



REGULAR PLANNING COMMISSION MEETING AGENDA

Tuesday, March 25, 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 AGENDA
4. PUBLIC HEARINGS
 - A. **SPECIAL LAND USE – TORTILLA TITA – 585 JOE HALL DRIVE – PARCEL K-11-17-363-029 – TO CONSIDER THE SPECIAL LAND USE REQUEST OF FRANCISCO ALVAREZ/MARTHA JARAMILLO TO PERMIT THE CONSTRUCTION OF A 6,000 SQUARE FOOT TWO-STORY FOOD PROCESSING FACILITY ON A 1.093 – ACRE SITE ZONED I-T, INNOVATION AND TECHNOLOGY**
5. OLD BUSINESS
 - A. **PRELIMINARY SITE PLAN – HOLIDAY INN EXPRESS – 350 & 460 JOE HALL DRIVE – PARCEL K-11-38-363-029 & K-11-38-363-003 – TO CONSIDER THE PRELIMINARY SITE PLAN APPLICATION OF ANDY PATEL TO PERMIT THE CONSTRUCTION OF A 101-ROOM, 4-STORY HOTEL FOR A 4.68-ACRE SITE ZONED I-T, INNOVATION AND TECHNOLOGY.**
6. NEW BUSINESS
 - A. **SPECIAL LAND USE – TORTILLA TITA – 585 JOE HALL DRIVE – PARCEL K-11-17-363-029 – TO CONSIDER A THE PRELIMINARY SITE PLAN APPLIATION OF FRANCISCO ALVAREZ/MARTHA JARAMILLO TO PERMIT THE CONSTRUCTION OF A 6,000 SQUARE FOOT TWO-STORY FOOD PROCESSING FACILITY ON A 1.093 – ACRE SITE ZONED I-T, INNOVATION AND TECHNOLOGY.**
7. OPEN DISCUSSION FOR ISSUES NOT ON THE AGENDA
 - A. CORRESPONDENCE RECEIVED
 - B. PLANNING COMMISSION MEMBERS
 - C. MEMBERS OF THE AUDIENCE
8. TOWNSHIP BOARD REPRESENTATIVE REPORT
9. ZONING BOARD OF APPEALS REPRESENTATIVE REPORT
10. TOWNSHIP ATTORNEY REPORT
11. PLANNING DEPARTMENT REPORT

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

12. OTHER BUSINESS

13. ADJOURNMENT

Planning Department Report

Project Name: Tortilla Tita - Food Processing Building

Location: 585 Joe Hall Drive, Ypsilanti, MI 48197

Date: February 18, 2025

- | | |
|--|---|
| <input checked="" type="checkbox"/> Full Preliminary Site Plan Review # 3
<input type="checkbox"/> Sketch Preliminary Site Plan Review #
<input type="checkbox"/> Administrative Preliminary Site Plan Review #
<input type="checkbox"/> Detailed Engineering/Final Site Plan Review #
<input checked="" type="checkbox"/> Special Use Permit
<input type="checkbox"/> Public Hearing | <input type="checkbox"/> Rezoning
<input type="checkbox"/> Tentative Preliminary Plat
<input type="checkbox"/> Final Preliminary Plat
<input type="checkbox"/> Final Plat Process
<input type="checkbox"/> Planned Development Stage I
<input type="checkbox"/> 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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See letter dated 02-14-2025
Carlisle/Wortman Associates	Planning Consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
OHM / Stantec	Engineering Consultant	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See letter dated 02-06-2025
Steven Wallgren, Fire Marshal	Township Fire Department	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See letter dated 02-07-2025
Dave Bellers, Building Official	Township Building Department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Brian McCleery, Deputy Assessor	Township Assessing Department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Scott Westover, Engineering Manager	Ypsilanti Community Utilities Authority	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See letter dated 02-11-2025
Gary Streight, Project Manager	Washtenaw County Road Commission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See email dated 02-17-2025
Theresa Marsik, Stormwater Engineer	Washtenaw County Water Resources Commission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See letter dated 02-10-2025
James Drury, Permit Agent	Michigan Department of Transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Planning Department Recommended Action:

At this time, the Tortilla Tita Food Processing Building is eligible for Preliminary Site Plan and Special Land Use review by the Township Planning Commission and has been scheduled for the Commission's regularly scheduled meeting on March 25, 2025. The Planning Department recommends granting Preliminary Site Plan and Special Land Use approval, contingent upon the applicant addressing the outstanding comments outlined in the Planning Department Staff Report. There are some outstanding comments from the Washtenaw County Water Resources Commission (WCWRC) and Washtenaw County Road Commission (WCRC) that must be addressed as part of Final Site Plan Review. 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.



Staff Report
Tortillas Tita: Food Processing Building
585 Joe Hall Drive, Ypsilanti, MI 48197
Preliminary Site Plan & Special Land Use

February 14, 2025

Applicant: Francisco Alvarez / Martha Jaramillo

Project Name: Tortillas Tita

Plan Date: 01-22-2025

Location: 585 Joe Hall Drive, Ypsilanti, MI 48197 Parcel #K-11-17-363-029

Zoning: I-T – Innovation and Technology

Action Requested: Preliminary Site Plan & Special Land Use Approval

CASE LOCATION AND SUMMARY

The Office of Community Standards is in receipt of a Preliminary Site Plan Application from Francisco Alvarez and Martha Jaramillo representing Tortillas Tita requesting authorization for the construction of a 6,000 sq. ft. two-story tortilla manufacturing facility, and the construction of the associated parking areas, driveways, utilities, storm water management system, and landscaping.

CROSS REFERENCES

- Article 4, District Regulations
- Article 9, Site Plan Review
- Article 11, Specific Provisions
- Article 12, Access, Parking, Loading
- Article 13, Site Design Standards
- Article 14, Environmental Standards

SUBJECT SITE USE, COMPREHENSIVE PLAN, AND ZONING

This property is currently undeveloped. The Charter Township of Ypsilanti 2040 Master Plan designates this site for Township Core, a designation intended to be the central core of the township. It will include the township governmental center of the Township Civic Center and the Ypsilanti District Library. Huron Street and the immediate area can serve a mix of uses from multiple-family residential to commercial to clean light industrial. We find that the proposed use of the site as a manufacturing facility for tortillas is consistent with the Master Plan. The proposed manufacturing activity is also permitted as a Special Land Use in the I-T, Innovation and Technology zoning district.

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



**YPSILANTI
TOWNSHIP**
— PLANNING & ZONING DEPARTMENT —

Trustees
John Newman II
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LaResha Thornton

585 Joe Hall Drive, Ypsilanti, MI 48197 – Aerial Photograph 2022



Source: Map Washtenaw

Size of Subject Site:
1.093 Acres

Current Use of Subject Site:
Vacant

Proposed Use of Subject Property:
Tortilla Manufacturing facility



ADJACENT USES, ZONING AND COMPREHENSIVE PLAN

Direction	Use	Zoning	Master Plan
North	Vacant	I-T – Innovation and Technology	Township Core
South	Manufacturing	I-T – Innovation and Technology	Township Core
East	Manufacturing / Office	I-T – Innovation and Technology	Township Core
West	Vacant	I-T – Innovation and Technology	Township Core

NATURAL FEATURES

Topography: The subject parcel is relatively flat.

Woodlands: The site is wooded. The applicant has provided a tree survey, as required in Chapter 24, Article III – Woodlands Protection, showing the location of existing trees on Sheet C-6. A tree inventory table has also been provided. We have the following comments regarding tree removal:

- Sec. 24-68, *Relocation or Replacement* requires that removed trees shall be replaced on a one-to-one ratio. At this time, this project would be required to plant 38 new trees, that are a minimum of 2.0” in caliper. The ordinance does not allow landscaping trees to also count as replacement trees. However, Sec. 24-67, *Review Standards*, gives the Planning Commission the ability to reduce the number of replacement trees to no less than 30% of the required number for industrial properties in instances where 100% tree replacement is not feasible. If the Planning Commission approved the maximum reduction, then 27 replacement trees would be required on this site, in addition to trees required to meet landscaping requirements. Also, the Planning Commission may allow replacement trees to be planted on other approved property, or the applicant may pay into the Township Tree Fund, based on the number of replacement trees determined by the Planning Commission. The applicant’s response letter states that replacement trees will be planted off site, or a contribution will be made to the township’s tree fund. The applicant needs to clarify:
 - a. Where will replacement trees be planted? If this option is chosen, the Planning Commission will need to approve the location.



- b. If a contribution is made, we recommend that the Planning Commission condition any Preliminary Site Plan approval on the Township reviewing and approving the calculations to determine the tree fund contribution amount, based on typical fees charged by a landscape contractor to purchase, deliver, and install a 2.0-inch caliper tree at Final Site Plan approval.
- As requested:
 - a. Tree protection fencing has been added to Trees #21, #38, and #39. These trees are on adjacent properties near the site.
 - b. Tree protection fencing has also been added for Trees #9, #10, #16, and #53 in addition to the other trees within the project site.

Wetlands: There are no wetlands on the subject property. According to FEMA MAP 26161C0426E, Dated April 3, 2012, the site is in an area of minimal flood hazard.

Soils: Sheet C-6 states that the soils on this property are Oshtemo loamy sand, 0-6% slopes.

Items to be addressed: 1) Planning Commission and applicant to discuss tree replacement options. a. If planting on another site is chosen, Planning Commission to approve chosen site. b. If payment in-lieu-of planting replacement trees is chosen, recommend conditioning any Preliminary Site Plan approval on the Township reviewing and approving the calculations to determine the tree fund contribution amount, based on typical fees charged by a landscape contractor to purchase, deliver, and install a 2.0-inch caliper tree, at Final Site Plan approval.

LAND USE

The land use table is outlined in Sec. 420 of the Township Zoning Ordinance. This table establishes where certain land uses are permitted in the Township.

Sec. 420 – Residential Use Table

Proposed Use	Complies with Sec. 420 Residential Use Table
Manufacturing of Tortillas	Complies, as a Special Land use

Items to be addressed: None.



HEIGHT, BULK, DENSITY AND AREA

Height, Bulk, Density and Area requirements for developments in the I-T – Innovation and Technology Zoning District are established in Sec. 414 of the Township Zoning Ordinance.

Sec. 414. – Innovation and Technology:

	Required / Allowed	Provided	Complies with Sec. 414 – Innovation and Technology District
Lot Area	None	1.19 Acres	Complies
Lot Width	None	152 Feet	Complies
Front Yard Setback (Joe Hall Drive)	20'	57'	Complies
Side Yard Setback (Western Lot Line)	20'	49.5'	Complies
Side Yard Setback (Eastern Lot Line)	20'	32'	Complies
Rear Yard Setback (Northern Lot Line)	20'	183.15'	Complies
Building Height for New Building (Feet)	40'	19'	Complies
Maximum Lot Coverage (All Buildings)	None	6,000 sq. ft.	Complies

Items to be addressed: None.



PARKING AND LOADING

Sec. 1205, 1206, and 1207 of the Township Zoning Ordinance require all developments in the Township to have adequate parking accommodation for employees and members of the public.

Sec. 1205, 1206, and 1207

	Required	Provided
Industrial or research establishments and related accessory offices.	11	19 spaces
Barrier Free	1	1
Loading	1	1
Bicycle Facility	1	1
Total	14	19

Items to be addressed: None.

BICYCLE AND PEDESTRIAN ACCOMMODATIONS

Sec. 1206 of the Township Zoning Ordinance allows the Planning Commission to require additional walkways and pedestrian connections as part of the site plan review.

Items to be addressed: None. The Charter Township of Ypsilanti Non-Motorized-Transportation Plan calls for a “proposed sidewalk” to run along Joe Hall Drive. The applicant is proposing a new concrete sidewalk to run along the entire frontage of the property. No additional pedestrian connections are needed currently.

Items to be addressed: None.

SITE ACCESS, CIRCULATION, AND TRAFFIC IMPACTS

The site will be accessed by one (1) entrance off Joe Hall Drive. The Planning Department does not find that a traffic study is needed for a project of this size but will defer to the Washtenaw County Road Commission.

The applicant provides vehicular access around the perimeter of the entire manufacturing facility. Turning radii for fire trucks have been included on sheet C-1A. We defer further comment to the Fire Department regarding turning radii and site access.

Items to be addressed: None



SECURITY CAMERAS

Sec. 812. – Security Cameras: For all non-residential properties, security cameras shall be installed, maintained, and accessible to law enforcement upon request as required by law. All security cameras shall be high definition with a minimum resolution of 1080p and night vision with at least thirty (30) consecutive days of digitally recorded documentation. The security cameras shall be in operation twenty-four (24) hours a day, seven (7) days a week, and shall be set to maintain the record of the prior thirty (30) days of continuous operation. An alarm system is required that is operation and monitored by a recognized security company. Security cameras shall be placed to cover the entire site.

Note 5, *Ypsilanti Township Notes*, on the Cover Sheet states: “Security cameras shall be placed on the exterior of the proposed building. Contractor shall contact the Washtenaw County Sheriff’s office for specific requirements.” This note is not sufficient. A plan showing the location of the security cameras/alarms, and manufacturer information documenting that the equipment meets ordinance requirements is required upon Final Site Plan review. The Township will request review of this information by the Sheriff’s Department. We recommend the Planning Commission condition any Preliminary Site Plan approval on the applicant providing this information at Final Site Plan review.

Items to be addressed: Recommend Planning Commission condition any Preliminary Site Plan approval on the applicant providing a plan showing the location of the security cameras/alarms, and manufacturer information documenting that the equipment meets ordinance requirements, at Final Site Plan review.



LANDSCAPE REQUIREMENTS

Sec. 1301. – Landscape Requirements

	Required	Provided	Compliance
Street Yard Landscaping: 1 Large deciduous tree per 40ft of frontage, 1 ornamental tree per 100 ft of frontage, 1 shrub per 10 ft. of frontage.	152 L.F. / 40 L.F = 4 Deciduous Trees 152 L.F. / 100 L.F. = 2 Ornamental trees 152 L.F. / 10 = 15 Shrubs	4 Deciduous trees. 2 Ornamental Trees 15 Shrubs	Complies
General Landscaping: 1 (1) tree for each one thousand (1,000) square feet of lawn area, plus one (1) shrub for every five hundred (500) square feet of lawn area.	28,627 S.F. / 1,000 S.F. = 29 Trees 28,627 S.F. / 500 S.F. = 57 shrubs	29 Trees 57 Shrubs	Complies
Parking Lot: 1 large deciduous tree per 2000 square feet of pavement and 1 per 40 linear feet.	16,809 S.F. / 2,000 S.F. = 8 271 LF / 40 LF = 7	8 Trees 7 Trees	Complies
Stormwater: 1 tree per 45 feet and 1 shrub per 5 linear feet.	n/a	0 Trees 0 Shrubs	Does not comply. See notes below.

The applicant notes that a “detention basin” is not proposed for this site, but stormwater will be handled by a “bioretention area” instead. Therefore, they have not provided any “detention basin” landscaping and state that rain garden landscaping required by Washtenaw County Water Resources Commission (WCWRC) standards will be used. Rain garden landscaping is an integral feature of the proper functioning of the bioretention area. The WCWRC’s landscape architect will review the landscaping.

The Planning Commission may waive or modify any landscaping requirements noted in Sec. 1301 in the following situations:

1. Where a proposed modification cannot be reasonably accomplished in strict adherence to this section due to existing site or building constraints.
2. Where a proposed building addition increases the gross building area by no greater than twenty percent (20%).
3. Where a proposed parking lot expansion increases the number of parking spaces by no greater than twenty percent (20%).
4. Where the addition of new landscape material would serve no good purpose due to its relation to existing plant material, changes in grade or other site characteristics.
5. Where the intent of this Section can be met through reasonable alternatives.



The Planning Commission will need to determine if the landscaping around the “bioretention” area required by the Washtenaw County Water Resources Commissioner meets the intent of the “detention basin” landscaping requirement and accomplishes the intent of that requirement.

Items to be addressed: 1) Planning Commission to consider alternative landscaping around bioretention area.

DUMPSTER ENCLOSURE

Sec. 1302. – Trash and Recycling Receptacles

Items to be addressed: None.

EXTERIOR LIGHTING

Sec. 1303. - Exterior Lighting

The applicant provided a photometric plan as well as a lighting plan provided on Sheet C-1. The applicant proposes nine (9) wall mounted light fixtures.

Items to be addressed: None.

ELEVATIONS

Sec. 1306. – Building Design Requirements

The building materials consist of masonry blocks, stone veneer, metal siding, and windows.

Items to be addressed: None.

AIRBORNE EMISSIONS AND ODORS

Sec. 1400. – Performance Standards

Sheet 8 of the Architectural Plans detail two (2) exhaust fans and four (4) radiator vent air exhaust pipes.

Per Sec. 1400.1B: Any condition or operation which results in the creation of odors of such intensity and character as to be detrimental to the health and welfare of the public or which interferes unreasonably with the comfort of the public shall be removed, stopped, or so modified as to remove the odor.



The most recent submission includes a letter from a neighbor of their existing manufacturing location that the odor of cooking tortillas does not bother them. The applicant should discuss odor control with the Planning Commission.

Items to be addressed: Applicant to discuss odor control with Planning Commission.

SPECIAL LAND USE

The Planning Commission 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; and
2. Will be compatible with a natural environment and existing and future land uses in the vicinity; and
3. Will be compatible with the Township master plans; and
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; and
5. Will not be detrimental, hazardous, or disturbing to existing or future neighboring uses, persons, property, or the public welfare; and
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.

Provided that specific conditions are placed upon the application, we find that the special use standards have been met, as described below:

1. Tortillas Tita aligns with the objectives, intent, and purpose of the Township Zoning Ordinance. It aims to contribute to economic growth, diversification, and innovation within the I-T – Innovation and Technology Zoning District. This business also supports local food production and job creation, which are consistent with the Township's goals.
2. The site is surrounded by a mix of logistics, warehousing, and light industrial uses. The use of the site is compatible with adjacent uses. The location within the Innovation and Technology Zoning District ensures compatibility with existing and future high-tech industries and research facilities in the vicinity.
3. The Township's Master Plan designates this location as Township Core, envisioning it as the center of the Township with a diverse mix of uses, including



clean light industrial and warehousing. Tortilla Tita aligns with this vision, contributing to the development of a vibrant and dynamic Township Core.

4. The proposed location is adequately served by essential public facilities and services. The developer is proposing to make significant investments and upgrades to the property.
5. Tortilla Tita will most likely not be detrimental to neighboring uses, persons, property, or public welfare. As stated by the applicant, they intend to adhere to safety and hygiene standards, ensuring minimal disturbance to neighboring businesses.
6. It appears that the proposed business will not create additional public costs that would be detrimental to the economic welfare of the community. The developer will bear the costs of its infrastructure needs.

SUMMARY & RECOMMENDATIONS

The Charter Township of Ypsilanti Planning Department encourages and supports the investment that Tortilla Tita proposes to make on Joe Hall Drive. Regarding other design issues, the ordinance allows the Planning Commission some flexibility in its application. A summary of the comments in this review are provided below which should be discussed with the Planning Commission:

Tree Replacement: Planning Commission and applicant to discuss tree replacement options.

- a. If “planting on another site” is chosen, Planning Commission to approve chosen site.
- b. If “payment in-lieu-of planting replacement trees” is chosen, recommend conditioning any Preliminary Site Plan approval on the Township reviewing and approving the calculations to determine the tree fund contribution amount, based on typical fees charged by a landscape contractor to purchase, deliver, and install a 2.0-inch caliper tree, at Final Site Plan approval.

Security Cameras: Recommend Planning Commission condition any Preliminary Site Plan approval on the applicant providing a plan showing the location of the security cameras/alarms, and manufacturer information documenting that the equipment meets ordinance requirements, at Final Site Plan review.

Landscape Requirements: Planning Commission to consider alternative landscaping around bioretention area.

Odors: Applicant to discuss odor control with Planning Commission.



SUGGESTED MOTIONS:

Special Land Use:

Motion to Postpone:

“I move to postpone the Special Land Use Permit submitted by Francisco Alvarez and Martha Jaramillo, to permit the construction of a 6,000 sq. ft., two-story food processing facility located at 585 Joe Hall Drive, Ypsilanti, MI 48197, Parcel K-11-17-363-029, 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 Special Land Use Permit submitted by Francisco Alvarez and Martha Jaramillo, to permit the construction of a 6,000 sq. ft., two-story food processing facility located at 585 Joe Hall Drive, Ypsilanti, MI 48197, Parcel K-11-17-363-029, as the proposal meets the criteria in Article 10, Special Land Use with the following conditions:

1. **Tree Replacement:** The Township reviews and approves the calculations for “payment in-lieu-of planting replacement trees” to determine the tree fund contribution amount, based on typical fees charged by a landscape contractor to purchase, deliver, and install a 2.0-inch caliper tree, at Final Site Plan approval.
2. **Security Cameras:** Applicant provides a plan showing the location of the security cameras/alarms, and manufacturer information documenting that the equipment meets ordinance requirements, at Final Site Plan review.

Motion to Deny:

“I move to deny the Special Land Use Permit submitted by Francisco Alvarez and Martha Jaramillo, to permit the construction of a 6,000 sq. ft., two-story food processing facility located at 585 Joe Hall Drive, Ypsilanti, MI 48197, Parcel K-11-17-363-029, due to the following reasons:”

1. _____
2. _____
3. _____



Preliminary Site Plan:

Motion to Postpone:

“I move to postpone the Preliminary Site Plan submitted by Francisco Alvarez and Martha Jaramillo, to permit the construction of a 6,000 sq. ft., two-story food processing facility located at 585 Joe Hall Drive, Ypsilanti, MI 48197, Parcel K-11-17-363-029, 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 Francisco Alvarez and Martha Jaramillo, to permit the construction of a 6,000 sq. ft., two-story food processing facility located at 585 Joe Hall Drive, Ypsilanti, MI 48197, Parcel K-11-17-363-029, as the proposal meets the requirements and standards of the Zoning Ordinance with the following conditions:

1. **Tree Replacement:** The Township reviews and approves the calculations for “payment in-lieu-of planting replacement trees” to determine the tree fund contribution amount, based on typical fees charged by a landscape contractor to purchase, deliver, and install a 2.0-inch caliper tree, at Final Site Plan approval.
2. **Security Cameras:** Applicant provides a plan showing the location of the security cameras/alarms, and manufacturer information documenting that the equipment meets ordinance requirements, at Final Site Plan review.

Motion to Deny:

“I move to deny the Preliminary Site Plan submitted by Francisco Alvarez and Martha Jaramillo, to permit the construction of a 6,000 sq. ft., two-story food processing facility located at 585 Joe Hall Drive, Ypsilanti, MI 48197, Parcel K-11-17-363-029, due to the following reasons:”

1. _____
2. _____
3. _____

Respectfully submitted,

Fletcher Reyher

Fletcher Reyher, AICP

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



**YPSILANTI
TOWNSHIP**
— PLANNING & ZONING DEPARTMENT —

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Planning and Development Coordinator
Charter Township of Ypsilanti Planning Department

February 6, 2025

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

RE: Tita Tortillas
Preliminary Site Plan Review #3

Dear Mr. Reyher:

We have completed the third preliminary site plan review of the plans dated December 2, 2024, with a latest revision date of January 22, 2025, and received by OHM Advisors on January 28, 2025.

At this time, the plans are recommended for approval for the Planning Commission's consideration, contingent on the following comments 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 6,000 square-foot manufacturing facility at 585 Joe Hall Drive, Lot 11 of the Washtenaw Business Park, for Tortillas Tita. The site is approximately 1.19 acres and is currently zoned I-1 Light Industrial. Associated parking and other site improvements are also being proposed.

The site will be serviced by connection to the existing 12-inch water main and 18-inch sanitary sewer along Joe Hall Drive. The proposed stormwater runoff will be maintained by an on-site detention basin.

B. SITE PLAN COMMENTS

Paving/Grading

1. It currently appears the limits of construction and earth disruption are outside the property lines (Sheet C-3). The applicant shall note that construction and grading cannot be off-site unless grading easements are secured from neighboring properties. The applicant shall review and revise accordingly.

Site Utilities

2. The applicant shall note that a grease trap may be required on the proposed sanitary sewer service by the Building Code for new construction. The applicant shall review the requirements of the Building Code and revise the plans accordingly.



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 a utility pipe profile, including pipe diameter, material, length, slope, etc. for the proposed hydrant service.
2. The applicant shall provide spot elevations at all four (4) corners of the barrier-free parking space, access aisle, ramps, and level landings, as well as along both sides of all proposed sidewalk at 50-foot intervals. The applicant shall note that the cross-slope shall not exceed 2%, per ADA Standards.
3. The applicant shall provide a Certificate of Outlet, signed and sealed by a registered engineer in the State of Michigan, on the plans.
4. The applicant shall label the nearby County Drain on all plan sheets it's depicted. The applicant shall note that a drain-use permit will be required for any stormwater discharge to the County Drain.
5. The applicant shall provide an inlet filter on the existing catch basin(s) along the County Drain and within Joe Hall Drive as needed.
6. It is recommended that the applicant relocate the tree away from the proposed water main and sanitary sewer service for ease of potential future maintenance.
7. The applicant shall provide a quantity list for all proposed utilities (water, sanitary) on the Cover Sheet, delineated by existing or proposed road right-of-way or easement, per Township Standards. The applicant shall also provide a brief project narrative on the Cover Sheet.
8. The applicant shall provide the applicable Ypsilanti Township Standard Detail Sheets and the Ypsilanti Township SESC Standard Detail Sheet within the plan set. 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 is required.
- ▶ **Washtenaw County Water Resources Commissioner's Office (WCWRC):** Review and approval is required. A drain-use permit will be required for any stormwater discharge to the nearby County Drain.
- ▶ **Washtenaw County Road Commission (WCRC):** Review and approval of all proposed work within the Joe Hall Drive ROW is 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.



cc: Doug Winters, Township Attorney
Steven Wallgren, Township Fire Marshall
Scott Westover, P.E., YCUA
File

P:\0000_0100\SITE_YpsilantiTwp\2023\0098231100_585 Joe Hall Dr_Tita Tortillas\MUNI\01_SITE\PSP#3\Tita
Tortillas_PSP#3_2025-02-06.docx

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT

BUREAU OF FIRE PREVENTION

222 South Ford Boulevard, Ypsilanti, MI 48198



February 7, 2025

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

RE: Preliminary (non-residential) Site Plan Review #3

Project Name:	Tita Tortillas
Project Location:	585 Joe Hall Drive, Ypsilanti, MI 48197
Plan revision Date:	1/22/2025
Project #:	24010
Applicable Codes:	IFC 2018
Engineer:	Vitins Engineering
Engineer Address:	44275 Brandywyne Canton, MI 48187

Status of Review

Status of review: Approved as Submitted

All pages were reviewed.

