

Trustees
John Newman II
Gloria Peterson
Debbie Swanson
Ryan Hunter

REGULAR MEETING AGENDA

Tuesday, October 08, 2024 6:30 P.M.

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

- 1. CALL TO ORDER
- 2. ROLL CALL
- 3. APPROVAL OF THE AUGUST 27, 2024, & SEPTEMBER 10, 2024, REGULAR MEETING MINUTES
- 4. APPROVAL OF AGENDA
- 5. PUBLIC HEARINGS
- 6. OLD BUSINESS
- 7. NEW BUSINESS
 - A. SPECIAL LAND USE SHEETZ 755 S. HEWITT ROAD, 2103 AND 2059 W. MICHIGAN AVENUE PARCEL K-11-18-100-019, K-11-39-350-023, AND K-11-39-350-022 TO CONSIDER THE SPECIAL CONDITIONAL USE PERMIT APPLICATION OF SKILKEN GOLD TO PERMIT THE CONSTRUCTION OF A 6,139 SQ. FT. GAS STATION / CONVIENENCE STORE WITH 8 GAS PUMPS FOR A 7.36-ACRE SITE ZONED RC, REGIONAL CORRIDOR WITH A SITE TYPE C DESIGNATION.
 - B. PRELIMINARY SITE PLAN SHEETZ 755 S. HEWITT ROAD, 2103 AND 2059 W. MICHIGAN AVENUE PARCEL K-11-18-100-019, K-11-39-350-023, AND K-11-39-350-022 TO CONSIDER THE PRELIMINARY SITE PLAN APPLICATION OF SKILKEN GOLD TO PERMIT THE CONSTRUCTION OF A 6,139 SQ. FT. GAS STATION / CONVIENENCE STORE WITH 8 GAS PUMPS FOR A 7.36-ACRE SITE ZONED RC, REGIONAL CORRIDOR WITH A SITE TYPE C DESIGNATION.
- 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

CHARTER TOWNSHIP OF YPSILANTI PLANNING COMMISSION MEETING

Tuesday, August 27, 2024 6:30 pm

COMMISSIONERS PRESENT

Bill Sinkule Elizabeth El-Assadi Gloria Peterson Larry Doe Caleb Copeland

STAFF AND CONSULTANTS

Fletcher Reyher, Planning and Development Coordinator Sally Elmiger - Carlisle Wortman Dennis McLain – Township Attorney

• CALL TO ORDER/ESTABLISH QUORUM

MOTION: Mr. Sinkule called the meeting to order at 6:30 pm.

• APPROVAL OF JULY 23, 2024, REGULAR MEETING MINUTES

MOTION: Mr. Doe **MOVED** to approve the July 23, 2024, regular meeting minutes. The **MOTION** was **SECONDED** by Ms. El-Assadi and **PASSED** by unanimous consent.

• APPROVAL OF AGENDA

MOTION: Ms. Peterson **MOVED** to approve the agenda. The **MOTION** was **SECONDED** by Mr. Doe and **PASSED** by unanimous consent.

• PUBLIC HEARINGS

None to Report.

• OLD BUSINESS

None to Report.

NEW BUSINESS

PRELIMINARY SITE PLAN – FROST MUSIC VENUE – 2525 STATE STREET – PARCEL K-11-13-255-004 & 1430 WATSON STREET – PARCEL K-11-13-255-006 – TO CONSIDER THE PRELIMINARY SITE PLAN APPLICATION OF BLOOM GENERAL CONTRACTING, INC. FOR THE CONSTRUCTION OF A 4,300 SQ. FT. MARIHUANA CONSUMPTION LOUNGE, 1,260 SQ. FT. STORAGE BUILDING, AND OUTDOOR AMPITHEATER FOR A 3.6-ACRE SITE ZONED I-C, INDUSTRIAL AND COMMERCIAL.

Mr. Fletcher Reyher, Planning and Development Coordinator, presented to the Commission a Preliminary Site Plan for the proposed Frost Music Venue. The applicant (Michael Ludtke: Bloom General Contracting Inc) has proposed a 4,300 sq. Ft marihuana consumption lounge, 1,260 sq. ft. storage building, and outdoor amphitheater. The proposed project is affiliated with an existing development to the north: Frost Dispensary & Cultivation Center approved by the Planning Commission (2024).

The Dispensary and Cultivation Center takes up the northern portion of the properties that Michael Ludtke owns. The 3.87-acre site is located on the north side of State Street, between Wiard Road and Watson Street. The site is zoned I-C Industrial and Commercial, where the intent is to revitalize the area and provide employment opportunities with a focus on high-tech industrial and manufacturing, distribution, and marihuana uses. Marihuana is permitted to be used in the I-C, Industrial and Commercial Zoning District.

The Charter Township of Ypsilanti 2040 Master Plan designates this site as Innovation and Employment District that would provide major employment for the township. The areas will be dominated by advanced companies which are at the cutting edge of innovation with a combination technology, office, craft manufacturing or light industrial uses.

Mr. Fletcher Reyher presented an aerial view of the property; the northern site (highlighted) is where the dispensary and cultivation center was approved earlier and

the yellow shaded sites is where the amphitheater, consumption lounge and food truck area has been proposed.

Reviews of different departments:

- **OHM:** The Township Engineer recommended approval in their letter dated June 24, 2024. OHM provided preliminary detailed engineering comments that will be addressed at the Final Site Plan.
- Ypsilanti Community Utilities Authority (YCUA): YCUA reviewing agent Scott
 Westover has recommended conditional approval in his letter dated June 26, 2024.
 Scott Westover and Bloom General Contracting have been working on the water
 main alignment.
- **Ypsilanti Township Fire Department:** YTFD Fire Marshall Steve Wallgren has recommended approval in a letter dated June 21, 2024
- Washtenaw County Water Resources Commission: Reviewing agent Theresa Marsik has recommended approval in a letter dated June 28, 2024.
- Washtenaw County Road Commission: WCRC Project Manager Gary Straight shared comments with the Planning Department on June 19, 2024. The TIS provided by the applicant has been approved.

Mr. Fletcher Reyher, Planning and Development Coordinator informed the Commission that Sally Elmiger (Planning Consultant - Carlisle Wortman) would provide the report from Carlisle Wortman.

Ms. Elmiger informed the Commission that the proposal states that the consumption building can accommodate 215 patrons; events in the amphitheater will be able to accommodate up to 649 patrons. The applicant (Michael Ludtke: Bloom General Contracting Inc) has stated in their written materials that they will limit the maximum capacity at the site to 649 patrons, the applicant would be able to provide additional details on how the indoor consumption lounge and the amphitheater work together.

Ms. Elmiger informed the Commission that site plan meets all the setback and height requirements for the district, and per the operational descriptions provided by the applicant, it also meets the marijuana supplemental regulations in Section 416 (5) of

the ordinance. It also complies with parking/ loading/ screening/ landscaping requirements, and with lighting (a requirement for light fixture cut sheets at final).

One of the main concerns is the potential impact of noise; music coming from the amphitheater that would impact the West Willow neighborhood to the west. The applicant has provided a sound study completed by K&S Engineering. The applicant has provided a sound study completed by K&S Engineering. A band shell is recommended. If band shell is proposed, the noise would be reduced to 40 dB(A) for the West Willow neighborhood.

Ms. Elmiger suggested that the applicant and Township engage in a Development Agreement which will allow the township to work with the applicant to place any conditions on the proposed use.

Items for Consideration:

- Events: Number of amphitheater use (monthly/ yearly); Number of larger events.
- Lighting: Number and use of portable lights (light levels generated by these portable lights will meet ordinance requirements at the property line and will be directed away from the West Willow neighborhood.
- Portable toilets: Number and use of portable toilets.
- Capacity: Cap maximum capacity.
- Limit hours of operation for amphitheater and outdoor use.
- Noise based on review by Stantec.

Ms. Elmiger informed the Commission that the grassy area north of the new consumption building would have a dual purpose; Used as an outdoor consumption area when there are no amphitheater events. And the second purpose will be for parking during amphitheater events.

Mr. Paul Tulikangas (Nowak & Fraus Engineers) addressed the temporary lighting that would be brought to the site and utilized for the larger events that would require the amphitheater. The photometric plan proposes 10 lights to be installed at strategic locations in the parking lot and the food truck area (4 in the food truck area and 6 at the temporary parking lot).

Commissioner Doe inquired if the lights could be positioned towards the east of the neighborhood; Mr. Paul Tulikangas stated that it could be positioned differently, and it has been incorporated into the photometric plan.

Mr. Paul Tulikangas informed the Commission of the licensing requirement for having food at a marijuana facility. It would be separated as part of the development. The key element for the site design was the 100-foot-wide Enbridge Nexus pipeline easement that runs diagonally through the site, which limits what can be constructed within that easement.

The paved parking area on the west side of the building would be essentially used for events (winter parking area for the consumer events that would be entering the consumption lounge). The applicant has fully designed the site from a stormwater perspective as per the Washtenaw County Drain Commission Standards (soil analysis and the design has been approved). The proposal for two additional entrances at Watson Street towards the food truck area.

Mr. Steve Bloink (Senior Architect/ Project Manager: Stucky Vitale Architects) informed the Commission of the plan on enclosing the sides of the band shell and not cause an obstruction of the view from the amphitheater.

Ms. Peterson shared her concern regarding the noise pollution towards the West Willow neighborhood and inquired if the installation for the extended wood panels would block the noise; Mr. Steve Bloink stated that it would minimize the noise spilling over.

Mr. Michael Ludtke (Applicant) shared with the Commission that the Frost Music Venue (Amphitheatre/ Cannabis Music Venue) would be the first of its kind in Michigan.

Ms. Peterson inquired if the lounge is separate from the theatre; Mr. Michael Ludtke stated that the two entities will not be competing against each other and will be operating separately. The indoor consumption lounge would be operating year-round, winter/summer and the amphitheater will be open during special events. It would have 649 patrons' capacity, and it won't compete with the 215-person capacity inside.

Ms. El-Assadi inquired about the number of concerts and during what part of the day they would be conducted; Mr. Michael Ludtke stated that the projection is to have three to four concerts during the week during the summer months. There will be one amphitheater event per week just to test the waters and it will be open a few days a week to the public with background entertainment. The hours of operation 12 pm - 10pm/ 5pm - 10 pm depending on whether the doors are open to the public or for a concert. Michigan law states that dispensaries for cannabis consumption are to be shut down by 9 pm. The indoor building will be year-round. The amphitheater will be booked, starting late April/ May through early September. There will be a security check at the Frost Parking Lot Entrance to ensure only Event ticket holders and staff have access to the parking area. The indoor consumption lounge will function together with the amphitheater. There are 2 garage doors on the eastern wall of the building that will be opened, allowing people to flow in and out of the building from the amphitheater at will. Marijuana use is permitted outdoors inside the 8-foot non visibility fencing. The only exception is the food truck area, which has its own 8ft fence. Marijuana can be possessed in this area, but consumption must wait until reentering the main venue space. There will be 10 portapoties onsite.

Commission inquired if the area would be a gun free zone; Mr. Michael Ludtke stated that it would be a gun free zone location.

Mr. Copeland inquired where people are allowed to consume; Mr. Michael Ludtke stated that people can consume on the grass area; this would not be permitted when the grass area is converted to a parking lot in order to stop people from accidentally consuming and driving vehicles.

Ms. El-Assadi inquired about the enclosures for the trash area; Mr. Michael Ludtke stated that they have a dumpster enclosure towards the north.

Mr. Michael Ludtke informed the Commission that the sound study concludes that they wouldn't exceed 65 A-weighted decibels (dBA).

