

CHARTER TOWNSHIP
OF YPSILANTI
PLANNING COMMISSION

**SALLY RICHIE
BILL SINKULE
LAURENCE KRIEG
ELIZABETH EL-ASSADI
STAN ELDRIDGE
GLORIA PETERSON
MUDDASAR TAWAKKUL**

April 24, 2020

Regular Meeting – 6:30 p.m.

**Ypsilanti Township Civic Center
7200 S. Huron River Drive
Ypsilanti, MI 48197**

CHARTER TOWNSHIP OF YPSILANTI

PLANNING COMMISSION

7200 S. Huron River Drive, Ypsilanti, MI 48197

REGULAR MEETING AGENDA

TUESDAY, APRIL 28, 2020

6:30 P.M.

Due to the COVID-19 pandemic, Ypsilanti Township will be conducting this public meeting virtually in order to comply with Executive Order 2020-15 (COVID-19) issued by Governor Whitmer. To view and/or participate in the public meeting, please visit www.ytown.org.

To provide input or ask questions regarding business that will be considered at the meeting, please email planning@ytown.org or call 734-485-3943. 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@ytown.org or 734-485-3943.

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF THE TUESDAY, FEBRUARY 11, 2020 REGULAR MEETING MINUTES
4. APPROVAL OF AGENDA
5. PUBLIC HEARINGS AND PLAN REVIEW
 - A. **PRELIMINARY SITE PLAN AND SPECIAL USE PERMIT – SUNCO PROPERTIES LLC – 2380 EAST MICHIGAN AVENUE** – TO CONSIDER THE PRELIMINARY SITE PLAN AND SPECIAL USE PERMIT FOR THE CONSTRUCTION OF A 2,783 SQUARE FOOT OIL CHANGE AND MINOR AUTOMOTIVE REPAIR FACILITY LOCATED AT 2380 EAST MICHIGAN AVENUE, PARCEL K-11-02-480-011.
 - B. **PRELIMINARY SITE PLAN AMENDMENT AND SPECIAL USE PERMIT – AMERICAN CENTER FOR MOBILITY (ACM) – 2801 AIRPORT DRIVE** – TO CONSIDER THE PRELIMINARY SITE PLAN AMENDMENT AND SPECIAL USE PERMIT FOR AN EVENT CENTER AND TEMPORARY PARKING AT THE EXISTING AMERICAN CENTER FOR MOBILITY (ACM) FACILITY LOCATED AT 2801 AIRPORT DRIVE, PARCEL K-11-12-100-005.
6. OLD BUSINESS
7. NEW BUSINESS
 - A. **ZONING ORDINANCE AMENDMENTS** – TO DISCUSS PROPOSED AMENDMENTS TO UPDATE THE ZONING ORDINANCE IN ACCORDANCE WITH THE RELIGIOUS LAND USE AND INSTITUTIONALIZED PERSONS ACT.
8. OPEN DISCUSSION FOR ISSUES NOT ON THE AGENDA
 - A. CORRESPONDENCE RECEIVED
 - B. PLANNING COMMISSION MEMBERS
 - C. MEMBERS OF THE AUDIENCE

9. TOWNSHIP BOARD REPRESENTATIVE REPORT
10. ZONING BOARD OF APPEALS REPRESENTATIVE REPORT
11. TOWNSHIP ATTORNEY REPORT
12. PLANNING DEPARTMENT REPORT
13. OTHER BUSINESS
14. ADJOURNMENT

THERE IS NO WORK SESSION

CALL TO ORDER AND ROLL CALL

1. The meeting is called to order by the Planning Commission chair and roll call is taken.

APPROVAL OF AGENDA

1. Commissioners approve current agenda

**CHARTER TOWNSHIP OF YPSILANTI
PLANNING COMMISSION
MINUTES OF THE FEBRUARY 11, 2020 REGULAR MEETING**

Vice Chair Bill Sinkule called the regular meeting to order at 6:30 pm in the Ypsilanti Township Civic Center Board Room 7200 S. Huron River Drive, Ypsilanti Township.

Commissioners Present: Vice-Chair Bill Sinkule and Commissioners Laurence Krieg, Muddasar Tawakkul, Elizabeth El-Assadi, Gloria Peterson and Stan Eldridge

Commissioners Absent: Commissioner Sally Richie

Others in Attendance: Angela King, Township Attorney; Megan Masson-Minock, Carlisle-Wortman; Jason Iacoangeli, Planning Director and Charlotte Wilson, Planning and Development Coordinator

1. CALL TO ORDER

2. ROLL CALL

3. APPROVAL OF THE JANUARY 28, 2020 REGULAR MEETING MINUTES

A motion was made by Commissioner Krieg supported by Commissioner Eldridge to approve the minutes of the January 28, 2020 Regular Meeting. The motion carried unanimously.

4. APPROVAL OF AGENDA

A motion was made by Commissioner Eldridge supported by Commissioner Peterson to approve the agenda. The motion carried unanimously.

5. PUBLIC HEARINGS AND PLAN REVIEW

A. PRELIMINARY SITE PLAN AND SPECIAL LAND USE – GROUP 10 MANAGEMENT – 2169 WASHTENAW AVENUE – TO CONSIDER THE PRELIMINARY SITE PLAN AND SPECIAL LAND USE PERMIT FOR THE CONSTRUCTION OF A 4,200 SQUARE FOOT GAS STATION AND CONVENIENCE STORE LOCATED AT 2169 WASHTENAW AVENUE, PARCEL K-11-06-478-001.

Jason Iacoangeli, Planning Director, said the plans were reviewed by the usual reviewing agencies. He said if the Commissioners had any questions on the comments he could address them.

Commissioner Tawakkul asked if previous concerns about the project were resolved.

Mr. Iacoangeli said the project had been before the Planning Commission in the past and the applicant had asked for waivers for parking and landscaping. He said the applicant has addressed the requirements and currently they meet conditions for zoning code and special land use provisions.

Megan Masson-Minock, Carlisle-Wortman Associates, gave an overview of the project history. She said the applicant has made several site plan changes including reducing the building size, adding 5 parking spaces, increased the sidewalk width, increased the bus stop space and provided a concrete pad and revised elevations. The applicant noted that the building could not be placed at the hard corner because the gas pumps need visibility. She continued that height, bulk density and the turn template was in compliance. Non-motorized access would be through sidewalks and with the additional parking spaces the applicant is in compliance and would not need a waiver. Exterior lighting is in compliance but the applicant needed to clarify if they could reduce lighting at night. The applicant complied with landscaping requirements and proposed a decorative fence along Hewitt Road to screen the outdoor seating area. Building

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elevations meet design requirements and meet gas station standards. Curb cuts would need to be approved by Washtenaw County Road Commission or MDOT.

Commissioner Eldridge said they were one of 4 entities on Re-Imagine Washtenaw and asked how many others have adopted the plan.

Ms. Masson-Minock stated she did not know and said both the City of Ypsilanti and Pittsfield Township made some zoning ordinance changes but neither require a hard corner for gas stations.

Commissioner Tawakkul asked how many new business or redeveloped businesses have incorporated the requirements.

Ms. Masson-Minock said she did not know about other municipalities but in Ypsilanti Township since 2017 no site plans have met the standards.

Commissioner Krieg said Re-Imagine Washtenaw is a long term plan and the goal was to make people want to go there. In his opinion there is no need for another gas station in the area.

Scott Tousignant, Boss Engineering, 3121 East Grand River Avenue, Howell, said the Re-Imaging Washtenaw plan called for a separate bus pull off lane on Washtenaw for the site. He said the site was small and there were safety concerns and the lane would eliminate site access from Washtenaw Avenue. He reiterated it was important for the gas pumps to be visible and therefore the building could not be on the hard corner.

Commissioner Tawakkul asked if they would be open 24 hours and how that would affect lighting.

Jack Knowles, Group 10, applicant, said it would likely be open 24 hours but if not the lights would be dimmed. He said the gas station would look nice and would look better than the vacant lot that is there now. He noted the improvements to the site plan including elevations, outdoor seating area and wider sidewalks.

Commissioner Eldridge said the applicant's other gas station at Michigan and Denton was well lit and clean. He said he has received several phone calls about the vacant lot from residents and said if the Township was sincere in wanting to make Washtenaw Avenue nicer this was an opportunity. He mentioned some businesses that were not required to be built at the front of the lot and said the applicant met all requirements. He said he thought this would be positive for the Township.

Commissioner Krieg said he appreciated the efforts of the applicant to meet the requirements but was frustrated with the lack of imagination. He said he would never use the outside seating area because of the gas smell and lack of vehicle barrier. He said he was disappointed that a gas station was the only option that they had.

The public hearing opened at 7:03pm

Mike Koza, 6250 Walnut Lake Road, West Bloomfield, owner of the property, said when he purchased the property and the gas station that was there it was dilapidated and old. He tore it down for safety reasons. He said he prides himself in the quality of their gas stations and the employment they provide. He said he has tried to sell the property for the last 5 years but could not because it was not large enough for a drive thru and then a medical office backed out. He said he felt he has done everything possible and does not want to keep paying taxes on a vacant lot.

The public hearing closed at 7:07pm

A motion was made by Commissioner Tawakkul, supported by Commissioner Peterson to approve the request for preliminary site plan approval for construction of a 4,200 square foot gas station and convenience store for a site

zoned B-3, General Business, located at 2169 Washtenaw Avenue, Parcel K-11-06-478-001 with the following conditions:

All exterior lighting fixtures shall be turned off between the hours of 11pm and sunrise except where used for security purposes or where the use of the property continues after 11pm.

The applicant shall obtain the applicable Washtenaw County Water Resource Commission, Washtenaw County Road Commission and Michigan Department of Transportation permits.

The motion carried as follows:

Sinkule: Yes Peterson: Yes Eldridge: Yes Krieg: No Tawakkul: Yes

El-Assadi: Yes

A motion was made by Commissioner Tawakkul, supported by Commissioner Peterson to approve the request for special land use permit approval for construction of a 4,200 square foot gas station and convenience store for a site zoned B-3, General Business, located at 2169 Washtenaw Avenue, Parcel K-11-06-478-001.

The motion carried as follows:

Sinkule: Yes Peterson: Yes Eldridge: Yes Krieg: No Tawakkul: Yes

El-Assadi: Yes

B. ZONING ORDINANCE TEXT AMENDMENT – TO CONSIDER RECOMMENDATION TO THE TOWNSHIP BOARD OF TRUSTEES A ZONING ORDINANCE TEXT AMENDMENT REGARDING SECTION 306, SCHEDULE OF USES, TO PERMIT MEDICAL MARIHUANA DISPENSARIES AND MEDICAL MARIHUANA NURSERIES AS A SPECIAL USE SUBJECT TO CONDITIONS IN SECTION 1841 IN THE I-C, INDUSTRIAL COMMERCIAL, ZONING DISTRICT AND PROHIBIT MEDICAL MARIHUANA DISPENSARIES AND MEDICAL MARIHUANA NURSERIES AS A SPECIAL USE SUBJECT TO CONDITIONS IN SECTION 1841 IN THE I-1 LIGHT INDUSTRIAL, AND I-2, GENERAL INDUSTRIAL, ZONING DISTRICTS.

Ms. Masson-Minock gave a brief overview.

The public hearing opened at 7:14pm

No persons wished to speak.

The public hearing closed at 7:14pm

A motion was made by Commissioner Eldridge, supported by Commissioner Tawakkul to forward to the Township Board of Trustees the proposed zoning ordinance amendment for medical marihuana site locations as stipulated in the information via Carlisle-Wortman's report.

The motion carried as follows:

Sinkule: Yes Peterson: Yes Eldridge: Yes Krieg: Yes Tawakkul: Yes

El-Assadi: Yes

C. PRELIMINARY SITE PLAN – ANDY ANDRE – 460 AND 350 JOE HALL DRIVE – TO CONSIDER THE PRELIMINARY SITE PLAN FOR THE CONSTRUCTION OF A 107-ROOM, 4-STORY HOLIDAY INN EXPRESS AND SUITES HOTEL

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FOR A SITE ZONED TC-1, TOWN CENTER, LOCATED AT 460 AND 350 JOE HALL DRIVE, PARCEL K-11-38-363-003 AND K-11-38-363-029.

Mr. Iacoangeli said based on the review comments his office received they feel the project is ready for consideration. He noted the project is located in an area that has over-reaching legal agreements that were put in place by previous owners. He said the agreements give the Township rights to some building and use restrictions. A development agreement would need to be resolved prior to final approval. He said the applicant met all intents of ordinances.

Ms. Masson-Minock said 2 decisions needed to be made; first was deciding about offsite tree replacement and the second was flag pole lights. The applicant proposed a significant number of trees to be removed and there is a regulated wetland on the property which would require a permit from the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Height and bulk density is in compliance and site entry would be from Joe Hall Drive. Non-motorized access would be granted by a 5 foot wide sidewalk which would connect with Hampton Inn's sidewalk. Parking and loading meets all requirements and the applicant proposed 3 upward pointing lights along Joe Hall Drive for a flagpole. The zoning ordinance does not allow unshielded light fixtures except if the Planning Commission approved. Landscaping is in compliance but the applicant said tree replacement cannot be met due to the number of easements. She said the zoning ordinance does allow for the applicant to pay the Township's tree fund in lieu. No issues were found with floor plans or elevations. She said Carlisle-Wortman recommends the applicant provide the EGLE permit and that the Commission consider waivers for tree replacement and flag lights.

Commissioner Eldridge said he did not have an issue with the lights and asked if the 109 trees included the trees that were removed 3 years ago.

Ms. Masson-Minock said they were removed on the Hampton Inn site.

Andy Andre, Stellar Development, 2600 Auburn Road Suite 160, Auburn Hills, applicant, said they did a tree survey and wetlands study and positioned the building in the most open space available to preserve as many trees as possible. He said they would like to provide offsite mitigation because of the many easements. He said the up-lights were not high intensity; the proposed exterior lighting was LED and some lights would automatically fade to dim if no motion is detected. He stated with the sidewalk addition they added pedestrian circulation and a plaza seating area would be included.

A motion was made by Commissioner Eldridge, supported by Commissioner Krieg to approve the request for preliminary site plan approval for construction of a 107-room, 4-story Holiday Inn Express and Suites hotel for a site zoned TC-1, Town Center, located at 460 and 350 Joe Hall Drive, Parcel K-11-38-363-003 and K-11-38-363-029 with the following conditions:

Applicant shall combine Parcels K-11-38-363-003 and K-11-38-363-029.

The Planning Commission approves the 3 at-grade lights that are intended to light a flag pole since such fixtures would enhance the aesthetics of the site and would not cause off-site glare or light pollution.

The applicant shall contribute \$43,600 to the Township tree fund for the removal of 109 trees since the ability to provide the tree replacements onsite is not feasible.

The applicant shall obtain applicable Washtenaw County Water Resources Commission, Washtenaw County Road Commission and Michigan Department of Environment Great Lakes and Energy Permits and if acceptable to the franchise the applicant shall install video cameras covering all exterior parking areas and store records of the video for 45 days and make said records available to law enforcement upon request.

The motion carried as follows:

Sinkule: Yes Peterson: Yes Eldridge: Yes Krieg: Yes Tawakkul: Yes

El-Assadi: Yes

6. NEW BUSINESS

None

7. NEW BUSINESS

A. None

8. OPEN DISCUSSION FOR ISSUES NOT ON THE AGENDA

A. CORRESPONDENCE RECEIVED

None

B. PLANNING COMMISSION MEMBERS

None

C. MEMBERS OF THE AUDIENCE

None

9. TOWNSHIP BOARD REPRESENTATIVE REPORT

Commissioner Eldridge commended Ms. Masson-Minock, Ms. Wilson, Mr. Iacoangeli, Attorney McLain, Attorney Winters and Attorney King on a job well done.

10. ZONING BOARD OF APPEALS REPRESENTATIVE REPORT

None

11. TOWNSHIP ATTORNEY REPORT

None

12. PLANNING DEPARTMENT REPORT

Mr. Iacoangeli said the Master Plan will be before the Township Board at their next meeting. There will not be a 2nd Planning Commission meeting the month of February due to lack of agenda. The sign ordinance will be discussed at an upcoming meeting as it needs to be updated.

13. OTHER BUSINESS

None

A motion was made by a Commissioner Krieg, supported by Commissioner Eldridge to adjourn the meeting. The motion carried unanimously.

The meeting was adjourned at 7:36pm

Respectfully submitted,
Laura Gough
OCS Clerk

PUBLIC HEARINGS AND SITE PLAN REVIEW

Director's Report

Project Name:
 Description:
 Date of Agenda this
 packet pertains to:

- | | |
|---|--|
| <input type="checkbox"/> Public Hearing
<input type="checkbox"/> Initial Submittal
<input type="checkbox"/> Revised Plans
<input type="checkbox"/> Preliminary Approval
<input type="checkbox"/> Final Approval | <input type="checkbox"/> Special Land Use
<input type="checkbox"/> Rezoning
<input type="checkbox"/> Tentative Preliminary Plat
<input type="checkbox"/> Final Preliminary Plat
<input type="checkbox"/> Other _____ |
|---|--|

Contact	Consultants & Departments	Approval	Denial	Approved w/ Conditions	Comments
Jason Iacoangeli	Planning Director				
OHM / Stantec	Engineering Consultant				
Carlisle/Wortman Associates	Planning Consultant				
James Drury	MDOT				
Dan Kimball	Fire Department				
Scott Westover	YCUA				
Theresa Marsik	WCWRC				
Dave Bellers	Building Official				
Brian McCleery	Assessing Department				

Planning Director's Recommended Action: The preliminary site plan and special land use permit will be placed on the March 24, 2020 Planning Commission agenda.

-Jason Iacoangeli, AICP, Planning Director



Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Date: June 15, 2017
September 3, 2017
March 1, 2019
February 27, 2020

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

GENERAL INFORMATION

Applicant:	Mike Louzon, Sunco Properties
Project Name:	Sunco Quick Oil Lube Center
Plan Date:	January 14, 2019
Location:	Southwest corner of E. Michigan Avenue and W. Wiard Rd
Zoning:	B-3, General Commercial
Action Requested:	Special Use and Preliminary Site Plan Approval

PROJECT AND SITE DESCRIPTION

An application has been submitted for the construction of a Quick Oil lube center on a 1-acre parcel located on the southwest corner of E. Michigan Avenue and W. Wiard Rd. The proposal includes a 2,783 sq/ft (noted as 3,500 sq/ft on cover sheet. Please correct) structure, to include 2-repair bays for the purpose of light auto repair and 2-repair bays for the purpose of oil changes. The parcel is currently vacant but includes an access drive to serve the house on the parcel directly to the west.

The site is zoned B-3, General Commercial, per Section 1102 the proposed use is a principal use permitted subject to special conditions. Planning Commission review for granting a Special Land Use are stated in Section 2119 and are identified in the content of this review.

Location of Subject Property:



Surrounding Property Details:

Direction	Zoning	Use
North	I-1, Light Industrial	Future Home of Penske Vehicle Repair
South	I-1, Light Industrial	Auto Repair
East	B-3, General Business	Vacant / Junk Yard
West	B-3, General Business	Single-Family Residential

Size of Site:

The area for the proposed development is approximately 1-acre.

Current Use of Site:

The subject parcel is vacant land.

Proposed Use of Site:

The proposed use will be an oil change and light auto repair facility. No major repair will be conducted on site.

MASTER PLAN

Per the E. Michigan Avenue and Ecorse Road Placemaking Plan future land use map, the use for the subject parcel is designated as Industrial/Research. The plan notes that future zoning changes are necessary to ensure “undesirable land uses can be contained, and desired uses can be stimulated.” The Township is working through the zoning rewrite and has not amended the zoning in the area. A future point of discussion is the zoning of automobile uses along Michigan Avenue. However, through screening and site operations, there are site plan changes identified to ensure compatibility with the Master Plan. Various elements of the master plan in relation to the site plan are identified in this report.

Items to be Addressed: Address site plan issues below

NATURAL RESOURCES & UTILITIES

Topography: The subject parcel relatively flat in all directions.

Woodlands: The parcel has a few scattered trees. The trees do not meet the requirement for protection under the Township’s Woodland Protection Ordinance.

Wetlands: There are no wetlands located on the subject parcel.

Items to be Addressed: None

SITE USE

The proposal includes a 2,783 sq/ft (noted as 3,500 sq/ft on cover sheet. Please correct) structure, to include 3-repair bays, for the purpose of light auto repair, and 2-repair bays for the purpose of oil changes.

The applicant has added a note on the cover sheet that all vehicle repair or associated use will be conducted within the enclosed building and the applicant will not store any materials outside. In addition, they have added the following note: *Vehicles shall not be allowed to be stored outside the building for more than 48 hours unless awaiting repair for which a "work order," signed by the owner of the vehicle, is posted in the vehicle so as to be visible from outside the vehicle.* This is an ordinance requirement.

Due to proliferation of automobile-oriented uses in the area, the existing condition of a single-family house directly adjacent, and the Master Plan guidance in improving area aesthetics, and encouraging investment in the area, the Planning Commission may place a reasonable condition with regards to outdoor storage. The Planning Commission should consider requiring that no vehicles shall be parked outside overnight. All vehicles under repair or to be repaired shall be pulled inside the building after hours. Violation of this term could be grounds to revoke Site Plan and Special Land Use approval.

Items to be Addressed: 1). Correct square footage; and 2). Planning Commission to consider requiring that no vehicles shall be parked outside overnight. All vehicles under repair or to be repaired shall be pulled inside the building after hours.

HEIGHT, BULK, DENSITY AND AREA

We find the structure and design layout the meets the height, bulk, density and area zoning ordinance requirements.

	Required / Allowed	Provided	Complies with Ordinance	
Lot Area	N/A	1 Acre	Complies	
Lot Width	N/A	Primary Frontage: 200 Feet	Complies	
Setback	Front	20 feet	62 Feet	Complies
	Front (east)	20 Feet	43 Feet	Complies
	Side (west)	10 Feet	34.5 Feet	Complies
	Rear	20 Feet	83 Feet	Complies
Building Height (Feet)	25 Feet	24 feet to peak	Complies	
Building Height (Stories)	2	1	Complies	
Distance between buildings	N/A	N/A	Complies	

Items to be Addressed: None

SITE ACCESS, CIRCULATION, AND TRAFFIC IMPACTS

The site has approximately 230 linear feet of frontage on E. Michigan Ave., and approximately 240 linear feet of frontage on Wiard Rd. The applicant proposes one curb cut on Michigan Avenue and one on Wiard Road. The applicant is required to obtain approvals from Washtenaw County Road for work in the Wiard Road Right-of-Way, and MDOT approvals for work in the Michigan Avenue Right-of-Way.

The drive approach and driveway onto the site serves both this parcel and the adjacent residential parcel (2340 Michigan Avenue). A cross-access easement has been granted from the applicant to the owner of 2340 Michigan Avenue.

The applicant shall confirm that truck turning and access is sufficient from Township Engineer and Fire Marshall. The minimum drive-aisle width is 24-feet.

Items to be Addressed: Confirm that truck turning, and access is sufficient from Township Engineer and Fire Marshall.

NON-MOTORIZED ACCESS

The applicant is proposing the installation of a five (5) foot wide concrete sidewalk fronting E. Michigan Ave. Per Section 214.5 of the zoning ordinance, *concrete paved safety paths for bicycles and pedestrians not less than eight feet wide shall be provided on both sides of all major and secondary thoroughfares as designated on the master plan of future land use.*

E. Michigan Ave. is designated as an arterial/major street and therefore installation of an eight (8) foot wide concrete safety path is required. The applicant is providing the required eight (8) foot safety path. Additionally, due to the nature of the subject parcel being a corner lot with two road frontages, a five (5) foot wide sidewalk shall be installed on the Wiard Rd. frontage, of the property or applicant make a payment in lieu. The applicant has agreed to make a payment in lieu of an installing a sidewalk on Wiard.

Items to be Addressed: As part of site plan approval, applicant agrees to make payment of lieu of sidewalk on Wiard.

PARKING

Per Section 2104 2.d.(1) the parking requirement is as follows:

Parking Requirements	Number of Spaces Required	Number of Spaces Provided
Auto Repair: Two (2) spaces for each stall plus one (1) for each employee	8 spaces for bays and 5 spaces for employees = 13 spaces	13 spaces
Oil Change: Two stacking spaces per stall plus one (1) for each employee		
Barrier-Free Spaces	1 space	1 space
Loading spaces	1 space	1 space

The required parking has been provided.

Items to be Addressed: None

EXTERIOR LIGHTING

The applicant is proposing building lighting only. The photometrics and fixtures meet ordinance requirements.

Items to be Addressed: None

LANDSCAPE STANDARDS AND REQUIREMENTS

Upon thorough review of the site plan landscape requirements, we have determined the landscape plan provided meets the general intent and minimum requirements of the zoning ordinance.

However, we note the following points for discussion:

1. The ordinance requires that a four-foot, six-inch obscuring wall shall be provided and maintained on those property lines adjacent to or abutting a residential district. Applicant notes that a wall is not feasible because of the location of a water main. Instead, the Applicant is proposing a six-foot tall vinyl fence with landscaping. A fence detail was not provided. The Planning Commission to determine if the applicant is required to provide a wall or if the fence is sufficient. If fence is sufficient a fence detail should be provided.
2. Applicant notes a row of hedges to screen parking along Michigan Avenue. In order to improve the visual impact of the use upon Michigan Avenue, we recommend a three-foot tall knee wall to screen parking from Michigan Ave.

Items to be Addressed: 1). Planning Commission to determine if the applicant is required to provide a wall or if the fence is sufficient. If fence is sufficient applicant shall provide a fence detail; and 2). Consider installation of a three-foot tall knee wall to screen onsite parking.

BUILDING ELEVATIONS AND FLOOR PLAN

In an earlier review we noted that per the Schedule Regulating Exterior Building Wall Materials in Section 2125 (8), the building is primarily masonry. The applicant has added two brick soldier courses along the rear and side elevations and one row of soldier course on the side elevations.

The applicant should provide full color elevations to fully understand the architectural treatment of the building.

Items to be Addressed: *Provide full color elevations.*

DUMPSTER ENCLOSURE

The dumpster will be enclosed with a masonry wall that matches masonry on building and a cedar gate.

Items to be Addressed: *None.*

DETENTION/RETENTION POND

The site plan indicates a bioretention area along Michigan Avenue and a large bioretention area in the rear portion of the site. We defer review to engineering.

Items to be Addressed: *Engineering to review proposed detention/retention pond.*

ESSENTIAL FACILITIES AND SERVICES

YCUA to confirm that utility requirements have been met. Washtenaw Water Resources Commission to confirm that stormwater management requirements have been met.

Items to be Addressed: *None*

AUTOMOTIVE REPAIR STANDARDS

Section 1102 outlines specific standards for Automotive Repair uses:

- a. Access to such use shall be directly to a major or collector street or shall be to a minor street which has direct access to an abutting major or collector street.

Primary access to the site is via Michigan Avenue with secondary access via Wiard which has direct access to Michigan Avenue.

- b. Access to and from such use shall not be cause for traffic to utilize residential streets.

The site is located at the corner of a primary arterial and a collector street. Access will not cause traffic to any residential street.

- c. Outdoor storage of parts or materials shall be prohibited unless such storage is within a fenced and obscured area which meets all setback requirements.

Applicant has agreed to this requirement and added note to the plan set.

- d. Vehicles shall not be allowed to be stored outside the building for more than 48 hours unless awaiting repair for which a "work order," signed by the owner of the vehicle, is posted in the vehicle so as to be visible from outside the vehicle.

Applicant has agreed to this requirement and added note to the plan set.

- e. Areas for off-street parking required for customer use shall not be utilized for the storage of vehicles awaiting repair.

Applicant has agreed to this requirement and added note to the plan set. Due to proliferation of automobile-oriented uses in the area, the existing condition of a single-family house directly adjacent, and the Master Plan guidance in improving area aesthetics, and encouraging investment in the area, the Planning Commission may place a reasonable condition with regards to outdoor storage. The Planning Commission should consider requiring that no vehicles shall be parked outside overnight. All vehicles under or to be repaired shall be pulled inside the building after hours. Violation of this term could be grounds to revoke Site Plan and Special Land Use approval.

- f. All vehicle servicing or repair, except minor repairs such as, but not limited to, tire changing and headlight changing, shall be conducted within a building.

Applicant has agreed to this requirement and added note to the plan set.

- g. Suitable containers shall be provided and utilized for the disposal of used parts and such containers shall be screened from public view.

Applicant has shown a dumpster on the south end of the property that will be screened. The applicant has indicated that oil will be stored in the building.

- h. A four-foot, six-inch obscuring wall shall be provided and maintained on those property lines adjacent to or abutting a residential district.

The ordinance requires a four-foot, six-inch obscuring wall shall be provided and maintained on those property lines adjacent to or abutting a residential district. Applicant is proposing a six-foot tall vinyl fence. Fence detail was not provided. The Planning Commission to determine if the applicant is required to provide a wall or if the fence is sufficient. In order to improve the visual impact of the use upon Michigan Avenue, we recommend a three-foot tall knee wall to screen parking from Michigan Ave.

- i. A site plan shall be submitted to the planning commission for its review and approval prior to the issuance of a building permit.

Applicant has submitted site plan for review.

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 the ordinance. The Planning Commission shall find and report adequate data, information, and evidence showing that the proposed use meets all required standards and:

- a. Will be harmonious, and in accordance with the objectives, intent, and purpose of this ordinance.
- b. Will be compatible with a natural environment and existing and future land uses in the vicinity.
- c. Will be compatible with the township master plans.
- d. 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.
- e. Will not be detrimental, hazardous, or disturbing to existing or future neighboring uses, persons, property, or the public welfare.
- f. Will not create additional requirements at public costs for public facilities and services that will be detrimental to the economic welfare of the community.

The Planning Commission has the authority to approve, approve with conditions or deny the application for a special land use. In granting a special land use permit, the planning commission shall impose any conditions it deems necessary to achieve the objective and standards of this ordinance and identify said conditions in a motion. Of particular focus is insuring consistency with master plan principles of quality buildings, material use and design; as well as compatibility and protection of adjacent land uses and Michigan Avenue through screening.

Recommendation: Address site plan issues noted in the report

RECOMMENDATION

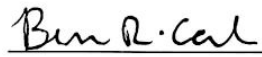
Due to proliferation of automobile-oriented uses in the area, the existing condition of a single-family house directly adjacent, and the Master Plan guidance in improving area aesthetics, and encouraging investment in the area, the Planning Commission may place a reasonable condition with regards to outdoor storage. The Planning Commission should consider requiring that no vehicles shall be parked outside overnight. All vehicles under or to be repaired shall be pulled inside the building after hours. Violation of this term could be grounds to revoke Site Plan and Special Land Use approval.

We recommend Special Use and Preliminary Site Plan Approval with the following conditions:

1. *Correct square footage;*
2. *No vehicles shall be parked outside overnight. All vehicles under repair or to be repaired shall be pulled inside the building after hours.*
3. *Confirm that truck turning and access is sufficient from Township Engineer and Fire Marshall.*
4. *Install a three-foot tall knee wall to screen onsite parking.*
5. *Planning Commission to determine if the applicant is required to provide a wall or if the fence along the western property line is sufficient. If fence is sufficient applicant shall provide a fence detail.*

Sunco Quick Oil Lube Center
February 27, 2020

6. Applicant agrees to make payment of lieu of sidewalk on Wiard.
 7. Provide full color elevations.
-



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

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT

BUREAU OF FIRE PREVENTION

222 South Ford Boulevard, Ypsilanti, MI 48198



February 27, 2020

Jason Iacoangeli, Planning Director
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, MI 48197

RE: Preliminary (non-residential) Site Plan Review #4
Project Name: Sunco Quick Oil Lube
Project Location: 2380 E. Michigan
Plan Date: 1/14/2019
Project Number: 16130
Applicable Codes: IFC 2012
Contractor: Vitins Engineering
Contractor Address: 44275 Branywyne Canton, MI 48187

Status of Review

Status of review: Approved Conditionally (see comments)

Pages [T-1, C-1 & C-1A] were reviewed.

Site Coverage - Hydrants

Comments: Meets IFC 2018 Appendix C

Site Coverage - Access

Comments: Page C-1A, the truck turning radius needs to start at both the entrances of the property coming off of the roads, using a 35 foot truck.

Sincerely,

A handwritten signature in black ink that reads "Dan Kimball". The signature is written in a cursive style and is positioned above a horizontal line.

Dan Kimball, Fire Marshal
Charter Township of Ypsilanti Fire Department
CFPS, CFI II, CFPE

February 28, 2020

Mr. Jason Iacoangeli
Township Planning Director
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, MI 48197

RE: Sunco Quick Oil Lube Center
Site Plan Review #4

Dear Mr. Iacoangeli:

We have completed the fourth site plan review of the plans dated May 16, 2017, with a latest revision date of November 27, 2019, and stamped received by OHM Advisors on February 14, 2020.

At this time, the plans are recommended for approval for the Planning Commission's consideration, contingent on the following site plan comment being addressed prior to the next plan submittal. 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 (Section A), followed by our comments (Section B and C) and a list of anticipated required permits and approvals (Section D). 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 one-story, 2,783 square-foot general auto service facility and parking lot. Twelve (12) parking spaces are proposed, including one (1) handicap accessible space. The applicant is also proposing a 1-inch water service line, a 12-inch storm sewer service, a 6-inch sanitary sewer service, and a storm water management system with three (3) bio-retention areas.

B. SITE PLAN COMMENT:

1. The applicant shall revise the provided Truck Turning Template to account for a Fire Truck with an overall length of 35-feet, instead of the current parameter of 30-feet. It is recommended that the template show the turning motion from Michigan Avenue onto the site and through the north side of the parking lot.

C. PRELIMINARY DETAILED ENGINEERING PLAN COMMENTS

1. The applicant shall provide stormwater conveyance calculations for the proposed storm sewer pipe runs. Stormwater conveyance shall be provided per the requirements of the Washtenaw County Water Resources Commissioner's office. The applicant shall also provide the C-Factor calculations used in the Drainage Areas & Stormwater Management Calculations sheet.



2. The applicant shall provide structure details for the proposed inlet and proposed catch basin within the plan set. The applicant shall also provide a profiled view of the proposed stormwater system and an accompanied proposed hydraulic grade line.
3. The applicant shall revise the proposed bioretention area detail to remove “Shredded Bark Mulch Per MDOT Specifications,” and replace the item with “Leaf Compost or Shredded Hardwood. Avoid Wood Chips Per WCWRC Specifications.”
4. Spot grades at all four corners of the proposed handicap-accessible parking space shall be provided to ensure ADA compliance and the 2% maximum cross slope is not exceeded. Additionally, spot grades shall be provided at all four corners of level landings of the sidewalk fronting Michigan Avenue. It is recommended that the applicant provide an additional level landing to tie into at the proposed ramp located to the northwest corner of the site.
5. The applicant shall provide a cross-section detail for the proposed concrete sidewalk along the Michigan Avenue right-of-way.
6. It is recommended that the applicant remove existing spot elevations from the proposed grading sheet to decrease potential confusion.
7. The applicant shall revise the proposed architectural design to be consistent with the proposed building dimensions and interior layout, as it currently appears the architectural design is referring to a previously proposed 3,568 sqft building.

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: elliott.smith@ohm-advisors.com).

- ▶ **Ypsilanti Township Board of Trustees (BOT):** After approval of the site plan by the Township Planning Commission, detailed engineering drawings are required and approvals from all applicable agencies will be required for BOT approval.
- ▶ **Ypsilanti Community Utilities Authority (YCUA):** Review and approval required for the proposed water service and sanitary service.
- ▶ **Ypsilanti Township Fire Department:** Review and approval is required.
- ▶ **Michigan Department of Transportation (MDOT):** Review and approval required for all work in the Michigan Avenue Right-of-Way. *Reviewed and approved on December 4, 2019.*
- ▶ **Washtenaw County Water Resources Commissioner’s Office (WCWRC):** Review and approval is required. *Reviewed and approved on August 29, 2017.*
- ▶ **Washtenaw County Road Commission (WCRC):** Review and approval is required for all work within the Wiard Road Right-of-Way.
- ▶ **Ypsilanti Township Office of Community Standards:** A Soil Erosion and Sedimentation Control permit shall be secured from the Ypsilanti Township Office of Community Standards.
- ▶ The Township’s Planner will inspect the landscaping for this site.
- ▶ If dewatering should be needed, the contractor/applicant shall be responsible for obtaining necessary approvals from the Township and the Township Engineer, permission from all impacted adjacent properties and/or permits from MDOT, WCWRC’s Office, or the WCRC.
- ▶ Record plans shall be provided to the Township Engineer following the completion of construction.

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



Sincerely,
OHM Advisors

Matthew D. Parks, P.E.

Elliot R. Smith

MDP/ERS

cc: Charlotte Wilson, Township Planning & Development Coordinator
Mike Radzik, Township Community Standards Director
Doug Winters, Township Attorney
Dan Kimball, Township Fire Marshall
Scott Westover, P.E., YCUA
Gary Streight, P.E., WCRC
Andrew Hodges, MDOT (hodgesa@michigan.gov)
Theresa Marsik, P.E., WCWRC
File

P:\0000_0100\SITE_YpsilantiTwp\2017\0098171030_Sunco_Quick_Oil_Lube\MUNI\SITE\SP-4\Sunco_Site Plan_#4_2020-02-27.docx



YPSILANTI COMMUNITY UTILITIES AUTHORITY

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

February 28, 2020

VIA ELECTRONIC MAIL

Mr. Jason Iacoangeli, Planning Director
Office of Community Standards
CHARTER TOWNSHIP OF YPSILANTI
7200 S. Huron River Drive
Ypsilanti, MI 48197

Re: Preliminary (non-residential) Site Plan Review #4
Sunco Quick Oil Lube
Charter Township of Ypsilanti (Plan Date: 11-27-2019)

Dear Mr. Iacoangeli:

In response to the electronic mail message you sent February 14, 2020, we have reviewed the referenced plans with regards to water supply and wastewater system design. The plans are acceptable to the Authority for this stage of review.

As noted in the July 11, 2017 letter from this office, connection fees apply for the proposed building. Please note that the total cash price for connection fees, **\$1,522.03 plus the construction phase escrow deposit, Authority administration fee, and record plan guarantee**, must be paid to the Authority 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,



SCOW Digital Signature

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

cc: Mr. Jeff Castro, Mr. Mike Shaffer, File
Mr. Mike Radzik, Ms. Charlotte Wilson, Charter Township of Ypsilanti
Mr. Eric Copeland, Mr. Dan Kimball, Township Fire Department
Mr. Matt Parks, P.E., Township Engineer
Mr. Craig Heidelberg, MDOT
Mr. Gary Streight, P.E., WCRC
Mr. Mike Louzon, Applicant
Mr. Uldis Vitins, P.E., Applicant's design engineer

RECEIVED
BY CW

FEB 14 2020

Uldis Vitins <vitins@umich.edu>



YPSILANTI TOWNSHIP

OCS

Quick Oil Lube Center. 2380 E. Michigan Avenue (MDOT #47084)

Drury, James (MDOT) <DruryJ@michigan.gov>
To: Uldis Vitins <vitins@umich.edu>
Cc: Mike Louzon <mlouzon@suncopetroleum.com>

Wed, Dec 4, 2019 at 7:30 AM

Uldis,

The initial permit review has been completed.

Please have the contractor obtain a \$20,000 performance bond and liability insurance through e-performance. See attached.

Once completed, send the signed and sealed original bond to my office. The bond will remain on file for the duration of the permit work.

If you have any questions, just let me know.

Thanks,

James Drury

MDOT Permit Agent

10321 E. Grand River Suite 500 Brighton, MI 48116

Cell: 248-207-5594

Office: 810-225-2620



[Quoted text hidden]



NOTICE TO INSURANCE OR SURETY AGENT.docx

15K

THIS DRAWING IS AND SHALL REMAIN THE PROPERTY OF T.S. QUATRO COMPANY INC. NO REPRODUCTION OR ALTERATION OF ANY KIND WITHOUT THE WRITTEN PERMISSION OF T.S. QUATRO COMPANY INC. IS PROHIBITED BY LAW.

ROBERT NOE ARCHITECTURE
 1500 W. 14TH ST. #410
 YPSILANTI, MI 48198
 (734) 485-0882

QUATRO CONSTRUCTION LLC
 DESIGN BUILD CONTRACTOR
 COMMERCIAL/INDUSTRIAL/RESIDENTIAL
 201 NORTH PARK STREET
 YPSILANTI, MI 48198
 PHONE (734) 485-7737, FAX (734) 485-7873

NEW COMMERCIAL BUILDING
 2380 E. MICHIGAN AVE
 YPSILANTI, MI 48198

ISSUE DATE
 02/17/2020

DRAWN BY: K.C./V.R.
 CHECKED BY: V.R.
 APPROVED BY: V.R./T.Q.

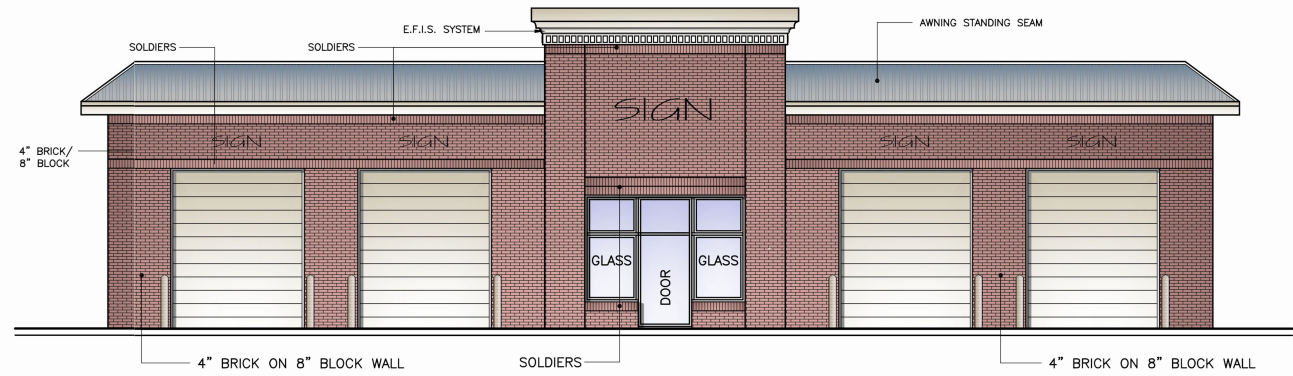
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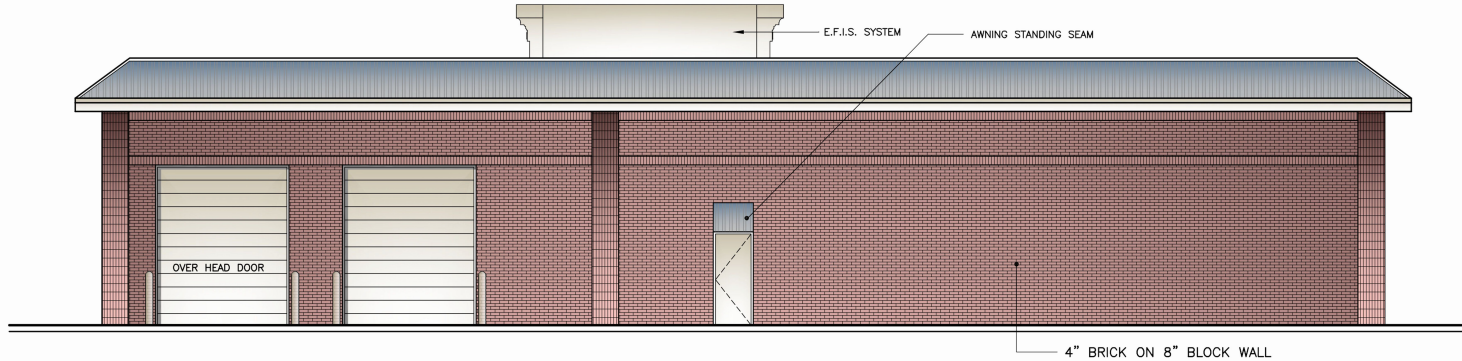
PROJECT NO.: 2714

SHEET TITLE:
 RENDERED ELEVATIONS

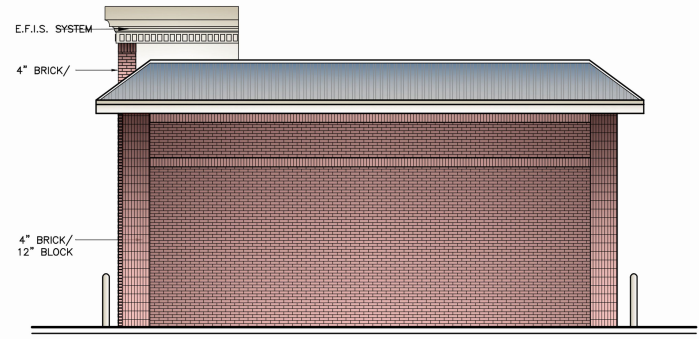
SHEET NO.: A-3



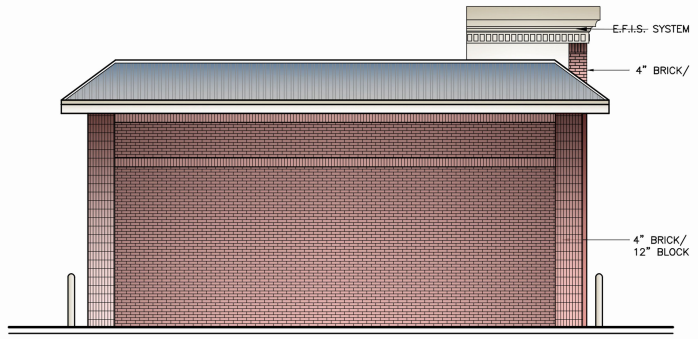
PROPOSED FRONT ELEVATION



PROPOSED REAR ELEVATION



PROPOSED RIGHT SIDE ELEVATION



PROPOSED LEFT SIDE ELEVATION

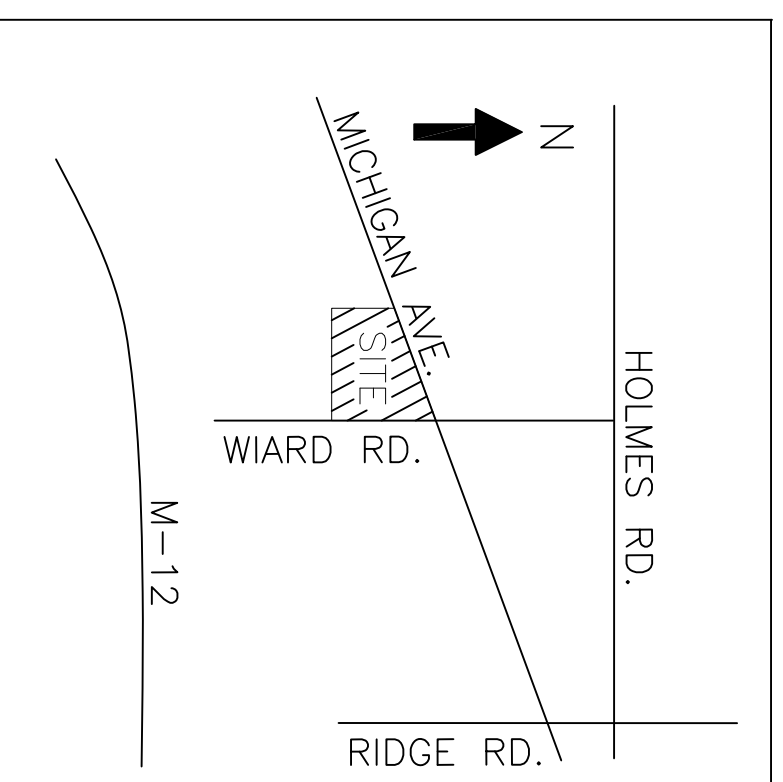
YPSILANTI TOWNSHIP NOTES:

- 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.
 - OWNER SHALL DEPOSIT FUNDS IN A YPSILANTI TOWNSHIP ACCOUNT FOR CONSTRUCTION OF A FUTURE SIDEWALK ALONG WARD ROAD.
 - REFER TO ARCHITECT'S DRAWINGS FOR BUILDING DETAILS AND DIMENSIONS INCLUDING EXTERIOR BUILDING LIGHTS. ANY ROOF-TOP EQUIPMENT SHALL BE SCREENED. REFER TO ARCHITECT DRAWINGS.
 - ALL VEHICLES SHALL BE REPAIRED INSIDE THE BUILDING. VEHICLES SHALL NOT BE STORED OUTSIDE THE BUILDING FOR MORE THAN 48 HOURS UNLESS AWAITING REPAIR. SUCH VEHICLES SHALL HAVE A "WORK ORDER", SIGNED BY THE OWNER, POSTED IN A LOCATION VISIBLE FROM OUTSIDE THE VEHICLE.
 - NO MATERIALS SHALL BE STORED OUTSIDE OF THE BUILDING. ALL RECYCLABLES SHALL BE STORED INSIDE THE BUILDING.
 - 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 MICHIGAN AVENUE AND WARD ROAD RIGHT-OF-WAY.
 - A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE OBTAINED FROM THE CHARTER TOWNSHIP OF YPSILANTI.
 - WATER MAIN CONSTRUCTION PERMIT SHALL BE OBTAINED FROM THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ).
 - 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 & BOUNDARY SURVEY PREPARED BY LANDWISE INC., FILE NO. 16-1917501 REVISED MARCH 14, 2019.
- 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.

QUICK OIL LUBE CENTER

2380 EAST MICHIGAN AVENUE

PART OF THE SE 1/4 OF SECTION 2, T.3S., R.7E.
YPSILANTI TOWNSHIP, WASHTENAW COUNTY, MICHIGAN



VICINITY MAP
NO SCALE

SHEET NO.	DESCRIPTION
T-1	ENGINEER DRAWINGS:
C-1	COVER SHEET
C-1A	DIMENSIONAL SITE PLAN & LIGHTING PLAN
C-2	TRUCK TEMPLATE SITE PLAN
C-2	PAVING PLAN
C-3	GRADING & SOIL EROSION CONTROL PLAN
C-4	DRAINAGE AREAS & STORMWATER MANAGEMENT CALCULATIONS
C-5	DEMOLITION PLAN
C-6	BIORETENTION AREA DETAIL
C-7	SECC NOTES & DETAILS
C-8	CONSTRUCTION DETAILS
C-9	ADOT STANDARD DETAILS
C-10	ADOT STANDARD DETAILS
C-11	ADOT STANDARD DETAILS
C-12	ADOT STANDARD DETAILS
C-13	INTEGRATION BASIN EXPLORATION TEST RESULTS
C-14	LANDSCAPE PLAN
L-1	LANDSCAPE PLAN
4 SHEETS	STORMWATER MANAGEMENT SYSTEM CALCULATIONS
9 SHEETS	ARCHITECT DRAWINGS: FLOOR PLAN, ELEVATIONS AND DETAILS SURVEYOR DRAWINGS: TOPOGRAPHIC & BOUNDARY SURVEY
TS-1	

OWNER

MR. MIKE LOUZON
 SUNCO PROPERTIES L.L.C.
 35445 GERRON COURT
 ROMULUS, MICHIGAN 48174
 (734) 494-0380 (PHONE)
 (734) 494-5991 (FAX)

ARCHITECT

ARCHITECTURAL DESIGN AND CONSTRUCTION
 5465 SCHAEFER ROAD
 DEARBORN, MICHIGAN 48126
 (313) 582-8800 (PHONE)
 (313) 582-5353 (FAX)

CIVIL ENGINEER

VITINS ENGINEERING
 44275 BRANDYWINE
 CANTON, MICHIGAN 48187
 (734) 453-3460 (PHONE)

DESCRIPTION	NUMBER	DATE
MDOT ROW CONSTRUCTION PERMIT	PENDING	
SECC PERMIT	PENDING	
WCRC ROW CONSTRUCTION PERMIT	PENDING	

USE STATEMENT

QUICK OIL CHANGE AND AUTOMOTIVE REPAIR
 HOURS OF OPERATION:
 MONDAY THROUGH FRIDAY: 8 AM to 8 PM
 SATURDAY: 8 AM to 4 PM
 SUNDAY: 10 AM to 2 PM

SURVEYOR

LANDWISE INC.
 P.O. BOX 1952
 DEARBORN, MICHIGAN 48121
 (248) 257-5700 (PHONE)
 (248) 257-5555 (FAX)

PROJECT INFORMATION	
LAND AREA GROSS NET	1054 ACRES 0.866 ACRES
SITE ZONING	B-3, GENERAL BUSINESS DISTRICT
PROPOSED BUILDING AREA FIRST FLOOR BASEMENT	3,568 S.F. 1,290 S.F.
PROPOSED BUILDING USE	QUICK OIL CHANGE AND AUTOMOTIVE REPAIR
MAXIMUM LOT COVERAGE	NOT APPLICABLE
MAXIMUM BUILDING HEIGHT	25 FEET
SETBACKS FRONT SIDE REAR	20' REQUIRED 10' REQUIRED 20' REQUIRED
PARKING REQUIRED AUTO REPAIR OIL CHANGE TOTAL SPACES REQUIRED SPACES PROVIDED	2 FOR EACH REPAIR STALL + ONE EACH EMPLOYEE 2 STACKING SPACES + ONE EACH EMPLOYEE 2 REPAIR STALLS x 2 + 5 EMPLOYEES = 9 SPACES 13 SPACES INCLUDING 1 BARRIER FREE AND 4 STACKING SPACES

ISSUE NO.	DATE ISSUED:	DESCRIPTION:
1	5/16/2017	PRELIMINARY SITE PLAN
2	7/31/2017	REVISED PER TOWNSHIP, WCRC, WCRC AND MDOT REVIEW
3	1/14/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
4	10/17/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
5	11/27/2019	REVISED PER MDOT REVIEW

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

VITINS ENGINEERING
 Civil/Environmental Engineering
 Municipal Consulting
 Software Development

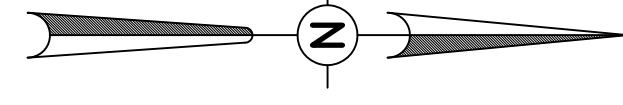
VITINS ENGINEERING
 44275 BRANDYWINE
 CANTON, MICHIGAN 48187
 TELEPHONE: (734) 453-3460
 FAX: (734) 453-3460
 WWW.VITINS-ENGINEERING.COM

PROJECT TITLE
**QUICK OIL LUBE CENTER
 2380 EAST MICHIGAN AVENUE
 CHARTER TOWNSHIP OF YPSILANTI
 WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
COVER SHEET

PROJECT NUMBER
16130

SHEET NUMBER
T-1

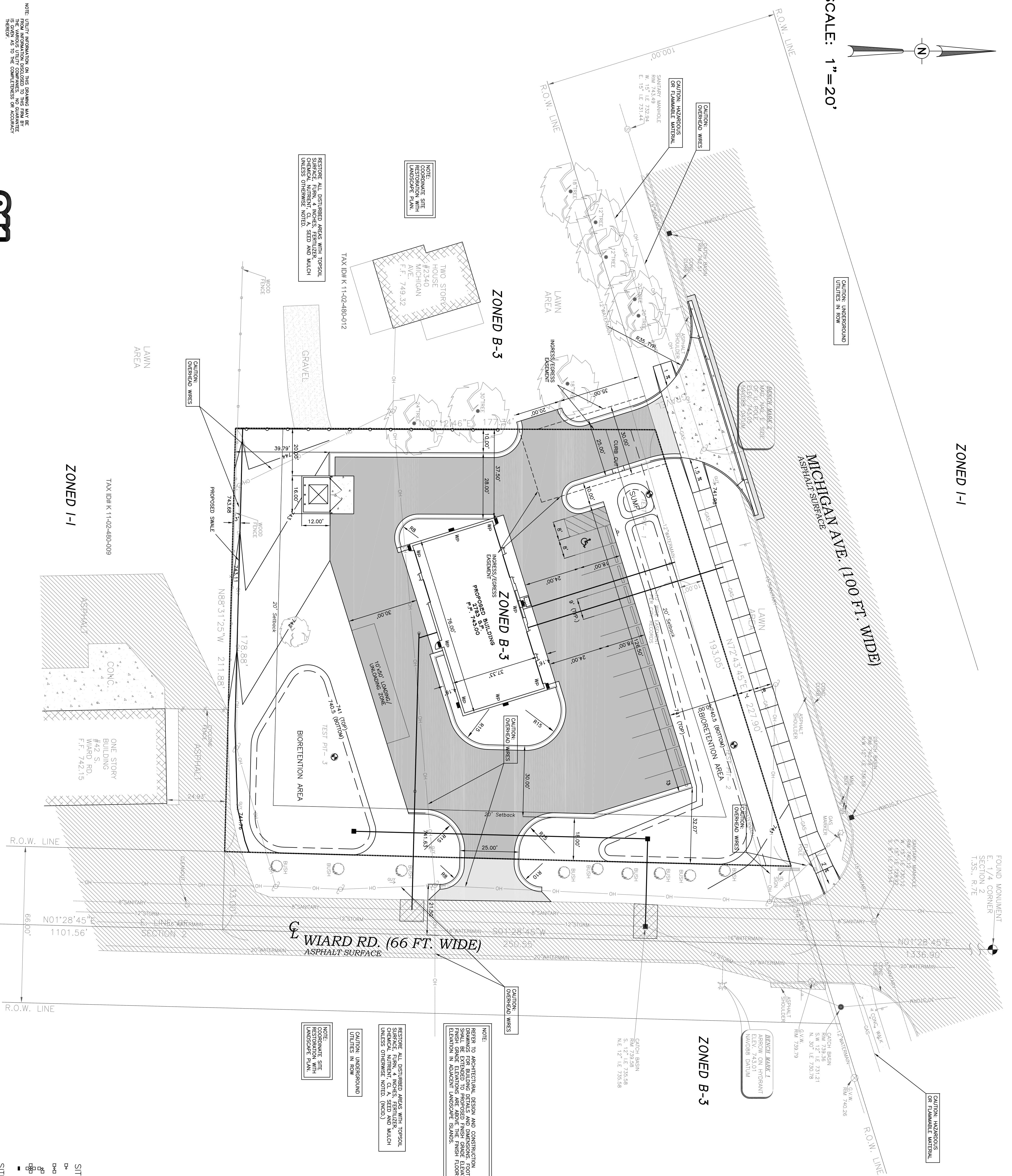


SCALE: 1"=20'

ZONED I-1

FOUND MONUMENT SECTION 2 CORNER T.3S., R.7E

ELECTRICAL NOTES
BUILDING MOUNTED LIGHT FIXTURES SHALL BE ON ONE CIRCUIT CONTROLLED BY A PHOTOCELL MOUNTED ON THE ROOF FACING NORTH. IF NEEDED, CONTRACTOR TO PROVIDE CONTROL DIAGRAM TO ENGINEER FOR APPROVAL. CONTROL CIRCUIT SHALL BE IN A NEMA-1 ENCLOSURE.
(2) #8 CONDUCTORS AND (1) #10 GND SHALL BE USED IN EACH CONDUIT RUN.
IF NEEDED, GALVANNEED ROD CONDUIT SHALL BE USED ON EXTERIOR OF EXISTING BUILDING AND IN THE 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 QUANTRO CONSTRUCTION, LLC.
ELECTRICAL SPECIFICATIONS
GENERAL REQUIREMENTS:
ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL LOCAL AND STATE REGULATIONS HAVING JURISDICTION THEREON.
ALL ELECTRICAL SYSTEMS SHALL BE SPECIFICATION GRADE AND SHALL HAVE U.L. LABEL FOR INTENDED USE.
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 PRE-WITTEN DIRECTION 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).
RECEPTACLES DESIGNATED "GF" 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 PER 600 VOLTS AND WITH THIN/TWAIN 75 DEVICES (DENVER/SD) CODE GRADE INSULATION.
ALL CONDUCTORS SHALL BE COPPER CONDUCTOR AND SHALL HAVE THIN OR THIN INSULATION AS APPLICABLE. CONDUCTORS NO. 8 AND LARGER SHALL BE STRANDED.
DISCONNECT SWITCHES:
DISCONNECT SWITCH SHALL BE HEAVY DUTY NEMA-1 ENCLOSURE AND SERVICE BATED ELSES.
ALL FIRES SHALL BE CURRENT LISTING TYPE, DUAL ELEMENT TYPE.
INSTALLATION AND METHODS OF EXECUTION:
ALL BIRDED 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 ELECTRIC METALLIC TUBING.
CONDUIT EXPOSED TO WEATHER, IN CONTACT WITH CONCRETE, BURIED IN SLAB, OR IN HAZARDOUS AREAS, SHALL BE HEAVY WALL, RIGID HOI DIRECTED GALVANIZED STEEL.
ALL WORK IN HAZARDOUS LOCATIONS SHALL BE DONE IN STRICT CONFORMANCE WITH WITH NEC ARTICLE 500. CONDUIT RINGS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. EXACT ROLLING ON CONDUIT RINGS 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 AND CONDUITS SHALL BE TERMINATED ABOVE THE CEILING.