Hydrant

Location: Complies with the 250' radius.

Site Coverage - Access

Comments: Complies with IFC 2018.

A Knox Box will be required, and its placement can be discussed on site with the contractor.

Sincerely,

A handwritten signature in black ink that reads "Steve Wallgren".

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



YPSILANTI COMMUNITY UTILITIES AUTHORITY

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

February 11, 2025

VIA ELECTRONIC MAIL

Mr. Feltcher Reyher, Planning and Development Coordinator
Office of Community Standards
CHARTER TOWNSHIP OF YPSILANTI
7200 S. Huron River Drive
Ypsilanti, MI 48197

Re: Preliminary (non-residential) Site Plan Review #3
Tita Tortillas
Charter Township of Ypsilanti (Plan Date: 01-22-2025)

Dear Mr. Reyher:

In response to the electronic mail message from your office dated January 28, 2025, we have reviewed both the referenced plans with regards to water supply and wastewater system design. The plans are acceptable to YCUA for this stage of review.

As noted in the September 22, 2023, letter from this office, connection fees for the proposed building. Please note that the total cash price for connection fees, **\$16,108.60 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,

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. Martha Jaramillo, Applicant
Mr. Uldis Vitins, P.E., Applicant's design engineer

WCRC App. 19807 - Tita Tortillas - Joe Hall Drive

SG

Streight, Gary <streightg@wcroads.org>

To: 'jfalvare9@gmail.com'; vitins@umich.edu

Cc: Lawrence, Callie <lawrencec@wcroads.org>; Fletcher Reyher

☺ ↩ Reply ↩ Reply all → Forward 🗄️ ⋮

Mon 2/17/2025 2:42 PM

I have completed the review of the plans submitted for the above permit application and offer the following comments for your consideration:

- Rotate the plans to have north at the top or right side of the plans.
- Provide a cost estimate for all work within the Joe Hall Drive right of way for approval.
- An Inspection fee equal to 3% of the approved estimate, \$500 minimum, must be provided along with a deposit equal to the full amount of the cost estimate in the form of a letter of credit or cashier's check.
- Provide the name, contact information and certificate of insurance for the contractor performing the work.

Once you have addressed the above comments, please send revised plans to permits@wcroads.org for review. If you have any questions feel free to contact me.

Gary Streight, P.E.
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](#)

↩ Reply ↩ Reply all → Forward



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

February 10, 2025

Mr. Uldis Vitins, P.E.
Vitins Engineering
44275 Brandywyne
Canton, Michigan 48187

RE: Tortillas Tita – 585 Joe Hall Drive
Ypsilanti Township, Michigan
WCWRC Project No. 8791

Dear Mr. Vitins:

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 24010, a date of January 22, 2025, and were received on January 27, 2025. As a result of our review, we would like to offer the following comments:

1. The proposed construction activities are planned within an existing drain easement on the site. A drain use permit will be required. However, the permit application can be submitted once the design is finalized.
2. The engineer's certificate of outlet, accompanied by corresponding calculations and documentation, should be submitted to our office for review.
3. A drainage area map should be included with the design plans on the grading sheet.
4. The plans must contain a grading plan, showing the existing and proposed grading at 1-foot contour intervals.
5. The off-site topography for at least 150 feet should be included with the grading plan.
6. A minimum one foot of freeboard is required beyond the 100-year storm volume elevation.
7. The storage volume table for the proposed rain garden must include the 1-foot freeboard elevation.
8. An emergency overflow channel, approximately 0.25 to 0.5 feet above the 100-year storm volume elevation, with an unimpeded route to a receiving channel must be included in the rain garden design and identified on the plan view.

9. The long-term maintenance plan shown on plan sheet C-8 must include an estimated annual budget and identify the party responsible for performing the maintenance.
10. Inspection of the infiltration basins following storms of 1 inch or more should be added to the long-term maintenance plan.
11. “As Needed” as it pertains to removal of sediment accumulation must be defined in the maintenance plan as when ponded water is observed for more than 48 hours within the infiltration BMP.
12. The proposed site is noted to be comprised of the western 73.5 feet of Lot 10 and the eastern 66.5 feet of Lot 11 from Phase II of the Huron Center Commercial and Industrial Park development. As noted on plan sheet C-5.1 dated July 26, 2005 and prepared by Ayres, Lewis, Norris, and May, Inc., the 100-year runoff from Lot 10 was accommodated in the detention basin, while the 100-year runoff from Lot 11 was to be detained on-site.
 - a. The runoff calculations presented on plan sheet C-5, following the May 15, 2000 rules, use an area for Lot 10 of 1.061 acres to determine how much volume was allotted to Lot 10 within the existing detention basin. The portion of Lot 10 included in the current site appears to be much less than 1.061 acres. Provide area calculations to confirm the site area that was originally part of Lot 10.
13. The runoff calculations presented on plan sheet C-5 indicate that 9,000 cubic feet of volume is available in the existing detention basin. That volume was then listed on Worksheet W11 on “Sheet 2 of 2” within the plan set. W11 is used to determine the runoff volume credit for infiltration. The volume available in the existing basin cannot be listed on W11.
14. Worksheet W13 must be corrected once comments 12 and 13 are adequately addressed. Part B of W13 must be completed.
15. A catch basin is shown within the drainage swale located south of the site. Our office does not have a record of a catch basin being constructed within the drainage swale between manholes R263 and R264.
 - a. If a catch basin with a beehive grate is located as shown, then the discharge from the on-site rain garden will be diverted from flowing to the existing basin via the swale, in which case the entire 100-year storm volume must be provided on-site.

Mr. Uldis Vitins, P.E.
Vitins Engineering
Tortillas Tita – 585 Joe Hall Drive
WCWRC Project No. 8791
Page 3 of 3

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.
Storm Water Engineer
(permit\Tortillas Tita rev1)

cc: Francisco Alvarez, Tortillas Tita
Martha Jaramillo, Tortillas Tita
Laura Doppke, Ypsilanti Township Staff Planner
Fletcher Reyher, Ypsilanti Township Planning & Development Coordinator
Doug Winters, McLain and Winters
Matt Parks, P.E., Ypsilanti Township Engineer (OHM)
Stacie Monte, Ypsilanti Township Engineer (OHM)

TORTILLAS TITA
 ATTN FRANCISCO ALVAREZ
 3763 COMMERCE COURT
 WAYNE MI 48184

Washtenaw County
 Remittance Slip



Invoice No. 15621
 Customer Number 10720
 Invoice Total Due \$1,781.25
 Due on 03/12/2025

Amount Enclosed	
-----------------	--

CATHERINE MCCLARY, CPFO, CPFIM
 WASHTENAW COUNTY TREASURER
 PO BOX 8645
 ANN ARBOR MI 48107-8645

Please make checks payable to: Washtenaw County Treasurer
 Address has changed (please update on back)

Detach and enclose this coupon with payment



Washtenaw County
 Washtenaw County Treasurer
 P.O. Box 8645
 Ann Arbor, MI 48107-8645

Invoice

Invoice Date	Invoice No.
02/12/2025	15621
Customer Number	
10720	
Invoice Total Due	
\$1,781.25	
Due Date	
03/12/2025	

Please include invoice number on your payment.

TORTILLAS TITA
 ATTN FRANCISCO ALVAREZ
 3763 COMMERCE COURT
 WAYNE MI 48184

WATER RESOURCES
 TORTILLAS TITA
 WCWRC PROJECT #8791

Description	Quantity	Price	UOM	Original Bill	Adjustments	Paid	Amount Due
WO 8791 Engineering Site Inspection Fees	2.00	\$135.00	EACH	\$270.00	\$0.00	\$0.00	\$270.00
WO 8791 Engineering Review Fees INITIAL REVIEW FEES OF \$400.00 RECEIVED HAVE BEEN DEDUCTED FROM THIS INVOICE	13.00	\$135.00	EACH	\$1,355.00	\$0.00	\$0.00	\$1,355.00
WO 8791 Engineering Review Fees	1.25	\$125.00	EACH	\$156.25	\$0.00	\$0.00	\$156.25

PLEASE RETURN TOP PORTION WITH PAYMENT

Please put invoice number on your check. Make checks payable to: Washtenaw County Treasurer	Invoice Total:	\$1,781.25
--	-----------------------	-------------------

RECEIVED
BY _____

AUG 22 2023

**SITE PLAN REVIEW
APPLICATION**

YPSILANTI TOWNSHIP
OCS

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: 585 Joe Hall Dr City: Ypsilanti State: MI Zip: 48197

Parcel ID #: K-11- 17-363-029 Zoning: I-T

Lot Number: 1 Subdivision: _____

Property dimensions: 140ft x340.15 ft Acreage: 1.093

Name of project/Proposed development: Tortillas Tita

Legal description of Property:

The W73.50 ft of Lot 10 and E 66.50 of Lot 11 Washtenaw business park, Section 17 ,
T3S-R7E, Ypsilanti Wwp, Wash County, Mi part of French claims 681 Certified Business Park, October 1988

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

Manufacturing facility for Tortillas Tita

III. APPLICANT INFORMATION

Applicant: Francisco Alvarez / Martha Jaramillo Phone: 734 756 7646 / 734 756 4643

Address: 6270 Briarcliff Dr City: Belleville State: Mi Zip: 48111

Fax: _____ Email: martha@tortillastita.com / jfalvare9@gmail.com

Property owner (if different than applicant): _____ Phone: _____

Address: _____ City: _____ State: _____ Zip: _____

Fax: _____ Email: _____

Engineer: _____ Phone: _____

Address: _____ City: _____ State: _____ Zip: _____

Fax: _____ Email: _____

**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: \$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
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

4500
 \$ _____ FEE TOTAL

V. APPLICANT SIGNATURE

Francisco Alvarez /Martha Jaramillo

08/22/23

Applicant Signature

Print Name

Date

Charter Township of Ypsilanti

Office of Community Standards

7200 S. Huron Drive, Ypsilanti, MI 48197

Phone: (734) 485-3943

Website: <https://ytown.org>

**SITE PLAN REVIEW
APPLICATION**

Site Plan Review applications	
<input checked="" type="checkbox"/> The application is filled out in its entirety and includes the signature of the applicant and, if different than the applicant, the property owner.	<input type="checkbox"/> Proposed Plans
<input checked="" type="checkbox"/> Fees	<input type="checkbox"/> One (1) signed and sealed copies (24"x36") of the proposed plan
<input checked="" type="checkbox"/> Check made out to Ypsilanti Township with appropriate fees. <i>Please note: The same preliminary site plan review fee will be charged for each subsequent submittal</i>	<input type="checkbox"/> One (1) copy (11"x17") of the proposed plan
<input type="checkbox"/> Fees paid separately to Ypsilanti Community Utilities Authority	<input checked="" type="checkbox"/> One (1) PDF digital copy of the proposed plan
<input type="checkbox"/> Fees paid separately to Washtenaw County Road Commission and Water Resources Commissioner's Office	<input type="checkbox"/> All contents detailed on the next pages for administrative, sketch, and full site plans.
<input type="checkbox"/> Additional Documents:	
<input type="checkbox"/> Woodland Protection application or the No Tree Affidavit, if applicable	
<input type="checkbox"/> Traffic Impact Questionnaire	
<input type="checkbox"/> Appropriate application and plans submitted to the Washtenaw County Road Commission and Water Resources Commissioner's Office	

RECEIVED

Charter Township of Ypsilanti
Office of Community Standards
7200 S. Huron Drive, Ypsilanti, MI 48197
Phone: (734) 485-3943
Website: <https://yptown.org>

SEP 13 2023

**SPECIAL CONDITIONAL USE/
USES SUBJECT TO SPECIAL
CONDITIONS APPLICATION**

YPSILANTI TOWNSHIP
OCS

I. PROJECT LOCATION

Address: 585 Joe Hall Dr Parcel ID #: K-11- 17-363-029 Zoning I-T

Lot Number: 1 Subdivision: _____

Describe proposed use: Manufacturing of corn and flour tortillas

II. APPLICANT/PROPERTY OWNER

Applicant: Francisco Alvarez/ Martha Jaramillo Phone: 734 7567646

Address: 6270 Briarcliff Dr City: Belleville State: MI Zip: 48111

Property Owner (if different than applicant): _____ Phone: _____

Address: _____ City: _____ State: _____ Zip: _____

III. FEES

Total: \$ 1000

Breakdown of fee:

Non-refundable: **\$1,000**
Refundable: **\$1,000**

IV. APPLICANT SIGNATURE

The following are attached to this application:

- 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.
- 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.

 Francisco Alvarez/ Martha Jaramillo 9/12/2023
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) 485-3943

Website: <https://ytown.org>

OFFICE USE ONLY

All special conditional use applications	
<ul style="list-style-type: none"><input type="checkbox"/> The application is filled out in its entirety and includes the signature of the applicant and, if different than the applicant, the property owner.<input type="checkbox"/> 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<input type="checkbox"/> A detailed description of the proposed use.<input type="checkbox"/> A site plan, if requested by the planning commission<input type="checkbox"/> Fees	<ul style="list-style-type: none"><input type="checkbox"/> Scaled and accurate survey drawing, correlated with a legal description and showing:<ul style="list-style-type: none"><input type="checkbox"/> All property lines and dimensions<input type="checkbox"/> All existing and proposed structures and dimensions<input type="checkbox"/> Locations of drives, sidewalks, and other paved areas on the property and on the adjacent streets<input type="checkbox"/> Location and dimensions of the nearest structures on adjacent properties<input type="checkbox"/> Easements and dimensions, if applicable

YPSILANTI TOWNSHIP NOTES:

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CHARTER TOWNSHIP OF YPSILANTI.
- THE CONTRACTOR SHALL CALL THE NATIONAL ONE-CALL DIALING NUMBER "811" OR THE NATIONAL ONE-CALL REFERRAL NUMBER 1-888-258-0808 AT LEAST 3 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- NO SIGNS ARE APPROVED AS PART OF THIS SITE PLAN APPROVAL AND PRIOR TO ERECTING A SIGN, AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE BUILDING DEPARTMENT FOR REVIEW, APPROVAL AND ISSUANCE OF A SIGN PERMIT.
- REFER TO ARCHITECTS DRAWINGS FOR BUILDING DETAILS AND DIMENSIONS INCLUDING EXTERIOR BUILDING LIGHTS. ANY ROOF TOP EQUIPMENT SHALL BE SCREENED.
- SECURITY CAMERAS SHALL BE PLACED ON THE EXTERIOR OF THE PROPOSED BUILDING. CONTRACTOR SHALL CONTACT THE WASHTENAW COUNTY SHERIFF'S OFFICE FOR SPECIFIC REQUIREMENTS.
- AN UNDERGROUND IRRIGATION SYSTEM WILL BE PROVIDED FOR ALL LANDSCAPE AREAS.
- EXTERIOR SITE LIGHTING SHALL BE DIRECTED DOWNWARD AND SHIELDED AWAY FROM ADJACENT PROPERTIES.

PERMITS:

- CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM THE WASHTENAW COUNTY ROAD COMMISSION (WCRC) FOR ALL WORK IN THE JOE HALL DRIVE ROW.
- CONTRACTOR SHALL OBTAIN A DRAIN USE PERMIT FROM THE WASHTENAW COUNTY WATER RESOURCES COMMISSIONER'S OFFICE FOR STORM WATER DISCHARGE TO THE COUNTY DRAIN AT THE REAR OF THE SITE.
- WATER SYSTEM CONSTRUCTION PERMIT SHALL BE OBTAINED FROM THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE), DRINKING WATER AND MUNICIPAL ASSISTANCE DIVISION, IF REQUIRED.
- A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE OBTAINED FROM THE YPSILANTI TOWNSHIP OFFICE OF COMMUNITY STANDARDS.
- CONTRACTOR SHALL OBTAIN ELECTRICAL PERMIT AND INSPECTION FROM YPSILANTI TOWNSHIP INCIDENTAL TO THE CONTRACT.

GENERAL NOTES:

- THE SITE IMPROVEMENTS SHALL BE COMPLETED IN ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT MICHIGAN MANUAL OF TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN ALL NECESSARY TEMPORARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH PART VI OF THE CURRENT MICHIGAN MANUAL OF TRAFFIC CONTROL DEVICES. COST OF TRAFFIC MAINTENANCE AND CONTROL SHALL BE INCLUDED IN THE CONTRACT UNIT PRICES BID FOR OTHER CONTRACT ITEMS.
- ALL UTILITY TRENCHES UNDER OR WITHIN 5 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND COMPACTED TO 95% MODIFIED PROCTOR DENSITY. PIPE BEDDING AND COMPACTED SAND BACKFILL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR WATER MAIN OR SEWER.
- DEWATERING SYSTEMS USED BY THE CONTRACTOR WILL NOT BE PAID FOR SEPARATELY. PAYMENT FOR DEWATERING WILL BE INCLUDED IN THE CONTRACT UNIT PRICES BID FOR OTHER CONTRACT ITEMS.
- ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING INTEGRITY OF UTILITY POLES. COST OF SPECIAL CONSTRUCTION METHODS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICES BID FOR OTHER ITEMS.
- THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THE CONDITIONS THAT EXISTED PRIOR TO CONSTRUCTION.

REFERENCES:

- TOPOGRAPHIC SURVEY PREPARED BY JEKABSON & ASSOCIATES, P.C., JOB NO. 21-03-003 DATED JANUARY 7, 2022.

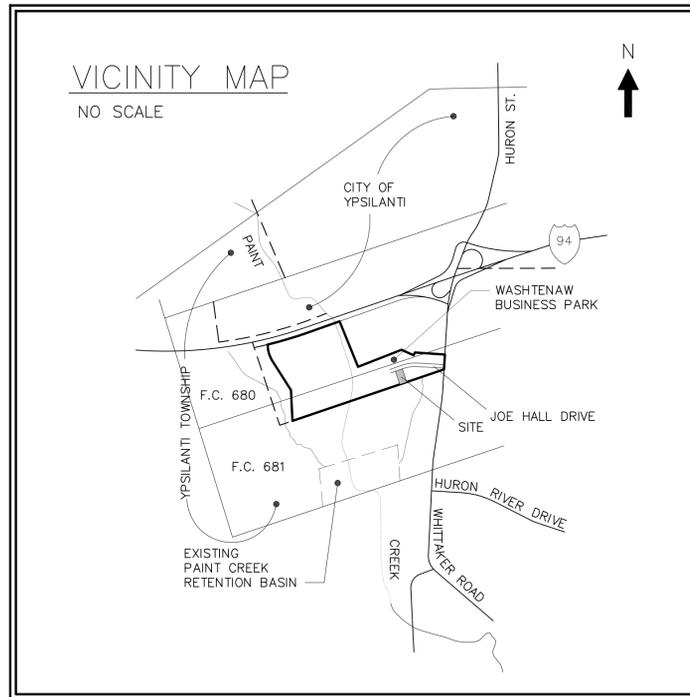
WCRC ROW NOTES:

- THE CONTRACTOR SHALL PROVIDE TWO (2) WORKING DAYS NOTICE TO THE WASHTENAW COUNTY ROAD COMMISSION (WCRC) PRIOR TO BEGINNING CONSTRUCTION.
- NO PARKING OR STORAGE OF MATERIAL OR EQUIPMENT WILL BE ALLOWED WITHIN THE WCRC RIGHT-OF-WAY.
- ALL CONSTRUCTION WARNING SIGNS SHALL BE SUPPLEMENTED WITH TWO (2) FLUORESCENT ORANGE WARNING FLAGS POSITIONED ABOVE THE SIGN. THOSE SIGNS IN USE DURING HOURS OF DARKNESS SHALL ALSO BE LIGHTED WITH TWO (2) TYPE A WARNING FLASHERS. THE PLASTIC DRUMS AND TYPE III BARRICADES SHALL HAVE ONE (1) AND THREE (3) TYPE C STEADY-BURNING WARNING LIGHTS ATTACHED, RESPECTIVELY.
- ALL TRAFFIC CONTROL DEVICES INCLUDING SIGNS, BARRICADES, PLASTIC DRUMS, AND WARNING LIGHTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- SIGNS, IF REQUIRED WITH THE TYPE III BARRICADES, SHALL BE MOUNTED ABOVE THE BARRICADES ON SEPARATE SUPPORTS.
- TRAFFIC CONTROL DEVICES ARE TO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT. NIGHT PATROLS OF THE CONSTRUCTION AREA AND DETOUR ROUTE SHALL BE CONDUCTED BY THE CONTRACTOR.
- ALL TRAFFIC CONTROL SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
- THE W20-4, W20-7a AND W20-15 SIGNS SHALL BE COVERED OR TAKEN DOWN WHEN THE FLAGGING OPERATION IS NOT BEING UTILIZED.
- THE CONTRACTOR SHALL STAKE ALL CONSTRUCTION SIGN LOCATIONS AND NOTIFY WCRC WHEN THE STAKING IS COMPLETE. THE CONTRACTOR SHALL ALLOW TWO (2) WORKING DAYS FOR WCRC TO REVIEW, ADJUST AND APPROVE THE CONSTRUCTION SIGN STAKING.
- THE CONSTRUCTION SIGN STAKES SHALL INDICATE THE TYPE (CODE) AND SIZE OF THE SIGN TO BE PLACED AT EACH LOCATION. EACH STAKE SHALL BE MARKED WITH WHITE FLAGGING RIBBON.
- TYPE III BARRICADES SHALL CONSIST OF TWELVE (12) FOOT SECTIONS.

TORTILLAS TITA

585 JOE HALL DRIVE

PART OF FRENCH CLAIMS 680 & 681, T.3S., R.7E. YPSILANTI TOWNSHIP, WASHTENAW COUNTY, MICHIGAN



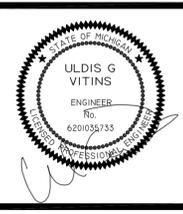
PROJECT INFORMATION	
LAND AREA GROSS & NET	1.187 ACRES
SITE ZONING	I-T, INNOVATION AND TECHNOLOGY
PARCEL NUMBER	K-11-17-363-029
PROPOSED BUILDING AREA	6,000 S.F.
PROPOSED BUILDING USE	FOOD PROCESSING
MAXIMUM LOT COVERAGE	NOT APPLICABLE
MAXIMUM BUILDING HEIGHT	40 FEET
SETBACKS FRONT SIDE REAR	20' REQUIRED 20' REQUIRED 20' REQUIRED
PARKING REQUIRED	INDUSTIAL OR RESEARCH AND ACCESSORY OFFICE
	5 SPACES + ONE SPACE FOR EACH 1 1/2 EMPLOYEES (LARGEST SHIFT) OR 1 SPACE PER 550 S.F. USEABLE FLOOR AREA
	5 + (0.8 * 6000 S.F.)/550 S.F. = 14 SPACES
SPACES PROVIDED	18 SPACES INCLUDING 1 BARRIER FREE

DRAWING INDEX	
SHEET NO.	DESCRIPTION
	ENGINEER DRAWINGS:
T-1	COVER SHEET
C-1	DIMENSIONAL SITE PLAN & LIGHTING PLAN
C-1A	TRUCK TEMPLATE SITE PLAN
C-2	PAVING PLAN
C-3	GRADING & SOIL EROSION CONTROL PLAN
C-4	UTILITY PLAN
C-5	DRAINAGE AREAS & STORMWATER MANAGEMENT CALCULATIONS
C-6	TOPOGRAPHIC SURVEY & DEMOLITION PLAN
C-7	BIORETENTION AREA DETAIL
C-8	SESC NOTES & DETAILS
C-9	CONSTRUCTION DETAILS
C-10	MDOT STANDARD DETAILS
C-11	MDOT STANDARD DETAILS
C-12	INFILTRATION BASIN EXPLORATION TEST RESULTS
L-1	LANDSCAPE PLAN
L-2	LANDSCAPE DETAILS
2 SHEETS	STORMWATER MANAGEMENT SYSTEM CALCULATIONS
2 SHEETS	YPSILANTI TOWNSHIP/YCUA DETAILS: STANDARD STORM SEWER DETAILS

OWNER	
MS. MARTHA JARAMILLO MR. FRANCISCO ALVAREZ TITA TORTILLAS 3763 COMMERCE COURT WAYNE, MICHIGAN 48184 (734) 756-7646 (PHONE)	

CIVIL ENGINEER	
VITINS ENGINEERING 44275 BRANDYWYNE CANTON, MICHIGAN 48187 (734) 453-3460 (PHONE)	

SURVEYOR	
JEKABSON & ASSOCIATES, P.C. 1320 GOLDSMITH PLYMOUTH, MICHIGAN 48170 (734) 414-7200 (PHONE) (734) 414-7272 (FAX)	

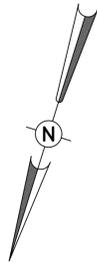


ISSUE NO.	DATE ISSUED	DESCRIPTION
1	12/2/2024	PRELIMINARY SITE PLAN
2	1/22/2025	REVISED PER TOWNSHIP REVIEW

DO NOT SCALE DRAWINGS. USE ONLY DIMENSIONS MARKED. ISSUED FOR CONSTRUCTION. VERIFY CONFIGURATIONS AND DIMENSIONS ON SITE BEFORE BEGINNING WORK. NOTIFY THE ENGINEER IMMEDIATELY OF ANY ERRORS, OMISSIONS OR DISCREPANCIES.

PROJECT TITLE	TORTILLAS TITA 585 JOE HALL DRIVE CHARTER TOWNSHIP OF YPSILANTI WASHTENAW COUNTY, MICHIGAN
SHEET NAME	COVER SHEET

PROJECT NUMBER	24010
SHEET NUMBER	T-1



SCALE: 1"=30'

ELECTRICAL NOTES

BUILDING MOUNTED LIGHT FIXTURES SHALL BE ON ONE CIRCUIT CONTROLLED BY A PHOTOCCELL MOUNTED ON THE ROOF FACING NORTH. IF NEEDED, CONTRACTOR TO PROVIDE CONTACTOR CONTROL DIAGRAM TO ENGINEER FOR APPROVAL. CONTROL CONTACTOR SHALL BE IN A NEMA-1 ENCLOSURE.

(2) #8 CONDUCTORS AND (1) #10 GND SHALL BE USED IN EACH CONDUIT RUN.

IF NEEDED, GALVANIZED RIGID CONDUIT SHALL BE USED ON EXTERIOR OF EXISTING BUILDING AND IN THE VERTICAL SECTION GOING UNDERGROUND TO PROTECT IT FROM PHYSICAL DAMAGE. THIN WALL ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION FITTINGS CAN BE UTILIZED FOR REMAINING CONDUIT RUN INSIDE PROPOSED BUILDING. ALL OPENINGS IN THE EXTERIOR WALL AND CONDUIT RUNS INSIDE THE PROPOSED BUILDING SHALL BE APPROVED BY OWNER'S ELECTRICIAN.