Ms. Peterson inquired about the smell and inhalation of marijuana; Mr. Fletcher stated the Township Zoning Ordinance in the state of Michigan has significant regulations for the internal consumption of marijuana. There's state of the art filtration systems inside the building that would constantly circulate the air and prevent any stagnation. Mr. Michael Ludtke informed the Commission that they follow cigarette guidelines,

and the facility should be a certain number of feet from public places; 30 feet back from the road.

MOTION: Ms. El-Assadi **MOVED** to approve the Preliminary Site Plan of Bloom General Contracting, Inc. to permit the construction of a 4,300 sq. ft. Marihuana consumption lounge, 1,260 sq. ft. storage building, outdoor amphitheater, and associated site upgrades for a 3.87-acre site zoned IC, Industrial and Commercial, located at 2525 State Street and 1430 Watson Street, Ypsilanti, MI 48198, Parcel K-11-13-255-004 & K-11-13-255-006, with the following conditions:

- The Applicant shall address all outstanding comments from reviewing agencies prior to Final Site Plan approval.
- The Applicant shall obtain all applicable internal and outside agency permits prior to construction.
- The Applicant shall enter into a Development Agreement with the Charter Township of Ypsilanti that will address items such as, but not limited to, large events, security conditions, lighting, portable toilets, capacity, hours of operation.
- The applicant shall work with the county sheriff for security.
- The applicant shall construct side walls on their amphitheater for noise and work also with the township development team and attorney on this agreement.
- Any other conditions based upon Planning Commission Discussion.

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

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

MOTION PASSED.

• OPEN DISCUSSIONS FOR ISSUES NOT ON AGENDA

• Correspondence Received

None to Report.

• Planning Commission members

None to Report.

• Members of the audience

None to Report.

• TOWNSHIP BOARD REPRESENTATIVE REPORT

Ms. Peterson informed the Commission that Debbie Dingell is hosting a meeting on August 28,2024.

• ZONING BOARD OF APPEALS REPRESENTATIVE REPORT

Ms. El-Assadi informed the Commission that Skilken Gold (Sheetz) had three items for consideration: setback variance, parking lot variance and the transparency variance. The setback and the parking lot were approved. The transparency was postponed. Skilken Gold will have to present higher levels for discussion.

• TOWNSHIP ATTORNEY REPORT

None to Report.

• PLANNING DEPARTMENT REPORT

Mr. Fletcher informed the Board that Roadhouse has hired their CFO, the place is open with operations in place.

• OTHER BUSINESS

None to Report.

MOTION: Mr. Doe **MOVED** to adjourn at 7:23 pm. The **MOTION** was **SECONDED** by Ms. El-Assadi and **PASSED** by unanimous consent.

Respectively Submitted by Minutes Services.

CHARTER TOWNSHIP OF YPSILANTI PLANNING COMMISSION MEETING

Tuesday, September 10, 2024 6:30 pm

COMMISSIONERS PRESENT

Elizabeth El-Assadi Gloria Peterson Larry Doe Daryl Kirby Caleb Copeland Bianca Tyson

STAFF AND CONSULTANTS

Fletcher Reyher, Planning and Development Coordinator Sally Elmiger - Carlisle Wortman Dennis McLain – Township Attorney

• <u>CALL TO ORDER/ESTABLISH QUORUM</u>

MOTION: Ms. El-Assadi called the meeting to order at 6:31 pm.

APPROVAL OF AUGUST 27, 2024, REGULAR MEETING MINUTES

The minutes for the August 27, 2024, meeting is still in preparation. It will be included in the next Planning Commission packet for your review and approval

• <u>APPROVAL OF AGENDA</u>

MOTION: Ms. Peterson **MOVED** to approve the agenda. The **MOTION** was **SECONDED** by Mr. Doe and **PASSED** by unanimous consent.

• PUBLIC HEARINGS

SITE TYPE CHANGE – WHITE WATER CAR WASH – 2675 WASHTENAW AVENUE – PARCEL K-11-06-304-004 – TO CONSIDER A SITE TYPE CHANGE FROM "A" TO "C" WITHIN THE RC, REGIONAL CORRIDOR ZONING CLASSIFICATION.

Mr. Fletcher Reyher, Planning and Development Coordinator, presented to the Commission the Preliminary Site Plan, Special Land Use Application and a site type change request from the applicant (White-Water representative, EROP, LLC). The subject site is zoned RC, Regional Corridor with a Site Type A Designation. The applicant is seeking a change in site types from A to C to allow for a car wash with a special land use approval.

The proposed 6,820 sq. Ft. Is for a Tunnel car wash with two pay stations and 18 vacuum stations / parking spaces. The parking lot will also offer five (5) employee parking spaces.

The applicant attended the September 4, 2024, Zoning Board of Appeals meeting to seek a variance for the transparency requirements on the Washtenaw Avenue facade of the building. The ZBA postponed that request, and the applicant has decided to adhere to the transparency requirements that provided new renderings and plans.

A Public Hearing to consider the Special Land Use application was conducted on July 23, 2024; the applicant needed to seek a variance and a motion to approve the preliminary site plan. The Special land use applications were postponed. The applicant has revised their plans to reflect some comments addressed by the planning consultant, Sally Elmiger (Carlisle Wortman), as well as the Planning Commissioners.

Recommendations made by Carlisle Wortman:

• Add 13 more shrubs to plans along Boston Ave. frontage; or Planning Commission to consider waiving/modifying this standard due to site constraints: Stonefield has added 13 additional shrubs along Boston Avenue to the landscaping plan.

- Carlisle Wortman recommended that the applicant replace a tree at the rear of the property with a native species; Stonefield has completed the request.
- The applicant did confirm that there's going to be a 36-inch knee wall that's opaque added to the final site plan as recommended by Carlisle Wortman.

Reviews of different departments:

- OHM: The comments remain the same as their last letter dated June 25, 2024.
- Ypsilanti Community Utilities Authority (YCUA): YCUA will have an approval letter at the stage of review.
- **Ypsilanti Township Fire Department**: YTFD will have an approval letter at the stage of review.
- Washtenaw County Water Resources Commission: 22 comments proposed. These comments will be addressed during the final site plan and detailed engineering phase.
- Washtenaw County Road Commission: Will have an approval letter at the stage of review.

Sally Elmiger (Planning Consultant - Carlisle Wortman) informed the Commission on the request for a change in site types from A to C. The form-based codes have a regulating plan, and the regulating plan identifies the site type as A, B, C or D, and that site type is based typically on the size of the property.

The regulating plan for this site has considered the northern half of the property, (half an acre). The entire parcel is an acre and a half, and that is more in line with a site type C designation. Site type C designation would allow the applicant to install a car wash if it is approved as a special land use.

The Planning Commission must consider the five criteria's when considering the request: Ms. Elmiger informed the Commission that she has stated her opinion in the review letter.

a. The applicant's property cannot be used for the purpose permitted in the form-based district (In this case, Regional Corridor): Carlisle Wortman can't confirm that all of the permitted uses allowed on Site Type A are

unfeasible on the subject site, the frontage on Washtenaw Ave. makes a vehicleoriented commercial use logical. The relatively small lot size and frontage along Washtenaw Ave. makes it unlikely that a residential use would occupy this site.

- b. Area has been added to or deleted from the subject property in question, requiring the modification: The Regulating Plan only identifies the small portion of this site along Washtenaw Ave. as a Site Type "A." The remaining portion (to the south) is not designated any site type on the Regulating Plan. The proposed project site is 1.55 acres in size, which is consistent with the size range in Site Type C.
- c. The proposed modification and resulting development will not alter the essential character of the area: The corridor is under a form-based code, which is relatively new. The properties that were developed to the east and west of this site were developed under previous zoning requirements and do not reflect the new vision for this Washtenaw Avenue corridor, which is much more pedestrian friendly. The Form Based Code design standards bring buildings closer to the road and sidewalk and eliminate parking in front to give more emphasis to pedestrian facilities and comfort. This layout of this site will alter the existing character of the area, but in a positive way by helping to establish the character envisioned by the Form Based Code.
- d. The proposed modification meets the intent of the district: The intent of the Regional Corridor District is described as follows: Regional Mixed-Use Corridors areas are located along the busiest corridors, which supports a high volume of both local and regional traffic. This area may include large national chains, regional retailers, and auto oriented users that draw customers both regionally and locally. This site is located along one of the larger corridors in the Township. The vehicle wash is an auto oriented use that would draw both local and regional customers.
- e. Existing streets have been improved and/or new streets constructed that may result in the modification of a specific site type: As part of this project, Boston Ave. will be improved. Any improvements to this road will be made to the Road Commission's standards.
- f. Modification to the Regulating Plan is in conformance to the Master Plan and Placemaking Plan: The Master Plan states Regional Mixed-Use Corridors

areas are located along the busiest corridors, which supports a high volume of both local and regional traffic. This area may include large national chains, regional retailers, and auto oriented users that draw customers both regionally and locally. The Master Plan language is very similar to the intent of the zoning district language. Ms. Elmiger stated that the proposal meets the criteria for a modification in the regulating plan from site type A to site type C.

Erin McMachen (Stonefield Engineering and Design) shared with the Commission that the site was previously used as a put-put golf course (40 years), the proposed car wash will require demolition of the entire site, just except for the south end of the site; 25 feet there that's going to remain completely undisturbed. Ms. McMachen shared pictures with the Commission on vegetation/ evergreens.

A 26-foot grade change was made with the north lawn being on the low side and Washtenaw being the high side. The engineering team has looked at the existing grades, the proposed grades and the light pole heights; the existing light pole is at 800 feet elevation. And the proposed pole, which is another 40 feet into the car wash site, resulting at 75 feet from the property line.

Proposal to install six (6) single-luminaire pole-mounted fixtures, and one, double luminaire pole-mounted fixture as site lighting. The building will be illuminated with two types of building mounted fixtures. There is a zero-foot candle level at the property. The existing pole is about 200 feet from the property line; far north end of the rear parking lot, there is an elevation of 820 and the tallest pole would be at 818. There would be a masonry enclosure that would house the motor and the producer; the enclosure would dampen the sounds. A noise meter has been installed in the enclosure; the highest noise level would be at 88 decibels. The applicant has proposed to repave Boston Avenue which is shared by about eight parcels. The applicant is proposing two curb cuts on Boston Ave, for full movement. The northernmost curb cut will be used for the customer entrance, who will proceed to one of the two pay stations. A lot of White-Water customers are monthly members; one lane will be dedicated to those monthly members. The other lane will be available to both monthly members and one-time customers. The rendering of a second overhead door after the awning to serve the purpose for a bypass lane that can be utilized if someone forgets their wallet or doesn't want to proceed through the tunnel, there is option to bypass the wash lane. There are 18 vacuums spaces; mat washing station; detailing carts all available and free for customers.

The concern with bringing the windows down to grade was the lawn mower perhaps chipping a window. The engineering team has brought the windows down to grade, over the 50% transparency requirement and the windows were made wider.

Mr. Kirby inquired about the water source and the effect on the residents; Ms. McMachen stated that some of the water lines are old, and they are being upgraded. There weren't any concerns about service availability from the utilities department. A flow testing will be obtained during the final site plan to ensure that they have adequate pressure to service the car wash.

Ms. Peterson inquired about the plan in case of a spillover from the lanes and the effect on Washtenaw Avenue; Ms. McMachen stated that she doesn't see that happening due to the availability on Boston Avenue. The two stacking lanes provide adequate stacking for the tenant and the ordinance requirements, and one lane being dedicated to monthly members (80% of the customers are monthly members), allowing them to speed right through the lane without having to input any payment into the pay station.

Ms. Erin McMachen stated the operations are from 7:30 am until 8:00 pm (Lighting will be turned off an hour after closing hours at 9 pm).

