILL NOT BE REQUIRED UNDER THE POURED BASE UNLESS CONTRACTOR HAS EXCAVATED BELOW THE REQUIRED ELEVATION, AT WHICH TIME THE ENGINEER WILL DECIDE AS TO THE MERITS OF INCREASING THE THICKNESS OF THE CONCRETE BASE OR THE USE OF A POROUS BACKFILL CUSHION.
5. WHERE UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED, SLAG OR STONE BEDDING SHALL BE USED AS DIRECTED BY THE ENGINEER IN ORDER TO PROVIDE A STABLE FOUNDATION FOR PIPE AND MANHOLES.
6. ALL PIPES ENTERING OR LEAVING A MANHOLE SHALL BE ADEQUATELY SUPPORTED BY POURING 2500 P.S.I. CONCRETE FILL FROM UNDISTURBED EARTH TO SPRINGLINE.
7. WHEREVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES AT 4" CENTER TO CENTER AROUND PERIPHERY OR OPENING TO CREATE A PLANE OF WEAKNESS BEFORE BREAKING SECTION OUT.



SEWER TRENCH "A"

NOTES:
1. TRENCH "A" SHALL BE USED UNDER ROAD SURFACES, PAVEMENT, SIDEWALK, CURB, AGGREGATE & PAVED DRIVES AND WHERE THE EDGE OF TRENCH IS WITHIN 3 FEET OF THE PAVEMENT
2. GRANULAR MATERIAL SHALL BE PLACED BY THE "CONTROLLED DENSITY METHOD" OR OTHER MEANS HAVING APPROVAL OF THE ENGINEER AND IS TO BE COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT



SEWER TRENCH "B"

NOTES:
1. SUITABLE EXCAVATED BACKFILL MATERIAL SHALL BE PLACED IN ONE FOOT LAYERS AND COMPACTED BY MECHANICAL TAMPING OR OTHER EFFECTIVE MEANS HAVING APPROVAL OF THE ENGINEER, TO A DENSITY EQUIVALENT TO THE UNDISTURBED ADJACENT SOIL
2. TRENCH "B" SHALL BE USED UNDER CONDITIONS OTHER THAN SPECIFIED FOR TRENCH "A"

THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSES AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

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NO.	DATE	REVISIONS	BY
1	11/26/24	SITE PLAN UPDATES	MSF
2	03/05/25	REV. PER CITY/COUNTY	MSF,TES
3	07/03/25	REV. PER CITY/COUNTY	TES

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SCALE: AS NOTED
DESIGNED BY: TES
DRAWN BY: DKE
CHECKED BY: TES

STATE OF MICHIGAN TYLER SMITH 63321 PROFESSIONAL ENGINEER
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

AMERCO REAL ESTATE COMPANY

CONSTRUCTION DETAILS

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
C6.8

CITY/VILLAGE/TOWNSHIP: YPSILANTI
COUNTY:
CLIENT:
JOB #
SCALE: V: H:
VERT.DATUM
HORIZ.DATUM
REVISIONS:
DATE | CADD | ENG | ARCH | PROJ MGR | SECTION | TOWN | RANGE

YPSILANTI TOWNSHIP / Y.C.U.A.
STANDARD STORM SEWER DETAILS

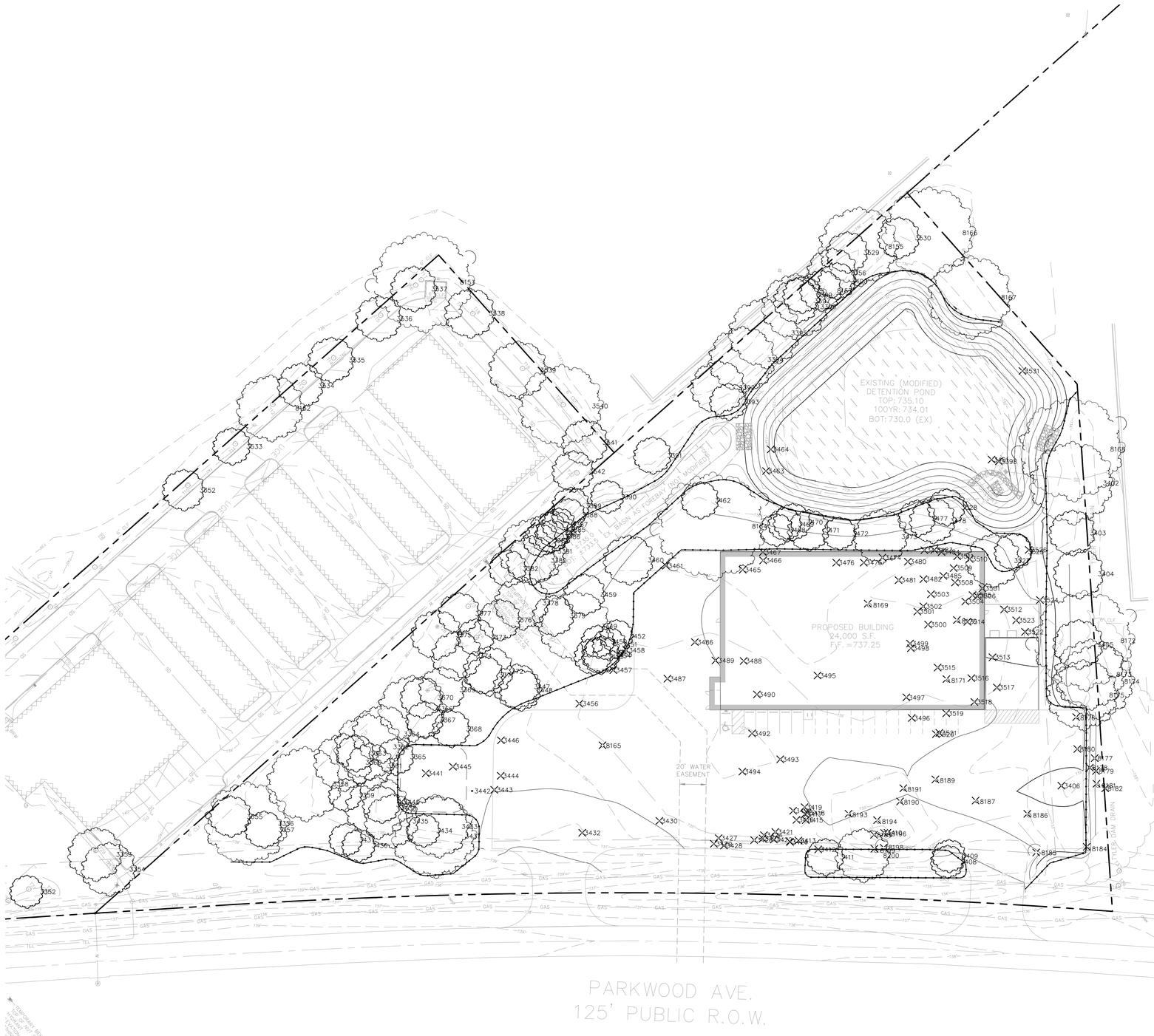
SHEET
OF ##

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

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80



TREE LEGEND

- TREE/ BUSH
- STUMP
- TREE LINE/ CANOPY
- (900) TREE TAG NUMBER
- TREE TO BE REMOVED
- TREE PROTECTION FENCING

GENERAL NOTES

1. TREE SURVEY CONDUCTED BY MONUMENT ENGINEERING GROUP ON 11/14/2024.

TREE IMPACT DATA

TOTAL EXISTING PROTECTED TREES	236
TOTAL PROTECTED TREES TO BE PRESERVED	123
TOTAL PROTECTED TREES TO BE REMOVED	113

*SEE LANDSCAPE PLAN FOR TREE REPLACEMENT REQUIREMENTS

No.	REVISIONS	DATE	BY
1	SITE PLAN UPDATES	11/26/24	MSF
2	REV. PER CITY/COUNTY	03/05/25	MSF TES
3	REV. PER CITY/COUNTY	07/03/25	TES

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SOUTHFIELD, MI 48075
PHONE: (248) 645-0000
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED | DESIGNED BY: TES | DRAWN BY: OKE | CHECKED BY: TES

NOT APPROVED FOR CONSTRUCTION
STATE OF MICHIGAN
TYLER
SMITH
38975
PROFESSIONAL ENGINEER
Tyler Smith

AMERCO REAL ESTATE COMPANY

TREE SURVEY IMPACT PLAN

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
T1.0

Drawing name: K:\DET_DS\168737006_uhaul ypsi mi\2 Design\CADD\plansheets\T1.1 TREE INVENTORY.dwg T1.0 Jul 04, 2025 1:31pm by TylerE.Smith
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Peter M. Lundgren
ISA Certified Arborist®
MI-4374A

Tree Survey

Project No./Name: 24-203 KH Parkwood Ave Ypsilanti Date: 11/14/2024

Tag No.	Scientific Name	Common Name	D.B.H.	Condition	Notes
3342	Acer Rubrum	Red Maple	8	GOOD	
3343	Acer platanoides	Norway Maple	12	GOOD	
3344	Prunus serotina	Black Cherry	9	POOR	
3345	Acer saccharinum	Silver Maple	18	FAIR	CLUSTER
3346	Prunus serotina	Black Cherry	17	GOOD	
3347	Pyrus calleryana	Bradford Pear	9	GOOD	
3348	Pyrus calleryana	Bradford Pear	9	GOOD	
3349	Pyrus calleryana	Bradford Pear	8	GOOD	
3350	Pyrus calleryana	Bradford Pear	8	GOOD	
3352	Pyrus calleryana	Bradford Pear	8	GOOD	
3352	Prunus cerasifera	Cherry Plum	10	FAIR	
3353	Acer Rubrum	Red Maple	13	GOOD	
3354	Acer Rubrum	Red Maple	13	GOOD	
3355	Pinus resinosa	Red Pine	10	GOOD	
3356	Populus deltoides	Cottonwood	20	GOOD	
3357	Pseudotsuga menziesii	Douglas Fir	9	GOOD	
3358	Populus deltoides	Cottonwood	18	GOOD	
3359	Acer Rubrum	Red Maple	8	GOOD	
3360	Populus deltoides	Cottonwood	14	GOOD	
3361	Populus deltoides	Cottonwood	11	GOOD	
3362	Populus deltoides	Cottonwood	16	GOOD	TWIN
3363	Picea pungens	Blue Spruce	9	GOOD	
3364	Populus deltoides	Cottonwood	14	GOOD	
3365	Populus deltoides	Cottonwood	9	GOOD	
3366	Populus deltoides	Cottonwood	16	GOOD	
3367	Acer Rubrum	Red Maple	9	GOOD	
3368	Populus deltoides	Cottonwood	9	FAIR	TWIN
3369	Acer Rubrum	Red Maple	11	GOOD	
3370	Pseudotsuga menziesii	Douglas Fir	10	GOOD	
3371	Acer Rubrum	Red Maple	9	GOOD	
3372	Populus deltoides	Cottonwood	12	GOOD	
3373	Acer Rubrum	Red Maple	9	GOOD	
3374	Pseudotsuga menziesii	Douglas Fir	12	GOOD	
3375	Pseudotsuga menziesii	Douglas Fir	12	GOOD	
3376	Liquidambar styraciflua	Sweetgum	10	GOOD	
3377	Acer Rubrum	Red Maple	10	FAIR	CLUSTER
3378	Betula nigra	River Birch	13	FAIR	TRIPLE
3379	Betula nigra	River Birch	10	FAIR	TRIPLE
3380	Populus deltoides	Cottonwood	12	GOOD	
3381	Populus deltoides	Cottonwood	16	GOOD	
3382	Betula nigra	River Birch	9	FAIR	TRIPLE
3383	Pinus resinosa	Red Pine	10	GOOD	
3384	Populus deltoides	Cottonwood	8	FAIR	TWIN
3385	Populus deltoides	Cottonwood	9	GOOD	
3386	Populus deltoides	Cottonwood	8	FAIR	TWIN
3387	Populus deltoides	Cottonwood	8	GOOD	
3388	Populus deltoides	Cottonwood	8	GOOD	
3389	Pinus resinosa	Red Pine	9	GOOD	TWIN
3390	Populus deltoides	Cottonwood	8	FAIR	
3391	Populus tremuloides	Quaking Aspen	9	GOOD	
3392	Prunus serotina	Black Cherry	13	FAIR	CLUSTER
3393	Tilia americana	Basswood	9	GOOD	TWIN
3394	Quercus rubra	Red Oak	16	GOOD	
3395	Ulmus americana	American Elm	17	GOOD	
3396	Quercus rubra	Red Oak	16	GOOD	
3397	Carya ovata	Shagbark Hickory	11	GOOD	TWIN
~~3398~~	Populus deltoides	Cottonwood	9	GOOD	In structure footprint
3399	Ulmus americana	American Elm	9	GOOD	
3400	Pinus resinosa	Red Pine	9	FAIR	
~~3401~~	Populus deltoides	Cottonwood	9	GOOD	In structure footprint
3402	Populus deltoides	Cottonwood	20	GOOD	
3403	Ulmus pumila	Siberian Elm	11	FAIR	
3404	Ulmus pumila	Siberian Elm	12	POOR	CLUSTER
3405	Ulmus americana	American Elm	12	GOOD	
~~3406~~	Populus deltoides	Cottonwood	13	GOOD	In grading limits
3408	Populus tremuloides	Quaking Aspen	8	GOOD	
3409	Populus tremuloides	Quaking Aspen	8	GOOD	
~~3410~~	Populus deltoides	Cottonwood	12	GOOD	In grading limits
3411	Populus tremuloides	Quaking Aspen	9	FAIR	
~~3412~~	Populus tremuloides	Quaking Aspen	10	GOOD	In grading limits
~~3413~~	Populus deltoides	Cottonwood	8	GOOD	In grading limits
~~3414~~	Populus deltoides	Cottonwood	8	FAIR	TWIN In grading limits
~~3415~~	Populus deltoides	Cottonwood	8	GOOD	In grading limits
~~3416~~	Populus deltoides	Cottonwood	8	GOOD	In grading limits
~~3417~~	Populus deltoides	Cottonwood	8	GOOD	In grading limits
~~3418~~	Populus deltoides	Cottonwood	8	GOOD	In grading limits
~~3419~~	Populus deltoides	Cottonwood	9	GOOD	In grading limits
~~3420~~	Populus deltoides	Cottonwood	11	GOOD	In grading limits
~~3421~~	Populus deltoides	Cottonwood	12	GOOD	In grading limits
~~3422~~	Populus deltoides	Cottonwood	10	FAIR	In grading limits
~~3423~~	Populus deltoides	Cottonwood	9	GOOD	In grading limits
~~3424~~	Populus deltoides	Cottonwood	11	GOOD	In grading limits
~~3425~~	Populus deltoides	Cottonwood	8	GOOD	In grading limits
~~3426~~	Populus deltoides	Cottonwood	13	GOOD	In grading limits