ELECTRICAL SPECIFICATIONS

GENERAL REQUIREMENTS:

ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL LOCAL AND STATE AUTHORITIES HAVING JURISDICTION THEREOF.

ALL EQUIPMENT SHALL BE SPECIFICATION GRADE AND AND SHALL HAVE U.L. LABEL FOR INTENDED USE.

ELECTRIC SYSTEMS SHALL BE COMPLETE IN EVERY DETAIL, INCLUDING ALL INCIDENTAL ITEMS FOR A PROPER AND FUNCTIONING INSTALLATION SUBJECT TO FINAL APPROVAL OF ENGINEER.

ALL REQUIRED PERMITS AND INSPECTIONS SHALL BE OBTAINED BY CONTRACTOR AND SUCH COSTS SHALL BE INCLUDED IN BID PRICE FOR THIS WORK.

EXAMINATION OF SITE IS MANDATORY. CONTRACTOR IS HEREBY HELD TO HAVE EXAMINED THE SITE AND HAVE INCLUDED IN HIS BID THE PRICE OF ALL COSTS DUE TO SITE AND FIELD CONDITIONS.

COMPLETE IDENTIFICATION OF PROJECT ELECTRICAL COMPONENTS IS REQUIRED. IDENTIFY ALL PANELS, DISCONNECTS, CONTROL DEVICES, ETC., WITH THE NOMENCLATURE REQUIRED USING PLASTIC LAMINATE NAMEPLATE. INSTALL TYPEWRITTEN DIRECTORIES OF ALL CIRCUITS ON INSIDE OF PANELS.

GROUND CONTINUITY SHALL BE MAINTAINED THROUGHOUT THE ELECTRICAL SYSTEM. CONSULT N.E.C. 250.94 AND .95. PROVIDE EQUIPMENT GREEN GROUND WIRE WITH EACH CIRCUIT OR HOMERUN.

PROVIDE ALL LIGHTING CONTROL DEVICES AND WIRING INCLUDING TESTING AND ADJUSTMENT AS REQUIRED FOR FULL COMPLIANCE WITH THE MICHIGAN UNIFORM ENERGY CODE (ASHRAE 90.1, 1999 AND RELATED AMENDMENTS)

ELECTRICAL EQUIPMENT AND DEVICES:

RECEPTACLES DESIGNATED "GFR" SHALL BE GROUND FAULT RECEPTACLES. FOR OUTDOOR OR WET LOCATIONS, PROVIDE WEATHERPROOF BOX AND GASKETED COVER PLATE.

CONDUCTORS:

ALL CONDUCTOR SHALL BE SOFT-DRAWN COPPER OF SIZES INDICATED ON THE DRAWINGS. ALL CONDUCTORS SHALL BE INSULATED FOR 600 VOLTS AND WITH THHN/THWN 75 DEGREES (CENTIGRADE) CODE GRADE INSULATION.

ALL CONDUCTORS SHALL BE COPPER CONDUCTOR AND SHALL HAVE THIN OR THHN INSULATION AS APPLICABLE. CONDUCTORS NO. 8 AND LARGER SHALL BE STRANDED.

DISCONNECT SWITCHES:

DISCONNECT SWITCH SHALL BE HEAVY DUTY NEMA-1 ENCLOSURE AND SERVICE RATED.

FUSES:

ALL FUSES SHALL BE CURRENT LIMITING TYPE, DUAL ELEMENT TYPE.

INSTALLATION AND METHODS OF EXECUTION:

ALL BURIED EXTERIOR WIRING SHALL BE IN PVC CONDUIT. ALL OTHER WIRING SHALL BE IN METALLIC CONDUIT. FLEXIBLE CONDUIT SHALL BE USED FOR SHORT CONNECTION TO MOTORS, RECESSED LIGHTING FIXTURES, VIBRATING EQUIPMENT, ETC., BUT NEVER LONGER THAN 6 FEET.

CONDUIT CONCEALED IN CEILING, WALLS OR FURRED SPACES OR EXPOSED IN DRY LOCATIONS SHALL BE EMT, THIN WALL ELECTRICAL METALLIC TUBING.

CONDUIT EXPOSED TO WEATHER, IN CONTACT WITH CONCRETE, BURIED IN SLAB, OR IN HAZARDOUS AREAS, SHALL BE HEAVY WALL, RIGID HOT DIPPED GALVANIZED STEEL.

ALL WORK IN HAZARDOUS LOCATIONS SHALL BE DONE IN STRICT CONFORMANCE WITH WITH NEC ARTICLE 500.

CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. EXACT ROUTING ON CONDUIT RUNS SHALL SUIT JOB CONDITIONS. EXPOSED CONDUIT SHALL BE RUN ONLY IN UNFINISHED AREAS SUBJECT TO FINAL APPROVAL OF ENGINEER AND SHALL RUN PARALLEL TO BUILDING LINES, NEVER DIAGONALLY.

CONNECTION TO EQUIPMENT SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S SHOP AND INSTALLATION DRAWINGS. REQUIREMENTS GENERALLY VARY FROM ONE MANUFACTURER TO ANOTHER AND CONTRACTOR IS BOUND TO COMPLY AND PROVIDE ALL WORK AS REQUIRED ALTHOUGH CERTAIN DISCREPANCIES MAY EXIST REGARDING THE REQUIREMENT FROM ONE MANUFACTURER TO ANOTHER.

ALL CONDUITS SHALL RUN BACK TO THEIR RESPECTIVE PANEL.

NO CONDUITS SHALL BE TERMINATED ABOVE THE CEILING.

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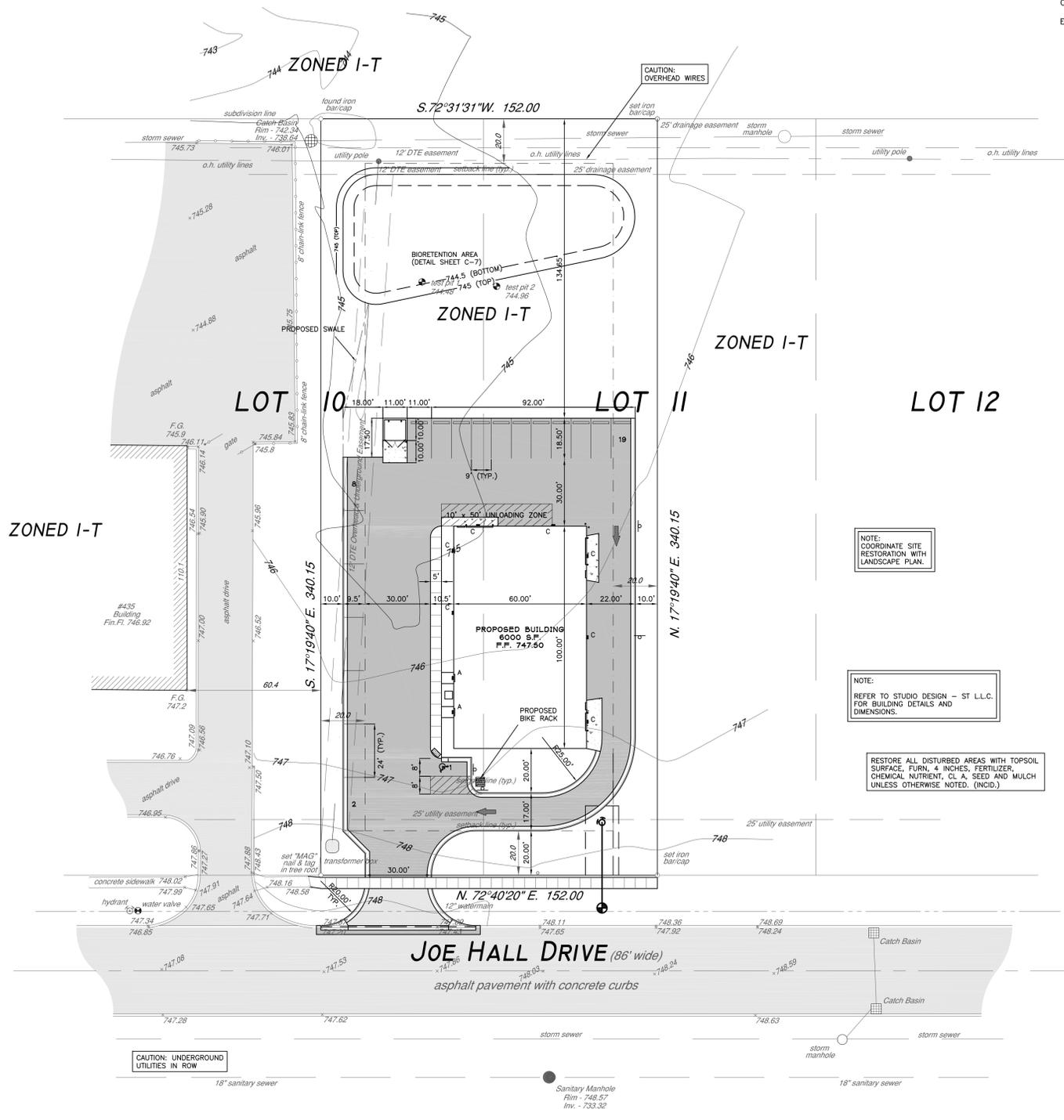
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Know what's below. Call before you dig.

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NOTE: COORDINATE SITE RESTORATION WITH LANDSCAPE PLAN.

NOTE: REFER TO STUDIO DESIGN - ST L.L.C. FOR BUILDING DETAILS AND DIMENSIONS.

RESTORE ALL DISTURBED AREAS WITH TOPSOIL SURFACE, FURN, 4 INCHES, FERTILIZER, CHEMICAL NUTRIENT, G, A, SEED AND MULCH UNLESS OTHERWISE NOTED, (INCL.)

CAUTION: UNDERGROUND UTILITIES IN ROW

CAUTION: OVERHEAD WIRES

LUMINAIRE SCHEDULE			
SYMBOL	LABEL	QTY	CATALOG NUMBER
■	A	2	LITHONIA
■	C	7	LITHONIA

SITE LIGHTING LEGEND

- LIGHT POLE - 1 HEAD
- LIGHT POLE - 2 HEAD (180°)
- LIGHT POLE - 2 HEAD (90°)
- LIGHT POLE - 4 HEAD
- BUILDING YARD LIGHT

LEGEND:

- C.B. - CATCH BASIN
- M.H. - MANHOLE
- C.O. - CLEAN OUT
- CONC. - CONCRETE
- E.S. - END SECTION
- F.P. - FLAG POLE
- O.H. - OVERHEAD
- U.G. - UNDERGROUND
- HYD. - HYDRANT
- GEN. - GENERATOR
- TRANS. - TRANSFORMER
- U.B. - UTILITY BOX
- L.P. - LIGHT POLE
- U.P. - UTILITY POLE
- B.P. - BOLLARD POST
- W.G. - WATER GATE
- W.S. - WATER STOP
- W.V. - WATER VALVE
- LINE BREAK
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- LIGHT POLE
- UTILITY POLE
- SIGN
- FOUND IRON PIPE
- FOUND STEEL BAR
- SET STEEL BAR
- SET RIVET IN CONCRETE
- 43,560 SQUARE FEET
- RECORDED
- MEASURED
- CALCULATED
- EXISTING ELEVATION
- PROPOSED ELEVATION
- DRAINAGE COURSE
- TO BE REMOVED

BENCHMARK DATA

BENCHMARK NO. 1
 ARROW ON HYDRANT ABOUT 86° EAST OF NORTHEAST CORNER OF SITE.
 ELEVATION = 749.52 (NAVD88)
 BENCHMARK NO. 2
 NORTH RIM ON SANITARY MANHOLE NORTH OF JOE HALL DRIVE ABOUT 48' FROM CENTERLINE OF ROAD.
 ELEVATION = 748.57 (NAVD88)

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STATE OF MICHIGAN
ULDIS G VITINS
 ENGINEER
 No. 6201055733

VITINS ENGINEERING
 Civil/Environmental Engineering
 Municipal Consulting
 Software Development

ISSUE NO.	DATE ISSUED	DESCRIPTION
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TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN

PROJECT TITLE

DIMENSIONAL SITE PLAN & LIGHTING PLAN

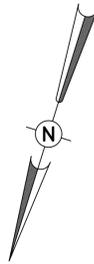
SHEET NAME

PROJECT NUMBER

24010

SHEET NUMBER

C-1

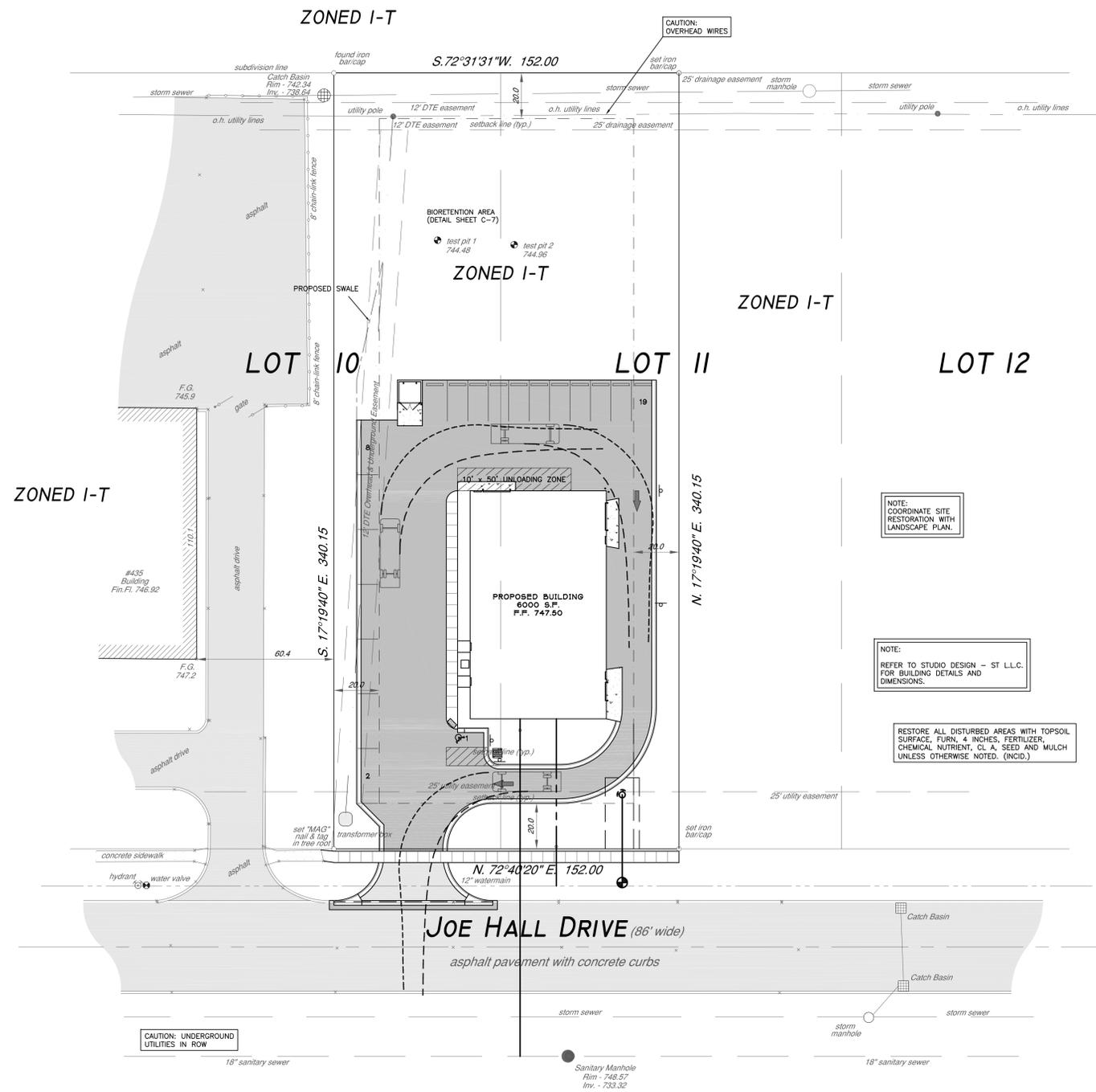
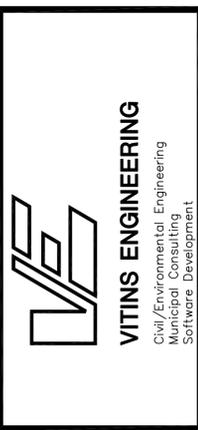
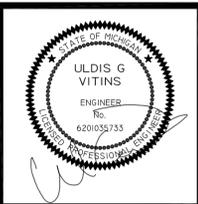


BENCHMARK DATA

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 NORTHEAST CORNER OF SITE.
 ELEVATION = 749.52 (NAVD88)
 BENCHMARK NO. 2
 NORTH RIM ON SANITARY MANHOLE NORTH OF
 JOE HALL DRIVE ABOUT 48' FROM CENTERLINE
 OF ROAD.
 ELEVATION = 748.57 (NAVD88)

SCALE: 1"=30'

- VEHICLE TURNING TEMPLATE NOTES:
- DESIGN VEHICLE SHOWN ON THIS SHEET IS A SINGLE UNIT (SU) TRUCK WITH AN OVERALL LENGTH OF 30 FEET, WHEELBASE OF 20 FEET, FRONT OVERHANG OF 4 FEET, REAR OVERHANG OF 6 FEET, OVERALL WIDTH OF 8.5 FEET AND A HEIGHT OF 13.5 FEET. SINGLE UNIT TRUCK HAS A 42 FOOT MINIMUM TURNING RADIUS. 90 DEGREE TURNS ARE ILLUSTRATED. OTHER TURNS WOULD CONTINUE AT THE SAME RADIUS.
 - MOST DELIVERIES WILL BE WITH VANS. SEMI-TRAILER TRUCKS (WB-50 AND WB-60) WILL NOT BE MAKING DELIVERIES TO THIS FACILITY.
 - GARBAGE TRUCKS WOULD HAVE A SIMILAR OR SMALLER MINIMUM TURNING RADIUS THAN THE DESIGN VEHICLE. OWNER SHALL CONTACT WASTE HAULING COMPANY FOR CONFIRMATION.



NOTE:
 COORDINATE SITE RESTORATION WITH LANDSCAPE PLAN.

NOTE:
 REFER TO STUDIO DESIGN - ST L.L.C. FOR BUILDING DETAILS AND DIMENSIONS.

RESTORE ALL DISTURBED AREAS WITH TOPSOIL SURFACE, FURN, 4 INCHES, FERTILIZER, CHEMICAL NUTRIENT, G, A, SEED AND MULCH UNLESS OTHERWISE NOTED, (INCID.)

CAUTION: UNDERGROUND UTILITIES IN ROW

CAUTION: OVERHEAD WIRES

LEGEND:

- | | |
|----------------------|-----------------------------|
| C.B. - CATCH BASIN | - LINE BREAK |
| M.H. - MANHOLE | - ASPHALT PAVEMENT |
| C.O. - CLEAN OUT | - CONCRETE PAVEMENT |
| CONC. - CONCRETE | - LIGHT POLE |
| E.S. - END SECTION | - UTILITY POLE |
| F.P. - FLAG POLE | - SIGN |
| O.H. - OVERHEAD | FIP - FOUND IRON PIPE |
| U.G. - UNDERGROUND | FSB - FOUND STEEL BAR |
| HYD. - HYDRANT | SSB - SET STEEL BAR |
| GEN. - GENERATOR | SRC - SET RIVET IN CONCRETE |
| TRANS. - TRANSFORMER | 1 ACRE - 43,560 SQUARE FEET |
| U.B. - UTILITY BOX | R - RECORDED |
| L.P. - LIGHT POLE | M - MEASURED |
| U.P. - UTILITY POLE | C - CALCULATED |
| B.P. - BOLLARD POST | 0.000 - EXISTING ELEVATION |
| W.G. - WATER GATE | 0.000 - PROPOSED ELEVATION |
| W.S. - WATER STOP | - - - DRAINAGE COURSE |
| W.V. - WATER VALVE | (TBR) - TO BE REMOVED |

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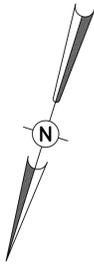
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PROJECT TITLE
TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN

SHEET NAME
SITE PLAN
TRUCK TEMPLATE

PROJECT NUMBER
24010

SHEET NUMBER
C-1A



SCALE: 1" = 30'

SITE GRADING NOTES:

- REMOVING AND SALVAGING TOPSOIL FROM BIORETENTION AREAS AND INSIDE INFLUENCE OF PROPOSED PAVEMENT PER MDOT 205.034 SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER ITEMS. TOPSOIL SHALL BE STOCKPILED IN UPLAND AREAS.
- PREPARATION OF EARTH GRADE, EXCEPT FOR SUBGRADE UNDERCUTTING, INSIDE INFLUENCE OF PROPOSED PAVEMENT SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR OTHER PAVEMENT ITEMS. EXCESS MATERIAL FROM EARTH EXCAVATION SHALL BE DISPOSED OF IN UPLAND AREAS INCIDENTAL TO THE UNIT PRICE BID FOR OTHER ITEMS.
- DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL SURFACE, FURN, 4", FERTILIZER, CHEMICAL NUTRIENT, CL A, SEED AND MULCH INCIDENTAL TO THE CONTRACT.
- OWNER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PARCELS WHICH ARE THE RESULT OF THE OWNERS ACTIVITIES.
- REFER TO SHEET C-10, MOOT DETAIL R-29-1 FOR TRANSVERSE SIDEWALK SLOPES AND SIDEWALK CROSS-SECTION. BACK OF WALK GRADES ARE AS NOTED ON THIS SHEET.

MAINTENANCE TASKS AND SCHEDULE DURING CONSTRUCTION

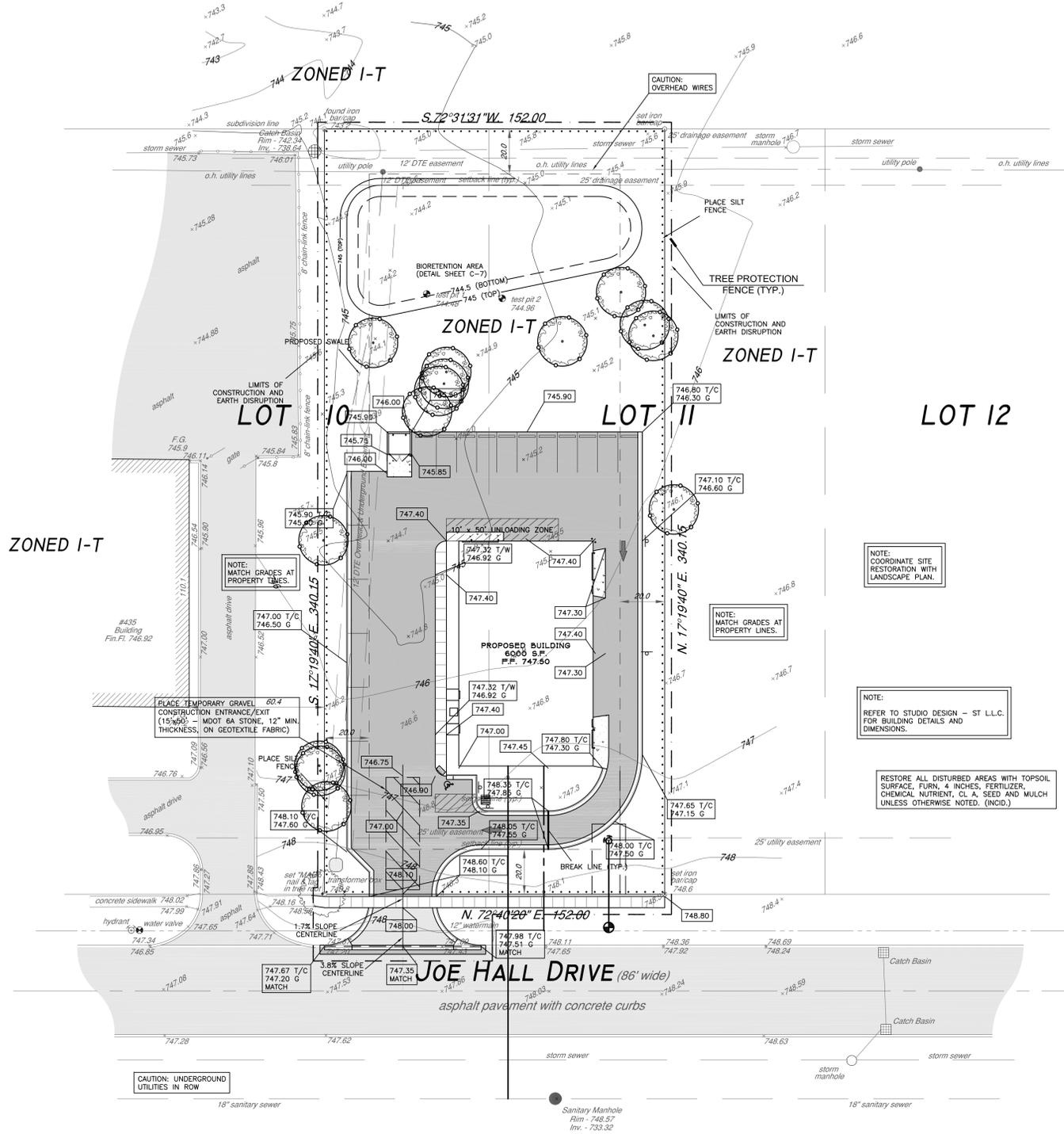
TASKS:	COMPONENTS:					SCHEDULE:
	CONCRETE	ASPHALT	LANDSCAPE	BIORETENTION	BIODIVERSITY	
Inspect for sediment accumulation		X	X	X	X	Daily and within 24 hours of a storm
Removal of sediment accumulation		X	X	X	X	As needed
Inspect for floatables and debris		X	X	X	X	Monthly
Cleaning of floatables and debris		X	X	X	X	Monthly
Inspect for erosion		X	X	X	X	Daily and within 24 hours of a storm
Reestablish vegetation on eroded slopes		X	X	X	X	Daily and within 24 hours of a storm
Clear parking areas and access drives				X		Refer to schedule this sheet
Mow/mop		X				As needed

SESC NOTES:

- PROPERTY OWNER, TORTILLAS TITA, IS RESPONSIBLE FOR MAINTAINING TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES.
- THE OWNER/CONTRACTOR IS RESPONSIBLE FOR KEEPING JOE HALL DRIVE FREE OF MUD AND DIRT AT ALL TIMES DURING CONSTRUCTION ACTIVITIES FOR THIS PROJECT.
- CONSTRUCTION ENTRANCE/EXIT IS TO BE MAINTAINED BY THE OWNER/CONTRACTOR UNTIL SITE PAVING HAS BEEN COMPLETED.