PUBLIC HEARING OPENED AT 7:05 PM

- Nathan Frick, residing at 2635 North Lawn Avenue stated that the light poles are outdated (LED lights) and the concern of high beams that would hit his house. The sound from 18 vacuum stations is a concern during the evenings, since he has two small children. The other concern is the water pressure to homes once the car wash is in operation. The traffic that can take place on Washtenaw if there is a delay in the car wash.
- Diane Peters, residing at 491 Boston Street stated her concern for her access to Washtenaw Avenue, if they make changes to Boston Avenue. Another concern is the noise spill over; and the recommendation of a wall that would be a sound barrier.
- Matt Hanson residing at 2644 East lawn shared his concern about the exhaust fumes that are going to drift down the hill from the car wash into the neighborhood creating air pollution. The other concerns were the sound/ light pollution from vacuum stations and stereos.

Kate Bruno, residing at 2645 North Lawn Avenue stated that she opposes the motion of rezoning the lot at 2675 Washtenaw Avenue, from site A to site type C and that the current zoning is appropriate, and should not be changed. Site zone type A are to consider the frontage and the back of the property in order to maintain the compatibility within the adjacent residential properties. Site C makes no mention of how the property sits in relation to residential neighborhoods. Switching the zoning would allow the car wash company to use the land in ways that will not maintain compatibility with the neighborhood. The mission of the master plan is to proactively preserve and build great neighborhoods, jobs and community places, making Ypsilanti township one of the healthiest communities in Michigan. The seven main goals of this plan that this zone change, and car wash will violate; reinvesting in neighborhoods; making neighborhoods beautiful; increasing health and safety of our community; fostering housing stability and promoting reinvestment in traditional neighborhoods. On the master plan, there's a future land use map, the neighborhood is specifically noted as a neighborhood preservation area. If the plan to change zoning is allowed the car wash would bring a constant flow of traffic into the front yards regardless of any requirements posed on this business to block sound and sight from their equipment, it will be impossible to prevent noise from their customers honking, playing loud music, revving engines. There is a significant increase in air pollution due to cars airborne soaps and chemicals, as well as litter blowing into the neighborhood from the cars that are being cleaned out. The traffic from this type of business constantly coming and going will create increased risks for drivers in an already congested and dangerous stretch of road. Tapping into the water mains will cause issues to the neighborhood. The car wash is a very automated business and will not create ample jobs for our citizens. A car wash is not a daily need for our residents. The median income of our community is approximately \$54,600; the community does not have ample income to pay for unnecessary luxuries. The zoning requirements were modified to meet the standards of the mission in the master plan. The Planning Commission can decide whether to honor the master plan for the community and maintain the integrity of Zone A to benefit the residents of our community or change the zoning in order to benefit state corporation. The community consists of teachers, nurses, dental hygienists, social workers, who serve the community on a daily basis. Ms. Bruno requested the Planning Commission to consider the saving of the neighborhood and not change the zoning for the proposed site.

• Peter Bruno, residing at 2645 North Lawn Avenue shared his concern on the water line and the effect on the water pressure and the possibility of runoffs due to the historic flooding in the area.

PUBLIC HEARING ENDED AT 7:30 PM

Ms. Peterson inquired about Washtenaw County Water Resources Commission addressing comments at the final site plan; Mr. Fletcher stated that one of the conditions that was suggested for the preliminary site plan is for the applicant to address all outstanding comments from every reviewing agency prior to final approval. The presented plan sets are really focused on the site layout; function, landscaping, elevations, lighting and sound. The detailed engineering parts get addressed at the second phase of review, which is called final site plan and detailed engineering. If the current plan gets approved, the applicant will have to file a second application for the final site plan and detailed engineering. The applicant will have to pay a separate review fee, and it will be reviewed by the Road Commission, Ypsilanti Community, Utility authority, Planning Department, Fire Department, Washtenaw County Water Resources Commission and the Township Engineer. The final site plan for this type of project would be approved administratively. It will not be returned to the Board for further consideration.

Ms. Elmiger shared with the Commission that there is one Zoning Ordinance provision (Article 13); site design standards, and screening between land uses. The applicant is proposing a landscape screen of a certain depth and number of trees. The ordinance requires a solid wall or fence where a land use activity creates noise, light, dust or other similar nuisance that cannot be effectively screened by a landscape buffer. The Planning Commission may approve the installation of a solid wall or fence. Such wall or fence shall be a minimum of four feet and a maximum of eight feet in height, as measured on the side of the proposed wall. having the higher grade. A required wall shall be located on the lot line, except alternate locations may be approved. The lot line is a lot closer to the road than where they're proposing their vegetated screen (This is to be discussed with the applicant). This will be reviewed at the final engineering stage, making sure it works with the grading and storm water detention basin.

Ms. Elmiger recommended that the Planning Commission to consider adding to the motion; in case there is an occurrence of disturbance (light/sound) to the neighbors in the future.

MOTION: Ms. Kirby **MOVED** to approve the Site Type change from "A" to "C" at the property located at 2675 Washtenaw Avenue, Ypsilanti, MI 48197, Parcel K-11-06-304-004," as the proposal meets the criteria in Article 5, Form Based Districts, of the Zoning Ordinance. This approval only applies to the current development proposal associated with the request for a Site Type Change.

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

Roll Call Vote: Mr. Doe (Yes); Ms. Peterson (Yes); Mr. Kirby (Yes); Ms. El-Assadi (Yes); Mr. Copeland (No); Ms. Tyson (Yes).

MOTION PASSED.

OLD BUSINESS

None to Report.

NEW BUSINESS

a. SPECIAL LAND USE – WHITE WATER CAR WASH – 2675 WASHTENAW AVENUE – PARCEL K-11-06-304-004 – TO CONSIDER THE SPECIAL CONDITIONAL USE PERMIT APPLICATION OF EROP, LLC TO PERMIT THE CONSTRUCTION OF A 6,820 SQ. FT. CAR WASH FOR A 1.55-ACRE SITE ZONED RC, REGIONAL CORRIDOR, WITH A PROPOSED SITE TYPE C DESIGNATION.

Mr. Fletcher Reyher, Planning and Development Coordinator, suggested some possible conditions for the Planning Commissioners to consider when making their motion on the special law:

• The vacuums located on the site would be turned off by 8 pm when the applicant proposes the site to close.

- The decibel levels are to meet ordinance standards at property lines; Zoning ordinance requirement from 7:00 am to 7:00 pm is 65 decibels; 7:00 pm 7:00 am is 50 decibels.
- The Planning Commissioners consider whether or not to condition a new screening wall to the rear of the site; a four- to eight-foot-tall screening wall.
- The applicant has proposed 13 evergreen trees towards the rear of the property, as well as a natural green buffer at the North Lawn property line. The Planning Department does not want to impede any of the existing screening; the applicant would have to find a spot that would keep the existing screening and also allows the proposed planting of the evergreen trees.
- The applicant to work with Ypsilanti township to dedicate an easement for future right of way at Washtenaw Avenue (The MDOT is currently working towards redesigning Washtenaw Avenue; bus lanes/pedestrian amenities and extending sidewalks).

Commissioners Doe and Peterson shared their opinion that a masonry wall would help in sound reduction.

MOTION: Mr. Doe **MOVED** to approve the Special Land Use Permit submitted by EROP, LLC to permit the construction of a 6,820 sq. ft. tunnel carwash with two pay stations and 18 vacuum stations at the property located at 2675 Washtenaw Avenue, Ypsilanti, MI 48197, Parcel K-11-06-304-004, as the proposal meets the criteria in Article 10, Special Land Use with the following conditions:

- The applicant shall address all outstanding comments from reviewing agencies prior to Final Site Plan Approval.
- The applicant shall obtain all applicable internal and outside agency permits prior to construction.
- Any other conditions based upon Planning Commission discussion: The
 vacuums are to be off at 8 pm; the decibel levels to meet the standards of
 the ordinance of the township; to add a screening four-to-eight-foot
 masonry wall at the back and a traffic study.

The **MOTION** was **SECONDED** by Ms. Peterson.

Roll Call Vote: Mr. Doe (Yes); Ms. Peterson (Yes); Mr. Kirby (Yes); Ms. El-Assadi (Yes); Mr. Copeland (No); Ms. Tyson (Yes).

MOTION PASSED.

b. PRELIMINARY SITE PLAN – WHITE WATER CAR WASH – 2675 WASHTENAW AVENUE –PARCEL K-11-06-304-004 – TO CONSIDER THE PRELIMINARY SITE PLAN APPLICATION OF EROP, LLC TO PERMIT THE CONSTRUCTION OF A 6,820 SQ. FT. CAR WASH FOR A 1.55-ACRE SITE ZONED RC, REGIONAL CORRIDOR, WITH A PROPOSED SITE TYPE C DESIGNATION.

Mr. Fletcher Reyher, Planning and Development Coordinator informed the Commission that the applicant has met the conditions of the Township Zoning Ordinance for a project of this type. The applicant will address the added conditions made to the special land use motion during the final site plan process.

Commissioner Ms. El-Assadi inquired if the applicant is amenable to the request for a wall; Erin McMachen (Stonefield Engineering and Design) agreed to providing the wall; a location will need to be decided to provide a maximum screening and will not conflict with the stormwater infrastructure. The agreement to the meeting the decibels standards, the vacuums to be turned off at 8:00 pm and conducting of a traffic study.

MOTION: Ms. Peterson **MOVED** to approve the Preliminary Site Plan submitted by EROP, LLC to permit the construction of a 6,820 sq. ft. tunnel carwash with two pay stations and 18 vacuum stations at the property located at 2675 Washtenaw Avenue, Ypsilanti, MI 48197, Parcel K-11-06-304-004, with the following conditions:

- The applicant shall address all outstanding comments from reviewing agencies prior to Final Site Plan Approval.
- The applicant shall obtain all applicable internal and outside agency permits prior to construction.
- Any other conditions based upon Planning Commission discussion.

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

Roll Call Vote: Mr. Doe (Yes); Ms. Peterson (Yes); Mr. Kirby (Yes); Ms. El-Assadi (Yes); Mr. Copeland (No); Ms. Tyson (Yes).

MOTION PASSED.

• OPEN DISCUSSIONS FOR ISSUES NOT ON AGENDA

• Correspondence Received

Mr. Fletcher stated that the Planning commissioners have received an email from a North Lawn resident.

Sheetz would be coming back to the Zoning Board of Appeals seeking a transparency variance for their South UF facade, East Michigan facade, and east facade (September 18, 2024).

• Planning Commission members

None to Report

• Members of the audience

Kate Bruno residing at 2645, North Lawn Avenue shared her concern that the Planning Commission should have taken more into consideration the disturbance to the lives by allowing the car wash to be opened from 7:30am till 8pm every single day and the consideration of reducing of hours during the weekends.

Nathan Frick, residing at 2635 North Lawn Avenue stated that he was unhappy with the decision made by the Planning Commission.

TOWNSHIP BOARD REPRESENTATIVE REPORT

	None to Report
•	ZONING BOARD OF APPEALS REPRESENTATIVE REPORT
	None to Report
•	TOWNSHIP ATTORNEY REPORT
	None to Report
•	PLANNING DEPARTMENT REPORT
	None to Report
•	OTHER BUSINESS
	None to Report
•	ADJOURNMENT
•	
	MOTION: Ms. Peterson MOVED to adjourn at 7:56 pm. The MOTION was

Respectively Submitted by Minutes Services

PASSED by unanimous consent.