GENERAL ALER 1
REVISIONS
ELEV. 743.01
HANDS DATA

ZONED B-3

CAUTION: UNDERGROUND UTILITIES IN ROW

NOTE:
REFER TO ARCHITECTURAL DESIGN AND CONSTRUCTION DRAWINGS FOR FINISH GRADE ELEVATIONS. CONTRACTOR SHALL BE EXTENDED TO PROPOSED FINISH GRADE ELEVATIONS. ELEVATION IN ALL PLACES SHALL BE AS SHOWN UNLESS OTHERWISE NOTED.
RESTORE ALL DISTURBED AREAS WITH TOPSOIL CHEMICAL NUTRIENT (C/N/P SEED AND MULCH UNLESS OTHERWISE NOTED.)
CAUTION: UNDERGROUND UTILITIES IN ROW

NOTE:
RESTORE ALL DISTURBED AREAS WITH TOPSOIL CHEMICAL NUTRIENT (C/N/P SEED AND MULCH UNLESS OTHERWISE NOTED.)
CAUTION: UNDERGROUND UTILITIES IN ROW

NOTE:
UTILITY INFORMATION ON THIS DRAWING MAY BE THE PROPERTY OF THE UTILITIES AND IS PROVIDED FOR INFORMATION ONLY. NO GUARANTEE IS MADE AS TO THE COMPLETENESS OR ACCURACY OF THIS INFORMATION.
ANY INFORMATION ON DATA ON THIS DRAWING IS NOT THE PROPERTY OF THE UTILITIES AND IS PROVIDED FOR INFORMATION ONLY. NO GUARANTEE IS MADE AS TO THE COMPLETENESS OR ACCURACY OF THIS INFORMATION.
CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE UTILITIES AND AVOIDANCE OF ANY OTHERS ON THE SITE.
THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE UTILITIES AND AVOIDANCE OF ANY OTHERS ON THE SITE.
CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE UTILITIES AND AVOIDANCE OF ANY OTHERS ON THE SITE.
CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE UTILITIES AND AVOIDANCE OF ANY OTHERS ON THE SITE.

FOUND MONUMENT SECTION 2 CORNER T.3S., R.7E

FOUND MONUMENT SECTION 2 CORNER T.3S., R.7E

LEGEND:
- OH - BOUNDARY LINE
--- OVERHEAD LINES
--- HYDRANT
--- UTILITY POLE
--- LIGHT POLE
--- CYCLONE FENCE
--- FOUND MONUMENT
--- FOUND IRON PIPE
--- SET SURVEY MARKET
--- SIGN
--- CATCH BASIN
--- SPOT ELEVATION
--- TOP OF CURB GRADE
--- GUTTER GRADE
--- SEWER MANHOLE
--- STORM MANHOLE
--- WATER SHUTOFF VALVE
--- EXIST. GRAVEL
--- EXIST. CONCRETE PAVEMENT
--- EXIST. BITUMINOUS PAVEMENT
--- EXIST. PAVEMENT
--- TREE

SITE LIGHTING LEGEND
L- LIGHT POLE - 1 HEAD
L-2- LIGHT POLE - 2 HEAD (180°)
L-3- LIGHT POLE - 2 HEAD (90°)
L-4- LIGHT POLE - 4 HEAD
B- BUILDING YARD LIGHT

SITE LIGHTING NOTES:
ALL BUILDING MOUNTED LIGHT FIXTURES ARE AS SHOWN ON THE DRAWINGS.
ALL LIGHTING SHALL BE PROVIDED BY EXTON (MCKINNON-EDSON GMC WALL PACK) REFER TO MANAUGHTON-WICKY ELECTRIC CO LIGHTING STUDY

ISSUE NO. DATE ISSUED DESCRIPTION:
1 5/16/2017 PRELIMINARY SITE PLAN
2 7/31/2017 REVISED PER TOWNSHIP, WCR, WCWR AND MDOIT REVIEW
3 1/14/2019 REVISED PER TOWNSHIP AND MDOIT REVIEW
4 10/17/2019 REVISED PER TOWNSHIP AND MDOIT REVIEW
5 11/27/2019 REVISED PER MDOIT REVIEW

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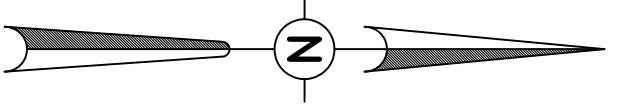
PROJECT TITLE
**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
**DIMENSIONAL SITE PLAN &
LIGHTING PLAN**

PROJECT NUMBER
16130

SHEET NUMBER
C-1

VITINS ENGINEERING
4475 BROADWAY
ANN ARBOR, MI 48106-1400
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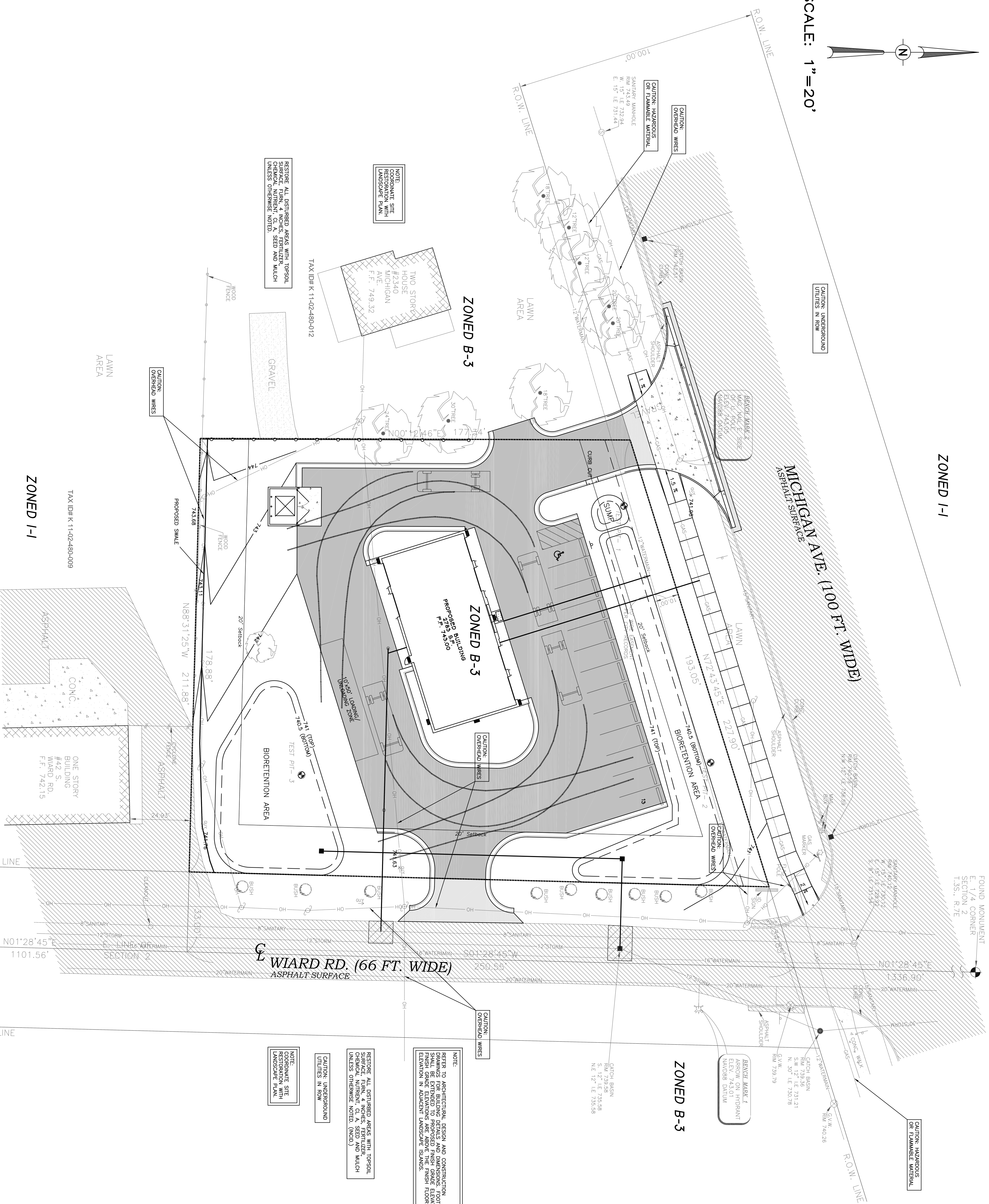
SCALE: 1" = 20'

ZONED I-1

FOUND MONUMENT
SECTION 2
T.35., R.7E

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.
- GARAGE TRUCKS WOULD HAVE A SIMILAR OR SMALLER MINIMUM TURNING RADIUS THAN THE DESIGN VEHICLE. OWNER SHALL CONTACT WASTE HAULING COMPANY FOR CONFIRMATION.

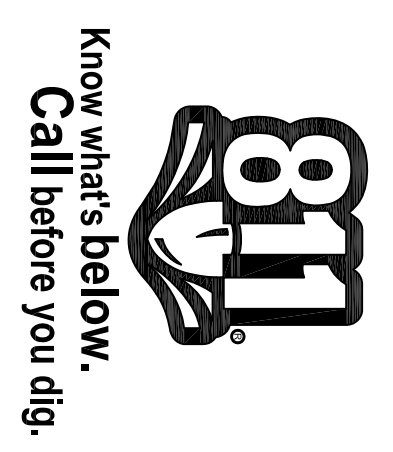


NOTE:
REFER TO ARCHITECTURAL DESIGN AND CONSTRUCTION SPECIFICATIONS FOR FINISHES AND CONSTRUCTION. FINISHES SHALL BE EXTENDED TO PROPOSED FINISH GRADE ELEVATIONS. ELEVATION IN ADVISORY AND/OR ASBESTOS ISLANDS.

NOTE:
RESTORE ALL DISTURBED AREAS WITH TOPSOIL CHEMICAL NUTRIENT MIXES, SEED AND MULCH UNLESS OTHERWISE NOTED. (INCLD.)

NOTE:
CORRESPONDING SITE RESTORATION WITH LANDSCAPE PLAN.

NOTE: UTILITY INFORMATION ON THIS DRAWING MAY BE INCOMPLETE. THE USER SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES IN CONTACT WITH THE PROPOSED CONSTRUCTION. ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONTACT WITH THE FIELD) SHALL BE CORRECTED IN ANY INFORMATION ON DATA ON THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OF ANY OTHERS. ANY INFORMATION ON DATA ON THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OF ANY OTHERS. ANY INFORMATION ON DATA ON THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OF ANY OTHERS. ANY INFORMATION ON DATA ON THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OF ANY OTHERS.



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LEGEND:

OH	BOUNDARY LINE
---	OVERHEAD LINES
⊕	HYDRANT
⊕	UTILITY POLE
☆	LIGHT POLE
⊕	CYCLONE FENCE
⊕	FOUND MONUMENT
⊕	FOUND IRON PIPE
⊕	SET SURVEY MARKET
⊕	SIGN
⊕	CATCH BASIN
⊕	SPOT ELEVATION
⊕	TOP OF CURB GRADE
⊕	GUTTER GRADE
⊕	SEWER MANHOLE
⊕	STORM MANHOLE
⊕	WATER SHUTOFF VALVE
⊕	EXIST. GRAVEL
⊕	EXIST. CONCRETE PAVEMENT
⊕	EXIST. BITUMINOUS PAVEMENT
⊕	TREE

PROJECT NUMBER
16130

SHEET NUMBER
C-1A

PROJECT TITLE
**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
**SITE PLAN
TRUCK TEMPLATE**

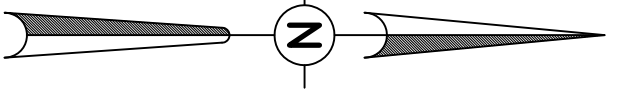
ISSUE NO.	DATE ISSUED:	DESCRIPTION:
1	5/16/2017	PRELIMINARY SITE PLAN
2	7/31/2017	REVISED PER TOWNSHIP, WCRC, WCRC AND MDOT REVIEW
3	1/14/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
4	10/17/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
5	11/27/2019	REVISED PER MDOT REVIEW

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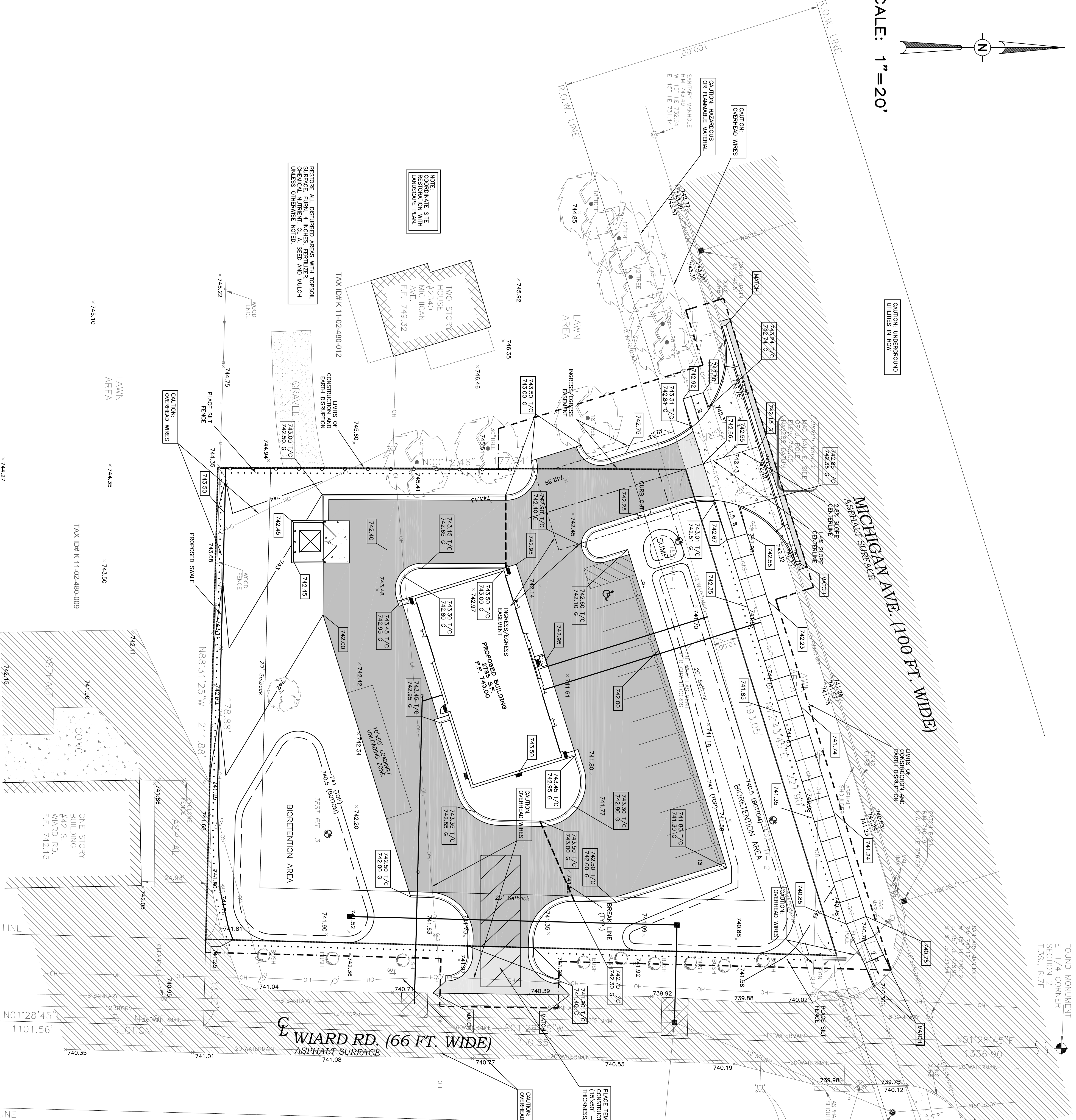
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Municipal Consulting
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SCALE: 1" = 20'



FOUND MONUMENT SECTION 2 T3S, R7E

FOUND MONUMENT SECTION 2 T3S, R7E

SITE GRADING NOTES:

1. REMOVAL AND SALVAGING TOPSOIL FROM BIOTENTION AREAS AND INSIDE PERIMETER OF PROPOSED PAVEMENT PER MDOT 205.034 SHALL BE INCORPORATED TO THE UNIT PRICE BID FOR OTHER ITEMS. TOPSOIL SHALL BE STOCKPILED IN UPLAND AREAS.
2. PREPARATION OF EARTH GRADE, EXCEPT FOR SUBGRADE UNDERCUTTING, INSIDE INFLUENCE OF PROPOSED PAVEMENT SHALL BE INCIDENTAL TO THE EARTH EXCAVATION SHALL BE DISPOSED OF IN UPLAND AREAS INCIDENTAL TO THE UNIT PRICE BID FOR OTHER ITEMS.
3. DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL, SURFACE PUMP 4", FERTILIZER, CHEMICAL NUTRIENT, CL 4, SEED AND MULCH INCIDENTAL TO THE CONTRACT.
4. OWNER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PARCELS WHICH ARE THE RESULT OF THE OWNER'S ACTIVITIES.
5. REFER TO SHEET C-10, MDOT 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:	SCHEDULE:		COMPONENTS:
	Day out within 24 hours of a storm	Day out within 24 hours of a storm	
Inspect for sediment accumulation	X	X	BIOTENTION AREA
Remove sediment accumulation	X	X	BIOTENTION AREA
Inspect for foundation and debris	X	X	BIOTENTION AREA
Cleaning of footcords and debris	X	X	BIOTENTION AREA
Inspect for erosion	X	X	BIOTENTION AREA
Reestablish vegetation on eroded slopes	X	X	BIOTENTION AREA
Clear parking areas and access drives	X	X	BIOTENTION AREA
Mowing	X	X	As needed

SECC NOTES:

1. PROPERTY OWNER, SUNDAY PROPERTIES L.L.C., IS RESPONSIBLE FOR MAINTAINING TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES.
2. THE OWNER/CONTRACTOR IS RESPONSIBLE FOR KEEPING MICHIGAN AVENUE AND WIARD ROAD FREE OF GRAVEL AND DIRT AT ALL TIMES DURING CONSTRUCTION ACTIVITIES FOR THIS PROJECT.
3. CONSTRUCTION ENTRANCE/EXIT IS TO BE MAINTAINED BY THE OWNER/CONTRACTOR UNTIL SITE PAVING HAS BEEN COMPLETED.

NOTE:

REFER TO ARCHITECTURAL DESIGN AND CONSTRUCTION SPECIFICATIONS FOR KEEPING MICHIGAN AVENUE AND WIARD ROAD FREE OF GRAVEL AND DIRT AT ALL TIMES DURING CONSTRUCTION ACTIVITIES FOR THIS PROJECT.

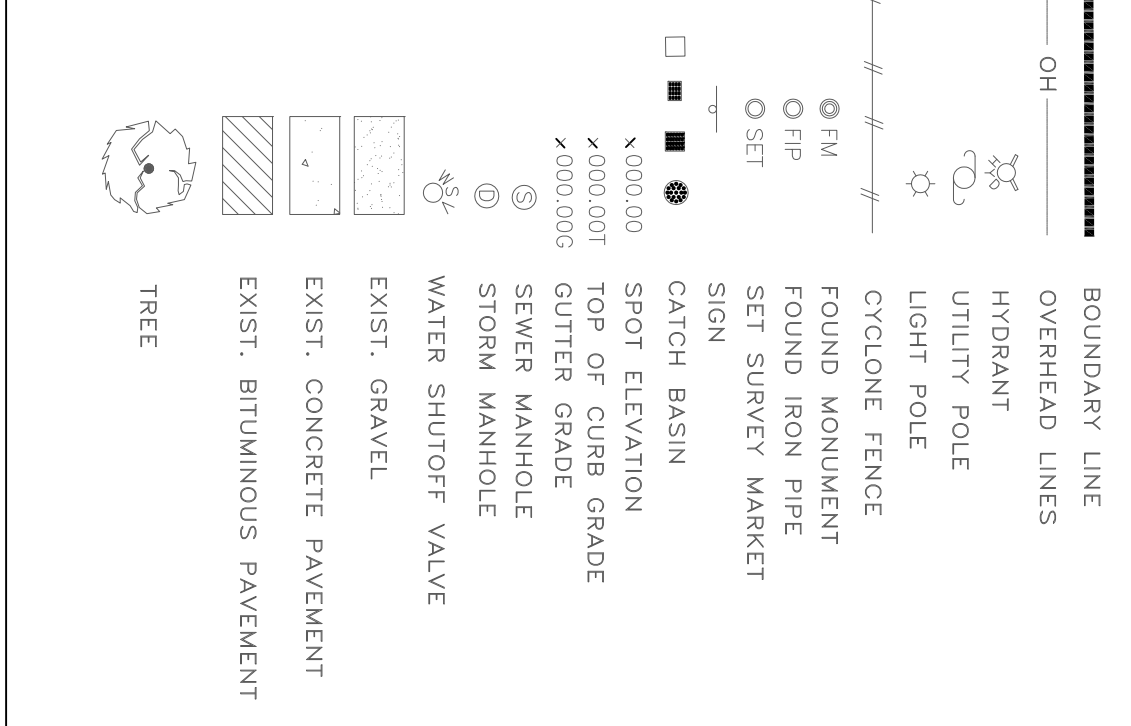
NOTE:

RESTORE ALL DISTURBED AREAS WITH TOPSOIL, CHEMICAL NUTRIENT, CL 4, SEED AND MULCH UNLESS OTHERWISE NOTED.

NOTE:

RESTORE ALL DISTURBED AREAS WITH TOPSOIL, CHEMICAL NUTRIENT, CL 4, SEED AND MULCH UNLESS OTHERWISE NOTED.

LEGEND:



LEGEND:

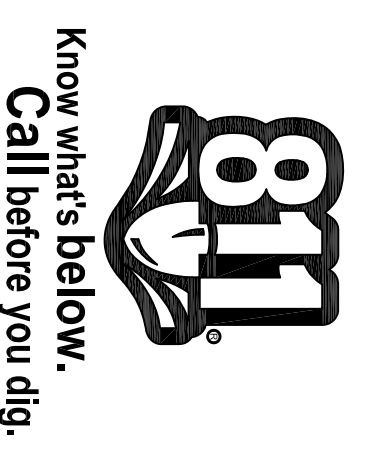
- 000.00 = EXISTING ELEV.
- 000.00 = PROPOSED ELEV.
- = PROPOSED SILT FENCE
- = PROPOSED INLET FILTER

Soils:

- Spills: loamy sand (Sp8), 0 to 6 percent slopes
- Hydrologic Soil Group: (A)

STREET SWEEPING SCHEDULE

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SCRAPED STREETS	X	X	X	X	X	X	X
SWEEP STREETS							



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PROJECT NUMBER
16130

SHEET NUMBER
C-3

QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN

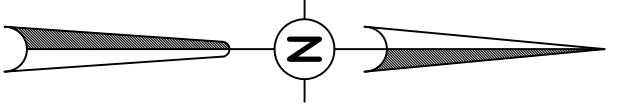
SHEET NAME
GRADING & SOIL EROSION CONTROL PLAN

ISSUE NO.	DATE ISSUED:	DESCRIPTION:
1	5/16/2017	PRELIMINARY SITE PLAN
2	7/31/2017	REVISED PER TOWNSHIP, WCRC, WCRC AND MDOT REVIEW
3	1/14/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
4	10/17/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
5	11/27/2019	REVISED PER MDOT REVIEW

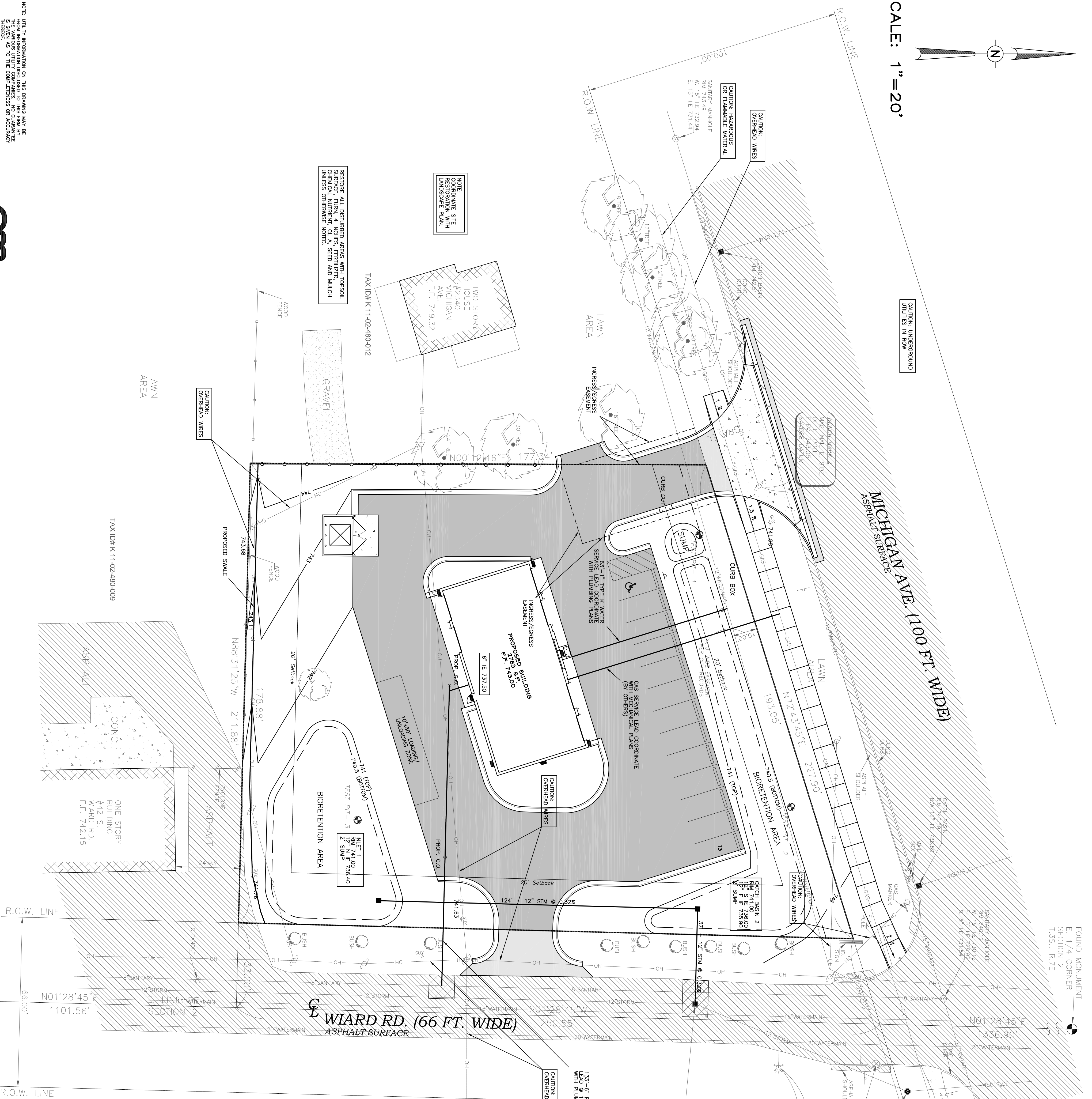
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FAX: 734.463.3400



SCALE: 1"=20'



FOUND MONUMENT SECTION 1 T.35S., R.7E

FOUND MONUMENT SECTION 2 T.35S., R.7E

STORM SEWER AND SERVICE LEAD NOTES:

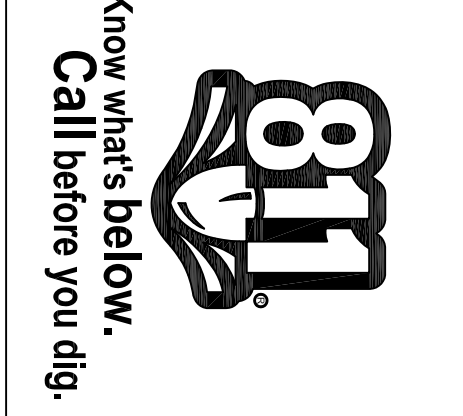
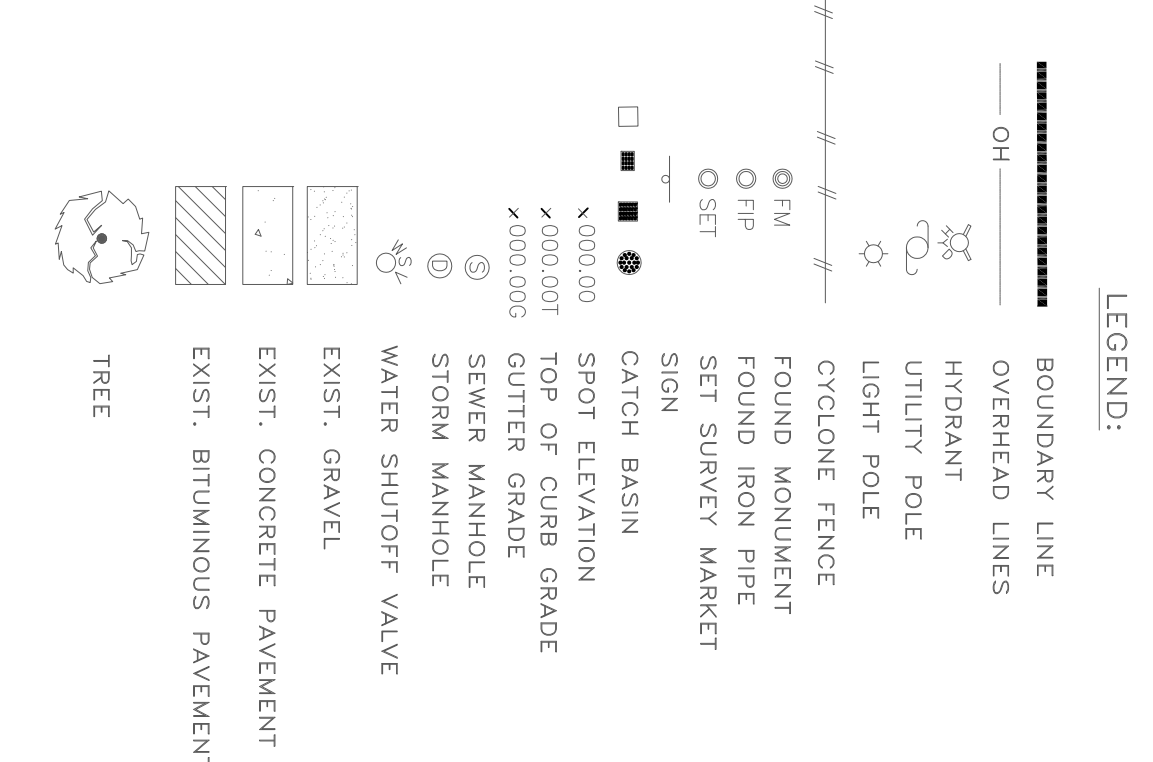
1. REINFORCED CONCRETE STORM SEWER PIPE SHALL BE ASTM C76 CLASS IV PIPE. STORM SEWER PIPE JOINTS SHALL BE MODIFIED TONGUE AND GROOVE WITH RUBBER CASKET PER ASTM C433.
2. STORM DRAINAGE STRUCTURES IN THE WASHTENAW COUNTY RIGHT-OF-WAY SHALL BE CONSTRUCTED PER THE LATEST EDITION MDOT STANDARD PLAN R-1. DRAINAGE STRUCTURES REMAINDER OF THE STORM WATER MANAGEMENT SYSTEM TO BE CONSTRUCTED PER THE LATEST EDITION MDOT STANDARD PLAN R-1. THESE DRAWINGS ON-SITE DRAINAGE STRUCTURE COVERS SHALL INCLUDE "DUMP NO WASTE" LETTERING AND FISH IMAGE TO DISCOURAGE ILLEGITIMATE DUMPING.
3. ALL STORM SEWER INLET AND YARD DRAIN STRUCTURES SHALL BE 2' DIAMETER. ALL CATCH BASIN AND MANHOLE STRUCTURES SHALL BE 4' DIAMETER.
4. ALL INLETS AND YARD DRAIN STRUCTURES SHALL BE CONSTRUCTED AS A STANDARD INLET PER THE STANDARD PLAN.
5. ALL UTILITY TRENCHES UNDER OR WITHIN 5 FEET OF PAVEMENT, EXISTING OR PROPOSED, SHALL BE BACKFILLED WITH SAND/MDOT CLASS II) COMPACTED TO 98% DENSITY PER MDOT STANDARD PLAN R-83. ALL UTILITY TRENCHES SHALL BE BACKFILLED WITH SAND/MDOT CLASS II) COMPACTED TO 98% DENSITY PER MDOT STANDARD PLAN R-83. ALL UTILITY TRENCHES SHALL BE BACKFILLED WITH SAND/MDOT CLASS II) COMPACTED TO 98% DENSITY PER MDOT STANDARD PLAN R-83. ALL UTILITY TRENCHES SHALL BE BACKFILLED WITH SAND/MDOT CLASS II) COMPACTED TO 98% DENSITY PER MDOT STANDARD PLAN R-83.
6. FLEXIBLE PIPE BEDDING (ONE FOOT MINIMUM DEPTH ABOVE PIPE) IS MAXIMUM 3/4" INCH DIAMETER CRUSHED STONE MEETING MDOT 64 ANGULAR MATERIAL SPECIFICATIONS. PIPE BEDDING SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR STORM SEWER. (REFER TO LATEST EDITION OF MDOT STANDARD PLAN R-83 UTILITY TRENCHES)
7. PROVIDE 12" MINIMUM VERTICAL CLEARANCE BETWEEN STORM SEWERS AND ANY OTHER EXISTING/PROPOSED UTILITIES.
8. SANITARY SEWER SERVICE LEAD SHALL BE CONSTRUCTED PER YPSILANTI TOWNSHIP STANDARDS. FLEXIBLE PIPE BEDDING SHALL BE USED FOR THE PVC SDR 23.5 SANITARY LEAD INCIDENTAL TO THE UNIT PRICE.
9. WATER SERVICE LEAD SHALL TYPE K COPPER. WATER SERVICE LEAD TO BE CONSTRUCTED PER YPSILANTI TOWNSHIP STANDARDS.

NOTE: REFER TO ARCHITECTURAL DESIGN AND CONSTRUCTION STANDARDS FOR FINISH GRADE ELEVATIONS. FINISH GRADE ELEVATIONS SHALL BE EXTENDED TO PROPOSED FINISH GRADE ELEVATIONS. ELEVATION IN ADJACENT AREAS ARE INDICATED.

NOTE: RESTORE ALL DISTURBED AREAS WITH TOPSOIL CHEMICAL NUTRIENT (LVS, SEED AND MULCH) UNLESS OTHERWISE NOTED. (INCLD.)

NOTE: CORRODATE SITE RESTORATION WITH LANDSCAPE PLAN.

NOTE: RESTORE ALL DISTURBED AREAS WITH TOPSOIL CHEMICAL NUTRIENT (LVS, SEED AND MULCH) UNLESS OTHERWISE NOTED.



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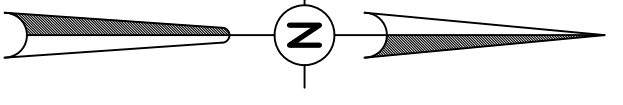
PROJECT NUMBER 16130	PROJECT TITLE QUICK OIL LUBE CENTER 2380 EAST MICHIGAN AVENUE CHARTER TOWNSHIP OF YPSILANTI WASHTENAW COUNTY, MICHIGAN
SHEET NUMBER C-4	SHEET NAME UTILITY PLAN

ISSUE NO.	DATE ISSUED:	DESCRIPTION:
1	5/16/2017	PRELIMINARY SITE PLAN
2	7/31/2017	REVISED PER TOWNSHIP, WCRC, WCRC AND MDOT REVIEW
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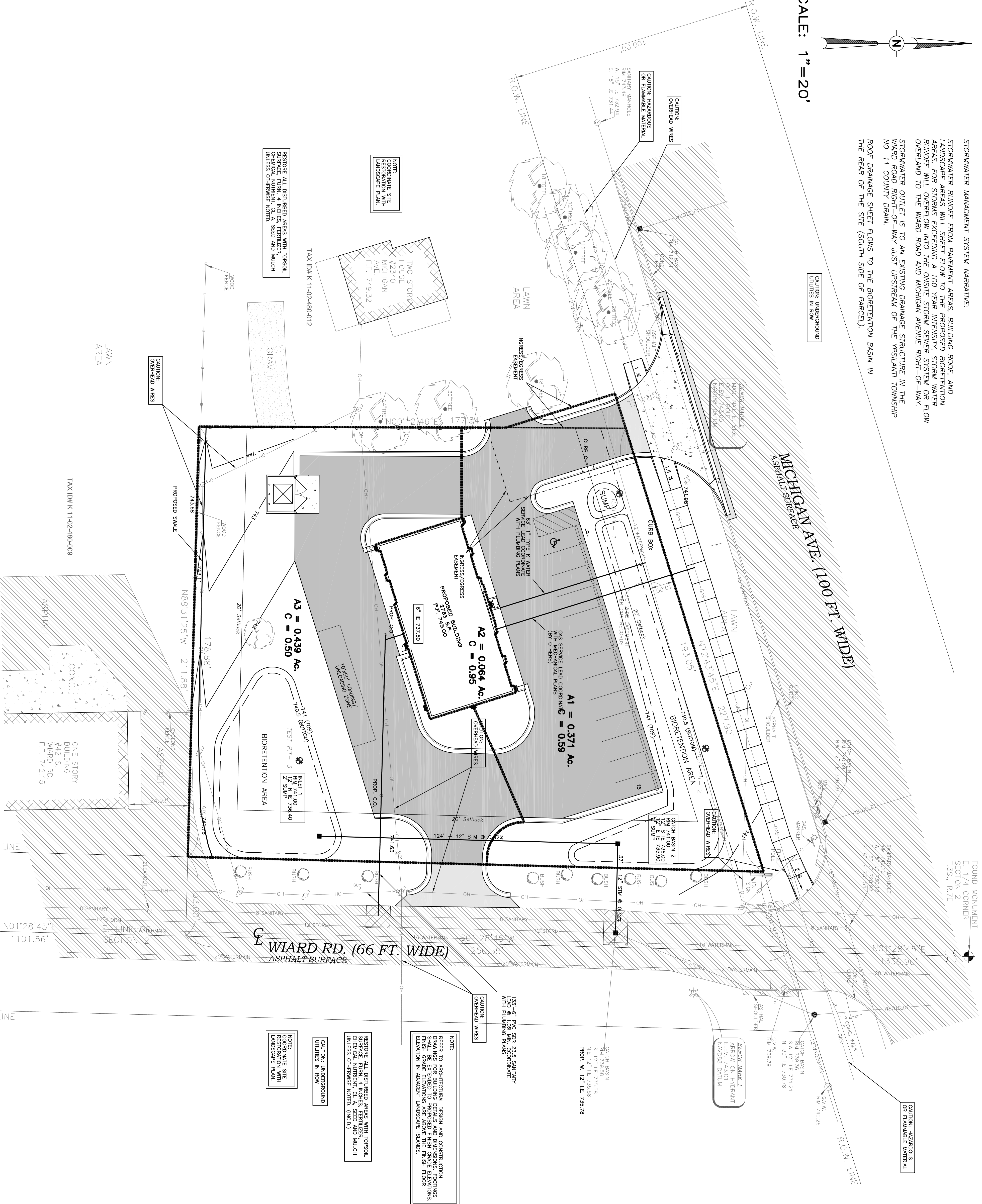
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Municipal Consulting
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VITINS ENGINEERING
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SUITE 100
TOWNSHIP OF YPSILANTI
MICHIGAN 48197
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FAX: 313.463.4400
WWW.VITINS-ENGINEERING.COM



SCALE: 1" = 20'

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 ON-SITE STORM SEWER SYSTEM OR FLOW OVERLAND TO THE WARD ROAD AND MICHIGAN AVENUE RIGHT-OF-WAY.
STORMWATER OUTLET IS TO AN EXISTING DRAINAGE STRUCTURE IN THE WARD ROAD RIGHT-OF-WAY JUST UPSTREAM OF THE TRISULANT TOWNSHIP NO. 1 COUNTY DRAIN.
ROOF DRAINAGE SHEET FLOWS TO THE BIORETENTION BASIN IN THE REAR OF THE SITE (SOUTH SIDE OF PARCEL).



FOUND MONUMENT SECTION 2 T.35S., R.7E

FOUND MONUMENT SECTION 2 T.35S., R.7E

INFILTRATION/BIORETENTION AREAS

NORTH INFILTRATION AREA (TP-2)	SURFACE STORAGE AREA (SF)	SURFACE STORAGE VOLUME (CF)
741.00 (SUMP)	173	61
740.50 (SUMP)	72	
741.00	123 (AVE. AREA)	
740.50	3279	1396
	2303	
	2791 (AVE. AREA)	
AVE. SURFACE AREA = 123 SF + 2,791 SF = 2,914 SF CF		
TOTAL SURFACE VOLUME = 61 CF + 1,396 CF = 1,457 CF		
STONE STORAGE VOLUME = (BOTTOM AREA)(DEPTH)(VOID RATIO)		
STONE STORAGE VOLUME = (2,303 SF)(0.5 FT)(0.30) = 345 CF		
INFILTRATION VOLUME DURING STORM		
VOLUME = (AVE. AREA)(INF. RATE)(DURATION)(1 FT/12 INCHES)		
VOLUME = (2,914 SF)(6.375 IN/HR)(6 HR)(1 FT/12 IN) = 9,288 CF		
(INFILTRATION RATES REFER TO SHEET C-14)		
TOTAL VOLUME = 1,457 CF + 345 CF + 9,288 CF = 11,090 CF		

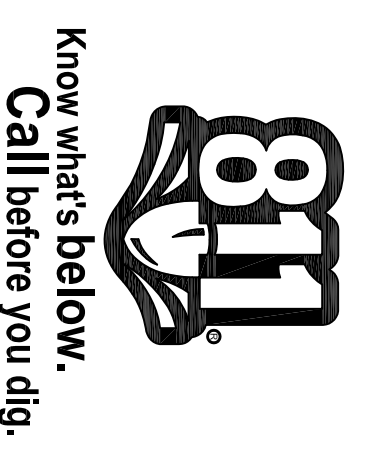
SOUTH INFILTRATION AREA (TP-3)			
SURFACE STORAGE ELEVATION (FEET)	SURFACE STORAGE AREA (SF)	SURFACE STORAGE VOLUME (CF)	
741.00	3135	1434	
740.50	2602		
	2869 (AVE. AREA)		
STONE STORAGE VOLUME = (BOTTOM AREA)(DEPTH)(VOID RATIO)			
STONE STORAGE VOLUME = (2802 SF)(0.5 FT)(0.30) = 390 CF			
INFILTRATION VOLUME DURING STORM			
VOLUME = (AVE. AREA)(INF. RATE)(DURATION)(1 FT/12 INCHES)			
VOLUME = (2869 SF)(9.75 IN/HR)(6 HR)(1 FT/12 IN) = 13,986 CF			
(INFILTRATION RATES REFER TO SHEET C-14)			
TOTAL VOLUME = 1,434 CF + 390 CF + 13,986 CF = 15,810 CF			

NOTE: REFER TO ARCHITECTURAL DESIGN AND CONSTRUCTION SPECIFICATIONS FOR FINISH GRADE AND FINISH FLOOR ELEVATIONS. ELEVATION IN ADVISORY AREAS ARE ISLANDS.

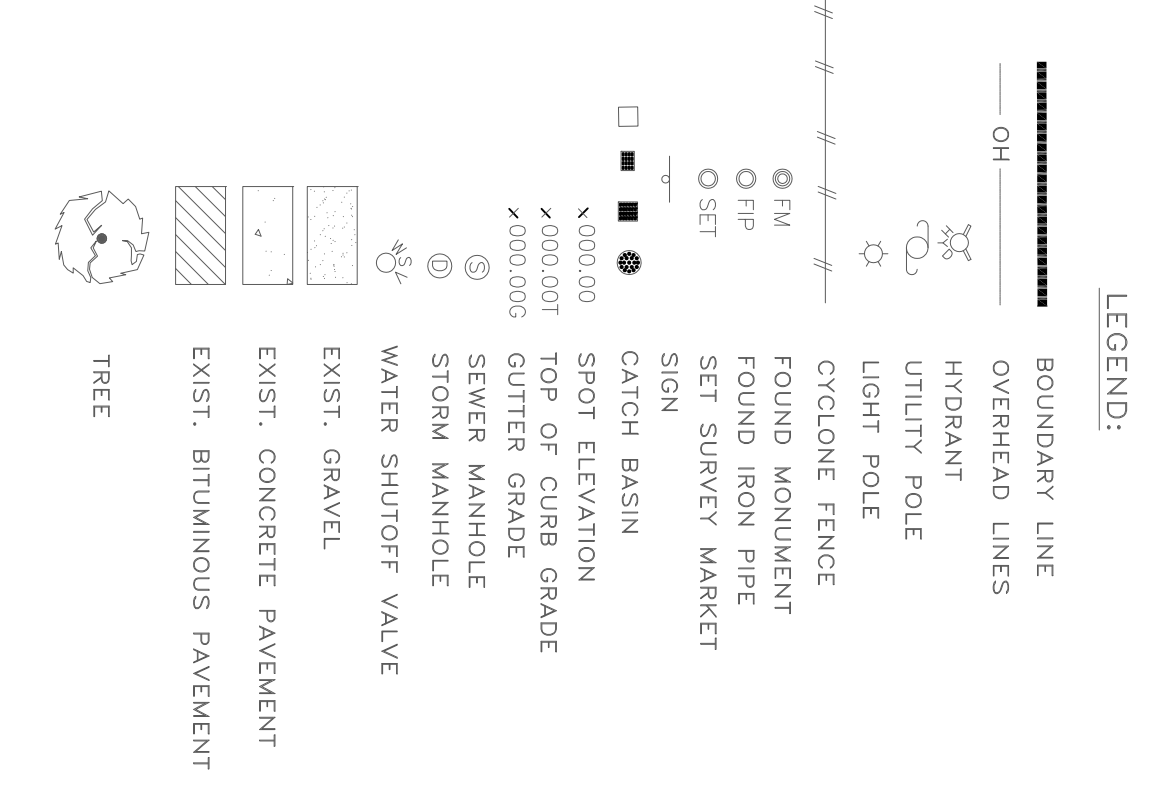
NOTE: RESTORE ALL DISTURBED AREAS WITH TOPSOIL CHEMICAL NUTRIENT MIXES, SEED AND MULCH UNLESS OTHERWISE NOTED. (INCD)

NOTE: CORRESPONDING SITE RESTORATION WITH LANDSCAPE PLAN.