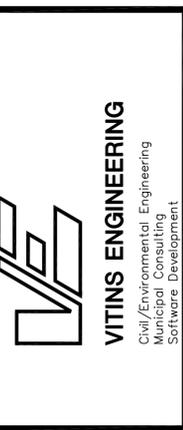
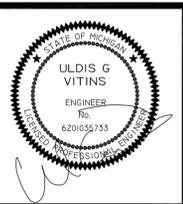
SOIL EROSION CONTROL SEQUENCE OF CONSTRUCTION SCHEDULE

- Install temporary gravel construction entrance/exit (Day 1) Spring 2025
- Install silt fence prior to earthwork activity (Day 1) (Detail Sheet C-8) Spring 2025
- Install geotextile filter fabric on existing catch basins and inlets as noted on drawings (Day 1) Spring 2025
- Strip and stockpile topsoil, grade and balance as required. Stabilize ditches, swales, and other areas that will channel concentrated flow within 5 days of final grade. Summer 2025
- Install storm water management system. Road right of ways shall be stabilized within 5 days of completing work on the right of way. Install geotextile filter fabric on all catch basins and inlets. Summer 2025
- Place curb and gutter, and install pavement complete. Summer 2025
- Install landscaping. Stabilize all exposed earth with seed and mulch within 5 day of final grade. Fall 2025
- Remove silt fence and catch basin and inlet filters following Ypsilanti Township approval. Fall 2025



BENCHMARK DATA

BENCHMARK NO. 1
 ARROW ON HYDRANT ABOUT 86' EAST OF NORTHEAST CORNER OF SITE.
 ELEVATION = 749.52 (NAVD88)
 BENCHMARK NO. 2
 NORTH RIM ON SANITARY MANHOLE NORTH OF JOE HALL DRIVE ABOUT 48' FROM CENTERLINE OF ROAD.
 ELEVATION = 748.57 (NAVD88)



ISSUE NO.	DATE ISSUED	DESCRIPTION
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TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN

GRADING & SOIL EROSION CONTROL PLAN

PROJECT NUMBER: **24010**

SHEET NUMBER: **C-3**

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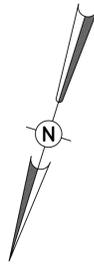


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	STREET SWEEPING SCHEDULE						
	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SCRAPE STREETS		X	X	X	X	X	X
SWEEP STREETS				X			

- LEGEND**
- 000.00 = EXISTING ELEV.
 - 000.00 = PROPOSED ELEV.
 - = PROPOSED SILT FENCE
 - = PROPOSED INLET FILTER
- Soils:**
 Oshkema loamy sand (OsB), 0 to 6 percent slopes
 Hydrologic Soil Group (B)

- LEGEND:**
- C.B. - CATCH BASIN
 - M.H. - MANHOLE
 - C.O. - CLEAN OUT
 - CONC. - CONCRETE
 - E.S. - END SECTION
 - F.P. - FLAG POLE
 - O.H. - OVERHEAD
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 - W.G. - WATER GATE
 - W.S. - WATER STOP
 - W.V. - WATER VALVE
- LINE BREAK
 - ASPHALT PAVEMENT
 - CONCRETE PAVEMENT
 - LIGHT POLE
 - UTILITY POLE
 - SIGN
 - FOUND IRON PIPE
 - FOUND STEEL BAR
 - SET STEEL BAR
 - SET RIVET IN CONCRETE
 - 43,560 SQUARE FEET
 - RECORDED
 - MEASURED
 - CALCULATED
 - EXISTING ELEVATION
 - PROPOSED ELEVATION
 - DRAINAGE COURSE
 - TO BE REMOVED



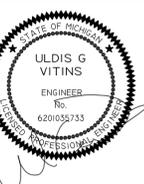
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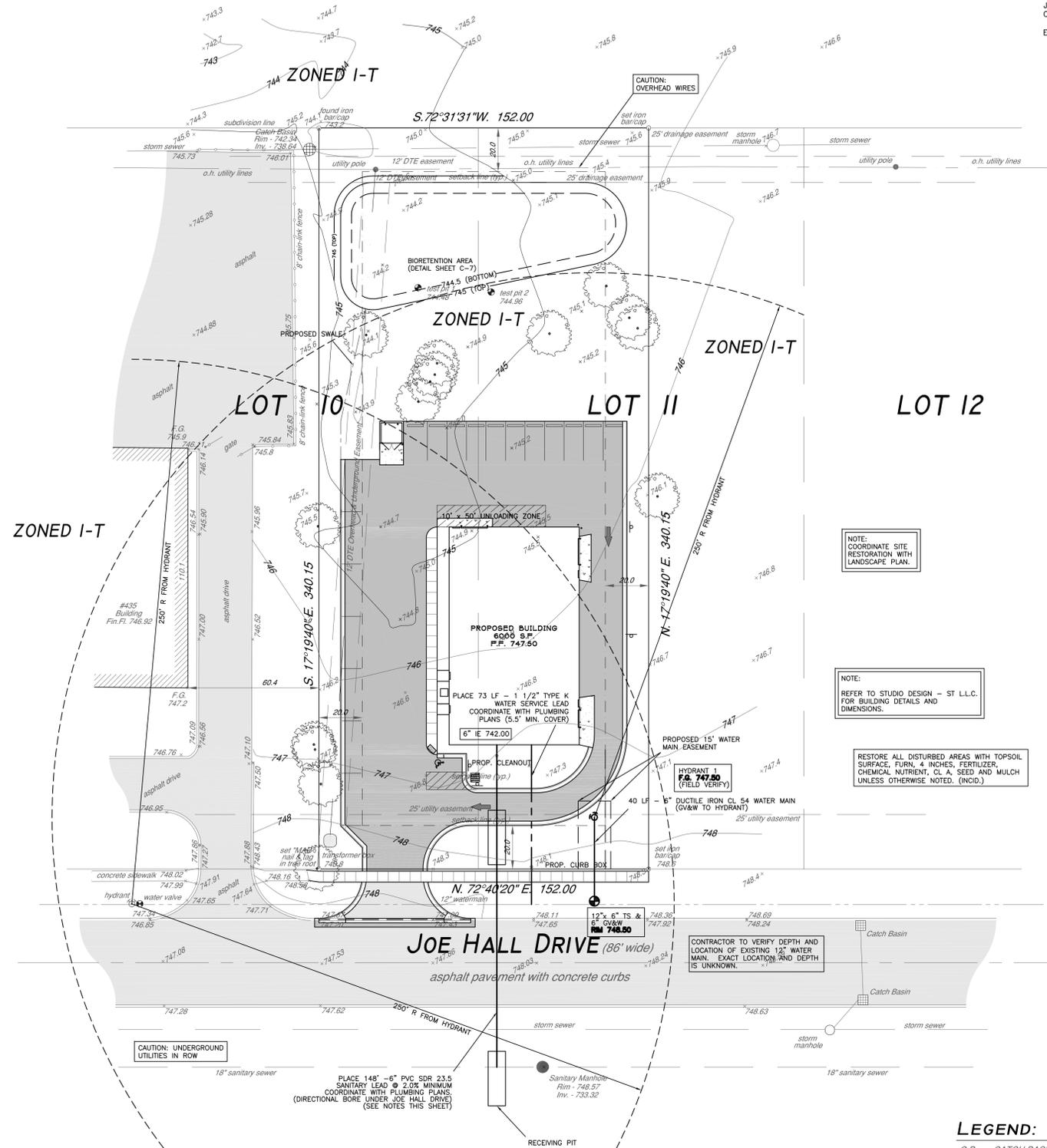
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 JOE HALL DRIVE ABOUT 48' FROM CENTERLINE
 OF ROAD.
 ELEVATION = 748.57 (NAVD88)



VITINS ENGINEERING
 44275 BRANDYWINE
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VITINS ENGINEERING
 Civil/Environmental Engineering
 Municipal Consulting
 Software Development



NOTE:
 COORDINATE SITE
 RESTORATION WITH
 LANDSCAPE PLAN.

NOTE:
 REFER TO STUDIO DESIGN - ST L.L.C.
 FOR BUILDING DETAILS AND
 DIMENSIONS.

RESTORE ALL DISTURBED AREAS WITH TOPSOIL
 SURFACE, FURN. 4 INCHES, FERTILIZER,
 CHEMICAL NUTRIENT, G. A. SEED AND MULCH
 UNLESS OTHERWISE NOTED. (INCL.)

CONTRACTOR TO VERIFY DEPTH AND
 LOCATION OF EXISTING 12\"/>

LEGEND:

- | | |
|----------------------|-----------------------------|
| C.B. - CATCH BASIN | - LINE BREAK |
| M.H. - MANHOLE | - ASPHALT PAVEMENT |
| C.O. - CLEAN OUT | - CONCRETE PAVEMENT |
| CONC. - CONCRETE | - LIGHT POLE |
| E.S. - END SECTION | - UTILITY POLE |
| F.P. - FLAG POLE | - SIGN |
| O.H. - OVERHEAD | FIP - FOUND IRON PIPE |
| U.G. - UNDERGROUND | FSB - FOUND STEEL BAR |
| HYD. - HYDRANT | SSB - SET STEEL BAR |
| GEN. - GENERATOR | SRC - SET RIVET IN CONCRETE |
| TRANS. - TRANSFORMER | 1 ACRE - 43,560 SQUARE FEET |
| U.B. - UTILITY BOX | R - RECORDED |
| L.P. - LIGHT POLE | M - MEASURED |
| U.P. - UTILITY POLE | C - CALCULATED |
| B.P. - BOLLARD POST | 0.000 - EXISTING ELEVATION |
| W.G. - WATER GATE | 0.000 - PROPOSED ELEVATION |
| W.S. - WATER STOP | - DRAINAGE COURSE |
| W.V. - WATER VALVE | (TBR) - TO BE REMOVED |

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2	1/22/2025	REVISED PER TOWNSHIP REVIEW

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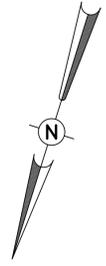
TORTILLAS TITA
 585 JOE HALL DRIVE
 CHARTER TOWNSHIP OF YPSILANTI
 WASHTENAW COUNTY, MICHIGAN

UTILITY PLAN

SHEET NAME

PROJECT NUMBER
24010

SHEET NUMBER
C-4



STORMWATER MANAGEMENT SYSTEM NARRATIVE:

STORMWATER RUNOFF FROM PAVEMENT AREAS, BUILDING ROOF, AND LANDSCAPE AREAS WILL SHEET FLOW TO THE PROPOSED BIORETENTION AREAS. FOR STORMS EXCEEDING A 100 YEAR INTENSITY, STORM WATER RUNOFF WILL OVERFLOW INTO THE WASHTENAW BUSINESS PARK STORM SEWER SYSTEM OR FLOW OVERLAND AT THE SOUTHEAST CORNER OF THE SITE TOWARD THE SEAWAY RIGHT-OF-WAY.

STORMWATER OUTLET IS AN EXISTING 18" STORM SEWER ALONG THE SOUTHERLY PROPERTY LINE. THE 18" STORM SEWER IS THE JOE HALL PARK DETENTION POND OUTLET SEWER UNDER THE WASHTENAW COUNTY DRAIN COMMISSIONER'S JURISDICTION. THE DETENTION POND IS LOCATED IN THE WASHTENAW BUSINESS PARK JOE HALL PARK (PUBLIC) OUTLOT.

SCALE: 1" = 30'

STORMWATER MANAGEMENT CALCULATIONS (May 15, 2000 Rules)

Existing Detention Volume Provided in SE Basin (Refer to Reference Drawings Sheet C5.0 and Sheet C5.1)

Lot 10 Area: 1.061 acres
Composite Runoff Coefficient C:
C = 0.66

Detention Volume Provided in SE Basin (100 year storm)

Qa = (15 cfs/acre)(1.061 acres) = 0.16 cfs (Allowable release rate)

Qo = 0.16/1.061/0.66 = .228 cfs/acre imperviousness

T = -25 + Sqrt(10,312.5/.228) = 188 minutes

Vs = 16,500(188)/(188 + 25) - 40(.228)188 = 12,848 cubic feet/acre imperviousness

Vt = (12,848)(1.061)(0.66) = 8,998 cubic feet

ALTERNATE STORMWATER MANAGEMENT CALCULATION (Refer to Reference Drawings Sheet C5.0 and Sheet C5.1)

Pond Volume Provided for 34.67 Acre Drainage Area = 296,306 cubic feet (Per 9/98 Topographic Survey)

Vt = (296,305)(1.061/34.67) = 9,006 cubic feet

Use 9,000 cubic feet for Existing Detention Volume Provided in SE Basin.

SOUTH INFILTRATION AREA (TP-1)		
SURFACE STORAGE ELEVATION (FEET)	SURFACE STORAGE AREA (SF)	SURFACE STORAGE VOLUME (CF)
745.00	6,100	2,653
744.50	4,315	
5,307 (AVE. AREA)		
STONE STORAGE VOLUME = (BOTTOM AREA)(DEPTH)(VOID RATIO)		
STONE STORAGE VOLUME = (4,315 SF)(0.5 FT)(0.30) = 647 CF		
INFILTRATION VOLUME DURING STORM		
VOLUME = (AVE. AREA)(INF. RATE)(DURATION)(1 FT/12 INCHES)		
VOLUME = (5,307 SF)(1.56 IN/HR)(6 HR)(1 FT/12 IN) = 4,139 CF (INFILTRATION RATES REFER TO SHEET C-12)		
TOTAL VOLUME = 2,653 CF + 647 CF + 4,139 CF = 7,439 CF		

DETENTION AND INFILTRATION SUMMARY	
DETENTION PROVIDED IN SE BASIN:	9,000 CF
MINIMUM ON-SITE INFILTRATION REQUIREMENT:	4,000 CF
INFILTRATION VOLUME PROVIDED:	4,139 CF (103%)
TOTAL REQUIRED DETENTION VOLUME:	12,585 CF
TOTAL DETENTION VOLUME PROVIDED:	7,439 CF + 9,000 = 16,439 CF

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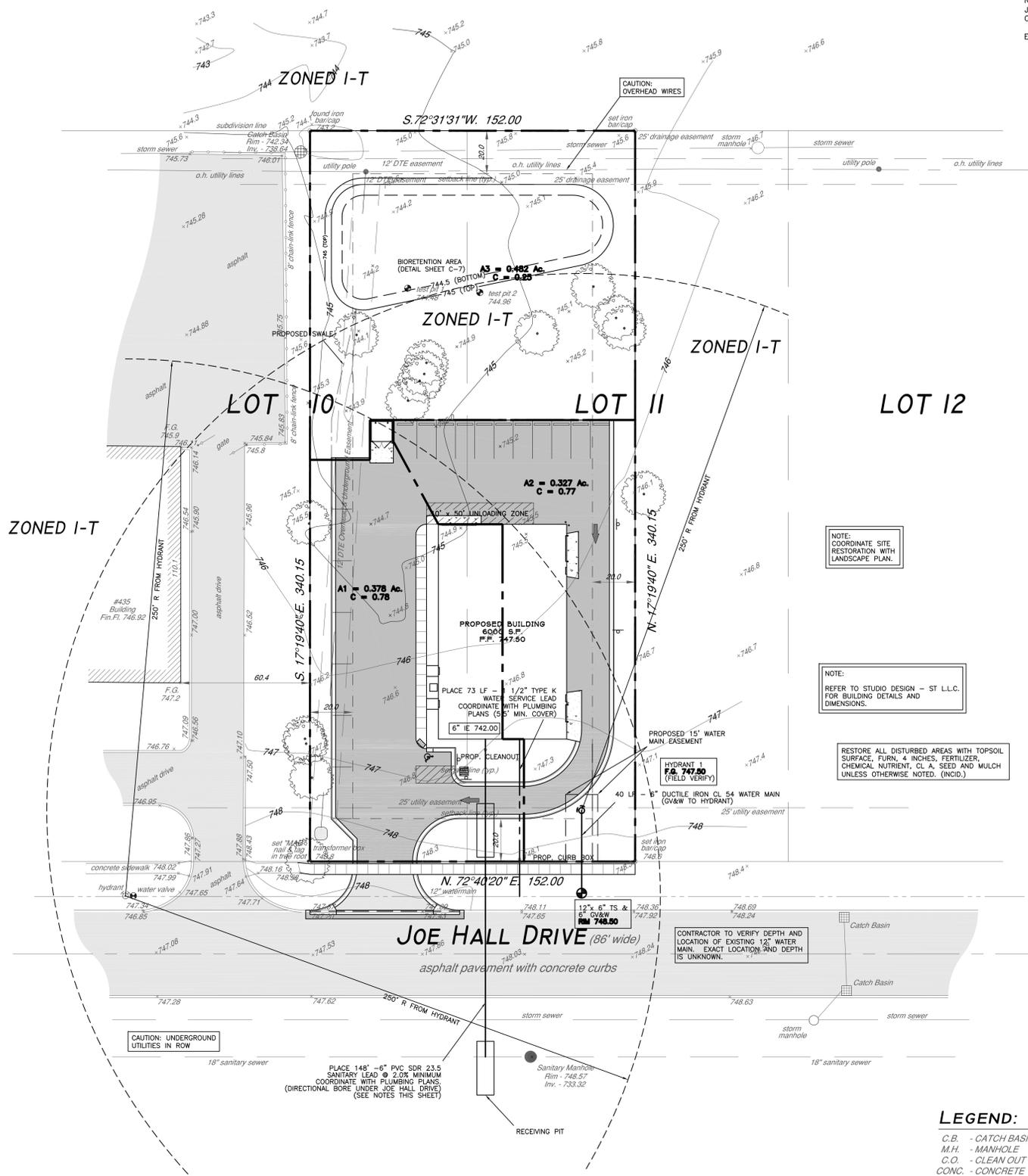
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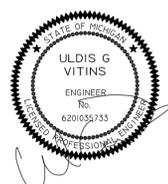
CONTRACTOR TO VERIFY DEPTH AND LOCATION OF EXISTING 12" WATER MAIN. EXACT LOCATION AND DEPTH IS UNKNOWN.

LEGEND:

- C.B. - CATCH BASIN
 - M.H. - MANHOLE
 - C.O. - CLEAN OUT
 - CONC. - CONCRETE
 - E.S. - END SECTION
 - F.P. - FLAG POLE
 - O.H. - OVERHEAD
 - U.G. - UNDERGROUND
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 - W.S. - WATER STOP
 - W.V. - WATER VALVE
- LINE BREAK
 - ASPHALT PAVEMENT
 - CONCRETE PAVEMENT
 - LIGHT POLE
 - UTILITY POLE
 - SIGN
 - FOUND IRON PIPE
 - FOUND STEEL BAR
 - SET STEEL BAR
 - SET RIVET IN CONCRETE
 - 1 ACRE - 43,560 SQUARE FEET
 - R - RECORDED
 - M - MEASURED
 - C - CALCULATED
 - 0.000 - EXISTING ELEVATION
 - 0.000 - PROPOSED ELEVATION
 - DRAINAGE COURSE
 - (TBR) - TO BE REMOVED

BENCHMARK DATA

BENCHMARK NO. 1
ARROW ON HYDRANT ABOUT 86' EAST OF NORTHEAST CORNER OF SITE.
ELEVATION = 749.52 (NAVD88)
BENCHMARK NO. 2
NORTH RIM ON SANITARY MANHOLE NORTH OF JOE HALL DRIVE ABOUT 48' FROM CENTERLINE OF ROAD.
ELEVATION = 748.57 (NAVD88)



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TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN
SHEET NAME: DRAINAGE AREAS & STORMWATER MANAGEMENT CALCULATIONS

PROJECT NUMBER
24010
SHEET NUMBER
C-5



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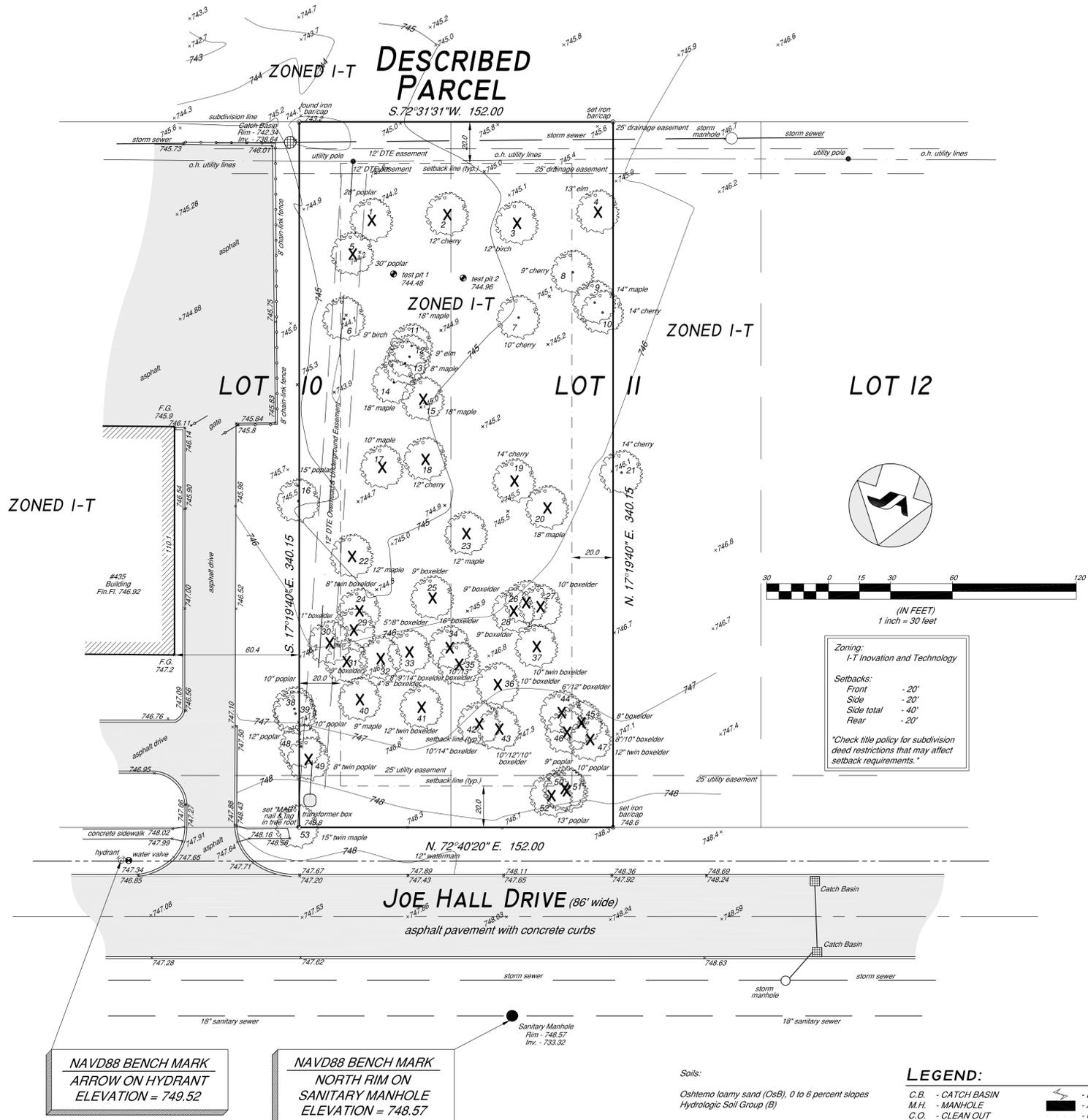
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585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
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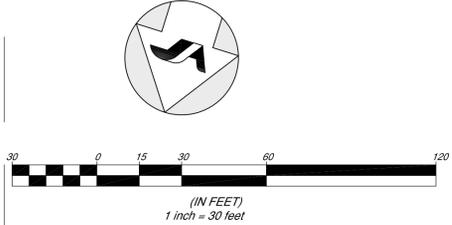
TOPOGRAPHIC SURVEY & DEMOLITION PLAN

PROJECT NUMBER
24010

SHEET NUMBER
C-6



NO	SCIENTIFIC NAME	COMMON NAME	DBH	NOTES
1	Populus	Poplar	28	
2	Prunus serotina	Cherry	12	
3	Betula	Birch	12	
4	Ulmus sp.	Elm	13	
5	Populus	Poplar	30	
6	Betula	Birch	9	
7	Prunus serotina	Cherry	10	
8	Prunus serotina	Cherry	9	
9	Acer	Maple	14	
10	Prunus serotina	Cherry	14	
11	Acer	Maple	18	
12	Ulmus sp.	Elm	9	
13	Acer	Maple	8	
14	Acer	Maple	18	
15	Acer	Maple	18	
16	Populus	Poplar	15	
17	Acer	Maple	10	
18	Prunus serotina	Cherry	12	
19	Prunus serotina	Cherry	14	
20	Acer	Maple	18	
21	Prunus serotina	Cherry	14	
22	Acer	Maple	12	
23	Acer	Maple	12	
24	Acer negundo	Box Elder	8/8	Multi Trunk (2)
25	Acer negundo	Box Elder	9	
26	Acer negundo	Box Elder	9	
27	Acer negundo	Box Elder	10	
28	Acer negundo	Box Elder	9	
29	Acer negundo	Box Elder	5/8	Multi Trunk (2)
30	Acer negundo	Box Elder	11	
31	Acer negundo	Box Elder	9	
32	Acer negundo	Box Elder	4/8	Multi Trunk (2)
33	Acer negundo	Box Elder	8/9/14	Multi Trunk (3)
34	Acer negundo	Box Elder	16	
35	Acer negundo	Box Elder	10/16	Multi Trunk (2)
36	Acer negundo	Box Elder	10	
37	Acer negundo	Box Elder	10/10	Multi Trunk (2)
38	Populus	Poplar	10	
39	Populus	Poplar	10	
40	Acer	Maple	9	
41	Acer negundo	Box Elder	12/12	Multi Trunk (2)
42	Acer negundo	Box Elder	10/14	Multi Trunk (2)
43	Acer negundo	Box Elder	10/12/10	Multi Trunk (3)
44	Acer negundo	Box Elder	6/12	Multi Trunk (2)
45	Acer negundo	Box Elder	8	
46	Acer negundo	Box Elder	8/12	Multi Trunk (2)
47	Acer negundo	Box Elder	12/12	Multi Trunk (2)
48	Populus	Poplar	12	
49	Populus	Poplar	8/8	Multi Trunk (2)
50	Populus	Poplar	9	
51	Populus	Poplar	10	
52	Populus	Poplar	13	
52	Acer	Maple	15/15	Multi Trunk (2)



Zoning:
I-T Innovation and Technology

Setbacks:
Front - 20'
Side - 20'
Side total - 40'
Rear - 20'

Check title policy for subdivision deed restrictions that may affect setback requirements.