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Peter M. Lundgren
ISA Certified Arborist®
MI-4374A

Tree Survey

Project No./Name: 24-203 KH Parkwood Ave Ypsilanti Date: 11/14/2024

Tag No.	Scientific Name	Common Name	D.B.H.	Condition	Notes
~~3427~~	Populus deltoides	Cottonwood	11	GOOD	In grading limits
~~3428~~	Populus deltoides	Cottonwood	10	GOOD	In grading limits
~~3429~~	Populus deltoides	Cottonwood	9	GOOD	In grading limits
~~3430~~	Ulmus americana	American Elm	8	GOOD	In grading limits
3431	Populus deltoides	Cottonwood	20	GOOD	
~~3432~~	Ulmus pumila	Siberian Elm	9	GOOD	In grading limits
3433	Populus deltoides	Cottonwood	15	FAIR	TWIN
3434	Populus deltoides	Cottonwood	8	FAIR	TRIPLE
3435	Populus deltoides	Cottonwood	13	GOOD	
3436	Ulmus pumila	Siberian Elm	8	FAIR	TRIPLE
3437	Ulmus pumila	Siberian Elm	8	GOOD	
3438	Populus deltoides	Cottonwood	15	GOOD	
3439	Populus deltoides	Cottonwood	9	FAIR	TWIN
~~3440~~	Populus deltoides	Cottonwood	9	FAIR	TWIN In structure footprint
~~3441~~	Populus deltoides	Cottonwood	8	FAIR	TWIN In structure footprint
3442	Populus deltoides	Cottonwood	10	GOOD	
~~3443~~	Populus deltoides	Cottonwood	11	GOOD	In grading limits
~~3444~~	Populus deltoides	Cottonwood	9	FAIR	TWIN In grading limits
~~3445~~	Populus deltoides	Cottonwood	10	FAIR	TWIN In structure footprint
~~3446~~	Tilia americana	Basswood	10	GOOD	
3447	Populus deltoides	Cottonwood	11	GOOD	
3448	Populus deltoides	Cottonwood	10	FAIR	TWIN In grading limits
3449	Populus deltoides	Cottonwood	17	GOOD	
3450	Populus deltoides	Cottonwood	8	GOOD	
3451	Populus deltoides	Cottonwood	8	GOOD	
3452	Populus deltoides	Cottonwood	8	GOOD	TWIN
3453	Populus deltoides	Cottonwood	9	GOOD	
3454	Populus deltoides	Cottonwood	9	FAIR	TWIN
3455	Populus deltoides	Cottonwood	9	FAIR	TWIN
~~3456~~	Ulmus pumila	Siberian Elm	14	FAIR	TWIN In grading limits
~~3457~~	Populus deltoides	Cottonwood	12	GOOD	In grading limits
~~3458~~	Populus deltoides	Cottonwood	10	GOOD	In grading limits
3459	Tilia americana	Basswood	10	GOOD	
3460	Tilia americana	Basswood	12	GOOD	
~~3461~~	Acer Rubrum	Red Maple	9	GOOD	In grading limits
3462	Tilia americana	Basswood	9	GOOD	
~~3463~~	Populus tremuloides	Quaking Aspen	9	GOOD	In grading limits
~~3464~~	Populus tremuloides	Quaking Aspen	8	GOOD	In grading limits
~~3465~~	Populus tremuloides	Quaking Aspen	8	GOOD	In building footprint
~~3466~~	Populus tremuloides	Quaking Aspen	12	GOOD	In building footprint
~~3467~~	Populus tremuloides	Quaking Aspen	8	FAIR	TRIPLE In building footprint
3468	Acer saccharinum	Silver Maple	8	GOOD	
3469	Populus tremuloides	Quaking Aspen	8	GOOD	
3470	Populus tremuloides	Quaking Aspen	9	GOOD	
3471	Populus tremuloides	Quaking Aspen	10	GOOD	TWIN
3472	Acer saccharinum	Silver Maple	8	GOOD	
3473	Tilia americana	Basswood	13	GOOD	
~~3474~~	Populus tremuloides	Quaking Aspen	12	GOOD	In building footprint
~~3475~~	Populus tremuloides	Quaking Aspen	9	GOOD	In building footprint
~~3476~~	Populus tremuloides	Quaking Aspen	8	GOOD	In building footprint
3477	Populus tremuloides	Quaking Aspen	9	GOOD	
3478	Populus tremuloides	Quaking Aspen	11	GOOD	
~~3479~~	Populus tremuloides	Quaking Aspen	10	GOOD	In grading limits
~~3480~~	Populus tremuloides	Quaking Aspen	10	GOOD	In building footprint
~~3481~~	Populus tremuloides	Quaking Aspen	12	GOOD	In building footprint
~~3482~~	Populus tremuloides	Quaking Aspen	8	GOOD	In building footprint
~~3483~~	Populus tremuloides	Quaking Aspen	10	GOOD	In grading limits
~~3484~~	Populus tremuloides	Quaking Aspen	9	GOOD	In building footprint
~~3485~~	Populus tremuloides	Quaking Aspen	9	GOOD	In building footprint
~~3486~~	Populus tremuloides	Quaking Aspen	11	GOOD	In grading limits
~~3487~~	Populus deltoides	Cottonwood	10	GOOD	In grading limits
~~3488~~	Populus tremuloides	Quaking Aspen	8	GOOD	In building footprint
~~3489~~	Populus tremuloides	Quaking Aspen	13	GOOD	In grading limits
~~3490~~	Populus tremuloides	Quaking Aspen	9	GOOD	TWIN In building footprint
~~3492~~	Populus deltoides	Cottonwood	8	GOOD	In grading limits
~~3493~~	Populus deltoides	Cottonwood	12	GOOD	TWIN In grading limits
~~3494~~	Populus deltoides	Cottonwood	9	FAIR	TWIN In grading limits
~~3495~~	Quercus rubra	Red Oak	10	GOOD	TWIN In building footprint
~~3496~~	Populus deltoides	Cottonwood	9	GOOD	In grading limits
~~3497~~	Populus deltoides	Cottonwood	10	GOOD	In building footprint
~~3498~~	Populus tremuloides	Quaking Aspen	9	GOOD	In building footprint
~~3499~~	Populus tremuloides	Quaking Aspen	10	GOOD	In building footprint
~~3500~~	Populus tremuloides	Quaking Aspen	10	GOOD	In building footprint
~~3501~~	Populus deltoides	Cottonwood	12	GOOD	In building footprint
~~3501~~	Populus tremuloides	Quaking Aspen	8	GOOD	In building footprint
~~3502~~	Populus tremuloides	Quaking Aspen	11	GOOD	In building footprint
~~3503~~	Populus tremuloides	Quaking Aspen	8	GOOD	In building footprint
~~3504~~	Populus deltoides	Cottonwood	11	GOOD	In building footprint
~~3505~~	Populus deltoides	Cottonwood	11	GOOD	In building footprint
~~3506~~	Populus deltoides	Cottonwood	10	GOOD	In building footprint
~~3508~~	Populus tremuloides	Quaking Aspen	8	GOOD	In building footprint
~~3509~~	Populus tremuloides	Quaking Aspen	10	GOOD	In building footprint
~~3510~~	Populus tremuloides	Quaking Aspen	10	GOOD	In building footprint
~~3511~~	Populus tremuloides	Quaking Aspen	9	GOOD	In building footprint

Monument Engineering Group Associates, Inc.
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Peter M. Lundgren
ISA Certified Arborist®
MI-4374A