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PROJECT TITLE
**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
**DRAINAGE AREAS & STORMWATER
MANAGEMENT CALCULATIONS**

ISSUE NO.	DATE ISSUED:	DESCRIPTION:
1	5/16/2017	PRELIMINARY SITE PLAN
2	7/31/2017	REVISED PER TOWNSHIP, WCRC, WCRC AND MDOT REVIEW
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4	10/17/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
5	11/27/2019	REVISED PER MDOT REVIEW

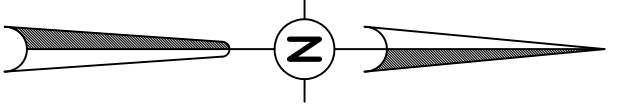
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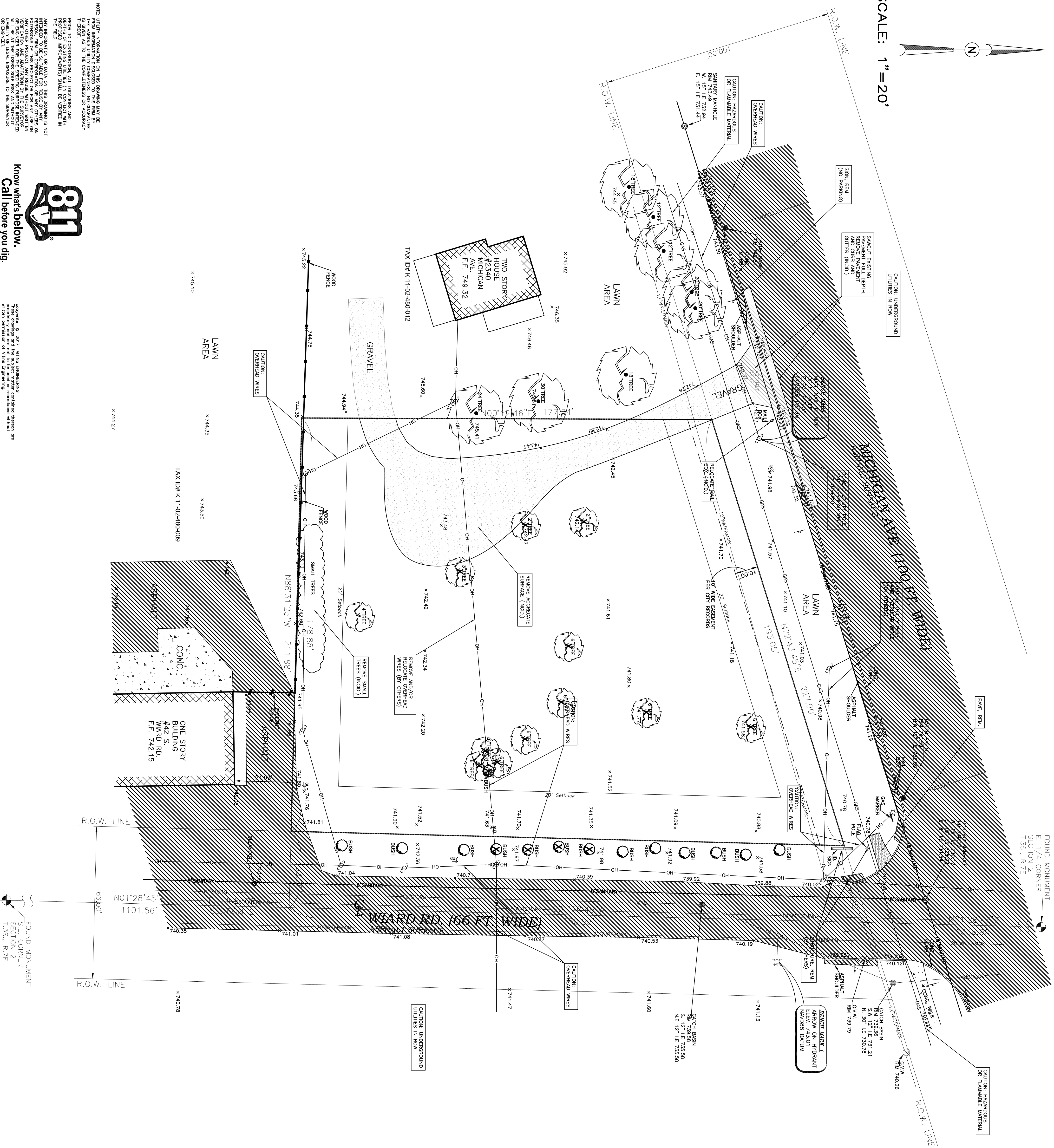
VITINS ENGINEERING
4475 BROADWAY #187
ANN ARBOR, MI 48106-3400
TELEPHONE: 734.463.3400
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EMAIL: info@vitins.com

PROJECT NUMBER
16130

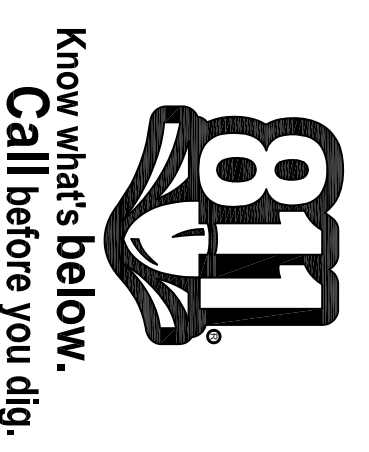
SHEET NUMBER
C-5



SCALE: 1" = 20'

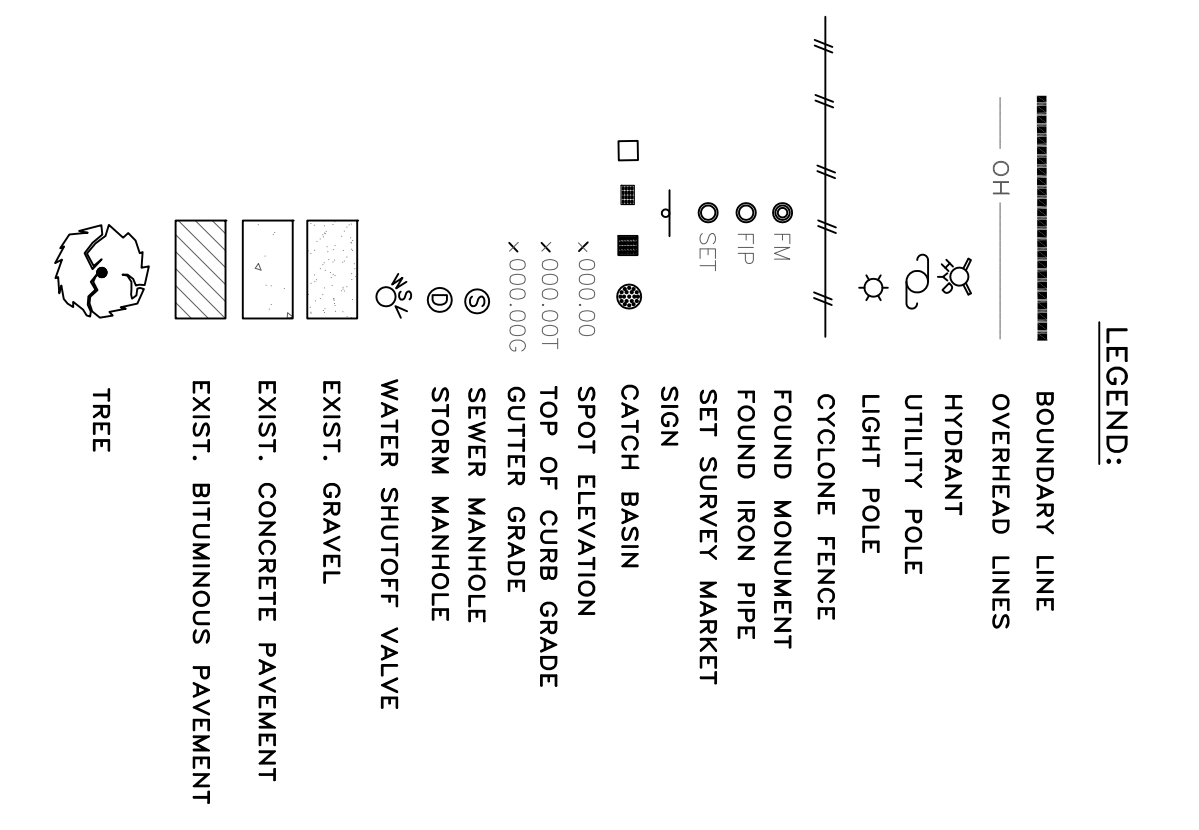


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NOTE KEY
 X TREE AND/OR SHRUB TO BE REMOVED (INDIC)



PROJECT TITLE
QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN

SHEET NAME
DEMOLITION PLAN

PROJECT NUMBER
16130

SHEET NUMBER
C-6

ISSUE NO.	DATE ISSUED:	DESCRIPTION:
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 Software Development

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 YPSILANTI, MI 48197
 TELEPHONE: 734.453.3400
 EMAIL: INFO@VITINS.COM

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, Teatrub, 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 raw hardwood, MDOT Quality Product List (QPL). 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.

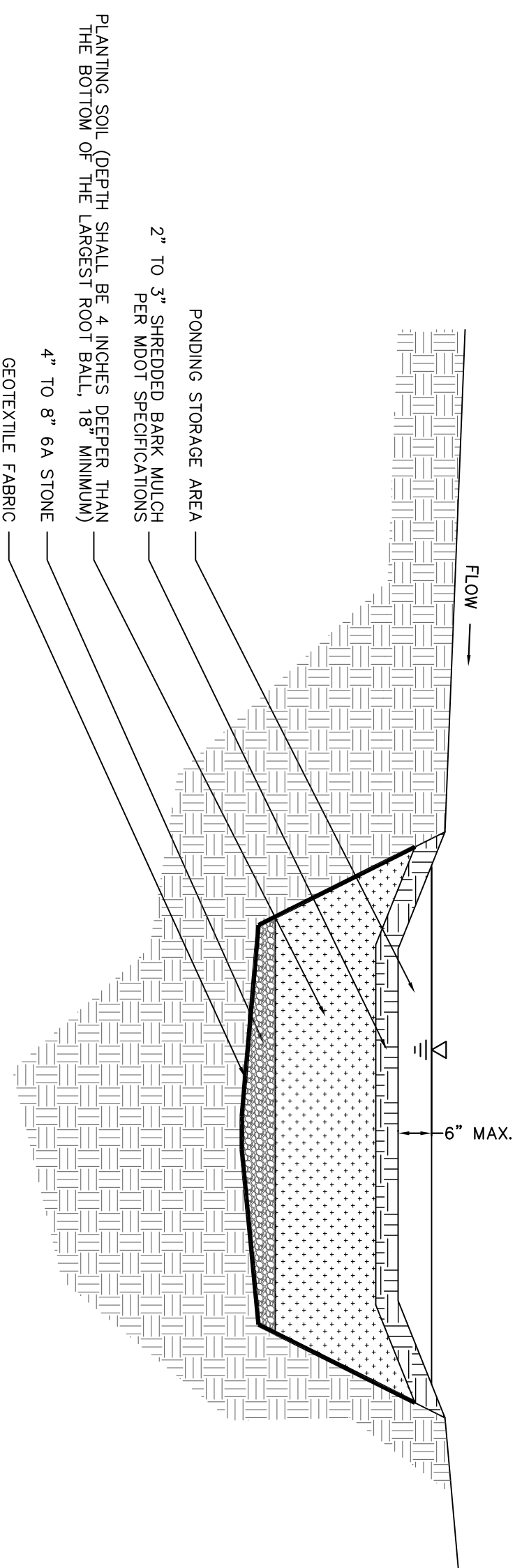
Compaction will significantly contribute to design failure. Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to re-structure the soil profile through the 12-inch compaction 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 backfilling 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.

PROPOSED BIORETENTION AREA

NOT TO SCALE



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 property 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.

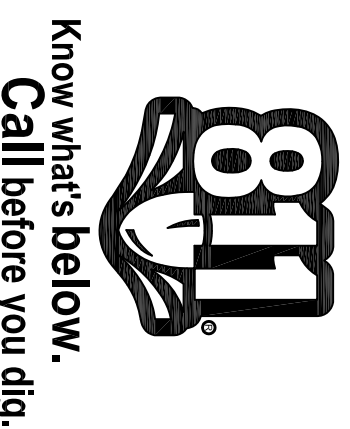
By design, bioretention facilities are located in areas where nutrients (especially nitrogen) are significantly elevated above natural levels. Fertilization in such areas usually is unnecessary, because it is unlikely that soil fertility will be the limiting factor in plant growth. If soil fertility 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.

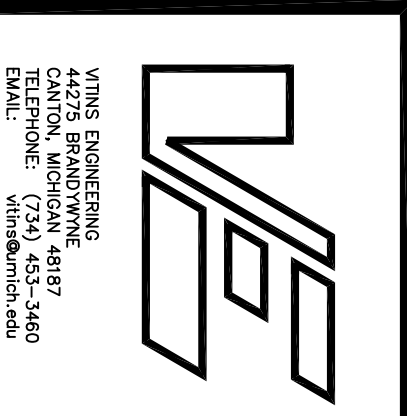
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PROJECT TITLE

**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME

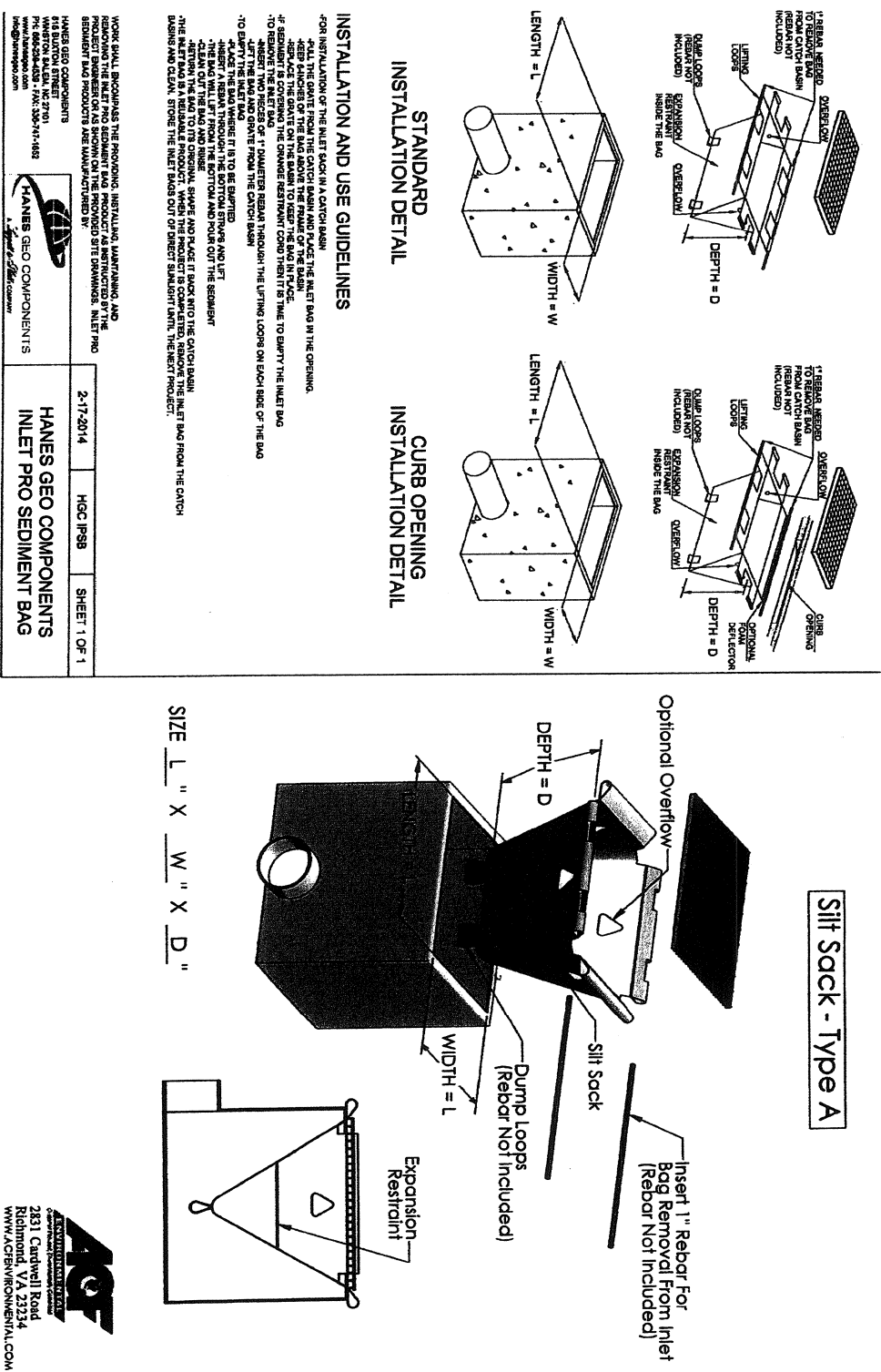
BIORETENTION AREA DETAIL

PROJECT NUMBER

16130

SHEET NUMBER

C-7

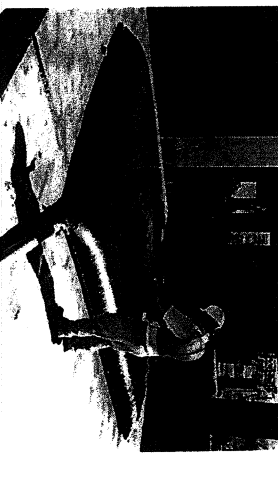


CSI Geoturf®
 Down to Earth Solutions
 Professional Construction, Turf and Landscape Supplies
 EROSION CONTROL • EROSION & SEDIMENT CONTROL • STORMWATER MANAGEMENT • LANDSCAPE ENHANCEMENTS

Geoturf® Filter Bag
 Whenever accumulated water on a construction site must be pumped, utilize filter bags to assure the water is properly filtered. Geoturf® 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.

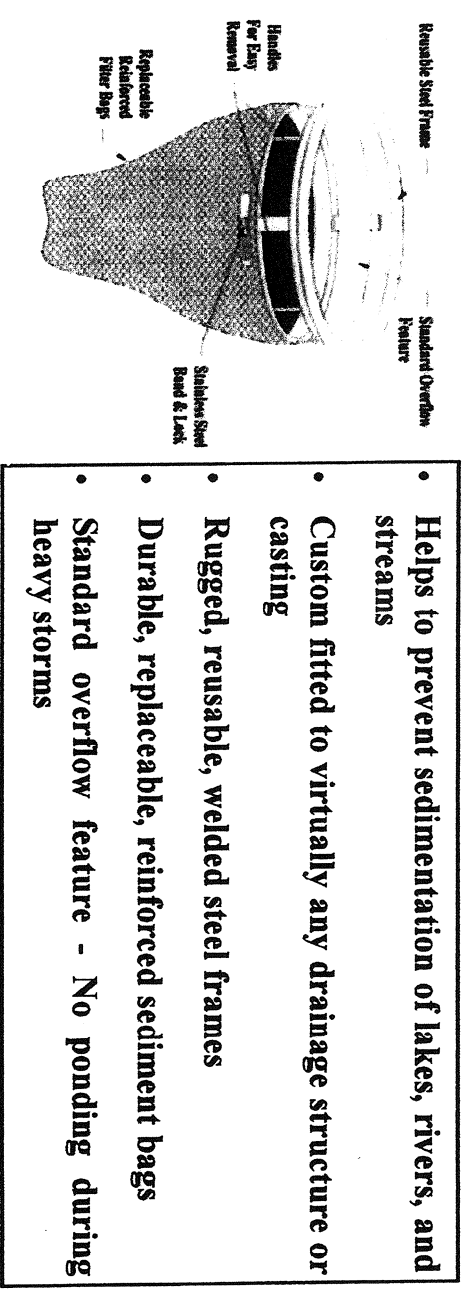
Size: 15' x 20' x 8'
 Spout Size: 8"
 Holding Capacity: 16 Cubic Yds.

Meets the requirements of MDOT Item 208
 Erosion Control Filter Bag



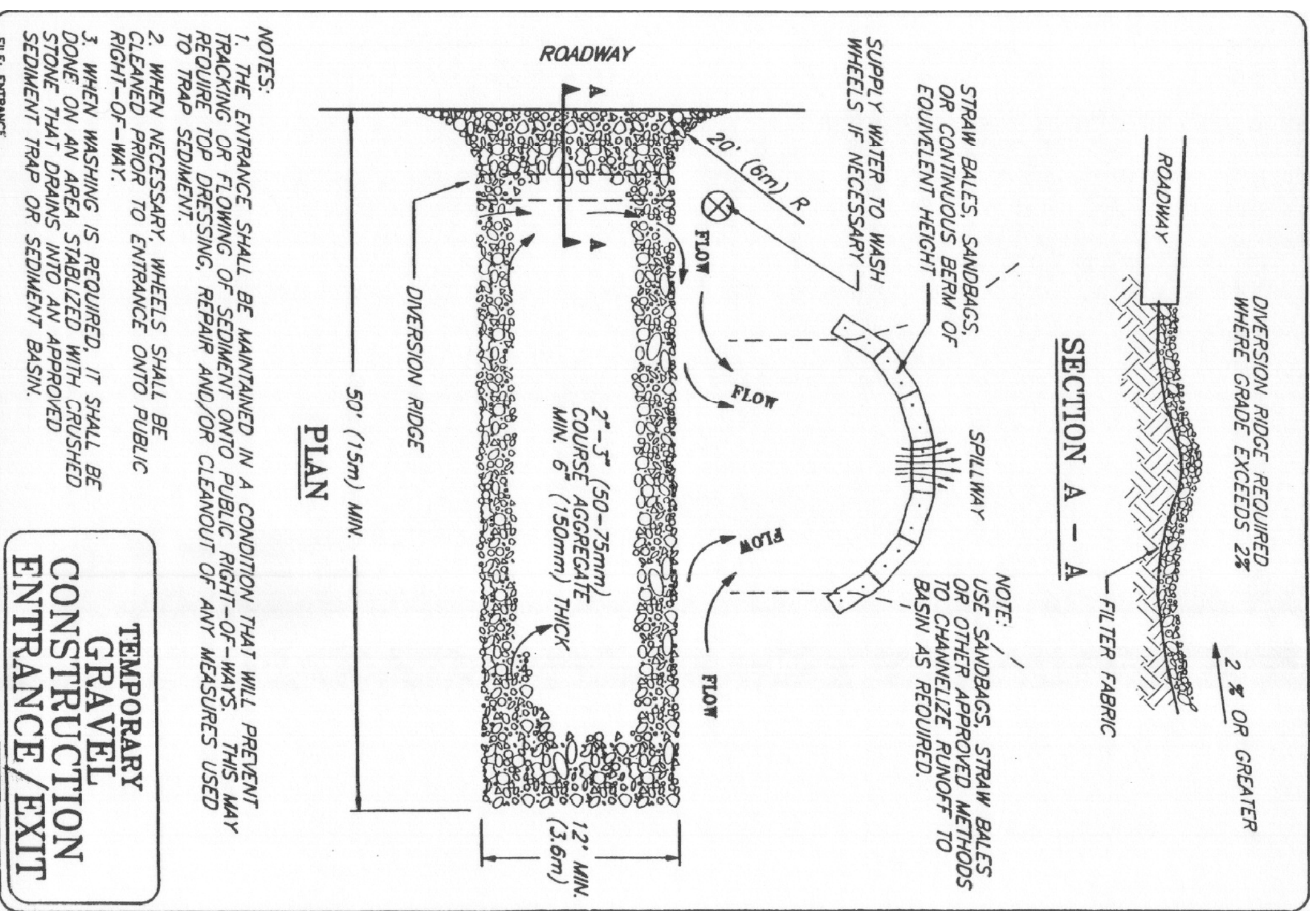
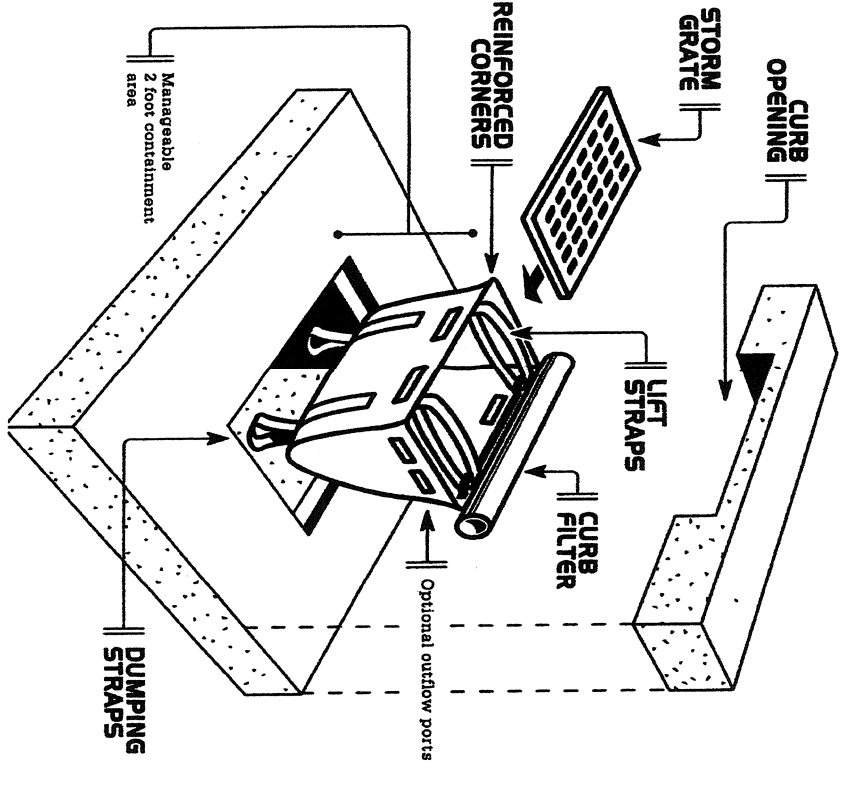
Catch-All Inlet Protector

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

DANDY CURB SACK



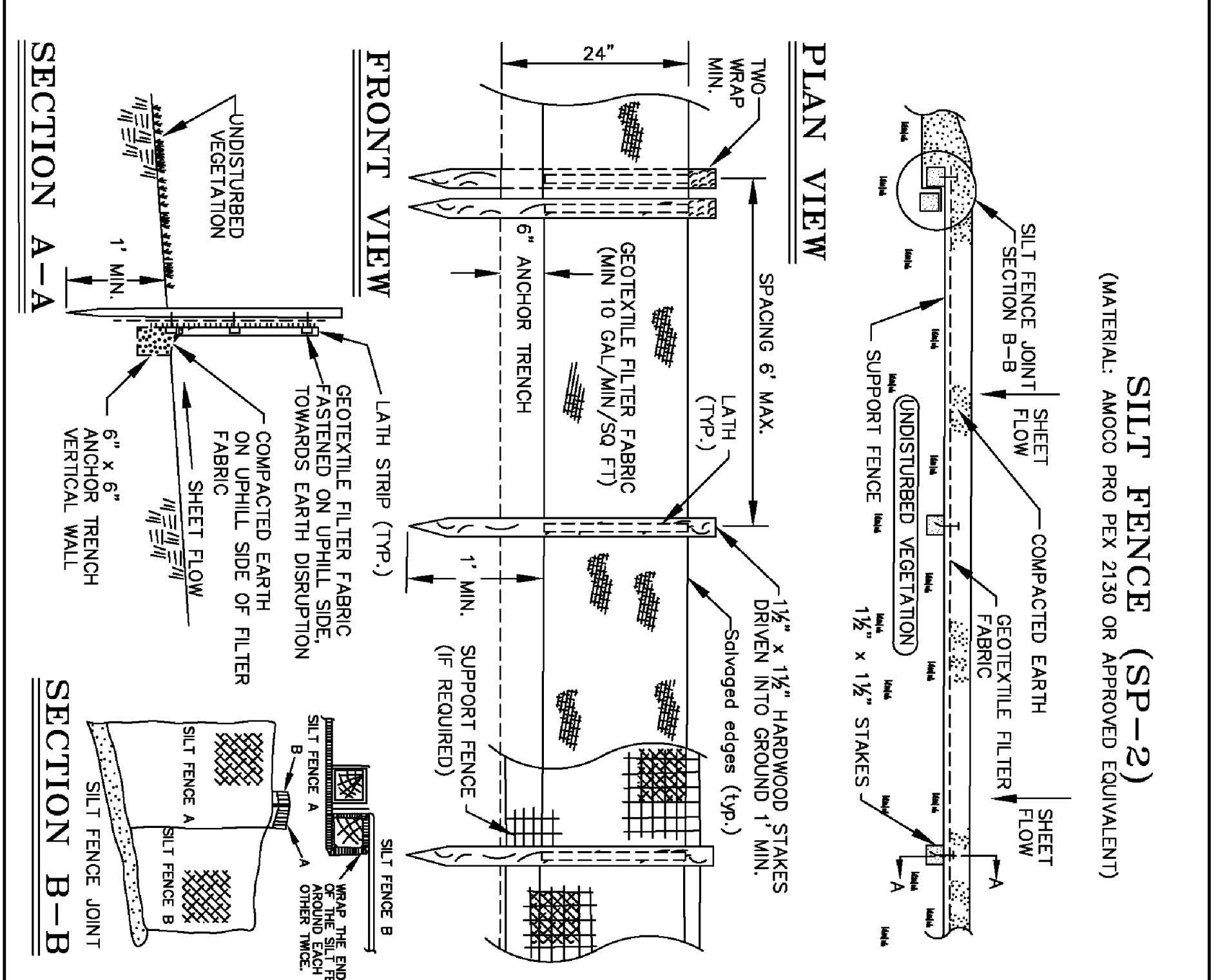
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT

STORM WATER MANAGEMENT SYSTEM MAINTENANCE TASKS AND SCHEDULE

TABLE 1

MAINTENANCE ACTIVITIES	COMPONENTS:			
	DRAINAGE SWALES	DRAINAGE DITCHES AND STORM SEWER SYSTEMS	DRAINAGE STRUCTURES AND CATCH BASINS	BOREHOLE AREA
MAINTENANCE FREQUENCY				
MAINTENANCE ACTIVITIES				
Request for materials, seed vegetation, and debris	X	X	X	X
Remove accumulated sediment	X	X	X	X
Remove vegetation, seed vegetation, and debris	X	X	X	X
Check parking areas and access drives	X			
Minority	X			
Make adjustments/appraisals to ensure proper functioning	X	X	X	X
Clean out oil and gasoline spills			X	

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

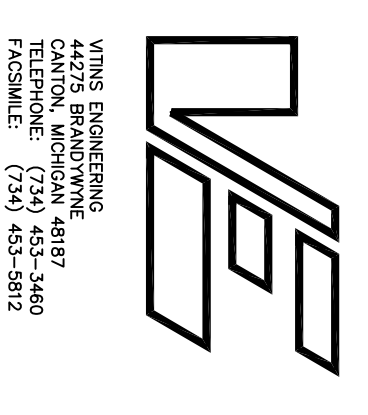
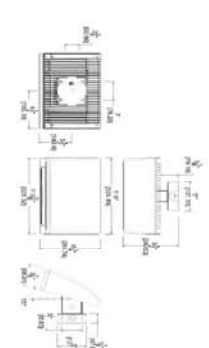
1. A project/property identifier must be posted and visible from the road at time of application in order to conduct a preliminary inspection, which is required before a soil erosion and sedimentation control (SESC) permit may be issued.
2. A copy of the SESC permit and approved plans shall be kept at 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.
3. No earth moving activity can begin without a grading permit.
4. Silt fencing, if required, must be trenched in and backfilled. The fencing may be toed-in with pea gravel if installed in winter.
5. Stone access drives must be installed prior to construction.
6. Stockpiling of any excavated material must be kept away from sensitive areas and adequate controls must be in place.
7. Catch basins, if installed, must be protected with silt socks.
8. Demolition operations must have some type of control, e.g., filter bag, vegetative filter area. There shall be no dewatering of unfiltered water.
9. Erosion control blankets are required on slopes of 4:1 or steeper.
10. Rock check dams are to be used instead of straw bales or silt fencing in concentrated flow locations such as ditches.
11. Immediately after installation of stormwater outlets, rip rap must be installed.
12. All areas of a project that are disturbed must be stabilized by December 1.
13. 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.
14. 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).
15. After all temporary erosion control measures have been installed, the owner/contractor shall call this office for an installation inspection.
16. 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.
17. 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.

WPLED52N

52 Watt LED Wallpack with 3-wire option. Equivalent to 250W/HV. Wallpack has mounting bracket with tether for hands-free wiring. 5 year warranty.

Color Bronze

Weight: 17.6 lbs



VITINS ENGINEERING
4475 BRANDYwine BLVD
ANN ARBOR, MI 48106
TELEPHONE: (734) 453-3460
FAX: (734) 453-3812

LED Info		Driver Info	
Watt:	52W	Type:	Constant Current
Color Temp:	4000K (Neutral)	150V:	0.51A
Color Rendering Index:	80	240V:	0.26A
L70 Life Expectancy:	100000	LM79 Lumens:	2.552
LM79 Lumens:	2,552	277V:	0.25 A
Efficiency:	43 LPW	Input Watts:	60W
		Efficiency:	87%

Technical Specifications

UL Listing:
Suitable for wet locations.

Lumen Maintenance:
100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

LEDs:
Four (4) multi-chip, 13W high-output, long-life LEDs

Drivers:
Two drivers, constant current, 720mA, Class 2, 100-277V, 50-60 Hz, 100-277VAC, 9 Amps.

Fixture Efficacy:
43 Lumens per Watt

Ambient Temperature:
Suitable for use in 40°C ambient temperatures.

Surge Protection:
6 kV

Cold Weather Starting:
The minimum starting temperature is -40°F/-40°C

Thermal Management:
Cast aluminum Thermal Management system for optimal heat sinking. The WPLED is designed for cool operation, most efficient output and maximum LED life by minimizing LED junction temperature.

Housing:
Precision die cast aluminum housing, lens frame.

Mounting:
Die-cast aluminum wall bracket with (5) 1/2" conduit openings with plugs. Two-piece bracket with tether for ease of installation and wiring.

Arm:
Die-cast aluminum with wiring access plate.

Color Stability:
RAB LEDs exceed industry standards for chromatic stability.

Color Accuracy:
96 CRI

Color Temperature (Nominal CCT):
4000K

Color Uniformity:
RAB's range of CCT (Correlated color temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2008.

Reflector:
High performance aluminum designed for maximum efficiency.

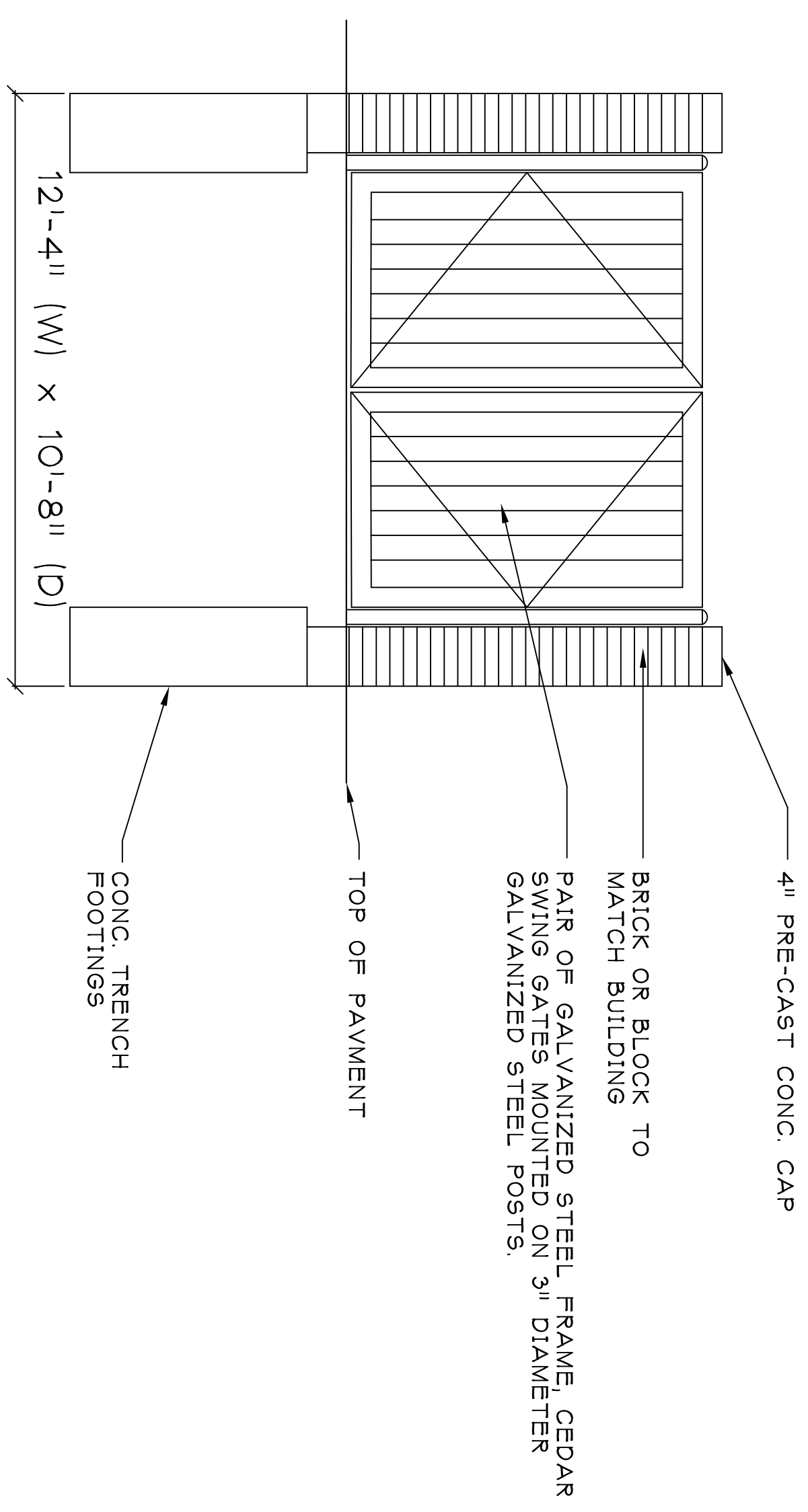
Gaskets:
High temperature silicone.

Finish:
Chip and fade resistant polyester powder coat finish.

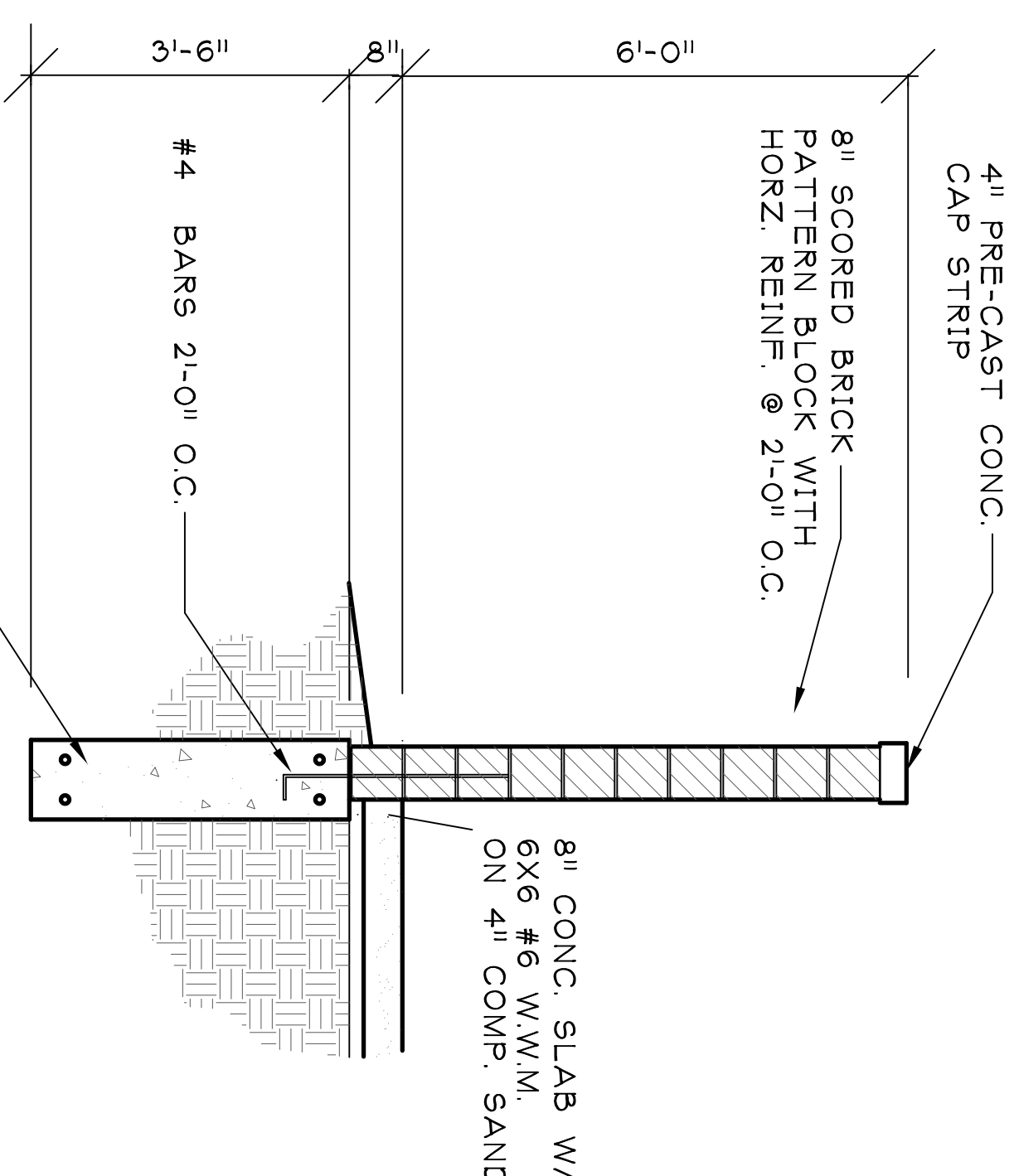
Green Technology:
WPLEDs are Mercury and UV free.

IESNA LM-79 & IESNA LM-80 Testing:
RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy Lighting Facts label.

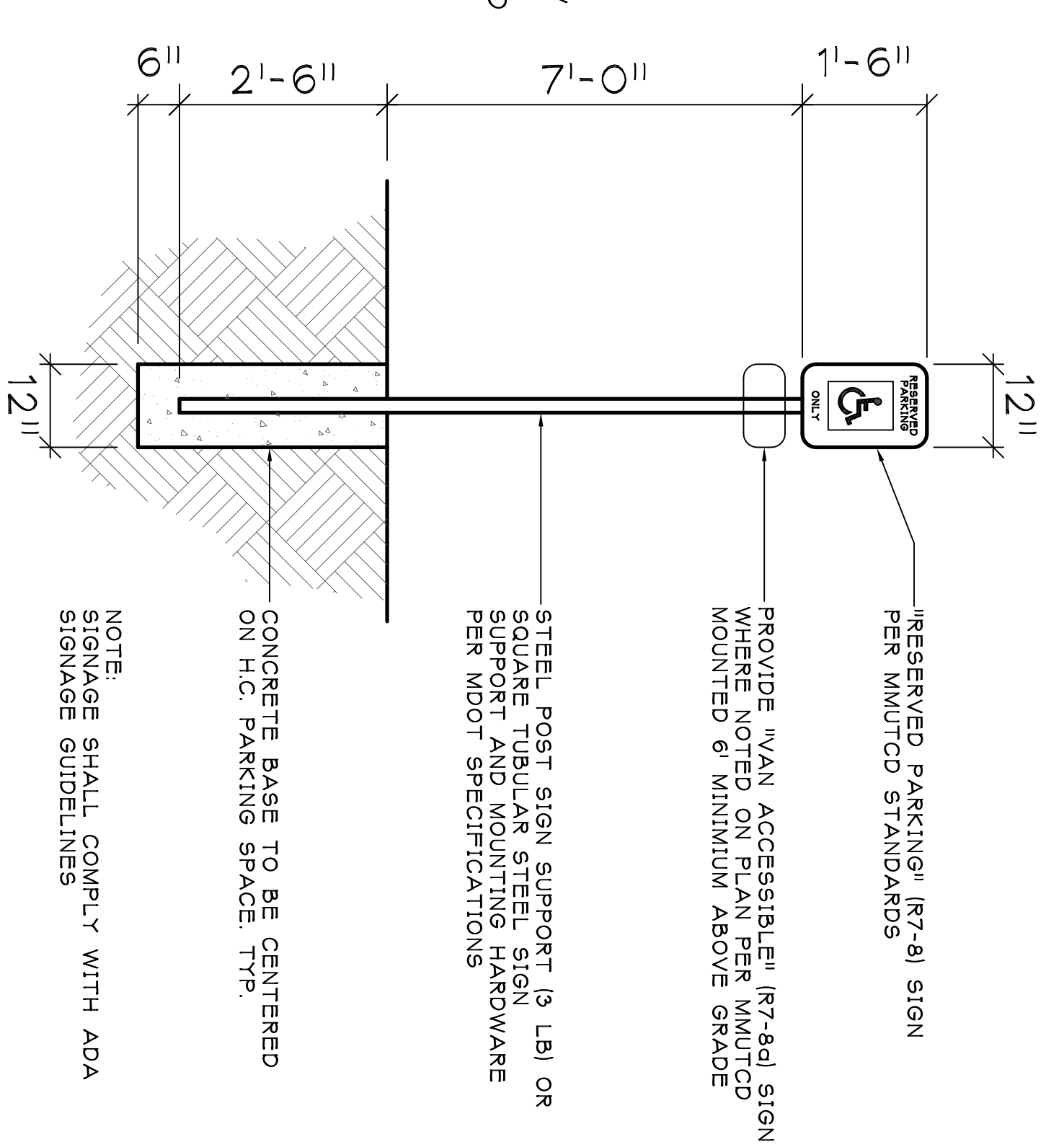
Replacement:
The WPLED52 replaces 250W/HV Wallpacks.



DUMPSTER ENCLOSURE
FRONT ELEVATION
N.T.S



DUMPSTER ENCLOSURE
WALL SECTION
N.T.S



EXTERIOR HANDICAP SIGN

RAB LIGHTING

Each High Line® 855 (546-1000)
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Email: sales@rablighting.com
On the web at: www.rablighting.com
Note: Specifications are subject to change without notice.

ISSUE NO.	DATE ISSUED:	DESCRIPTION:
1	5/16/2017	PRELIMINARY SITE PLAN
2	7/31/2017	REVISED PER TOWNSHIP, WCRC, WCWRC AND MDOT REVIEW
3	1/14/2018	REVISED PER TOWNSHIP AND MDOT REVIEW
4	10/17/2018	REVISED PER TOWNSHIP AND MDOT REVIEW
5	11/27/2019	REVISED PER MDOT REVIEW

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

VITINS ENGINEERING
Civil/Environmental Engineering
Municipal Consulting
Software Development

PROJECT NUMBER
16130

PROJECT TITLE
**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OR YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
CONSTRUCTION DETAILS

SHEET NUMBER
C-9

ISSUE NO.	DATE ISSUED:	DESCRIPTION:
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5	11/27/2019	REVISED PER MDOOT REVIEW

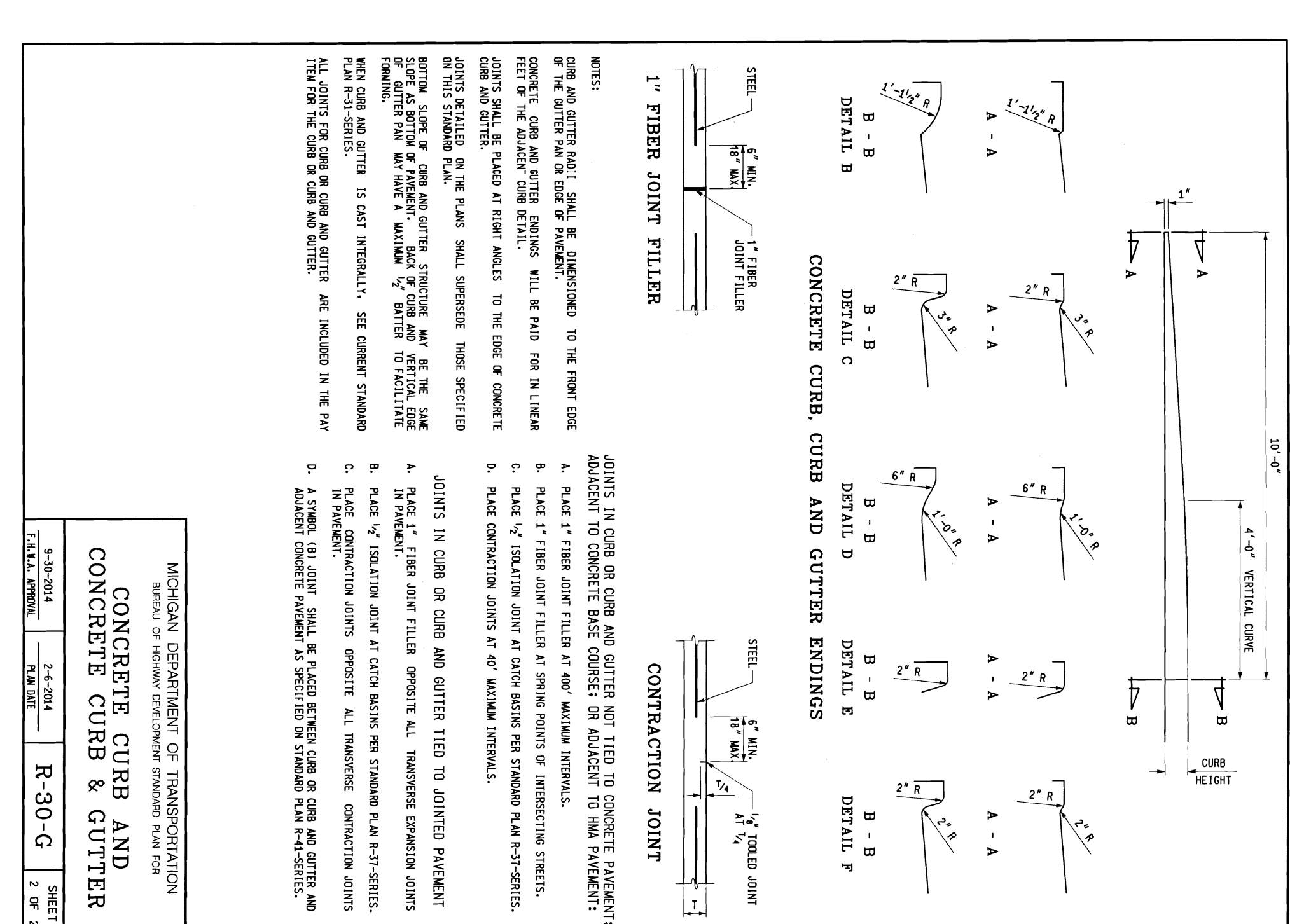
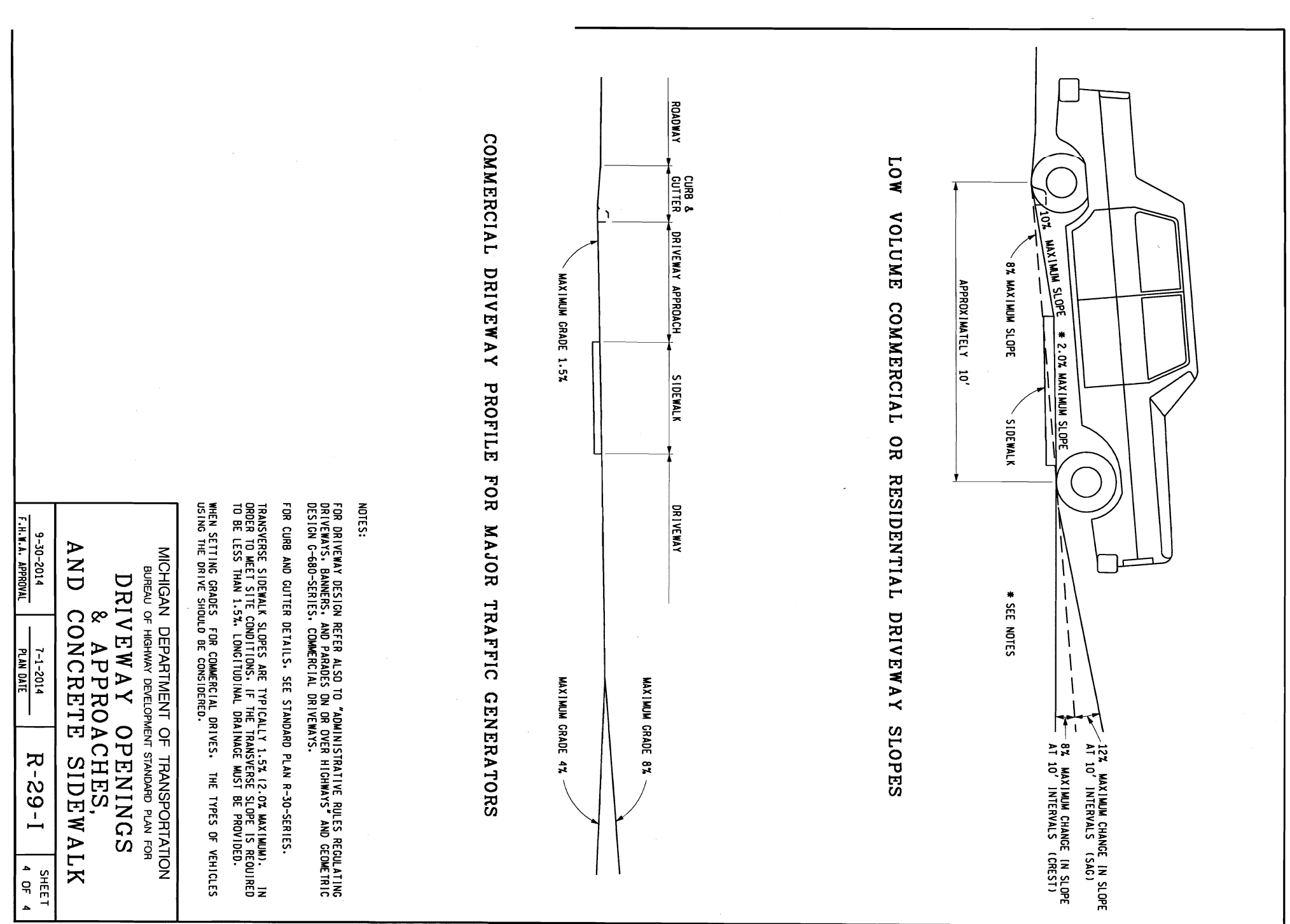
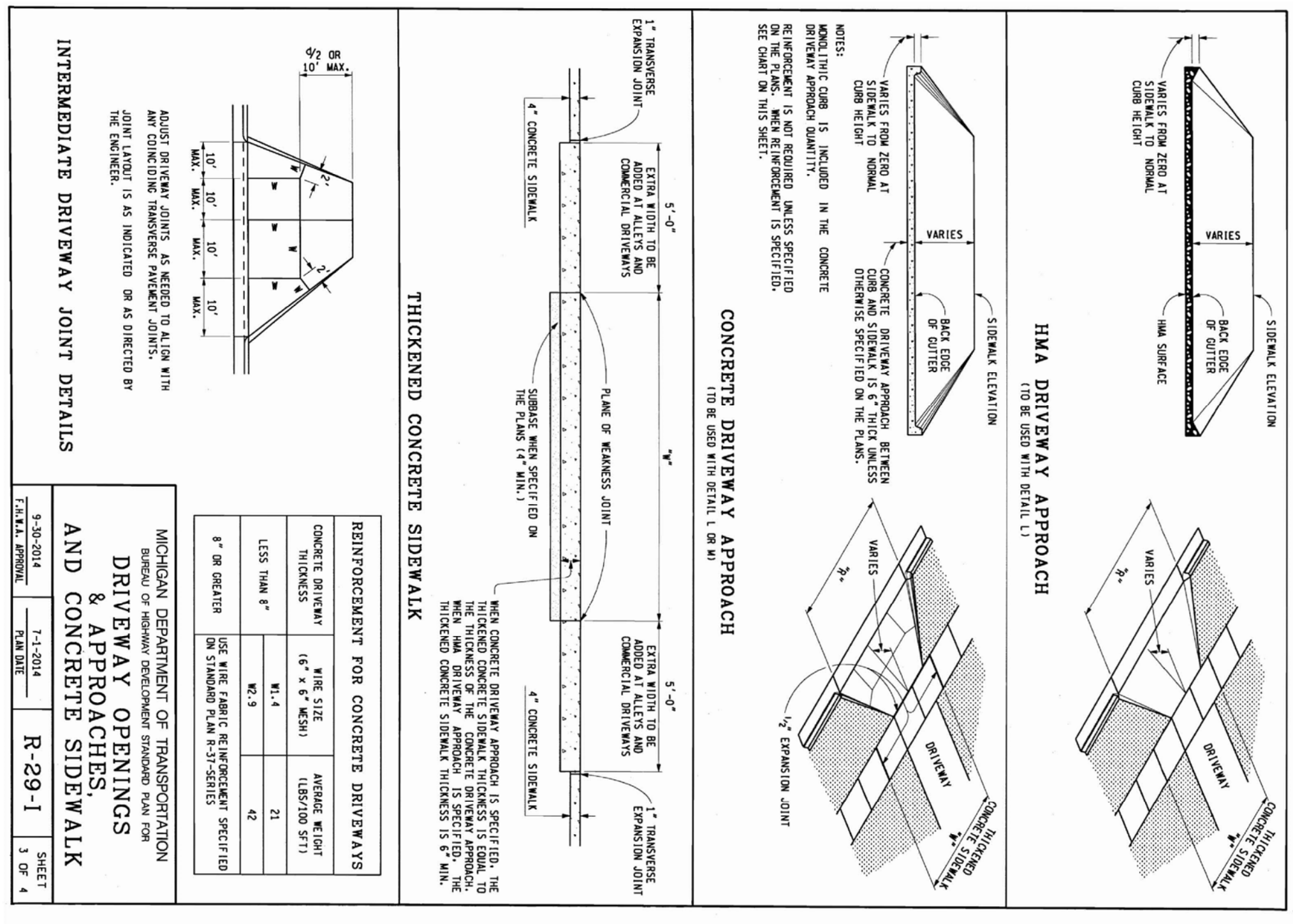
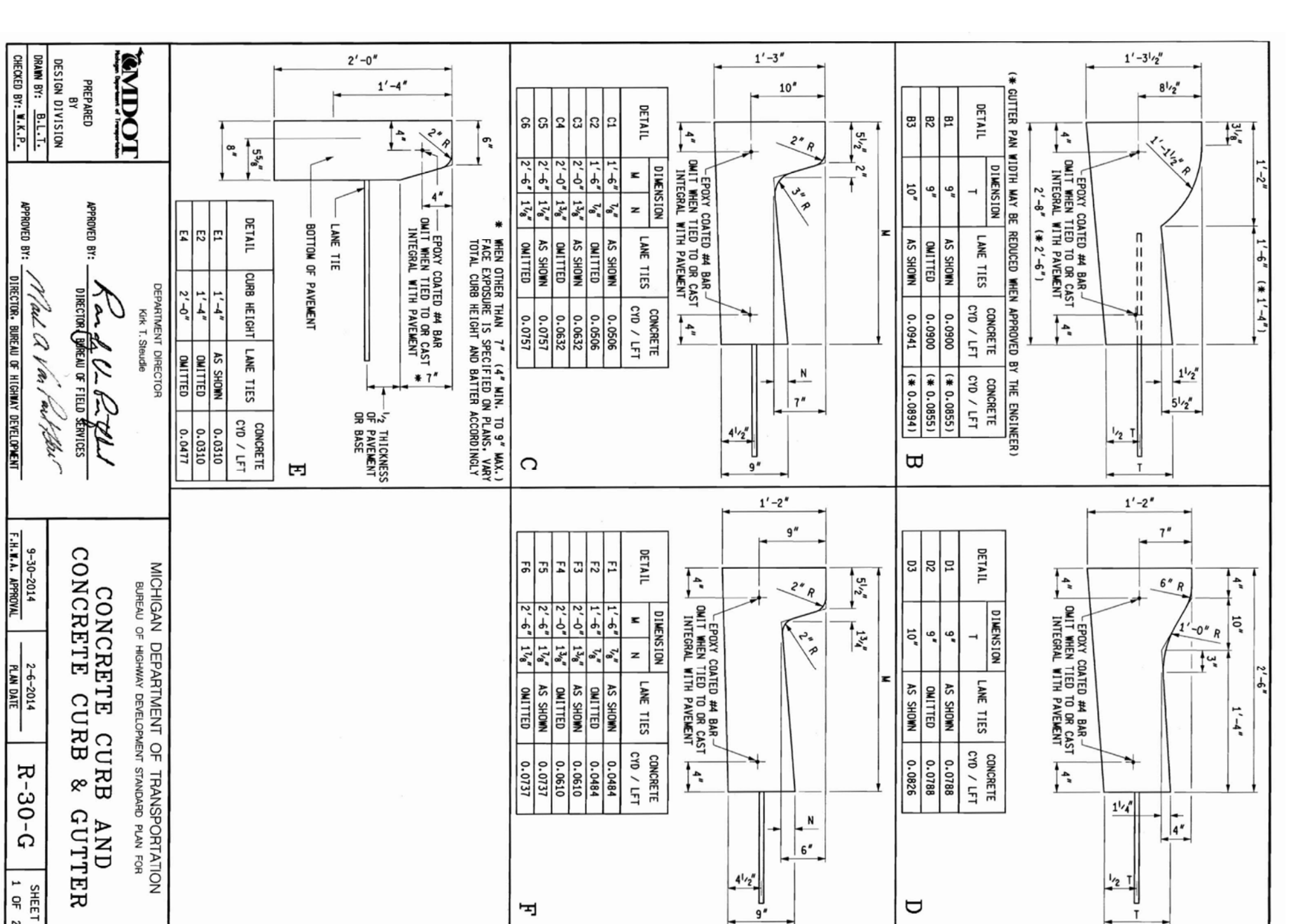
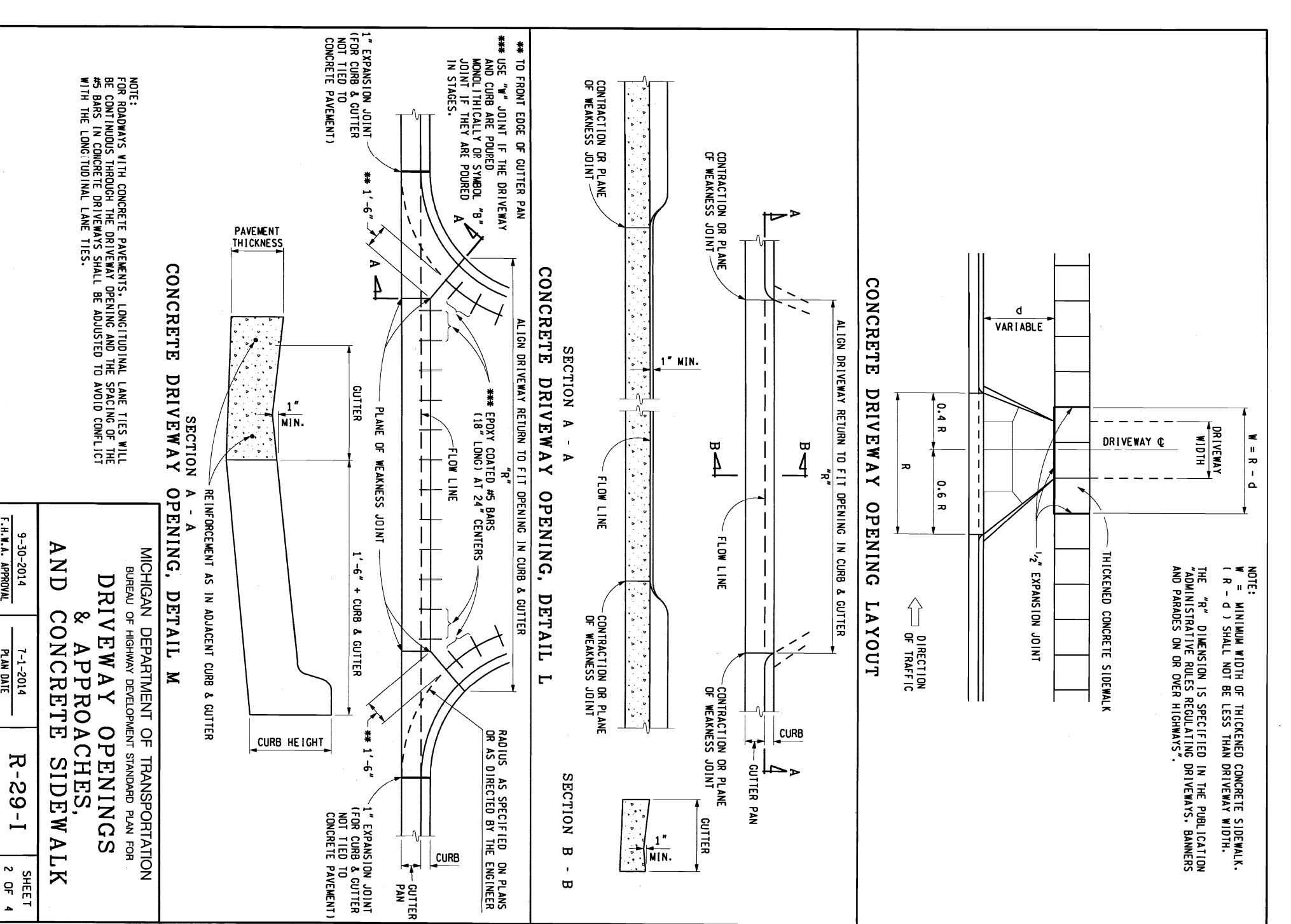
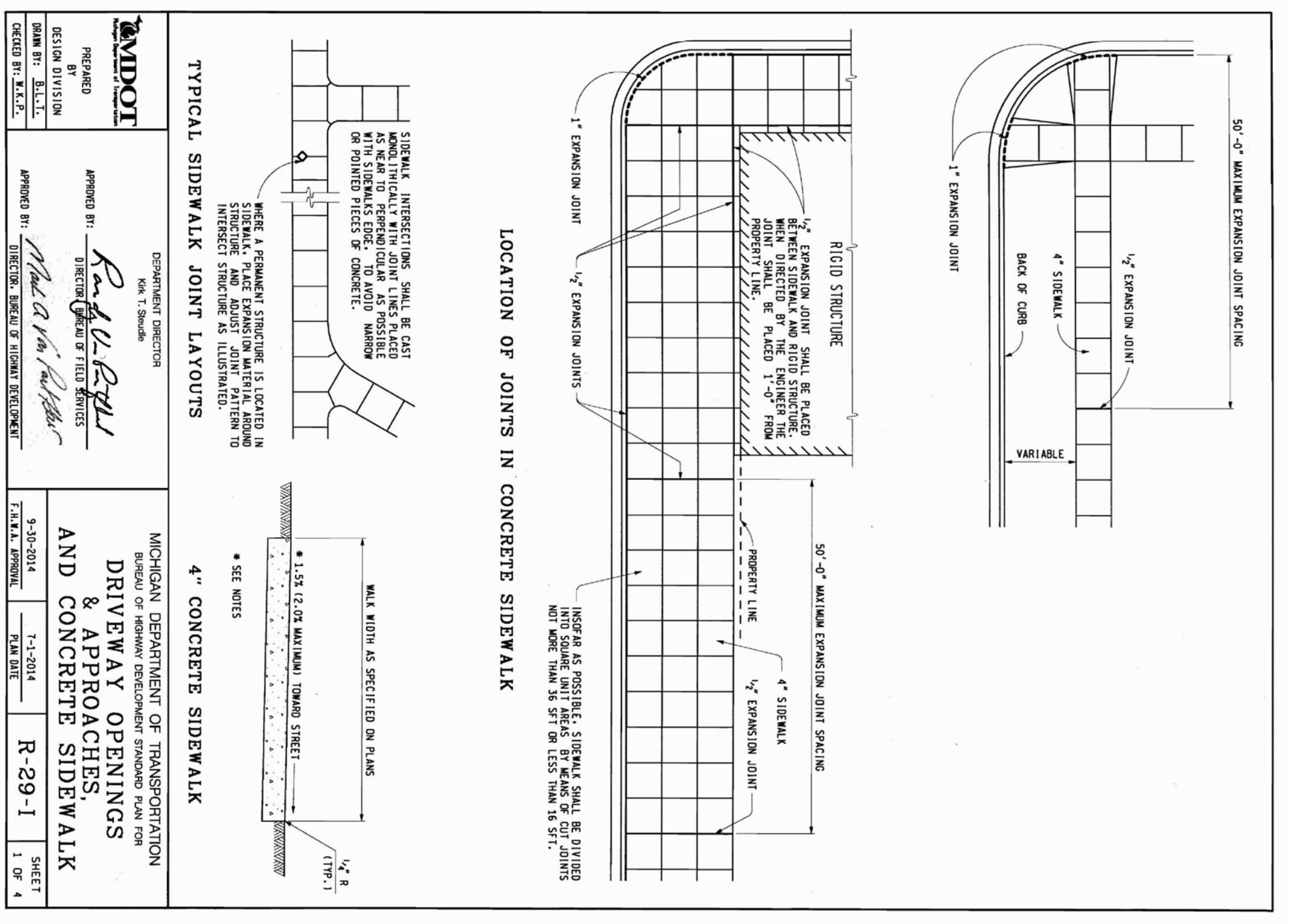
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PROJECT NUMBER
16130