NAVD88 BENCH MARK
ARROW ON HYDRANT
ELEVATION = 749.52

NAVD88 BENCH MARK
NORTH RIM ON
SANITARY MANHOLE
ELEVATION = 748.57

Soils:
Oshkemo loamy sand (OsB), 0 to 6 percent slopes
Hydrologic Soil Group (B)

LEGEND:

C.B. - CATCH BASIN	— LINE BREAK
M.H. - MANHOLE	— ASPHALT PAVEMENT
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CONC. - CONCRETE	— LIGHT POLE
E.S. - END SECTION	— UTILITY POLE
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GEN. - GENERATOR	SRC - SET RIVET IN CONCRETE
TRANS. - TRANSFORMER	1 ACRE - 43,560 SQUARE FEET
U.B. - UTILITY BOX	R - RECORDED
L.P. - LIGHT POLE	M - MEASURED
U.P. - UTILITY POLE	C - CALCULATED
B.P. - BOLLARD POST	0.000 - EXISTING ELEVATION
W.G. - WATER GATE	0.000 - PROPOSED ELEVATION
W.S. - WATER STOP	— DRAINAGE COURSE
W.V. - WATER VALVE	(TBR) - TO BE REMOVED

NOTE KEY
X TREE TO BE REMOVED

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Bioretention Area Notes:

Planting Soil: Planting soil mix shall consist of 1 part composted or organic peat and 2 parts sandy loam topsoil. Planting soil should have a sandy loam, loamy sand, or loam texture per USDA textural triangle. Maximum clay content is <5%. The soil mixture should have pH between 5.5 and 6.5 with an organic content of 1.5- 3.0 %. The soil mixture should have an infiltration rate greater than 0.5 in/hour. The soil should be a uniform mix, free of stones, stumps, roots, or other similar objects larger than two inches. No other materials or substances should be mixed or dumped within the bioretention that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil should be free of Bermuda Grass, Quackgrass, Johnson Grass, Mugwort, Nutsedge, Poison Ivy, Canadian Thistle, Tearthumb, or other noxious weeds.

Sand: Sand should be clean and free of deleterious materials. For planting soil, MDOT Class II clean sand is recommended.

Mulch: Mulch should consist of leaf compost or shredded hardwood per WCWRC specifications. Avoid wood chips. Grass clippings are unsuitable for mulch, primarily due to the excessive quantities of nitrogen built up in the materials.

Geotextile fabric: Geotextile fabric should maintain a flow rate of 125 GPM per square foot. MDOT specifications are recommended (Table 910-1).

Aggregate, 6A: 6A stone per MDOT standards.

Bioretention Area Construction:

Construction traffic over bioretention areas should be avoided.

The area surrounding the bioretention areas should be stabilized prior to construction of the bioretention areas to minimize compaction and contamination of the bioretention site.

Placement of the planting soil in the bioretention area should be in lifts of 12 to 18 inches and lightly compacted. Minimal compaction effort can be applied to the soil by tamping with a bucket from a dozer or backhoe. Do not use heavy equipment within the bioretention facility. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

Compaction will significantly contribute to design failure. Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to re-fracture the soil profile through the 12-inch compaction zone. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before back filling the facility. Pump any ponded water before preparing (rototilling) base.

In order to speed up the *natural* compaction process, presoaking the placed soil may be performed. Significant settlement can occur after the first presoak, and additional settlement may occur subsequent to the initial wetting. If time and construction scheduling permits, it is preferable to allow natural settlement to occur with the help of rain events to presoak the soil medium.

Bioretention Area Maintenance:

Proper maintenance will not only increase the expected life span of the facility, but will also improve aesthetics. Annual maintenance of plant material, soil layer and the mulch layer is required for the overall success of bioretention systems.

Mulch should be re-applied once every six months, to maximize nitrogen uptake by the facility and to help control growth of unwanted plants. The mulch layer should be removed and replaced every 2 years.

Mulch should be uniformly applied approximately 2 to 3 inches in depth. Piling mulch around the base of the tree is not recommended as the tree may become infested with pests and diseases. Mulch applied any deeper than three inches reduces proper oxygen and carbon dioxide cycling between the soil and the atmosphere, and keeps roots from making good contact with the soil.

Soils begin filtering pollutants immediately but can lose their ability to function in this capacity over time. Evaluation of soil fertility is important in maintaining an effective bioretention system. It is recommended that soils be tested annually and replaced when soil fertility is lost. Depending on environmental factors, this usually occurs within 5-10 years of construction.

As with any garden, bioretention requires weeding to control growth of unwanted plants that can be invasive, consuming the intended planting, and destroying the aesthetic appeal. Weeding should be accomplished routinely and at least monthly.

Water in the facility should infiltrate the system within 4-6 hours or less. Clogging or blockage of either the surface layer or fines obstructing the filter fabric used between the gravel bed/underdrain and the surrounding planting soil usually causes pooling water. Including a clean out pipe in the underdrain system will provide access for cleaning the system. Removing the mulch layer and raking the surface may correct the surface blockage problem. For blocked filter fabric, use lengths of small reinforcing bar (e.g., 2-3 ft of #4 rebar) to puncture the fabric with holes every 1-foot on center. If the soils themselves are causing the problem, punch holes in the soil or optionally, install a "sand window" at least 1 foot wide running vertically to the underdrain system elevation.

If plants wilt during the heat of the day, but recover in the evening, watering is not necessary. The plants are simply conserving moisture. If they do not recover, watering is indicated. Another good rule of thumb is to stick a pencil or screwdriver about four inches into the soil. If the soil is moist at that depth, watering is not needed. If the soil is dry, and the shrubs or trees were planted within the last three years, watering is necessary.

If any of the plants do not perform well, become diseased or die, they should be replaced.

For trimming and harvesting, the current practice is to leave ornamental grasses and perennial seed heads standing to provide winter interest, wildlife forage, and homes for beneficial insects. Plants should not be cut back until spring when new growth commences, and even then it is only done for neatness; it does not impact growth. Plants may be pinched, pruned, sheared or deadheaded during the growing season to encourage more flowering, a bushier plant, or a fresh set of leaves. Diseased or damaged plant parts should be pruned as they occur. If a plant is pest-infested, perform cleanup in fall to deny the pest a winter home. Trees and shrubs may be pruned for shape or to maximize fruit production.

The properly designed bioretention area should thrive and allow planting materials to expand and propagate, eventually becoming overcrowded. If this occurs, perennial plants should be divided in spring or fall.

Chemicals are not allowed in the bioretention areas / stormwater features or buffer zones. However, invasive species may be treated with chemicals by a certified applicator.

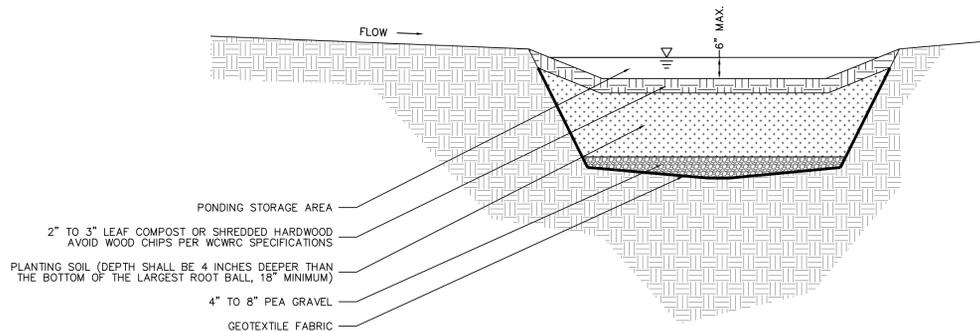
Mowing of buffer zones is allowed only twice per year.

By design, bioretention facilities are located in areas where nutrients (especially nitrogen) are significantly elevated above natural levels. Fertilization in such areas usually is unnecessary, because it is unlikely that soil fertility will be the limiting factor in plant growth. If soil fertility is in doubt, a simple soil test can resolve the question. If fertilization should become necessary, an organic fertilizer will provide nutrients as needed without disrupting soil life.

Runoff flowing into bioretention facilities may carry trash and debris with it, particularly in commercial settings. Trash and debris should be removed regularly both to ensure that inlets do not become blocked and to keep the area from becoming unsightly.

PROPOSED BIORETENTION AREA

NOT TO SCALE



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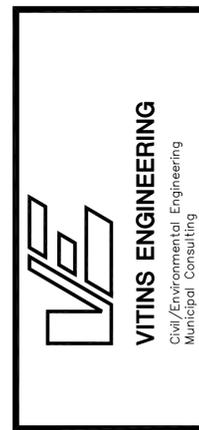
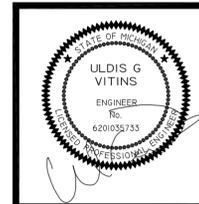
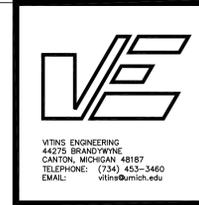
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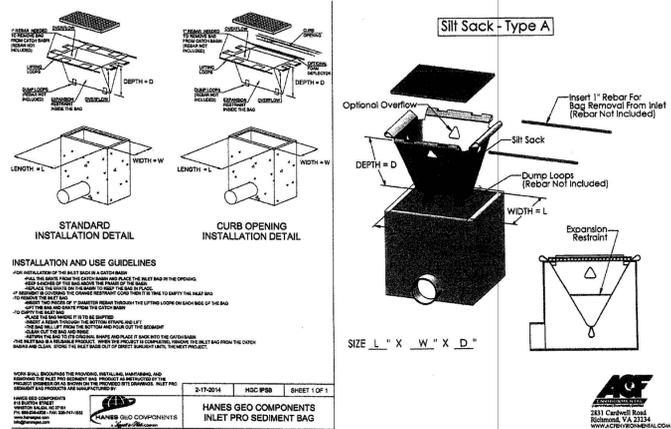
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PROJECT TITLE
**TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
BIORETENTION AREA DETAIL

PROJECT NUMBER
24010

SHEET NUMBER
C-7



CSIGeoturf®
 Down to Earth Solutions
 Professional Construction, Turf, and Landscape Supplies
 • CIVIL SITE IMPROVEMENTS • EROSION & SEDIMENT CONTROL • STORMWATER MANAGEMENT • LANDSCAPE ENHANCEMENTS

Geoturf® Filter Bag
 Whenever accumulated water on a construction site must be pumped, utilize filter bags to ensure the water is properly filtered of silt and sediment prior to discharge into receiving bodies. Filter bags are constructed of strong, high quality nonwoven geotextile filter fabric with a fill port to accommodate a pump discharge hose. The filter bags permit a controlled outflow of water, while retaining harmful pollutants.

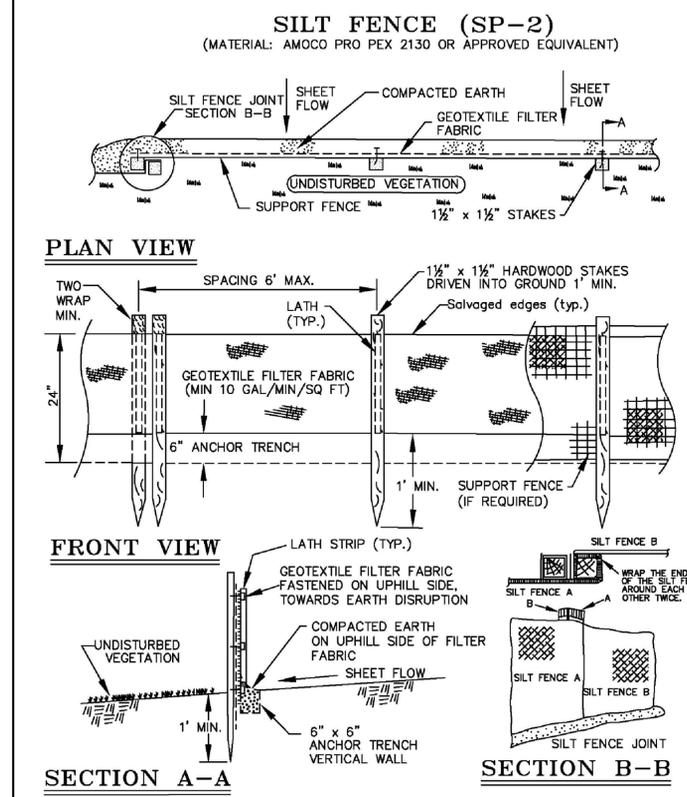
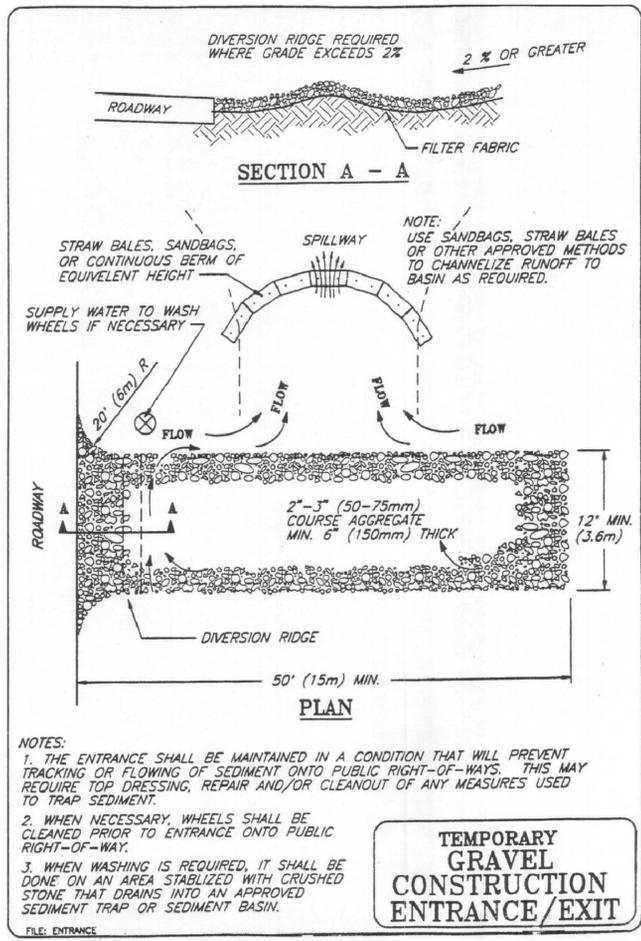
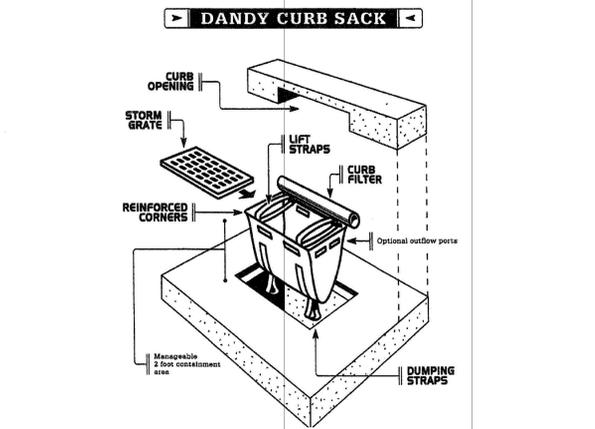
Size 15' x 20' x 8"
 Snout Size 8"
 Holding Capacity 15 Cubic Yds.

Meets the requirements of MDOT Item 208
 Erosion Control Filter Bag

Catch-All Inlet Protector

Catch-All is an inlet and catch basin filtration device designed to significantly reduce the ingress of sediment into stormwater systems, and thereby, improve water quality. Designs are available for a custom fit in virtually any drainage structure or casting.

- Helps to prevent sedimentation of lakes, rivers, and streams
- Custom fitted to virtually any drainage structure or casting
- Rugged, reusable, welded steel frames
- Durable, replaceable, reinforced sediment bags
- Standard overflow feature - No ponding during heavy storms



STORM WATER MANAGEMENT SYSTEM
 MAINTENANCE TASKS AND SCHEDULE

TABLE 1

MAINTENANCE ACTIVITIES	STORM	DRY	WET	POST	WINTER	CONSTRUCTION	REPAIR	RECONSTRUCTION	REPAIR	RECONSTRUCTION	FREQUENCY:
MONITORING/INSPECTION											
Inspect for sediment accumulation/clogging			X	X	X						Annually
Inspect for floatables, dead vegetation, and debris			X	X	X						Annually and after major events
Inspect all components during wet weather and compare to record plans						X					Annually
Verify that access for maintenance remains clear			X	X	X						Annually
PREVENTATIVE MAINTENANCE											
Remove accumulated sediment			X	X	X						As needed
Remove floatables, dead vegetation, and debris			X	X	X						As needed
Clean parking areas and access drives			X								Semi-annually
Mowing*	X										As needed
REMEDIAL ACTION											
Make adjustment/repairs to ensure proper functioning					X						As needed
Clean out oil and gasoline spills			X	X	X						Immediately

* Not to exceed the length allowed by local community ordinance.

Long-Term Maintenance Plan and Schedule

Table 1 identifies maintenance activities to be performed, organized by category. Table 1 also identifies site-specific work needed to ensure that the storm water management system functions properly as designed.

- SESC GRADING REQUIREMENTS AND STANDARDS**
- A project/property identifier must be posted and visible from the road at time of application in order to conduct a preliminary inspection which is required before a soil erosion and sedimentation control (SESC) permit may be issued.
 - A copy of the SESC permit and approved plans shall be kept at the work site and visible from the road and available at time of inspection for the duration of the project or until the date of expiration.
 - No earth moving activity can begin without a grading permit.
 - Silt fencing, if required, must be trenched in and backfilled. The fencing may be toed-in with pea gravel if installed in winter.
 - Stone access drives must be installed prior to construction.
 - Stockpiling of any excavated material must be kept away from sensitive areas and adequate controls must be in place.
 - Catch basins, if installed, must be protected with silt sacks.
 - Dewatering operations must have some type of control, e.g., filter bag, vegetative filter area. There shall be no dewatering of unfiltered water.
 - Erosion control blankets are required on slopes of 4:1 or steeper.
 - Rock check dams are to be used instead of straw bales or silt fencing in concentrated flow locations such as ditches.
 - Immediately after installation of stormwater outlets, rip rap must be installed.
 - All areas of a project that are disturbed must be stabilized by December 1.
 - All earth changes shall be designed, constructed and completed in such a manner which limits the exposed area of any disturbed land for the shortest possible period of time.
 - Detention/retention/sedimentation ponds must be constructed and stabilized prior to other earth moving activities to collect sediment caused by erosion. This shall be designed and constructed to reduce the water flow to a non-erosive velocity (See Washtenaw County Drain Commissioner's Specifications).
 - After all temporary erosion control measures have been installed, the owner/contractor shall call this office for an installation inspection.
 - Permanent erosion control measures shall be completed within 15 calendar days after final grading or earth moving activity has been completed. All permanent erosion control measure shall be maintained a minimum of one (1) year after the final inspection date. A final inspection shall be scheduled by the owner/contractor.
 - All soil, miscellaneous debris or other materials spilled, dumped or otherwise deposited on streets, highways, sidewalks or other thoroughfares during transit to or from the earth change site shall be removed promptly.

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STATE OF MICHIGAN
ULDIS G. VITINS
 ENGINEER
 No. 620035733

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TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN

SESC NOTES & DETAILS

PROJECT TITLE: _____
 SHEET NAME: _____

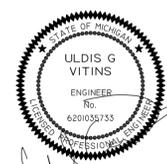
PROJECT NUMBER: **24010**
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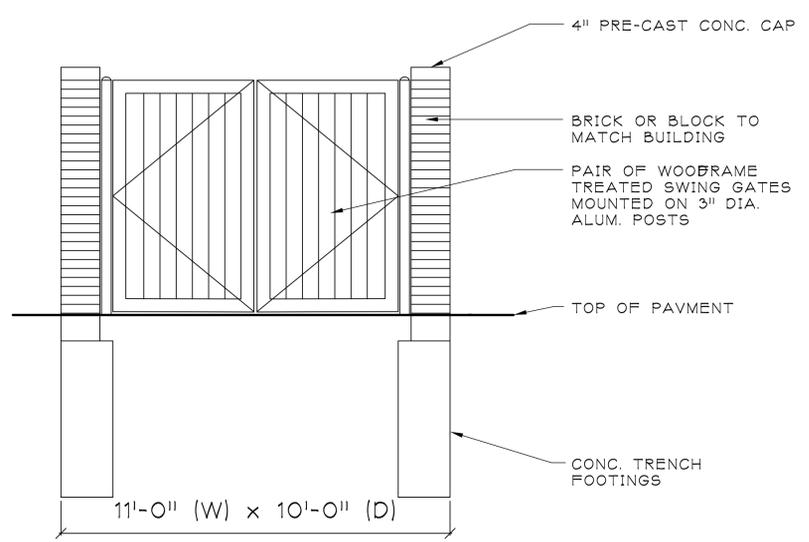
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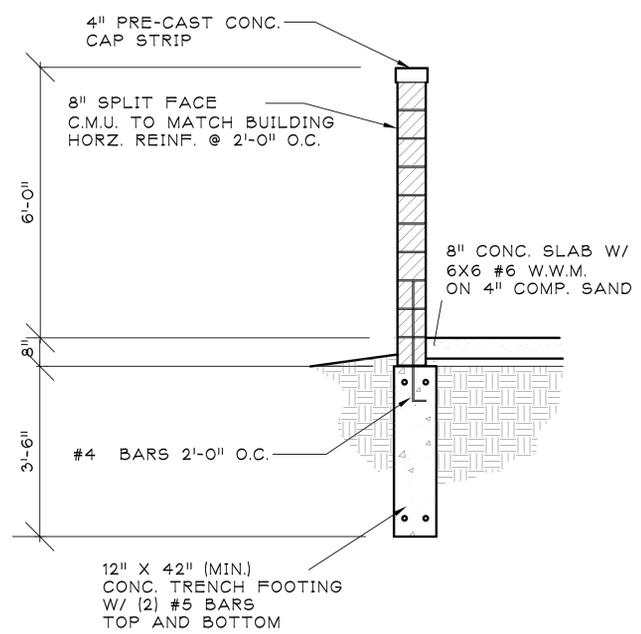
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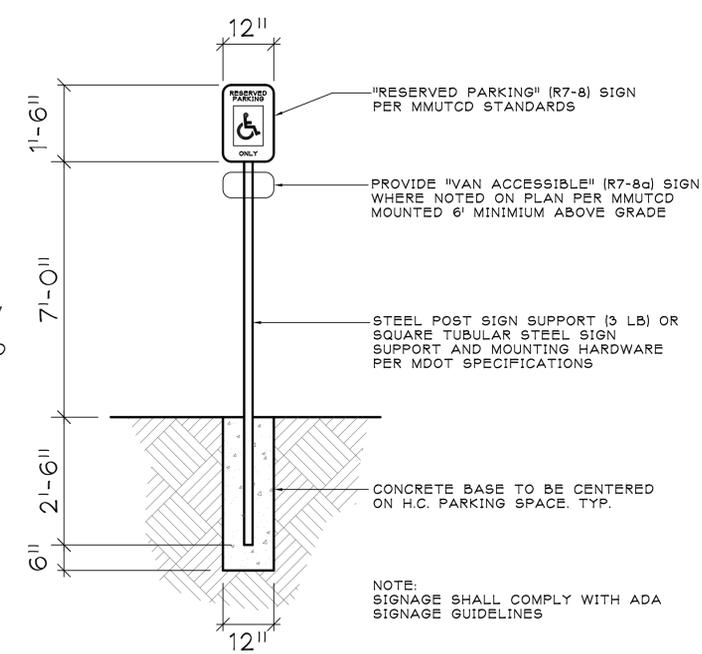
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DUMPSTER ENCLOSURE
FRONT ELEVATION
N.T.S



DUMPSTER ENCLOSURE
WALL SECTION
N.T.S



EXTERIOR HANDICAP SIGN

ISSUE NO.	DATE ISSUED	DESCRIPTION
1	12/22/2024	PRELIMINARY SITE PLAN
2	1/22/2025	REVISED PER TOWNSHIP REVIEW

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PROJECT TITLE
**TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OR YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
CONSTRUCTION DETAILS

PROJECT NUMBER
24010

SHEET NUMBER
C-9

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LOCATION OF JOINTS IN CONCRETE SIDEWALK

50'-0" MAXIMUM EXPANSION JOINT SPACING

1/2" EXPANSION JOINT

4" SIDEWALK

BACK OF CURB

1" EXPANSION JOINT

PROPERTY LINE

INSO FAR AS POSSIBLE, SIDEWALK SHALL BE DIVIDED INTO SQUARE UNIT AREAS BY MEANS OF CUT JOINTS NOT MORE THAN 36 SFT OR LESS THAN 16 SFT.

TYPICAL SIDEWALK JOINT LAYOUTS

WALK WIDTH AS SPECIFIED ON PLANS

1/2" R (TYP.)

• SEE NOTES

DEPARTMENT DIRECTOR
FOR T. SHARDE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

9-30-2014 7-1-2014 R-29-I SHEET 1 OF 4
F.H.R.A. APPROVAL PLAN DATE

CONCRETE DRIVEWAY OPENING LAYOUT

NOTE: W = MINIMUM WIDTH OF THICKENED CONCRETE SIDEWALK. 1 R - d SHALL NOT BE LESS THAN DRIVEWAY WIDTH.

THE "R" DIMENSION IS SPECIFIED IN THE PUBLICATION "ADMINISTRATIVE RULES REGULATING DRIVEWAYS, BANNERS AND PARADES ON OR OVER HIGHWAYS".