Tree Survey

Project No./Name: 24-203 KH Parkwood Ave Ypsilanti Date: 11/14/2024

Tag No.	Scientific Name	Common Name	D.B.H.	Condition	Notes
~~3512~~	Populus deltoides	Cottonwood	12	GOOD	In building footprint
~~3513~~	Populus tremuloides	Quaking Aspen	9	GOOD	In grading limits
~~3514~~	Populus deltoides	Cottonwood	8	GOOD	In building footprint
~~3515~~	Populus tremuloides	Quaking Aspen	11	GOOD	In building footprint
~~3516~~	Populus tremuloides	Quaking Aspen	10	GOOD	In building footprint
~~3517~~	Populus deltoides	Cottonwood	10	GOOD	In grading limits
~~3518~~	Populus deltoides	Cottonwood	10	GOOD	In building footprint
~~3519~~	Populus deltoides	Cottonwood	8	GOOD	In grading limits
~~3520~~	Populus deltoides	Cottonwood	8	GOOD	In grading limits
~~3521~~	Populus deltoides	Cottonwood	11	GOOD	In grading limits
~~3522~~	Populus tremuloides	Quaking Aspen	10	GOOD	In building footprint
~~3523~~	Populus tremuloides	Quaking Aspen	9	GOOD	In building footprint
~~3524~~	Populus deltoides	Cottonwood	9	GOOD	
3525	Populus tremuloides	Quaking Aspen	9	GOOD	TWIN
~~3526~~	Populus tremuloides	Quaking Aspen	10	GOOD	
3527	Populus tremuloides	Quaking Aspen	13	GOOD	
3528	Populus tremuloides	Quaking Aspen	9	GOOD	
3529	Prunus serotina	Black Cherry	10	FAIR	
3530	Pinus resinosa	Red Pine	10	GOOD	
~~3531~~	Betula nigra	River Birch	8	GOOD	In grading limits
3533	Prunus cerasifera	Cherry Plum	9	GOOD	
3534	Acer saccharinum	Silver Maple	11	GOOD	
3535	Acer saccharinum	Silver Maple	11	GOOD	
3536	Acer saccharinum	Silver Maple	11	GOOD	
3537	Quercus rubra	Red Oak	11	GOOD	
3538	Acer saccharinum	Silver Maple	12	GOOD	
3539	Acer saccharinum	Silver Maple	14	GOOD	
3540	Quercus rubra	Red Oak	20	GOOD	
3541	Acer saccharinum	Silver Maple	11	GOOD	
3542	Acer saccharinum	Silver Maple	10	GOOD	
8152	Ulmus rubra	Slippery Elm	16	GOOD	
8153	Quercus rubra	Red Oak	24	GOOD	
8155	Quercus rubra	Red Oak	19	GOOD	TWIN
8156	Carya ovata	Shagbark Hickory	12	GOOD	
8157	Carya ovata	Shagbark Hickory	10	GOOD	TRIPLE
8164	Quercus rubra	Red Oak	26	GOOD	TWIN
~~8165~~	Acer saccharinum	Silver Maple	20	GOOD	CLUSTER In grading limits
8166	Quercus rubra	Red Oak	22	GOOD	
8167	Quercus rubra	Red Oak	20	GOOD	
8168	Ulmus americana	American Elm	25	GOOD	CLUSTER
~~8169~~	Quercus rubra	Red Oak	24	GOOD	In building footprint
~~8170~~	Ulmus americana	American Elm	19	FAIR	In building footprint
~~8171~~	Populus deltoides	Cottonwood	20	GOOD	In building footprint
8172	Populus deltoides	Cottonwood	24	GOOD	CLUSTER
8173	Populus deltoides	Cottonwood	17	GOOD	TWIN
8174	Populus deltoides	Cottonwood	18	GOOD	
8175	Populus deltoides	Cottonwood	17	FAIR	TWIN
~~8176~~	Populus deltoides	Cottonwood	16	GOOD	In grading limits
~~8177~~	Populus deltoides	Cottonwood	13	GOOD	TWIN In grading limits
~~8178~~	Populus deltoides	Cottonwood	13	GOOD	In grading limits
~~8179~~	Populus deltoides	Cottonwood	12	GOOD	TWIN In grading limits
~~8180~~	Populus deltoides	Cottonwood	11	GOOD	In grading limits
~~8181~~	Populus deltoides	Cottonwood	24	GOOD	TWIN In grading limits
~~8182~~	Populus deltoides	Cottonwood	11	GOOD	In grading limits
~~8184~~	Populus deltoides	Cottonwood	22	GOOD	TWIN In grading limits
~~8185~~	Populus deltoides	Cottonwood	31	GOOD	In grading limits
~~8186~~	Populus deltoides	Cottonwood	24	GOOD	In grading limits
~~8187~~	Quercus macrocarpa	Bur Oak	18	FAIR	TWIN In grading limits
~~8189~~	Juglans cinerea	Butternut	18	FAIR	TWIN In grading limits
~~8190~~	Quercus macrocarpa	Bur Oak	14	FAIR	TWIN In grading limits
~~8191~~	Quercus macrocarpa	Bur Oak	17	GOOD	In grading limits
~~8193~~	Prunus serotina	Black Cherry	14	FAIR	In grading limits
~~8194~~	Populus deltoides	Cottonwood	22	GOOD	In grading limits
~~8195~~	Populus deltoides	Cottonwood	12	GOOD	In grading limits
~~8196~~	Populus deltoides	Cottonwood	14	GOOD	In grading limits
~~8198~~	Populus deltoides	Cottonwood	28	GOOD	TWIN In grading limits
~~8199~~	Populus deltoides	Cottonwood	26	GOOD	In grading limits
8200	Ulmus americana	American Elm	13	GOOD	

TREE REMOVAL LEGEND

~~———~~ TREE TO BE REMOVED, EXEMPT FROM REPLACEMENT

*AS PER SECTION 24–67 (4) b. 1, TREES IN THE FOLLOWING CONDITIONS ARE EXEMPT FROM 100 PERCENT REPLACEMENT:

- IN LOCATION OF FUTURE BUILDINGS
- IN LOCATION OF FUTURE STRUCTURES
- WHERE GRADING IS NECESSARY

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2	REV. PER CITY/COUNTY	03/05/25	MSF TES
3	REV. PER CITY/COUNTY	07/03/25	TES

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SCALE: AS NOTED
DESIGNED BY: TES
DRAWN BY: OKE
CHECKED BY: TES

STATE OF MICHIGAN
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48975
PROFESSIONAL ENGINEER
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

AMERCO REAL ESTATE COMPANY

TREE INVENTORY

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

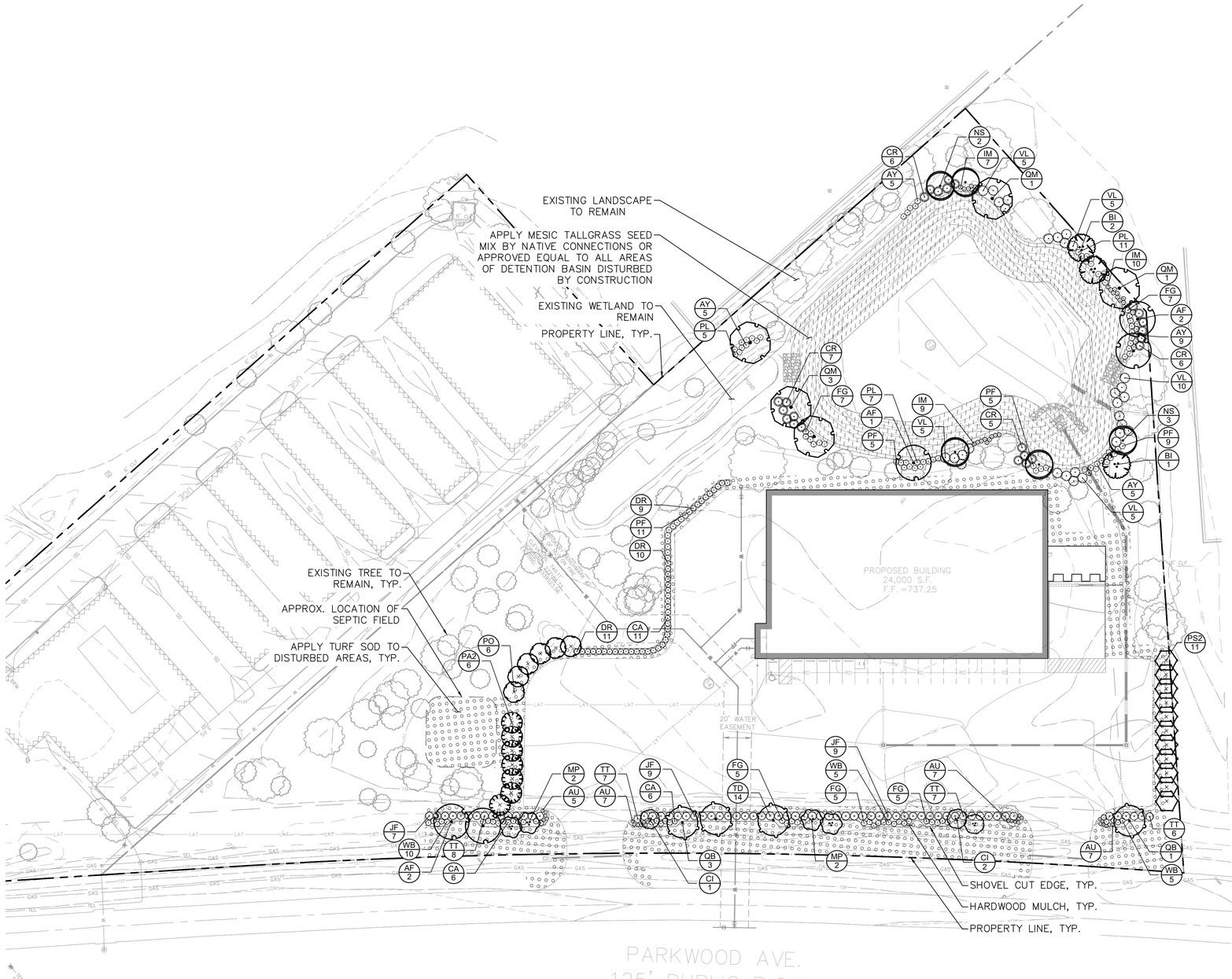
ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
T1.1

Drawing name: K:\DET_DS\168737006_uhaul ypsi mi\2 Design\CAD\plansheets\T1.1 TREE INVENTORY.dwg T1.1 Jul 04, 2025 1:31pm by TylerE.Smith
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811 Know what's below. Call before you dig.

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80



PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
		123	EXISTING TREE TO REMAIN AND BE PROTECTED			
EVERGREEN TREES						
	PA2	7	PICEA ABIES NORWAY SPRUCE	B & B		6' HT. MIN.
	PO	6	PICEA OMORIKA SERBIAN SPRUCE	B & B		6' HT. MIN.
	PS2	11	PINUS STROBUS WHITE PINE	B & B		6' HT. MIN.
ORNAMENTAL TREES						
	CI	3	CRATAEGUS CRUS-GALLI INERMIS THORNLESS COCKSPUR HAWTHORN	B & B	2.5" CAL. MIN.	
	MP	4	MALUS X 'PRAIRIFIRE' PRAIRIFIRE CRABAPPLE	B & B	2.5" CAL. MIN.	
DECIDUOUS TREES						
	AF	5	ACER FREEMANII `AUTUMN BLAZE` AUTUMN BLAZE MAPLE	B & B	2.5" CAL. MIN.	
	BI	3	BETULA NIGRA 'DURA-HEAT' DURA-HEAT RIVER BIRCH	B & B	2.5" CAL. MIN.	
	NS	5	NYSSA SYLVATICA TUPELO	B & B	2.5" CAL. MIN.	
	QB	4	QUERCUS BICOLOR SWAMP WHITE OAK	B & B	2.5" CAL. MIN.	
	QM	5	QUERCUS MACROCARPA BURR OAK	B & B	2.5" CAL. MIN.	
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE
SHRUBS						
	AU	26	ARONIA MELANOCARPA `UCONNAM165` LOW SCAPE MOUND CHOKEBERRY	5 GAL	SEE PLAN	30" HT. MIN.
	AY	24	ARONIA MELANOCARPA 'IROQUOIS BEAUTY' TM IROQUOIS BEAUTY BLACK CHOKEBERRY	5 GAL	SEE PLAN	36" HT MIN
	CA	23	CEANOTHUS AMERICANUS NEW JERSEY TEA	5 GAL	SEE PLAN	36" HT. MIN.
	CR	24	CORNUS SERICEA RED TWIG DOGWOOD	5 GAL	SEE PLAN	36" HT. MIN.
	DR	30	DIERVILLA RIVULARIS `MORTON` SUMMER STARS GEORGIA BUSH-HONEYSUCKLE	5 GAL	SEE PLAN	30" HT. MIN.
	FG	29	FOTHERGILLA GARDENII DWARF FOTHERGILLA	5 GAL	SEE PLAN	36" HT MIN
	IM	26	ITEA VIRGINICA `MORTON` MORTON SWEETSPIRE	5 GAL	SEE PLAN	30" HT. MIN.
	PL	23	PHYSOCARPUS OPULIFOLIUS `LITTLE DEVIL` TM DWARF NINEBARK	5 GAL	SEE PLAN	30" HT. MIN.
	PF	30	POTENTILLA FRUTICOSA BUSH CINQUEFOIL	5 GAL	SEE PLAN	36" HT. MIN.
	VL	30	VIBURNUM LENTAGO NANNYBERRY	5 GAL.	SEE PLAN	36" HT. MIN.
	WB	20	WEIGELA FLORIDA 'BRAMWELL' FINE WINE® WEIGELA	5 GAL	SEE PLAN	36" HT. MIN.
EVERGREEN SHRUBS						
	JF	25	JUNIPERUS CHINENSIS 'SEA GREEN' SEA GREEN JUNIPER	5 GAL	SEE PLAN	36" HT. MIN.
	TD	14	TAXUS X MEDIA `DENSIFORMIS` DENSE YEW	5 GAL	SEE PLAN	36" HT MIN
	TT	28	TAXUS X MEDIA 'TAUNTONII' TAUNTON'S ANGLO-JAPANESE YEW	5 GAL	SEE PLAN	36" HT MIN