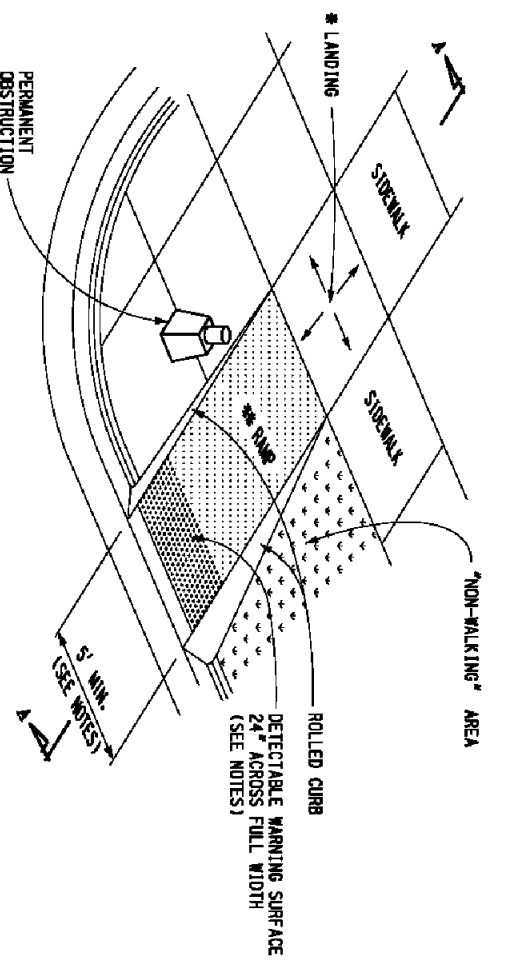
PROJECT TITLE
**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OR YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NUMBER
C-10

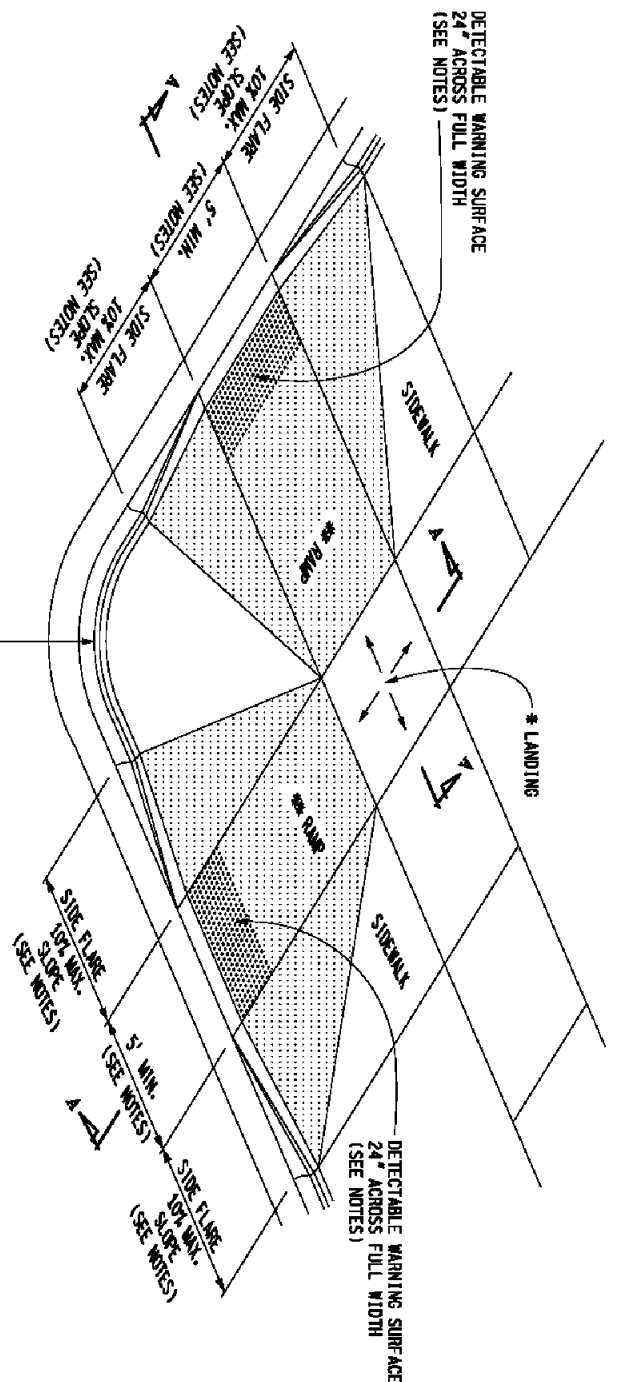
SHEET NAME
MDOT STANDARD DETAILS



MAXIMUM LANDING SLURF IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE SECTION 05100 FOR DETAILS.
 MAXIMUM RAMP CROSS SLOPE IS 3.0% RUNNING SLOPE IS 2% (18.4% MAXIMUM). SEE NOTES.



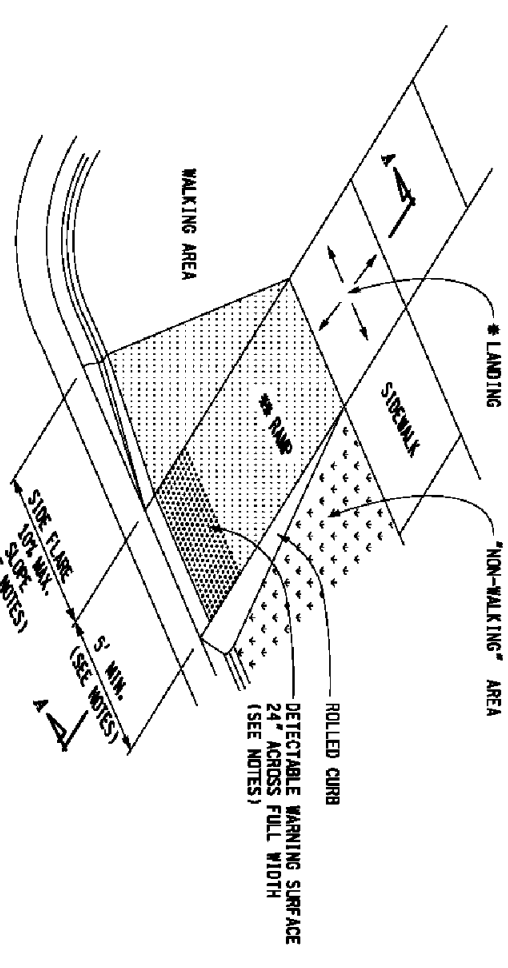
SIDEWALK RAMP TYPE R
(RAMP SLOPE)



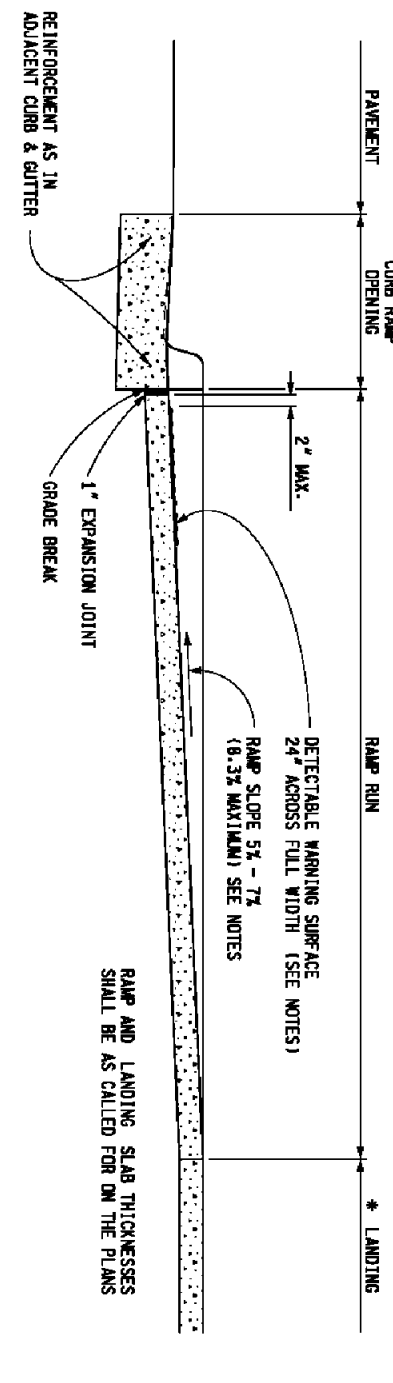
SIDEWALK RAMP TYPE P
(RAMP SLOPE, 18.4% MAXIMUM)

MDOT
 REVISIONS
 APPROVED BY: REGIONAL MANAGER OF ENGINEERING
 MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT FINANCIAL PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 R-28-J
 SHEET 1 OF 1

MAXIMUM LANDING SLURF IS 2.0% IN EACH DIRECTION OF TRAVEL. MINIMUM DIMENSIONS 5' x 5'. SEE SECTION 05100 FOR DETAILS.
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SIDEWALK RAMP TYPE Rf
(RAMP SLOPE)

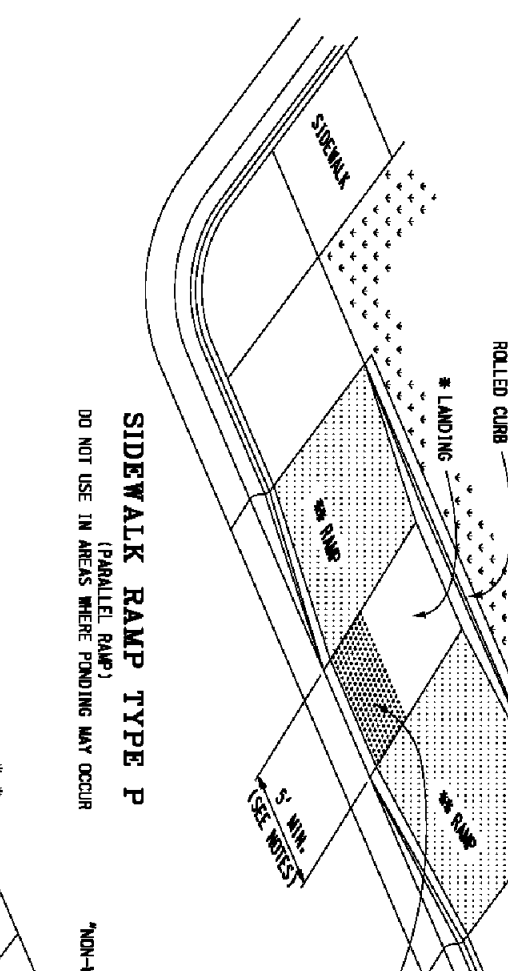


SECTION A-A
(TYPICAL ALL RAMP TYPES)

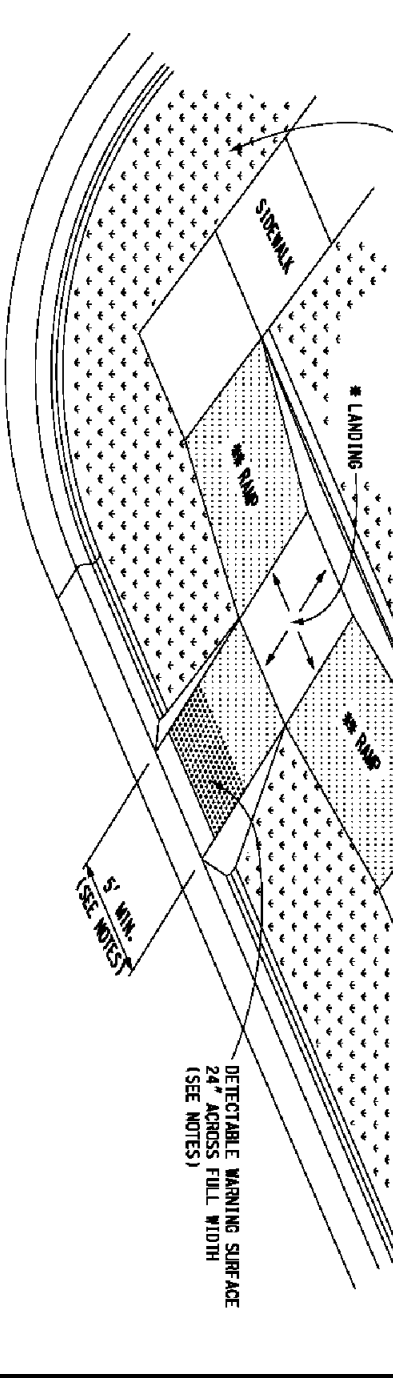
CHAMFER TYPE	LANDING WIDTH	MINIMUM LANDING WIDTH	MINIMUM LANDING LENGTH
1	5'	5'	5'
2	5'	5'	5'
3	5'	5'	5'
4	5'	5'	5'
5	5'	5'	5'
6	5'	5'	5'
7	5'	5'	5'
8	5'	5'	5'
9	5'	5'	5'
10	5'	5'	5'
11	5'	5'	5'
12	5'	5'	5'
13	5'	5'	5'
14	5'	5'	5'
15	5'	5'	5'
16	5'	5'	5'

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT FINANCIAL PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 R-28-J
 SHEET 2 OF 1

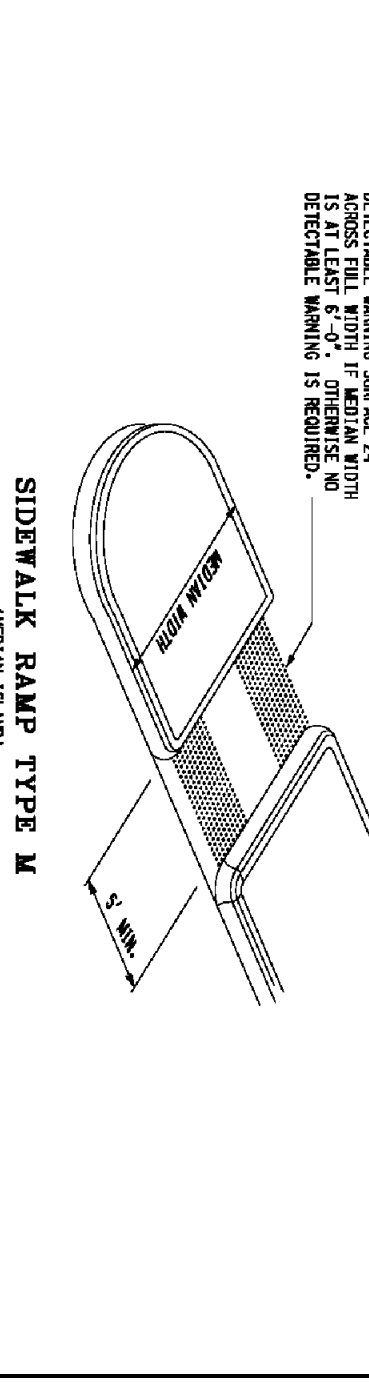
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SIDEWALK RAMP TYPE P
(RAMP SLOPE)



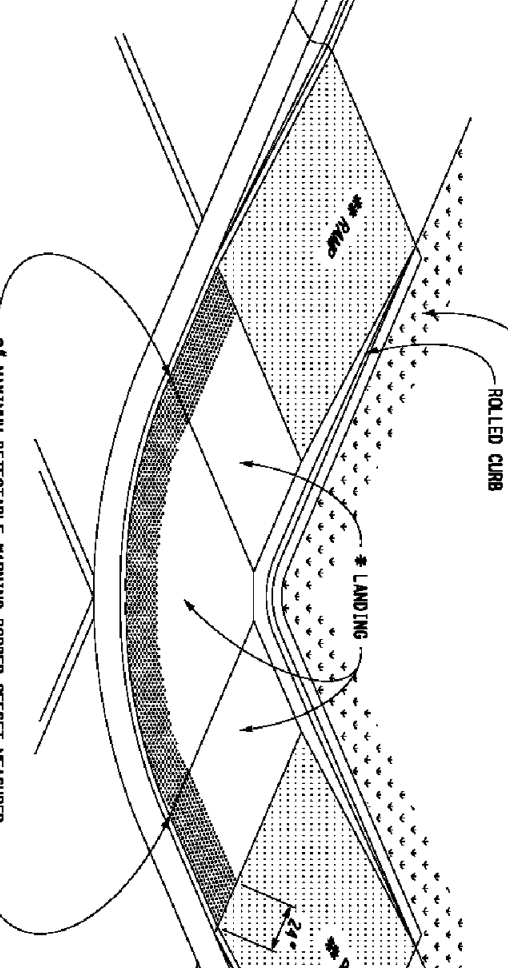
SIDEWALK RAMP TYPE C
(RAMP SLOPE)



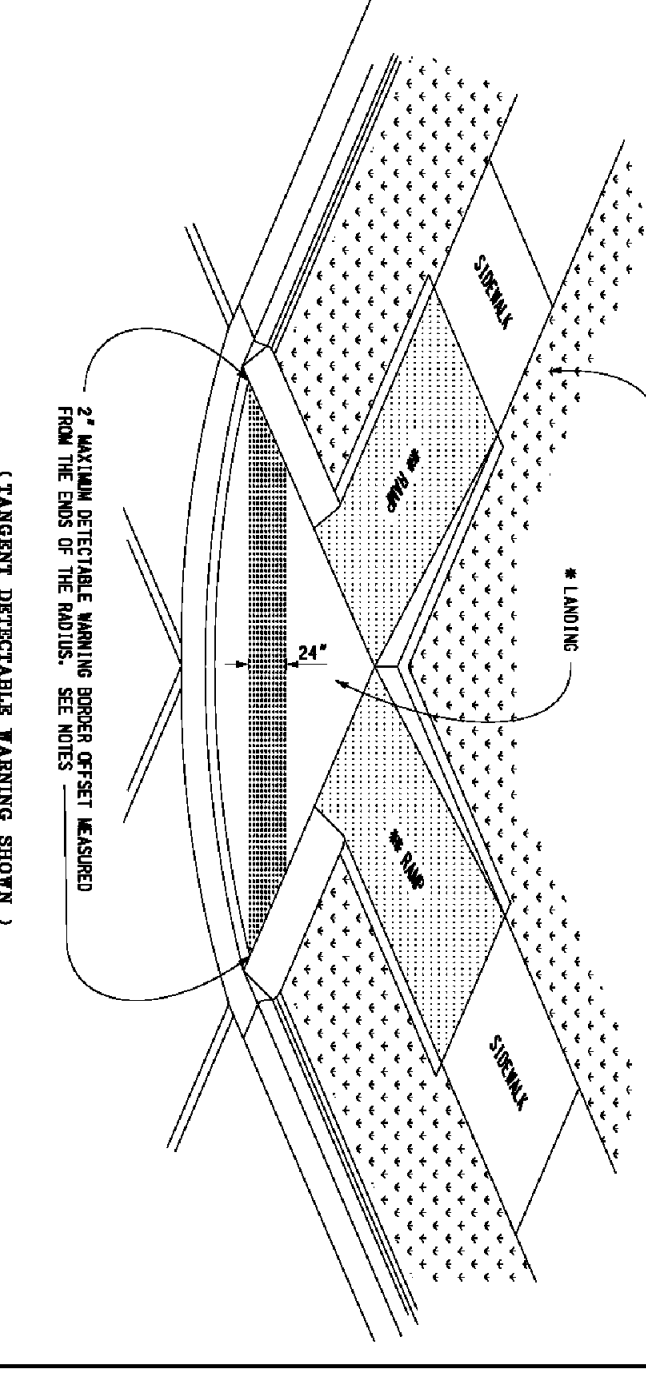
SIDEWALK RAMP TYPE M
(RAMP SLOPE)

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT FINANCIAL PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 R-28-J
 SHEET 3 OF 1

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 MAXIMUM RAMP CROSS SLOPE IS 3.0% RUNNING SLOPE IS 2% (18.4% MAXIMUM). SEE NOTES.



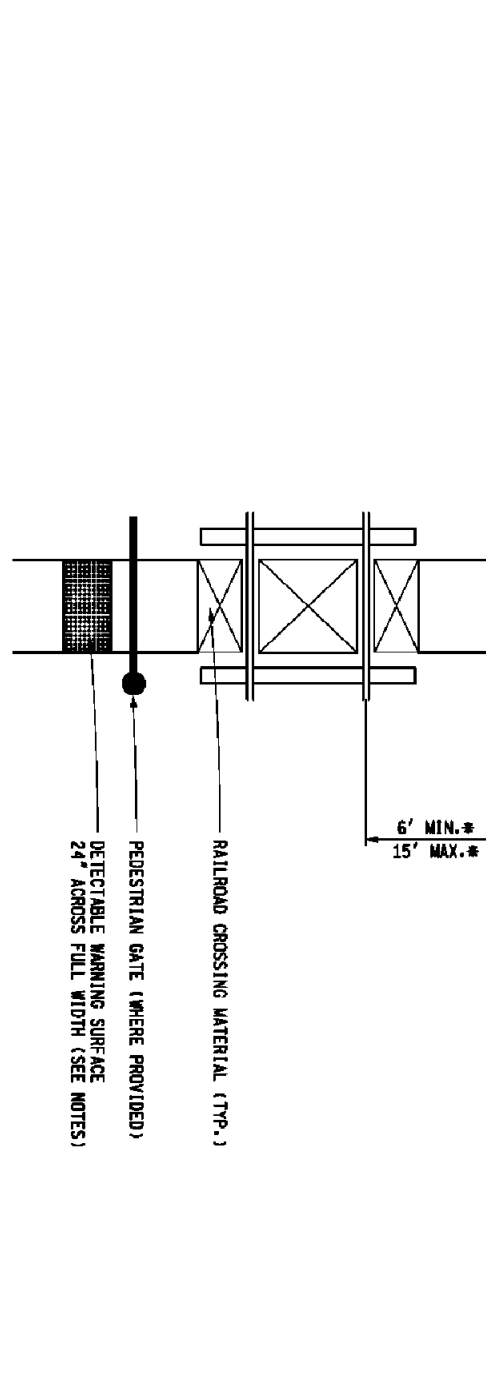
SIDEWALK RAMP TYPE D
(RAMP SLOPE)



SIDEWALK RAMP TYPE D
(RAMP SLOPE)

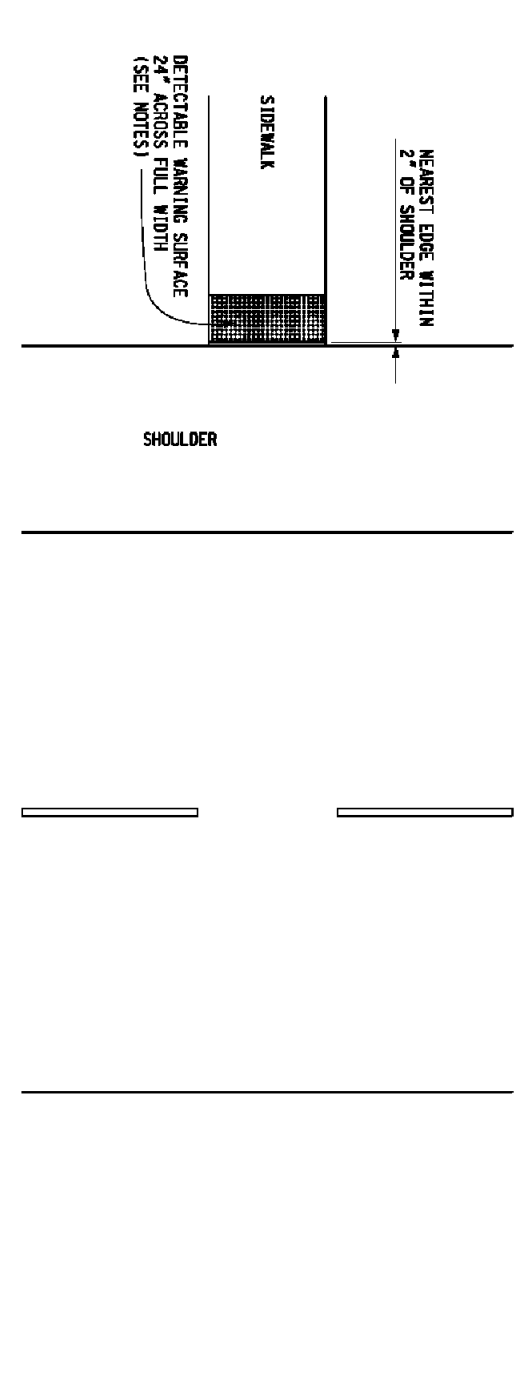
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT FINANCIAL PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 R-28-J
 SHEET 4 OF 1

THE DETECTABLE WARNING SURFACE SHALL BE LOCATED AT THE END OF THE RAMP AND SHALL BE 2' FROM THE END OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE 2' FROM THE END OF THE RAMP.



DETECTABLE WARNING AT RAILROAD CROSSING

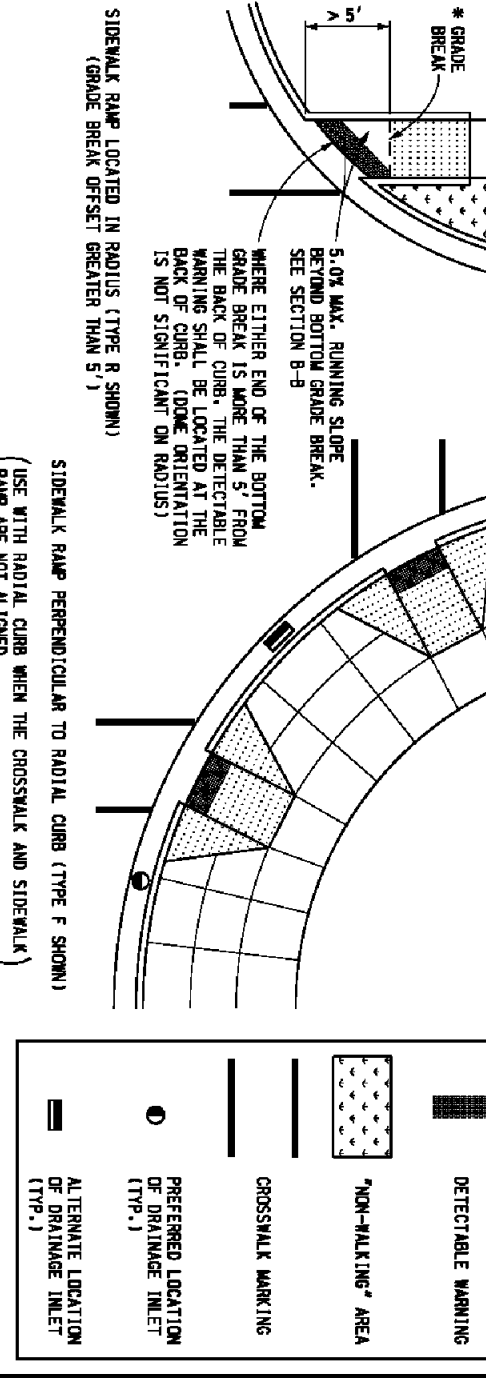
THE DETECTABLE WARNING SURFACE SHALL BE LOCATED AT THE END OF THE RAMP AND SHALL BE 2' FROM THE END OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE 2' FROM THE END OF THE RAMP.



DETECTABLE WARNING AT FLUSH SHOULDER OR ROADWAY

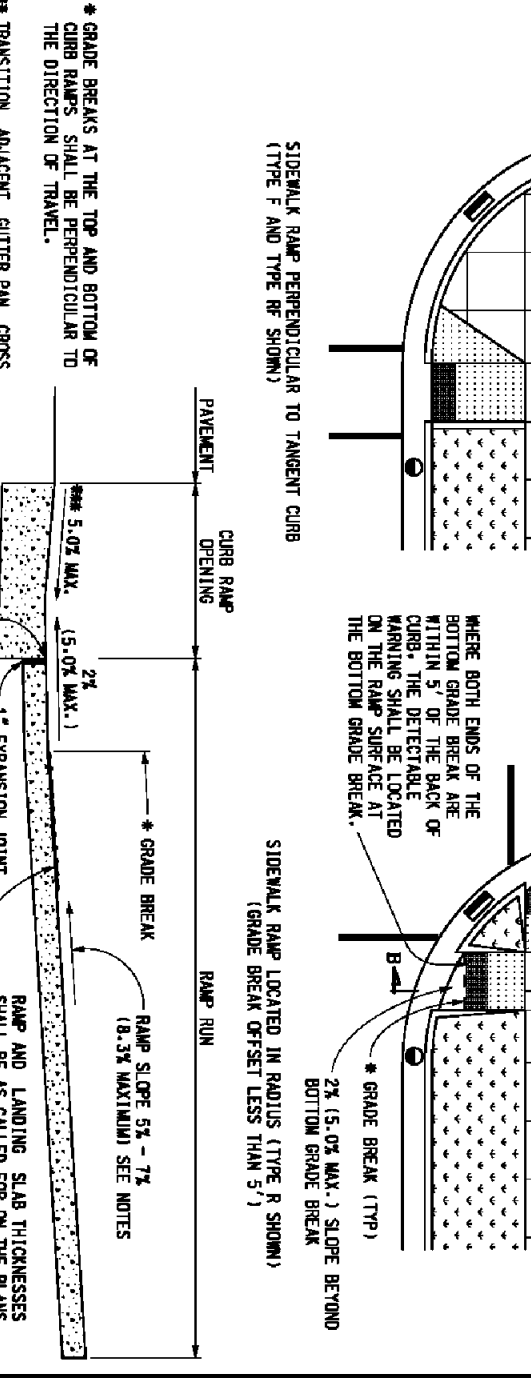
MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT FINANCIAL PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 R-28-J
 SHEET 5 OF 1

THE DETECTABLE WARNING SURFACE SHALL BE LOCATED AT THE END OF THE RAMP AND SHALL BE 2' FROM THE END OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE 2' FROM THE END OF THE RAMP.



DETECTABLE WARNING AT CURB OPENING

THE DETECTABLE WARNING SURFACE SHALL BE LOCATED AT THE END OF THE RAMP AND SHALL BE 2' FROM THE END OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE 2' FROM THE END OF THE RAMP.



DETECTABLE WARNING AT RAMP ORIENTATION

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF DEVELOPMENT FINANCIAL PLAN FOR
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**
 R-28-J
 SHEET 6 OF 1

VITINS ENGINEERING
 44725 BRANSONVILLE RD
 BENTLEYVILLE, OHIO 45005
 TELEPHONE: (734) 453-3460
 FAX: (734) 453-3460
 WWW.VITINS-ENGINEERING.COM

VITINS ENGINEERING
 Civil/Environmental Engineering
 Municipal Consulting
 Software Development

ISSUE NO.	DATE ISSUED	DESCRIPTION
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PROJECT TITLE
**QUICK OIL LUBE CENTER
 2380 EAST MICHIGAN AVENUE
 CHARTER TOWNSHIP OR YPSILANTI
 WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
MDOT STANDARD DETAILS

PROJECT NUMBER
16130

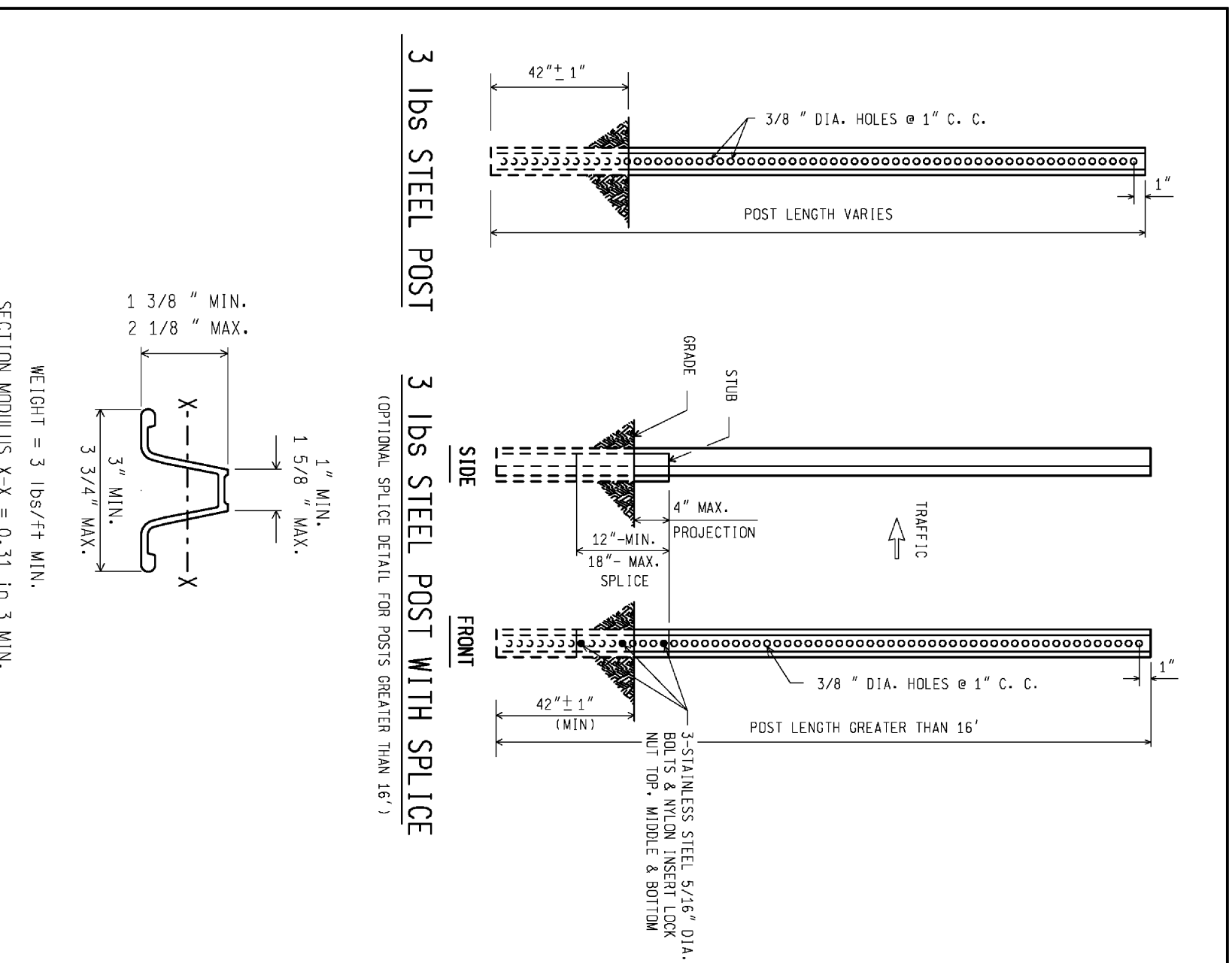
SHEET NUMBER
C-11

STANDARD SYMBOL	STANDARD DESCRIPTION	STANDARD SYMBOL	STANDARD DESCRIPTION	STANDARD SYMBOL	STANDARD DESCRIPTION
STOP	2.5' x 2.5'	11A.1	3.10x	14	7.4'
STOP	3' x 3'	11A.2	3.10x	30	7.4'
STOP	3' x 3' x 3'	11A.3	3.10x	30	7.4'
STOP	4' x 4' x 4'	11A.4	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.5	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.6	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.7	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.8	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.9	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.10	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.11	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.12	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.13	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.14	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.15	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.16	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.17	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.18	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.19	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.20	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.21	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.22	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.23	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.24	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.25	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.26	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.27	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.28	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.29	3.10x	34	7.4'
STOP	4' x 4' x 4'	11A.30	3.10x	34	7.4'

MDOT
MICHIGAN DEPARTMENT OF TRANSPORTATION
STANDARD
SIGN INSTALLATIONS

APPROVED BY: [Signature]
DESIGNED BY: [Signature]

DATE: 02/26/17
SHEET 1 OF 3



MDOT
MICHIGAN DEPARTMENT OF TRANSPORTATION
STEEL POSTS

APPROVED BY: [Signature]
DESIGNED BY: [Signature]

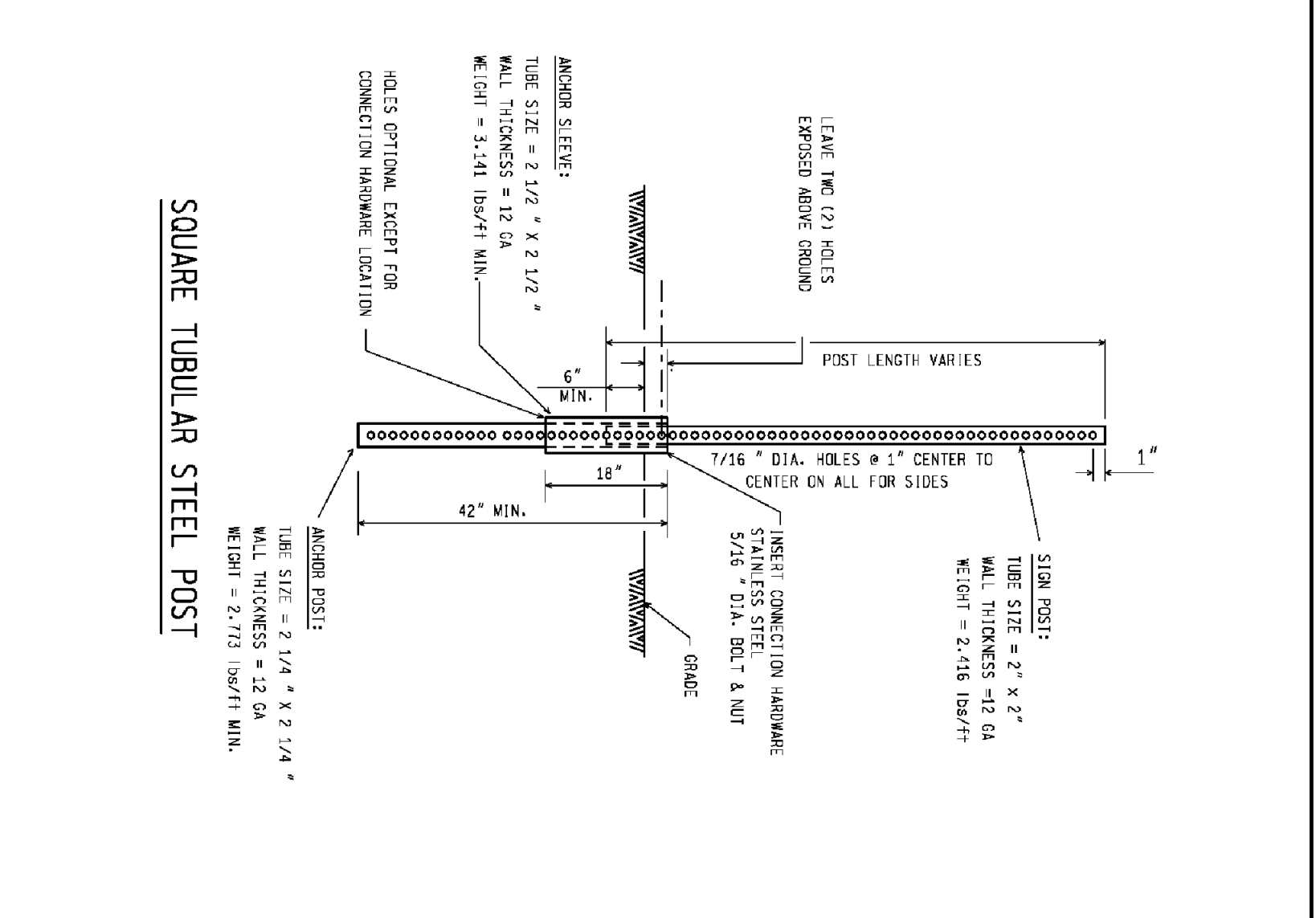
DATE: 02/26/17
SHEET 1 OF 3

STANDARD SYMBOL	STANDARD DESCRIPTION	STANDARD SYMBOL	STANDARD DESCRIPTION	STANDARD SYMBOL	STANDARD DESCRIPTION
STOP	4' x 4'	11B.1	3.10x	30	7.4'
STOP	4' x 4'	11B.2	3.10x	30	7.4'
STOP	4' x 4'	11B.3	3.10x	30	7.4'
STOP	4' x 4'	11B.4	3.10x	30	7.4'
STOP	4' x 4'	11B.5	3.10x	30	7.4'
STOP	4' x 4'	11B.6	3.10x	30	7.4'
STOP	4' x 4'	11B.7	3.10x	30	7.4'
STOP	4' x 4'	11B.8	3.10x	30	7.4'
STOP	4' x 4'	11B.9	3.10x	30	7.4'
STOP	4' x 4'	11B.10	3.10x	30	7.4'
STOP	4' x 4'	11B.11	3.10x	30	7.4'
STOP	4' x 4'	11B.12	3.10x	30	7.4'
STOP	4' x 4'	11B.13	3.10x	30	7.4'
STOP	4' x 4'	11B.14	3.10x	30	7.4'
STOP	4' x 4'	11B.15	3.10x	30	7.4'
STOP	4' x 4'	11B.16	3.10x	30	7.4'
STOP	4' x 4'	11B.17	3.10x	30	7.4'
STOP	4' x 4'	11B.18	3.10x	30	7.4'
STOP	4' x 4'	11B.19	3.10x	30	7.4'
STOP	4' x 4'	11B.20	3.10x	30	7.4'
STOP	4' x 4'	11B.21	3.10x	30	7.4'
STOP	4' x 4'	11B.22	3.10x	30	7.4'
STOP	4' x 4'	11B.23	3.10x	30	7.4'
STOP	4' x 4'	11B.24	3.10x	30	7.4'
STOP	4' x 4'	11B.25	3.10x	30	7.4'
STOP	4' x 4'	11B.26	3.10x	30	7.4'
STOP	4' x 4'	11B.27	3.10x	30	7.4'
STOP	4' x 4'	11B.28	3.10x	30	7.4'
STOP	4' x 4'	11B.29	3.10x	30	7.4'
STOP	4' x 4'	11B.30	3.10x	30	7.4'

MDOT
MICHIGAN DEPARTMENT OF TRANSPORTATION
STANDARD
SIGN INSTALLATIONS

APPROVED BY: [Signature]
DESIGNED BY: [Signature]

DATE: 02/26/17
SHEET 2 OF 3



MDOT
MICHIGAN DEPARTMENT OF TRANSPORTATION
SQUARE TUBULAR STEEL POST

APPROVED BY: [Signature]
DESIGNED BY: [Signature]

DATE: 02/26/17
SHEET 2 OF 3

- NOTES:**
- TOTAL SUPPORT LENGTHS ARE FOR ESTIMATING PURPOSES ONLY.
 - THE SUPPORT(S) LISTED FOR STANDARD SIGNS SHALL BE USED, UNLESS SHOWN OTHERWISE ON CONTRACT SIGN PLAN SHEETS. FOR SIGNS NOT LISTED HERE, SEE SIGN-350-SERIES FOR PROPER SUPPORT.
 - FOR TWO PANEL SIGN INSTALLATIONS, ALLOW A 2 INCH (51) SPACE BETWEEN PANELS AS SHOWN ON PAGE ONE. THIS 2 INCH REQUIREMENT DOES NOT APPLY TO RAMP SERVICES SIGNS (E11-15 SERIES) WHICH SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO EACH OTHER.
 - BOTTOM HEIGHT IS DEFINED AS HEIGHT FROM THE NEAR EDGE OF TRAVEL LANE PAVEMENT (EDGE-OF-METAL) TO THE BOTTOM OF THE PARENT SIGN. SEE SIGN-120-SERIES FOR REQUIRED MINIMUM SIGN BOTTOM HEIGHTS.
 - NO SIGN SERIES ≤ 44 SET PLACED IN THE CORE SECTION SHOULD BE TYPE 11A ON 2-PREPARATED STEEL SQUARE TUBE SIGN BREAKAWAY SYSTEM.
 - FOR ECONOMIC AND MAINTENANCE PURPOSES, DO NOT USE PERFORATED STEEL SQUARE TUBE SIGN BREAKAWAY SYSTEM BEHIND GUARAILS OR PROTECTION BARRIERS. REFER TO THE SIGN SUPPORT SELECTION CHART FOR APPROPRIATE SUPPORTS.
 - REFLECTIVE PANELS, WHEN CALLED FOR ON TWO PANEL SIGN INSTALLATIONS SHALL BE IN LENGTHS OF 3 FEET PER POST.

MDOT
MICHIGAN DEPARTMENT OF TRANSPORTATION
STANDARD
SIGN INSTALLATIONS

APPROVED BY: [Signature]
DESIGNED BY: [Signature]

DATE: 02/26/17
SHEET 3 OF 3

TABLE 1
ELEMENTS OF SECTION

SECTION PROPERTIES	SECTION PROPERTIES	SECTION PROPERTIES
2' x 2'	2 1/4" x 2 1/4"	2 1/2" x 2 1/2"
A = 0.950 in ² I = 0.312 in ⁴ S = 0.172 in ³ r = 0.794 in	A = 0.959 in ² I = 0.361 in ⁴ S = 0.199 in ³ r = 0.899 in	A = 0.903 in ² I = 0.264 in ⁴ S = 0.143 in ³ r = 1.001 in

TOLERANCES

1. OUTSIDE TOLERANCE FOR ALL SIGNS AT CORNERS	± 0.01 in
2. WALL THICKNESS	-0.008 in TO +0.011 in
3. CONVEXITY AND CONCAVITY	± 0.01 in
4. SQUARENESS OF SIDES	± 0.54 in
5. THREAT PERMISSIBLE IN 3 IN LENGTH	0.062 in
6. STRAIGHTNESS	2/16 in IN 3 ft
7. CORNER RADIUS	5/32 IN ± 1/32 IN
8. LENGTH	± 1/4 IN

NOTES:

- POSTS SHALL BE GALVANIZED EXCEPT ON TEMPORARY CONSTRUCTION SIGNS.
- BOLTS & NUTS INSERT LOCK WASH SHALL BE STAINLESS STEEL. PER CURRENT MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- SEE SIGN-40-SERIES-FOR SIGN CONNECTION.
- POSTS SHALL BE WANCED AT THE 42" POINT WITH SPRAY PAINT MEANT TO DRAIVE TO INDICATE MINIMUM COMPLET.
- POSTS WILL BE WANCED FOR PAYMENT TO THE NEAREST CONCRETE LENGTH.
- SET ALONGING STEEL SIGN REINFORCING IN AIR LET SIGN-340-SERIES-AND REQUIRED FOR USE WITH REINFORCING SHALL BE WANCED TO BE 200 W IN SQUARE TUBULAR STEEL SIGN.
- MAXIMUM SIGN SQUARE FOOT FOR 2.3 LB. POST SHALL BE 9 SQUARE FEET.
- MAXIMUM SIGN SQUARE FOOT FOR 2.3 LB. POST SHALL BE EQUAL TO THE 2.3 LB. POST PER SIGN-100-SERIES.