CONCRETE DRIVEWAY OPENING, DETAIL L

FOR ROADWAYS WITH CONCRETE PAVEMENTS, LONGITUDINAL LANE TIES WILL BE CONTINUOUS THROUGH THE DRIVEWAY OPENING AND THE SPACING OF THE #5 BARS IN CONCRETE DRIVEWAYS SHALL BE ADJUSTED TO AVOID CONFLICT WITH THE LONGITUDINAL LANE TIES.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

9-30-2014 7-1-2014 R-29-I SHEET 2 OF 4
F.H.R.A. APPROVAL PLAN DATE

CONCRETE CURB AND GUTTER

DEPARTMENT DIRECTOR
FOR T. SHARDE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

CONCRETE CURB & GUTTER

9-30-2014 7-1-2014 R-30-G SHEET 1 OF 2
F.H.R.A. APPROVAL PLAN DATE

HMA DRIVEWAY APPROACH
(TO BE USED WITH DETAIL L)

CONCRETE DRIVEWAY APPROACH
(TO BE USED WITH DETAIL L OR M)

THICKENED CONCRETE SIDEWALK

INTERMEDIATE DRIVEWAY JOINT DETAILS

REINFORCEMENT FOR CONCRETE DRIVEWAYS

CONCRETE DRIVEWAY THICKNESS	WIRE SIZE (6" x 6" MESH)	AVERAGE WEIGHT (LBS/100 SFT)
LESS THAN 8"	W1.4	21
	W2.9	42
8" OR GREATER	USE WIRE FABRIC REINFORCEMENT SPECIFIED ON STANDARD PLAN R-31-SERIES	

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

9-30-2014 7-1-2014 R-29-I SHEET 3 OF 4
F.H.R.A. APPROVAL PLAN DATE

LOW VOLUME COMMERCIAL OR RESIDENTIAL DRIVEWAY SLOPES

COMMERCIAL DRIVEWAY PROFILE FOR MAJOR TRAFFIC GENERATORS

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK

9-30-2014 7-1-2014 R-29-I SHEET 4 OF 4
F.H.R.A. APPROVAL PLAN DATE

CONCRETE CURB, CURB AND GUTTER ENDINGS

1" FIBER JOINT FILLER

CONTRACTION JOINT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

CONCRETE CURB AND GUTTER

9-30-2014 7-1-2014 R-30-G SHEET 2 OF 2
F.H.R.A. APPROVAL PLAN DATE

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ULDIS G VITINS
ENGINEER
No. 620035733

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585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN

MDOT STANDARD DETAILS

PROJECT NUMBER
24010

SHEET NUMBER
C-10

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.
 * MAXIMUM RAMP CROSS SLOPE IS 2.0% RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

SIDEWALK RAMP TYPE R
(ROLLED SIDES)

SIDEWALK RAMP TYPE F
(FLARED SIDES - TWO RAMP TYPES SHOWN)

DEPARTMENT DIRECTOR
 Kik T. Souda
 MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 F.S.K.L. APPROVAL _____ PLAN DATE _____ R-28-J SHEET 1 OF 1

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.
 * MAXIMUM RAMP CROSS SLOPE IS 2.0% RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

SIDEWALK RAMP TYPE RF
(ROLLED / FLARED SIDES)

SECTION A-A
SECTION THROUGH CURB RAMP OPENING
(TYPICAL ALL RAMP TYPES)

CURB TYPE	MAXIMUM RISE (INCHES)
A	1
B1	1/2
B2	3/4
B3	1
D1	1/2
D2	3/4
D3	1
C1	1/2
C2	3/4
C3	1
C4	3/2
C5	1
F1	1/2
F2	3/4
F3	1
F4	3/2
F5	1
F6	1 1/2

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 F.S.K.L. APPROVAL _____ PLAN DATE _____ R-28-J SHEET 2 OF 1

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.
 * MAXIMUM RAMP CROSS SLOPE IS 2.0% RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

SIDEWALK RAMP TYPE P
(PARALLEL RAMP)
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR

SIDEWALK RAMP TYPE C
(COMBINATION RAMP)

SIDEWALK RAMP TYPE M
(MEDIAN ISLAND)

MICHIGAN DEPARTMENT OF TRANSPORTATION
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**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 F.S.K.L. APPROVAL _____ PLAN DATE _____ R-28-J SHEET 3 OF 1

* MAXIMUM LANDING SLOPE IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE NOTES.
 * MAXIMUM RAMP CROSS SLOPE IS 2.0% RUNNING SLOPE 5% - 7% (8.3% MAXIMUM). SEE NOTES.

SIDEWALK RAMP TYPE D
(DEPRESSED CORNER)
USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 F.S.K.L. APPROVAL _____ PLAN DATE _____ R-28-J SHEET 4 OF 1

* THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6' MINIMUM AND 15' MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.

DETECTABLE WARNING AT RAILROAD CROSSING

DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

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**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 F.S.K.L. APPROVAL _____ PLAN DATE _____ R-28-J SHEET 5 OF 1

LEGEND
 SLOPED SURFACE
 DETECTABLE WARNING
 "NON-WALKING" AREA
 CROSSWALK MARKING
 PREFERRED LOCATION OF DRAINAGE INLET (TYP.)
 ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)

SECTION B-B
SIDEWALK RAMP ORIENTATION

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 F.S.K.L. APPROVAL _____ PLAN DATE _____ R-28-J SHEET 6 OF 1

DOMES SECTION
DOMES SPACING
DOMES ALIGNMENT

DETECTABLE WARNING DETAILS

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 F.S.K.L. APPROVAL _____ PLAN DATE _____ R-28-J SHEET 7 OF 1

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ULDIS G. VITINS
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TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN

PROJECT TITLE
 SHEET NAME
MDOT STANDARD DETAILS

PROJECT NUMBER
24010
 SHEET NUMBER
C-11

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 F.S.K.L. APPROVAL _____ PLAN DATE _____ R-28-J SHEET 7 OF 1

September 25, 2024

Grupo Alujar, LLC
 6270 Briarcliff Drive
 Van Buren Township, Michigan 48111

Job No. 24-375

Attention: Ms. Martha Jaramillo
 Subject: Infiltration Study
 Proposed Stormwater Management System
 Tortillas Tita
 585 Joe Hall Drive
 Ypsilanti, Michigan

Dear Ms. Jaramillo:

In accordance with your request, we have performed an Infiltration Study at the subject site. The purpose of this study is to evaluate infiltration capabilities of the subsols relative to the proposed stormwater management system. Our findings are presented below.

It has been proposed to incorporate an "infiltration to the ground" component to the stormwater management system for the development. Therefore, test pit excavations were performed in accordance with the "Washtenaw County Water Resources Commission Rules and Guidelines, Procedures & Design Criteria for Stormwater Management Systems," (WCWRC Rules) issued August 2014, revised October 2016. The excavations were performed by the client and the infiltration tests were conducted by McDowell & Associates' personnel: Edward Quintal.

Field Work & Laboratory Testing

Two Test Pits, designated as TP-1 and TP-2, were excavated to depths of six feet six inches (6'6") and six feet eight inches (6'8") below the existing ground surface. The test pit locations were field located by the client. The approximate test pit locations are shown on the accompanying Test Pit Location Plan. Descriptions of the soil and groundwater conditions encountered in the test pits may be found on the Test Pit Log sheets which accompany this report.

Following completion of the test pit excavations, each test pit was prepared for infiltration testing in accordance with "Section V: Design Requirements for Stormwater Management Systems, Part D – Design Requirements – Infiltration BMPs, Item 3 – Soil Infiltration Testing Methodologies, Double-Ring Infiltrometer" of the WCWRC Rules. Infiltration test preparation consisted of excavating a soil bench adjacent to each primary test pit excavation. The test pits were benched at depths of two feet six inches (2'6") and two feet eight inches (2'8"). The test pits were performed below the assumed six-inch (6") depth of the proposed bioretention invert due to the presence of topsoil and fill soils. On the benched soil, two double ring infiltrimeters with open bottoms were embedded into the soil at a depth of about two inches (2") into the soil bench. Extra care was exercised to maintain a good seal between the steel tubing and in-situ soils to prevent loss of test water. Following installation of the two infiltrimeters, a thin needle-punch geotextile filter was placed above the soil in the inner ring of each infiltrimeter, and the pipes were filled with about five inches (5") of potable water to initiate the "soak

period". Representative soil samples were obtained at each test location. Additional information pertaining to infiltration test depths, infiltrimeter configurations and soak period durations may be found on the accompanying Test Pit Log sheets.

Once the appropriate soak period duration was maintained in each infiltrimeter, the casings were refilled with potable water and the infiltration test was initiated. Throughout the course of testing, water level readings within the inner ring of the infiltrimeters were obtained and recorded at specific time intervals. It should be noted that water level readings were taken to the nearest sixteenth of an inch (1/16"). Water level readings from each infiltration test may be found on the Test Pit Log sheets.

A representative soil sample was also obtained at the test locations. Laboratory tests for moisture content and grain-size distribution were performed on the grab samples obtained from the infiltration test locations. Test results are provided on the accompanying Sieve Analysis sheet.

Soil descriptions and depths shown on the test pit logs are approximate indications of change from one soil type to another and are not intended to represent an area of exact geologic change or stratification. Due to their manner(s) of deposition, the transition from one soil type to the next may be gradual rather than abrupt. Also, the site shows some signs of modification which could indicate fill and soil conditions different from those encountered at the test pit locations.

Groundwater Conditions

Groundwater was encountered at respective depths of five feet ten inches (5'10") and five feet eight inches (5'8") below the existing grade. It should be noted that short-term groundwater observations may not provide a reliable indication of the depth of the water table. In soils with significant fines content (clay and/or silt), this is due to the slow rate of infiltration of water into the borehole. Water levels in granular soils fluctuate with seasonal and climatic changes as well as the amount of rainfall in the area immediately prior to the measurements. It should be expected that groundwater fluctuations could occur on a seasonal basis.

Site Geology

The USDA "Soil Survey of Washtenaw County, Michigan" (issued 1977; reprinted August 1985; amended January 1996) indicates the site is in an area of three associates: the Spinks-Boyer-Wasepi association, which is described as "nearly level to moderately steep, well drained and somewhat poorly drained soils that have a coarse textured or moderately coarse textured subsoil and coarse textured underlying subsoil; on outwash plains, terraces, lake plains, and deltas", the St. Clair-Nappanee-Hoytville association, which is described as "nearly level to very steep, moderately well drained to very poorly drained soils that have a fine textured subsoil and fine textured underlying material; on moraines, till plains, and lake plains", and the Hoytville-Nappanee association, which is described as "nearly level and gently sloping, somewhat poorly drained to very poorly drained soils that have a fine textured subsoil and fine textured underlying material; on till plains and lake plains". The USDA Soil Survey Area: Washtenaw County, Michigan Survey Area Data: Version 22, August 25, 2023, indicates that the site soils are comprised of two units: OsB—Oshemo loamy sand, 0 to 6 percent slopes, and WaA—Wasepi sandy loam, 0 to 4 percent slopes.

Infiltration Test Results & Recommendations

Average percolation rates varied from 1.72 inches/hour to 3.44 inches/hour based on the Infiltration Rate Computations sheet that accompanies this report. It is recommended that the combined average

infiltration rate at the test pits be used for design of infiltration components of the proposed stormwater management system. Further, it is our understanding that the county allows a maximum design infiltration rate of 10.0 inches/hour. Considering a factor of safety of two, the respective design infiltration rates were 1.56 inches/hour and 1.17 inches/hour as shown on the Infiltration Rate Computations sheet.

Based on the supplied project plans, the invert of the proposed stormwater management system is indicated to be approximately six inches (6") below the existing ground surface. It is recommended that the proposed stormwater management system invert be extended to the fine sand soils encountered at depths of two feet five inches (2'5") and two feet seven inches (2'7") below the existing ground surface.

It is recommended that any proposed infiltration surface be visually inspected upon excavation to verify that appropriate soils are present. This would be done to ensure that significant variations in either soil texture or soil type do not exist at locations other than those actually tested by the test pits.

Conclusions

It should be noted that the test pits performed on this date were backfilled with uncompacted material. If future structures are to be constructed so that pavements are to be supported by the uncompacted fill from the test pits, the test pit location should be re-excavated and filled with compacted material. Therefore, you may wish to have the test pit locations placed on any development plans.

An infiltration investigation was performed at the site via test pit excavations. Recommendations for infiltration rates at specific areas of the site have been presented herein. Experience indicates that actual subsurface conditions at the site could vary from those found at two test pits made at specific locations. It is, therefore, essential that McDowell & Associates be notified of any variation of soil conditions to determine their effects on the recommendations presented in this report.

If you have any questions or need additional information, please do not hesitate to call.

Very truly yours,
 McDOWELL & ASSOCIATES

David Quintal
 David Quintal, P.E.
 Senior Engineer

Loran Stenzel-Sebastian
 Loran Stenzel-Sebastian
 Staff Geologist

LS/jb

- Enclosures: Test Pit Log sheets (2 pp)
 Infiltration Rate Computations sheet (1 p)
 Sieve Analysis sheet (1 p)
 Test Pit Location Plan (1 p)

McDowell & Associates Test Pit Log	
Job Number: 24-375	Date: 9/18/2024
Project: Infiltration Study - Tortillas Tita	Weather: Temperature > 32 degrees
Location: 585 Joe Hall Drive Ypsilanti, Michigan	Ground Elev.: N/A
Soil Stratigraphy: 0'0"-2'5" Moist brown sandy TOPSOIL with roots 2'5"-6'8" Moist to wet brown silty SAND with occasional stones and clay seams	Pipe Installation #1: Soil Depth: 2'6" Inner Pipe Dia.: 0'6" Outer Pipe Dia.: 0'10" Embedment: 0'2" Stick-up: 0'5"
Groundwater Depth: 5'8"	Pipe Installation #2: Soil Depth: 2'6" Inner Pipe Dia.: 0'6" Outer Pipe Dia.: 0'10" Embedment: 0'2" Stick-up: 0'5"
Soak Period (Pipe #1): Start Date: _____ Notes: _____ Time: 30 min Water Drop: 1.88 inches Notes: _____ Time: 30 min Water Drop: 1.75 inches Notes: _____	Soak Period (Pipe #2): Start Date: _____ Notes: _____ Time: 30 min Water Drop: 1.00 inches Notes: _____ Time: 30 min Water Drop: 0.94 inches Notes: _____
Test Period (Pipe #1): Time: 30 min Water Drop: 1.50 inches Notes: _____ Time: 30 min Water Drop: 1.50 inches Notes: _____ Time: 30 min Water Drop: 1.44 inches Notes: _____ Time: 30 min Water Drop: 1.44 inches Notes: _____ Time: _____ Water Drop: _____ inches	Test Period (Pipe #2): Time: 30 min Water Drop: 0.88 inches Notes: _____ Time: 30 min Water Drop: 0.88 inches Notes: _____ Time: 30 min Water Drop: 0.88 inches Notes: _____ Time: 30 min Water Drop: 0.81 inches Notes: _____ Time: _____ Water Drop: _____ inches
Average of last 4 readings: 1.47 inches in 30 minutes Unfactored infiltration rate = 2.94 inches/hour	Average of last 4 readings: 0.86 inch in 30 minutes Unfactored infiltration rate = 1.72 inches/hour



Job Number: 24-375
 Date: 9/18/2024
 Project: Infiltration Study
 Proposed Stormwater Management System
 Location: Tortillas Tita
 585 Joe Hall Drive
 Ypsilanti, Michigan

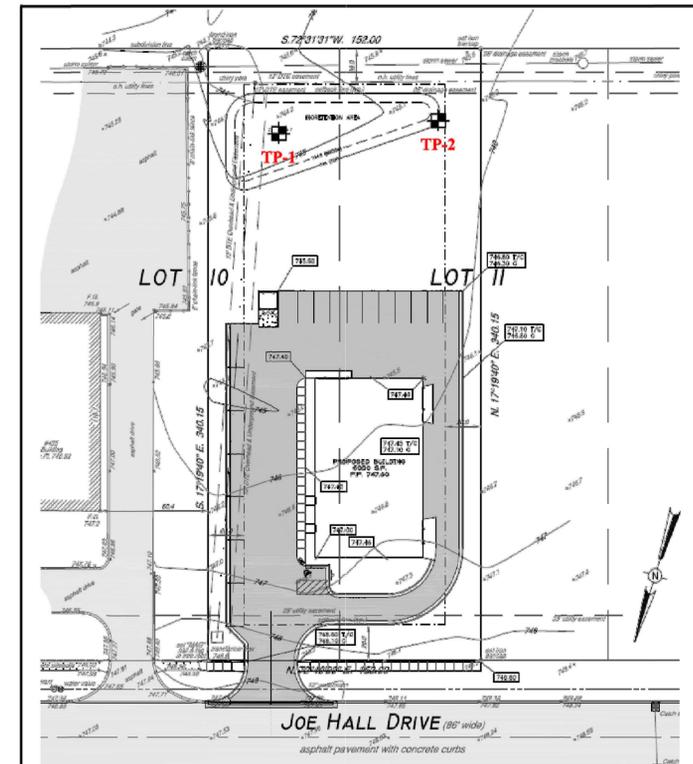
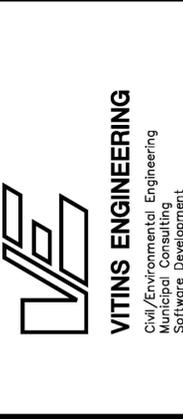
Test Pit No.	Infiltrimeter #1			Test Pit No.	Infiltrimeter #2			Combined Average Rate per Test Pit (in/hr)	Safety Factor	Design Infiltration Rate per Test Pit (in/hr)
	Average Percolation (Inches)	Percolation Time (Minutes)	Average Percolation Rate (Inches/hour)		Average Percolation (Inches)	Percolation Time (Minutes)	Average Percolation Rate (Inches/hour)			
1	1.40	30.00	2.80	1	1.72	30.00	3.44	3.12	2	1.56
2	1.47	30.00	2.94	2	0.86	30.00	1.72	2.33	2	1.17

Job No. 24-375

SIEVE ANALYSIS SUMMARY

Test Pit	Sample	Moisture Content	% Passing #4 Sieve	% Passing #10 Sieve	% Passing #40 Sieve	% Passing #100 Sieve	% Passing #200 Sieve
1	2'8"	13.0	99.4	98.4	96.5	80.1	23.3
2	2'6"	17.6	99.0	98.5	97.0	89.2	52.0

McDowell & Associates Test Pit Log	
Job Number: 24-375	Date: 9/18/2024
Project: Infiltration Study - Tortillas Tita	Weather: Temperature > 32 degrees
Location: 585 Joe Hall Drive Ypsilanti, Michigan	Ground Elev.: N/A
Soil Stratigraphy: 0'0"-1'3" Moist brown sandy TOPSOIL, fill 1'3"-2'7" Moist brown sandy silty CLAY with streaks of topsoil, fill 2'7"-3'6" Moist variegated silty SAND with silty clay and sand & silt seams 3'6"-6'6" Moist to wet brown silty SAND	Pipe Installation #1: Soil Depth: 2'8" Inner Pipe Dia.: 0'6" Outer Pipe Dia.: 0'10" Embedment: 0'2" Stick-up: 0'5"
Groundwater Depth: 5'10"	Pipe Installation #2: Soil Depth: 2'8" Inner Pipe Dia.: 0'6" Outer Pipe Dia.: 0'10" Embedment: 0'2" Stick-up: 0'5"
Soak Period (Pipe #1): Start Date: _____ Notes: _____ Time: 30 min Water Drop: 1.94 inches Notes: _____ Time: 30 min Water Drop: 1.50 inches Notes: _____	Soak Period (Pipe #2): Start Date: _____ Notes: _____ Time: 30 min Water Drop: 2.25 inches Notes: _____ Time: 30 min Water Drop: 1.88 inches Notes: _____
Test Period (Pipe #1): Time: 30 min Water Drop: 1.44 inches Notes: _____ Time: 30 min Water Drop: 1.38 inches Notes: _____ Time: 30 min Water Drop: 1.38 inches Notes: _____ Time: 30 min Water Drop: 1.38 inches Notes: _____ Time: _____ Water Drop: _____ inches	Test Period (Pipe #2): Time: 30 min Water Drop: 1.75 inches Notes: _____ Time: 30 min Water Drop: 1.75 inches Notes: _____ Time: 30 min Water Drop: 1.69 inches Notes: _____ Time: 30 min Water Drop: 1.69 inches Notes: _____ Time: _____ Water Drop: _____ inches
Average of last 4 readings: 1.40 inches in 30 minutes Unfactored infiltration rate = 2.80 inches/hour	Average of last 4 readings: 1.72 inches in 30 minutes Unfactored infiltration rate = 3.44 inches/hour



*Base drawing prepared by others.

LEGEND
 Approximate Test Pit Locations, TP-1 and TP-2



Test Pit Location Plan
 Job No. 24-375

ISSUE NO.	DATE ISSUED	DESCRIPTION
1	12/2/2024	PRELIMINARY SITE PLAN
2	1/22/2025	REVISED PER TOWNSHIP REVIEW

TORTILLAS TITA
 585 JOE HALL DRIVE
 CHARTER TOWNSHIP OF YPSILANTI
 WASHTENAW COUNTY, MICHIGAN

INTEGRATION BASIN
 EXPLORATION TEST RESULTS

PROJECT NUMBER
24010

SHEET NUMBER
C-12

Site Data

JOE HALL DRIVE FRONTAGE (152 FEET)
 1 DECIDUOUS TREE PER 40 FEET (4 TREES),
 1 ORNAMENTAL TREE PER 100 FEET (2 TREES), AND
 1 SHRUB PER 10 FEET (15 SHRUBS)

PARKING LOT LANDSCAPING, 16,809 SF AREA, AND 271 LF PERIMETER
 1 TREE PER 2000 SF PAVEMENT (8 TREES)
 1 TREE PER 40 FEET OF LOT PERIMETER (7 TREES)

OPEN SPACE LANDSCAPING (28,672 SF)
 1 TREE OR EVERGREEN PER 1000 SF LAWN AREA (29 TOTAL)
 1 SHRUB PER 500 SF LAWN AREA (57 SHRUBS)

EXISTING TREES REMOVED (38 TREES)
 REPLACEMENT TREES (38 x 0.70 = 27 TREES) PER PLANNING
 COMMISSION DISCRETION
 OWNER SHALL PLANT 27 TREES OFFSITE, 2" CAL., OR CONTRIBUTE TO
 THE YPSILANTI TOWNSHIP TREE FUND.

Landscape Notes

All landscape areas are to be provided with an underground irrigation system.

Furnishing and placing landscape fabric in planting beds shall be incidental to the work of Site Preparation. Landscape fabric/weed barrier shall be Dupont™ Professional Landscape Fabric, or equal.

Shredded bark mulch shall be furnished per MDOT 2012 Standard Specifications for Construction (917.14). Shredded Bark Mulch Surface, Furn, 4" will be measured in place and trucked onto the jobsite. Work includes preparation of the foundation, furnishing, placing, and spreading.

General Notes

Conform to size and description set forth in the current edition of 'American Standard for Nursery Stock' sponsored by the American Association of Nurserymen, Inc., and approved by the American National Standards Institute, Inc.

Be true to name in conformance to the current edition of 'Standardized Plant Names', established by the American Joint Committee on Horticultural Nomenclature.

Be typical of their species or variety, with normal growth habits and be well-branched and densely foliated when in leaf.

Be of sound health, vigorous and uniform in appearance with a well developed root system, and free from disease, insect pests, eggs or larvae.

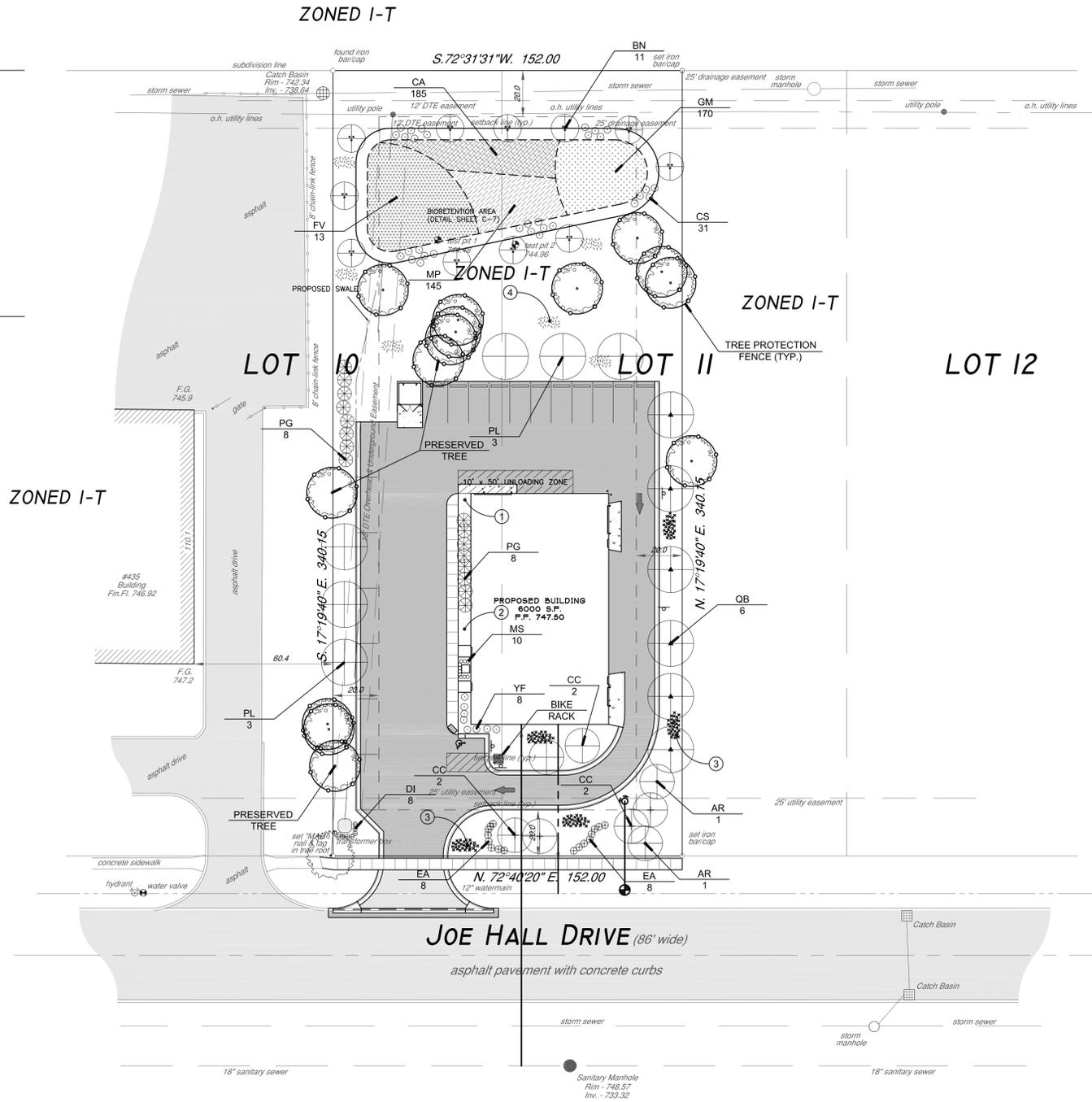
Be freshly dug and nursery grown.

Be chosen according to soil, climatic conditions and environmental factors for the proposed development.

Trees shall have straight trunks with leaders intact, undamaged and uncut.