Planning Department Report

Project Nan	Project Name: Sheetz - Gas Station / Convenience Store					
Location:						
Date:	10-01-2024					
 ✓ Full Preliminary Site Plan Review # 2 Sketch Preliminary Site Plan Review # Administrative Preliminary Site Plan Review # ✓ Detailed Engineering/Final Site Plan Review # ✓ Special Use Permit Public Hearing 			Rezoning Tentative Preliminary Plat Final Preliminary Plat Final Plat Process Planned Development Stage I Planned Development Stage II			
Contact / Reviewer	Consultants, Departments, & Agencies	Approved	Approved with Conditions	Denied	N/A	See email/letter attached or comments below
Planning Department	Township Planning Department		\checkmark			See comments below
Carlisle/Wortman Associates	Planning Consultant		√			See letter dated 10-01-2024
OHM / Stantec	Engineering Consultant		\checkmark			See letter dated 06-26-2024
Steven Wallgren, Fire Marshal	Township Fire Department		\checkmark			See letter dated 06-18-2024
Dave Bellers, Building Official	Township Building Department					
Brian McCleery, Deputy Assessor	Township Assessing Department					
Scott Westover, Engineering Manager	Ypsilanti Community Utilities Authority		✓			See letter dated 06-25-2024
Gary Streight, Project Manager	Washtenaw County Road Commission				\checkmark	See email dated 06-27-2024
Theresa Marsik, Stormwater Engineer	Washtenaw County Water Resources Commission				\checkmark	See letter dated 07-02-2024
James Drury, Permit Agent	Michigan Department of Transportation				\checkmark	

Planning Department Recommended Action:

At this time, the Sheetz Gas Station / Convenience Store is eligible for Preliminary Site Plan and Special Land Use Consideration by the Planning Commission. This project is being placed on the Planning Commission Agenda for Tuesday, October 08, 2024 for Preliminary Site Plan and Special Land Use Consideration. It would be the Planning Department's recommendation that the Planning Commission grant Preliminary Site Plan and Special Land Use approval if the applicant addresses the remaining comments outlined in the report. The applicant was granted the following variances:

Article 5 – Sec. 503.4: Building Form Types: Request for variance to the building setback requirements along S. Hewitt Road, in form-based districts. Article 5 – Sec. 503.4: Building Form Types: Request for variance to the parking lot location requirements in form-based districts. Article 5 – Sec. 507.E: Transparency Requirements: Request for variances to the transparency requirements on W. Michigan Avenue., S. Hewitt Road, and East facades in form-based districts.



Trustees
John Newman II
Gloria Peterson
Debbie Swanson
Ryan Hunter

Staff Report Sheetz Gas Station / Convenience Store 755 S. Hewitt Road and 2103 and 2059 W. Michigan Avenue Preliminary Site and Special Land Use Application

October 08, 2024

Applicant: Skilken Gold

Project Name: Sheetz - Gas Station / Convenience Store

Plan Date: June 12, 2024

Location: 755 S. Hewitt Road and 2103 and 2059 W. Michigan Avenue, Ypsilanti, MI

48197, Parcel K-11-18-100-019, K-11-39-350-023, K-11-39-350-022

Zoning: RC, Regional Corridor with a Site Type C Designation

Action Requested: Preliminary Site Plan & Special Land Use Consideration

CASE LOCATION AND SUMMARY

The Office of Community Standards is in receipt of a Preliminary Site Plan and Special Land Use Application from Sheetz representative, Skilken Gold for a proposed 6,132 sq. ft. gas station / convenience store / restaurant, and eight (8) gas pumps for a total of sixteen (16) fueling positions at the southeast corner of W. Michigan Avenue and S. Hewitt Road. The site is made up of three (3) sperate parcels. The applicant is proposing to split off the southern portion of property to create a new parcel, which is not part of this development. A Public Hearing was conducted at the July 23, 2024, regularly scheduled Planning Commission Meeting.

The subject sites are zoned RC, Regional Corridor with a Site Type C Designation. The applicant is requesting that the Planning Commission consider their Special Land Use and Preliminary Site Plan application at this meeting.

On August 07, 2024, and September 18, 2024, the applicant attended a Zoning Board of Appeals meeting and was granted variances from the following Zoning Ordinances:

- Article 5 Sec. 503.4: Building Form Types: Request for variance to the building setback requirements along S. Hewitt Road, in form-based districts. (Approved by the ZBA on August 07, 2024)
- Article 5 Sec. 503.4: Building Form Types: Request for variance to the parking lot location requirements in form-based districts. (Approved by the ZBA on August 07, 2024)



Trustees John Newman II Gloria Peterson Debbie Swanson Ryan Hunter

 Article 5 – Sec. 507.E: Transparency Requirements: Request for variances to the transparency requirements on W. Michigan Avenue., S. Hewitt Road, and East facades in form-based districts. (Approved by the ZBA on September 18, 2024)

SUBJECT SITE USE, ZONING AND COMPREHENSIVE PLAN

The Charter Township of Ypsilanti 2040 Master Plan designates this site as Regional Mixed-Use Corridor. Regional Mixed-Use Corridors areas are located along the busiest corridors, which support a high volume of both local and regional traffic. This area may include large national chains, regional retailers, and auto oriented uses that draw customers both regionally and locally. Compared to Neighborhood Mixed-Use Corridors areas they are high intensity and feature the largest scale of commercial development.

755 S. Hewitt Road and 2103 and 2059 W. Michigan Avenue Aerial Photograph – 2023





Trustees
John Newman II
Gloria Peterson
Debbie Swanson
Ryan Hunter

ANALYSIS

The plans have been reviewed by Township Staff and Consultants in accordance with our procedures.

Planning Consultants (Carlisle/Wortman Associates):

Carlisle Wortman Associates, Inc. reviewed the Preliminary Site Plan and Special Land Use Application and has recommended multiple items to be discussed with the Planning Commission (Additional information located within Carlisle Wortman Report dated October 10, 2024):

- 1. Planning Commission to discuss how the amount of impervious surface on side complies with the steep slope standards.
- 2. Planning Commission and applicant to discuss shifting the gas-pump canopy to the west to allow easier turning movements for tanker trucks around canopy.
- 3. Planning Commission to evaluate that the proposed design with unattached canopy is more functional and aesthetically pleasing.
- 4. Planning Commission to consider allowing location of parking lot trees (number sufficient, but location not per ordinance).
- 5. Planning Commission to consider allowing 14 parking spaces in a row with the addition of the landscaped island on the east of this bay of spaces.
- 6. Planning Commission to consider the heavy landscapes screen and possible privacy fence vs. six-foot-tall screening wall along property line abutting residential district.
- 7. Applicant to describe necessity for proposed color temperature of lighting or modify temperature to comply with the ordinance.

Engineering Consultants (OHM):

The Township Engineer recommended approval in their letter dated June 26, 2024. OHM has provided preliminary detailed engineering comments that will be addressed at the time of Final Site Plan and Detailed Engineering.

Ypsilanti Community Utilities Authority (YCUA):

YCUA reviewing agent Scott Westover has recommended approval in his letter dated June 25, 2024.

Ypsilanti Township Fire Department (YTFD):

YTFD Fire Marshall Steve Wallgren has approval in a letter dated June 18, 2024.

Washtenaw County Water Resources Commission (WCWRC):



Trustees
John Newman II
Gloria Peterson
Debbie Swanson
Ryan Hunter

Reviewing agent Theresa Marsik has asked the applicant to address 11 items in a letter dated June 28, 2024. Stonefield Engineering will continue to work with the Washtenaw County Water Resources Commission until final approval is granted.

Washtenaw County Road Commission (WCRC):

WCRC Project Manager Gary Straight shared comments with the Planning Department on June 27, 2024.

SUGGESTED MOTIONS:

Special Land Use:

Motion to Postpone:

"I move to postpone the Special Land Use Permit submitted by Skilken Gold, to permit the construction of a 6,132 sq. ft. convenience store / gas station / restaurant building, and eight (8) gas pumps (for a total of sixteen fueling positions) at the properties located at 755 S. Hewitt Road and 2103 and 2059 W. Michigan Avenue, Ypsilanti, MI 48197, Parcel K-11-18-100-019, K-11-39-350-023, and K-11-39-350-022, to give the applicant time to address the comments made at this evening's meeting and resubmit, and/or provide additional information, as discussed tonight."

Motion to Approve:

"I move to approve the Special Land Use Permit submitted by Skilken Gold, to permit the construction of a 6,132 sq. ft. convenience store / gas station / restaurant building, and eight (8) gas pumps (for a total of sixteen fueling positions) at the properties located at 755 S. Hewitt Road and 2103 and 2059 W. Michigan Avenue, Ypsilanti, MI 48197, Parcel K-11-18-100-019, K-11-39-350-023, and K-11-39-350-022, as the proposal meets the criteria in Article 10, Special Land Use with the following conditions:

- 1. Approval is conditioned on the applicant revising all the sheets in the Final Site Plan submission to be consistent with the ZBA's approval regarding the patio location/related building elevation.
- 2. The applicant shall address all outstanding comments from reviewing agencies prior to Final Site Plan Approval. The applicant shall revise all plan sheets to reflect the results of this evening's discussion.
- 3. The applicant shall obtain all applicable internal and outside agency permits prior to construction.
- 4. The applicant shall implement the proposed lot split as shown on the plans.
- 5. Any other conditions based upon Planning Commission discussion.

Motion to Deny:



Trustees
John Newman II
Gloria Peterson
Debbie Swanson
Ryan Hunter

"I move to deny the Special Land Use Permit submitted by submitted by Skilken Gold, to permit the construction of a 6,132 sq. ft. convenience store / gas station / restaurant building, and eight (8) gas pumps (for a total of sixteen fueling positions) at the properties located at 755 S. Hewitt Road and 2103 and 2059 W. Michigan Avenue, Ypsilanti, MI 48197, Parcel K-11-18-100-019, K-11-39-350-023, and K-11-39-350-022, due to the following reasons:"

1	 	 	_
2			
3			_

Preliminary Site Plan:

Motion to Postpone:

"I move to postpone the request for Preliminary Site Plan approval, submitted by Skilken Gold, to permit the construction of a 6,132 sq. ft. convenience store / gas station / restaurant building, and eight (8) gas pumps (for a total of sixteen fueling positions) at the properties located at 755 S. Hewitt Road and 2103 and 2059 W. Michigan Avenue, Ypsilanti, MI 48197, Parcel K-11-18-100-019, K-11-39-350-023, and K-11-39-350-022, to give the applicant time to address the comments made at this evening's meeting and resubmit, and/or provide additional information, as discussed tonight."

Motion to Approve:

I move to approve the Preliminary Site Plan submitted by submitted by Skilken Gold, to permit the construction of a 6,132 sq. ft. convenience store / gas station / restaurant building, and eight (8) gas pumps (for a total of sixteen fueling positions) at the properties located at 755 S. Hewitt Road and 2103 and 2059 W. Michigan Avenue, Ypsilanti, MI 48197, Parcel K-11-18-100-019, K-11-39-350-023, and K-11-39-350-022, with the following conditions:

- 1. Approval is conditioned on the applicant revising all the sheets in the Final Site Plan submission to be consistent with the ZBA's approval regarding the patio location/related building elevation.
- 2. The applicant shall address all outstanding comments from reviewing agencies prior to Final Site Plan Approval. The applicant shall revise all plan sheets to reflect the results of this evening's discussion.
- 3. The applicant shall obtain all applicable internal and outside agency permits prior to construction.
- 4. The applicant shall implement the proposed lot split as shown on the plans.
- 5. Any other conditions based upon Planning Commission discussion.



Trustees
John Newman II
Gloria Peterson
Debbie Swanson
Ryan Hunter

Motion to Deny:

"I move to deny the request for Preliminary Site Plan approval, submitted by submitted by Skilken Gold, to permit the construction of a 6,132 sq. ft. convenience store / gas station / restaurant building, and eight (8) gas pumps (for a total of sixteen fueling positions) at the properties located at 755 S. Hewitt Road and 2103 and 2059 W. Michigan Avenue, Ypsilanti, MI 48197, Parcel K-11-18-100-019, K-11-39-350-023, and K-11-39-350-022, due to the following reasons:"

1	 	 	
2	 	 	
3.			