VITINS ENGINEERING
4475 BRAWLEY RD
BENTON HARBOR, MI 48007
TEL: (734) 455-3460
WWW.VITINS-ENGINEERING.COM

QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OR YPSILANTI
WASHTENAW COUNTY, MICHIGAN

MDOT STANDARD DETAILS

PROJECT NUMBER: 16130
SHEET NUMBER: C-12

ISSUE NO.	DATE ISSUED:	DESCRIPTION:
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MINIMUM MERGING TAPER LENGTH "L" (FEET)

OFFSET	25	30	35	40	45	50	55	60	65	70
FEET	10	15	20	27	35	45	55	65	75	85
POSTED SPEED LIMIT - MPH (PRIOR TO WORK AREA)	20	30	40	50	60	70	80	90	100	110
1	21	30	41	53	67	83	100	120	140	170
2	21	30	41	53	67	83	100	120	140	170
3	21	30	41	53	67	83	100	120	140	170
4	21	30	41	53	67	83	100	120	140	170
5	21	30	41	53	67	83	100	120	140	170
6	21	30	41	53	67	83	100	120	140	170
7	21	30	41	53	67	83	100	120	140	170
8	21	30	41	53	67	83	100	120	140	170
9	21	30	41	53	67	83	100	120	140	170
10	21	30	41	53	67	83	100	120	140	170
11	21	30	41	53	67	83	100	120	140	170
12	21	30	41	53	67	83	100	120	140	170
13	21	30	41	53	67	83	100	120	140	170
14	21	30	41	53	67	83	100	120	140	170
15	21	30	41	53	67	83	100	120	140	170

TAPER LENGTH "L" IN FEET

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

L = W X S² WHERE POSTED SPEED PRIOR TO SHOULDER TAPER IS 40 MPH OR LESS

L = S X W WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

L = MAXIMUM LENGTH OF MERGING TAPER
S = SPEED TO WORK AREA IN MPH
W = WIDTH OF OFFSET

TYPES OF TAPERS

UPSTREAM TAPERS
MERGING TAPER
SHIFTER TAPER
SHOULDER TAPER
TWO-WAY TRAFFIC TAPER
(SEE TABLE)

DOWNSTREAM TAPERS
TAPER LENGTH

L - MINIMUM
1/2 L - MINIMUM
1/3 L - MINIMUM
100' - MINIMUM (PER LINE)

DISTANCE BETWEEN TRAFFIC CONTROL DEVICES "D" AND LENGTH OF LONGITUDINAL BUFFER SPACE ON "WHERE WORKERS PRESENT" SITUATIONS

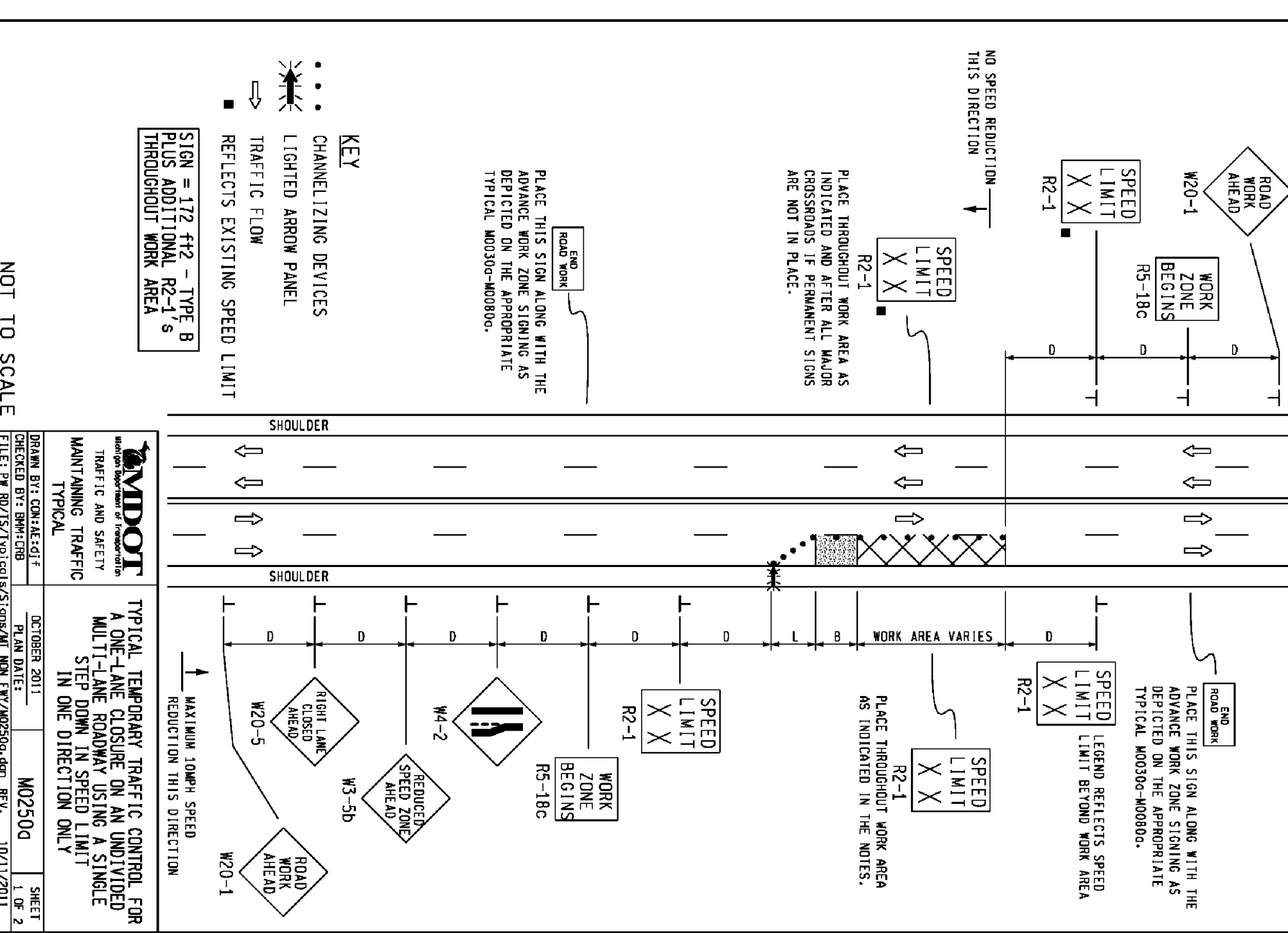
DISTANCES D (FEET)	POSTED SPEED LIMIT - MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
70'	250	300	350	400	450	500	550	600	650	700

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE "B"

SPEED* LENGTH FEET	20	25	30	35	40	45	50	55	60	65	70
20	33	33	33	33	33	33	33	33	33	33	33
25	33	33	33	33	33	33	33	33	33	33	33
30	33	33	33	33	33	33	33	33	33	33	33
35	33	33	33	33	33	33	33	33	33	33	33
40	33	33	33	33	33	33	33	33	33	33	33
45	33	33	33	33	33	33	33	33	33	33	33
50	33	33	33	33	33	33	33	33	33	33	33
55	33	33	33	33	33	33	33	33	33	33	33
60	33	33	33	33	33	33	33	33	33	33	33
65	33	33	33	33	33	33	33	33	33	33	33
70	33	33	33	33	33	33	33	33	33	33	33

* POSTED SPEED - OF PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

1. BASED UPON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR MET AND LEVEL PLACEMENTS (A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS), AASHTO. THIS ASSHD DOCUMENT ALSO RECOMMENDS ADJUSTMENTS FOR THE EFFECT OF GRADE ON STOPPING AND VARIATION FOR TRUCKS.



NOTES

- D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
- L = MINIMUM LENGTH OF TAPER
- B = LENGTH OF LONGITUDINAL BUFFER
- SEE M02200 FOR "L", "D", AND "B" VALUES
- ALL NON-APPLICABLE SITUATIONS WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
- ADJUSTING AS DIRECTED BY THE ENGINEER.
- THE "WORK ZONE BEGINS" (R2-1) SIGN SHALL BE USED ONLY IN THE INITIAL STAGING SEQUENCE IN THE WORK ZONE. SUBSEQUENT STATIONS IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- THE MAXIMUM RECOMMENDED DISTANCES BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON (RHS) AND TWICE THE POSTED SPEED IN THE PARALLEL AREAS(S).
- FOR OVERNIGHT CLOSURES, TYPE 111 BARRICADES SHALL BE LIGHTED.
- WHEN CALLED FOR IN THE PMA, ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
- ALL TEMPORARY SIGNS, TYPE 111 BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET M02P 300 OVERNIGHTLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE PROJECT MANUAL ON SIGNAGE TRAFFIC CONTROL DEVICES AND CHANNELIZING DEVICES. THE CURRENT EDITION OF THE PROJECT MANUAL SHALL BE USED FOR ALL DETAILS AND SPECIAL PROVISIONS.
- ALL TEMPORARY SIGNS AND MATERIALS APPROVED BY MDT WILL BE ALLOWED.
- WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
- ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED SHALL BE PLACED AFTER EACH MAJOR CROSSROAD THAT INTERSECTS THE WORK AREA WHERE THE REDUCED SPEED IS IN EFFECT, AND AT INTERVALS ALONG THE ROADWAY SUCH THAT NO SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED ARE MORE THAN TWO MILES APART.
- WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED SHALL BE PLACED BEYOND THE LIMITS OF THE REDUCED SPEED AS INDICATED.
- WHEN EXISTING SPEED LIMITS ARE REDUCED MORE THAN 10 MPH, THE SPEED LIMIT SHALL BE STEPPED DOWN IN NO MORE THAN 10 MPH INCREMENTS.
- ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DASHED-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY BELIEVED BY OTHER TRAFFIC CONTROL DEVICES.
- THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE.

SIGN SIZES

Diamond Warning
Rectangular Regulatory - 48" x 48"
Rectangular Regulatory - 48" x 60"

NOT TO SCALE

12DS812-1820-04

VITINS ENGINEERING

Civil/Environmental Engineering
Municipal Consulting
Software Development

4275 BRAWLEY STREET
TETERBORO, NJ 07093-4540
PHONE: (732) 453-3460
FAX: (732) 453-3460

MDOT

TABLES FOR "L", "D" AND "B" VALUES

MAINTAINING TRAFFIC TYPICAL

POSTED SPEED LIMIT - MPH (PRIOR TO WORK AREA)	25	30	35	40	45	50	55	60	65	70
25	10	15	20	27	35	45	55	65	75	85
30	11	16	21	28	36	46	56	66	76	86
35	12	17	22	30	38	49	59	69	79	89
40	13	18	23	31	40	51	61	71	81	91
45	14	19	24	32	42	53	63	73	83	93
50	15	20	25	33	44	55	65	75	85	95
55	16	21	26	34	46	57	67	77	87	97
60	17	22	27	35	48	59	69	79	89	99
65	18	23	28	36	50	61	71	81	91	101
70	19	24	29	37	52	63	73	83	93	103

MDOT
TABLES FOR "L", "D" AND "B" VALUES
MAINTAINING TRAFFIC
TYPICAL

MDOT2000
SHEET 1 OF 2

MDOT

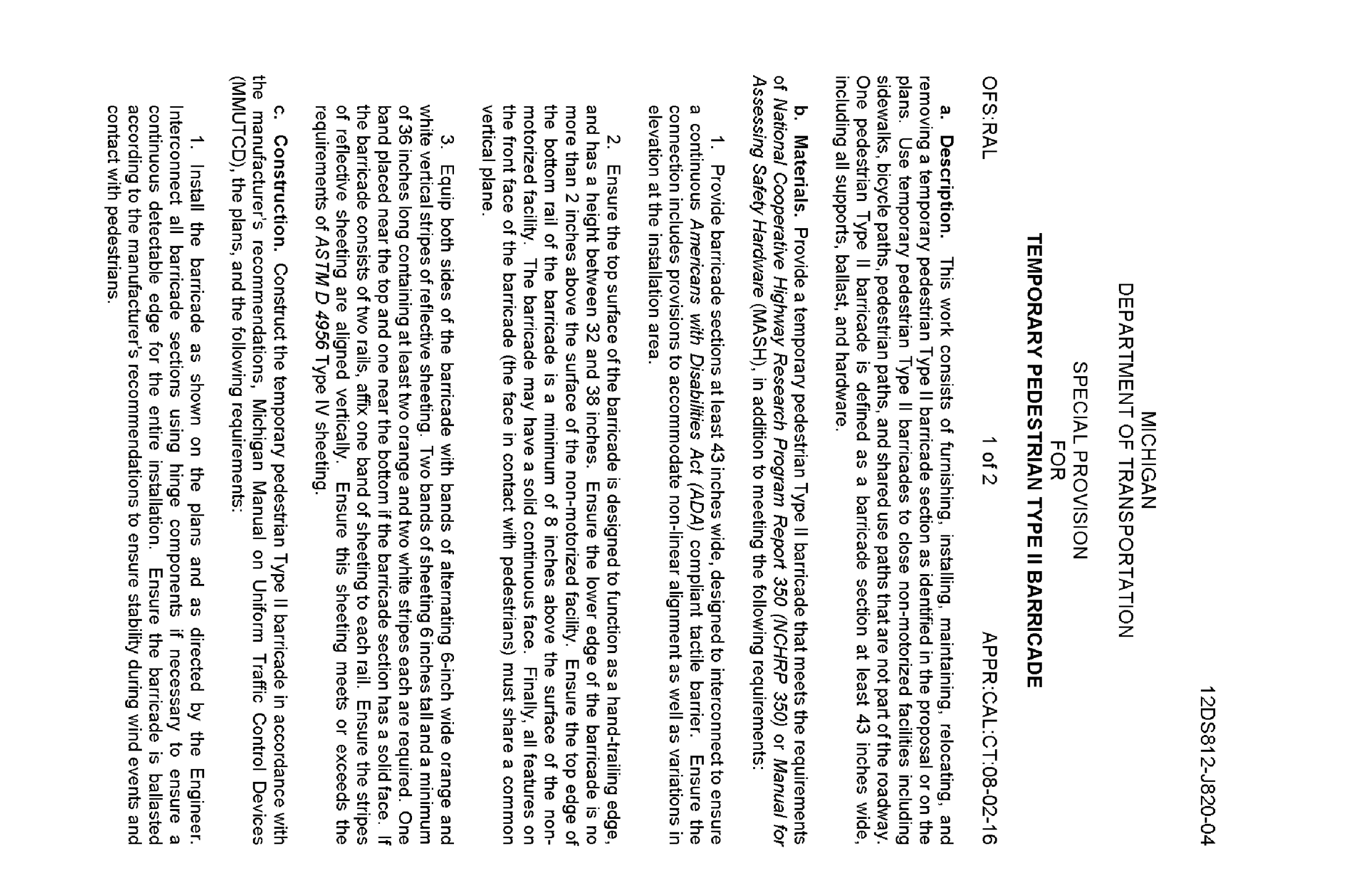
TABLES FOR "L", "D" AND "B" VALUES

MAINTAINING TRAFFIC TYPICAL

POSTED SPEED LIMIT - MPH (PRIOR TO WORK AREA)	25	30	35	40	45	50	55	60	65	70
25	10	15	20	27	35	45	55	65	75	85
30	11	16	21	28	36	46	56	66	76	86
35	12	17	22	30	38	49	59	69	79	89
40	13	18	23	31	40	51	61	71	81	91
45	14	19	24	32	42	53	63	73	83	93
50	15	20	25	33	44	55	65	75	85	95
55	16	21	26	34	46	57	67	77	87	97
60	17	22	27	35	48	59	69	79	89	99
65	18	23	28	36	50	61	71	81	91	101
70	19	24	29	37	52	63	73	83	93	103

MDOT
TABLES FOR "L", "D" AND "B" VALUES
MAINTAINING TRAFFIC
TYPICAL

MDOT2000
SHEET 2 OF 2



DESCRIPTION

This work consists of furnishing, installing, maintaining, relocating, and removing a temporary pedestrian Type II barricade section as identified in the proposal or on the plans. Use temporary pedestrian Type II barricades to close non-motorized facilities including sidewalks, bicycle paths, pedestrian paths, and shared use paths that are not part of the roadway. One pedestrian Type II barricade is defined as a barricade section at least 43 inches wide, including all supports, ballast, and hardware.

MATERIALS

Provide a temporary pedestrian Type II barricade that meets the requirements of *National Cooperative Highway Research Program Report 350 (NCHRP 350)* or *Manual for Assessing Safety Hardware (MASH)*, in addition to meeting the following requirements:

- Provide barricade sections with at least 43 inches wide, designed to interconnect to ensure a continuous barrier system. Ensure the connection includes provisions to accommodate non-linear alignment as well as variations in elevation at the installation area.
- Ensure the top surface of the barricade is designed to function as a hand-railing edge, and has a height between 32 and 36 inches. Ensure the lower edge of the barricade is no more than 2 inches above the surface of the non-motorized facility. Ensure the top edge of the bottom rail of the barricade is a minimum of 8 inches above the surface of the non-motorized facility. The barricade may have a solid continuous face. Finally, all features on the front face of the barricade (the face in contact with pedestrians) must share a common vertical plane.
- Equip both sides of the barricade with bands of alternating 6-inch wide orange and white vertical stripes of reflective sheeting. Two bands of sheeting 6 inches tall and a minimum of 36 inches long containing at least two orange and two white stripes each are required. One band placed near the top and one near the bottom of the barricade section has a solid face. If the barricade sheeting consists of two rails, affix one band of sheeting to each rail. Ensure the stripes of reflective sheeting are aligned vertically. Ensure this sheeting meets or exceeds the requirements of *ASTM D 4956* Type IV sheeting.

CONSTRUCTION

Construct the temporary pedestrian Type II barricade in accordance with the manufacturer's recommendations, Michigan Manual on Uniform Traffic Control Devices (MMUTCD), the plans, and the following requirements:

- Install the barricade as shown on the plans and as directed by the Engineer. Interconnect all barricade sections using their components if necessary to ensure a continuous, detachable edge for the entire installation. Ensure the barricade is ballasted according to the manufacturer's recommendations to ensure stability during wind events and contact with pedestrians.

QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OR YPSILANTI
WASHTENAW COUNTY, MICHIGAN

**MDOT STANDARD DETAILS
AND SPECIAL PROVISIONS**

SHEET NUMBER
16130
C-13



May 1, 2017

Mr. Mike Louzon
Sunco Properties L.L.C.
35455 Genion Court
Romulus, Michigan 48174

Via e-mail: MLLouzon@suncoproperties.com

Re: Infiltration Basin Exploration
Proposed Quick Oil Lube Center
E. Michigan Avenue & Ward Road
Ypsilanti Township, Washtenaw County, Michigan
AGS Project No. 17-1031

Dear Mr. Louzon:

In accordance with your request, Applied Geotechnical Services, Inc. (AGS) has completed an infiltration basin exploration for the referenced site in accordance with Part D, Section V of the Washtenaw County Water Resources Commissioner Rules & Guidelines – Procedures & Design Criteria for Stormwater Management Systems documents issued August 6, 2014 and revised on October 17, 2016. This letter report documents the field exploration procedures and presents the results of the test pits and double ring infiltration testing.

PROJECT BACKGROUND

The subject site covers an area of approximately one acre and is located at the southwest corner of the intersection of E. Michigan Avenue and Ward Road in Ypsilanti Township, Washtenaw County, Michigan. We understand current plans include construction of a Quick Oil Lube Center facility on the subject site. At the time of our site visit, the proposed infiltration basin exploration locations were located within vacant, relatively level, grass-covered areas with scattered trees.

Applied Geotechnical Services, Inc. 15728 Riverside, Livonia, MI 48154
Tel: (734) 679-0379

**LOG OF TEST PITS
PROPOSED QUICK OIL LUBE CENTER INFL. TROMETER BASIN EXPL. ORATION
YPSILANTI TOWNSHIP, WASHTENAW COUNTY, MICHIGAN**

TEST PIT #:	Ground Surface Elevation: ±7.41'	Date: 4-28-17
Depth Interval (feet):	Encountered Soil Conditions:	
0 – 24"	SANDY TOPSOIL – Black (O.L.)	
24" – 7'±	FINE TO MEDIUM SAND – trace silt – moist - brown (SP-SM)	
Groundwater:	Dry	
Remarks:	Infiltration Testing Performed @ 3' bgs*	
TEST PIT 2:	Ground Surface Elevation: ±7.42'	Date: 4-28-17
Depth Interval (feet):	Encountered Soil Conditions:	
0 – 6"	SANDY TOPSOIL, FILL – Black (O.L./FILL)	
6" – 3.6'	SILT Y FINE TO MEDIUM SAND, FILL – Occasional Topsoil, Brick & Concrete, Moist – Brown & Black (SM-FILL)	
3.6' – 7.5'±	SILT Y FINE TO MEDIUM SAND – Moist – Brown (SM)	
Groundwater:	Dry	
Remarks:	Infiltration Testing Performed @ 4 1/2' bgs*	
TEST PIT 3:	Ground Surface Elevation: ±7.42'	Date: 4-28-17
Depth Interval (feet):	Encountered Soil Conditions:	
0 – 6"	CRUSHED LIMESTONE AGGREGATE FILL (BA)	
6" – 8"	SANDY TOPSOIL, FILL – Black (O.L./FILL)	
8" – 7 1/2'±	SILT Y FINE TO MEDIUM SAND – Moist – Brown (SM)	
Groundwater:	Dry	
Remarks:	Infiltration Testing Performed @ 2 1/2'±	

* - bgs indicates "below ground surface"

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**Infiltration Basin Exploration – Proposed Quick Oil Lube Center
AGS Project No. 17-1031
May 1, 2017
Page 2**

We understand construction of stormwater infiltration basins at the subject site is planned per the current Washtenaw County Water Resources Commissioner (WCWRC) requirements. The approved testing plan included three (3) test pit excavations at the subject site. The test pits were performed at the approximate locations shown on the attached Schematic Test Pit Location Plan.

The infiltration basin exploration was performed to provide a basis for assessing the suitability of the subsurface conditions for infiltration basins and for the design of the infiltration basin depth and dimensions.

SCOPE OF SERVICES

The infiltration basin exploration was performed by Jeff Anagnostou, P.E., C.P.G. and included the following scope of work:

1. Observation of three (3) backhoe excavated test pits performed on April 26, 2017. The test pits were designated as Test Pit Nos. 1 through 3 and were performed at the approximate locations shown on the Schematic Test Pit Location Plan appended to this letter report. The test pits were excavated using a Bobcat® Model E-35 mini hydraulic excavator with a 12-inch bucket and were extended to depths of approximately 7 to 7 1/2 feet below the existing ground surface. The test pit logs are appended to this letter report.
2. Performance of infiltration testing in accordance with the Double-Ring Infiltration method. Based on the soil and groundwater conditions encountered at the test pit locations, the infiltration testing was performed at each of the three test pit locations. In accordance with the revised WCWRC requirements, two infiltration tests were performed at each of the test pit locations. The infiltration tests performed at the north side of the test pits were designated as Test A and the infiltration tests performed at the south side of the test pits were designated as Test B. The WCWRC BMP Double Ring Infiltration Test sheets for the infiltration tests are appended to this letter report. Photographic Documentation of the test pits and infiltration testing is also appended to this letter report.

At the location of Test Pit No. 1, the infiltration testing was performed on fine to medium sands at an approximate depth of 3 feet below the existing ground surface. At the locations of Test Pit Nos. 2 and 3, the infiltration testing was performed on silty fine to medium sands at approximate depths of 4 1/2 feet and 2 1/2 feet below the existing ground surface, respectively.

The infiltration testing was performed using a 4-inch diameter PVC centered within a 6-inch diameter PVC pipe. The PVC pipes possessed a length of 24



WCWRC DOUBLE RING INFILTRATION TEST

Project #	17-1031	Project	Quick Oil Lube Center
Location	Ypsilanti Twp.	Date	4-28-2017
Test No.	TP-1	Test Run	TP-1
Outer Ring Diam.	6"	Inner Ring Diam.	4"
Seated Depth	A=8"/B=8"	Hgt of Rim Above Ground	A=16"/B=16"
Pre-Soak 30-Min. Water Level	16.7/16"	Pre-Soak 30-Min W.L. Drop	16.7/16"
Pre-Soak 60-Min. Water Level	16.7/16"	Pre-Soak 90-Min W.L. Drop	16.7/16"
10 Min. Water Level Drop (Refill Water to Rim After Every Reading)	7.2/16"		
20 Min. Water Level Drop (Refill Water to Rim After Every Reading)	7.3/16"		
30 Min. Water Level Drop (Refill Water to Rim After Every Reading)	6.2/16"		
40 Min. Water Level Drop (Refill Water to Rim After Every Reading)	7.3/16"		
50 Min. Water Level Drop (Refill Water to Rim After Every Reading)	7.3/16"		
60 Min. Water Level Drop (Refill Water to Rim After Every Reading)			
70 Min. Water Level Drop (Refill Water to Rim After Every Reading)			
80 Min. Water Level Drop (Refill Water to Rim After Every Reading)			

Note: Run test for 8 Readings or until drop in water level stabilizes (i.e., 1/4" or less drop between highest and lowest readings of four consecutive readings)

A = North Infiltrationmeter

B = South Infiltrationmeter

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**Infiltration Basin Exploration – Proposed Quick Oil Lube Center
AGS Project No. 17-1031
May 1, 2017
Page 3**

Inches and were seated approximately 5 to 8 inches below the bottom of a small pilot hole excavated at the test location using a flat board and small sledge hammer. The soil was "pre-soaked" prior to the start of testing by filling the inner pipe and the annular space between the inner and outer pipes with potable water to the top of the pipes. The drop in water level was recorded after 30 minutes and the pipes immediately refilled to the top of the pipe for a second 30 minute interval. The water level in the inner pipes dropped more than 2 inches during the second 30 minute pre-soak period. Accordingly, the infiltration testing was performed with 10 minute intervals. After each 10 minute interval, the drop in the water level was obtained using a tape measure and the inner pipe and annular space between the pipes immediately refilled to the top of the pipes.

As shown on the WCWRC BMP Double Ring Infiltrationmeter Test sheets, the infiltration tests were terminated after a "stabilized rate of drop" was obtained as evidenced by a difference in the water level drop of less than 1/4 inch between the highest and lowest reading of a minimum of four consecutive readings.

USDA SOIL SURVEY MAP

AGS reviewed the United States Department of Agriculture (USDA) Soil Conservation Service's Soil Survey map for the subject site from the USDA Web Soil Survey website. Soils on the subject property are mapped as Spinks Loamy Sand, 0 to 6 Percent Slope (SBB). These soils are classified by the National Resources Conservation Service (NRCS) as belonging to hydrologic soil group A – soils having relatively high infiltration rates.

RESULTS AND EVALUATION

Approximately 24 inches of sandy topsoil was encountered at the location of Test Pit No. 1. The underlying subsols consisted of fine to medium sands that extended to the maximum explored depth of 7 feet. At the location of Test Pit No. 2, topsoil fill and silty fine to medium sand fill with occasional brick and concrete debris were encountered to an approximate depth of 3 1/2 feet. Below this depth, native silty fine to medium sands were encountered to the explored depth of 7 1/2 feet. At the location of Test Pit No. 3, crushed limestone aggregate fill and topsoil were encountered to an approximate depth of 8 inches. Below this depth, native silty fine to medium sands that extended to the maximum explored depth were encountered.

Each of the three test pits were dry both during excavation and upon completion.



WCWRC DOUBLE RING INFILTRATION TEST

Project #	17-1031	Project	Quick Oil Lube Center
Location	Ypsilanti Twp.	Date	4-28-2017
Test No.	TP-2	Test Run	TP-2
Outer Ring Diam.	6"	Inner Ring Diam.	4"
Seated Depth	A=5"/B=5"	Hgt of Rim Above Ground	A=18"/B=18"
Pre-Soak 30-Min. Water Level	19.7/19"	Pre-Soak 30-Min W.L. Drop	4.1/19"
Pre-Soak 60-Min. Water Level	19.7/19"	Pre-Soak 90-Min W.L. Drop	3.2/17 1/2"
10 Min. Water Level Drop (Refill Water to Rim After Every Reading)	1.1/19"		
20 Min. Water Level Drop (Refill Water to Rim After Every Reading)	1.1/19"		
30 Min. Water Level Drop (Refill Water to Rim After Every Reading)	1.1/12 1/2"		
40 Min. Water Level Drop (Refill Water to Rim After Every Reading)	1.1/12 1/2"		
50 Min. Water Level Drop (Refill Water to Rim After Every Reading)	1.1/12 1/2"		
60 Min. Water Level Drop (Refill Water to Rim After Every Reading)			
70 Min. Water Level Drop (Refill Water to Rim After Every Reading)			
80 Min. Water Level Drop (Refill Water to Rim After Every Reading)			

Note: Run test for 8 Readings or until drop in water level stabilizes (i.e., 1/4" or less drop between highest and lowest readings of four consecutive readings)

A = North Infiltrationmeter

B = South Infiltrationmeter

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**Infiltration Basin Exploration – Proposed Quick Oil Lube Center
AGS Project No. 17-1031
May 1, 2017
Page 4**

As discussed above, two infiltration tests were performed at each of the test pit locations in accordance with the Double-Ring Infiltrationmeter method. The calculated and design infiltration rates, based on the infiltration testing, are presented in Table 1.

Table 1: Summary of Infiltration Test Results

Test Pit No.	Avg. Drop Per 10 Minute Interval (inches)	Avg. Calc. (Unfactored) Infiltration Rate (inches Per Hour)	Design Infiltration Rates (inches Per Hour)
TP-1	6 1/2"	36%	10"
TP-2	2 1/2"	12%	6"
TP-3	3 1/2"	19 1/2%	9"

* WCWRC recommends maximum design infiltration rate of 10 inches per hour.

The WCWRC requires the soils below an infiltration device possess a minimum infiltration rate of 0.1 inches per hour. Therefore, we believe the subsurface conditions at the infiltration test locations are suitable for properly designed infiltration devices. The WCWRC recommends a maximum design infiltration rate of 10 inches per hour.

I, Jeffrey T. Anagnostou, P.E., C.P.G., a licensed professional engineer, trained in the science of soil mechanics, state that the above infiltration rate is valid and represents the soil conditions encountered on the site at the test location.

Thank you for your use of our services. If there are any questions regarding this letter report, please do not hesitate to contact us at (734) 679-0379.

Respectfully,

APPLIED GEOTECHNICAL SERVICES, INC.

Jeffrey T. Anagnostou, P.E., C.P.G.
Geotechnical Engineer/Principal

Enc: Schematic Test Pit Location Plan, Log of Test Pits, WCWRC BMP Double Ring Infiltrationmeter Test Sheets, Photographic Documentation



WCWRC DOUBLE RING INFILTRATION TEST

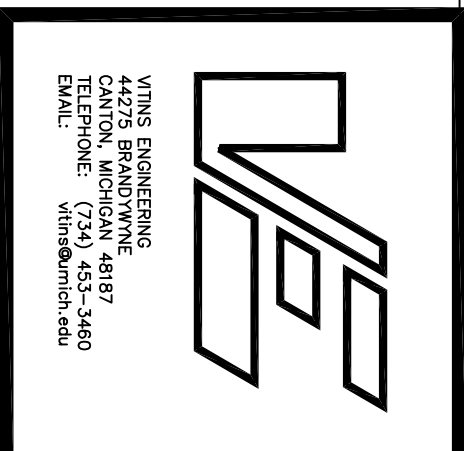
Project #	17-1031	Project	Quick Oil Lube Center
Location	Ypsilanti Twp.	Date	4-28-2017
Test No.	TP-3	Test Run	TP-3
Outer Ring Diam.	6"	Inner Ring Diam.	4"
Seated Depth	A=5"/B=5"	Hgt of Rim Above Ground	A=19"/B=19"
Pre-Soak 30-Min. Water Level	19.7/19"	Pre-Soak 30-Min W.L. Drop	1.3/19"
Pre-Soak 60-Min. Water Level	19.7/19"	Pre-Soak 90-Min W.L. Drop	1.7/18 1/2"
10 Min. Water Level Drop (Refill Water to Rim After Every Reading)	4.7/23"		
20 Min. Water Level Drop (Refill Water to Rim After Every Reading)	3.6/22 1/2"		
30 Min. Water Level Drop (Refill Water to Rim After Every Reading)	4.7/23"		
40 Min. Water Level Drop (Refill Water to Rim After Every Reading)	4.7/23 1/2"		
50 Min. Water Level Drop (Refill Water to Rim After Every Reading)	4.7/23 1/2"		
60 Min. Water Level Drop (Refill Water to Rim After Every Reading)	4.7/23"		
70 Min. Water Level Drop (Refill Water to Rim After Every Reading)			
80 Min. Water Level Drop (Refill Water to Rim After Every Reading)			

Note: Run test for 8 Readings or until drop in water level stabilizes (i.e., 1/4" or less drop between highest and lowest readings of four consecutive readings)

A = North Infiltrationmeter

B = South Infiltrationmeter

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Municipal Consulting
Software Development

ISSUE NO.	DATE ISSUED	DESCRIPTION
1	5/16/2017	PRELIMINARY SITE PLAN
2	7/31/2017	REVISED PER TOWNSHIP, WCRC, WCWRC AND MDOT REVIEW
3	1/14/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
4	10/17/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
5	11/27/2019	REVISED PER MDOT REVIEW

DO NOT SCALE DRAWINGS. USE ONLY DRAWINGS 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
**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OR YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
**INFILTRATION BASIN
EXPLORATION TEST RESULTS**

PROJECT NUMBER
16130

SHEET NUMBER
C-14

Site Data

- MICHIGAN AVENUE FRONTAGE (228 FEET)
- 1 DECIDUOUS TREE PER 40 FEET (6 TREES),
- 1 ORNAMENTAL TREE PER 100 FEET (2 TREES), AND
- 1 SHRUB PER 10 FEET (23 SHRUBS)
- WARD ROAD FRONTAGE (230 FEET)
- 1 DECIDUOUS TREE PER 40 FEET (6 TREES),
- 1 ORNAMENTAL TREE PER 100 FEET (2 TREES), AND
- 1 SHRUB PER 10 FEET (24 SHRUBS)
- REQUIRED PARKING LOT LANDSCAPING (15,288 SF)
- 1 TREE PER 3000 SF PAVEMENT (5 TREES)
- OPEN SPACE LANDSCAPING (8,955 SF)
- 1 TREE OR EVERGREEN PER 1000 SF LAWN AREA (10 TOTAL)
- 1 SHRUB PER 500 SF LAWN AREA (19 SHRUBS)

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 used 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, Form, 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.

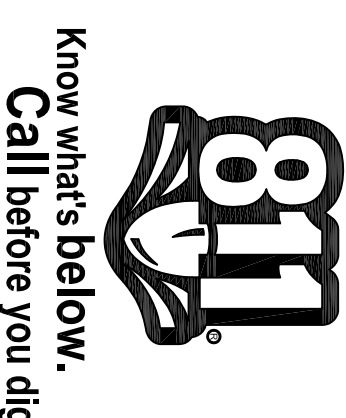
Be freshly dug and nursery grown.

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

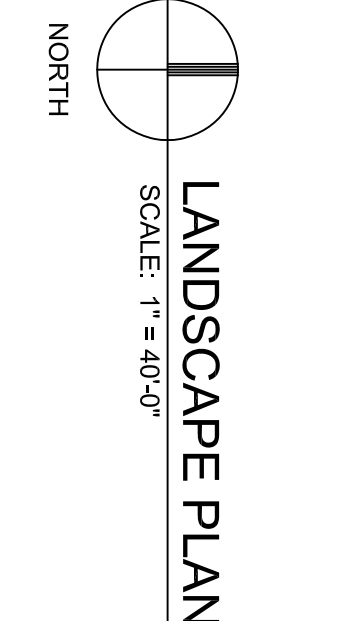
Trees shall have straight trunks with leaders intact, undamaged and uncut.

NOTE: UTILITY INFORMATION ON THIS DRAWING MAY BE THE PROPERTY OF THE UTILITY COMPANY. NO GUARANTEE IS MADE AS TO THE COMPLETENESS OR ACCURACY THEREOF.

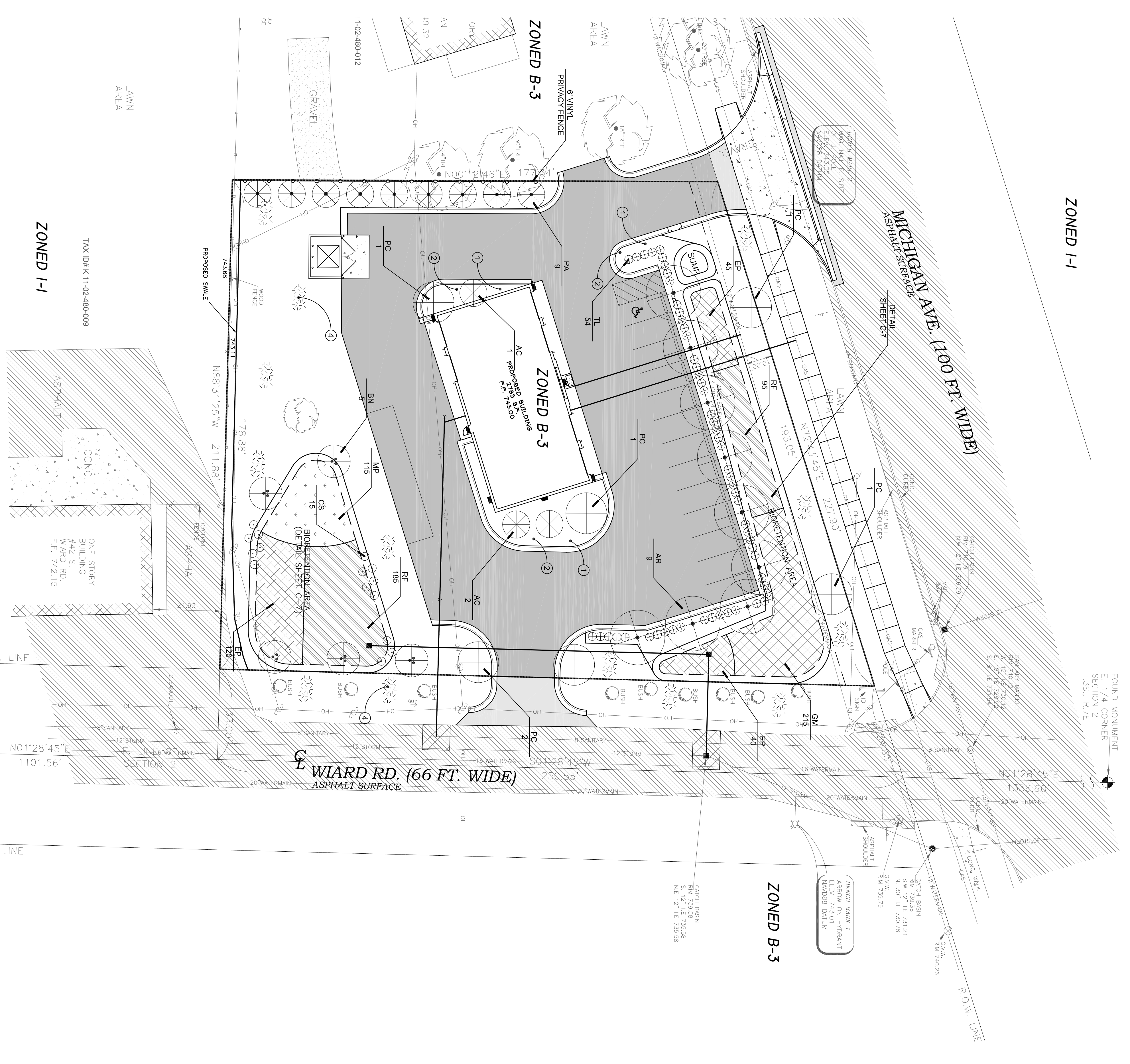
PERSON TO CONSTRUCTION. ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONTACT WITH THE FIELD. (APPROXIMATE) SHALL BE CORRECTED IN ANY INFORMATION ON DATA ON THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION. FOR ANY OTHERS ON THIS DRAWING, THE USER SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY INFORMATION AND ADAPTING TO THE SITUATION. THE USER SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY INFORMATION AND ADAPTING TO THE SITUATION. THE USER SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY INFORMATION AND ADAPTING TO THE SITUATION.



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LANDSCAPE PLAN
SCALE: 1" = 40'-0"
FOUND MONUMENT SECTION 2 T.3S., R.7E



Plant List:

CODE	QTY.	MATERIAL & SIZE	COMMENTS
AR	9	Acer 'Red Sunset'	B&B single straight trunk
PC	6	Prunus c. 'Chapelard Select'	B&B single straight trunk
BN	5	Rubus nigra	B&B
PA	9	Picea alberta	B&B branched full to ground, unshaded
AC	3	Abies concolor	B&B branched full to ground, unshaded
CS	15	Cornus stolonifera	Plant 5'-0" o.c.
TL	54	Thuja o. 'Little Giant'	Plant 3' o.c.
EP	205	Echinacea purpurea 'Magnus Purple Coneflower', 1 gal.	Plant 30" o.c.
RF	280	Rudbeckia hirta s. 'Goldsturm'	Plant 30" o.c.
GM	200	Geranium maculatum	Plant 24" o.c.
MP	115	Monarda punctata	Plant 30" o.c.

Note Key

- 4" DEPTH TOPSOIL IN PLANTING BED
- LANDSCAPE FABRIC AND 4" SHREDED BARK MULCH
- SODDED LAWN ON 3" DEPTH TOPSOIL, TYP.
- SEDED LAWN ON 4" DEPTH TOPSOIL
- STEEL EDGING BETWEEN LAWN AND LANDSCAPE BED

PROJECT TITLE
**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
LANDSCAPE PLAN

PROJECT NUMBER
16130

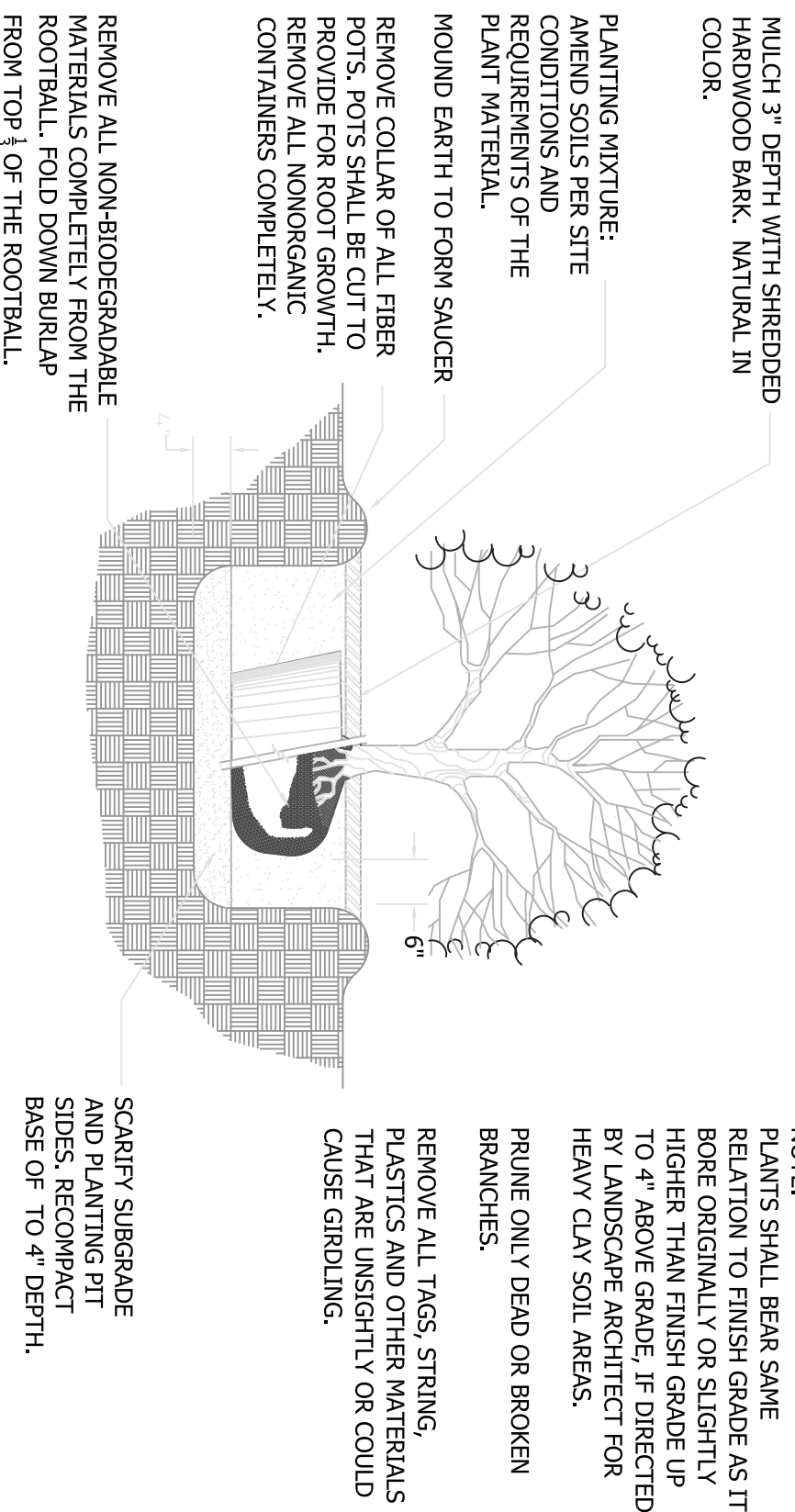
SHEET NUMBER
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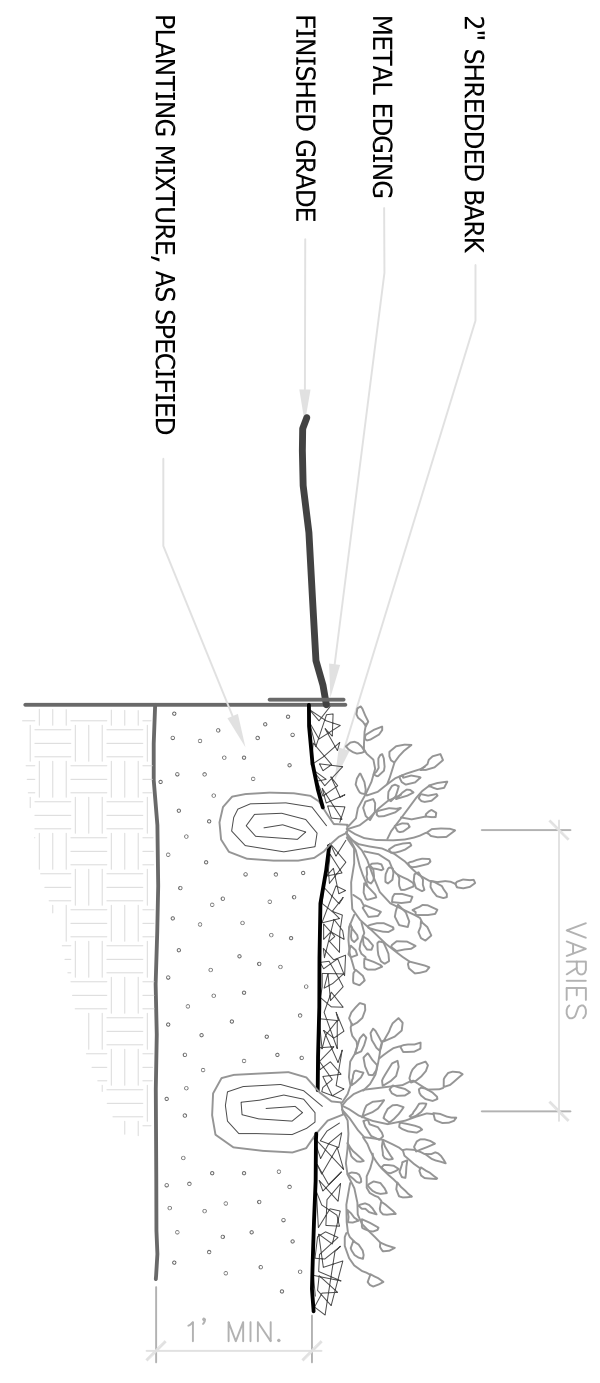
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44275 BROADVIEW
ANN ARBOR, MI 48107
TEL: 734.463.3400
FAX: 734.463.3400
WWW.VITINS-ENG.COM



NOTE:
PLANTS SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4\"/>

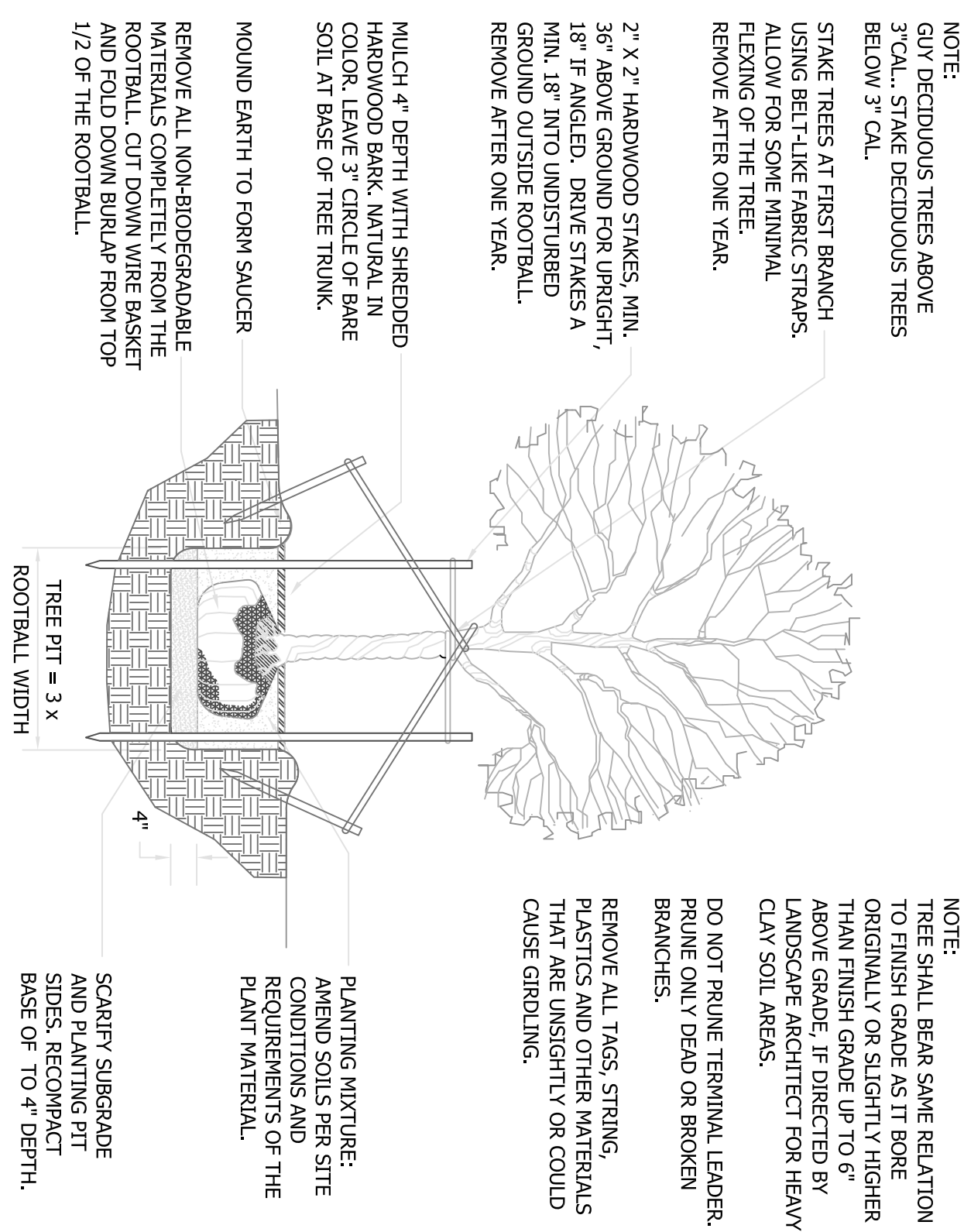
SHRUB PLANTING DETAIL

NOT TO SCALE

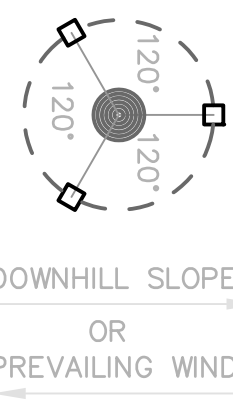


PERENNIAL PLANTING DETAIL

NOT TO SCALE

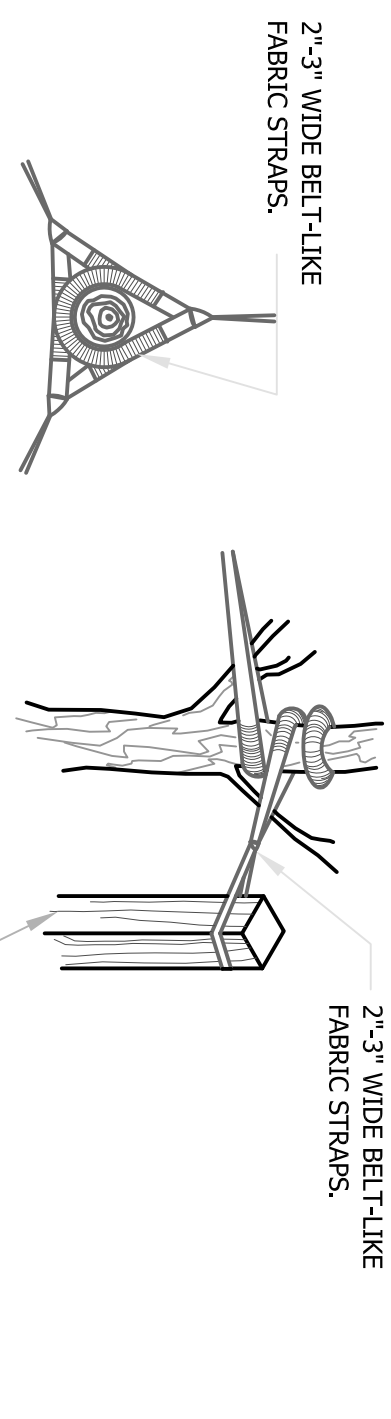


DECIDUOUS TREE PLANTING DETAIL



STAKING/GUYING LOCATION

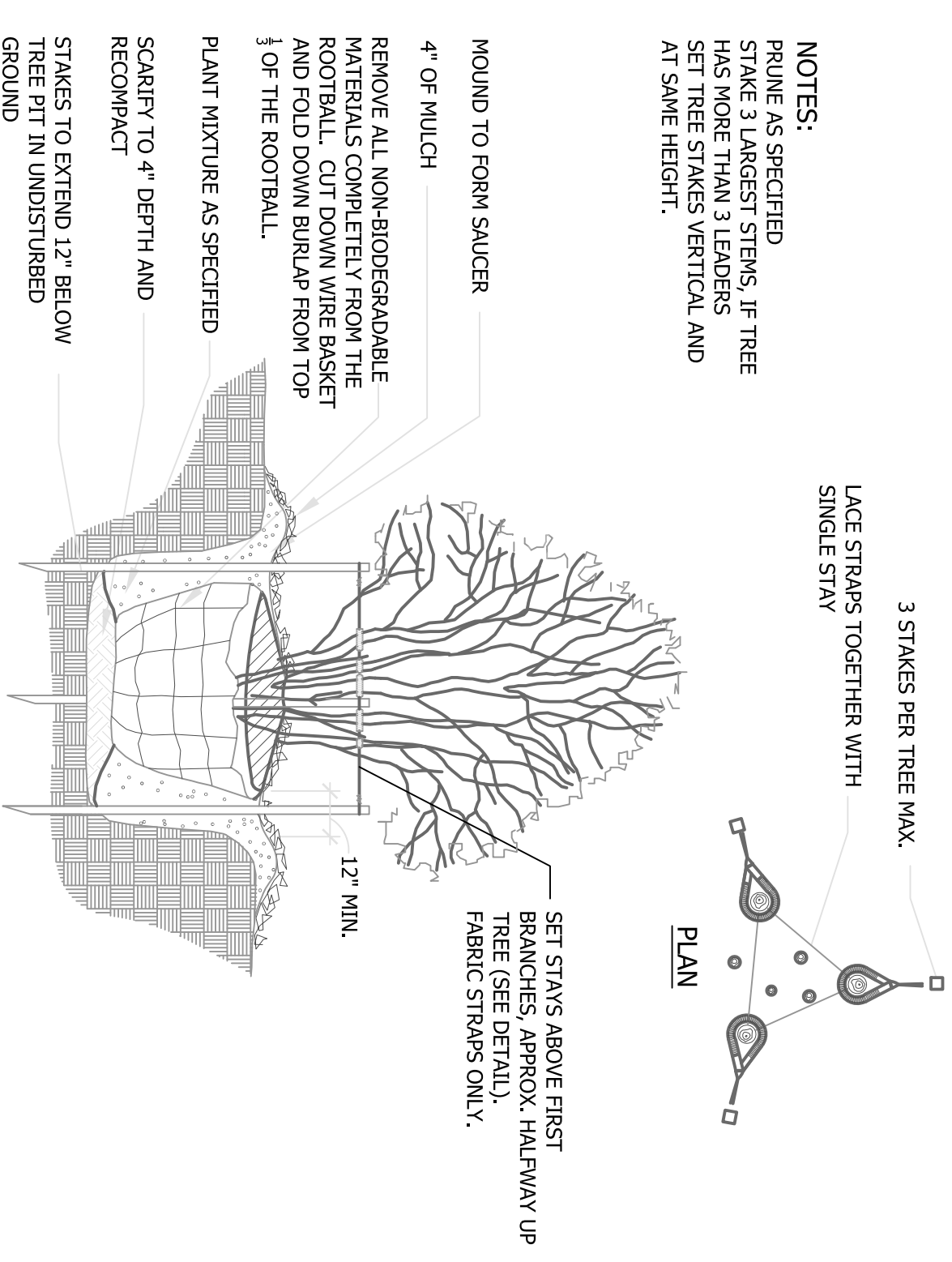
NOTE:
ORIENT STAKING/GUYING TO PREVAILING WINDS, EXCEPT ON SLOPES GREATER THAN 3:1 ORIENT TO SLOPE.
USE SAME STAKING/GUYING ORIENTATION FOR ALL PLANTS WITHIN EACH GROUPING OR AREA