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME
GROUND COVERS			
	MT	17,157 SF	MESIC TALLGRASS SEED MIX BY NATIVE CONNECTIONS OR APPROVED EQUAL
	TS		TURF SOD

YPSILANTI TOWNSHIP, MI - LANDSCAPE CODE REQUIREMENTS		
ZONING ORDINANCE	**REQUIRED**	**PROPOSED**
SECTION 1301 - LANDSCAPE REQUIREMENTS		
GENERAL LANDSCAPING: A MIXTURE OF EVERGREEN AND DECIDUOUS TREES SHALL BE PLANTED AT A RATE OF ONE (1) TREE FOR EACH ONE THOUSAND (1,000) SQUARE FEET OR FRACTION THEREOF OF LAWN AREA ONE (1) SHRUB FOR EVERY FIVE HUNDRED (500) SQUARE FEET OR FRACTION THEREOF OF LAWN AREA	26,011 SF OF PROPOSED LAWN AREA / 1,000 = 26.01 **26 TREES REQUIRED** 26,011 SF OF PROPOSED LAWN / 500 = 52.02 **52 SHRUBS REQUIRED**	**70 EXISTING TREES TO REMAIN** **52 SHRUBS PROVIDED** **(SEE TURF SOD HATCH ON LEGEND OF SHEET L1.0TO IDENTIFY AREAS MARKED AS LAWN AREA)**
STREET YARD LANDSCAPING: WHENEVER A LANDSCAPED SETBACK IS REQUIRED BETWEEN A PUBLIC OR PRIVATE STREET AND A PARKING OR BUILDING SETBACK, ALL SUCH YARDS SHALL BE LANDSCAPED IN ACCORDANCE WITH THE FOLLOWING: A MINIMUM OF ONE (1) LARGE DECIDUOUS TRESS SHALL BE PLANTED FOR EACH FORTY (40) LINEAL FEET OF FRONTAGE A MINIMUM OF ONE (1) ORNAMENTAL TREE SHALL BE PLANTED FOR EACH ONE HUNDRED (100) LINEAL FEET OF FRONTAGE A MINIMUM OF ONE (1) SHRUB SHALL BE PLANTED FOR EACH TEN (10) LINEAL FEET OF FRONTAGE	PARKWOOD AVENUE: 724.13 LF / 40 = 18.10 **18 DECIDUOUS TREES REQUIRED ALONG PARKWOOD AVE** 724.13 LF / 100 = 7.24 **7 ORNAMENTAL TREES REQUIRED ALONG PARKWOOD AVE** 724.13 LF / 10 = 72.41 **72 SHRUBS REQUIRED ALONG PARKWOOD AVE**	**12 EXISTING DECIDUOUS TREES TO REMAIN, 6 DECIDUOUS TREES PROVIDED ALONG PARKWOOD AVE** **7 ORNAMENTAL TREES PROVIDED ALONG PARKWOOD AVE** **73 SHRUBS PROVIDED ALONG PARKWOOD AVE**
INTERIOR PARKING LOT LANDSCAPING: INTERIOR: ONE (1) LARGE DECIDUOUS TREE SHALL BE REQUIRED FOR EACH TWO THOUSAND (2,000) SQUARE FEET OF PAVED DRIVEWAY AND PARKING LOT SURFACE THE PRESERVATION OF EXISTING TREES WITHIN OR ADJACENT TO A PARKING AREA CAN BE USED TO FULFILL THE REQUIREMENT FOR PARKING LOT TREES. IN SUCH CASES, EVERY SIX (6) CALIPER INCHES OF PRESERVED TREE SHALL BE COUNTED AS ONE PARKING LOT TREE	57,404 SF / 2,000 = 28.7 **29 INTERIOR PARKING LOT TREES REQUIRED**	202" CALIPER OF EXISTING TREES TO REMAIN ADJACENT TO PARKING LOT 202" / 6 = 33.6 **34 EXISTING TREES TO REMAIN**

PERIMETER PARKING LOT LANDSCAPING: CANOPY TREES SHALL BE PROVIDED ALONG THE PERIMETER OF A PARKING LOT AT A MINIMUM RATE OF ONE (1) TREE PER FORTY (40) FEET OF LOT PERIMETER WHERE AN OFF-STREET PARKING AREA IS LOCATED WITHIN A REQUIRED FRONT YARD, A LANDSCAPE BERM OR CONTINUOUS MINIMUM THREE (3) FOOT TALL HEDGE ROW SHALL BE PROVIDED WITHIN THE GREENBELT BETWEEN PARKING AREA AND THE ROLLED RIGHT OF WAY	965 LF / 40 = 24.125 **24 PERIMETER PARKING LOT TREES REQUIRED** **3' TALL HEDGE REQUIRED ALONG PARKWOOD AVE**	**24 PERIMETER PARKING LOT TREES PROVIDED** **3' TALL HEDGE PROVIDED ALONG PARKWOOD AVE**
DETENTION/RETENTION POND LANDSCAPING: ONE (1) DECIDUOUS SHADE OR EVERGREEN TREE AND TEN (10) SHRUBS SHALL BE PLANTED FOR EVERY FIFTY (50) LINEAL FEET OF POND PERIMETER	725 LF OF NORTHERN DETENTION POND IMPROVEMENTS 725 / 50 =14.5 **15 TREES REQUIRED AROUND DETENTION POND** 35 * 10 = 150 **150 SHRUBS REQUIRED AROUND DETENTION POND** 35 LF OF SOUTHERN DETENTION POND (FOREBAY) IMPROVEMENTS 35 / 50 = 0.7 **1 TREE REQUIRED AROUND SOUTHERN DETENTION (FOREBAY) POND** 1 * 10 = 10 **10 SHRUBS REQUIRED AROUND SOUTHERN DETENTION (FOREBAY) BASIN**	**15 NORTHERN DETENTION POND TREES PROVIDED** **150 NORTHERN DETENTION POND SHRUBS PROVIDED** **1 SOUTHERN DETENTION (FOREBAY) POND TREE PROVIDED** **10 SOUTHERN DETENTION (FOREBAY) POND SHRUBS PROVIDED**

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CHECKED BY: TES

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47871
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PROFESSIONAL ENGINEER
Tyler Smith

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REAL ESTATE COMPANY

LANDSCAPE PLAN

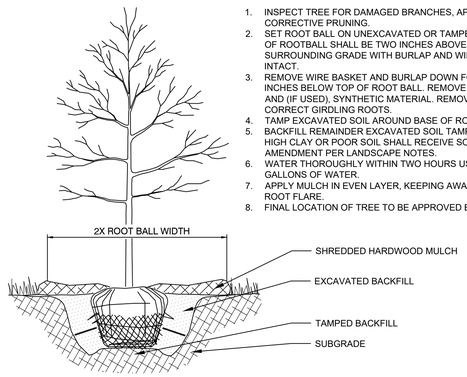
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ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
L1.0

Drawing name: K:\DET_DS\168737006-uhaul ypsi mi\2 Design\CADD\plansheet\L1.2 LANDSCAPE NOTES & DETAILS.dwg L1.0 Jul 04, 2025 1:33am by TylerE.Smith
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NOTES:

1. INSPECT TREE FOR DAMAGED BRANCHES, APPLY CORRECTIVE PRUNING.
2. SET ROOT BALL ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL SHALL BE TWO INCHES ABOVE SURROUNDING GRADE WITH BURLAP AND WIRE BASKET INTACT.
3. REMOVE WIRE BASKET AND BURLAP DOWN FOUR TO SIX INCHES BELOW TOP OF ROOT BALL. REMOVE ALL TWINE AND (IF USED), SYNTHETIC MATERIAL. REMOVE OR CORRECT GIRDLING ROOTS.
4. TAMP EXCAVATED SOIL AROUND BASE OF ROOTBALL.
5. BACKFILL REMAINDER EXCAVATED SOIL TAMPED LIGHTLY. HIGH CLAY OR POOR SOIL SHALL RECEIVE SOIL AMENDMENT PER LANDSCAPE NOTES.
6. WATER THOROUGHLY WITHIN TWO HOURS USING 10 TO 15 GALLONS OF WATER.
7. APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE.
8. FINAL LOCATION OF TREE TO BE APPROVED BY OWNER.

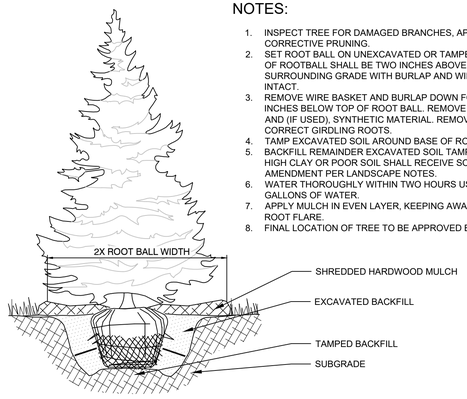


1 TREE PLANTING

NTS

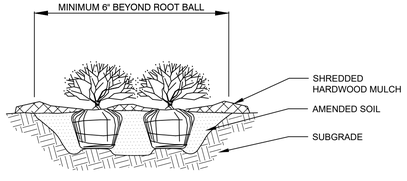
NOTES:

1. INSPECT TREE FOR DAMAGED BRANCHES, APPLY CORRECTIVE PRUNING.
2. SET ROOT BALL ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL SHALL BE TWO INCHES ABOVE SURROUNDING GRADE WITH BURLAP AND WIRE BASKET INTACT.
3. REMOVE WIRE BASKET AND BURLAP DOWN FOUR TO SIX INCHES BELOW TOP OF ROOT BALL. REMOVE ALL TWINE AND (IF USED), SYNTHETIC MATERIAL. REMOVE OR CORRECT GIRDLING ROOTS.
4. TAMP EXCAVATED SOIL AROUND BASE OF ROOTBALL.
5. BACKFILL REMAINDER EXCAVATED SOIL TAMPED LIGHTLY. HIGH CLAY OR POOR SOIL SHALL RECEIVE SOIL AMENDMENT PER LANDSCAPE NOTES.
6. WATER THOROUGHLY WITHIN TWO HOURS USING 10 TO 15 GALLONS OF WATER.
7. APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE.
8. FINAL LOCATION OF TREE TO BE APPROVED BY OWNER.



2 EVERGREEN TREE PLANTING

NTS



NOTES:

1. APPLY CORRECTIVE PRUNING.
2. SET ROOT BALL OR CONTAINER ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL (CONTAINER) SHALL BE ONE INCH ABOVE SURROUNDING GRADE. FOR LARGER SHRUBS WITHIN PLANTING BED DIG A DEEPER PIT ONLY FOR THOSE SHRUBS.
3. REMOVE BURLAP FROM TOP HALF THE LENGTH OF ROOTBALL. TWINE AND (IF USED) SYNTHETIC MATERIAL SHALL BE REMOVED FROM PLANTING BED. FOR CONTAINER GROWN SHRUBS, REMOVE CONTAINER AND LOOSEN ROOTS PRIOR TO INSTALLATION.
4. REMOVE OR CORRECT GIRDLING ROOTS.
5. PLUMB AND BACKFILL WITH AMENDED SOIL PER LANDSCAPE NOTES. WATER THOROUGHLY WITHIN TWO HOURS.
6. APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE. MULCH LIMITS FOR SHRUBS EXTEND TO ALL LIMITS OF PLANTING BED, SEE PLANS FOR BED LAYOUTS.