Respectfully submitted,

Fletcher Reyher

Fletcher Reyher, AICP Planning & Development Coordinator Charter Township of Ypsilanti Planning Department



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

Date: April 26, 2024 Rev.: June 29, 2024 Rev.: October 1, 2024

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

Applicant: Skilken Gold – Derick Riba

Project Name: Sheetz Convenience Store & Fueling Station

Plan Date: April 9, 2024

Latest Revision: June 12, 2024

Location: Southeast Corner of W. Michigan Ave. and S. Hewitt Rd.

Zoning: RC, Regional Corridor – Form Based District

Action Requested: Preliminary Site Plan and Special Use Approval

PROJECT AND SITE DESCRIPTION

The applicant is proposing to build a 6,132 s.f. convenience store/gas station and restaurant building, and eight (8) gas pumps (for a total of 16 fueling positions) at the southeast corner of W. Michigan Avenue and S. Hewitt Road. Other site features include an outdoor eating patio, parking, future EV charging stations, two air machines, outdoor sales of propane, ice, and windscreen fluid (shown on building elevations), and landscaping.

This site is made up of three separate parcels. The applicant is proposing to split off the southern portion of the property to create a new parcel, which is not part of this development project.

The subject site is zoned RC, Regional Corridor, which is a Form Based District. The site is categorized as a Site Type C. General retail and food use without a drive-through are permitted uses on this site. Vehicle fueling stations are a special use. Mixed-use buildings (containing the convenience store and food use) are permitted. An aerial of the proposed site is shown on the next page.

Figure 1: Subject Site



Source: Nearmap (Image captured October 2, 2023)

<u>Size of Subject Site:</u> Entire Site: 7.36 acres:

Development Parcel: 3.65 acresSplit-Off Parcel: 3.71 acres

<u>Current Use of Subject Site</u>:

Vacant and residential

Table 1: Adjacent Zoning and Existing Land Uses

Direction	Zoning	Use
North	RC, Regional Corridor (Form Based District)	Vacant & Residential
South	PMD, Production, Manufacturing, Distribution (City of Ypsilanti)	Vacant
East	RC, Regional Corridor (Form Based District)	Vacant & Residential
West	RC, Regional Corridor (Form Based District)	Fast Food Restaurants

Sheets Convenience Store & Fueling Station October 1, 2024

The applicant came before the Planning Commission at their July 23, 2024 meeting, where the Planning Commission held a Public Hearing for the proposed Special Land Use. At this same meeting, the Planning Commission postponed the decision about this project to a future meeting to allow the applicant time to request and obtain the needed variances from the Zoning Board of Appeals (ZBA), per the required procedure.

The applicant attended the August 7, 2024 ZBA meeting with the requested variances. The ZBA granted the variances for the building setback along S. Hewitt and the parking in the S. Hewitt front yard at this meeting, but asked the applicant to reconsider the proposed transparency, and return. The applicant revised the architectural elevations, and moved the proposed patio (and related façade) to the S. Hewitt side of the site. With these changes, the ZBA granted the transparency variances.

The applicant is now returning to the Planning Commission for Special Land Use and Site Plan consideration. The revised site plan (with patio location/transparency façade approved by ZBA) is included in the packet for the Planning Commission's October 8, 2024 meeting. However, because the change in the patio location doesn't affect any other aspect of the site design, the remaining sheets in the submission reflect the previous patio location. We recommend that the Planning Commission condition any approval on all the sheets in the Final Site Plan set be consistent with the ZBA's approval regarding the patio location/related building elevation.

Items to be Addressed: 1) Recommend Planning Commission condition Preliminary Site Plan approval on all the sheets in the Final Site Plan submission be consistent with the ZBA's approval regarding the patio location/related building elevation.

MASTER PLAN

The site is designated as Regional Mixed Use Corridor. Regional Mixed-Use Corridors are located along the busiest corridors, which support a high volume of both local and regional traffic. This area may include auto-oriented uses that draw customers both regionally and locally. Compared to the Neighborhood Mixed-Use corridors, this area is intended for higher-intensity and the largest scale of commercial development. Specifically listed along Regional Corridors are gas stations, convenience stores, and restaurants, which are consistent with this proposal.

Applicable design concepts in the Master Plan include:

- Architectural design must create an interesting visual experience for both sidewalk users and automobiles.
- Ensure appropriate transition to adjacent neighborhoods.
- Design creativity with regard to materials will be encouraged, although low quality materials or building designs that inhibit activity on the corridor will not be permitted.
- Walkability and non-motorized connections within and to Mixed Use corridors are essential to create character and access for all residents and visitors.

We find these design considerations are addressed in the site plan and submitted architecture. See our site plan review section for more detail.

We find that the proposed uses of the site as a gas station, convenience store, and restaurant can both serve the regional market but also local neighborhoods, and are consistent with the Master Plan.

NATURAL FEATURES

Topography:

The site to be developed has rolling topography between approximately 5% - 14%, sloping from a high point in the western central portion down to the south towards the wetland.

Sec. 1407, Steep Slope Protection, identifies a "moderate" steep slope as any naturally occurring landform with slopes between twelve and nineteen percent (12% - 19%), and includes standards for addressing such slopes in development projects. On this site, these slopes will be graded flat to accommodate the proposed development. Therefore, the only standard that could be applied to this site is "Stormwater runoff shall be reduced, and infiltration of stormwater enhanced through best management practices."

The proposed stormwater management system includes catch basins, with pipe connections to a large detention basin on the southern end of the development site. The basin is described as a "Bioretention/Rain Garden," which implies that the basin will have infiltration characteristics. There doesn't appear to be any pre-treatment basin proposed. Also, the amount of impervious pavement proposed is significantly more than required by the ordinance. The proposed width of the entry drives, maneuvering lanes, and parking lot spaces are compared to the requirements in the table below:

Table 2. Impervious Surface Dimension Comparison

	Required	Proposed
Entry Drive Width	31 ft.*	36 – 40 ft.
Maneuvering Lane Width	24 ft.	40 – 63 ft.
Parking Spaces	9 ft. x 18 ft.	10 ft. x 20 ft.

^{*}Per Ypsilanti Township 2020 Engineering Standards and Design Specifications.

Reducing the impervious surface on this site could in turn, reduce the required size/depth of the proposed detention basin, and comply with the steep slope standard in the ordinance. The Planning Commission should discuss how the amount of impervious surface on site complies with the steep slope standards. (Note that the amount of proposed impervious surface meets a separate ordinance requirement in Sec. 503(4), *Building Form Types*, limiting impervious surface to 80%.)

Woodlands:

The submitted information shows that this property has tree and woodland resources that fall under the provisions of Article III, Woodlands Protection. The submitted plans show where the trees are located on the site, and provide a table listing the tree tag number, species, size, and condition of the tree, and if it is to remain or be removed.

The plans list removal of 85 trees (down from 97 in a previous submission) that are greater than 8-inches in diameter at breast height (d.b.h.). The ordinance exempts all removed trees from the mitigation requirements if they are located where buildings, structures or grading are necessary to allow the development on site. Sheet C-3, *Tree Removal Plan & Site Plan Overlay*, shows how the proposal will impact existing trees, and all of the "removed" trees are within the boundary of buildings & grading. Therefore, none of these trees will need to be mitigated.

As requested, tree #5167 (30" Honeylocust in good condition) is proposed for preservation. This tree is located at the northern property line, and the plans show that no grading will be conducted within the dripline of this tree. They have also proposed locating the proposed 8-foot wide pathway along W. Michigan Ave. around this tree. We consider this a positive aspect of the plan.

Tree Protection

This section requires that the plans identify how the trees "to remain" will be protected during construction. A Tree Protection fence detail is provided on Sheet C-20, Construction Details. A symbol showing the location of this fencing is shown on Sheet C-18, Soil Erosion and Sedimentation Plan around all trees to remain. This symbol needs to be added around "trees to remain" on the following sheets during Final Site Plan review:

- a. Sheet C-2, Demolition/Tree Removal Plan.
- b. Sheets C-9 and C-10, Grading Plan (North) and Grading Plan (South).

Also, the following note should be added during Final Site Plan review to Sheets C-2, C-9, C-10, and C-18: "No vehicle, other construction equipment, or construction materials or debris shall be parked or stored within the dripline of any tree or plant material intended to be saved."

Wetlands:

The southern portion of the site contains a wetland. The project will not be physically impacting the wetland itself, but will be discharging stormwater into the wetland. Sec. 1405, *Protection of Water Quality and Quantity*, has specific standards for discharge into a wetland, prohibiting modification of existing water levels or flows, and direct discharge of untreated stormwater into a wetland. No information about the regulatory status of the wetland has been provided with the plan set; however, it appears to be connected to a much larger wetland system off-site to the south. The Township Engineer also states that an EGLE Permit will be required to discharge stormwater into this wetland.

Items to be Addressed: 1) Planning Commission to discuss how the amount of impervious surface on site complies with the steep slope standards. 2) Show tree protective fencing symbol around "trees to remain" on Sheets C-2, C-9 and C-10 at Final Site Plan review. 3) Include following note at Final Site Plan review on Sheets C-2, C-9, C-10 and C-18: "No vehicle, other construction equipment, or construction materials or debris shall be parked or stored within the dripline of any tree or plant material intended to be saved."

AREA, WIDTH, HEIGHT, SETBACKS

The proposed development is being constructed under Building Type A.2.

Table 3. Bulk Requirements

·	Required / Allowed	Provided	Complies with Ordinance	
Front (W. Michigan Ave.)	10-foot to 30-foot build-to-line	Building located 10 feet from the W. Michigan Ave. ROW.	Building & Outdoor sales Complies	
Front (S. Hewitt Rd.)	10-foot to 30-foot build-to-line; Parking located in side/rear yard	Building located 63 feet from the S. Hewitt Rd. ROW. Parking located in front yard	Requires Variances Variances Granted 8-7-24	
Side Setback – East	1.5 x height of building, or 1.5 x 16.3 feet = min. 24.5 feet	257 feet	Complies	
Rear Setback	10 feet	278 feet to building See Below	Complies	
Impervious Surface	80% maximum	42.1% (159,017 s.f. / 67,029 s.f.)	Complies	
Building Height (Feet)	Minimum: 14 feet Maximum: 30 feet	16.0 - 16.3 feet	Complies	
Building Height (Stories)	Minimum: 1 story Maximum: 2 stories	1 story	Complies	
Parking	Located in side or rear yard; if abutting a required "build-to" line, screened with a minimum 30-inch masonry wall on the required build-to line, or within 5 feet of the required building line.	Parking is located in the front yard along S. Hewitt Rd., and in the rear yard. Screen wall is proposed at the build-to-line along S. Hewitt Rd.	Parking in Front Yard Requires Variance – Granted 8-7-24 Screen Wall Complies	

Table 4. Bulk Requirements for Fueling Stations

Requirem	Requirements of 1126, Specific Use Provisions for Vehicle Fueling/Multi-Use Stations				
	Required / Allowed	Provided	Complies with Ordinance		
Min. Lot Size	15,000 s.f. + 1,500 s.f. for each additional pump island above 2. 8 pump islands =	3.65 ac. (159,017 s.f.)	Complies		
	(15,000 + (1,500 x 6)) = 24,000 s.f. min.				
Min. Street Lot Line Length	150 feet	500 feet	Complies		
Driveway Distance to Adjacent Property	10 feet, or 25 feet if adjacent to residential district	65 feet (east driveway); 150 feet (west driveway)	Complies		
Lines/ Intersection	25 feet from street intersection	+185 feet from intersection			

	Required / Allowed	Provided	Complies with Ordinance
Canopy Support Setbacks	Front: 35 feet Side: 20 feet Rear: 30 feet	Front (W. Michigan): 148 ft. Front (S. Hewitt): 112 ft. Side (East): 210 ft. Rear: 186 ft.	Complies
Canopy Roof Setbacks	Front: 25 feet Side: 10 feet Rear: 20 feet	Front (W. Michigan):139 ft. Front (S. Hewitt): 99.5 ft. Side (East): 192 ft. Rear: 174 ft.	Complies
Pump Island Setbacks	Front (W. Michigan Ave.): 30 feet Side: 20 feet Rear: 20 feet	Front (W. Michigan): 143 ft. Front (S. Hewitt): 109 ft. Side (East): 204 feet Rear: 179 ft.	Complies

Rear Setback

To calculate setbacks, we are using the "proposed lot split" line shown on the plans. If the site isn't divided, then the rear setbacks will increase in size. We recommend any Planning Commission decision be conditioned on the proposed lot split, as shown on the plan.