GUYING DETAIL

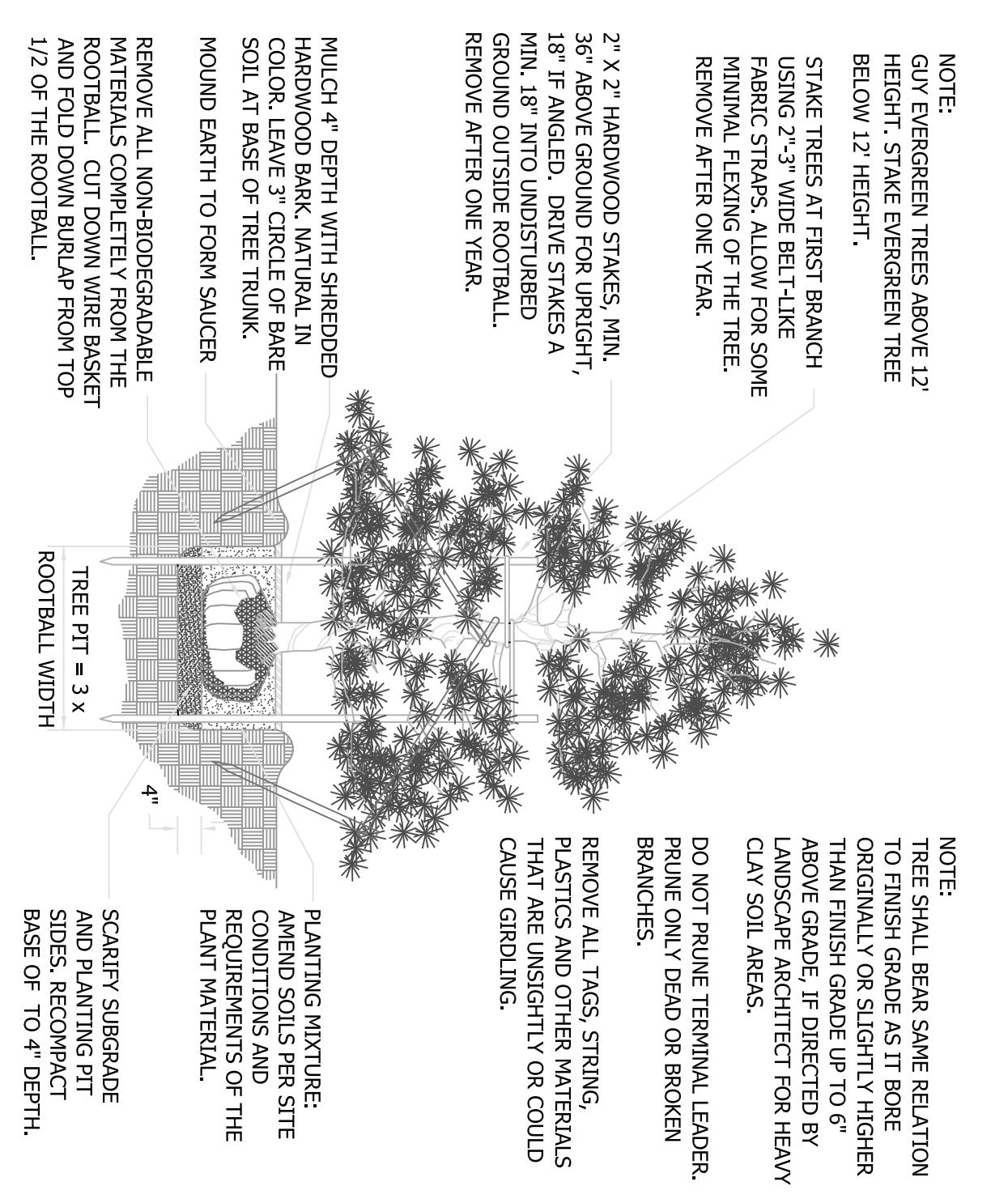
TREE STAKING DETAIL

NOT TO SCALE



MULTI-STEM TREE PLANTING DETAIL

NOT TO SCALE



EVERGREEN TREE PLANTING DETAIL

LANDSCAPE NOTES:

1. 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.
2. ALL PLANT MATERIALS SHALL BE INSTALLED BETWEEN MARCH 15th AND NOVEMBER 15th.
3. 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 MAIN 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 ANY AND MDOT STANDARDS.
4. ALL TREES SHALL HAVE A CENTRAL LEADER AND A RADIAL BRANCHING STRUCTURE. PARK GRADE TREES ARE NOT ACCEPTABLE. ALL TREES SHALL BE BALLED AND BURRAPPED (BBB).
5. ANY DECIDUOUS CANOPY TREES WITH BRANCHES THAT MIGHT TEND TO DEVELOP INTO "V" CROTCHES SHALL BE SUBDOMINATED SO AS NOT TO BECOME DOMINANT BRANCHES.
6. MULCH SHALL BE NATURAL COLOR, FINELY SHREDED 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.
7. ALL PLANT MATERIAL SHALL BE WARRANTED 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.
8. ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION, INCLUDING WATERING, CULTIVATION, WEED CONTROL AND SOIL ENRICHMENTS AS MAY BE NECESSARY.
9. A MINIMUM OF ONE WEED CONTROL CULTIVATION PER MONTH OCCURRING IN JUNE, JULY AND AUGUST SHALL BE PERFORMED DURING THE TWO-YEAR ESTABLISHMENT PERIOD.
10. ANY SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED IN WRITING BY OWNER PRIOR TO INSTALLATION.
11. ALL TREE WRAP, STAKES, AND GYVS MUST BE REMOVED BY JULY 1ST FOLLOWING THE FIRST WINTER SEASON AFTER INSTALLATION.
12. ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN HEALTHY GROWING CONDITION FREE OF DEBRIS AND REFUSE AND IN CONFORMANCE WITH THE APPROVED LANDSCAPE PLAN.
13. CONTRACTOR TO REMOVE ALL CONSTRUCTION DEBRIS AND EXCESS MATERIALS FROM THE SITE PRIOR TO FINAL ACCEPTANCE.
14. PLANT MATERIALS, EXCEPT SOD, GROUND COVERS, AND CREEPING VINE TYPE PLANTINGS, SHALL NOT BE LOCATED WITHIN FOUR (4) FEET OF THE PROPERTY LINE.
15. ALL BERMS MUST BE PLANTED WITH A COMBINATION OF TREES, SHRUBS, SOD OR OTHER EVERGREEN GROUND COVERS.
16. THE CONTRACTOR IS RESPONSIBLE FOR REQUEST OF FINAL INSPECTION AND ACCEPTANCE OF THE LANDSCAPE AT THE END OF THE 2-YEAR GUARANTEED 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.

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PROJECT TITLE
**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OF YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
LANDSCAPE DETAILS

PROJECT NUMBER
16130

SHEET NUMBER
L-2

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 _J)	<u>195</u> ft ³
Pre-Development Bankfull Runoff Volume (V _{pre-dev})	<u>344</u> ft ³
Previous Cover Post-Development Bankfull Volume (V _{pre-dev})	<u>26</u> ft ³
Impervious Cover Post-Development Bankfull Volume (V _{impervious})	<u>1504</u> ft ³
Total BF Volume (V_{total})	1530 ft ³
Previous Cover Post-Development 100-year Volume (V _{100-year})	<u>142</u> ft ³
Impervious Cover Post-Development 100-year Volume (V _{impervious})	<u>3457</u> ft ³
Total 100-year Volume (V_{total})	3599 ft ³

B. Determine Onsite Infiltration Requirement

Subtract the Pre-Development Bankfull from the Post-Development Bankfull volume

Total Post-Development Bankfull Volume (V _{total})	<u>1530</u> ft ³
Pre-Development Bankfull Runoff Volume (V _{pre-dev})	<u>344</u> ft ³
Bankfull Volume Difference	<u>1186</u> 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_J) 1186 ft³

Section IV - Computational Requirements For Stormwater Management Systems



W10 Standard Method Runoff Volume Calculations

Detention/Retention Requirement

Detention

A. $Q_p = 238.67 \cdot A^{0.482}$
 Peak of the Unit Hydrograph
 $Q_p = \frac{cfs}{hr} = m^3/s$
 $T_c = 0.075$
 $Q_p = 199c$

B. Total Site Area (ac) excluding "Self-Crediting" BMPs
 $A_{req} = 0.311$ ac

C. $Q_{100} = Q_{100} + Q_{100} = 213, 4.873$
 $Q_{100} = 5.09c/in$
 Note: Q_{100} and Q_{100} from W6 and W7, respectively

D. Peak Flow (PF) = $\frac{Q_p (cfs) \cdot (2.303 \ln(A_{req}))}{640}$
 $PF = 5.92c/s$

E. $A = PF (cfs) \cdot 0.15 (A_{req})$
 $590 = 0.15 (c \cdot 311)$
 $A = 5.84$ cfs

F. $V_{det} = \frac{A (cfs) \cdot V_{100} (hr)}{5.90}$
 $V_{det} = 3562$ ft³

Retention

A. $V_{ret} = 2(V_{det})$
 $V_{ret} = 7124$ ft³

Note: Projects sites where the required infiltration volume cannot be achieved must increase the required detention volume by up to an additional 25%.

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* (ft ³)	Ave Design Infiltration Rate (in/hr)	Infiltration Volume During Storm* (ft ³)	Total Volume Reduction† (ft ³)
Previous Pavement W/Infiltration Bed					
Infiltration Basin					
Subsurface Infiltration Bed					
Infiltration Trench					
Bio-retention Systems	2914	1457	6.375	9255	10,715
Rain Gardens					
Dry Well					
Bioswale					
Vegetated Filter Strip					
Green Roof					
					345

Total Volume Reduction Credit by Proposed Structural BMPs (ft³) 11090
 Runoff Volume Infiltration Requirement (V_J) from Worksheet 9 - 1186
 Runoff Volume Credit (ft³) = 9904

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)			

Section IV - Computational Requirements For Stormwater Management Systems



W13 Summary

Site Summary of Infiltration & Detention

A. Stormwater Management Summary

Minimum Onsite Infiltration Requirement, V _J	<u>1186</u> ft ³
Designed/Provided Infiltration Volume	<u>11,090</u> ft ³
% Minimum Required Infiltration Provided	<u>935</u> %
Total Calculated Detention Volume, V _{det}	<u>3562</u> ft ³
Net Required Detention Volume (V _{det} - Designed/Provided Infiltration Volume)	<u>0</u> 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% * % Required Infiltration NOT Provided)	_____ %
Total Required Detention Volume, including penalty [(100% + Net % Penalty) x Net Required Detention Volume]	_____ ft ³

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PROJECT NUMBER
16130

SHEET NUMBER
2 OF 4

PROJECT TITLE
**QUICK OIL LUBE CENTER
 2380 EAST MICHIGAN AVENUE
 CHARTER TOWNSHIP OR YPSILANTI
 WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
**STORMWATER MANAGEMENT
 SYSTEM CALCULATIONS**



W9

Standard Method Runoff Volume Calculations
Runoff Summary & Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets

First Flush Volume (V _f)	<u>1022</u> ft ³
Pre-Development Bankfull Runoff Volume (V _{pre-dev})	<u>466</u> ft ³
Previous Cover Post-Development Bankfull Volume (V _{pre-dev,pc})	<u>39</u> ft ³
Impervious Cover Post-Development Bankfull Volume (V _{pre-dev,ic})	<u>1855</u> ft ³
Total BF Volume (V_{pre-dev,tot})	<u>1894</u> ft³
Previous Cover Post-Development 100-year Volume (V _{100-year,pc})	<u>212</u> ft ³
Impervious Cover Post-Development 100-year Volume (V _{100-year,ic})	<u>4263</u> ft ³
Total 100-year Volume (V_{100-year,tot})	<u>4475</u> ft³

B. Determine Onsite Infiltration Requirement

Subtract the Pre-Development Bankfull from the Post-Development Bankfull volume

Total Post-Development Bankfull Volume (V _{post-dev})	<u>1894</u> ft ³
Pre-Development Bankfull Runoff Volume (V _{pre-dev})	<u>466</u> ft ³
Bankfull Volume Difference	<u>1428</u> 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_{oi}) 1428 ft³



W10

Standard Method Runoff Volume Calculations
Detention/Retention Requirement

Detention

$T_c = 0.057$
 $Q_p = 2499$

A. $Q_1 = 238.6 T_c^{0.482}$
Peak of the Unit Hydrograph
 $Q_1 = 238.6 (0.057)^{0.482}$
 $Q_1 = 5.023$ cfs
Area = 5.023 ac

B. Total Site Area (ac) excluding "Self-Crediting" BMPs
Area = 5.023 ac

C. $Q_{100} = Q_{100}^{pre-dev} + Q_{100}^{imp}$
 $Q_{100} = 212 + 4263$
 $Q_{100} = 4475$ cfs
Note: $Q_{100}^{pre-dev}$ and Q_{100}^{imp} from W6 and W7, respectively

D. Peak Flow (cfs)
 $P_F = \frac{Q_p (cfs)}{A (ac) (1.486)} \times 1.486$
 $P_F = \frac{2499 (5.023)}{5.023} (1.486)$
 $P_F = 10.1$ cfs

E. $\Delta = P_F (cfs) - 0.15 A (ac)$
 $\Delta = 10.1 - 0.15 (5.023)$
 $\Delta = 9.93$ cfs

F. $V_{det} = \frac{\Delta (cfs)}{P_F (cfs)} V_{100} (ft^3)$
 $V_{det} = \frac{9.93}{10.1} (4475)$
 $V_{det} = 4439$ ft³

Retention

A. $V_{ret} = 2(V_{det})$
 $V_{ret} = 2(4439)$
 $V_{ret} = 8878$ ft³



W11

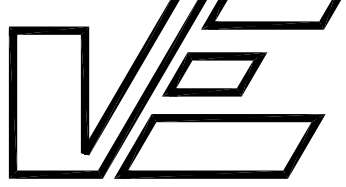
Standard Method Runoff Volume Calculations
Determine Applicable BMPs and Associated Volume Credits

Proposed BMP ^a	Area (ft ²)	Storage Volume ^b (ft ³)	Ave. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm ^c (ft ³)	Total Volume Reduction ^d (ft ³)
Previous Pavement w/infiltration Bed					
Infiltration Basin					
Subsurface Infiltration Bed					
Infiltration Trench					
Bioretention Systems	2869	1434	9.175	13,966	15,420
Rain Gardens					
Dry Well					
Bioswale					
Vegetated Filter Strip					
Green Roof					
					390

Total Volume Reduction Credit by Proposed Structural BMPs (ft³) 15,810
Runoff Volume Infiltration Requirement (V_{oi}) from Worksheet 9 1428
Runoff Volume Credit (ft³) = 14,382



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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)			



W13

Summary
Site Summary of Infiltration & Detention

A. Stormwater Management Summary

Minimum Onsite Infiltration Requirement, V _{oi}	<u>1428</u> ft ³
Designed/Provided Infiltration Volume	<u>15810</u> ft ³
% Minimum Required Infiltration Provided	<u>1107</u> %
Total Calculated Detention Volume, V _{det}	<u>4439</u> ft ³
Net Required Detention Volume (V _{net} - Designed/Provided Infiltration Volume)	<u>0</u> 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% * % Required Infiltration NOT Provided)	_____ %
Total Required Detention Volume, including penalty [(100% + Net % Penalty) x Net Required Detention Volume]	_____ ft ³

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4	10/17/2019	REVISED PER TOWNSHIP AND MDOT REVIEW
5	11/27/2019	REVISED PER MDOT REVIEW

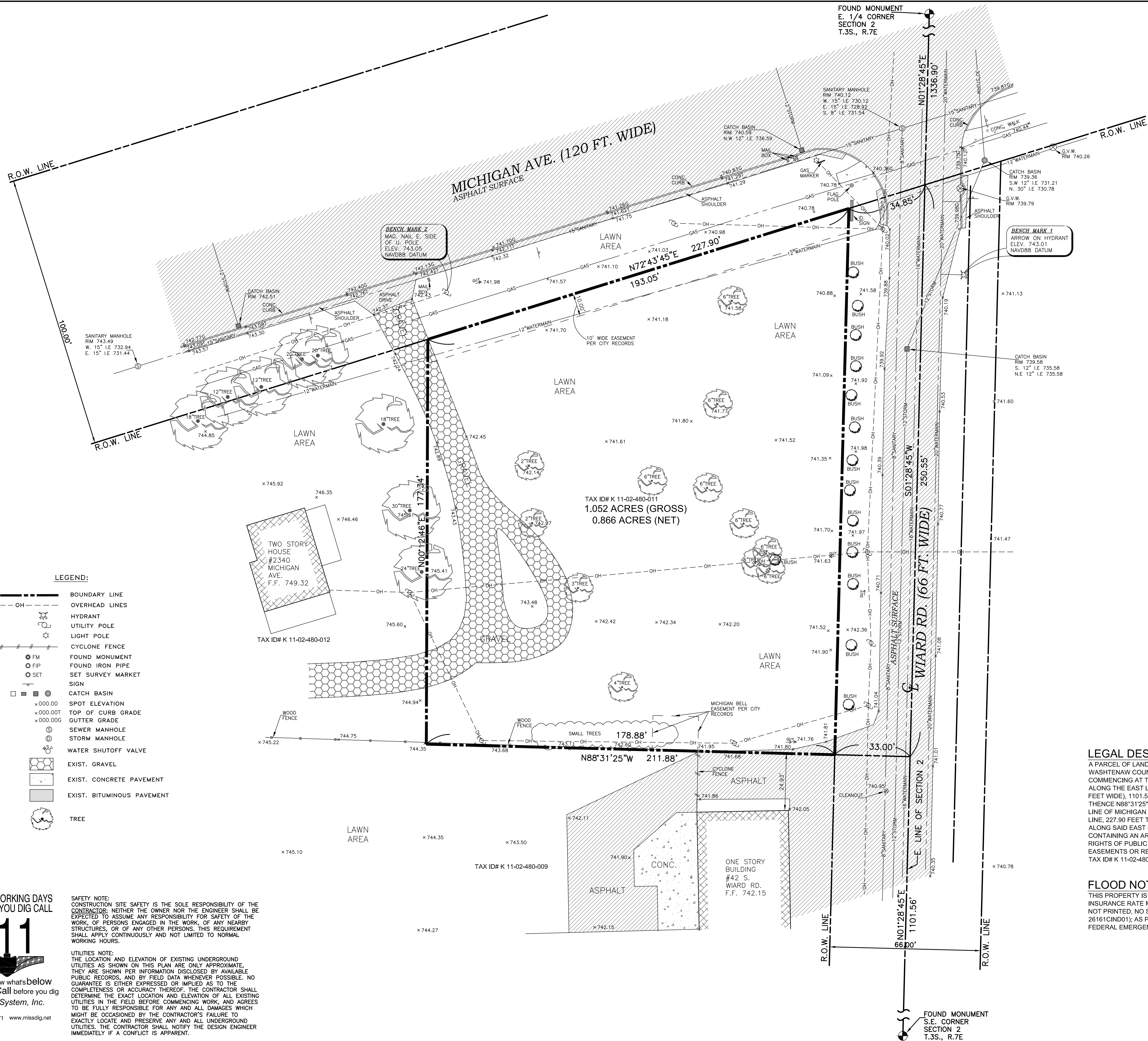
DO NOT SCALE DRAWINGS. USE ONLY DRAWINGS MARKED "ISSUED FOR CONSTRUCTION". VERIFY CONFIGURATIONS AND DIMENSIONS ON SITE BEFORE BEGINNING WORK. NOTIFY THE ENGINEER IMMEDIATELY OF ANY ERRORS, OMISSIONS OR DISCREPANCIES.

PROJECT TITLE
**QUICK OIL LUBE CENTER
2380 EAST MICHIGAN AVENUE
CHARTER TOWNSHIP OR YPSILANTI
WASHTENAW COUNTY, MICHIGAN**

SHEET NAME
**STORMWATER MANAGEMENT
SYSTEM CALCULATIONS**

PROJECT NUMBER
16130

SHEET NUMBER
4 OF 4



- LEGEND:**
- BOUNDARY LINE
 - OVERHEAD LINES
 - HYDRANT
 - UTILITY POLE
 - LIGHT POLE
 - CYCLONE FENCE
 - FOUND MONUMENT
 - FOUND IRON PIPE
 - SET SURVEY MARKET SIGN
 - CATCH BASIN
 - SPOT ELEVATION
 - TOP OF CURB GRADE
 - GUTTER GRADE
 - SEWER MANHOLE
 - STORM MANHOLE
 - WATER SHUTOFF VALVE
 - EXIST. GRAVEL
 - EXIST. CONCRETE PAVEMENT
 - EXIST. BITUMINOUS PAVEMENT
 - TREE

3 FULL WORKING DAYS BEFORE YOU DIG CALL

811

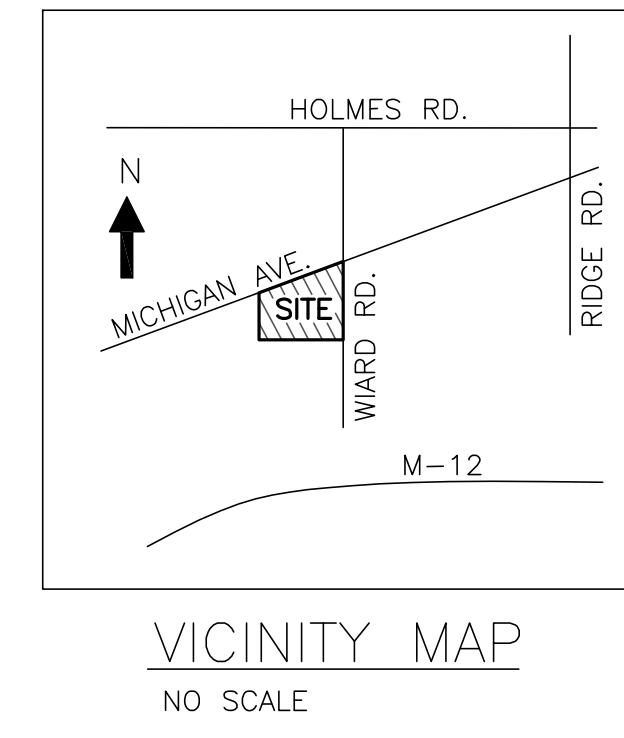
Know what's below
Call before you dig

Miss Dig System, Inc.

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

SAFETY NOTE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS.

UTILITIES NOTE:
THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN ARE ONLY APPROXIMATE. THEY ARE SHOWN PER INFORMATION DISCLOSED BY AVAILABLE PUBLIC RECORDS, AND BY FIELD DATA WHENEVER POSSIBLE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES IN THE FIELD BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

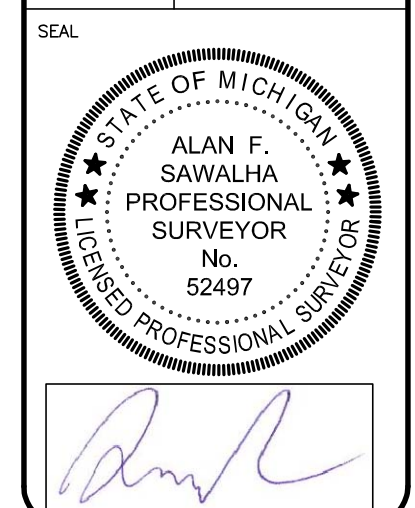


Landwise Inc.
Civil Engineers - Land Surveyors

P.O. Box 1952, Dearborn, MI 48121
Tel: 248-257-5700; Fax: 248-257-5555
email: info@landwiseinc.com

This drawing, design, concept, ideas, and specifications, are property of LANDWISE, INC. and must be returned to LANDWISE, INC. immediately upon request. They are submitted for the purpose of presentation or construction of this specific project on the condition that they are not to be used, reproduced, or copied, in whole or in part, or used for other projects or for furnishing information to others, without prior written consent of LANDWISE, INC.

DATE	REVISIONS
12/30/2016	ORIGINAL ISSUE
3/14/2019	REVISED



SEAL

MR. MIKE LOUZON
CLIENT

LEGAL DESCRIPTION:
A PARCEL OF LAND IN THE S.E. 1/4 OF SECTION 2, T.3S., R.7E., YPSILANTI TOWNSHIP, WASHTENAW COUNTY, MICHIGAN, SAID PARCEL IS FURTHER DESCRIBED AS: COMMENCING AT THE S.E. CORNER OF SAID SECTION 2, THENCE N01°28'45"E. ALONG THE EAST LINE OF SAID SECTION 2 AND THE CENTERLINE OF WARD RD. (66 FEET WIDE), 1101.56 FEET TO THE POINT OF BEGINNING; THENCE N88°31'25"W, 211.88 FEET; THENCE N00°12'48"E, 177.34 FEET TO THE SOUTH LINE OF MICHIGAN AVE. (100 FEET WIDE); THENCE N72°43'45"E ALONG SAID SOUTH LINE, 227.90 FEET TO SAID EAST LINE AND CENTERLINE, THENCE S01°28'45"W ALONG SAID EAST LINE AND CENTERLINE 250.55 FEET TO THE POINT OF BEGINNING CONTAINING AN AREA OF 1.052 ACRES OF LAND, MORE OR LESS, SUBJECT TO THE RIGHTS OF PUBLIC OVER THE EASTERLY 33 FEET FOR WARD RD. AND ANY EASEMENTS OR RESTRICTIONS OF RECORD.
TAX ID# K 11-02-480-011

FLOOD NOTE:
THIS PROPERTY IS NOT WITHIN FLOOD HAZARD ZONE AS INDICATED BY FLOOD INSURANCE RATE MAP NO. 26161C0290E, WASHTENAW COUNTY, MICHIGAN (PANEL NOT PRINTED, NO SPECIAL FLOOD ZONE, AS INDICATED ON MAP INDEX 26161C01D01); AS PREPARED BY THE NATIONAL FLOOD INSURANCE PROGRAM, FEDERAL EMERGENCY MANAGEMENT AGENCY. EFFECTIVE DATE: APRIL 3, 2012

TOPOGRAPHIC & BOUNDARY SURVEY

PROJECT: S.W. CORNER OF WARD RD. AND MICHIGAN AVE., YPSILANTI TWP., WASHTENAW COUNTY, MI

DRN: A.S. CHKD: A.S.
FILE NO. 16-191TS01.dwg
SHEET NO. TS - 1

Planning Director's Report

Project Name:

Location:

Date:

- | | |
|--|---|
| <input type="checkbox"/> Full Preliminary Site Plan Review #
<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 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
Jason Iacoangeli, Planning Director	Township Planning Department					
Carlisle/Wortman Associates	Planning Consultant					
OHM / Stantec	Engineering Consultant					
Dan Kimball, Fire Marshal	Township Fire Department					
Dave Bellers, Building Official	Township Building Department					
Brian McCleery, Deputy Assessor	Township Assessing Department					
Scott Westover, Engineering Manager	Ypsilanti Community Utilities Authority					
Gary Streight, Project Manager	Washtenaw County Road Commission					
Theresa Marsik, Stormwater Engineer	Washtenaw County Water Resources Commission					
James Drury, Permit Agent	Michigan Department of Transportation					

Planning Director's Recommended Action:



Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Date: March 30, 2020

**Preliminary Site Plan Review
For
Ypsilanti Township, Michigan**

Applicant:	American Center for Mobility
Project Name:	Event Center and Temporary Parking Lot
Plan Date:	No Date on Plan Set
Location:	2801 Airport Drive, Ypsilanti, MI. K-11-12-100-005
Zoning:	I-C, Industrial and Commercial.
Action Requested:	Preliminary Site Plan Approval.
Required Information:	As noted below.

PROJECT AND SITE DESCRIPTION

American Center for Mobility (ACM) received site plan approval in 2018. Since that time, they have started operations and began testing vehicles. As the operations at the site evolve, they realize a need for an event center on site.

In order to provide for this need, they are seeking approval to convert one of their approved short-term garages into an event center. The event center would be served by two temporary parking lots totaling 594 spaces. The conversion of the garage into an event center and construction of a temporary parking lot will delay the construction of two garages that were approved as part of the original approval. The applicant has not indicated the size or capacity

of the event center. All ADA spaces will be paved, but the rest of the temporary parking lot will be constructed of asphalt millings.

The length of use for the temporary parking lots has not been identified by the applicant. It is our understanding that the applicant proposes to construct a permanent event center within their future technology park. The applicant should indicate the anticipated length of use for the temporary parking lot.

SURROUNDING ZONING AND LAND USE

The entirety of the event spaces and temporary parking is proposed to take place within the existing approved site of ACM.

Direction	Zoning	Use
North	I-C, Industrial and Commercial	US-12
South	I-C, Industrial and Commercial	Industrial
East	I-C, Industrial and Commercial	Airport
West	I-C, Industrial and Commercial	Wiard Road

Items to be Addressed: None.

AREA, WIDTH, HEIGHT, SETBACKS

The applicant is not proposing any building changes to the site other than converting the approved garage building for the event center. All I-C district standards have been met.

Items to be Addressed: None.

PARKING

As set forth in Sec. 2104-Parking, Assembly Hall without fixed seats is the most similar use.

	No. of Spaces Required	No. of Spaces Provided	Complaint
Assembly Halls without Fixed Seats: One for each three persons allowed within the maximum occupancy load as established by local, county or state fire, building or health codes or one for each 200 square feet of gross floor area, whichever is greater.	Unknown	594	Unknown
Barrier Free	Unknown	12	Unknown

It appears that parking is sufficient, however the applicant hasn't provided maximum occupancy load or indicated the square footage of the event center. These two figures need to be provided to determine the amount of required parking. Based on 594 spaces, it appears that the event center could hold well over 1,000 people. If the applicant doesn't need to accommodate that many people, they could reduce the size of the temporary lots or only build one of the two temporary lots.

Items to be Addressed: 1). Provide maximum occupancy load and the square footage of the event center; and 2). Based on parking need, the applicant could reduce the size of the temporary lots or only build one of the two temporary lots.

SITE ACCESS AND CIRCULATION

There are no changes to access from the original approval of the use of a garage. The Township Fire Marshall should confirm sufficient site access and circulation.

Items to be Addressed: None.

PARKING LOT

The parking lot totals 594 spaces. Two-hundred and eight-eight (288) spaces are located in parking lot 1 which is adjacent to the building. Three-hundred and six (306) spaces are located in parking lot 2, which is separated from the building by a shallow swale. The 306-space lot and served by a pedestrian bridge over the shallow ditch. An elevation of the bridge should be provided.

The 12 ADA spaces will be paved. However, the remaining 582 spaces will be asphalt millings. As set forth in Section 2104:

The entire parking area, including parking spaces and maneuvering lanes, required under this section shall be provided with asphalt or concrete surfacing in accordance with specifications approved by the township engineer...The planning commission may approve alternative paving materials, such as permeable/grass pavers, for overflow, seasonal or low usage parking, based upon the review and recommendation of the township engineer.

The Planning Commission is to consider the waiver based upon a recommendation from the Township Engineer.

Items to be Addressed: 1). Provide elevation of the pedestrian bridge, and 2). Planning Commission is to consider the waiver based upon a recommendation from the Township Engineer.

LIGHTING

The applicant doesn't indicate any site or building lighting. Applicant should confirm.

Items to be Addressed: *Confirm site lighting.*

SIGNS

Applicable signs will be reviewed by a separate sign permit.

Items to be Addressed: *None.*

FLOOR PLAN AND ELEVATIONS

Floor plans and elevations were approved as part of the original site plan approval. Applicant should submit any changes to approved elevations and resubmit new floor plans.

Items to be Addressed: *Submit any changes to approved elevations and resubmit new floor plans*

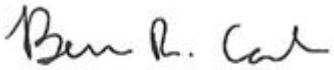
RECOMMENDATIONS

Overall we support the conversion of a garage to an event space. However, prior to going to the Planning Commission, we recommend the following items be addressed or clarified by the applicant:

1. Indicate the anticipated length of use for the temporary parking lot.
2. Provide maximum occupancy load and the square footage of the event center.
3. Based on parking need, the applicant could reduce the size of the temporary lots or only build one of the two temporary lots.
4. Provide elevation of the pedestrian bridge.
5. Confirm site and building lighting.
6. Submit any changes to approved elevations and resubmit new floor plans

The Planning Commission will consider the recommendation from the Township Engineer to waive paving requirements.

ACM Event Center and Temporary Parking Lot
March 30, 2020



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



Stantec Consulting Michigan Inc.
3754 Ranchero Drive, Ann Arbor MI 48108-2771

April 2, 2020
File: 2075140302

Attention: Mr. Jason Iacoangeli, AICP
Planning Director
Office of Community Standards
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, Michigan 48197

Dear Mr. Iacoangeli,

Reference: American Center for Mobility – Event Center Site Plan Amendment

We have performed a review of the 13-sheet submittal of the above plan set that was received by the Township on March 19, 2020. The plans were reviewed for conformance with the Ypsilanti Township Engineering Standards. At this time, we recommend that this project be placed on the next Planning Commission agenda for consideration.

1) PRELIMINARY SITE PLAN REVIEW COMMENTS:

- a) We met with the Township and the applicant's engineer on March 11, 2020 to discuss the proposed temporary gravel parking lot. Because temporary gravel parking lots are not contemplated in the Township standards, we discussed that a Temporary Parking Agreement may be necessary to ensure the event parking meets the Township's expectations. Items that could be covered by a Temporary Parking Agreement could include:
 - i) Safe and organized parking with appropriate signage
 - ii) ADA accommodations
 - iii) A time frame for which the parking agreement would be reviewed and revised if necessary
 - iv) Notification to the Township if events will take place after civil twilight and how lighting will be handled
 - v) Township inspection
 - vi) Maintenance of the gravel surface and provisions for removing gravel off of adjacent paved services
 - vii) Method of parking delineation
- b) Parking calculations shall be provided.
- c) Two (2) temporary parking lots are proposed. It is our understanding the applicant wishes to construct only one of the two options; however, this is not discussed in this plan. The two (2) parking lots combined would be far more parking than what is likely necessary. The applicant should further explain their plan.
- d) The Township Engineering Standards specify that no part of a site may have less than a 1% slope. The entire ACM site is very flat. Temporary Parking Area 1 has proposed slopes of 0% to 0.5% and Temporary Parking Area 2 has proposed slopes of 0.8% to 1.2%. These slopes shall be improved. Even if the plan is revised to propose the minimum required 1% slope, areas of poor

Reference: American Center for Mobility – Event Center Site Plan Amendment

drainage are likely on the gravel surface. Should this temporary parking be approved, maintenance and possibly weather restrictions should be covered in a Temporary Parking Agreement.

- e) The sidewalk on the west side of the proposed building should be 5-feet wide as was done with the existing building to the south. This sidewalk is currently proposed to be 3.5-feet wide.

2) PRELIMINARY DETAILED ENGINEERING PLAN COMMENTS (MAY BE ADDRESSED ON THE FINAL SITE PLAN):

a) Sheet SITE 0.0; Cover Sheet

- i) The plan set date is noted as "TBD." This shall be updated with the original completion date and included on all sheets.

b) Sheet SITE 0.1; General Notes

- i) The construction methods for placing, grading, and compacting the asphalt millings shall be provided.

c) Sheet SITE 2.1; Site Plan

- i) Note 5 should be removed as the proposed millings and slopes do not meet Ypsilanti Township Standards. This should be updated on all relevant sheets.
- ii) The proposed pedestrian striping from the pedestrian bridge to the proposed building is partially covered up by the pavement hatching. This shall be corrected.

d) Sheet SITE 2.2; Site Plan

- i) Details for the proposed pedestrian bridge shall be provided for review.

e) Sheet SITE 3.0; Grading Plan

- i) The existing contours shown in the proposed parking lot area are incorrect. The site shown has been graded and asphalt millings have been placed. The existing contours shall be updated or removed. Additionally, the existing contours shall be labeled with their respective elevations.
- ii) The elevation contour around the edge of the parking lot is mislabeled and should read 720. This shall be updated on all relevant sheets.
- iii) The rim/finished grade elevations of all existing utility structures and hydrants shall be provided. The Applicant shall identify structures that will be adjusted due to the placement of asphalt millings.
- iv) The existing underground utilities should be shown on this sheet.
- v) The location of the full depth of heavy-duty pavement shall be clarified. Sheet 2.1 shows heavy duty pavement between the proposed concrete on the east side of the building and the proposed parking lot. This sheet does not specify the area as paved. Additionally, the hatching should be consistent between sheets to avoid confusion.
- vi) The stormwater path for the roof drains for the proposed event center shall be shown.

Reference: American Center for Mobility – Event Center Site Plan Amendment

- f) Sheet SITE 4.0; Soil Erosion and Sedimentation Control Plan
 - i) The Limits of Disturbance annotation on the west side of the site shall be corrected.
 - ii) It is not clear where drainage area 4A drains to and its boundary does not appear correct. This should be clarified.
 - iii) It appears that there is no increase in impervious surface from the originally approved plan. The applicant's engineer shall confirm that no catch basin or swale will receive more stormwater than what was originally approved.
- g) Sheet SITE 4.1; Soil Erosion and Sedimentation Control Plan
 - i) The Limits of Disturbance annotation on the west side of the site shall be corrected.
- h) Sheet SITE 5.0; Standard Details
 - i) A detail showing how new concrete pavement will tie into existing concrete pavement shall be provided.
 - ii) The proposed millings shall have a consistent gradation. It is recommended that a gradation similar to MDOT 21AA is proposed such that most aggregate is 1/2-inch or smaller and no aggregate is larger than 1 inch.

3) OUTSIDE AGENCIES AND ADDITIONAL REVIEWS:

- a) The Ypsilanti Community Utilities Authority (YCUA) should review and approve the final site plan.
- b) The Township Fire Department should review and approve the plan.
- c) The Washtenaw County Water Resources Commissioner (WCWRC) should review and approve the plan.
- d) The Washtenaw County Road Commission (WCRC) should review and approve the plan.

In summary, we recommend this project be placed on the next Planning Commission agenda for consideration. If you should have any further questions, please do not hesitate to contact us.


Regards,

Stantec Consulting Michigan Inc.



Mac Gills PE
Civil Engineer
Phone: 734 214 1885
Fax: 734 761 1200
Mac.Gills@stantec.com

Stantec Consulting Michigan Inc.



Eric Humesky PE
Municipal Project Manager
Phone: 734 214 1886
Fax: 734 761 1200
Eric.Humesky@stantec.com

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT

BUREAU OF FIRE PREVENTION

222 South Ford Boulevard, Ypsilanti, MI 48198



March 27, 2020

Jason Iacoangeli, Planning Director
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, MI 48197

RE: Preliminary (non-residential) Site Plan Review #1
Project Name: American Center for Mobility
Project Location: 2801 Airport Dr.
Plan Date: 3/19/2020
Project Number: 71270
Applicable Codes: IFC 2018
Contractor: HNTB Corporation- Dave Langlois, P.E.
Contractor Address: 535 Griswold St. Suite 1100 Detroit, MI 48226

Status of Review

Status of review: Approved as Submitted

Sheets 1.0 and 1.1 were reviewed.

Site Coverage - Hydrants

Comments: Hydrant coverage meets IFC 2018

Site Coverage - Access

Comments: Site Access meets IFC 2018

Sincerely,

A handwritten signature in black ink that reads "Dan Kimball". The signature is written in a cursive style and is positioned above a horizontal line.

Dan Kimball, Fire Marshal
Charter Township of Ypsilanti Fire Department
CFPS, CFI II, CFPE

RE: ACM - Event Space - SPR Amendment and SCU - 2930 Ecorse - K-11-12-100-006

From : Scott Westover <SWestover@ycua.org>
Subject : RE: ACM - Event Space - SPR Amendment and SCU - 2930 Ecorse - K-11-12-100-006
To : Charlotte Wilson <cwilson@ytown.org>
Cc : Jason Iacoangeli <jiaacoangeli@ytown.org>, Jeff Castro <JCastro@ycua.org>

Wed, Mar 25, 2020 08:26 AM

2 attachments

Charlotte-

Unless I am misreading the plans, there doesn't appear to be any proposed water or sanitary work for this project. Assuming that is correct, YCUA doesn't have any comments or objection to the plans. Let me know if there are any questions.

SCOTT WESTOVER | Engineering Manager
Telephone: (734) 484-4600 ext. 220
swestover@ycua.org

Ypsilanti Community Utilities Authority
2777 State Road | Ypsilanti, Michigan USA 48198-9112
www.ycua.org

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From: Charlotte Wilson [mailto:cwilson@ytown.org]
Sent: Thursday, March 19, 2020 1:48 PM
To: Benjamin Carlisle <bcarlisle@cwaplan.com>; Megan Masson-Minock <mmasson-minock@cwaplan.com>; Jeff Castro <JCastro@ycua.org>; Scott Westover <SWestover@ycua.org>; Eric R. Copeland <ecopeland@ytown.org>; Daniel Kimball <dkimball@ytown.org>; Mark Pascoe <Mark.Pascoe@stantec.com>; Humesky, Eric <Eric.Humesky@stantec.com>; Linda Gosselin <lgosselin@ytown.org>; Brian McCleery <bmcclleery@ytown.org>
Cc: jiaacoangeli <jiaacoangeli@ytown.org>; Brenda Stumbo <bstumbo@ytown.org>; Michael Radzik <mradzik@ytown.org>; Doug/Dennis Winters/McLain <mcwinlaw@gmail.com>; Dave Bellers <dbellers@ytown.org>; Theresa M. Marsik <marsikt@washtenaw.org>
Subject: ACM - Event Space - SPR Amendment and SCU - 2930 Ecorse - K-11-12-100-006

Good afternoon,

Ypsilanti Township is in receipt of plans for the American Center for Mobility's special use permit and site plan amendment applications for an event space within an approved short term garage located at 2930 Ecorse Road, parcel K-11-12-100-006. Hard copies are ready for pick-up; digital copies will be dropped off.

Reviews are due on April 2, 2020.

Thank you,
Charlotte M. Wilson, AICP
Planning and Development Coordinator

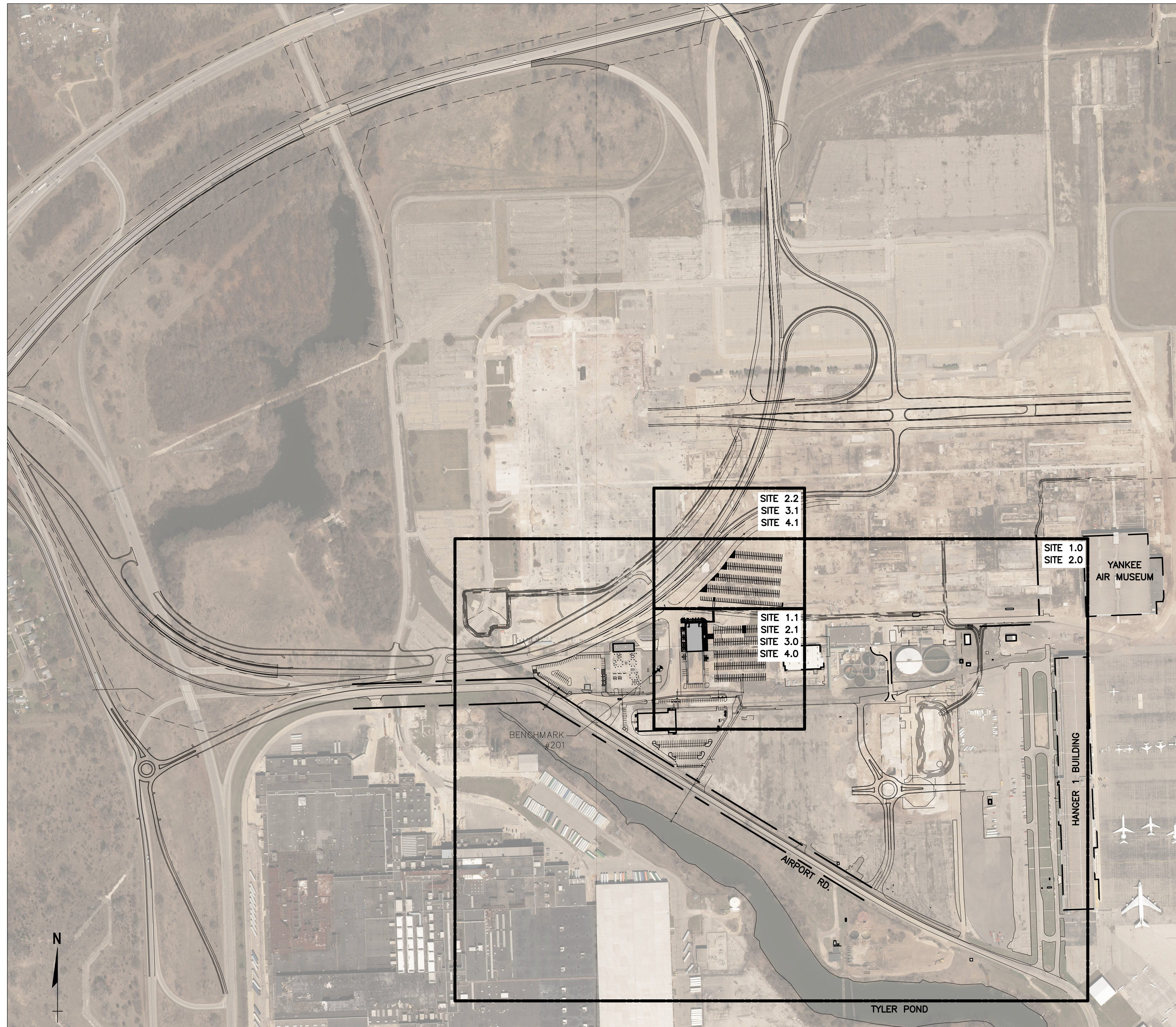
Office of Community Standards
734-485-3943
Tilden R. Stumbo Civic Center
7200 S. Huron River Dr.
Ypsilanti, MI 48197

Due to the COVID-19 pandemic, the Township Civic Center and other facilities are now closed to the general public until further notice. Permit and licensing applications may be mailed, emailed, or placed in the drop-box in front of the building. Check payments may be mailed or placed in the drop-box; online payments are not available at this time. We sincerely apologize for the inconvenience.

Charter Township of Ypsilanti

This email has been scanned for spam and viruses by Proofpoint Essentials. Click [here](#) to report this email as spam.

THE AMERICAN CENTER FOR MOBILITY CAMPUS SITE DESIGN



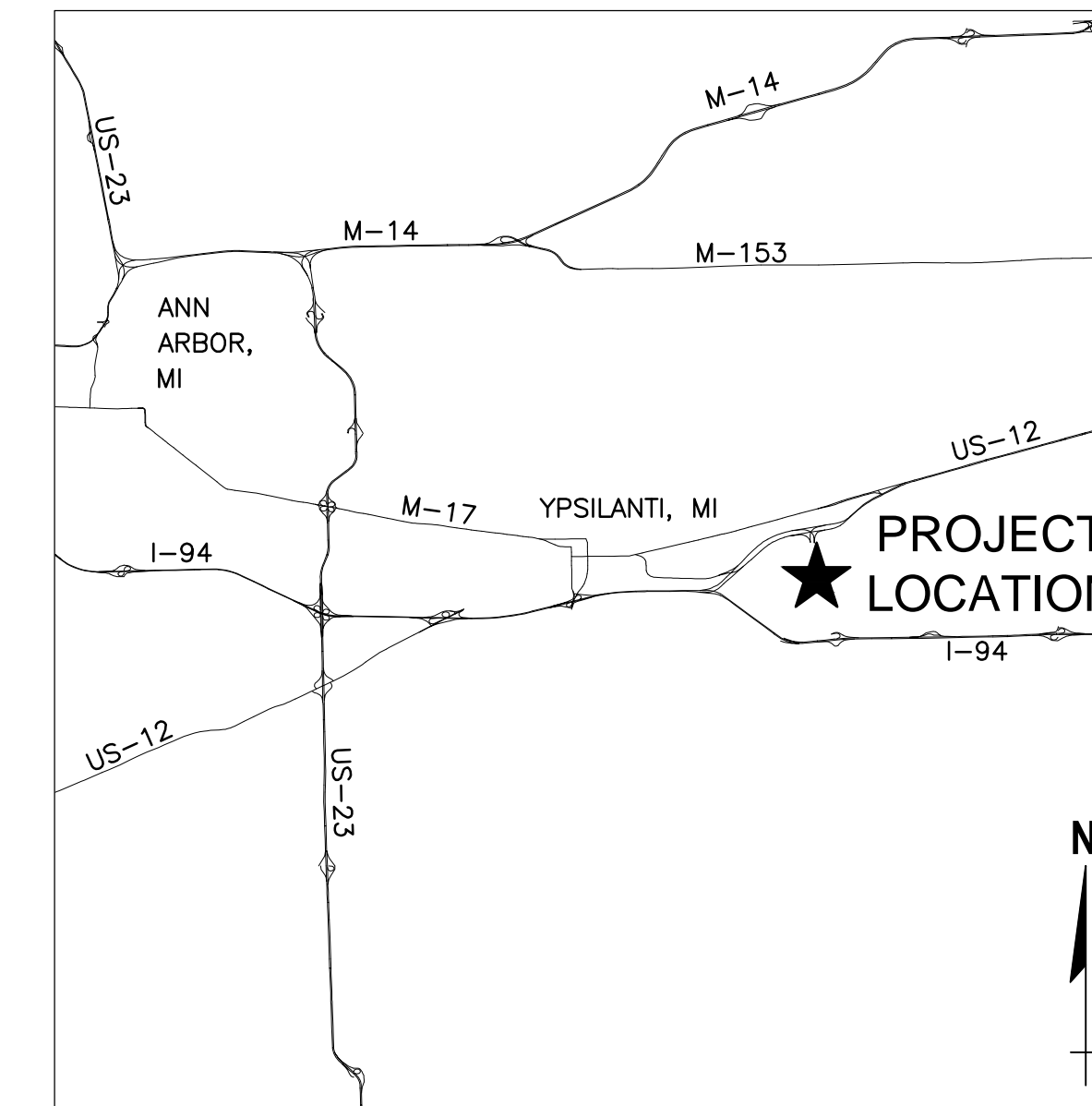
KEY PLAN
NOT TO SCALE

SITE DATA	
ACM SITE ACREAGE	±330.5 AC
YAM SITE ACREAGE	±16.76 AC

BENCHMARK DATA
 COORDINATE SYSTEM : STATE PLANE GRID
 ZONE : MICHIGAN SOUTH 2113
 ELLIPSOID : GRS80
 HORIZONTAL DATUM : NAD 83 (CORS 2007)
 VERTICAL DATUM : NAVD 88
 GEIOD : GEIOD 09
 UNITS : INTERNATIONAL FEET

GROUND DISTANCE CONVERSION
 THE COMBINED SCALE FACTOR (CSF) FOR EACH CONTROL POINT IS INCLUDED IN THE CONTROL POINT LIST.
 AVERAGE COMBINED SCALE FACTOR (ACSF) = (CSF1+CSF2)/2
 GROUND DISTANCE = GRID DISTANCE / ACSF
PLAN ELEVATION
 ELEVATIONS SHOWN ON THESE PLANS ARE FROM NGS BENCHMARKS 82651 & A337, DATED 07/19/2016.

BENCHMARK #201
 N=270233.074
 E=13343523.51
 ELEV=721.724



LOCATION MAP
NOT TO SCALE

WILLOW RUN
YPSILANTI, MI
48198

PROJECT CONTACTS

DEVELOPER (PETITIONER)
 MR. MARK CHAPUT-INTERIM CEO
 THE AMERICAN CENTER FOR MOBILITY
 WILLOW RUN
 YPSILANTI, MI 48198
 517-206-1802
CIVIL ENGINEER
 DAVE LANGLOIS, P.E.
 HNTB
 535 GRISWOLD STREET, SUITE 1100
 DETROIT, MI 48226
 (313) 600-9648

ZONING
 I-C INDUSTRIAL COMMERCIAL

SHEET INDEX

SITE 0.0.....	COVER SHEET
SITE 0.1.....	GENERAL NOTES
SITE 1.0.....	OVERALL EXISTING CONDITIONS PLAN
SITE 1.1.....	DEMOLITION PLAN
SITE 2.0.....	OVERALL SITE PLAN
SITE 2.1.....	SITE PLAN
SITE 2.2.....	SITE PLAN
SITE 3.0.....	GRADING PLAN
SITE 3.1.....	GRADING PLAN
SITE 4.0.....	SOIL EROSION AND SEDIMENTATION CONTROL PLAN
SITE 4.1.....	SOIL EROSION AND SEDIMENTATION CONTROL PLAN
SITE 4.2.....	SOIL EROSION AND SEDIMENTATION CONTROL DETAILS AND NOTES
SITE 5.0.....	STANDARD DETAILS

THIS IS TO CERTIFY THAT GOOD ENGINEERING PRACTICES HAVE BEEN UTILIZED ON THE DESIGN OF THIS PROJECT, AND THAT ALL OF THE MINIMUM LOCAL STANDARDS HAVE BEEN MET, INCLUDING THOSE STANDARDS GREATER THAN MINIMUM WHERE, IN MY OPINION, ARE NEEDED TO PROTECT THE SAFETY OF THE PUBLIC. ANY VARIANCES TO THE ABOVE STANDARDS ARE CONSISTENT WITH SOUND ENGINEERING PRACTICES AND ARE NOT DETERIMENTAL TO THE PUBLIC SAFETY AND CONVENIENCE.