3 SHRUB PLANTING

NTS

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING MATERIALS AND PLANTS SHOWN ON THE LANDSCAPE PLAN. THE CONTRACTOR IS RESPONSIBLE FOR THE COST TO REPAIR UTILITIES, ADJACENT LANDSCAPE, PUBLIC AND PRIVATE PROPERTY THAT IS DAMAGED BY THE CONTRACTOR OR THEIR SUBCONTRACTOR'S OPERATIONS DURING INSTALLATION OR DURING THE SPECIFIED MAINTENANCE PERIOD. CALL FOR UTILITY LOCATIONS PRIOR TO ANY EXCAVATION.
2. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY IN PLAN VS. FIELD CONDITIONS IMMEDIATELY TO THE LANDSCAPE ARCHITECT, PRIOR TO CONTINUING WITH THAT PORTION OF WORK.
3. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY OF THEIR TRENCHES OR EXCAVATIONS THAT SETTLE.
5. ALL PLANTS TO BE SPECIMEN GRADE, WELL BRANCHED, HEALTHY, FULL, PRE-INOCULATED AND FERTILIZED. PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, AND SCARS. PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES. PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES. TRUNKS WILL BE WRAPPED IF NECESSARY TO PREVENT SUN SCALD AND INSECT DAMAGE. THE LANDSCAPE CONTRACTOR SHALL REMOVE THE WRAP AT THE PROPER TIME AS PART OF THIS CONTRACT.
6. THE OWNER'S REPRESENTATIVE MAY REJECT ANY PLANT MATERIALS THAT ARE DISEASED, DEFORMED, OR OTHERWISE NOT EXHIBITING SUPERIOR QUALITY.
7. ALL NURSERY STOCK SHALL BE GUARANTEED, BY THE CONTRACTOR, FOR ONE YEAR FROM DATE OF FINAL INSPECTION. THE GUARANTEE BEGINS ON THE DATE OF THE LANDSCAPE ARCHITECT'S OR OWNERS WRITTEN ACCEPTANCE OF THE INITIAL PLANTING. REPLACEMENT PLANT MATERIAL SHALL HAVE A ONE YEAR GUARANTEE COMMENCING UPON PLANTING.
8. PLANTS TO MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2014 OR MOST CURRENT VERSION) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED.
9. PRUNE PLANTS AS NECESSARY- PER STANDARD NURSERY PRACTICE AND TO CORRECT POOR BRANCHING OF EXISTING AND PROPOSED TREES.
10. TOPSOIL SHALL BE PROVIDED AND GRADED BY THE GENERAL CONTRACTOR UP TO 6 INCHES BELOW FINISHED GRADE IN TURF AREAS AND 18 INCHES IN PLANTING AREAS.
11. PLANTING AREA TOPSOIL SHALL BE AMENDED WITH 25% SPHAGNUM PEATMOSS, 5% HUMUS AND 70% PULVERIZED SOIL FOR ALL NON TURF SEED MIX AREAS, SHRUB, ORNAMENTAL GRASS, PERENNIAL AND ANNUAL BEDS.
12. SEED/SOD LIMIT LINES ARE APPROXIMATE. CONTRACTOR SHALL SEED/SOD ALL AREAS WHICH ARE DISTURBED BY GRADING WITH THE SPECIFIED SEED/SOD MIXES.
13. EDGING TO BE A SPADED EDGE UNLESS INDICATED OTHERWISE ON THE PLANS. SPADED EDGE TO PROVIDE V-SHAPED DEPTH AND WIDTH TO CREATE SEPARATION BETWEEN MULCH AND GRASS. A SPADED BED EDGE SHALL SEPARATE MULCH BEDS FROM TURF OR SEEDED AREAS. A SPADED EDGE IS NOT REQUIRED ALONG CURBED EDGES.
14. CONTRACTOR SHALL INSTALL SHREDDED HARDWOOD MULCH AT A 3" DEPTH TO ALL TREES, SHRUB, PERENNIAL, AND GROUNDCOVER AREAS. TREES PLACED IN AREA COVERED BY TURF SHALL RECEIVE A 4 FT WIDE MAXIMUM TREE RING WITH 3" DEPTH SHREDDED HARDWOOD MULCH.
15. INSTALLATION OF TREES WITHIN PARKWAYS SHALL BE COORDINATED IN THE FIELD WITH LOCATIONS OF UNDERGROUND UTILITIES. TREES SHALL NOT BE LOCATED CLOSER THAN 5' FROM UNDERGROUND UTILITY LINES AND NO CLOSER THAN 10' FROM UTILITY STRUCTURES.
16. DO NOT DISTURB THE EXISTING PAVING, LIGHTING, OR LANDSCAPING THAT EXISTS ADJACENT TO THE SITE UNLESS OTHERWISE NOTED ON PLAN.
17. ALL DISTURBED AREAS TO BE SODDED OR SEEDED, UNLESS OTHERWISE NOTED. SOD/SEED SHALL BE LOCAL HARDY TURF GRASS MIX UNLESS, OTHERWISE NOTED.
18. PLANT QUANTITIES SHOWN ARE FOR THE CONVENIENCE OF THE OWNER AND JURISDICTIONAL REVIEW AGENCIES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES AS DRAWN.
19. THE CONTINUED MAINTENANCE OF ALL REQUIRED LANDSCAPING SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH SAID MATERIALS ARE REQUIRED. ALL PLANT MATERIALS REQUIRED BY THIS SECTION SHALL BE MAINTAINED AS LIVING VEGETATION AND SHALL BE PROMPTLY REPLACED IF THE PLANT MATERIAL HAS DIED PRIOR TO FINAL ACCEPTANCE. PLANTING AREAS SHALL BE KEPT FREE OF TRASH, LITTER, AND WEEDS AT ALL TIMES.

4 LANDSCAPE NOTES

NTS

No.	REVISIONS	DATE	BY
1	SITE PLAN UPDATES	11/26/24	MSF
2	REV. PER CITY/COUNTY	03/05/25	MSF TES
3	REV. PER CITY/COUNTY	07/03/25	TES

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SCALE: AS NOTED
DESIGNED BY: TES
DRAWN BY: OKE
CHECKED BY: TES

STATE OF MICHIGAN
TYLER SMITH
68975
PROFESSIONAL ENGINEER
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

AMERCO REAL ESTATE COMPANY

LANDSCAPE NOTES & DETAILS

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
L1.2

Drawing name: K:\DET_DS\168737006_uhaul_ypsi.m\2 Design\CADD\plansheets\L1.2 LANDSCAPE NOTES & DETAILS.dwg L1.2 Jul 04, 2025 1:33pm by Tyler.Smith
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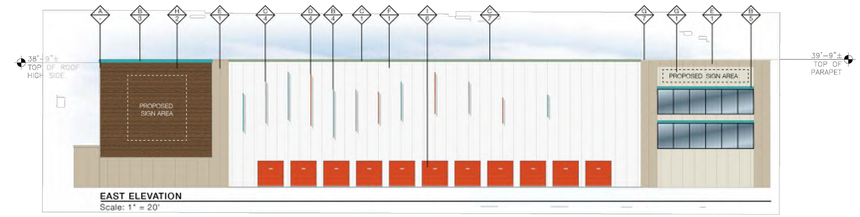
A&M ASSOCIATES, INC.
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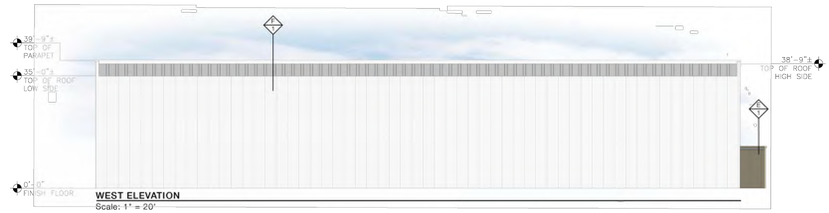
Northeast Elevation
Composite Rendering

SHEET 02

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EAST ELEVATION
Scale: 1" = 20'



WEST ELEVATION
Scale: 1" = 20'

GENERAL NOTES:

D1 - THE PROPOSED IMP USES FULL-WIDTH PANELS. **DO NOT CUT IMP** DUE TO PAINT VARIATIONS. CONTACT THE DESIGNER AT A&M ASSOCIATES TO FIND A SOLUTION. P: 602.623.6841

D2 - THE PROPOSED PROJECT CONSISTS OF **42" WIDE IMP.** DEVIATING FROM THIS SIZE PANEL WILL ALTER THE LYRICAL FIN DESIGN. PLEASE CONTACT THE DESIGNER AT A&M ASSOCIATES SO THE PLAN DRAWINGS CAN BE UPDATED. P: 602.623.6841

COLOR CHART

A		GALVANIZED
B		DESERT JEWEL *(SW 6767 AQUARIUM)*
C		SW 6451 NURTURE GREEN
D		SW 6884 OBSTINATE ORANGE
E		SW 6149 RELAXED KHAKI
F		POLAR WHITE *(IMP CUSTOM COLOR)*
G		SW 7011 NATURAL CHOICE
H		WALNUT *(FAUX WOODGRAIN FINISH)*
I		SIERRA SUNSET

MATERIALS

1	METL-SPAN 42"W SANTA FE STUCCO EMBOSSED VERTICAL IMP
2	FAUX WOOD PANELS W/ GALVALUME TRIM
3	12"H TRIM TYP.
4	9"D LYRICAL ARTICULATED DESIGN ELEMENT
5	9"H x 3"D ARCHITECTURAL DETAILS
6	ARCHITECTURAL DETAILS
7	4.5"H TRIM TYP.

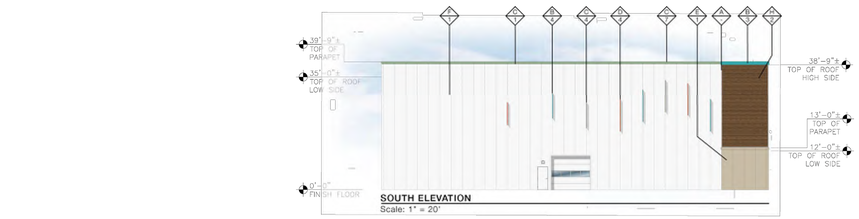
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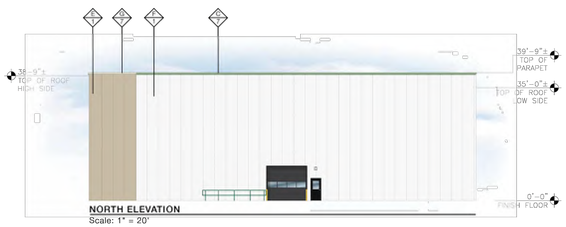
Color & Materials

SHEET 03

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SOUTH ELEVATION
Scale: 1" = 20'



NORTH ELEVATION
Scale: 1" = 20'

GENERAL NOTES:

D1 - THE PROPOSED IMP USES FULL-WIDTH PANELS. **DO NOT CUT IMP** DUE TO PAINT VARIATIONS. CONTACT THE DESIGNER AT A&M ASSOCIATES TO FIND A SOLUTION. P: 602.623.6841

D2 - THE PROPOSED PROJECT CONSISTS OF **42" WIDE IMP.** DEVIATING FROM THIS SIZE PANEL WILL ALTER THE LYRICAL FIN DESIGN. PLEASE CONTACT THE DESIGNER AT A&M ASSOCIATES SO THE PLAN DRAWINGS CAN BE UPDATED. P: 602.623.6841

COLOR CHART

A		GALVANIZED
B		DESERT JEWEL *(SW 6767 AQUARIUM)*
C		SW 6451 NURTURE GREEN
D		SW 6884 OBSTINATE ORANGE
E		SW 6149 RELAXED KHAKI
F		POLAR WHITE *(IMP CUSTOM COLOR)*
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MATERIALS

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5	9"H x 3"D ARCHITECTURAL DETAILS
6	
7	

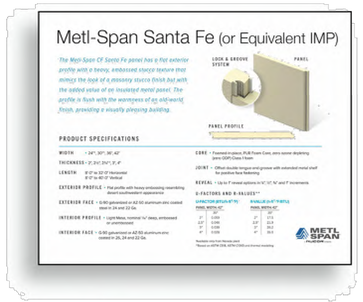
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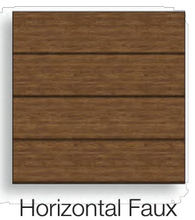
Color & Materials

SHEET 04

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Horizontal Faux Wood Panels
EMBOSSED WALNUT
EXAMPLE

9"D Lyrical Articulated Design Element



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P: 602.263.6841

U-HAUL of Willow Run, Ypsilanti, MI (752033)

Materials

SHEET 05

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3	07/03/25	TES	REV. PER CITY/COUNTY