A small portion of the southerly property line (comprised of an existing property line to the east, and a proposed property line to the west) abuts an existing residential use. This requires that a minimum 20-foot-wide greenbelt be provided between a non-commercial use and residential use. The required greenbelt has been provided.

Items to be Addressed: 1) Recommend Planning Commission condition any approval on implementation of the proposed lot split shown on the plans.

PARKING, LOADING

This project is proposing two uses inside the building. Floor area dimensions are provided in the table on Sheet C-6, *Site Plan*. Floor plans have been provided as part of the Zoning Board of Appeals process confirming these figures.

Using the figures on the Site Plan, the table below compares the number of spaces required by the ordinance and the number of spaces provided on the plans.

Table 5. Number of Parking Spaces

Parking Requirements	Number of Spaces Required	Number of Spaces Provided	Complies with Ordinance
Convenience Store and Vehicle Fueling Station	1 space for each 125 s.f. of Usable Floor Area Plus 2 spaces per Fueling Station (3,264 s.f. / 125) = 26 spaces + 8 fueling stations x 2 = 16 spaces	60 spaces	Complies
Standard Restaurant	2 spaces per 5 seats ((46 seats / 5) x 2 = 18 spaces TOTAL: 60 Spaces	_	
Barrier-Free Spaces	3 spaces	3 spaces	Complies
Loading spaces	1 space	1 space	Complies
Bicycle parking	2 spaces	4 spaces	Complies

Parking Dimensions

As mentioned above, the parking spaces, maneuvering lanes, and access driveway dimensions are substantially larger than required in the ordinance, which increases the amount of impervious surface on the site. While reducing impervious surface could support the ordinance waiver allowed the Planning Commission for impacts to steep slopes, the total amount of impervious surface is within the maximum allowed under a separate requirement (or Sec. 503(4)).

Parking Lot Location Along S. Hewitt

Where parking lots abut a required build-to line, the Form Based District design standards limit this condition for up to 25% of the total site's linear feet along the required build-to line, or 60-feet, whichever is less. On this site, the 60-foot dimension is the smaller of the two, and applies to the six (6) parking spaces along the S. Hewitt build-to line. This bay of parking spaces measures 60-feet along the build-to line, and complies with the ordinance.

Sidewalks

The walk abutting the two most westerly parking spaces (in the bay on the south side of the building) has been widened to a minimum of seven (7) feet, per Sec. 1205(6)(K).

Items to be Addressed: None.

SITE ACCESS, CIRCULATION, TRAFFIC

Site access is provided from both W. Michigan Ave. and S. Hewitt Rd. Vehicles can circulate around the site and the gas-pump canopy.

Sheets C-6 and C-7 show turning movements of various truck types (delivery, tanker, trash and fire). All of these vehicles can make the turning movements around the gas-pump canopy. In our previous review,

we observed that the easterly position of the canopy makes the tanker truck movements a little tight. The canopy could be shifted to the west to give the tanker more space to make this movement, while still providing enough space for users of the west parking spaces to access and exit these spaces. At the July meeting, the applicant stated that they would consider this idea. Planning Commission may want to discuss this with the applicant.

The Form Based Districts require pedestrian pathways between the site and the road right-of-way. A sidewalk connection is provided from the W. Michigan Ave. right-of-way and the S. Hewitt Rd. right-of-way, as required.

Items to be Addressed: 1) Planning Commission and applicant discuss shifting the gas-pump canopy to the west to allow easier turning movements for tanker trucks around canopy.

SCREENING & LANDSCAPING

Table 6. Landscaping

	Required	Provided	Complies with Ordinance
General Landscaping: 1 tree per 1,000 s.f. lawn 1 shrub per 500 s.f. lawn	12,617 s.f. lawn = 13 trees and 25 shrubs	13 trees and 25 shrubs	Complies
Street Yard Landscaping: 1 large deciduous tree per 40 l.f. of frontage 1 ornamental tree per 100 l.f. of frontage 1 shrub per 10 l.f. of frontage	W. Michigan Ave.: 400 L.F. / 40 = 10 trees 400 l.f. / 100 = 4 ornamental trees 400* l.f. / 10 = 40 shrubs S. Hewitt Rd.: 309 l.f. / 40 = 8 trees 309 l.f. / 100 = 3 ornamental trees 309 l.f. / 10 = 31 shrubs	18 deciduous trees 7 ornamental trees +71 shrubs	Complies with Trees, Ornamental Trees & Shrubs
Parking Lot Landscaping: 1 large deciduous tree per 2,000 s.f. of pavement 1 large deciduous tree per 40 l.f. of parking lot perimeter	56,081 s.f. / 2,000 s.f. = 28 interior trees 299 l.f. / 40 = 7 perimeter trees	35 interior and perimeter trees	Total number sufficient; not located as required
Stormwater Basin Landscaping: 1 tree and 10 shrubs per 50 feet of basin perimeter	649 l.f. / 50 = 13 trees and 130 shrubs	13 trees and 130 shrubs	Complies See Below

Parking Lot Islands

Sec. 1301(3)(D) requires the following:

1) There shall be no more than twelve (12) parking spaces in a row without a landscape break. The plans show 14 parking spaces in a row abutting the south side of the building. However, an area on the east end of this bay of spaces has been converted into a landscaped island. The Planning Commission could consider allowing the landscaped bed on the end of the spaces vs. breaking them up.

Shrubs Around Stormwater Basin

The label "4 NYS" located on Sheets C-15 & C-16 (next to existing tree #5047) should say "5 NYS." There are five (5) Nyssa sylvatica tree symbols circled in purple.

Planning Commission Modifications

The Planning Commission may waive or modify the landscaping standards above where the intent of this Section can be met through reasonable alternatives. The areas where the plans are not fully compliant with the ordinance requirements include the following, where the Planning Commission has flexibility:

- 1) Parking lot landscaping (Sufficient number, but not located per ordinance)
- 2) Parking lot islands (Landscaped island on end of 14 space bay, vs. breaking up spaces per ordinance)

Screening Required in Specific Use Provisions

Sec. 1126 requires installation of a six-foot tall screening wall where a fueling station abuts a residential district. The Planning Commission may approve alternative screening materials. The plans show a heavy landscape screen consisting of evergreen and deciduous trees, ornamental trees, and evergreen and deciduous shrubs. At the July Planning Commission Public Hearing, the residential neighbors to the east mentioned that the existing chain-link fence between the properties is broken. The applicant responded that they could consider a privacy fence replacement. The Planning Commission will need to discuss these alternatives.

Trash and Recycling Containers

The dumpster is located in the rear yard and screened with a 7.3-foot-tall masonry wall and gate. The design of the screen matches the elevation materials on the building.

Items to be Addressed: 1) Planning Commission to consider allowing location of parking lot trees (number sufficient, but location not per ordinance). 2) Planning Commission to consider allowing 14 parking spaces in a row with the addition of the landscaped island on the east end of this bay of spaces. 3) Planning Commission to consider the heavy landscaped screen and possible privacy vs. six-foot-tall screening wall along property line abutting residential district. 4) Change label "4 NYS" to "5 NYS" on Sheets C15 & C-16.

LIGHTING

The applicant is proposing to install 13 single-luminaire, pole-mounted fixtures, and one, double-luminaire pole-mounted fixture as site lighting. The building will be illuminated with two different style light fixtures, and the gas-pump canopy will have 22 downward-facing light fixtures. We have the following comments.

1) The ordinance requires that light fixtures shall be shielded and direct light away from adjoining properties. As requested, manufacturer cut sheets were provided and show that the proposed fixtures can be shielded if necessary.

Sheets Convenience Store & Fueling Station October 1, 2024

- 2) The lighting levels are within the maximum 20 footcandles, and the maximums along the property lines
- 3) As requested, the height of light fixture XPM4 (#19) near the residences to the east has been reduced to 18-feet per ordinance requirements.
- 5) The Kelvin color temperature of the proposed fixtures is 4000K. Sec. 1303(3)(E) states that the color temperature of any outdoor light source shall not exceed 3500K unless introduced as part of a façade or landscape lighting scheme used exclusively for the decorative illumination through color of certain building façade or landscape features. The applicant will need to describe the necessity for the proposed color temperature, or modify the proposed color temperature to meet the ordinance.

Items to be Addressed: 1) Applicant to describe necessity for proposed color temperature of lighting or change the color temperature to meet the ordinance.

ELEVATIONS AND FLOOR PLANS

Elevations and floor plans have been provided.

Façade Variation:

The Form Based District architectural standards require façade variation. This project provides façade variation on each facade through the use of varying colors and materials. Façade materials are high quality (brick, cast stone sills and masonry veneer, metal roof accents).

Sec. 1126, Vehicle fueling/multi-use station, requires that the canopy structure be designed in a manner which is architecturally compatible with the principal building. An elevation of the proposed canopy has been provided and shows that the canopy design is consistent with the building design.

This section also requires that the canopy be attached to the principal building. If not attached, the applicant needs to demonstrate that the design is more functional and aesthetically pleasing. The previous response memo states the following: "It is Sheetz prerogative to provide an aesthetically pleasing site for consumers, and have designed their flagship building and canopy to strongly supplement one another." The Planning Commission will need to evaluate the function/aesthetics of the applicant's proposal.

Transparency:

As mentioned above, the applicant received variances for the proposed transparency on three of the four facades. The applicant substantially revised the Michigan Avenue façade to look more like a "front" façade, and increased the window sizes substantially. They also relocated the patio to the S. Hewitt side of the building, which reduced the required variance for this façade substantially. Another benefit of this new patio location is that the building is now between the patio and the residences to the east, buffering these residents from activities on the patio. Overall, the façade changes will create an attractive, pedestrian-friendly facility at this important corner.

Items to be Addressed: None.

SPECIAL USE

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

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

We find that the standards have been met. Our comments regarding how this proposal compares to the Special Land Use standards follow:

- W. Michigan Ave. is designated as a Regional Corridor, intended to support a high volume of both local and regional traffic. This corridor type accommodates large national chains and autooriented uses that draw customers both regionally and locally. The proposed use is consistent with the intent of this district.
- While variances were required, the applicant has worked with the Township to meet the form-based zoning requirements.
- The proposed use of the site as a fueling station, convenience store and restaurant that can serve both the regional market, but also local neighborhoods is consistent with the Master Plan.
- The applicant is making a significant investment to improve the site including sidewalk installation along both road frontages, an outdoor dining patio, landscaping, and lighting.
- With utility and other improvements, the site can adequately be served with public facilities and
- The development of this site will not be detrimental to the future use and development of the corridor.

RECOMMENDATIONS

The Planning Commission will need to determine if the proposed Special Land Use meets the ordinance criteria.

Commissioners may also want to discuss some of the site design choices with the applicant, as listed below.