CONTACT: DAVE LANGLOIS, P.E.
 MAILING ADDRESS: 535 GRISWOLD STREET, SUITE 1100
 DETROIT, MI 48226
 PHONE: (313) 600-9648
 EMAIL ADDRESS: DLANGLOIS@HNTB.COM

MICHIGAN REGISTERED PROFESSIONAL ENGINEER _____ DATE _____

DESCRIPTION	HNTB PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP
BY	TBD
DATE	TBD
NO.	1
535 GRISWOLD STREET	TBD
SUITE 1100	71270
DETROIT, MI 48226	ASD
TEL: (313) 961-3300	DLL
PROJECT DATE:	
PROJECT NO.:	
DRAWN BY:	
CHECKED BY:	

PREPARED FOR:
 American Center for Mobility
 CONNECTED. AUTOMATED. VALIDATED.

ACM CAMPUS
 EVENT CENTER
 SITE DESIGN
 WILLOW RUN AIRPORT
 YPSILANTI TWP., MICHIGAN

COVER SHEET

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GENERAL CONSTRUCTION NOTES:

- ALL CONSTRUCTION SHALL COMPLY WITH LOCAL MUNICIPALITY AND COUNTY CODES AND STANDARDS. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS.
- ALL CONSTRUCTION WITHIN A WCRC RIGHT OF WAY SHALL COMPLY WITH ALL WASHTENAW COUNTY TRANSPORTATION STANDARDS.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY CONSTRUCTION PERMITS REQUIRED TO PERFORM ALL THE WORK. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
- THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE OWNER IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO CONSTRUCTION. ANY CONFLICT BETWEEN DRAWINGS AND THE SPECIFICATIONS SHALL BE CONFIRMED WITH THE CONSTRUCTION MANAGER PRIOR TO BIDDING.
- SHOULD ANY UNCHARTED, OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER SHOULD ANY DISCREPANCY REGARDING THE PROPOSED WORK OR UNFORESEEN CONDITIONS ARISE PRIOR TO PROCEEDING FURTHER WITH THE AFFECTED WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS FOR THE PROJECT AND NOTIFYING THE OWNER AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO CONSTRUCTION.
- DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER, LOCAL MUNICIPALITY AND/OR UTILITY COMPANY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY OR PERMANENT SERVICE HAS BEEN PROVIDED.
- THE CONTRACTOR SHALL ABIDE BY ALL OSHA, FEDERAL, STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT THE POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS.
- THE CONTRACTOR SHALL RESTORE ANY STRUCTURES, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS, ETC. WITHIN THE SITE OR ADJOINING PROPERTIES DISTURBED DURING DEMOLITION OR CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AND TO THE SATISFACTION OF THE OWNER, LOCAL MUNICIPALITY, AND STATE.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL AND MAINTAIN TRAFFIC DEVICES FOR PROTECTION OF PEDESTRIANS AND VEHICLES CONSISTING OF DRUMS, BARRIERS, SIGNS, LIGHTS, FENCES AND UNIFORMED TRAFFIC CONTROLLERS IN ACCORDANCE WITH MDOT REGULATIONS AND/OR AS REQUIRED OR DIRECTED BY THE SITE ENGINEER OR CONSTRUCTION MANAGER OR LOCAL GOVERNING AUTHORITIES. CONTRACTOR SHALL MAINTAIN ALL TRAFFIC LANES AND PEDESTRIAN WALKWAYS AT ALL TIMES UNLESS WRITTEN APPROVAL FROM LOCAL MUNICIPALITY, COUNTY, OR OTHER GOVERNING AUTHORITY IS RECEIVED.
- THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES.
- REFER TO DETAIL SHEETS FOR EROSION AND SEDIMENT CONTROL, STORM DRAINAGE, UTILITY, PAVING, CURBING, AND SIGNAGE DETAILS AS APPLICABLE.
- ALL PAVING MATERIALS FURNISHED AND WORK COMPLETED SHALL BE IN STRICT ACCORDANCE WITH MDOT CONSTRUCTION AND MATERIALS SPECIFICATIONS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL SUBMIT A JOB-MIX FORMULA FOR THE HOT MIX ASPHALT (HMA) TO THE CONSTRUCTION MANAGER FOR REVIEW AND APPROVAL AT LEAST 14 DAYS PRIOR TO THE PLACEMENT OF HOT MIX ASPHALT (HMA).
- THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL RUBBISH, TRASH, DEBRIS, AND ORGANIC MATERIAL IN A LAWFUL MANNER
- THE OWNER AT ITS DISCRETION RESERVES THE RIGHT TO MODIFY THE DETAILS AND STANDARDS OF CONSTRUCTION FOR ALL PRIVATE FACILITIES FROM THAT INDICATED ON THE APPROVED PLAN, PROVIDED THAT THE ALTERNATE STANDARD COMPLIES WITH LOCAL CODE AND/OR UTILITY COMPANY REQUIREMENTS AND THE GENERAL DESIGN INTENT OF THE PROJECT IS NOT COMPROMISED.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, MATERIALS AND PLAN SPECIFICATIONS TO THE OWNER AND LOCAL UTILITY COMPANIES AS REQUIRED FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
- INFORMATION ON EXISTING UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY COMPANY AND MUNICIPAL RECORD MAPS AND FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES INCLUDING SERVICES.
- THE CONTRACTOR SHALL REMOVE CONFLICTING PAVEMENT MARKINGS IN A METHOD APPROVED BY MDOT CONSTRUCTION AND MATERIALS SPECIFICATIONS.
- ANY DEFECTS DISCOVERED IN NEW CONSTRUCTION, WORKMANSHIP, EQUIPMENT, OR MATERIALS SHALL BE REPAIRED, OR CORRECTED BY APPROVED METHODS AS DIRECTED BY AND AT NO ADDITIONAL COST TO THE OWNER.
- ALL DISTURBANCE INCURRED TO TOWNSHIP, COUNTY OR STATE PROPERTY DUE TO CONSTRUCTION SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER, TO THE SATISFACTION OF THE TOWNSHIP, STATE AND/OR WASHTENAW COUNTY.
- THE LIMITS OF CLEARING AND GRADING SHALL BE FIELD STAKED 48 HOURS (2 WORKING DAYS) PRIOR TO THE PRE CONSTRUCTION MEETING. AREAS BEYOND THE LIMITS OF CLEARING AND GRADING SHALL NOT BE DISTURBED INCLUDING THE STOCKPILE OF ANY MATERIALS OR CONSTRUCTION TRAFFIC.
- WHEREVER UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED THAT ARE NOT INDICATED ON THE PLANS, THE WORK SHALL BE DISCONTINUED UNTIL THE PROJECT ENGINEER AND OWNER APPROVE THE METHOD AND MATERIALS TO BE INCORPORATED INTO THE WORK.
- ALL ROAD SURFACES, EASEMENTS, OR RIGHT-OF-WAY DISTURBED BY THE CONSTRUCTION OF ANY PART OF THESE IMPROVEMENTS ARE TO BE RESTORED ACCORDING TO THE TOWNSHIP REQUIREMENTS.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OR ITS REPRESENTATIVE IF SUSPECTED HAZARDOUS MATERIAL OR ANY OTHER MATERIAL THAT MAY CREATE A HEALTH RISK IS DISCOVERED ON SITE.
- ANY TRAFFIC CONTROL REQUESTED OR REQUIRED BY THE CONTRACTOR WILL BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- IF MUD, SOIL, OR OTHER DEBRIS IS DEPOSITED ON ADJACENT STREETS, ROADS, OR OTHER PROPERTY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF SUCH AT THE END OF EACH WORK DAY, OR AS REQUIRED DURING THE WORK DAY.
- THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE UNDER DEVELOPMENT, THE EXISTING RIGHT-OF-WAYS CONSTRUCTION AND PERMANENT EASEMENTS AND SHALL NOT TRESPASS UPON OTHER PROPERTY WITHOUT THE WRITTEN CONSENT OF THE OWNER.
- WHERE CONFLICT ARISES BETWEEN ALL SPECIFICATIONS (BOOK OR PLAN BASED) INCLUDING TOWNSHIP REQUIREMENTS, THE MORE CONSERVATIVE SPECIFICATION SHALL PREVAIL.
- FINAL CLEANUP: THE CONTRACTOR SHALL CLEAN-UP ALL DEBRIS AND MATERIALS RESULTING FROM CONSTRUCTION AND SHALL RESTORE ALL SURFACES, STRUCTURES, DITCHES AND PROPERTY TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER AND ALL APPLICABLE GOVERNMENTAL AND REGULATORY AGENCIES.

DEMOLITION NOTES:

- EXISTING CONDITIONS AS DEPICTED ON ON THESE PLANS ARE ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING. IF CONDITIONS ENCOUNTERED ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK.
- THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER AND OWNER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT, AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
- ALL UTILITY REMOVAL, RELOCATION, CUTTING, CAPPING, AND/OR ABATEMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY LISTED ON THE PLANS.
- ALL DEMOLISHED MATERIALS SHALL BE TAKEN FROM THE SITE IMMEDIATELY (UNLESS OTHERWISE NOTED) AND DISPOSED OFF-SITE IN ACCORDANCE WITH ALL LAWS, REGULATIONS AND ORDINANCES. NO BURNING OF ANY MATERIALS WILL BE ALLOWED ON OR OFF SITE.
- USE SUITABLE METHODS TO LIMIT DUST AND DIRT TO ADJACENT STRUCTURES OR PROPERTY. CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO EXISTING CONDITIONS PRIOR TO THE START OF THE DEMOLITION WORK.
- THE CONTRACTOR SHALL PROTECT TREES, LANDSCAPING, SITE IMPROVEMENTS, AND OTHER ITEMS NOT SCHEDULED FOR CLEARING, OR THAT MIGHT BE DAMAGED BY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR REPLACING ANY ITEMS THAT ARE DAMAGED.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY EROSION, POLLUTION, AND DUST CONTROL MEASURES THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT. REFERENCE ATTACHED SOIL EROSION & SEDIMENTATION CONTROL (SESC) PLANS AND REPORT.
- ANY AND ALL DAMAGE TO EXISTING PAVEMENT WITHIN THE LAYDOWN AREA SHALL BE REPAIRED.
- ALL UTILITIES NOT MARKED FOR REMOVAL OR RELOCATION SHALL REMAIN INTACT. THE CONTRACTOR SHALL REPAIR ANY AND ALL DAMAGE TO EXISTING UTILITIES NOT MARKED FOR REMOVAL OR RELOCATION AT HIS SOLE EXPENSE.
- CONTRACTOR SHALL PERFORM ALL CLEARING, GRUBBING, AND TREE REMOVAL NECESSARY TO PERFORM THE WORK INDICATED HEREIN. THAT CONTRACTOR SHALL LIMIT LAND DISTURBANCE TO ONLY THAT REQUIRED TO COMPLETE THE PROPOSED IMPROVEMENTS.
- ALL WORK WITHIN RIGHT OF WAY TO INCLUDE TRAFFIC CONTROL IN ACCORDANCE WITH THE WASHTENAW COUNTY ROAD COMMISSION (WCRC) AND PER ALL TOWNSHIP REQUIREMENTS. ROAD MUST REMAIN OPEN AT ALL TIMES. CONTRACTOR SHALL PREPARE A MAINTENANCE OF TRAFFIC PLAN AND SUBMIT TO THE TOWNSHIP FOR APPROVAL PRIOR TO START OF CONSTRUCTION. CONTRACTOR TO COORDINATE ANY NECESSARY LANE CLOSURES WITH THE TOWNSHIP.
- CONTRACTOR TO COORDINATE TEMPORARY UTILITY OUTAGES WITH APPLICABLE UTILITY COMPANY AND TOWNSHIP AND NOTIFY NEIGHBORING EFFECTED OWNERS NO LESS THAN 72 HOURS PRIOR TO PLANNED OUTAGE.

LAYOUT AND PAVING NOTES

- ALL SITE DIMENSIONS ARE REFERENCED TO THE FACE OF CURBS OR EDGE OF PAVING UNLESS OTHERWISE NOTED. ALL BUILDING DIMENSIONS ARE REFERENCED TO THE OUTSIDE FACE OF THE STRUCTURE UNLESS OTHERWISE NOTED.
- ASPHALT SURFACE COURSE SHALL BE LAID WITH THE DIRECTION OF TRAFFIC FLOW IN ALL DRIVE LANES WITHIN PARKING FIELDS.
- DO NOT PLACE MIX ON FROZEN OR WET SURFACES, OR WHEN PRECIPITATION IS OCCURRING.
- DO NOT PLACE MIX WHEN AIR OR SURFACE TEMPERATURE IS BELOW THE FOLLOWING:
 - BINDER COURSE AND WALKS 40°F
 - WEARING COURSE, ROADWAYS AND PARKING AREAS 50°F
- ANY MATERIAL DELIVERED TO THE SPREADER HAVING A TEMPERATURE LOWER THAN 250°F SHALL NOT BE USED.
- THE MINIMUM ROLLER WEIGHT FOR PAVEMENT SHALL BE TEN (10) TON. ALL COURSES SHALL BE COMPACTED TO A MINIMUM OF NINETY-EIGHT (98%) PERCENT OF THEORETICAL MAXIMUM DENSITY (TMD).
- ALL PAVEMENT MARKINGS, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO AASHTO AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL SIGNS SHALL BE CONSTRUCTED OF FLAT SHEET ALUMINUM IN ACCORDANCE WITH STATE HIGHWAY SPECIFICATIONS. STEEL SIGN POSTS SHALL BE USED AND CONFORM TO ASTM A36 OR ASTM A441 AND SHOULD BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS AS SHOWN ON THE PLANS. PAVEMENT MARKINGS SHALL BE APPLIED PER MANUFACTURER RECOMMENDATIONS. APPLY PAINT TO CLEAN, DRY SURFACES TO YIELD SHARP DEFINITION OF EDGES. AIR TEMPERATURE 50°F MINIMUM. APPLY TWO (2) COATS.
- PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH MDOT CONSTRUCTION AND MATERIALS SPECIFICATIONS AND SHALL BE EITHER COLD LAID PLASTIC TAPE OR PAINTED AS DESIGNATED ON THE PLANS OR PAVEMENT MARKING DETAILS.
- DIRECTIONAL TRAFFIC ARROWS SHALL BE PAINTED WHITE UNLESS OTHERWISE NOTED.
- A MINIMUM CLEARANCE OF 2 FEET SHALL BE MAINTAINED THE FACE OF CURB AND ANY PART OF A LIGHT POLE OR TRAFFIC SIGN.
- CONTRACTOR SHALL SAW-CUT IN A NEAT, STRAIGHT LINE FOR SMOOTH TRANSITIONS AT TIE-INS TO EXISTING EDGES OF PAVEMENT AND AT COLD JOINTS OF RECENTLY PAVED PAVEMENT.
- JOINTS OR SCORE MARKS ARE TO BE SHARP AND CLEAN WITHOUT SHOWING EDGES OF JOINTING TOOL.
- CONTRACTOR SHALL SAWCUT TIE-INS AT EXISTING CURBS TO ENSURE SMOOTH TRANSITIONS. CONTRACTOR SHALL SAWCUT AND TRANSITION TO EXISTING PAVEMENT TO ENSURE POSITIVE DRAINAGE.
- ALL CONCRETE SHALL BE 6% (+/-1½%) AIR ENTRAINED, 3/4" AGGREGATE AND CONFORM TO A 28 DAY STRENGTH OF 4,000 PSI MINIMUM AND SHALL HAVE A MAXIMUM W/C OF 0.50. ALL CONCRETE SHALL BE MADE WITH TYPE I OR TYPE II CEMENT.
- ALL SIDEWALKS SHALL HAVE A LIGHT BROOM FINISH. VERTICAL FACES SHALL BE FORMED.
- BASE AND ASPHALT THICKNESS SPECIFIED ARE THE MINIMUM REQUIRED.
- ALL CURB RADI ARE 5', UNLESS OTHERWISE NOTED. FOR CURBED ISLANDS SHOWN WITH ONE LABELED RADIUS, THE LABELED RADIUS SHALL APPLY TO ALL FOUR CORNERS OF THE ISLAND.
- ALL CONCRETE FOR CURBS SHALL BE AIR ENTRAINED TO BE 6% (+/-1½%), MADE WITH SAND AND GRAVEL AGGREGATE AND SHALL CONFORM TO A TWENTY EIGHT (28) DAY STRENGTH OF 4,500 PSI MINIMUM, SHALL HAVE A MAXIMUM W/C OF 0.40 AND 130 LBS/LF.
- CONTRACTOR SHALL INSTALL ALL CURBING IN A TRUE LINE AND PROPER GRADE IN ACCORDANCE WITH THE APPROVED SITE PLANS AND MDOT SPECIFICATIONS. CURVED CURB SECTIONS SHALL BE USED FOR RADI LESS THAN 30'. ALL CURBING SHALL BE BACKFILLED WITH CLEAN AGGREGATE.
- CONTRACTOR SHALL REPAIR ANY CURB DAMAGED DURING CONSTRUCTION ACTIVITIES.
- ALL CURBS SHALL BE FULL DEPTH CONCRETE CURB WITH 6" REVEAL, UNLESS OTHERWISE NOTED.
- BUILDING FOOTPRINTS ARE SHOWN FOR INTENT ONLY. SEE STRUCTURAL AND ARCHITECTURAL PLANS FOR BUILDING FOUNDATION AND WALL DIMENSIONS.

27. SEE ARCHITECTURAL PLANS FOR FROST SLAB DETAILS AND SPECIFICATIONS.



28. CONTRACTOR TO INSTALL ALL UTILITY PIPING, SEWERS, CONDUIT PRIOR TO PAVING OPERATIONS. CONTRACTOR TO COORDINATE ALL SITE UTILITIES WITH UTILITY PLAN, AND MEP PLANS.

GENERAL GRADING & DRAINAGE NOTES:

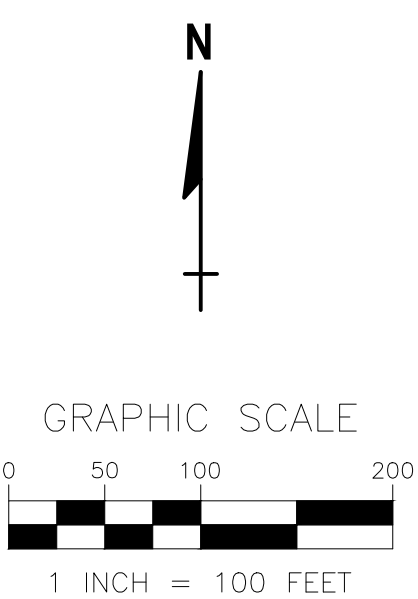
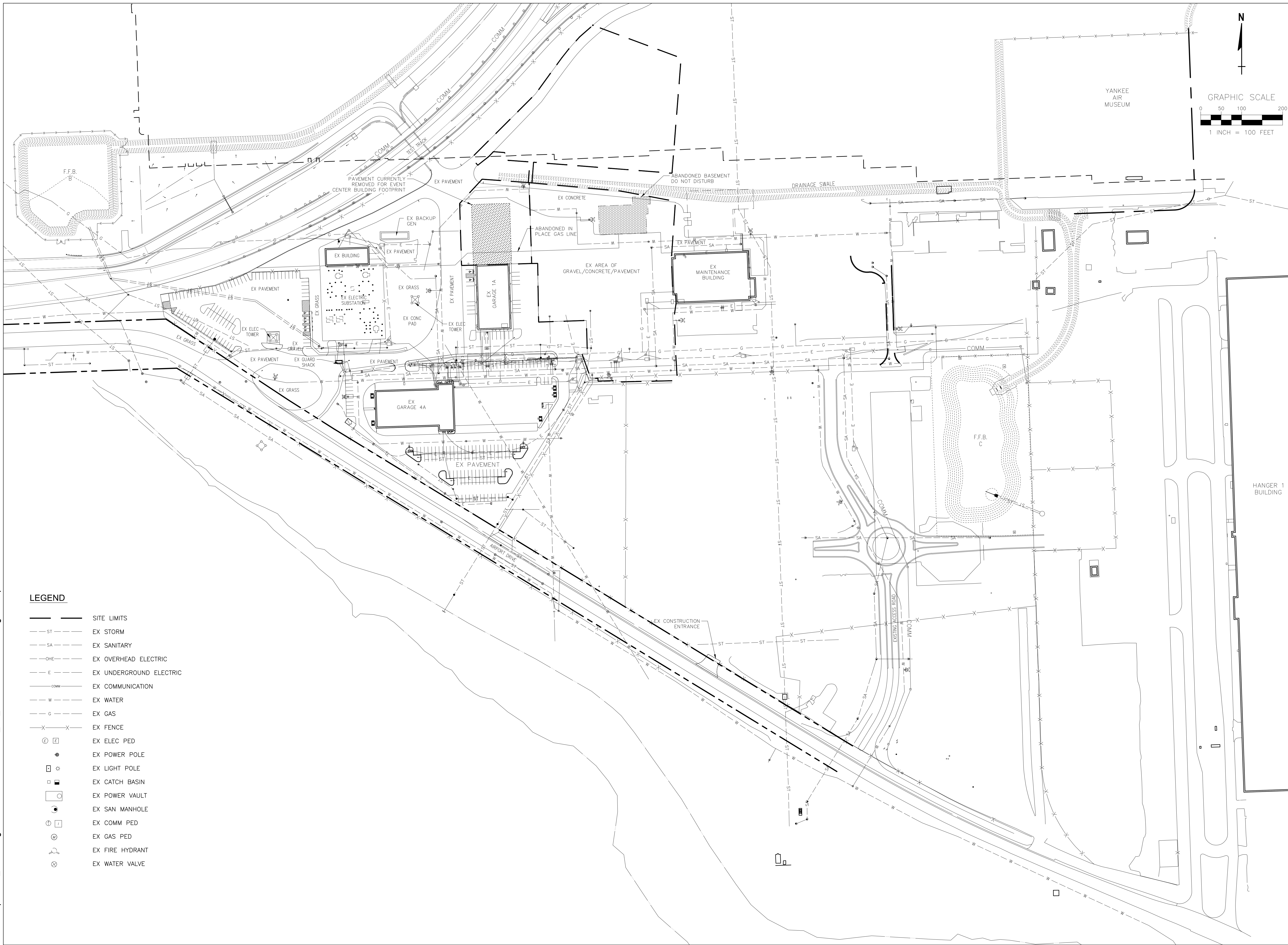
- MANHOLE RIMS AND CATCH BASIN GRATES SHALL BE SET TO ELEVATIONS SHOWN. SET ALL EXISTING MANHOLE FRAMES AND COVERS, CATCH BASIN GRATES, VALVE BOXES, ETC., TO BE RAISED OR LOWERED, TO PROPOSED FINISHED GRADE, FLUSH WITH THE ADJACENT GRADE.
- UNDERDRAINS MAY BE ADDED, IF DETERMINED NECESSARY BY THE ENGINEER OR CONSTRUCTION MANAGER, AFTER SUBGRADE IS ROUGH GRADE.
- THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON DRAWINGS. REFER TO SESC PLANS FOR LIMIT OF DISTURBANCE AND NOTES.
- THE CONTRACTOR SHALL COMPACT FILL IN 8" MAXIMUM LIFTS UNDER ALL PARKING, BUILDING, AND DRIVE AREAS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR TEST), OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- THE CONTRACTOR SHALL BE ADVISED THAT ALL EXCAVATION IS CONSIDERED UNCLASSIFIED AND THAT IT SHALL BE RESPONSIBLE FOR ALL MEANS, METHODS, AND MATERIALS OF CONSTRUCTION TO COMPLETE CONSTRUCTION AS DESIGNED. ADDITIONALLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OFF-SITE DISPOSAL OF ANY AND ALL EXCESS OR UNSUITABLE MATERIAL UNABLE TO BE PLACED ON SITE AND THE IMPORTATION OF ANY BORROW MATERIAL NECESSARY TO COMPLETE THE JOB.
- SITE GRADING SHALL BE PERFORMED TO PROVIDE POSITIVE DRAINAGE TO CATCH BASINS AND TO PRECLUDE THE PONDING OF WATER ON SITE.
- VERIFY REQUIRED SPOT ELEVATIONS/GRADING IN THE VICINITY OF THE BUILDINGS WITH THE ARCHITECTURAL PLANS.
- SPOT ELEVATIONS SHOWN DEPICT THE PROPOSED PAVEMENT OR GROUND SURFACE OR PAVEMENT ELEVATION AT FACE OF CURB, UNLESS OTHERWISE NOTED. TOP OF ALL CONCRETE CURBING IS 6-INCHES ABOVE SPOT ELEVATIONS NOTED.
- IT IS THE CONTRACTORS OBLIGATION AND RESPONSIBILITY TO CONFIRM/CONCUR WITH THE EXISTING GRADES SHOWN HEREIN. THE CONTRACTOR MUST CONFIRM ALL EXISTING GRADES PRIOR TO ANY ALL/EXCAVATION.
- THE CONTRACTOR MUST DOCUMENT EXISTING GRADE DISPUTES BY PROVISION OF A TOPOGRAPHIC SURVEY BY A STATE OF MICHIGAN REGISTERED PROFESSIONAL SURVEYOR, PRIOR TO ANY EARTH DISTURBING ACTIVITIES. IN THE ABSENCE OF THE PROVISION OF TOPOGRAPHIC SURVEY BY THE CONTRACTOR, THE GRADES SHOWN HEREON WILL BE THE "TOPOGRAPHY OF RECORD" FOR ANY AND ALL SOIL VOLUME DISPUTES.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL IMPORT/EXPORT NECESSARY TO ACHIEVE THE PROPOSED GRADES.
- ALL EXCAVATION UNDER OR NEAR EXISTING OR FUTURE PAVEMENT (INCLUDING SIDEWALKS), SUBJECT TO SETTLEMENT, WILL BE BACK FILLED WITH PREMIUM BACKFILL AS DEFINED HEREIN. AT QUESTIONABLE AREAS THE DECISION OF THE OF THE ENGINEER, OR THEIR REPRESENTATIVE, WILL PREVAIL.
- PAVEMENT EXCAVATION AND EMBANKMENT SHALL BE IN ACCORDANCE MICHIGAN DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. THE CONTRACTOR MAY BE REQUIRED TO MAKE COMPACTION TESTS. TESTS SHALL BE TAKEN BY A TESTING COMPANY APPROVED BY THE ENGINEER. THE COST OF THESE TESTS SHALL BE PAID BY THE CONTRACTOR. "PROOF" ROLLING WILL BE REQUIRED PRIOR TO PAVING AND SHALL BE CONDUCTED PRIOR TO PLACEMENT OF AGGREGATE BASE AND PERFORMED WITH THE OWNER'S INSPECTOR PRESENT AND PAID FOR BY THE CONTRACTOR.

GENERAL UTILITY NOTES:

- PROPER COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES SHALL BE PERFORMED BY THE CONTRACTOR TO INSURE THAT ALL UTILITY COMPANY, LOCAL MUNICIPALITY, AND LOCAL COUNTY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES.
- THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION.
- THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES FOR SERVICE INSTALLATIONS AND CONNECTIONS AND MAIN AND SERVICE RELOCATIONS. THE CONTRACTOR SHALL COORDINATE THE WORK TO BE PERFORMED BY THE VARIOUS UTILITY COMPANIES AND SHALL SECURE ALL PERMITS AND PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION, AS NECESSARY.
- RELOCATION OF ANY UTILITY COMPANY FACILITIES TO BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY AND LOCAL MUNICIPALITY.
- THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS, ETC. WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED BY THE OWNER, UTILITY COMPANIES, AND GOVERNING AUTHORITIES. THE CONTRACTOR SHALL INSTALL AS NECESSARY, TEMPORARY SITE LIGHTING, GAS, SANITARY, WATER, STORM, ELECTRIC, TELEPHONE, AND CABLE SERVICES TO SERVICE BUILDING(S) TO REMAIN OPEN.
- ALL EXISTING PAVEMENT WHERE UTILITY PIPING IS TO BE INSTALLED SHALL BE SAW CUT AND REPLACED IN ACCORDANCE WITH THE PAVEMENT REPAIR REQUIREMENTS OF LOCAL MUNICIPALITY AND THE DETAILS CONTAINED HEREIN.
- THE CONTRACTOR SHALL RESTORE ANY STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS, ETC. DISTURBED DURING CONSTRUCTION TO THE ORIGINAL CONDITION OR BETTER.
- THE CONTRACTOR MAY SUBSTITUTE MASONRY STRUCTURES FOR PRECAST STRUCTURES IF APPROVED BY THE CONSTRUCTION MANAGER AND IF ALLOWED BY THE CITY AND/OR COUNTY ENGINEERS.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF MATERIALS AND STRUCTURES TO THE CONSTRUCTION MANAGER AND LOCAL GOVERNING AGENCIES FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- IN THE EVENT OF CONFLICT OF ANY REQUIREMENTS OR PROVISIONS OF THE WORK INDICATED HEREON, THE SITE ENGINEER SHALL BE NOTIFIED FOR A DETERMINATION OF THE PLAN REQUIREMENTS AND INTENT THEREOF.
- PROPOSED ELEVATIONS SHOWN SHALL NOT BE CHANGED WITHOUT APPROVAL OF THE TOWNSHIP AND/OR COUNTY ENGINEERS AND THE CONSTRUCTION MANAGER.

NO.	DATE	BY	DESCRIPTION
	TBD	HNTB	PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP
535 GRISWOLD STREET SUITE 1100 DETROIT, MI 48226 TEL: (313) 961-3300			TBO 7/17/70 ASD DLL
PROJECT DATE: PROJECT NO.: DRAWN BY: CHECKED BY:			
			
PREPARED FOR:  American Center for Mobility CONNECTED. AUTOMATED. VALIDATED.			
ACM CAMPUS EVENT CENTER		SITE DESIGN WILLOW RUN AIRPORT YPSILANTI TWP., MICHIGAN	
GENERAL NOTES			
SITE 0.1			

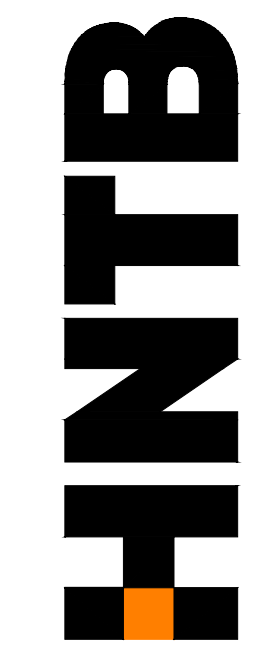
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LEGEND

- SITE LIMITS
- ST --- EX STORM
- SA --- EX SANITARY
- OHE --- EX OVERHEAD ELECTRIC
- E --- EX UNDERGROUND ELECTRIC
- COMM --- EX COMMUNICATION
- W --- EX WATER
- G --- EX GAS
- X-X- EX FENCE
- ⊕ EX ELEC PED
- EX POWER POLE
- ⊕ EX LIGHT POLE
- EX CATCH BASIN
- EX POWER VAULT
- EX SAN MANHOLE
- ⊕ EX COMM PED
- ⊕ EX GAS PED
- ⊕ EX FIRE HYDRANT
- ⊕ EX WATER VALVE

	<p>DESCRIPTION</p> <p>BY: HNTB</p> <p>DATE: TBD</p> <p>NO: 1</p>	<p>PREPARED FOR:</p> <p>American Center for Mobility</p> <p>CONNECTED. AUTOMATED. VALIDATED.</p>	<p>ACM CAMPUS</p> <p>EVENT CENTER</p> <p>SITE DESIGN</p> <p>WILLOW RUN AIRPORT</p> <p>YPSILANTI TWP., MICHIGAN</p>
	<p>536 GRIFFOID STREET</p> <p>SUITE 1100</p> <p>DETROIT, MI 48226</p> <p>TEL: (313) 961-3330</p>	<p>PROJECT NO: TBD</p> <p>PROJECT DATE: 7/27/20</p> <p>DRAWN BY: ASD</p> <p>CHECKED BY: DLL</p>	<p>OVERALL EXISTING</p> <p>CONDITIONS PLAN</p>
<p>SITE 1.0</p>			

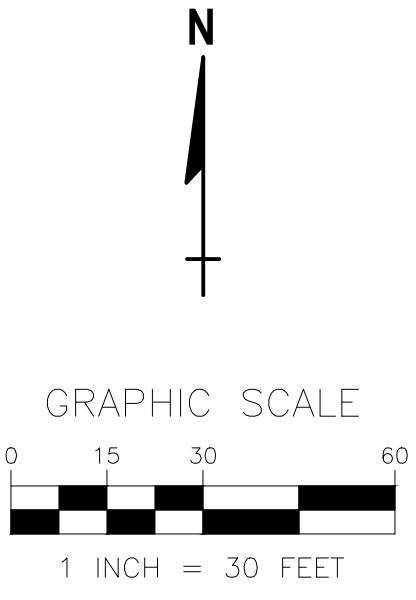
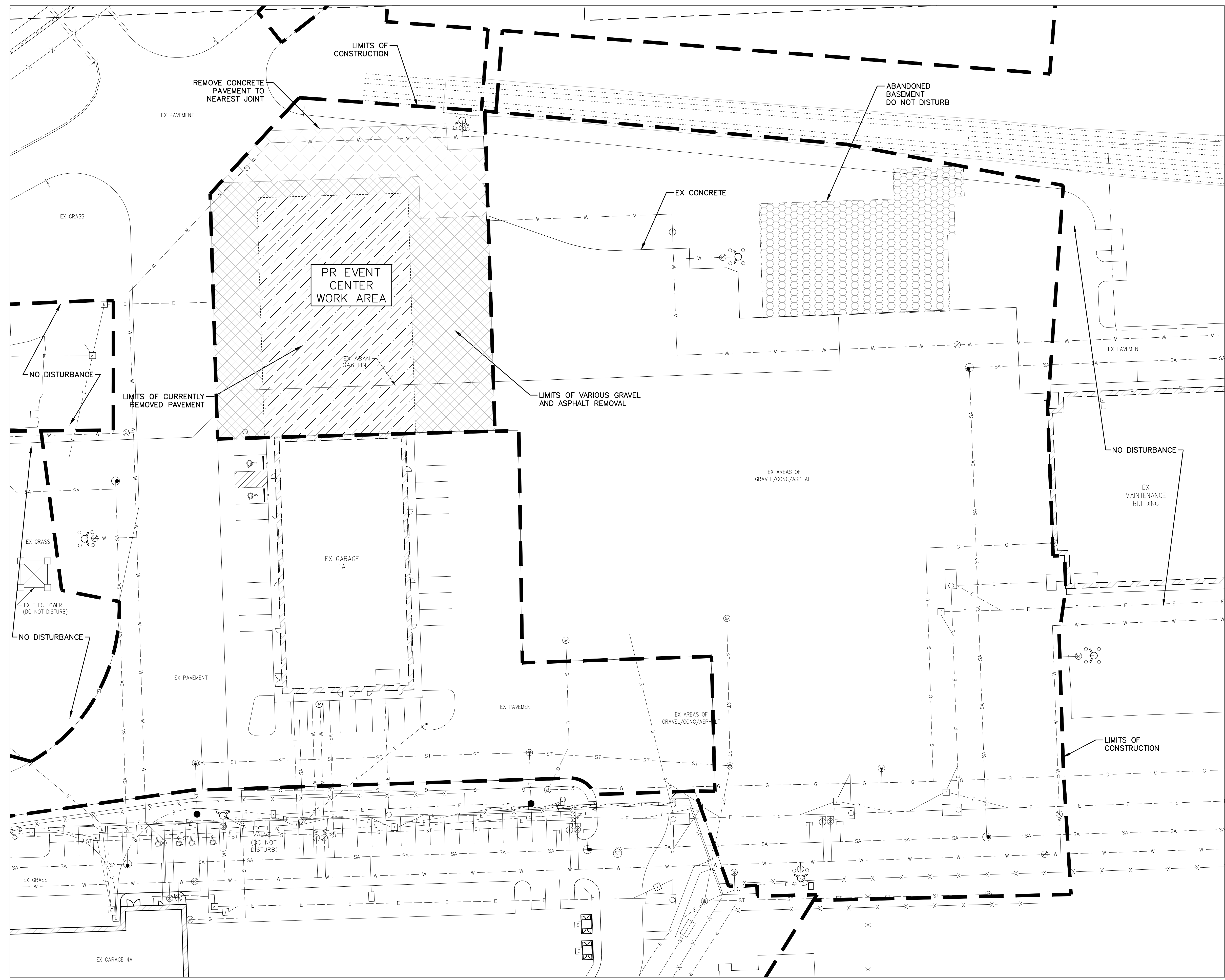


ACM CAMPUS
EVENT CENTER
SITE DESIGN
WILLOW RUN AIRPORT
YPSILANTI TWP., MICHIGAN

OVERALL EXISTING
CONDITIONS PLAN

SITE 1.0

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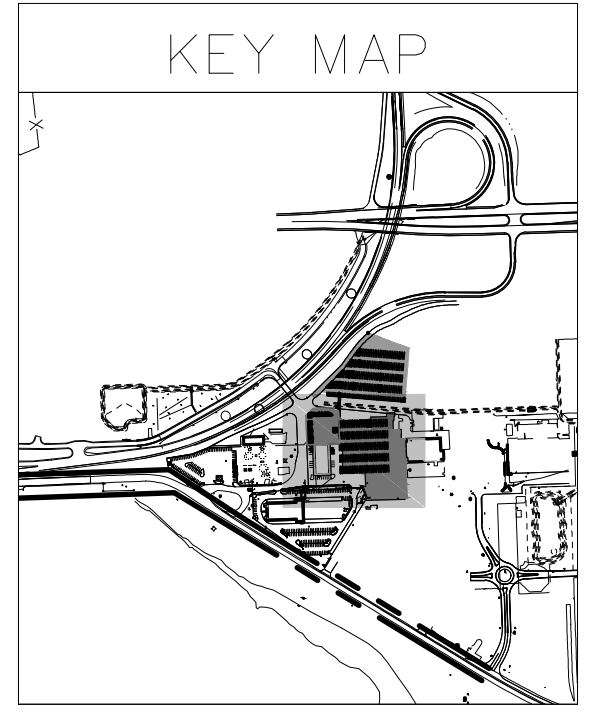


- ABBREVIATIONS**
- EX EXISTING
 - PR PROPOSED
 - FFE FINISH FLOOR ELEVATION
 - ELEC ELECTRIC
 - PED PEDESTRIAN

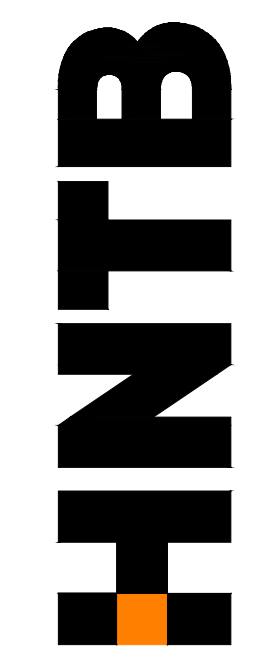
LEGEND

- ST --- EX STORM
- SA --- EX SANITARY
- OHE --- EX OVERHEAD ELECTRIC
- E --- EX UNDERGROUND ELECTRIC
- COMM --- EX COMMUNICATION
- W --- EX WATER
- G --- EX GAS
- ⊕ EX ELEC HANDHOLE
- EX POWER POLE
- ☆ EX LIGHT POLE
- EX CATCH BASIN
- ⊞ EX POWER VAULT
- ⊞ EX SAN MANHOLE
- ⊞ EX COMM HANDHOLE
- ⊞ EX GAS METER\GAS VALVE
- ⊞ EX FIRE HYDRANT
- ⊞ EX WATER VALVE
- X --- EX FENCE
- [Hatched Box] LIMITS OF VARIOUS GRAVEL AND ASPHALT REMOVAL
- [Hatched Box] LIMITS OF CONCRETE REMOVAL
- [Hatched Box] LIMITS OF PAVEMENT CURRENTLY REMOVED
- --- LIMITS OF CONSTRUCTION

NOTE:
 FOR AREAS WITHIN THE LIMITS OF EX BELOW GRADE CONCRETE SLAB, CONTRACTOR SHALL REMOVE SURFACE ASPHALT OR CONCRETE OVER SLAB TO VERIFY DEPTH. PROPOSED ASPHALT PAVEMENT SECTIONS MAY REQUIRE ADJUSTMENT TO ACCOUNT FOR EX CONCRETE SLAB. VERIFY ANY PROPOSED ADJUSTMENT WITH ENGINEER. REMOVE EX CONCRETE SLAB WHERE CONFLICTS OCCUR WITH PROPOSED WORK.



DESCRIPTION	HNTB PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP
BY	TBD
DATE	TBD
NO.	1
PROJECT NO.	71270
PROJECT DATE	TBD
DRAWN BY	ASD
CHECKED BY	DLL
535 GRISWOLD STREET SUITE 1100 DETROIT, MI 48226 TEL: (313) 961-3300	



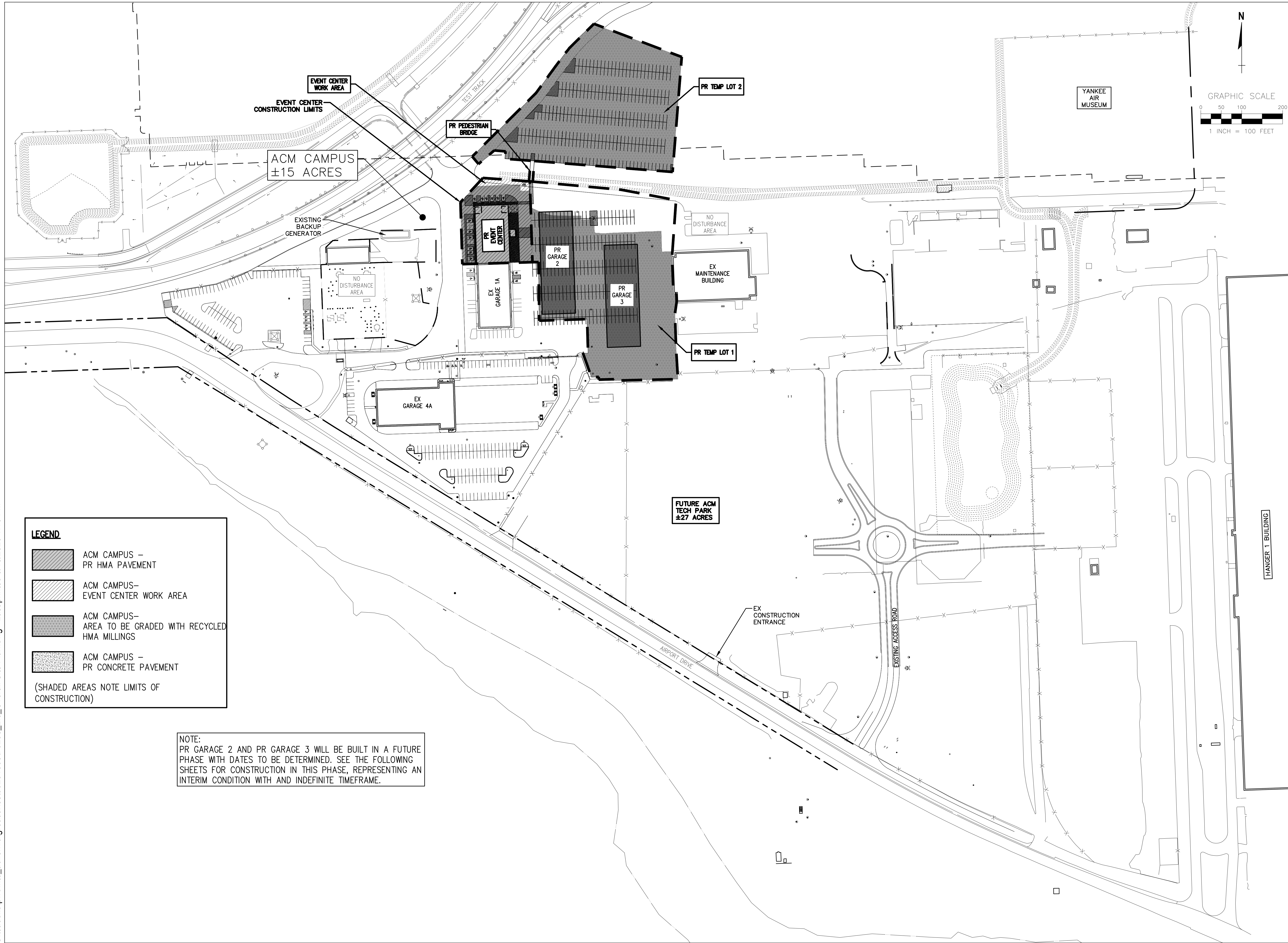
PREPARED FOR:
 American Center for Mobility
 CONNECTED. AUTOMATED. VALIDATED.

ACM CAMPUS
 EVENT CENTER
 SITE DESIGN
 WILLOW RUN AIRPORT
 YPSILANTI TWP., MICHIGAN

DEMOLITION PLAN

SITE
 1.1

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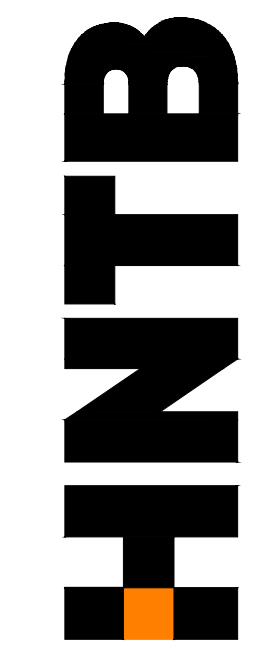
LEGEND

- ACM CAMPUS – PR HMA PAVEMENT
- ACM CAMPUS– EVENT CENTER WORK AREA
- ACM CAMPUS– AREA TO BE GRADED WITH RECYCLED HMA MILLINGS
- ACM CAMPUS – PR CONCRETE PAVEMENT

(SHADED AREAS NOTE LIMITS OF CONSTRUCTION)

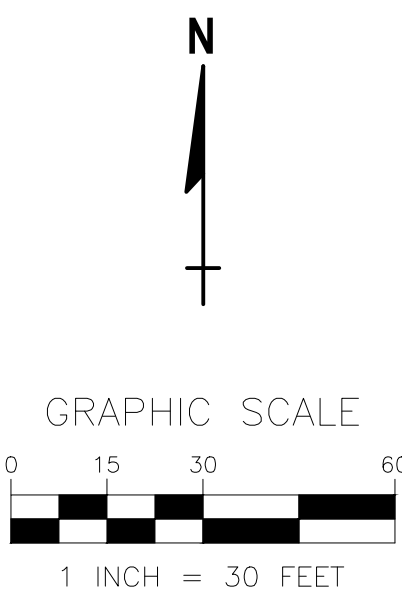
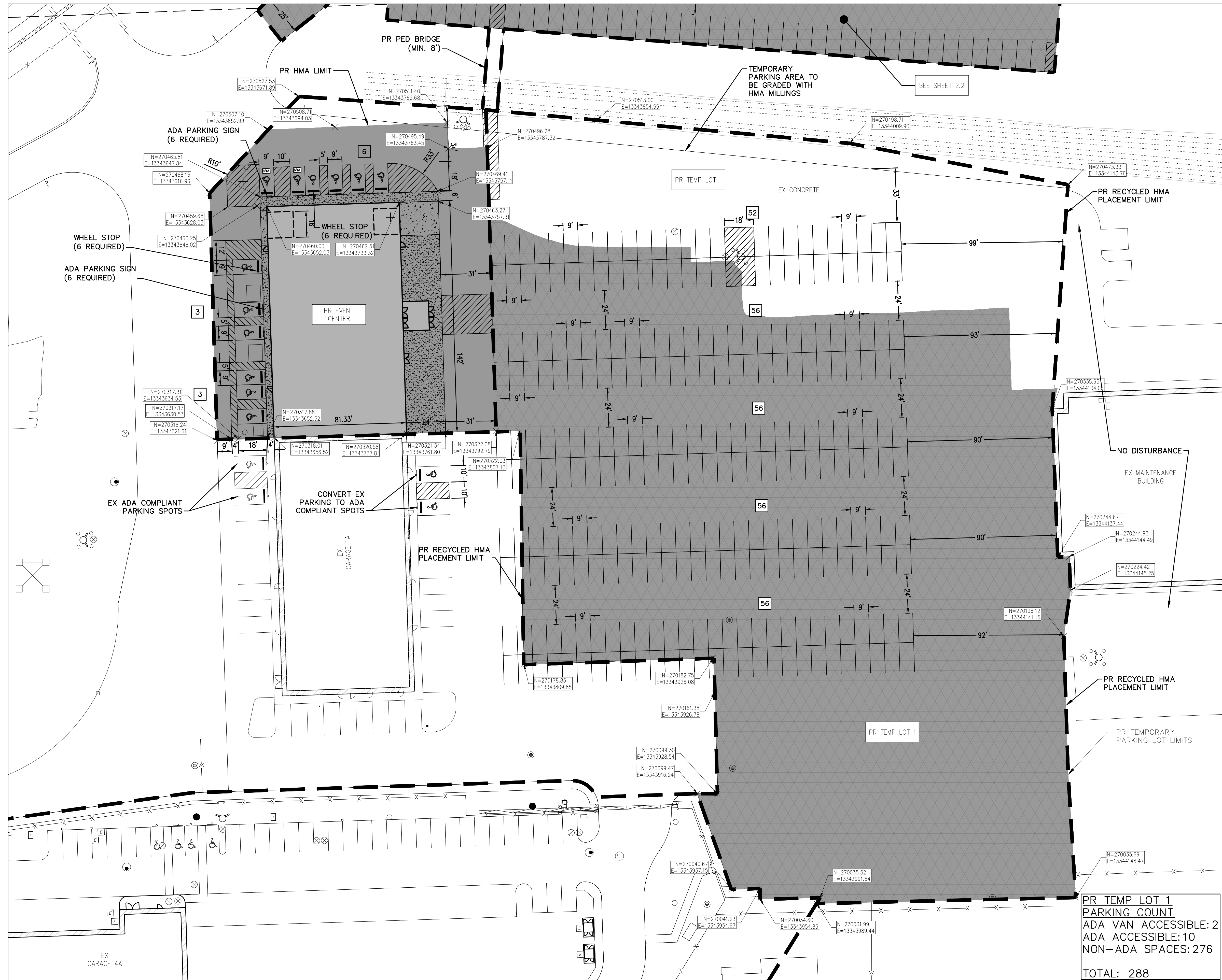
NOTE:
PR GARAGE 2 AND PR GARAGE 3 WILL BE BUILT IN A FUTURE PHASE WITH DATES TO BE DETERMINED. SEE THE FOLLOWING SHEETS FOR CONSTRUCTION IN THIS PHASE, REPRESENTING AN INTERIM CONDITION WITH AN INDEFINITE TIMEFRAME.