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SCALE: AS NOTED
DESIGNED BY: TES
DRAWN BY: OKE
CHECKED BY: TES

STATE OF MICHIGAN — TYLER E. SMITH — 28975 — REGISTERED ARCHITECT
NOT APPROVED FOR CONSTRUCTION
Tyler Smith

AMERCO REAL ESTATE COMPANY

U-HAUL RENDERINGS

U-HAUL
2269 PARKWOOD AVENUE,
YPSILANTI, MI 48198

ORIGINAL ISSUE: 06/13/24
KHA PROJECT NO. 168737004
SHEET NUMBER
A1.0

Drawing name: K:\DET_DFW\168737004_uhaul_ypsi.rvt\2 Design\CAD\plansheets\A1.0 U-HAUL RENDERINGS.dwg A1.0 Jul 04, 2025 1:35pm by Tyler.Smith
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ELECTRICAL SPECIFICATIONS:

1. ALL MATERIALS SHALL BE NEW AND SHALL BE U.L. LISTED FOR ITS INTENDED USE. EQUIPMENT SHALL BE AS SPECIFIED UNLESS OTHERWISE APPROVED BY THE ENGINEER OF RECORD PRIOR TO BID OPENING.
2. INSTALLATION SHALL COMPLY WITH THE 2023 EDITION OF THE NATIONAL ELECTRICAL CODE AS MODIFIED BY THE STATE OF MICHIGAN PLUS THE 2015 EDITION OF THE MICHIGAN BUILDING CODE. CONTRACTOR SHALL PAY FOR AND SECURE ALL PERMITS AND INSPECTIONS AS MAY BE REQUIRED.
3. ALL WORK SHALL BE DONE BY LICENSED ELECTRICIANS OR APPRENTICES UNDER THE DIRECT SUPERVISION AND CONTROL OF LICENSED ELECTRICIANS.
4. SUPPORT OF ELECTRICAL EQUIPMENT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
5. BIDDERS SHALL VISIT SITE BEFORE SUBMITTING PROPOSALS AND FULLY INFORM THEMSELVES AS TO JOB AND SITE CONDITIONS, AND ANY OTHER CONDITIONS UNDER WHICH HIS WORK MUST BE DONE.
6. ALL WIRING SHALL BE COPPER #12 AWG MINIMUM, 75 DEGREES C RATED TYPE THW, THHN, OR THWN UNLESS NOTED OTHERWISE ON THE DRAWINGS. FOR RUNS OVER 100 FEET, USE #10 AWG IN LIEU OF #12.
7. ALL EXTERIOR ABOVE GROUND WIRING SHALL BE IN METALLIC CONDUIT EITHER IMC, RGC, OR EMT. PVC SCHEDULE 40 CONDUIT MAYBE USED UNDER SLAB OR UNDERGROUND IN EXTERIOR AREAS. USE IMC OR RGC COUPLER WHEN UNDER SLAB PVC CONDUIT PENETRATES THE FLOOR. INTERIOR WIRING SHALL BE BUILDING WIRE AND EMT.
8. GROUNDING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. ALL CIRCUITS TO INCLUDE GREEN GROUND WIRE.
9. ELECTRICAL CONTRACTOR SHALL LEAVE ENTIRE ELECTRICAL SYSTEM IN FLAWLESS WORKING ORDER, AND SHALL EXTEND TO OWNER, THE GUARANTEE FURNISHED BY THE MANUFACTURER OF EQUIPMENT AND DEVICES INSTALLED AND FURNISHED BY CONTRACTOR. THE GUARANTEE PERIOD SHALL BE ONE YEAR IN LENGTH AND BEGIN ON THE DATE OF SUBSTANTIAL COMPLETION. GUARANTEE SHALL COVER ALL LABOR AND MATERIALS NECESSARY TO CORRECT DEFECTS IN MATERIALS OR WORKMANSHIP DURING THE GUARANTEE PERIOD.
10. SEAL AROUND ALL PENETRATIONS THROUGH FIRE RATED FLOORS AND WALLS WITH NELSON ELECTRIC FLAMESEAL PUTTY OR EQUAL BY HILTI OR 3M. THE SEAL SHALL EQUAL OR EXCEED THE FIRE RATING OF THE MATERIAL PENETRATED.
11. TERMINATE ALL CONDUIT RUNS TO VIBRATING EQUIPMENT VIA MINIMUM ONE FOOT LENGTH LIQUID TIGHT FLEXIBLE METAL CONDUIT.
12. WIRING DEVICES SHALL NOT BE BACKWIRED. ALL TERMINATIONS SHALL BE SCREW TYPE CONNECTIONS. ALL WIRING DEVICES SHALL BE COMMERCIAL-GRADE, COLORS AS SELECTED BY THE ARCHITECT.
13. THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO CONVEY THE DESIGN INTENT. THEY ARE NOT TO BE SCALED FOR EXACT PLACEMENT OF EQUIPMENT. ONCE EQUIPMENT SUBMITTALS ARE APPROVED, CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL FINAL EQUIPMENT LOCATIONS TO PROVIDE ALL REQUIRED WORKING CLEARANCES, ACCESS FOR MAINTENANCE AND TO AVOID CONFLICTS DURING CONSTRUCTION. NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO INSTALLATION.
14. NEW PANELBOARDS SHALL BE MOLDED-CASE CIRCUIT BREAKER TYPE IN NEMA 12 ENCLOSURE WITH LOCKABLE, HINGED DOOR. PHASE AND NEUTRAL BUS MAY BE COPPER OR ALUMINUM, BUT GROUND BUS SHALL BE COPPER. BRACING SHALL BE FULLY-RATED PER THE VALUES INDICATED.
15. THE E.C. SHALL INCLUDE LABELING OF THE SERVICE EQUIPMENT WITH SHORT CIRCUIT AND CLEARING-TIME VALUES AS REQUIRED BY NEC 110.16 AND 110.21. THESE LABELS SHALL BE SUPPLIED BY THE MANUFACTURER AS PART OF THE GEAR PACKAGE.
16. LIGHTING POWER DENSITY AND LIGHTING CONTROLS SHALL COMPLY WITH THE 2023 MICHIGAN ENERGY CODE, INCORPORATING 2013 ASHRAE 90.1.
17. SUBMIT ONE SET OF RED-LINED "AS-BUILT" DRAWINGS TO THE OWNER WITHIN 30 DAYS OF SUBSTANTIAL COMPLETION.
18. SUBMIT ONE SET OF OPERATING AND MAINTENANCE (O & M) MANUALS, BOUND IN A THREE-RING BINDER TO THE OWNER WITHIN 90 DAYS OF SUBSTANTIAL COMPLETION. INCLUDE IN THIS INFORMATION ALL PROJECT SUBMITTALS, THE NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY FOR EACH SYSTEM IN THE PROJECT, AND A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE.
19. LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED, AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
20. FOR OCCUPANT SENSORS, THE FOLLOWING PROCEDURES SHALL BE PERFORMED AT MINIMUM:
    A. CERTIFY THAT THE SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
    B. FOR PROJECTS WITH UP TO SEVEN (7) OCCUPANCY SENSORS ALL OCCUPANCY SENSORS SHALL BE TESTED.
    C. FOR PROJECTS WITH MORE THAN SEVEN (7) OCCUPANCY SENSORS TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY.
    D. FOR EACH SENSOR TO BE TESTED, VERIFY THE FOLLOWING:
        1) STATUS INDICATOR (AS APPLICABLE) OPERATES CORRECTLY
        2) CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME, WITH A MAXIMUM OF 20 MINUTES.
        3) FOR AUTO-ON OCCUPANT SENSORS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN SOMEONE ENTERS THE SPACE.
        4) FOR MANUAL-ON SENSORS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
        5) THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN NEARBY AREAS OR BY HVAC OPERATION
21. FOR AUTOMATIC TIME SWITCHES, THE FOLLOWING PROCEDURES SHALL BE PERFORMED AT MINIMUM:
    A. CONFIRM THAT THE AUTOMATIC TIME-SWITCH CONTROL IS PROGRAMMED WITH APPROPRIATE WEEKDAY, WEEKEND, AND HOLIDAY SCHEDULES.
    B. DOCUMENT FOR THE OWNER AUTOMATIC TIME-SWITCH PROGRAMMING, INCLUDING WEEKDAY, WEEKEND, AND HOLIDAY SCHEDULES, AS WELL AS ALL SETUP AND PROGRAM SETTINGS.
    C. VERIFY THAT CORRECT TIME AND DATE ARE PROPERLY SET IN THE TIME SWITCH.
    D. VERIFY THAT ANY BATTERY BACKUP (AS APPLICABLE) IS INSTALLED AND ENERGIZED.
    E. VERIFY THAT THE OVERRIDE TIME LIMIT IS SET TO NO MORE THAN TWO (2) HOURS.
    F. SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
        1) ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
        2) THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
    G. SIMULATE UNOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
        1) ALL NON-EXEMPT LIGHTING TURNS OFF
        2) MANUAL OVERRIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERRIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUTOFF OCCURS.
22. THE INDIVIDUAL(S) RESPONSIBLE FOR THE LIGHTING CONTROL FUNCTIONAL TESTING SHALL NOT BE DIRECTLY INVOLVED IN EITHER THE DESIGN OR CONSTRUCTION OF THE PROJECT AND SHALL PROVIDE DOCUMENTATION CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET OR EXCEED ALL DOCUMENTED PERFORMANCE CRITERIA.

ELECTRICAL SYMBOL LEGEND

NOTE: INTERPRET IN CONTEXT

LIGHT FIXTURES
- CEILING SURFACE MOUNT
- WALL SURFACE MOUNT
- PENDANT MOUNT
- RECESSED FIXTURE
- SURFACE MOUNT FIXTURE
- NIGHT LIGHT OR EM FIXTURE
- INDUSTRIAL OR STRIP FIXTURE
- BATTERY OPERATED EMERG. LIGHT
- EXIT LIGHT- WALL
- EXIT LIGHT- CEILING (ARROW INDICATES DIRECTION, SHADING INDICATES FACES)
- A — LETTER ADJACENT INDICATES FIXTURE TYPE

SWITCHES
- $ — SPST, 20A, 120/277V (2) (3)
- $3 — 3-WAY, 20A, 120/277V (2) (3)
- $4 — 4-WAY, 20A, 120/277V (2) (3)
- $D — DIMMER SWITCH (2) (3)
- $F — FUSED SWITCH (2) (3)
- $M — MANUAL MOTOR STARTER W/THERMAL OVERLOAD FOR FRAC. HP MOTORS
- $P — W/PILOT LIGHT, 20A, 120/277V
- $T — TIMER SWITCH
- $W — LINE-VOLTAGE WIRELESS SWITCH

OCCUPANCY SENSOR
- (DT) — DUAL-TECHNOLOGY OCCUPANCY SENSOR (CEILING MOUNTED)
- (IR) — INFRARED OCCUPANCY SENSOR (CEILING MOUNTED)
- (PP) — OCCUPANCY SENSOR POWER PACK
- (PC) — PHOTOCELL
- (US) — ULTRASONIC OCCUPANCY SENSOR (CEILING MOUNTED)
- $V — VACANCY SENSOR (WALL SWITCH SENSOR, DUAL TECHNOLOGY), WALL MOUNT @ 48" A.F.F.