Plant List:

CODE	QTY.	MATERIAL & SIZE	COMMENTS
AR	2	Acer r. 'Frank Jr.' Redpointe Red Maple, 2.5" cal.	B&B, single straight trunk
CC	4	Carpinus caroliniana American hornbeam, 2.5" cal.	B&B, single straight trunk
EA	16	Euonymus a. 'Compacta' Compact Burning Bush, 24" ht.	B&B, Plant 48" o.c.
QB	6	Quercus bicolor Swamp White Oak, 2.5" cal.	B&B, single straight trunk
PL	6	Platanus occidentalis American Sycamore, 2.5" cal.	B&B, single straight trunk
BN	11	Betula nigra River Birch, 6" ht. or as noted	B&B
AG	2	Amelanchier g. 'Autumn Brilliance' Autumn Brilliance Serviceberry, 2" cal.	B&B, single straight trunk
PG	16	Picea glauca 'Conica' Dwarf Alberta Spruce, 4'-5" ht.	B&B
MS	10	Miscanthus sinensis 'Little Miss' Little Miss Dwarf Maiden Grass	Plant 30" o.c.
DI	8	Diervilla ionocera 'Michigan Sunset' Michigan Sunset Honeysuckle, 1 gal.	Plant 24" o.c.
YF	8	Yucca filamentosa 'Color Guard' Color Guard Yucca, 3 gal.	Plant 48" o.c.
CS	31	Cornus stolonifera Red Twig Dogwood, 3 gal./30" ht.	Plant 5'-0" o.c.
GM	170	Geranium maculatum Wild Geranium, 5" pot	Plant 30" o.c.
MP	145	Monarda punctata Horsemint, Spotted Beebalm, 5" pot	Plant 30" o.c.
CA	185	Anemone Canadensis Canada Anemone, 5" pot	Plant 24" o.c.
FV	13	Fragaria virginiana 'Wild Strawberry' Wild Strawberry, Tray of 32	Plant 24" o.c.



- Note Key**
- ① 4" DEPTH TOPSOIL IN PLANTING BED
 - ② LANDSCAPE FABRIC AND 4" SHREDDED BARK MULCH
 - ③ SODDED LAWN ON 3" DEPTH TOPSOIL, TYP.
 - ④ SEEDED LAWN ON 4" DEPTH TOPSOIL
 - ⑤ LANDSCAPE EDGING BETWEEN LAWN AND BED

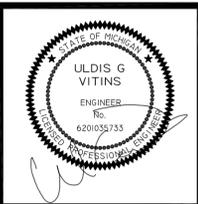
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PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD.

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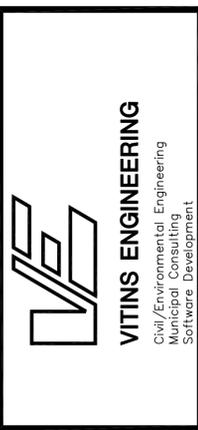
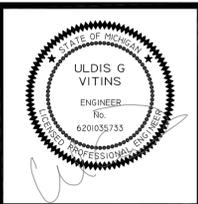
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PROJECT TITLE
TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN

SHEET NAME
LANDSCAPE PLAN

PROJECT NUMBER
24010

SHEET NUMBER
L-1

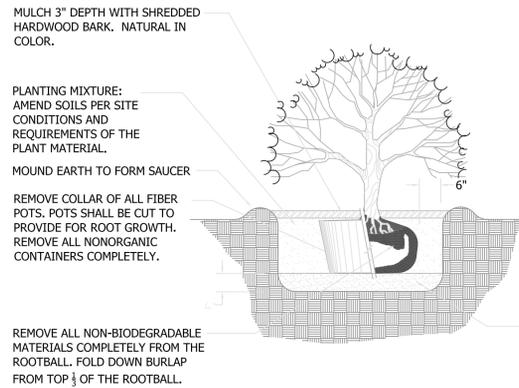


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TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN
LANDSCALE DETAILS

PROJECT NUMBER
24010
 SHEET NUMBER
L-2



NOTE: PLANTS SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

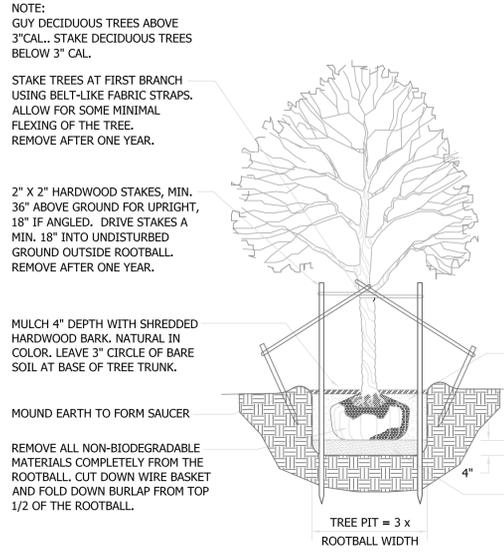
PRUNE ONLY DEAD OR BROKEN BRANCHES.

REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY OR COULD CAUSE GIRDLING.

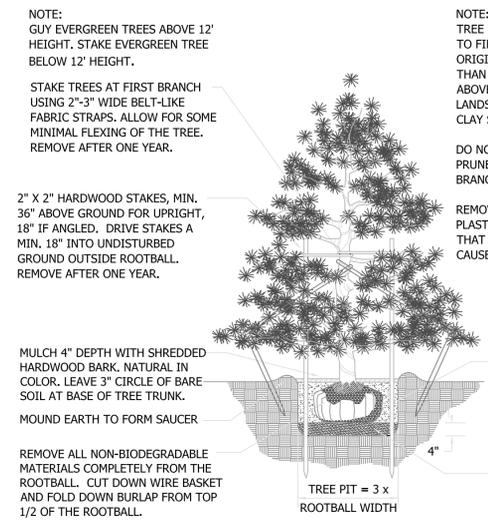
SCARIFY SUBGRADE AND PLANTING PIT SIDES. RECOMPACT BASE OF TO 4" DEPTH.

SHRUB PLANTING DETAIL

NOT TO SCALE



DECIDUOUS TREE PLANTING DETAIL

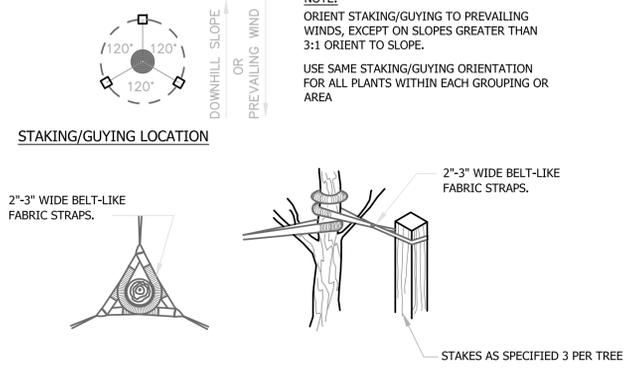


EVERGREEN TREE PLANTING DETAIL

LANDSCAPE NOTES:

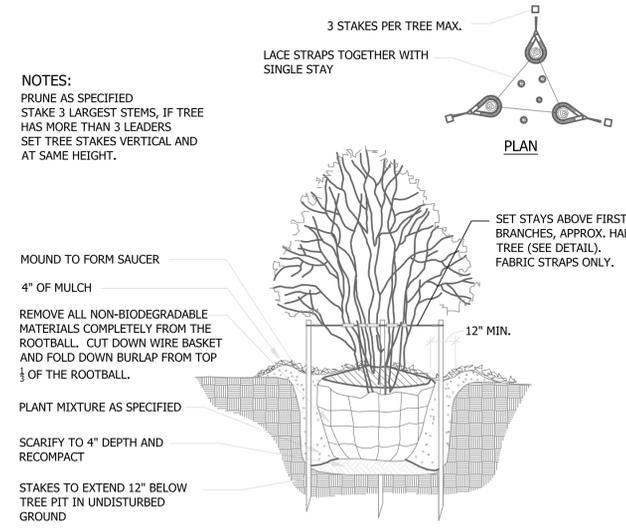
- ALL PLANT MATERIALS ARE TO BE INSTALLED IN A SOUND, WORKMAN-LIKE MANNER AND IN ACCORDANCE WITH THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ALL PLANT MATERIALS SHALL BE INSTALLED BETWEEN MARCH 15th AND NOVEMBER 15th.
- ALL PLANT MATERIALS ARE TO BE NORTHERN NURSERY GROWN NO.1 GRADE AND INSTALLED ACCORDING TO ACCEPTED PLANTING PROCEDURES. ALL PLANT MATERIALS SHALL CONFORM TO THE CURRENT AAN STANDARDS FOR NURSERY STOCK. THEY SHALL BE PLANTED ACCORDING TO THE STANDARD LANDSCAPE DETAILS AND SPECIFICATIONS. THE CITY SHALL HAVE THE RIGHT TO INSPECT THE PLANT MATERIALS PRIOR TO PLANTING AND TO REJECT ANY PLANT MATERIALS DEEMED NOT TO MEET AAN AND MDOT STANDARDS.
- ALL TREES SHALL HAVE A CENTRAL LEADER AND A RADIAL BRANCHING STRUCTURE. PARK GRADE TREES ARE NOT ACCEPTABLE. ALL TREES SHALL BE BALLED AND BURLAPPED (B&B).
- ANY DECIDUOUS CANOPY TREES WITH BRANCHES THAT MIGHT TEND TO DEVELOP INTO "V" CROTCHES SHALL BE SUBORDINATED SO AS NOT TO BECOME DOMINANT BRANCHES.
- MULCH SHALL BE NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK FOR ALL PLANTINGS. 4" THICK FOR TREES IN 4-FOOT DIAMETER CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 3" THICK FOR SHRUBS AND SHRUB BEDS AND 2" THICK BARK FOR PERENNIALS.
- ALL PLANT MATERIAL SHALL BE WARRANTIED FOR TWO (2) FULL YEARS AFTER DATE OF ACCEPTANCE BY THE OWNER. ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN ONE (1) YEAR OR THE NEXT APPROPRIATE PLANTING PERIOD WHICH EVER COMES FIRST.
- ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION, INCLUDING WATERING, CULTIVATION, WEED CONTROL AND SOIL ENRICHMENTS AS MAY BE NECESSARY.
- A MINIMUM OF ONE WEED CONTROL CULTIVATION PER MONTH OCCURING IN JUNE, JULY AND AUGUST SHALL BE PERFORMED DURING THE TWO-YEAR ESTABLISHMENT PERIOD.
- ANY SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED IN WRITING BY OWNER PRIOR TO INSTALLATION.
- ALL TREE WRAP, STAKES, AND GUYS MUST BE REMOVED BY JULY 1ST FOLLOWING THE FIRST WINTER SEASON AFTER INSTALLATION.
- ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN HEALTHY GROWING CONDITION FREE OF DEBRIS AND REFUSE AND IN CONFORMANCE WITH THE APPROVED LANDSCAPE PLAN.
- CONTRACTOR TO REMOVE ALL CONSTRUCTION DEBRIS AND EXCESS MATERIALS FROM THE SITE PRIOR TO FINAL ACCEPTANCE.
- PLANT MATERIALS, EXCEPT SOD, GROUND COVERS, AND CREEPING VINE TYPE PLANTINGS, SHALL NOT BE LOCATED WITHIN FOUR (4) FEET OF THE PROPERTY LINE.
- ALL BERMS MUST BE PLANTED WITH A COMBINATION OF TREES, SHRUBS, SOD OR OTHER EVERGREEN GROUND COVERS.
- THE CONTRACTOR IS RESPONSIBLE FOR REQUEST OF FINAL INSPECTION AND ACCEPTANCE OF THE LANDSCAPE AT THE END OF THE 2-YEAR GUARANTEE PERIOD.

THE DETAILS AND NOTES SHOWN ON THIS PAGE ARE STANDARDS. THESE DETAILS ARE NOT ALL INCLUSIVE AND ARE NOT MEANT TO SUBSTITUTE FOR ANY TOWNSHIP, MDOT, OR CODE REQUIREMENT.



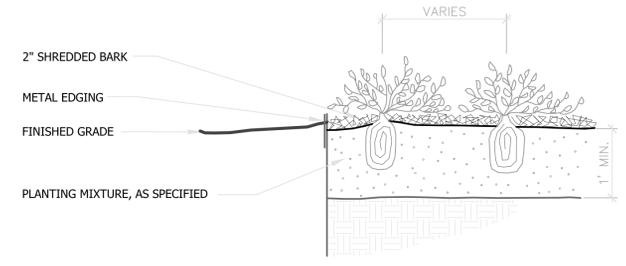
TREE STAKING DETAIL

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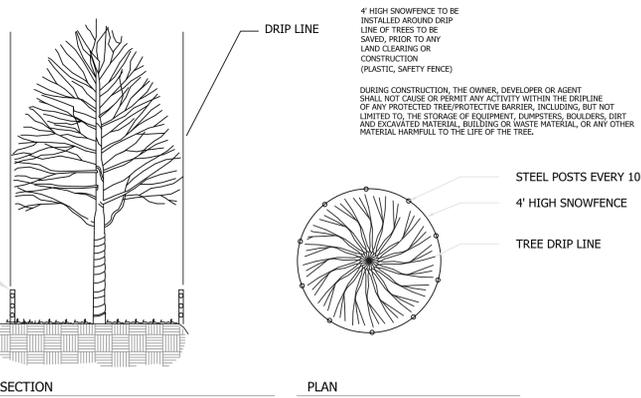
MULTI-STEM TREE PLANTING DETAIL

Not to scale



PERENNIAL PLANTING DETAIL

Not to scale



TREE PROTECTION DETAIL

Not to scale

Section IV: Computational Requirements For Stormwater Management Systems



W9 Standard Method Runoff Volume Calculations

Runoff Summary & Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets	
First Flush Volume (V_d)	2,413 ft^3
Pre-Development Bankfull Runoff Volume (V_{SDP})	431 ft^3
Pervious Cover Post-Development Bankfull Volume ($V_{SDP-POST}$)	369 ft^3
Impervious Cover Post-Development Bankfull Volume ($V_{SDP-IMP}$)	4,062 ft^3
Total BF Volume ($V_{BF-POST}$)	4,431 ft^3
Pervious Cover Post-Development 100-year Volume ($V_{100-POST}$)	3,441 ft^3
Impervious Cover Post-Development 100-year Volume ($V_{100-IMP-POST}$)	9,327 ft^3
Total 100-year Volume (V_{100})	12,768 ft^3

B. Determine Onsite Infiltration Requirement	
Subtract the Pre-Development Bankfull from the Post-Development Bankfull volume	
Total Post-Development Bankfull Volume ($V_{BF-POST}$)	4,431 ft^3
Pre-Development Bankfull Runoff Volume (V_{SDP})	431 ft^3
Bankfull Volume Difference	4,000 ft^3
Compare the Bankfull Volume Difference with the First Flush Volume. The greater of the two is the Onsite Infiltration Requirement.	
Onsite Infiltration Requirement (V_{inf})	4,000 ft^3

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Section IV: Computational Requirements For Stormwater Management Systems



W10 Standard Method Runoff Volume Calculations

Detention/Retention Requirement

Detention	
A. $Q_p = 238.6 T_c^{0.82}$	$Q_p = 238.6 (1.160)^{0.82}$
Peak of the Unit Hydrograph	$Q_p = 1,072 \text{ cfs} / (t_p - m)^2$
B. Total Site Area (ac) excluding "Self-Crediting" BMPs	Area = 1.187 ac
C. $Q_{100} = Q_{100-per} + Q_{100-imp}$	$Q_{100} = 1.437 + 4.873$
Note: $Q_{100-per}$ and $Q_{100-imp}$ from W6 and W7, respectively	$Q_{100} = 6.310 \text{ in}$
D. Peak Flow (PF) = $\frac{Q_p (cfs) Q_{100}(in) Area(ac)}{640}$	$PF = \frac{(1,072)(6.310)(1.187)}{640}$
	$PF = 12.54 \text{ cfs}$
E. $\Delta = PF (cfs) - 0.15 Area(ac)$	$\Delta = (12.54) - 0.15 (1.187)$
	$\Delta = 12.36 \text{ cfs}$
F. $V_{det} = \frac{\Delta (cfs)}{PF (cfs)} V_{100} (ft^3)$	$V_{det} = \frac{12.36}{12.54} (12,768)$
	$V_{det} = 12,585 \text{ ft}^3$
Note: Projects/sites where the required infiltration volume cannot be achieved must increase the required detention volume by up to an additional 20%.	

Retention	
A. $V_{ret} = 2(V_{100})$	$V_{ret} = 2(12,768)$
	$V_{ret} = 25,536 \text{ ft}^3$

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Section IV: Computational Requirements For Stormwater Management Systems



W11 Standard Method Runoff Volume Calculations

Determine Applicable BMPs and Associated Volume Credits

Proposed BMP*	Area (ft ²)	Storage Volume ² (ft ³)	Ave. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm ³ (ft ³)	Total Volume Reduction ⁴ (ft ³)
Pervious Pavement w/Infiltration Bed					
Infiltration Basin	DETENTION VOLUME PROVIDED IN INDUSTRIAL SUBDIVISION DETENTION BASIN				9,000
Subsurface Infiltration Bed					
Infiltration Trench					
Bioretention Systems	SOUTH BIORETENTION AREA	5,307	2.653	1.56	4,139
Rain Gardens	6A STONE VOID RATIO (0.30)				647
Dry Well					
Bioswale					
Vegetated Filter Strip					
Green Roof					

Total Volume Reduction Credit by Proposed Structural BMPs (ft ³)	16,439
Runoff Volume Infiltration Requirement (V_{inf}) from Worksheet 9	4,000
Runoff Volume Credit (ft³)	12,439

- * Complete checklist from Section VI for each Structural BMP type
- ² Storage volume as defined in individual BMP write-ups
- ³ Approximated as the average design infiltration rate over 6 hours multiplied by the BMP area: (Infiltration Rate x 6 hours x BMP Area x Unit Conversions = Infiltration Volume (ft³))
- ⁴ Total Volume Reduction Credit is the sum of the Storage Volume and the Infiltration Volume During Storm

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Section IV: Computational Requirements For Stormwater Management Systems

W12 Natural Features Inventory

- Provide Natural Resources Map. This map should identify waterbodies, floodplains, riparian areas, wetlands, woodlands, natural drainage ways, steep slopes and other natural features.
- Summarize the existing extent of each natural resource in the Existing Natural Resources Table.
- Summarize total proposed Protected/Undisturbed Area.
- Do not count any area twice. For example, an area that is both a floodplain and a wetland may only be considered once (include as either floodplain or wetland, not both).

Existing Natural Resources	Mapped (yes, no, n/a)	Total Area (ac)	Protected/Undisturbed Area (ac)
Waterbodies	N/A		
Floodplains	N/A		
Riparian Areas	N/A		
Wetlands	N/A		
Woodlands	N/A		
Natural Drainage Area	N/A		
Steep Slopes, 15%-25%	N/A		
Steep Slopes, over 25%	N/A		
Special Habitat Areas	N/A		
Other			
TOTAL EXISTING (ac)			

41

Section IV: Computational Requirements For Stormwater Management Systems



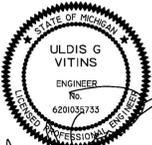
W13 Summary Site Summary of Infiltration & Detention

A. Stormwater Management Summary	
Minimum Onsite Infiltration Requirement, V_{inf}	4,000 ft^3
Designed/Provided Infiltration Volume	4,139 ft^3
% Minimum Required Infiltration Provided	103 %
Total Calculated Detention Volume, V_{det}	12,585 ft^3
Net Required Detention Volume ($V_{net} = \text{Designed/Provided Infiltration Volume}$)	8,446 ft^3
B. Detention Volume Increase for sites where the required infiltration volume cannot be achieved	
% Required Infiltration NOT provided (100% - % Minimum Required Infiltration Provided)	_____ %
Net % Penalty (20% x % Required Infiltration NOT Provided)	_____ %
Total Required Detention Volume, including penalty [(100% + Net % Penalty) x Net Required Detention Volume]	_____ ft^3

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Michigan Consulting
Software Development

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2	1/22/2025	REVISED PER TOWNSHIP REVIEW

PROJECT TITLE
**TORTILLAS TITA
585 JOE HALL DRIVE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
**STORMWATER MANAGEMENT
SYSTEM CALCULATIONS**

PROJECT NUMBER
24010

SHEET NUMBER
2 OF 2

1999 STORMWATER MANAGEMENT DESIGN BASIS
HURON CENTER PHASE 2 DETENTION POND EXPANSION
DESIGN CRITERIA AS RECORDED, 05/05/1999

CONTRIBUTING AREAS:

Phase 1 Areas		Phase 2 Areas	
5.28	Whittaker Road	2.66	Old Lot 25 (Lot 2)
3.30	Joe Hall Park	1.77	Old lot 24 (Lot 1)
1.72	Lot 12	2.00	40% Old Lot 23 (Lot 10)
2.04	Lot 11	4.54	Joe Hall Drive
2.58	Lot 10		
7.07	Lot 1		
1.71	J. L. Hart Pkwy.	10.97	acres
23.70	acres		

Detention Volume Required:

A) 100-year detention with free outflow:
 $Q_0 = 0.15 \text{ cfs/acre} \times 34.67 \text{ acres} = 5.2 \text{ cfs/acre-imp.}$
 $Q_0 = Q_0 / A \times C = 5.2 / 34.67 \times 0.66 = 0.227 \text{ cfs}$
 $T = -25 + (10312.5 / 0.227)^{0.5} = 188.14$
 $V_0 = ((16500 \times 188.14) / (188.14 + 25)) - (40 \times 0.227 \times 188.14)$
 $V_0 = 12,860 \text{ cft}$
 $V_t = 12,860 \times 34.67 \times 0.66 = 294,300 \text{ cft}$

Detention Volume Required (continued):

B) First Flush Volume Calculation:
 $\text{Vol.} = 1815 \times \text{Area} \times C$
 $= 1815 \times 34.67 \times 0.66$
 $= 41,535 \text{ cft}$

C) Bank Full Volume Calculation:
 $\text{Vol.} = 5160 \times \text{Area} \times C$
 $= 5160 \times 34.67 \times 0.66$
 $= 118,100 \text{ cft}$

Pond Volume Provided (per 9/98 topo survey):

Elevation	Area (sq ft)	Volume (cft)	Accum. Vol (cft)
737.40	37,100	-	-
738.00	42,000	-	-
739.00	48,500	-	-
740.00	69,200	-	-
740.25	71,300	134,900	134,900
742.00	83,000	160,300	295,200
743.80	95,300	-	-
744.00	96,700	-	-

$V_{\text{provided}} \text{ from Elev. } 740.25 \text{ to Elev. } 743.8 = 295,200 \text{ cft}$
 Additional storage provided, below 100-yr storage elevation of 743.8, within existing 42" pipe to remain is 115 ft x 9.62 sq ft = 1106 cft

$V_{\text{total provided}} = 295,200 + 1106 = 296,306 \text{ cft}$

Outlet Design (use 12-hour outflow for Paint Creek)
 The outlet will consist of a 4-ft diameter concrete mainhole with perforations. The drain holes will be sized to detain and discharge the first flush, bank full storm volume. The 100-year storm volume will discharge through an open grated manhole cover at design Elev. 743.8.

Orifice Sizing For First Flush Storm
 Depth: $(742.0 - 740.25) / 134,900 = (Y_{ff} - 740.25) / 41,535$
 $Y_{ff} = 740.80$
 $Q_{ff} = 41535 \text{ cfs } (1/12 \text{ hrs}) (1/3600) = 0.961 \text{ cfs}$
 $Q_{ff} = 2/3 (740.80 - 740.25) = 0.37 \text{ ft}$
 $h_{ave} = 2/3 (740.80 - 740.25) = 0.37 \text{ ft}$
 $A = 0.961 \text{ cfs} / (0.62 \times (64.4 \times 0.37)^{0.5}) = 0.317 \text{ sq ft}$
 a 3-inch diameter hole has an area of 0.049 sq ft
 Therefore, $0.317 / 0.049 = 6.47 \text{ holes}$
 use six (6) 3-inch diameter holes at Elev. 740.25

Orifice Sizing For Bankfull Storm
 Depth: $(742.0 - 740.25) / 134,900 = (Y_{bf} - 740.25) / 118,100$
 $Y_{bf} = 741.80$
 $Q_{bf} = 118,100 \text{ cfs } (1/12 \text{ hrs}) (1/3600) = 2.73 \text{ cfs}$
 $Q_{bf} = 2/3 (741.80 - 740.25) = 1.03 \text{ ft}$
 $h_{ave} = 2/3 (741.80 - 740.25) = 1.03 \text{ ft}$
 $Q_{740.8} = (6 \text{ holes}) (0.049) (0.62) (64.4 \times 1.03)^{0.5} = 22.2 \text{ cfs}$
 $T_{740.8} = (1 \text{ sec} / 1.48 \text{ cfs}) (118,100 \text{ cfs}) (1 \text{ hr} / 3600) = 17.8 \text{ hrs}$
 Since $T_{740.8}$ is less than 40 hours, additional orifices not required

Orifice Sizing For 100-year Flood
 Depth: $(743.8 - 740.25) / 295,200 = (Y_{100} - 740.25) / 294,300$
 $Y_{100} = 743.8$
 $Q_0 = 5.2 \text{ cfs/acre-imp.}$
 $Q_{ff} + Q_{bf} = (0.62) (6) (0.049) (64.4 (743.8 - 740.25))^{0.5} = 2.76 \text{ cfs}$
 $Q_{ff} + Q_{bf} = 5.20 \text{ cfs} - 2.76 \text{ cfs} = 2.44 \text{ cfs}$
 $A = (2.44 \text{ cfs}) / (0.62) (64.4 (743.8 - 741.80))^{0.5} = 0.35 \text{ sq ft}$
 a 3-inch diameter hole has an area of 0.049 sq ft
 where, $0.35 / 0.049 = 7.14 \text{ holes}$
 Therefore, use seven (7) 3-inch diameter holes at Elev. 741.80

2005 STORMWATER MANAGEMENT DESIGN BASIS

Revise the tributary areas to reflect the newly combined parcel (portions of Lot 10, Lot 11 and Lot 2) and the previous development of Phase 2, Lot 10 (west of the detention basin). The remainder of Lot 10 will be combined with Lot 9. The remainder of Lot 2 will be combined with Lot 3. The west 75' of Lot 10 (Phase 2) will be combined with Lot 11.

1999 Phase 1 Areas		2001 REVISED AREAS	
A=5.28, C=0.66	Whittaker Road	A=1.42, C=0.67	Old Lot 23 (Lot 10)
A=3.30, C=0.66	Joe Hall Park		
A=7.07, C=0.66	Lot 1		
A=1.71, C=0.66	J. L. Hart Pkwy.		