Sheets Convenience Store & Fueling Station October 1, 2024

- 1) Planning Commission to discuss how the amount of impervious surface on site complies with the steep slope standards.
- 2) Planning Commission and applicant discuss shifting the gas-pump canopy to the west to allow easier turning movements for tanker trucks around canopy.
- 3) Planning Commission to evaluate that the proposed design with unattached canopy is more functional and aesthetically pleasing.
- 4) Planning Commission to consider allowing location of parking lot trees (number sufficient, but location not per ordinance).
- 5) Planning Commission to consider allowing 14 parking spaces in a row with the addition of the landscaped island on the east end of this bay of spaces.
- 6) Planning Commission to consider the heavy landscaped screen and possible privacy fence vs. six-foot-tall screening wall along property line abutting residential district.
- 7) Applicant to describe necessity for proposed color temperature of lighting, or modify temperature to comply with the ordinance.

If acceptable to the Planning Commission, any changes needed as a result of these discussions may be incorporated into the Final Site Plan.

Final Site Plan

The remaining comments listed in our review (below) may also be incorporated into the Final Site Plan:

- 1) Show tree protective fencing symbol around "trees to remain" on Sheets C-2, C-9 and C-10 at Final Site Plan review.
- 2) Include following note at Final Site Plan review on Sheets C-2, C-9, C-10 and C-18: "No vehicle, other construction equipment, or construction materials or debris shall be parked or stored within the dripline of any tree or plant material intended to be saved."
- 3) Change label "4 NYS" to "5 NYS" on Sheets C15 & C-16.

Recommended Conditions:

- 1) Recommend Planning Commission condition Preliminary Site Plan approval on all the sheets in the Final Site Plan submission be consistent with the ZBA's approval regarding the patio location/related building elevation.
- 2) Recommend Planning Commission condition any approval on implementation of the proposed lot split shown on the plans.

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

Principal



ARCHITECTS. ENGINEERS. PLANNERS.

June 26, 2024

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

RE: Sheetz

Site Plan Review #2

Dear Mr. Reyher:

We have completed the second site plan review of the plans dated June 12, 2024, with a latest revision date of June 12, 2024, and stamped received by OHM Advisors on June 13, 2024.

At this time, the plans are <u>recommended</u> for approval for the Planning Commission's consideration, contingent on the following comments being addressed. Preliminary detailed engineering comments have been provided to the applicant as a courtesy and shall be addressed prior to submitting detailed engineering plans for review.

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

A. PROJECT AND SITE DESCRIPTION

The applicant is proposing a 6,139 square-foot Sheetz gas station at 2103/2059 W Michigan Avenue. The development will include a convenience store, restaurant, and fuel stations. Associated parking, utilities, and landscaping are also being proposed.

The site will be serviced by connection to the existing 8-inch water main along the west side of S Hewitt Road and connection to the existing 8-inch sanitary sewer along the south side of W Michigan Avenue. Stormwater runoff will be managed by a new infiltration basin and underground conveyance system.

B. PRELIMINARY DETAILED ENGINEERING COMMENTS

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

- 1. The applicant shall provide utility pipe profiles, including pipe diameter, material, length, slope, and hydraulic grade line (where applicable) for all proposed utilities (water, sanitary, storm).
- 2. The applicant shall provide spot elevations at all four (4) corners of all barrier-free parking spaces, access aisles, ramps, and level landings, as well as along both sides of all proposed sidewalk at 50-foot intervals. The applicant shall note that the cross-slope shall not exceed 2%, per ADA Standards.



- 3. The applicant shall verify the curve number used in Worksheet 3 (Sheet C-22) as there appears to be a discrepancy. The applicant shall review and revise all subsequent calculations, including Worksheet 9, accordingly.
- 4. The applicant shall provide a detailed drainage area map that provides drainage areas corresponding to each catch basin, including their acreages, C-factors, and C-factor calculations.
- 5. The applicant shall provide conveyance calculations for the proposed stormwater management system.
- 6. The applicant shall provide a Certificate of Outlet, signed and sealed by a registered engineer in the State of Michigan.
- 7. The applicant shall provide a maintenance schedule for all proposed permanent soil erosion and stormwater management activities. The schedule shall include the frequency of activities as well as the party responsible.
- 8. The applicant shall provide the infiltration test pit logs on the plans for reference.
- 9. It is recommended that the applicant use RCP for the proposed storm sewer under the influence of the pavement. At a minimum, the applicant shall provide the manufacturer's specification for use of the proposed N-12 HDPE under the influence of the pavement on the plans.
- 10. The applicant shall clarify the method of the proposed water main connection.
- 11. The applicant shall provide cleanouts along the sanitary sewer service at all bends and at intervals not greater than 90 feet, per Township Standards.
- 12. The applicant shall provide a detail of the oil/water separator.
- 13. The applicant shall provide the material of the proposed water main and water service. The applicant shall also provide the length of the proposed water main and water service on Sheet C-14 as it currently wasn't provided.
- 14. The applicant shall adjust the callouts on Sheet C-14 as one of them is currently cutoff.
- 15. The applicant shall provide a quantity list for all proposed utilities (water, sanitary, storm) on the Cover Sheet, delineated by existing or proposed road right-of-way or easement, per Township Standards.
- 16. The applicant shall clearly label the location of all benchmarks for clarity.
- 17. The applicant shall provide the applicable Ypsilanti Township Standard Detail Sheets within the plan set. The applicant shall also provide the Ypsilanti Township SESC Standard Detail Sheet and remove the SESC details on Sheet C-18 for clarity. These can be obtained by emailing stacie.monte@ohm-advisors.com.

C. REQUIRED PERMITS & APPROVALS

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

- ▼ Ypsilanti Community Utilities Authority (YCUA): Review and approval of all water main and sanitary sewer improvements is required.
- ▼ **Ypsilanti Township Fire Department:** Review and approval of site accessibility, hydrant coverage, and fire suppression, if needed, is required.
- Washtenaw County Water Resources Commissioner's Office (WCWRC): Review and approval is required.
- Washtenaw County Road Commission (WCRC): Review and approval is required.
- Nichigan Department of Environment, Great Lakes & Energy (EGLE): An EGLE Act 399 and Part 41 permit will be required for construction of all public water main and sanitary sewer systems improvements.
- Michigan Department of Environment, Great Lakes & Energy (EGLE): An EGLE permit will be required for any work and/or stormwater discharge into the wetlands.
- ▼ Ypsilanti Township Office of Community Standards: A Soil Erosion and Sedimentation Control permit shall be secured from the Ypsilanti Township Office of Community Standards.



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

Sincerely, OHM Advisors

Stacie L. Monte

Matthew D. Parks, P.E.

SLM/MDP/kh

cc: Doug Winters, Township Attorney

Steven Wallgren, Township Fire Marshall

Scott Westover, P.E., YCUA

File

P:\0000_0100\SITE_YpsilantiTwp\2024\0098241010_2059 W Michigan Ave_Sheetz Gas Station\MUNI\01_SITE\SP#2\Sheetz_SP#2_2024-06-26.docx

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT

BUREAU OF FIRE PREVENTION

222 South Ford Boulevard, Ypsilanti, MI 48198



June 18, 2024

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

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

Project Name: Sheetz Convenience Store and Fuel Station Project Location: 2103 W. Michigan Ave. Ypsilanti, MI 48197

Plan Date: 6/12/2024 Applicable Codes: IFC 2018

Engineer: Stonefield Engineering and design Engineer Address: 607 Shelby Suite 200, Detroit, MI 48226

Status of Review

Status of review: Approved as Submitted

All pages were reviewed

Site Access

Comments: Fire Department site access is adequate.

Suppression / Hydrants

Comments: The proposed Hydrant location is acceptable.

Sincerely,

Steve Wallgren, Fire Marshal

Charter Township of Ypsilanti Fire Department

CFPS, CFI I



YPSILANTI COMMUNITY UTILITIES AUTHORITY

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

June 25, 2024

VIA ELECTRONIC MAIL

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

Re: Preliminary (non-residential) Site Plan Review #1

Sheetz

Charter Township of Ypsilanti (Plan Date: 04-09-2024)

Dear Mr. Reyher:

In response to the electronic mail message from your office dated April 11, 2024, we have reviewed both the referenced plans with regards to water supply and wastewater system design. The plans are acceptable to YCUA for this stage of review. The following comment is offered for consideration by the Applicant and/or the Applicant's design engineer prior to the Detailed Engineering phase of the project.

1. It is felt that the proposed 2" diameter domestic water meter is oversized. It is recommended that the Applicant and their design team review what size domestic meter is needed, as oversizing the meter will result in significant increase in the base cost of the YCUA rate schedule, the readiness to servce charge. Note the maximum flow rates through various size meters are as follows:

Meter Size	Maximum Flow Rate
(diameter in inches)	(gallons per minute)
$1\frac{1}{2}$	100
2	160
3	500

As noted in the April 25, 2024, letter from this office, connection fees apply to the proposed development. Please note that the total cash price for connection fees, \$2,466.41 plus the construction phase escrow deposit, Authority administration fee, and record plan guarantee, must be paid to YCUA by the Applicant, with a receipt delivered to the Township, before either the building or soil and grading permit is issued. The construction phase escrow deposit and associated fees and deposits and the entity responsible for maintaining those accounts will be determined during the Detailed Engineering phase of the project in conjunction with your office and the Township Engineer. Should there be any questions please contact this office.

Mr. Fletcher Reyher CHARTER TOWNSHIP OF YPSILANTI June 25, 2024 Page 2

Sincerely,

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

Soot in the Senature

cc: Mr. Luke Blackburn, Mr. Sean Knapp, File, YCUA

Mr. Steve Wallgren, Township Fire Department

Mr. Matt Parks, P.E., Ms. Stacie Monte, Township Engineer

Skilken Gold, Applicant

Mr. Eric Williams, P.E., Applicant's design engineer

 $G:\CDproj\YpsiTwp\2024$ - Sheetz\PNRSP Rev#2.docx

WCRC App. 20031 - Sheetz



Streight, Gary < streightg@wcroads.org >



To: Drew Richlen <drichlen@skilkengold.com>; Williams, Eric <ewilliams@stonefieldeng.com>

Thu 6/27/2024 2:25 PM

Cc: Lawrence, Callie <lawrencec@wcroads.org>; Matt Parks <matt.parks@ohm-advisors.com>; Fletcher Reyher; Lauren Doppke; swestover@ycua.org

I have completed the review of the engineering plans provided for the above permit application and the plans meet the technical requirements of the WCRC. The following administrative items must be completed prior to the issuance of a permit:

- · Provide a cost estimate for all work within the right of way.
- An inspection fee equal to 3% of the cost estimate, \$500 minimum, along with a deposit equal to the full amount of the cost estimate must be provided in the form of a letter of credit
 or cashier's check.
- · Provide the name, contact info and certificate of insurance for the contractor performing the work.

Once the above items have been addressed a permit may be issued. If there are any questions feel free to contact me.

If there are any questions feel free to contact me.

Gary Streight, P.E.

Project Manager



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

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









EVAN N. PRATT, P.E.