POWER/COMM.
- SPECIAL RECEPTACLE AS NOTED (2) (3)
- DUPLEX GFI RECEPT. 20A, 125V, MOUNT 18" A.F.F. (2) (3)
- COMBINATION SWITCH AND RECEPTACLE, MOUNT 48" A.F.F. (2) (3)
- DOUBLE DUPLEX RECEPT. 20A, 125V, MOUNT 18" A.F.F. DOUBLE GANG PLATE (2) (3)
- COUNTERTOP DUPLEX RECEPTACLE 20A, 125V U.O.N. (2) (3)
- SPECIAL CONNECTION AS NOTED
- JX — JUNCTION BOX SUBSCRIPT: C - CEILING MOUNTED; W - WALL MOUNTED; F - FLOOR MOUNTED
- TELEPHONE/DATA OUTLET (MOUNT AT 18" A.F.F., PROVIDE 4-SQUARE BOX WITH SINGLE-GANG MUD RING AND 1¼"C INTO ACCESSIBLE CEILING SPACE, U.N.O.)
- SINGLE PHASE MOTOR
- THREE PHASE MOTOR
- THERMOSTAT
- PUSH BUTTON STATION AS NOTED
- NEW PANELBOARD (240/120V OR 208/120V) SEE ONE-LINE DIAGRAM
- NON-FUSIBLE DISCONNECT SWITCH
- FUSIBLE DISCONNECT SWITCH
- MAGNETIC STARTER
- COMBINATION STARTER-DISCONNECT

CONDUIT/WIRE
- NEW
- UNDERGROUND
- NEW POWER HOMERUN
- EXISTING TO REMAIN
- WIRE LINE- CONTINUES
- CONDUIT STUB (W/MARKER)
- VERTICAL CONDUIT RUN
- FLEXIBLE CONNECTION
- LOW VOLTAGE
- INDICATES LINE CONTINUES
- CORD W/PLUG

ONE-LINE DIAGRAM
- 3P XXXA — CIRCUIT BREAKER
- FUSED SWITCH
- GROUND CONNECTION
- ZPX — NON-FUSIBLE DISCONNECT SWITCH — X=SW. SIZE, Z=NO. OF POLES, MT. AT 5'-0" A.F.F., U.N.O.
- ZPX/Y — FUSIBLE DISCONNECT SWITCH — X=SW. SIZE, Y=FUSE SIZE, Z=NO. OF POLES, MT. AT 5'-0" A.F.F., U.N.O.
- N — MAGNETIC STARTER — N=STARTER SIZE, MT. AT 5'-0" A.F.F., U.N.O.
- N/Y — COMBINATION STARTER-DISCONNECT — N=STARTER SIZE, Y=FUSE, MT. AT 5'-0" A.F.F., U.N.O.
- TRANSFORMER
- XXXX:X — CURRENT TRANSFORMER (RATIO INDICATED)
- XXX:XXX — POTENTIAL TRANSFORMER (RATIO INDICATED)
- (M) — UTILITY METER
- M — CUSTOMER METER
- SPD — SURGE PROTECTION DEVICE

SYMBOL LEGEND NOTES:
1. PROVIDE CONTINUOUS GREEN GROUND WIRE FROM RECEPTACLES TO PANEL. COMMON GROUND WIRE MAY BE USED FOR RECEPTACLES ON THE SAME CIRCUIT.
2. DO NOT USE BACK WIRE TERMINALS (SPRING CONNECTION) ON WIRING DEVICES. USE SIDE SCREW TERMINALS FOR CONDUCTOR CONNECTION.
3. VERIFY DEVICE AND/OR COVER PLATE COLOR WITH ARCHITECT.

ABBREVIATIONS

Ø	PHASE
A, AMP	AMPERE
AB	AMP BREAKER
ABV	ABOVE
AC	ALTERNATING CURRENT
AC-#	AIR CONDITIONER
ADJ	ADJACENT
AF	AMP FUSE, AMP FRAME
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AIC	AMPERES INTERRUPTING CAPACITY
AL	ALUMINUM
AV	AUDIBLE/AUDIO VISUAL
AWG	AMERICAN WIRE GAGE
BFG	BELOW FINISH GRADE
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER, CODE BLUE
CLG	CEILING
CL	CENTER LINE
CKT	CIRCUIT
C.O.	CONDUIT ONLY (W/PULLROPE)
COND	CONDUCTOR
CR	CRITICAL BRANCH
CT	CURRENT TRANSFORMER
CU	COPPER
D	DEPTH
DC	DIRECT CURRENT
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DPST	DOUBLE POLE SINGLE THROW
EM	EMERGENCY
(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRICAL
EM	EMERG BATTERY BACKUP
EQUIP	EQUIPMENT
EXT	EXTERIOR
FA	FIRE ALARM
FLA	FULL LOAD AMPS
FLR	FLOOR
FS	FUSIBLE SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
G	GROUNDING CONDUCTOR
GC	GENERAL CONTRACTOR
GFCI,GFI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
H	HEIGHT, HIGH
HACR	HEATING, AC & REFRIG
HO	HIGH OUTPUT
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
ID	IDENTIFICATION
JBOX	JUNCTION BOX
KVA	KILOVOLTAMPS
KW	KILOWATT
LC	LIGHTING CONTACTOR
LRA	LOCKED ROTOR AMPS
LT	LIGHT
LTG	LIGHTING
LV	LOW VOLTAGE
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CKT AMPS
MCB	MAIN CIRCUIT BREAKER
MECH	MECHANICAL
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MT HT	MOUNTING HEIGHT
MTS	MANUAL TRANSFER SWITCH
N	NEUTRAL (GROUNDED CONDUCTOR)
N3R	NEMA 3R
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OCP	OVERCURRENT PROTECTION
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OVLD	OVERLOAD
P	POLE
PB	PULLBOX
PC	PHOTOCELL
PH	PHASE
PNL	PANEL
RECEPT	RECEPTACLE
REQ'D	REQUIRED
RLA	RATED LOAD AMPS
RM	ROOM
RMC	RIGID METAL CONDUIT
SCC	SHORT CIRCUIT CURRENT
SCCR	SHORT CIRCUIT CURRENT RATING
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION
SPST	SINGLE POLE SINGLE THROW
SQ	SQUARE
SURF	SURFACE
SW	SWITCH
T	TERMINAL
TC	TIME CLOCK
TX	TRANSFORMER
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLT
VA	VOLT AMPERES
VAC	VOLT ALTERNATING CURRENT
VOLT	VOLTAGE
VR	VANDAL-RESISTANT
W	WIDTH, WATT, WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER
#"	INDICATES MOUNTING HEIGHT AFF

U-HAUL YPSILANTI — PROJECT NAME
23232 — PROJECT NUMBER
VOLTS (L-L): 208 — PHASE: 3 — WIRE: 4

NOTES

PANEL NAME: L1
LOCATION: SELF-STORAGE 150
MOUNTING: SURFACE
TYPE: SQUARE D NQ
MAINS: 200A MCB
AIC: 10,000

CKT	LOAD DESCRIPTION	LIGHTS	RECEPT	CONT	NONCONT	KITCHEN	MOTORS HP	MOTORS VA	BREAKER AMP*	BREAKER POLE	CKT #	PHASE	CKT #	BREAKER POLE	BREAKER AMP*	LIGHTS	RECEPT	CONT	NONCONT	KITCHEN	MOTORS HP	MOTORS VA	LOAD DESCRIPTION	CKT
1	RCPTS - SSTB		540						20	1	1	A	2	1	20						1/2	1176	OHD	2
3	RCPTS - SSTB		360						20	1	3	B	4	1	20	1000							SELF-STORAGE J-BOX	4
5	SPARE								20	1	5	C	6	1	20	1000							SELF-STORAGE J-BOX	6
7	SNOWMELT BOILER		180						20	1	7	A	8	1	20				180				FIRE ALARM EXTERIOR LIGHT	8
9	RCPT. LOADING DOCK		180						20	1	9	B	10	1	20		180						RCPT. LOADING DOCK	10
11	LTS. EXTERIOR WALL MOUNTED	140							20	1	11	C	12	1	20		180						RCPT. LOADING DOCK	12
13	LIGHTS SELF-STORAGE 150	1575							20	1	13	A	14	1	20		360						EXTERIOR RCPTS	14
15	LTS. EXTERIOR POLE	1490							20	1	15	B	16	1	20		540						RCPTS - SLEF-STORAGE 150, RR	16
17	LTS. EXTERIOR POLE	1490							20	1	17	C	18	3										18
19	RR 126, RISER ROOM 107, EF-2	198						50	20	1	19	A	20	3	-								PREPARED SPACE	20
21	UH-1 & UH-2							912	20	1	21	B	22	3	-									22
23	EF-1							1176	20	1	23	C	24	3	15				1429					24
25	SPARE								15	2	25	A	26	3	-				1429				EUH-2	26
27									-	2	27	B	28	3	-				1429					28
29	PREPARED SPACE								-	-	29	C	30	3	15				1429					30
31	PREPARED SPACE								-	-	31	A	32	3	-				1429				EUH-3	32
33	PREPARED SPACE								-	-	33	B	34	3	-				1429					34
35	PREPARED SPACE								-	-	35	C	36	1	20								SPARE	36
37	PREPARED SPACE								-	-	37	A	38	1	20								SPARE	38
39	PREPARED SPACE								-	-	39	B	40	1	20								SPARE	40
41	PREPARED SPACE								-	-	41	C	42	1	20							1176	OHD	42

CONNECTED LOAD	LIGHTS	RECEPT**	CONT	NONCONT	KITCHEN	MOTOR***	TOTAL	AMPS
A	1,743	1,080	0	3,038	0	2,402	8,263	69
B	2,490	1,260	0	2,858	0	912	7,520	63
C	2,630	180	0	2,858	0	2,352	8,020	67
TOTAL	6,863	2,520	0	8,754	0	5,666	23,803	66
FACTOR	1	0.5	1	1	1	1.25		
PANEL DEMAND LOAD	6,863	2,520	0	8,754	0	6,548	24,685	69
MIN. FEEDER AMPERAGE	8,579	2,520	0	8,754	0	6,548	26,401	73

*BREAKER LETTERS KEY:
"AF" - AFCI BREAKER
"G" - GFCI BREAKER
"H" - HACR RATED BREAKER
"LF" - LOCK-OFF PROVISION
"LN" - LOCK-ON PROVISION
"ST" - SHUNT TRIP BREAKER
** 0.5 FOR OVER 10,000VA ONLY
*** 1.25 X LARGEST MOTOR ONLY

LUMINAIRE LEGEND

23232 U-HAUL YPSILANTI

MARK	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LAMP	MOUNTING	COMMENTS
AE	8FT TANDEM INDUSTRIAL STRIP FIXTURE WITH (4) T8 LED LAMPS, EM BATTERY, AND INTEGRAL SENSOR	PREMIUM QUALITY LIGHTING	FIXTURE BODY: 55643-5WEMB LAMP: 91488 INTEGRAL SENSOR: 54896	7200LM 80CRI 5000K 56W	SUSPEND @ 9'-0" AFF. U.N.O.	PROVIDE WITH CHAIN HANG ACCESSORIES, PQL #45000 & #45002
L	INTEGRAL LED SUSPENDED HIGH BAY	PREMIUM QUALITY LIGHTING	55801	24500LM 80CRI 5000K 175W	STEM MT SEE NOTE 1	PROVIDE WITH CHAIN HANG ACCESSORIES, PQL #45000 & #45002
LE	INTEGRAL LED SUSPENDED HIGH BAY WITH EM BATTERY AND INTEGRAL SENSOR	PREMIUM QUALITY LIGHTING	55801-5WEM INTEGRAL SENSOR: 54871	24500LM 80CRI 5000K 175W	STEM MT SEE NOTE 1	PROVIDE WITH CHAIN HANG ACCESSORIES, PQL #45000 & #45002
X1	ILLUMINATED EXIT SIGN WITH EM BATTERY	PREMIUM QUALITY LIGHTING	82356	N/A N/A N/A 1W	WALL MT ABOVE DOOR	

NOTES:
1. COORDINATE LIGHT FIXTURE HEIGHT WITH U-HAUL
2.
3.
4.
5.

SHEET NOTES:

REFER TO U-HAUL INTERNATIONAL STANDARD SPECIFICATIONS FOR MATERIAL, INSTALLATION AND FINISH REQUIREMENTS.