1999 Phase 2 Areas		2005 REVISED AREAS	
A=1.77, C=0.66	Old lot 24 (Lot 1)	A=1.843, C=0.82	Lot 12
A=4.54, C=0.66	Joe Hall Drive	A=2.172, C=0.82	Lot 11
		A=1.423, C=0.82	Lot 10
		A=2.010, C=0.82	Old Lot 25 (Lot 2)

1999 Estimated Pond Drainage Area = 23.67 acres @ "C" = 0.66
 2001 Phase 2, Lot 10 Drainage Area = 1.42 acres @ "C" = 0.67
 2005 Revised Pond Drainage Area = 7.448 acres @ "C" = 0.82
 Total Revised Pond Drainage Area = 32.538 acres @ "C" = 0.70

Revised 100-year Detention Volume Required:
 $Q_0 = 0.15 \text{ cfs/acre} \times 32.54 \text{ acres} = 4.88 \text{ cfs/acre-imp.}$
 $Q_0 = Q_0 / A \times C = 4.88 / 32.54 \times 0.70 = 0.2143 \text{ cfs}$
 $T = -25 + (10312.5 / 0.2143)^{0.5} = 194.37$
 $V_0 = ((16500 \times 194.37) / (194.37 + 25)) - (40 \times 0.2143 \times 194.37)$
 $V_0 = 12,954 \text{ cft}$
 $V_t = 12,954 \times 32.54 \times 0.70 = 295,057 \text{ cft}$

Storage Required = 296,306 - 295,057 = 1,249 cft excess capacity

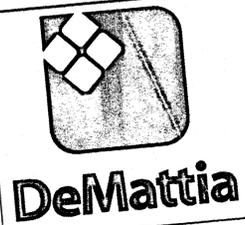
MDEQ PERMIT
 MDEQ PERMIT ISSUED FOR PHASE II IMPROVEMENTS
 PERMIT #98-13-0439 WITH MODIFICATIONS (5/5/1999).

SOIL NOTES
 THE EXISTING SOILS FOR THIS PROJECT ARE SISSION FINE SANDY LOAM (S₁C) AND SPINKS LOAMY SAND (S₁P). PER THE U.S.D.A. SOIL SURVEY MAP FOR WASHTENAW COUNTY. THE HYDROLOGIC CLASSIFICATION USED TO DETERMINE INFILTRATION RATES FOR THESE SOILS ARE GROUP A AND B (HIGH TO MODERATE) AS DEFINED BY THE "RULES OF THE WASHTENAW COUNTY DRAIN COMMISSIONER" (MAY, 2000), APPENDIX "K". THE MEDIAN EXISTING SLOPE RANGE IS 4%-8%.

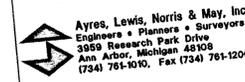
THE RUNOFF COEFFICIENTS FOR THESE SOILS, PER THE "RULES OF THE WASHTENAW COUNTY DRAIN COMMISSIONER" (MAY, 2000), PART II, TABLE 1, ENTITLED, "MINIMUM ACCEPTABLE RUNOFF COEFFICIENTS FOR USE IN THE RATIONAL METHOD" AND APPENDIX "K"; RANGES BETWEEN 0.25 TO 0.35 FOR SLOPES GREATER THAN 8%. THE AVERAGE VALUE OF 0.30 HAS BEEN UTILIZED FOR THESE STORM WATER RUNOFF CALCULATIONS.

REFERENCES

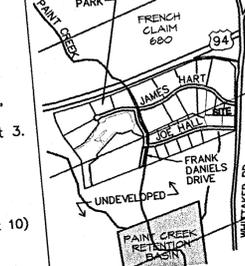
- WASHTENAW BUSINESS PARK, PLAT RECORDED IN WASHTENAW COUNTY RECORDS ON 09/20/2001, LIBER 33, PAGES 19-27. PREPARED BY MIDWESTERN CONSULTING, INC.
- HURON CENTER COMMERCIAL AND INDUSTRIAL PARK, PLAT RECORDED IN WASHTENAW COUNTY RECORDS ON LIBER 26, PAGES 66-68. PREPARED BY JAMES L. HART
- HURON CENTER COMMERCIAL AND INDUSTRIAL PARK, PHASE 2 ENGINEERING PLANS, OHM FILE #0099-99-0183, BY MIDWESTERN CONSULTING, INC., FILE #96101; AS REVISED ON 5/5/1999, AND AS-BUILT DRAWINGS RECORDED ON 10/23/2000.
- JEKABSON & ASSOCIATES, INC. TOPOGRAPHICAL SURVEY, FILE NO. 03-12-026, DATED SEPT. 13, 2004.



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VICINITY MAP
 NOT TO SCALE

WASHTENAW BUSINESS PARK

PROPOSED RETAIL
 YPSILANTI TOWNSHIP, MICHIGAN

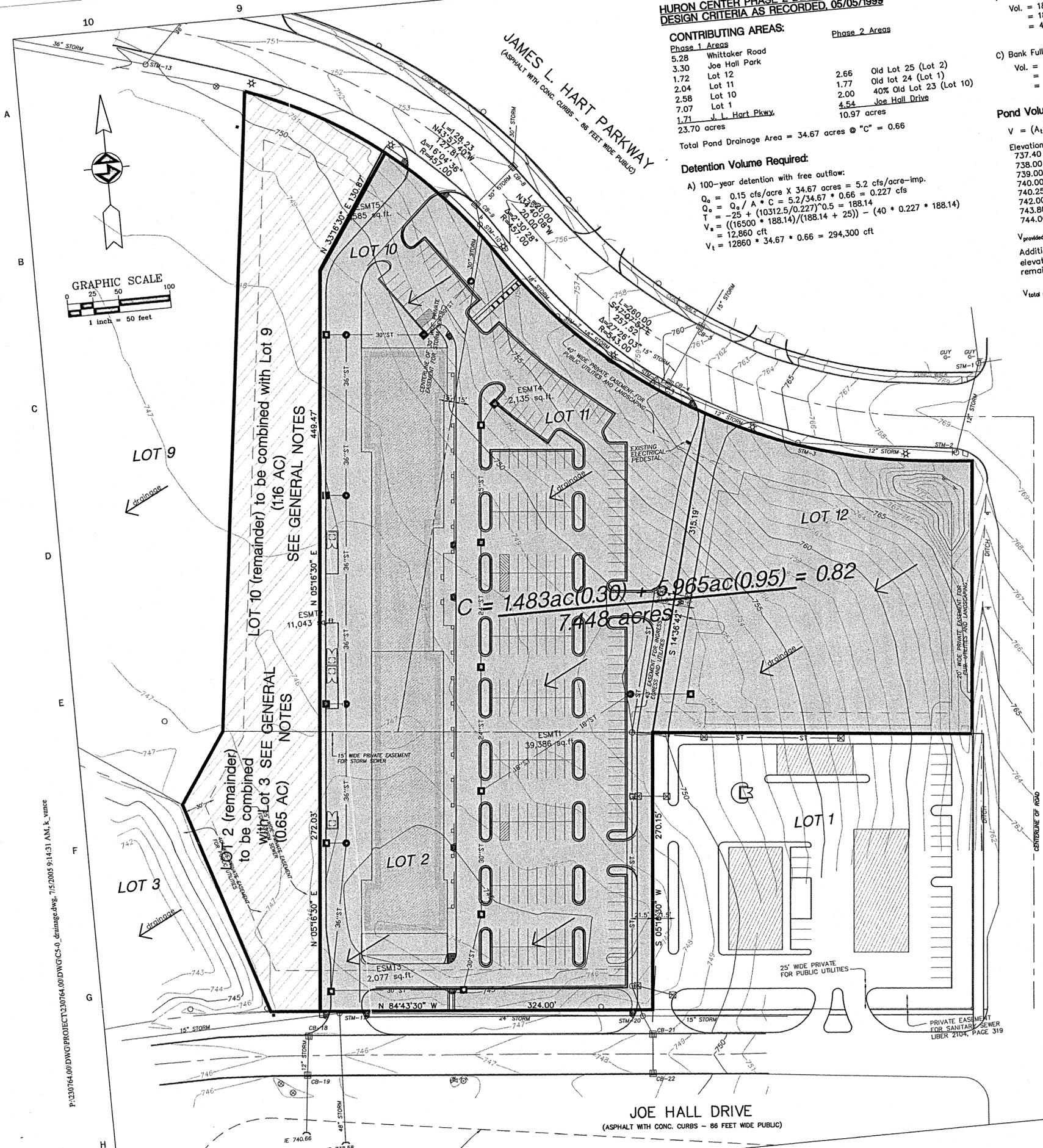
DRAINAGE AREA MAP and STORM WATER DETENTION CALCULATIONS

ENGINEERING COMMENTS	07-05-05
ENGINEERING REVIEW	06-15-05
ENGINEERING APPROVAL	04-27-05
ADD GENERAL NOTE	04-18-05
SITE PLAN APPROVAL	04-11-05
SITE PLAN APPROVAL	02-25-05
SITE PLAN APPROVAL	01-07-05
YPSI TWP PRELIMINARY REVIEW	12-11-04

Drawn By: CGW
 Checked By:
 Approved By: DMD

Project no.
 Sheet no.

C5.0
 OHM JOB NO: 0098-99-0183
 ALNM Project # 230764.00



WHITTAKER ROAD
 (ASPHALT, NO CURBS - 120 FEET WIDE PUBLIC)

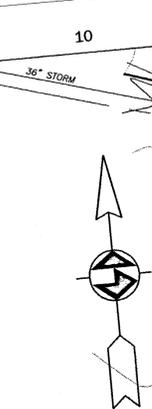
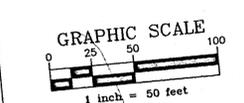
GENERAL NOTES

- THE STORM WATER MANAGEMENT PLAN AS CONTAINED IN THE HURON CENTER COMMERCIAL AND INDUSTRIAL PARK, PHASE 2 ENGINEERING PLANS IS HEREIN MODIFIED TO INCLUDE THE FOLLOWING CHANGES:
1. THE REMAINDER PORTION OF LOT 2-PHASE II (0.65 AC) SHALL BE GRADED TO DRAIN WESTERLY TO LOT 3-PHASE II. DRAINAGE SHALL BE COMBINED WITH LOT 3 AND STORM WATER DETENTION PROVIDED CONCURRENT WITH FUTURE DEVELOPMENT.
 2. THE REMAINDER PORTION OF LOT 10-PHASE I (1.16 AC) SHALL BE GRADED TO DRAIN WESTERLY TO LOT 9-PHASE I. CONCURRENT WITH FUTURE DEVELOPMENT OF THIS AREA, DRAINAGE SHALL BE COMBINED WITH LOT 9 AND STORM WATER DETENTION PROVIDED EITHER THROUGH MODIFICATION OF THE EXISTING DETENTION BASIN CONTROL STRUCTURE OR BY AN ONSITE PRE-TREATMENT FACILITY.
 3. AS AN OPTION, DRAINAGE FROM LOT 2-PHASE II CAN BE DIRECTED TO LOT 9-PHASE I. IN ADDITION TO STORM WATER PRE-TREATMENT ADDITIONAL STORM WATER DETENTION VOLUME MAY BE REQUIRED. A FINAL DETERMINATION WILL BE MADE CONCURRENT WITH FUTURE DEVELOPMENT OF THIS AREA AND SUBSEQUENT DETAIL STUDY OF EXISTING VERSUS PROPOSED DETENTION VOLUMES.

$1.483ac(0.30) + 5.965ac(0.95) = 0.82$
 7.448 acres

LOT 10 (remainder) to be combined with Lot 9 (1.16 AC)
 SEE GENERAL NOTES

LOT 2 (remainder) to be combined with Lot 3 (0.65 AC)
 SEE GENERAL NOTES



P:\230764\00\DWG\PROJECT\230764\00\DWG\C5-0_drainage.dwg, 7/5/2005 9:14:31 AM, k_vance

LEGEND

- 3 PHASE I LOTS
- 3 PHASE II LOTS

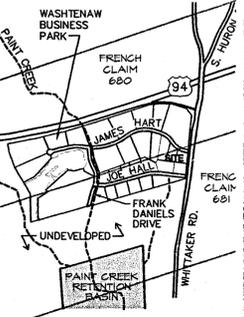
DRAINAGE SUMMARY TABLE

LOT	OUTLET	DETECTION	LOT	OUTLET	DETECTION
PHASE I			PHASE II		
1	TO PH I OPEN DRAIN	NO	1	TO PH I DETENTION POND	NO
2	TO PH I DETENTION POND	NO	2	TO PH I DETENTION POND	NO
3	TO PH I OPEN DRAIN	NO	3	TO PH I OPEN DRAIN	YES
4	TO PH I OPEN DRAIN	NO	4	TO PH I OPEN DRAIN	YES
5	TO CREEK	NO	5	TO PH I OPEN DRAIN	YES
6	TO PH I OPEN DRAIN	NO	6	TO PH I OPEN DRAIN	YES
7	TO PH I OPEN DRAIN	NO	7	TO PH I OPEN DRAIN	YES
8	TO PH I OPEN DRAIN	NO	8	TO PH I OPEN DRAIN	YES
9	TO PH I OPEN DRAIN	NO	9	TO PH I OPEN DRAIN	YES
10	TO PH I DETENTION POND	NO	10	TO PH I DETENTION POND	NO
10 REMAINDER	SEE GENERAL NOTE 2	YES-FF ONLY	11	TO PH I DETENTION POND	YES
11	TO PH I DETENTION POND	NO	12	TO PH I DETENTION POND	YES
12	TO PH I DETENTION POND	NO	13	TO PH I DETENTION POND	YES
			14	TO PH I DETENTION POND	YES
			15	TO PH I DETENTION POND	YES
			16	TO PH I DETENTION POND	YES

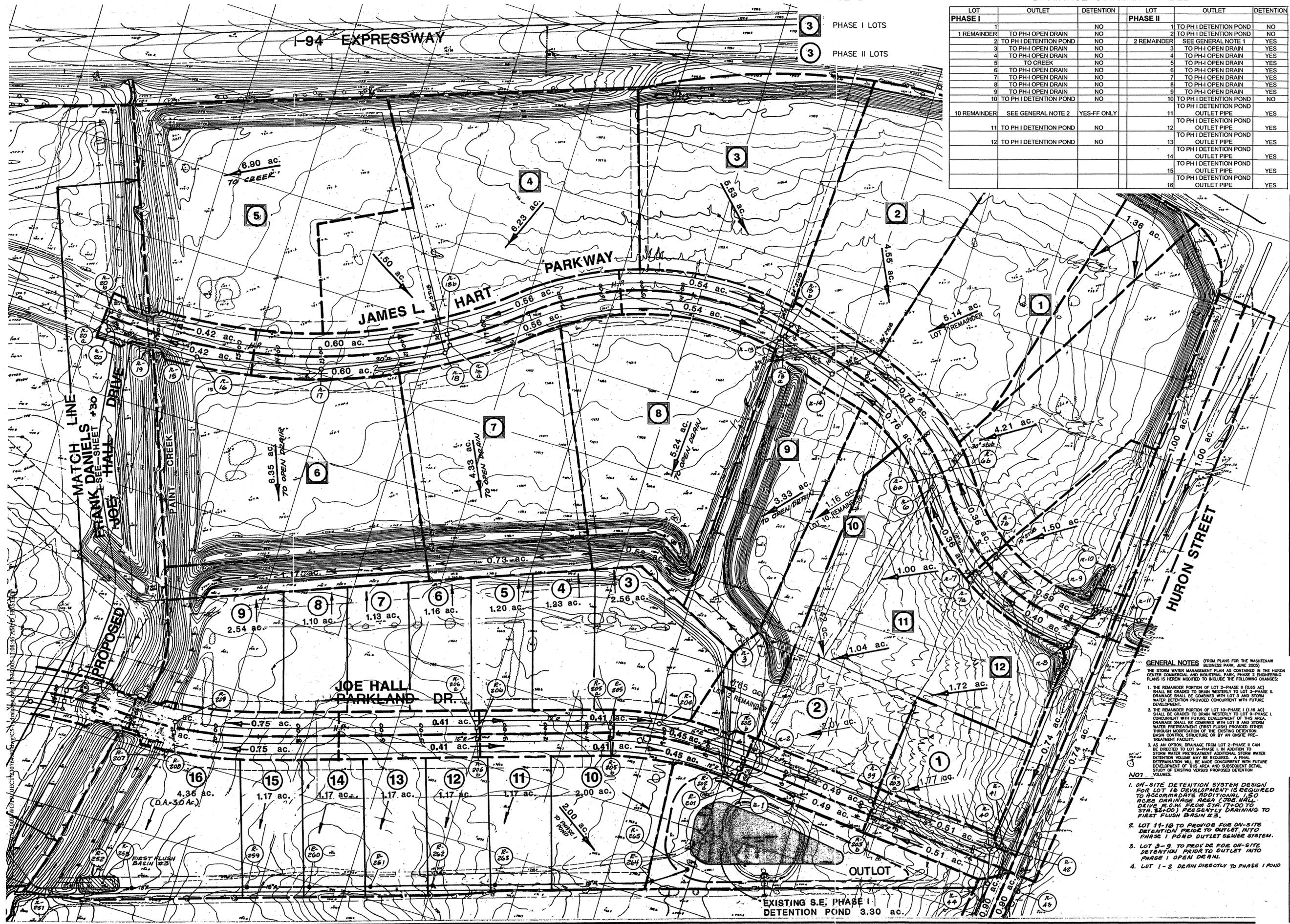


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VICINITY MAP
NOT TO SCALE



GENERAL NOTES (FROM PLANS FOR THE WASHTEWAW BUSINESS PARK, JUNE 2000)
THE STORM WATER MANAGEMENT PLAN AS CONTAINED IN THE HURON CENTER COMMERCIAL AND INDUSTRIAL PARK, PHASE 2 ENGINEERING PLANS IS HEREBY MODIFIED TO INCLUDE THE FOLLOWING CHANGES:

- THE REMAINDER PORTION OF LOT 2-PHASE II (0.85 AC) SHALL BE GRADED TO DRAIN WESTERLY TO LOT 3-PHASE II. DRAINAGE SHALL BE COMBINED WITH LOT 3 AND STORM WATER DETENTION PROVIDED CONCURRENT WITH FUTURE DEVELOPMENT.
- THE REMAINDER PORTION OF LOT 10-PHASE I (1.16 AC) SHALL BE GRADED TO DRAIN WESTERLY TO LOT 9-PHASE I. CONCURRENT WITH FUTURE DEVELOPMENT OF THIS AREA, DRAINAGE SHALL BE COMBINED WITH LOT 9 AND STORM WATER DETENTION PROVIDED CONCURRENT WITH FUTURE DEVELOPMENT THROUGH MODIFICATION OF THE EXISTING DETENTION BASIN CONTROL STRUCTURE OR BY AN ON-SITE PRE-TREATMENT FACILITY.
- AS AN OPTION, DRAINAGE FROM LOT 2-PHASE II CAN BE DIRECTED TO LOT 9-PHASE I. IN ADDITION TO STORM WATER PRE-TREATMENT ADDITIONAL STORM WATER DETENTION VOLUME MAY BE REQUIRED. A FINAL DETERMINATION WILL BE MADE CONCURRENT WITH FUTURE DEVELOPMENT OF THIS AREA AND SUBSEQUENT DETAIL STUDY OF EXISTING VERSUS PROPOSED DETENTION VOLUMES.

- NOT**
- ON-SITE DETENTION SYSTEM DESIGN FOR LOT 16 DEVELOPMENT IS REQUIRED TO ACCOMMODATE ADDITIONAL 150 ACBS DRAINAGE AREA (JOE HALL DRIVE R.O.W. FROM STA. 17+00 TO STA. 82+00) PRESENTLY DRAINING TO FIRST FLUSH BASIN #3.
 - LOT 11-16 TO PROVIDE FOR ON-SITE DETENTION PRIOR TO OUTLET INTO PHASE I POND OUTLET SEWER SYSTEM.
 - LOT 3-9 TO PROVIDE FOR ON-SITE DETENTION PRIOR TO OUTLET INTO PHASE I OPEN DRAIN.
 - LOT 1-2 DRAIN DIRECTLY TO PHASE I POND.

Project
HURON CENTER COMMERCIAL AND INDUSTRIAL PARK
PROPOSED RETAIL
YPSILANTI TOWNSHIP, MICHIGAN
Sheet

DRAINAGE AREA EAST

WCDC COMMENTS	07-26-05
ENGINEERING COMMENTS	07-05-05
ENGINEERING REVIEW	06-15-05
ORIGINAL ISSUE	6-14-2005

Issued For
Drawn By CGW
Checked By
Approved By DMD

Project no.

Sheet no.
C5.1

Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PARKING LOT & CIRCULATION	+	1.5 fc	4.4 fc	0.2 fc	22.0:1	7.5:1	0.3:1
PROPERTY LINE	+	0.1 fc	0.5 fc	0.0 fc	N/A	N/A	0.2:1
OVERALL	+	0.4 fc	10.9 fc	0.0 fc	N/A	N/A	0.0:1

Schedule											
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage	Mounting Height
	A	6	Lithonia Lighting	KAXW LED P1 40K R4 EGS INVOLT PER SF DBLXF	KAXW LED, PERFORMANCE PACKAGE 1, 4000K, TYPE 4, 120-277V, HOUSE-SIDE SHIELD	LED	1	3501	0.9	29	9'-0" & 15'-0"
	B	3	Lithonia Lighting	KAXW LED P1 40K R3 EGS INVOLT PER SF DBLXF	KAXW LED, PERFORMANCE PACKAGE 1, 3000K, TYPE 3, 120-277V, HOUSE-SIDE SHIELD	LED	1	3170	0.9	29	15'-0"
	C	1	Lithonia Lighting	DSX0 LED P1 40K 70CRI RCCO	D-Series Size 0 Area Luminaire P1 Performance Package 4000K CCT 70 CRI Right Corner Cutoff Extreme Backlight Control	LED	1	3516	0.9	33.21	20'-0"
	D	2	Lithonia Lighting	DSX0 LED P1 40K 70CRI T3M	D-Series Size 0 Area Luminaire P1 Performance Package 4000K CCT 70 CRI Type 3 Medium	LED	1	4791	0.9	33.21	20'-0"

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.

General Note

- SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
- SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
- CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"
- ALL OUTDOOR LIGHTING SHALL BE REDUCED TO AT LEAST FIFTY PERCENT (50%) OF THE LIGHT LEVEL AT FULL ILLUMINATION ONE (1) HOUR AFTER CLOSING. LIGHTING REDUCTIONS SHALL NOT BE REQUIRED UNDER THE FOLLOWING CIRCUMSTANCES:

- WHERE A BUSINESS OPERATES TWENTY-FOUR (24) HOURS;
- WHERE LIGHTING IS INTENDED TO REDUCE REAL OR PERCEIVED; AND,
- WHERE LIGHTING IS INTENDED TO DISCOURAGE INTRUDERS, VANDALS, OR BURGLARS, AND TO PROTECT MERCHANDISE AND PROPERTY.

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.

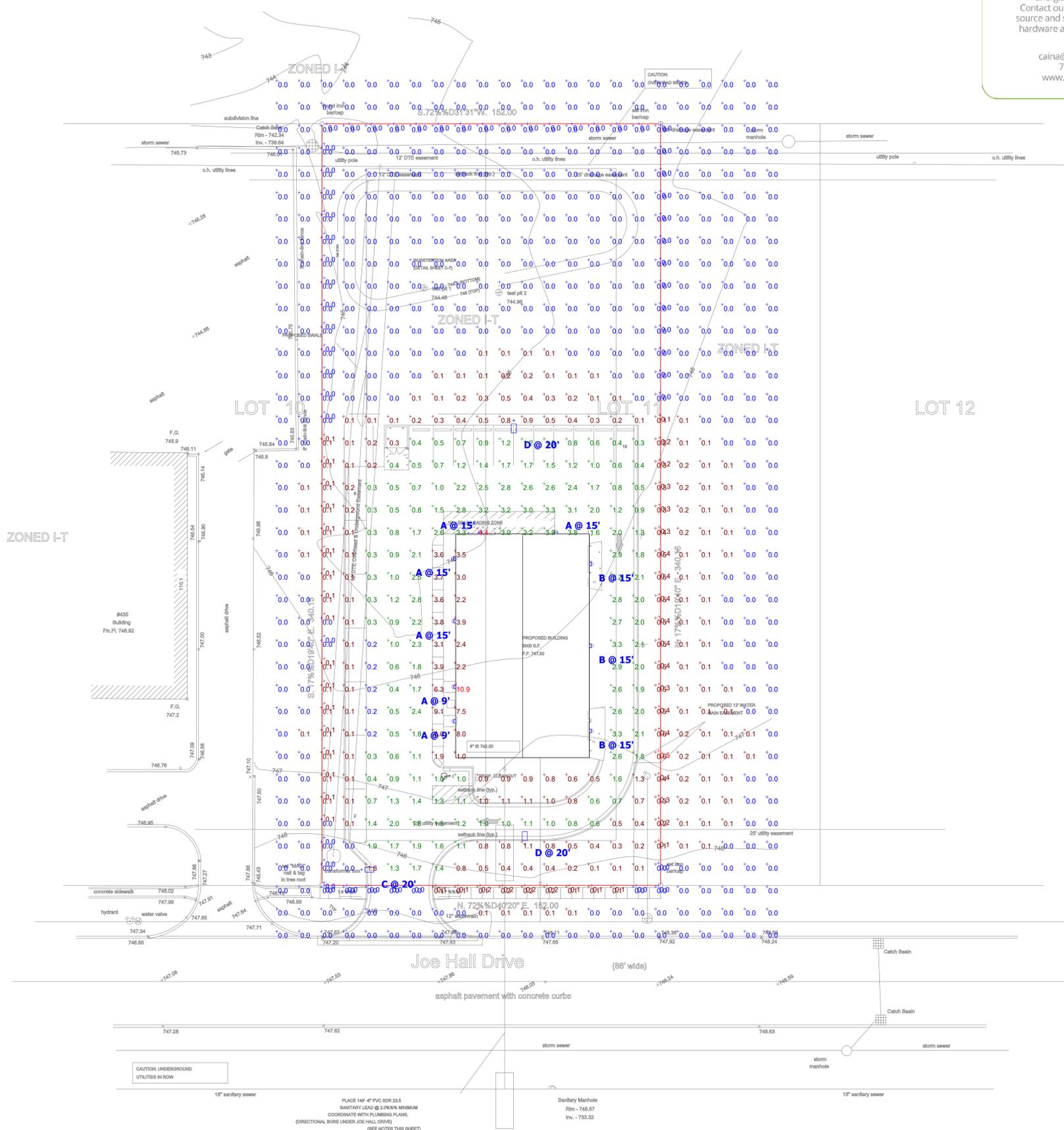
UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT CONTROLS@GASSERBUSH.COM OR 734-266-6705.

Alternates Note

ALTERNATE LIGHTING FIXTURES WILL NOT MEET CITY ORDINANCE COMPLIANCE DUE TO THE PRECISE OPTICAL AND OUTPUT PERFORMANCE SELECTED FOR THESE FIXTURES. ALTERNATE LIGHTING PROPOSALS MUST BE RECALCULATED AND RESUBMITTED TO THE CITY FOR APPROVAL. CONTACT LAYOUTS@GASSERBUSH.COM FOR ASSISTANCE WITH ALTERNATE OPTIONS IF NEEDED.

Dark Sky Note

ALL FIXTURES INCLUDED ON THIS DESIGN ARE IN COMPLIANCE WITH INTERNATIONAL DARK SKY ASSOCIATION REGULATIONS FOR DARK SKY FRIENDLY FIXTURE(S).



Plan View
Scale - 1" = 25ft