<p>NO. _____</p> <p>DATE: _____</p> <p>BY: HNTB</p> <p>DESCRIPTION: PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP</p>	<p>TBD</p> <p>TBD</p> <p>HNTB</p>	<p>PROJECT NO.: 71270</p> <p>PROJECT DATE: _____</p> <p>DRAWN BY: ASD</p> <p>CHECKED BY: DL</p>	<p>536 GRIFFIN STREET SUITE 1100 DETROIT, MI 48226 TEL.: (313) 961-3330</p>	<p>PREPARED FOR: American Center for Mobility <small>CONNECTED. AUTOMATED. VALIDATED.</small></p>	<p>ACM CAMPUS EVENT CENTER SITE DESIGN WILLOW RUN AIRPORT YPSILANTI TWP., MICHIGAN</p>	<p>OVERALL SITE PLAN</p>	<p>SITE 2.0</p>
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HANGER 1 BUILDING

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ABBREVIATIONS

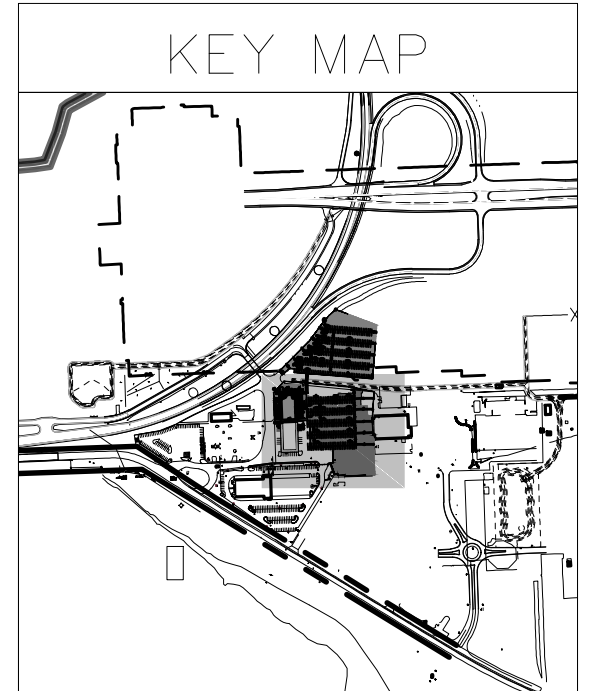
- EX EXISTING
- PR PROPOSED
- FFE FINISH FLOOR ELEVATION
- ELEC ELECTRIC
- PED PEDESTAL

LEGEND

- EX ELEC HANDHOLE
- EX POWER POLE
- EX LIGHT POLE
- EX CATCH BASIN
- EX POWER VAULT
- EX SAN MANHOLE
- EX COMM HANDHOLE
- EX GAS METER/GAS VALVE
- EX FIRE HYDRANT
- EX WATER VALVE
- EX FENCE
- PR PAVEMENT
- PR CURB
- PARKING COUNT
- HEAVY DUTY CONCRETE PAVEMENT
- LIMITS OF TEMPORARY MILLINGS FOR GRADING
- LIMITS OF FULL DEPTH STANDARD PAVEMENT
- CONCRETE SIDEWALK
- LIMITS OF CONSTRUCTION

NOTES:

1. UNLABELED RADII ARE 5'
2. PARKING TO MAINTAIN SUITABLE DRAINAGE PRIOR TO COMPLETION
3. ACM WILL COORDINATE WITH YPSILANTI TOWNSHIP TO DEVELOP AN AGREEMENT ADDRESSING MAINTENANCE OF TEMP PAVEMENT AND LIGHTING
4. CONVERTED ADA PARKING SPOTS ADJACENT TO EX GARAGE 1A ARE NOT INCLUDED IN THE EVENT CENTER PARKING COUNT
5. GRADING AND SURFACE OF PARKING LOT AREAS MEET ALL YPSILANTI TOWNSHIP STANDARDS
6. PARKING ON SHEET 2.2 IS NOT INCLUDED IN THIS SHEET'S PARKING COUNT



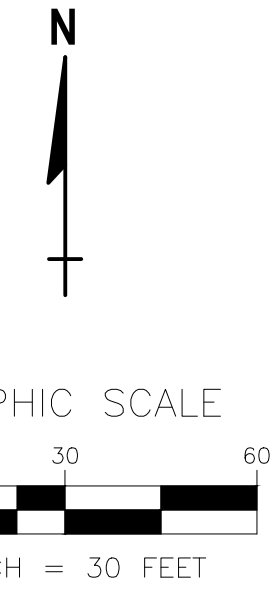
**PR TEMP LOT 1
PARKING COUNT**
 ADA VAN ACCESSIBLE: 2
 ADA ACCESSIBLE: 10
 NON-ADA SPACES: 276
TOTAL: 288

DESCRIPTION	HNTB PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP		
BY	TBD		
DATE	TBD		
NO.	1		
PROJECT NO.	TBD	71270	ASD
PROJECT DATE:	TBD	7/27/20	ASD
DRAWN BY:	TBD	7/27/20	ASD
CHECKED BY:	TBD	7/27/20	ASD
PROJECT ADDRESS:	535 GRISWOLD STREET SUITE 1100 DETROIT, MI 48226 TEL: (313) 961-3300		
HNTB			
American Center for Mobility CONNECTED. AUTOMATED. VALIDATED.			
PREPARED FOR:	ACM CAMPUS EVENT CENTER SITE DESIGN WILLOW RUN AIRPORT YPSILANTI TWP., MICHIGAN		
SITE PLAN			
SITE NO.	21		

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PR TEMP LOT 2
PARKING COUNT
NON-ADA SPACES: 306
TOTAL: 306



ABBREVIATIONS

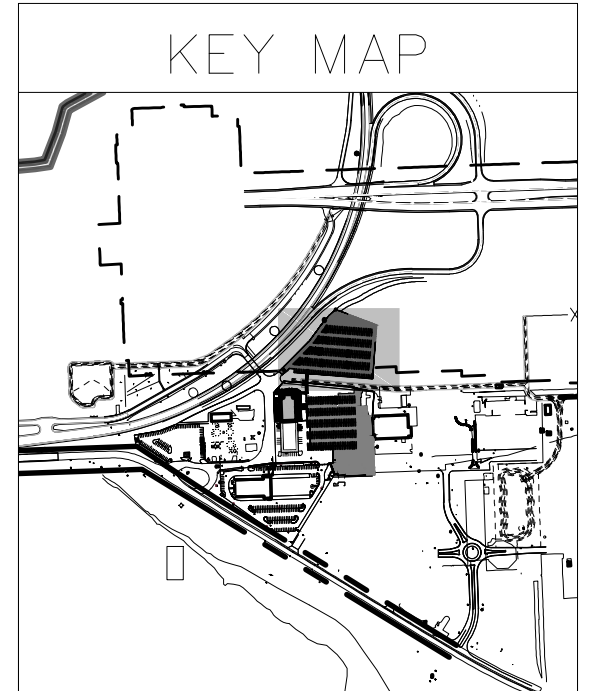
- EX EXISTING
- PR PROPOSED
- FFE FINISH FLOOR ELEVATION
- ELEC ELECTRIC
- PED PEDESTAL

LEGEND

- EX ELEC HANDHOLE
- EX POWER POLE
- ⊛ EX LIGHT POLE
- EX CATCH BASIN
- EX POWER VAULT
- EX SAN MANHOLE
- ⊕ EX COMM HANDHOLE
- ⊕ EX GAS METER/GAS VALVE
- ⊕ EX FIRE HYDRANT
- ⊕ EX WATER VALVE
- X — EX FENCE
- PR PAVEMENT
- PR CURB
- 4 PARKING COUNT
- HEAVY DUTY CONCRETE PAVEMENT
- LIMITS OF TEMPORARY MILLINGS FOR GRADING
- LIMITS OF FULL DEPTH STANDARD PAVEMENT
- CONCRETE SIDEWALK
- LIMITS OF CONSTRUCTION

NOTES:

1. UNLABELED RADII ARE 5'
2. PARKING TO MAINTAIN SUITABLE DRAINAGE PRIOR TO COMPLETION
3. ACM WILL COORDINATE WITH YPSILANTI TOWNSHIP TO DEVELOP AN AGREEMENT ADDRESSING MAINTENANCE OF TEMP PAVEMENT AND LIGHTING
4. CONVERTED ADA PARKING SPOTS ADJACENT TO EX GARAGE 1A ARE NOT INCLUDED IN THE EVENT CENTER PARKING COUNT
5. GRADING AND SURFACE OF PARKING LOT AREAS MEET ALL YPSILANTI TOWNSHIP STANDARDS
6. PARKING ON SHEET 2.2 IS NOT INCLUDED IN THIS SHEET'S PARKING COUNT



NO.	DATE	BY	DESCRIPTION
1	TBD	HNTB	PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP

535 GRISWOLD STREET
SUITE 1100
DETROIT, MI 48226
TEL: (313) 961-3300

PROJECT DATE: 7/27/20
DRAWN BY: ASD
CHECKED BY: DLL

PREPARED FOR:

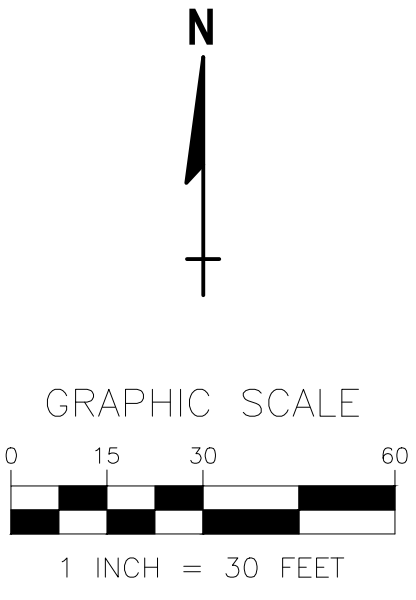
American Center for Mobility
CONNECTED. AUTOMATED. VALIDATED.

ACM CAMPUS
EVENT CENTER
SITE DESIGN
WILLOW RUN AIRPORT
YPSILANTI TWP., MICHIGAN

SITE PLAN

SITE 2.2

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ABBREVIATIONS

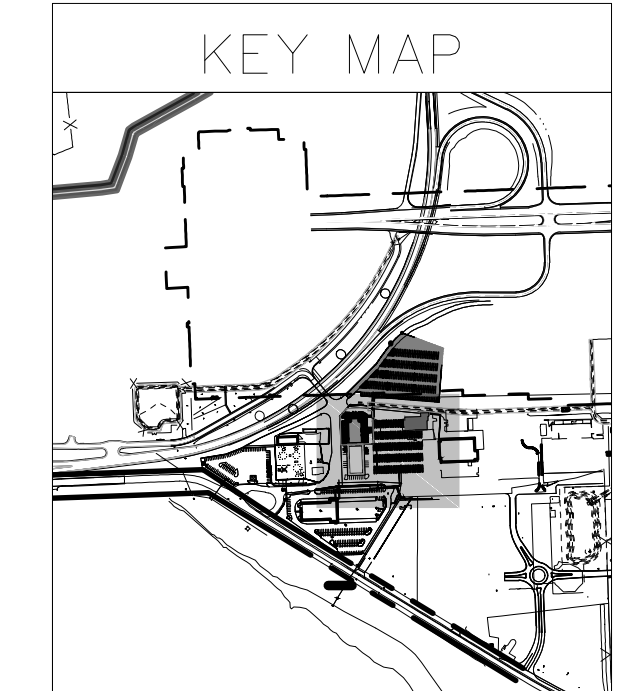
- EX EXISTING
- PR PROPOSED
- FFE FINISH FLOOR ELEVATION
- ELEC ELECTRIC
- PED PEDESTAL

LEGEND

- EX CURB & PAVEMENT
- - - 925 EX CONTOUR
- - - 855 PR CONTOUR
- EX CATCH BASIN
- ⊙ EX STORM MANHOLE
- ⊙ EX SANITARY MANHOLE
- ➔ PR FLOOD ROUTING
- ▲ 1023.6 PR SPOT GRADE
- ▲ 1022.5 TOP TOP ELEV (TOP OF CURB)
- ▲ 1022.0 BOT BOTTOM ELEV (BOTTOM OF CURB)
- ▲ 1021.15 EX SPOT GRADE
- ▲ 1021.22 M/E EX SPOT GRADE, PR MEET EXISTING
- ➔ FLOW ARROW
- LIMITS OF CONSTRUCTION
- ▨ CONCRETE PAVEMENT
- ▨ LIMITS OF TEMPORARY MILLINGS FOR GRADING
- ▨ LIMITS OF FULL DEPTH STANDARD PAVEMENT
- ▨ LIMITS OF FULL DEPTH HEAVY DUTY PAVEMENT
- ▨ CONCRETE SIDEWALK

NOTE:

PROPOSED ASPHALT PAVEMENT SECTIONS MAY REQUIRE ADJUSTMENT TO ACCOUNT FOR EX CONCRETE SLAB. VERIFY ANY PROPOSED ADJUSTMENT WITH ENGINEER. REMOVE EX CONCRETE SLAB WHERE CONFLICTS OCCUR WITH PROPOSED WORK.



NO.	DATE	BY	DESCRIPTION
1	TBD	HNTB	PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP

TBD	ASD	DLL
PROJECT NO.:	71270	
PROJECT DATE:	7/17/20	
DRAWN BY:	ASD	
CHECKED BY:	DLL	

PREPARED FOR:

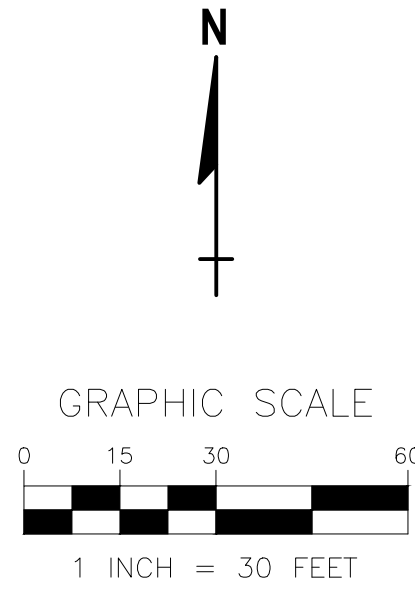
American Center for Mobility
CONNECTED. AUTOMATED. VALIDATED.

**ACM CAMPUS
EVENT CENTER
SITE DESIGN**
WILLOW RUN AIRPORT
YPSILANTI TWP., MICHIGAN

GRADING PLAN

SITE
3.0

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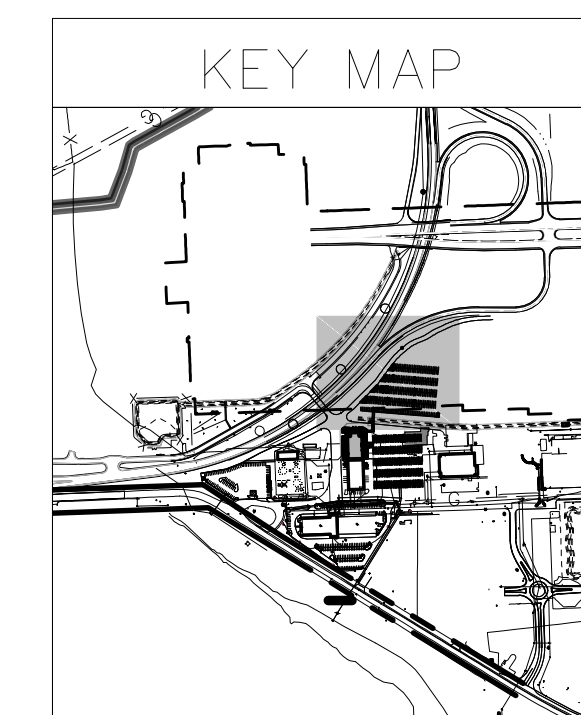
ABBREVIATIONS

- EX EXISTING
- PR PROPOSED
- FFE FINISH FLOOR ELEVATION
- ELEC ELECTRIC
- PED PEDESTAL

LEGEND

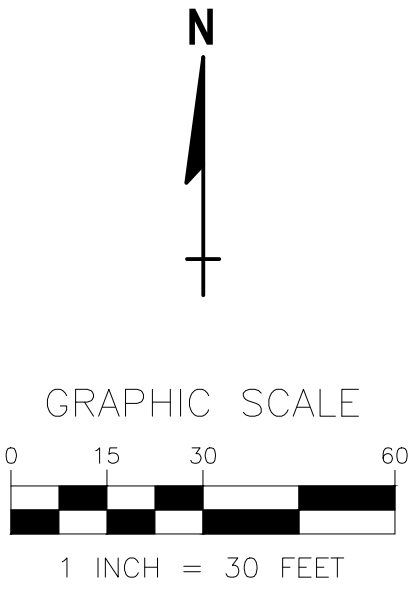
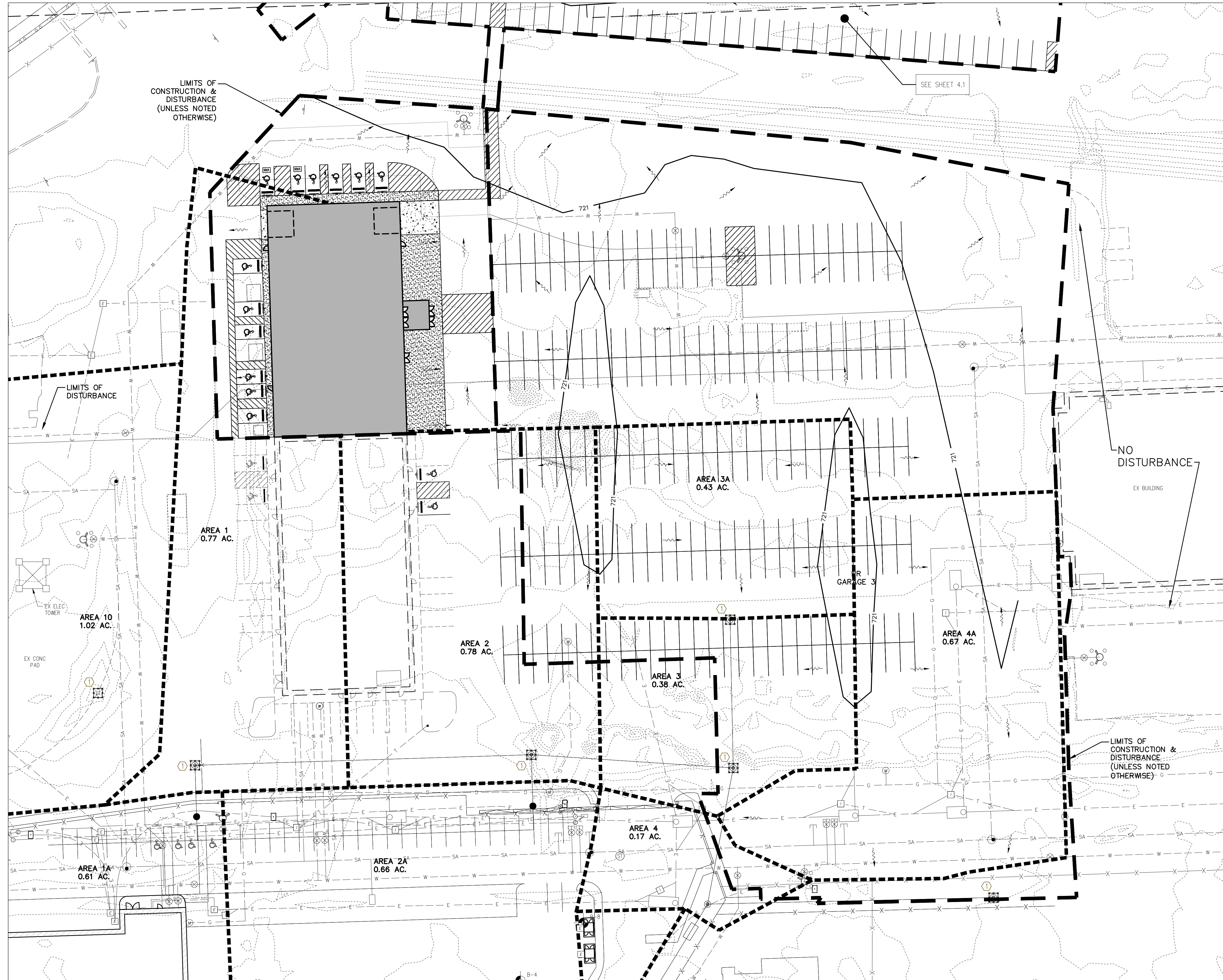
- EX CURB & PAVEMENT
- EX CONTOUR
- PR CONTOUR
- EX CATCH BASIN
- EX STORM MANHOLE
- EX SANITARY MANHOLE
- PR FLOOD ROUTING
- PR SPOT GRADE
- TOP ELEV (TOP OF CURB)
- BOTTOM ELEV (BOTTOM OF CURB)
- EX SPOT GRADE
- EX SPOT GRADE, PR MEET EXISTING
- FLOW ARROW
- LIMITS OF CONSTRUCTION

NOTE:
 PROPOSED ASPHALT PAVEMENT SECTIONS MAY REQUIRE ADJUSTMENT TO ACCOUNT FOR EX CONCRETE SLAB. VERIFY ANY PROPOSED ADJUSTMENT WITH ENGINEER. REMOVE EX CONCRETE SLAB WHERE CONFLICTS OCCUR WITH PROPOSED WORK.



NO. 1 DATE TBD BY HNTB DESCRIPTION PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP	TBO 71270 ASD DLL PROJECT NO.: 71270 DRAWN BY: CHECKED BY:		PREPARED FOR: American Center for Mobility CONNECTED. AUTOMATED. VALIDATED.
ACM CAMPUS EVENT CENTER SITE DESIGN WILLOW RUN AIRPORT YPSILANTI TWP., MICHIGAN		GRADING PLAN	SITE 3.1

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ABBREVIATIONS

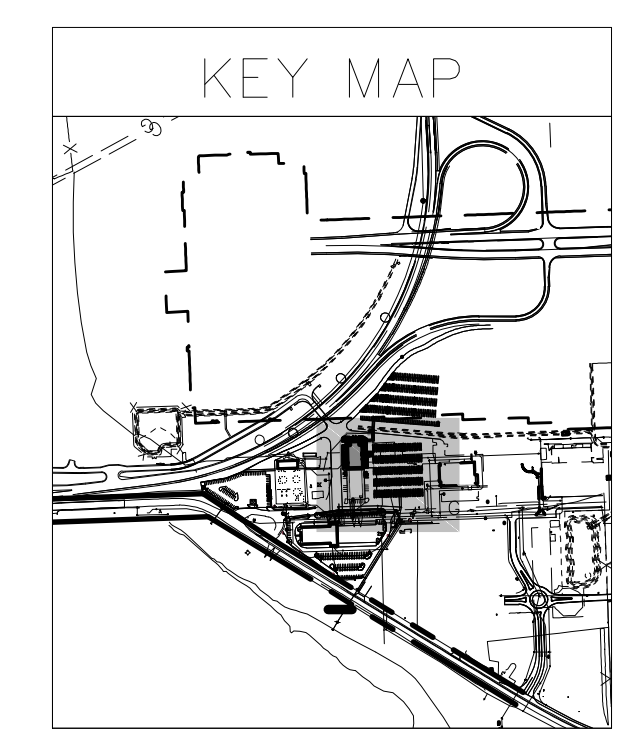
- EX EXISTING
- PR PROPOSED
- FFE FINISH FLOOR ELEVATION
- ELEC ELECTRIC
- PED PEDESTAL

LEGEND

- ST --- EX STORM
- ST --- PR STORM
- EX CURB & PAVEMENT
- 925 --- EX CONTOUR
- 855 --- PR CONTOUR
- EX CATCH BASIN
- PR CATCH BASIN
- ⊙ PR STORM STRUCTURE NO.
- ⊙ PR WATER STRUCTURE NO.
- EX STORM MANHOLE
- PR STORM MANHOLE
- EX SANITARY MANHOLE
- ⬇ PR FLOOD ROUTING
- INLET PROTECTION
- PR PAVEMENT
- PR CURB
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- LIMITS OF CONSTRUCTION
- STORM STRUCTURE TRIBUTARY AREA
- FLOW ARROW

CODED NOTES

- ① INLET PROTECTION. SEE DETAIL SHEET 4.2



NO.	DATE	BY	DESCRIPTION
1	TBD	HNTB	PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP

535 GRISWOLD STREET SUITE 1100 DETROIT, MI 48226 TEL: (313) 961-3300	TBD	ASD	DLL
PROJECT DATE:	7/17/20	PROJECT NO.:	
DRAWN BY:		CHECKED BY:	

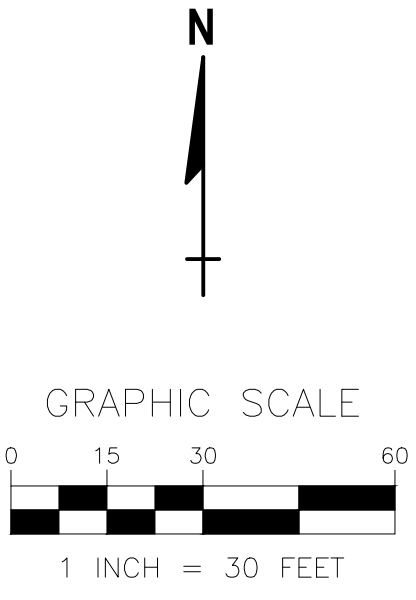
PREPARED FOR:

**ACM CAMPUS
EVENT CENTER
SITE DESIGN**
WILLOW RUN AIRPORT
YPSILANTI TWP., MICHIGAN

**SOIL EROSION AND
SEDIMENTATION CONTROL
PLAN**

SITE
4.0

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ABBREVIATIONS

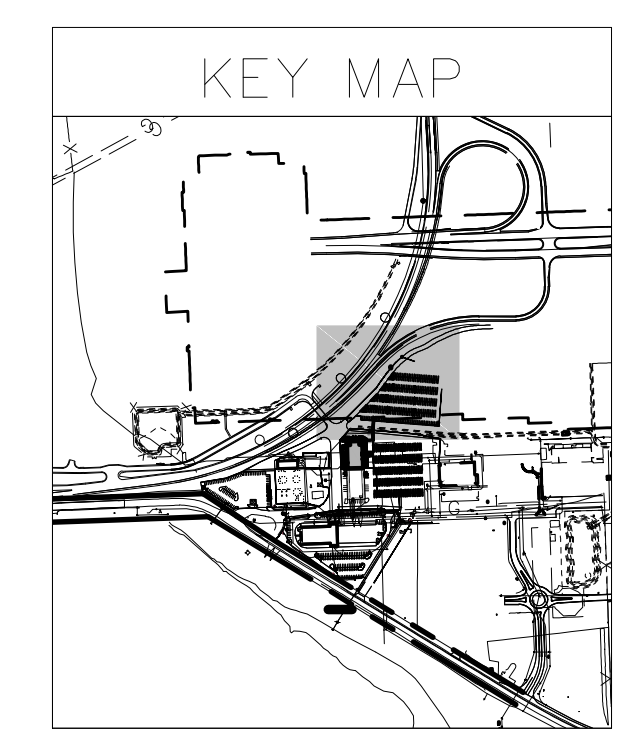
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- PR PROPOSED
- FFE FINISH FLOOR ELEVATION
- ELEC ELECTRIC
- PED PEDESTAL

LEGEND

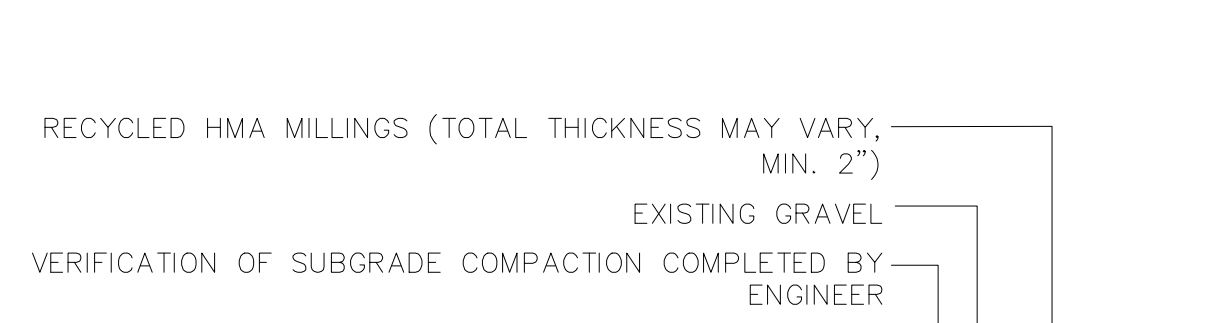
- ST --- EX STORM
- ST --- PR STORM
- EX CURB & PAVEMENT
- 925 --- EX CONTOUR
- 855 --- PR CONTOUR
- EX CATCH BASIN
- PR CATCH BASIN
- ◇ PR STORM STRUCTURE NO.
- ◇ PR WATER STRUCTURE NO.
- EX STORM MANHOLE
- PR STORM MANHOLE
- EX SANITARY MANHOLE
- PR FLOOD ROUTING
- INLET PROTECTION
- PR PAVEMENT
- PR CURB
- HEAVY DUTY CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- LIMITS OF CONSTRUCTION
- STORM STRUCTURE TRIBUTARY AREA
- FLOW ARROW

CODED NOTES

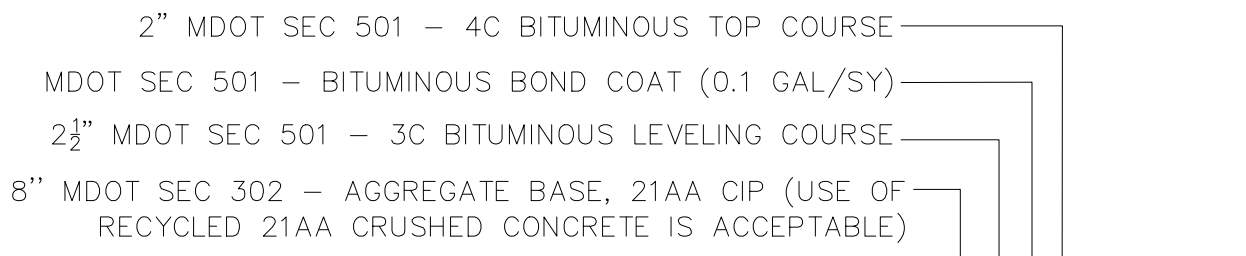
- ① INLET PROTECTION. SEE DETAIL SHEET 5.3



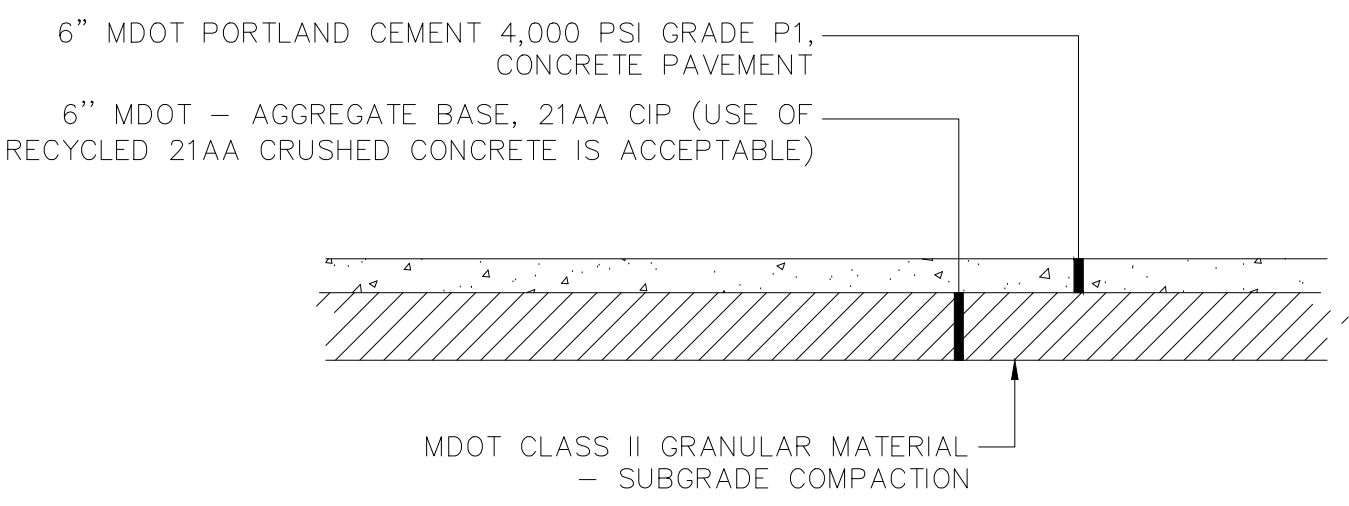
<p>DESCRIPTION HNTB PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP</p>	<p>BY HNTB</p>	<p>DATE TBD</p>	<p>NO. 1</p>	<p>TBD</p>	<p>TBD</p>	<p>TBD</p>
<p>535 GRISWOLD STREET SUITE 1100 DETROIT, MI 48226 TEL: (313) 961-3300</p>			<p>PROJECT NO.: 71270</p>		<p>ASD DLL</p>	
			<p>PREPARED FOR: American Center for Mobility CONNECTED. AUTOMATED. VALIDATED.</p>			
<p>ACM CAMPUS EVENT CENTER SITE DESIGN WILLOW RUN AIRPORT YPSILANTI TWP., MICHIGAN</p>						
<p>SOIL EROSION AND SEDIMENTATION CONTROL PLAN</p>						
<p>SITE 4.1</p>						



TEMPORARY PARKING LOT SECTION
SCALE: N.T.S.

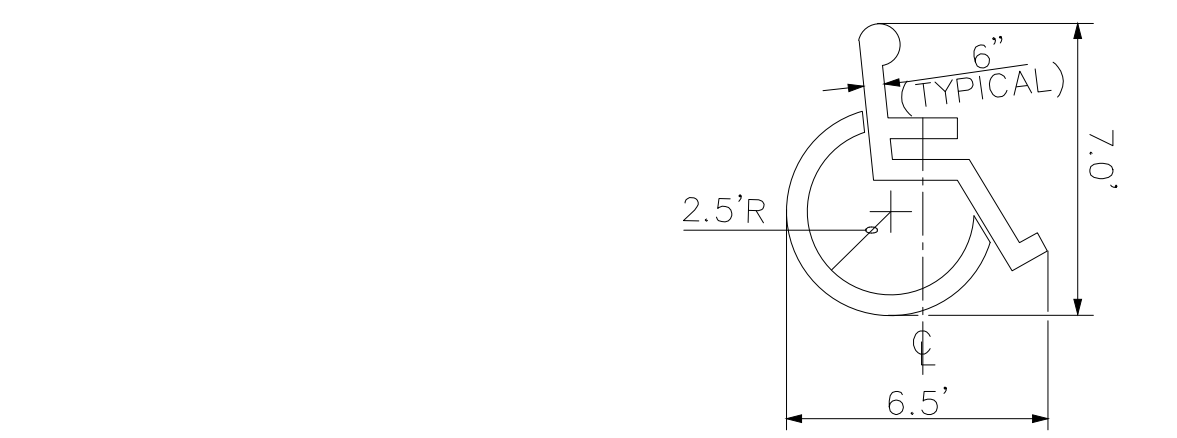


HEAVY DUTY ASPHALT PAVEMENT SECTION
SCALE: N.T.S.

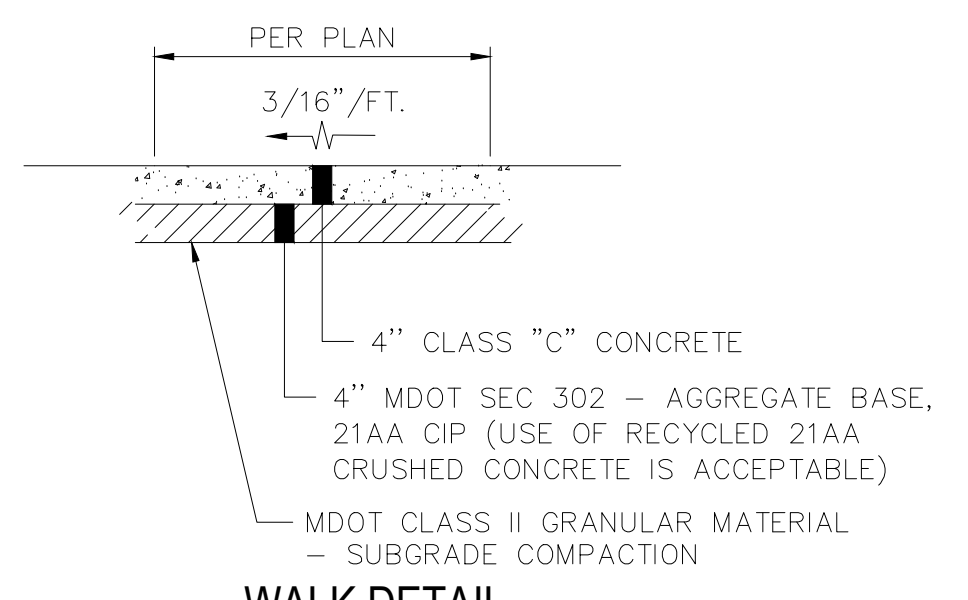


HEAVY DUTY CONCRETE PAVEMENT SECTION
SCALE: N.T.S.

- PAVEMENT JOINT NOTES:
1. CONTRACTOR SHALL INSTALL CONTROL AND EXPANSION JOINTS PER DETAIL.
 2. NO SLAB DIMENSION MEASURED ALONG JOINT SHALL EXCEED 15'.
 3. NO JOINTS SHALL BE PLACED CLOSER THAN 6' FROM ANY OTHER PARALLEL JOINT OR OF PAVEMENT.
 4. ALL JOINTS ENDING AT A CURB SHALL BE EXTENDED THROUGH CURB.

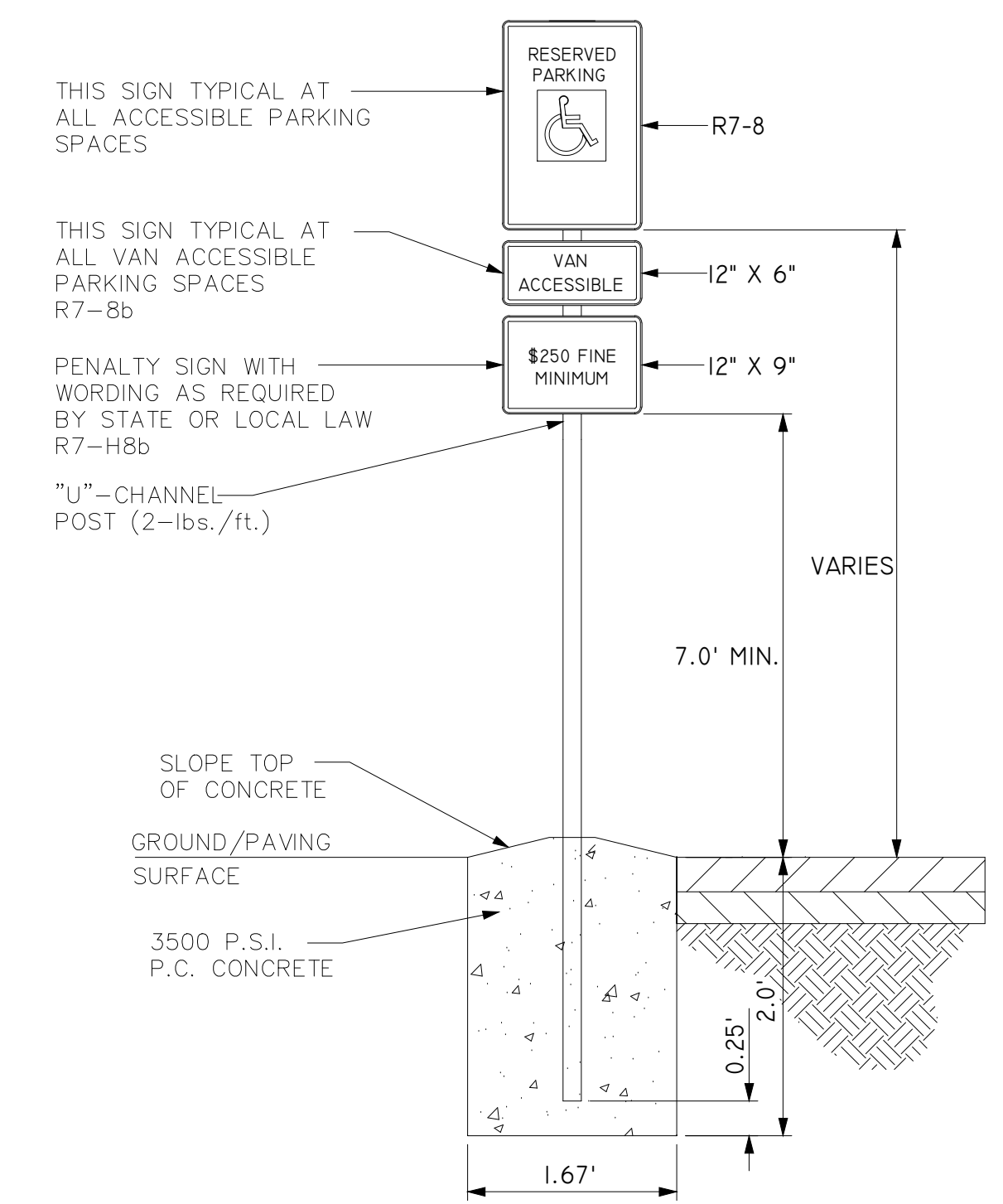


ACCESSIBLE PARKING SYMBOL
SCALE: N.T.S.

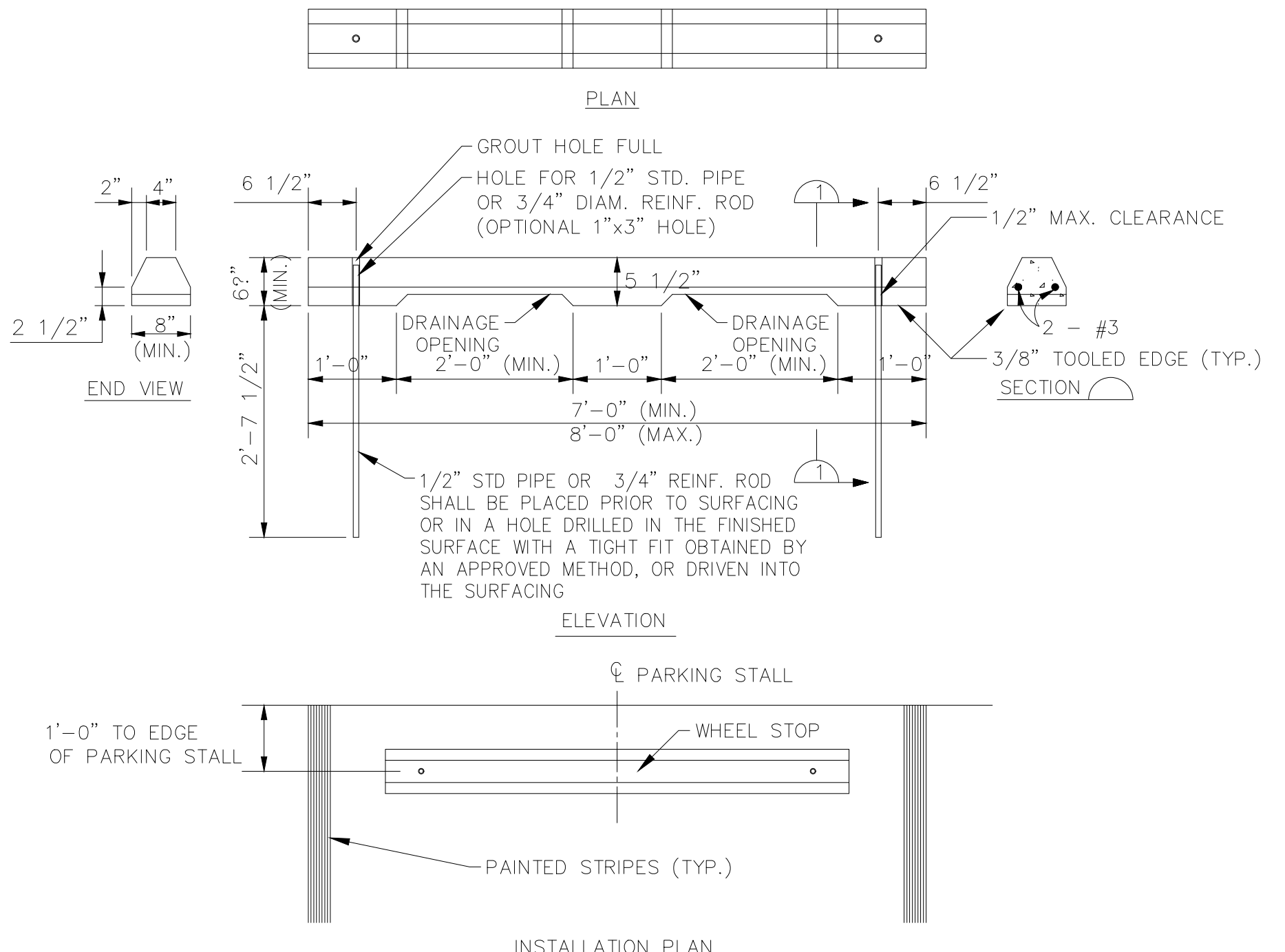


WALK DETAIL
SCALE: N.T.S.

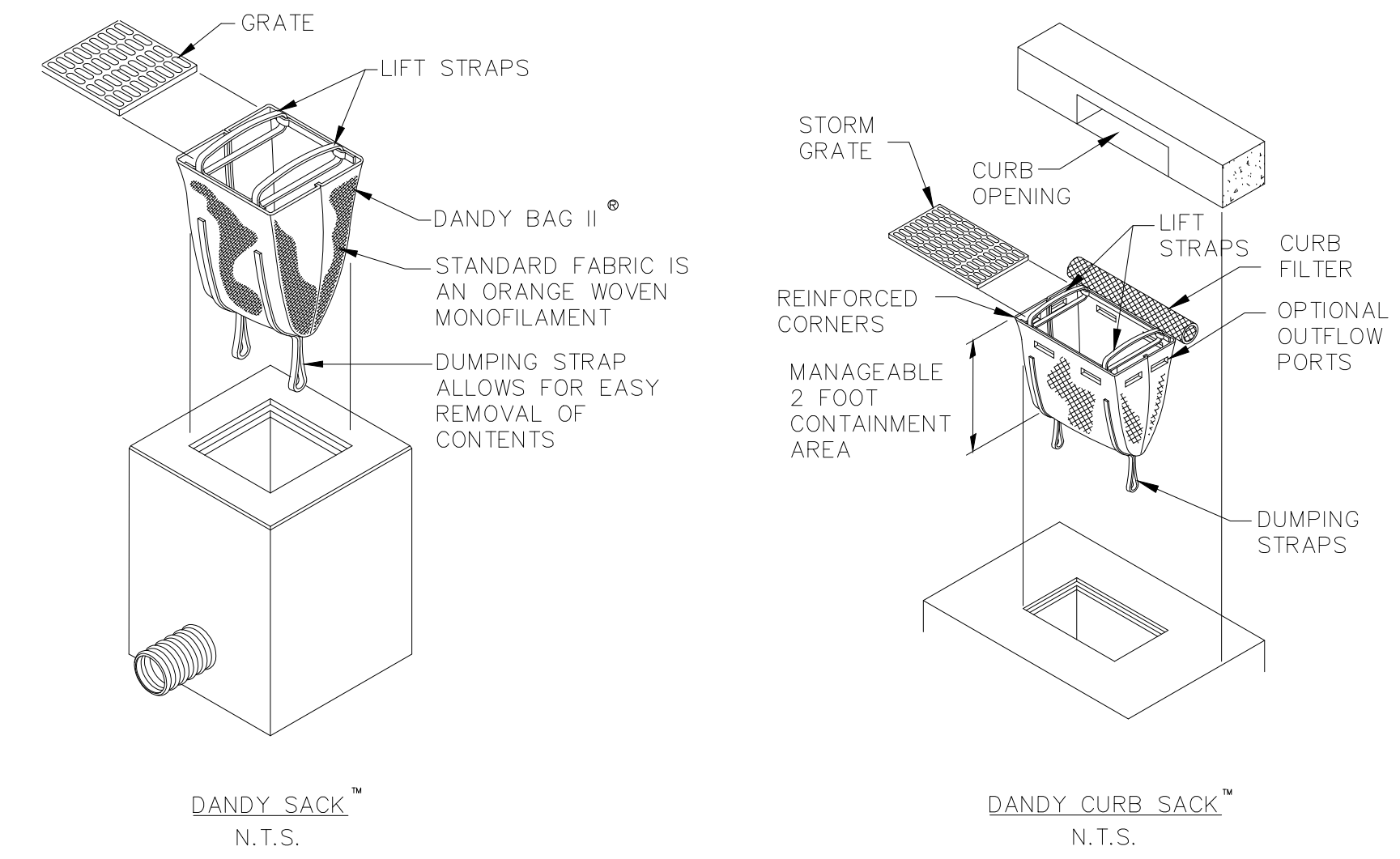
NOTE: WALK TO BE DIVIDED INTO EQUALLY SPACED BLOCKS AT APPROXIMATELY 8' INTERVALS. EXPANSION JOINT FILLER 1/2" THICK SHALL BE INSTALLED BETWEEN WALK AND ANY FIXED STRUCTURE EXTENDING FOR THE FULL DEPTH OF THE SIDEWALK. THE EXPANSION JOINT FILLER SHALL BE 1" THICK WHERE WALK IS INSTALLED AGAINST BACK OF CURB.



ACCESSIBLE PARKING SIGN
SCALE: N.T.S.



PRECAST CONCRETE WHEEL STOP
SCALE: N.T.S.



NOTE: CONTRACTOR MAY SPECIFY AN ALTERNATE INLET PROTECTION BMP. CONTRACTOR MUST OBTAIN ENGINEERING APPROVAL PRIOR TO IMPLEMENTATION.

DANDY BAG II[®] INSTALLATION AND MAINTENANCE GUIDELINES

INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN UNIT. STAND THE GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO THE DANDY BAG IF SO THAT THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE DANDY BAG IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT. THE UNIT MUST BE EMPTIED. TO EMPTY UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL OIL ABSORBENTS; REPLACE ABSORBENT WHEN NEAR SATURATION.

NOTE: DANDY PROVIDES PROTECTION FOR ALL TYPES OF INLETS. REFER TO THE DANDY WEBSITE (WWW.DANDYPRODUCTS.COM) FOR ORDERING AND ADDITIONAL INFORMATION.

INLET PROTECTION DETAIL

SCALE: N.T.S.

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DESCRIPTION	HNTB PRELIMINARY SITE PLAN SUBMITTAL TO TOWNSHIP			
	BY	DATE	NO.	
NO.	1			
	535 GRISWOLD STREET SUITE 1100 DETROIT, MI 48226 TEL: (313) 961-3300		TBD	TBD
PROJECT DATE:	7/17/20	ASD	DLL	
PROJECT NO.:	71770	ASD	DLL	
DRAWN BY:				
CHECKED BY:				
HNTB				
PREPARED FOR: American Center for Mobility CONNECTED. AUTOMATED. VALIDATED.				
ACM CAMPUS EVENT CENTER SITE DESIGN WILLOW RUN AIRPORT YPSILANTI TWP., MICHIGAN				
STANDARD DETAILS				
SITE 5.0				

OLD BUSINESS

A. NONE

NEW BUSINESS

A. NONE

PROPOSED ORDINANCE 2020-XYZ***An Ordinance Amending the Zoning Code of the Charter Township of Ypsilanti***

The Charter Township of Ypsilanti hereby ordains that the Ypsilanti Township Zoning Code, adopted May 18, 1994, shall be amended as follows:

SECTION 1. AMENDMENT TO TOWNSHIP ZONING ORDINANCE ARTICLE II: Township Zoning Ordinance Article II, “Definitions” by amending Section 201 “Definitions”, as follows:

House of Worship: A site used for or intended for the regular assembly of persons for the conducting of religious services and accessory uses therewith.

SECTION 2. AMENDMENT TO TOWNSHIP ZONING ORDINANCE ARTICLE III: Township Zoning Ordinance Article III, “Zoning Districts and Map” by amending Section 306 “Schedule of Uses”, sub-section 3, table “Residential Districts Use Table”, as follows:

Residential Districts Use Table	R-1 to R-5	RM-1 and RM-2	RM-3 and RM-4	RM-5	MHP	Notes
P= Permitted Use S=Special Conditional Use A= Accessory Use -- = Not permitted						
House of Worship	S	P	P	-	P	Access must comply with regulations in section 2118 .
Publicly owned and operated libraries	P S	P	P	-	P	
Public, parochial and other private elementary schools offering courses in general education, and not operated for profit.	P S	-	-	-	-	
Public, parochial and private intermediate and/or secondary schools offering courses in general education, not operated for profit.	S	P	P	-	-	Access must comply with regulations in section 2118 .
Publicly owned and operated recreational facilities	P S	p	P	-	P	Subject to conditions in section 1805
Institutional or community recreation centers and nonprofit swimming pool clubs	P S	P	P	P	P	

~~Text~~ is proposed for deletion

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SECTION 3. AMENDMENT TO TOWNSHIP ZONING ORDINANCE ARTICLE III: Township Zoning Ordinance Article III, “Zoning Districts and Map” by amending Section 306 “Schedule of Uses”, sub-section 6, table “Industrial Use”, as follows:

Industrial Districts Use Table	IRO	I-1	I-2	I-3	I-C	Notes
P= Permitted Use S=Special Conditional Use A= Accessory Use -- = Not permitted						
House of Worship	S	-	-	-	-	

SECTION 4. AMENDMENT TO TOWNSHIP ZONING ORDINANCE ARTICLE XXI: Township Zoning Ordinance Article XXI, “General Provisions” by amending Section 2104 “Parking Requirements”, to change the following term:

USE		Number of Minimum Parking Spaces Per Unit of Measure	
b.	<i>Institutional</i>		
	(1)	Churches and Temples - Places of Worship	One for each three seats or six feet of pews in the main unit of worship

SECTION 5. AMENDMENT TO TOWNSHIP ZONING ORDINANCE ARTICLE XXI: Township Zoning Ordinance Article XXI, “General Provisions” by amending Section 2118 “Access to Major Thoroughfares or Collector Streets”, to remove as follows:

~~For uses making reference to this section 2118, vehicular access shall be provided only to an existing or planned major thoroughfare, freeway service drive, or collector street. Provided, however, that access driveways may be permitted to other than a major thoroughfare, freeway service drive, or collector street where such access is provided to a street where the property directly across the street from such driveway and the major thoroughfare, freeway service drive, or collector street is zoned for multiple family use or any collector street is zoned for multiple family use or any nonresidential uses, is developed with permanent uses other than single family residences or is an area which, in the opinion of the planning commission, will be used for other than single family purposes in the future. This exception shall only apply if the planning commission finds that there are special circumstances which indicate that there will be a substantial improvement in traffic safety by reducing the number of driveways to a thoroughfare.~~

SECTION 6. AMENDMENT TO TOWNSHIP ZONING ORDINANCE ARTICLE XVIII:

Township Zoning Ordinance Article XVIII, “Specific Use Provisions” by amending Section 1805 “Institutional or community recreation centers and nonprofit swimming pool clubs”, to amend as follows:

Institutional or community recreation centers and nonprofit swimming pool clubs, all subject to the following conditions:

~~Text~~ is proposed for deletion

Text is proposed to be addedPage 2

- ~~a. The site shall have at least one property line abutting a major thoroughfare as designated on the major thoroughfare plan, and the site shall be so planned as to provide all access in accordance with section 2118.~~
- a.** Front, side and rear yards shall be at least 80 feet wide, and shall be landscaped in trees, shrubs, and grass. All such landscaping shall be maintained in a healthy condition. There shall be no parking or structures permitted in these yards, except required entrance drives and those walls used to obscure the use from abutting residential districts.
- b.** Off-street parking shall be provided so as to accommodate not less than one-half of the member families and/or individual members. The planning commission may modify the off-street parking requirements in those instances wherein it is specifically determined that the users will originate from the immediately adjacent areas, and will therefore be pedestrian. Prior to the issuance of a building permit or zoning compliance permit, bylaws of the organization shall be provided in order to establish the membership involved for computing the off-street parking requirements. In those cases wherein the proposed use or organization does not have bylaws or formal membership, the off-street parking requirement shall be determined by the planning commission on the basis of usage.
- c.** Whenever a swimming pool is constructed under this ordinance, said pool area shall be provided with a protective fence, six feet in height, and entry shall be provided by means of a controlled gate.

SECTION 7. AMENDMENT TO TOWNSHIP ZONING ORDINANCE ARTICLE XVIII:

Township Zoning Ordinance Article XVIII, "Specific Use Provisions" by amending Section 1806 "Golf Courses", to amend as follows:

Golf courses, which may or may not be operated for profit, subject to the following conditions:

- ~~a. The site shall be so planned as to provide all access in accordance with section 2118.~~
- a.** The site plan shall be laid out to achieve a relationship between the major thoroughfare and any proposed service roads, entrances, driveways, and parking areas which will encourage pedestrian and vehicular traffic safety.
- b.** In residential zoning districts where golf courses are allowed (R-1 to R-5, RM-1 to RM-4), development features including the principal and accessory buildings and structures shall be so located and related as to minimize the possibilities of any adverse effects upon adjacent property. All principal or accessory buildings shall be not less than 200 feet from any property line abutting residentially zoned lands; provided that where topographic conditions are such that buildings would be screened from view, the planning commission may modify this requirement.
- c.** Whenever a swimming pool is to be provided, said pool shall be provided with a protective fence, six feet in height, and entry shall be provided by means of a controlled gate.

SECTION 8. AMENDMENT TO TOWNSHIP ZONING ORDINANCE ARTICLE XVIII:

Township Zoning Ordinance Article XVIII, "Specific Use Provisions" by amending Section 1807 "Colleges and universities", to amend as follows:

Colleges, universities and other such institutions of higher learning, public and private, offering courses in general, technical, or religious education and not operated for profit, all subject to the following conditions:

- a. Any use permitted herein shall be developed only on sites of at least 40 acres in area, and shall not be permitted on any portion of a recorded subdivision plat.
- ~~b. All access to said site shall be in accordance with section 2118.~~
- b.** No building shall be closer than 80 feet to any property line.

SECTION 9. AMENDMENT TO TOWNSHIP ZONING ORDINANCE ARTICLE XVIII:

Township Zoning Ordinance Article XVIII, "Specific Use Provisions" by amending Section 1822 "Restaurants", to amend as follows:

- a. In the OS-1 and B-1 zoning districts, restaurants must meet the following conditions:
 - 1) Service is wholly within the building and no drive-in facilities are provided.
 - 2) When adjacent to a residential zoning district boundary, the building shall have a minimum setback of 20 feet from the residential zoning district boundary.
 - 3) Parking areas shall be screened from adjacent residential areas in accord with section 2108 and such screening walls shall be constructed of finished materials in harmony with the residential character of abutting residential zones.
 - 4) Outdoor lighting, of a type and location which will not be a nuisance to abutting residential districts, shall be provided. The type of lighting and the location of such lighting shall be included on the plan for review by the planning commission.
 - 5) All access to the site shall be ~~in accordance with section 2118.~~ **from an existing or planned major or minor thoroughfare, or from a collector street.**

SECTION 10. SEVERABILITY. In the event that any one or more sections, provisions, phrases or words of this ordinance shall be found to be invalid by a Court of competent jurisdiction, such holding shall not affect the validity nor the enforceability of the remaining sections, provisions, phrases or words of this Ordinance unless expressly so determined by a Court of competent jurisdiction.

SECTION 11. PUBLICATION. This ordinance shall be published in a newspaper of general circulation as required by law.

SECTION 12. EFFECTIVE DATE: This ordinance shall become effective upon publication in a newspaper of general circulation as required by law.

SECTION 13. REPEAL: All Ordinances or parts of Ordinances in conflict herewith are hereby repealed.

OPEN DISCUSSION

A. NONE

PLANNING DEPARTMENT

REPORT

TOWNSHIP BOARD REPRESENTATIVE REPORT

THERE IS NO WRITTEN REPORT

TOWNSHIP ATTORNEY REPORT

THERE IS NO WRITTEN REPORT

ZONING BOARD OF APPEALS REPRESENTATIVE REPORT

THERE IS NO WRITTEN REPORT

OTHER BUSINESS

1. Any other business that may come before the Planning Commission