ALL SELECTIONS ARE SUBJECT TO APPROVAL BY OWNER - NO SUBSTITUTIONS

REVISIONS:

NO.	DATE	INITIALS	NOTES
1	11-08-2024	BDL	REVISION TITLE PLACEHOLDER
2	11-22-2024	BDL	OWNER REVIEW

PROFESSIONAL SEAL:

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Drawn By:
MWL

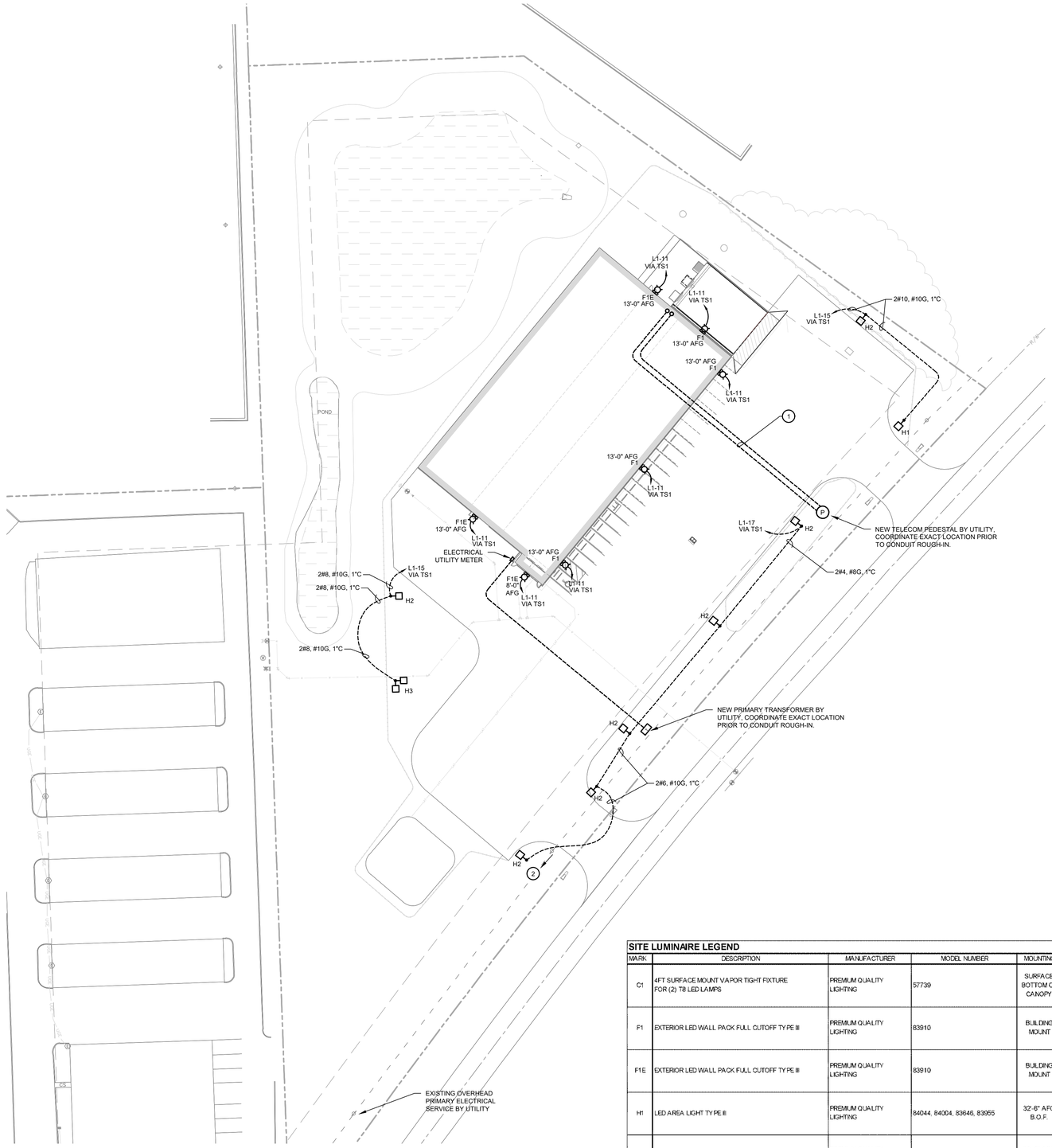
U-HAUL INTERNATIONAL
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2727 NORTH CENTRAL AVENUE
PHOENIX/ ARIZONA 85004
PH: (602) 263-6502

SITE ADDRESS:
U-HAUL OF WILLOW RUN
2225 PARKWOOD AVE.
YPSILANTI, MICHIGAN 48198

SHEET CONTENTS:
ELECTRICAL SYMBOL/FIXTURE LEGEND

752033

DRAWN:	MWL	E1.0
CHECKED:	BDL	
DATE:	11/10/2024	



ELECTRICAL SITE PLAN - U-BOX

SCALE: 1" = 40'-0"

GENERAL POWER PLAN NOTES

A. PRIOR TO START OF WORK COORDINATE ELECTRICAL WORK WITH ALL OTHER DISCIPLINES AND TRADES FOR EXACT ROUGH-IN LOCATIONS AND MOUNTING HEIGHTS.
B. COORDINATE MOUNTING HEIGHTS OF ALL LIGHT FIXTURES WITH ARCHITECT PRIOR TO INSTALLATION.

KEYED NOTES

1. (2) 3"C WITH NYLON PULL STRINGS FOR TELECOM SERVICE ENTRANCE STUBBED UP IN SELF STORAGE 150 AT LOCATION OF SSTB, REFER TO E7.1.
2. COORDINATE RELOCATION OF EXISTING UTILITY POLE WITH LOCAL MUNICIPALITY AND/OR UTILITY.

SITE LUMINAIRE LEGEND — **23232 U-Haul Ypsilanti**

MARK	DESCRIPTION	MANUFACTURER	MODEL NUMBER	MOUNTING	MOUNTING MODEL NUMBER	APPROVED EQUALS	LAMP	COMMENTS
C1	4FT SURFACE MOUNT VAPOR TIGHT FIXTURE FOR (2) T8 LED LAMPS	PREMIUM QUALITY LIGHTING	57739	SURFACE, BOTTOM OF CANOPY			3600CRI 5000K CCT 80CRI 29W	PROVIDE WITHOUT BALLAST(S), LINE-VOLTAGE DIRECT WIRE TO LAMP SOCKETS, INSTALL INTEGRALLY-DRIVEN LED T8-STYLE LAMPS. SEE LAMP SPEC BELOW.
F1	EXTERIOR LED WALL PACK FULL CUTOFF TYPE III	PREMIUM QUALITY LIGHTING	83910	BUILDING MOUNT			2540LM 5000K 73CRI 20W	HEIGHT PER PLANS TO B.O.F.; WHERE SUFFIXED "-EM" PROVIDE WITH MANUFACTURER'S PRE-INSTALLED EMERGENCY BATTERY.
F1E	EXTERIOR LED WALL PACK FULL CUTOFF TYPE III	PREMIUM QUALITY LIGHTING	83910	BUILDING MOUNT			6343LM 5000K 73CRI 50W	HEIGHT PER PLANS TO B.O.F.; WHERE SUFFIXED "-EM" PROVIDE WITH MANUFACTURER'S PRE-INSTALLED EMERGENCY BATTERY.
H1	LED AREA LIGHT TYPE II	PREMIUM QUALITY LIGHTING	84044, 84004, 83646, 83955	32'-6" AFG B.O.F.	30'-0" SQUARE STRAIGHT STEEL POLE		28643LM 5000K 83CRI 192W	
H2	LED AREA LIGHT TYPE II	PREMIUM QUALITY LIGHTING	84046, 84005, 83646, 83955	32'-6" AFG B.O.F.	30'-0" SQUARE STRAIGHT STEEL POLE		53659LM 5000K 84CRI 298W	

NOTES:
1. T8: PQL #91468 (14WT8/50K/FR/HYBRID-SL) TYPICAL
2.
3.
4.
5.

SHEET NOTES:

REFER TO U-HAUL INTERNATIONAL STANDARD SPECIFICATIONS FOR MATERIAL, INSTALLATION AND FINISH REQUIREMENTS.

ALL SELECTIONS ARE SUBJECT TO APPROVAL BY OWNER - NO SUBSTITUTIONS

REVISIONS:

NO.	DATE	INITIALS	NOTES
1	11-08-2024	BDL	REVISION TITLE PLACEHOLDER
2	11-22-2024	BDL	OWNER REVIEW
3	06-13-2025	BDL	REVISED SITE PLAN

PROFESSIONAL SEAL:

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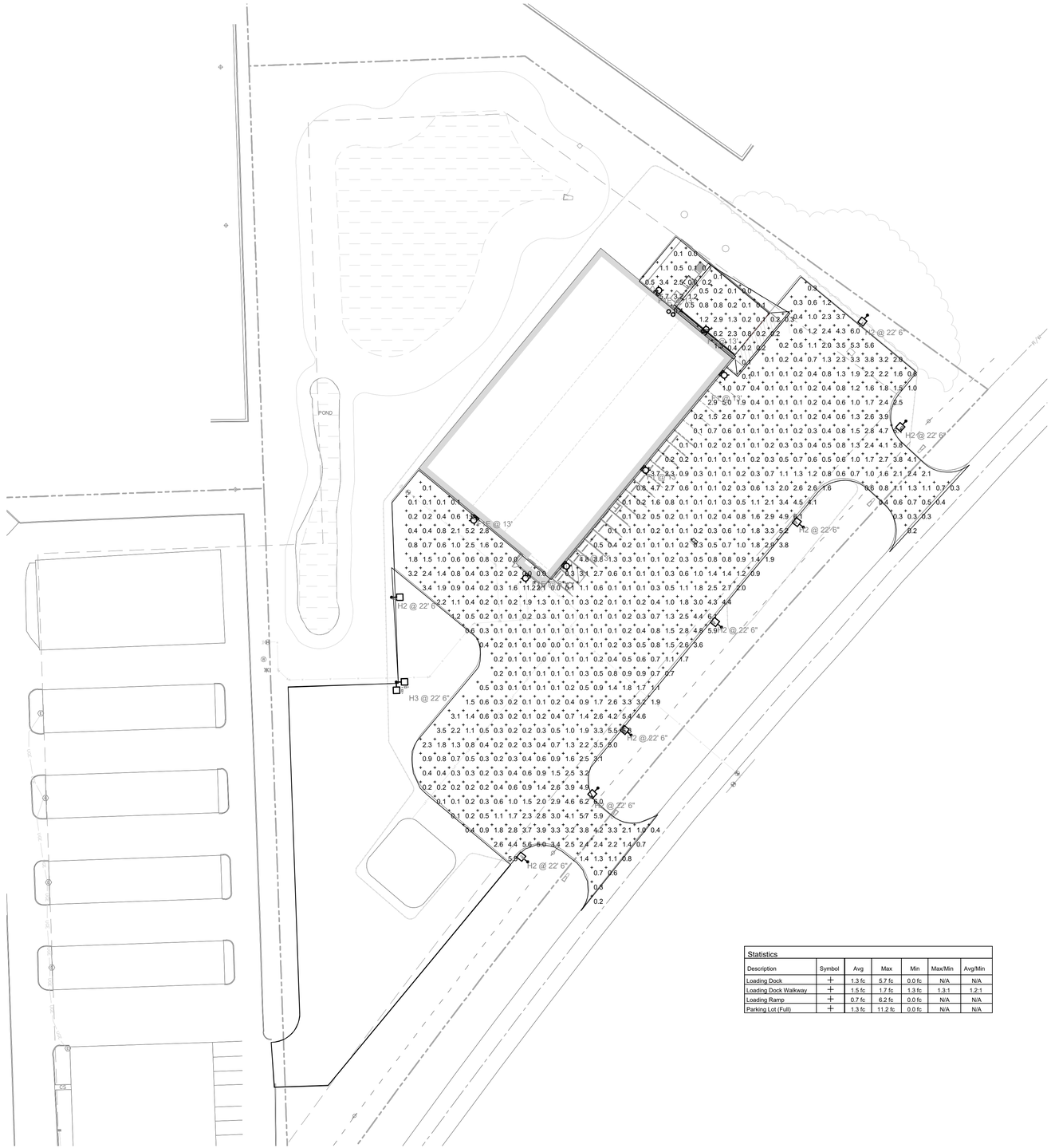
U-HAUL OF WILLOW RUN
2225 PARKWOOD AVE.
YPSILANTI, MICHIGAN 48198

SHEET CONTENTS:

ELECTRICAL SITE PLAN

752033

DRAWN:	MWL		ES.1
CHECKED:	BDL		
DATE:	11/10/2024		


POND
H2 @ 22' 6"
H3 @ 22' 6"
H2 @ 22' 6"
H2 @ 22' 6"
H2