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

Drains@washtenaw.org

Harry Sheehan Chief Deputy Water Resources Commissioner

Scott Miller P.E. Deputy Water Resources Commissioner

Theo Eggermont Public Works Director

June 28, 2024

Mr. Eric Williams, P.E. Stonefield Engineering 607 Shelby, Suite 200 Deroit, Michigan 48226

RE: Sheetz Fuel Center –
2103 W. Michigan Avenue
Ypsilanti Township, Michigan
WCWRC Project No. 10501

Dear Mr. Williams:

This office has reviewed the site plans for the above-referenced project to be located in Ypsilanti Township. These plans have a job number of DET-230091.01, a date of June 12, 2024, and were received via e-mail on June 13, 2024. As a result of our review, we would like to offer the following comments:

- 1. The engineer's certificate of outlet, accompanied by corresponding calculations and documentation, should be submitted to our office for review. **Repeat Comment.**
 - a. The certificate of outlet is to be provided by the design engineer during the review process to certify that the receiving channel has adequate capacity to receive the detention basin discharge. Preliminary site plan approval will not be granted unless the certificate of outlet is submitted for our review and approval.
- 2. Based on site information available on MapWashtenaw and in the rules of this office, portions of the site are covered by hydrologic soil types B, C, and D. The soil types and the areas that they cover should be presented on the grading plan. The curve numbers and runoff coefficients used on Worksheet W1 should be revised to reflect both the proposed impervious and pervious areas that are underlain by hydrologic soil groups B, C, and D. Repeat Comment.
 - a. The soils information provided on plan sheet C-13 indicates that Oshtemo loamy sand is hydrologic group A, but it is hydrologic soil group B according to the information contained in the rules of this office and on MapWashtenaw.
- 3. The curve number used on Worksheet W3 corresponds to hydrologic group C soils, rather than a weighted average based on those portions of the drainage area that are underlain by groups B, C, and group D soils. This directly affects the required infiltration volume determined on Worksheet W9 and should be corrected. Repeat Comment.

Mr. Eric Williams, P.E. Stonefield Engineering Sheetz Fuel Center WCWRC Project No. 10501 Page 2 of 3

- a. The soils information provided on plan sheet C-13 indicates that Oshtemo loamy sand is hydrologic group A, but it is hydrologic soil group B according to the information contained in the rules of this office and on MapWashtenaw.
- b. The pre-development cover types should reflect the cover type of good condition woods or meadow prior to any development of the site. The information shown on Worksheet W3 on plan sheet C-22 reflects the existing conditions.
- 4. If the provided infiltration volume exceeds the calculated first flush volume but is less than the calculated bankfull volume, the outlet should be designed as a two-stage outlet based on the calculated bankfull volume minus the provided infiltration volume, and the net required detention volume from W13. The lowest orifice should be placed at an elevation corresponding to the provided infiltration volume determined on Worksheet W11.
- 5. The maximum impervious loading ratio of 8:1 and the maximum total loading ratio of 10:1 has been exceeded for the proposed development.
- 6. The planting plans must show what native plants and/or seeds will be planted in the basin buffer zone, and the quantity/spacing of the plants and/or seeds.
- 7. Comments 8 through 10 below must be addressed in the construction plans, although it is preferred that they are addressed in the next plan submittal.
- 8. A 6-inch interceptor layer of sand must be applied to the bottom of the infiltration basin to filter out sediment and debris. In addition, a maintainable engineered structure, such as an infiltration trench, must be placed in the bottom of the infiltration basin. **Repeat Comment.**
- 9. A long-term stormwater maintenance plan, including budget and responsible party, should be designed and included with the plan set. **Repeat Comment.**
- 10. Inspection of the infiltration basin following storms of 1 inch or more should be added to the long-term maintenance plan. **Repeat Comment.**
- 11. Please see the attached invoice for the current fees and remit these fees upon receipt. As requested, the invoice is being submitted directly to Skilken Gold.

Mr. Eric Williams, P.E. Stonefield Engineering Sheetz Fuel Center WCWRC Project No. 10501 Page 3 of 3

At your convenience, please send us a complete set of revised plans and the additional information requested above so that we may continue our review. If you have any questions, please contact our office.

Sincerely,

Theresa M. Marsik, P.E. Stormwater Engineer

Theren My Marik

(approval\Sheetz Fuel Center rev2)

cc: Derick Riba, Skilken Gold

Lauren Doppke, Ypsilanti Township Planning Department

Belinda Kingsley, Ypsilanti Township Planning & Zoning Coordinator

Fletcher Reyher, Ypsilanti Township Planning & Development Coordinator

Doug Winters, McLain and Winters

Matt Parks, P.E., Ypsilanti Township Engineer (OHM) Stacie Monte, Ypsilanti Township Engineer (OHM)

LOCATION MAP

SCALE: I" = 1000'±

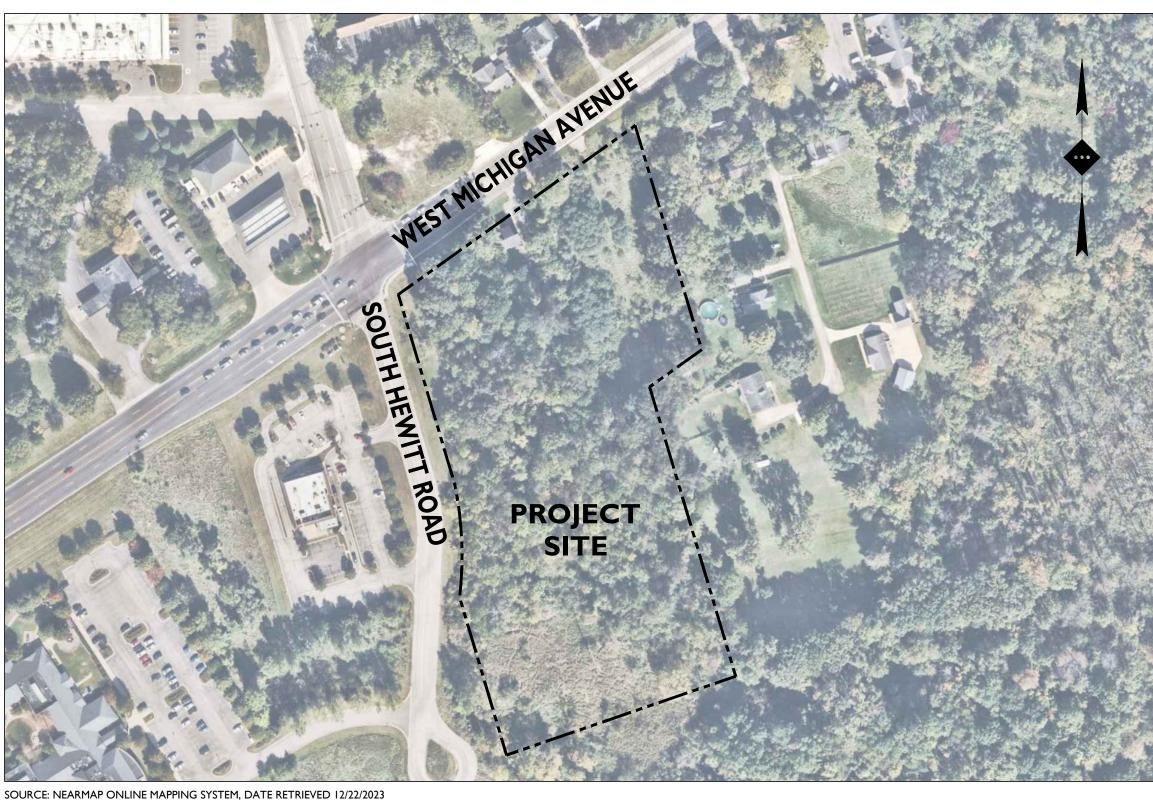
SITE DEVELOPMENT PLANS

FOR

SHEETZ

PROPOSED CONVENIENCE STORE AND FUEL SALES

PID: K11-39-350-022, K-11-39-350-023, K-11-18-100-019 2103 WEST MICHIGAN AVENUE CHARTER TOWNSHIP OF YPSILANTI, WASHTENAW COUNTY, MICHIGAN



AERIAL MAP

SCALE: $I'' = 150' \pm$

(RC)(RC)**PROJECT** SITE **CITY OF YPSILANTI ZONING** SOURCE: CHARTER TOWNSHIP OF YPSILANTI ZONING MAP, DATE RETRIEVED 03/12/2024 **ZONING MAP** RC - REGIONAL CORRIDOR DISTRICT GB - GENERAL BUSINESS DISTRICT SCALE: I" = 150'±

PLANS PREPARED BY:

PROJECT NARRATIVE:

THE PROJECT PROPOSES A 6,139 SF CONVENIENCE STORE (PERMITTED USE) AND RESTAURANT (PERMITTED USE) WITH FUEL SALES (SPECIAL LAND USE) AT THE SOUTHEAST CORNER OF WEST MICHIGAN AVENUE AND SOUTH HEWITT ROAD. THE SITE IS LOCATED WITHIN THE RC - REGIONAL CORRIDOR DISTRICT. THE BUILDING IS PROPOSED ALONG THE HARD CORNER, WITH THE FUEL CANOPY AND PUMPS TO THE SOUTH. PARKING IS PROVIDED WITHIN THE SIDE AND REAR YARDS; 62 SPACES ARE PROPOSED WHERE 60 ARE REQUIRED. OUTDOOR SEATING IS PROVIDED ALONG THE EASTERN FACADE OF THE BUILDING. LANDSCAPING IS PROPOSED TO SCREEN THE SITE FROM ABUTTING RIGHTS-OF-WAY AND RESIDENTIAL PROPERTIES. STORMWATER WILL BE DETAINED AND RELEASED TO THE EXISTING WETLANDS ON THE SOUTHERN PORTION OF





Detroit, MI · New York, NY · Boston, MA Princeton, NJ · Tampa, FL · Rutherford, NJ www.stonefieldeng.com

607 Shelby Suite 200, Detroit, MI 48226 Phone 248.247.1115

PLAN REFERENCE MATERIALS:

- I. THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS **INCLUDING, BUT NOT LIMITED TO:**
 - ALTA / NSPS LAND TITLE SURVEY PREPARED BY **KEM-TEC, DATED 12/08/23** ARCHITECTURAL PLANS PREPARED BY CONVENIENCE
 - ARCHITECTURE AND DESIGN P.C., DATED 12/08/2023
- **AERIAL MAP PROVIDED BY NEARMAP ONLINE MAPPING SYSTEM, DATE RETRIEVED 12/22/2023**
- LOCATION MAP PROVIDED BY USGS TOPOGRAPHICAL MAPS, DATED RETRIEVED 12/22/2023
- 2. ALL REFERENCE MATERIAL LISTED ABOVE SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THESE MATERIALS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF EACH REFERENCE AND REVIEW IT THOROUGHLY PRIOR TO THE START OF

SHEET INDEX					
DRAWING TITLE	SHEET#				
COVER SHEET	C-I				
DEMOLITION / TREE REMOVAL PLAN	C-2				
TREE REMOVAL PLAN & SITE PLAN OVERLAY	C-3				
TREE INVENTORY	C-4 & C-5				
SITE PLAN	C-6				
TRUCK CIRCULATION	C-7				
GRADING PLAN	C-9 & C-10				
STORMWATER MANAGEMENT PLAN	C-11 THRU C-13				
UTILITY PLAN	C-14				
LANDSCAPING PLAN	C-15 & C-16				
LANDSCAPING DETAILS	C-17				
SOIL EROSION & SEDIMENT CONTROL PLAN	C-18				
CONSTRUCTION DETAILS	C-19 THRU C-21				
STORMWATER MANAGEMENT CALCULATIONS	C-22				

SHEET INDEX		
RAWING TITLE	SHEET#	
LTA / NSPS LAND TITLE SURVEY	2 OF 2	

APPLICANT

4270 MORSE ROAD COLUMBUS, OH 43230 DRIBA@SKILKENGOLD.COM

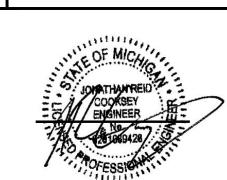
ENGINEER

STONEFIELD ENGINEERING & DESIGN, LLC

			REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION
			КН	NB/JD	NB/JD	ВҮ
			06/12/2024	05/09/2024	04/09/2024	DATE
			3	2	_	ISSUE

NOT APPROVED FOR CONSTRUCTION





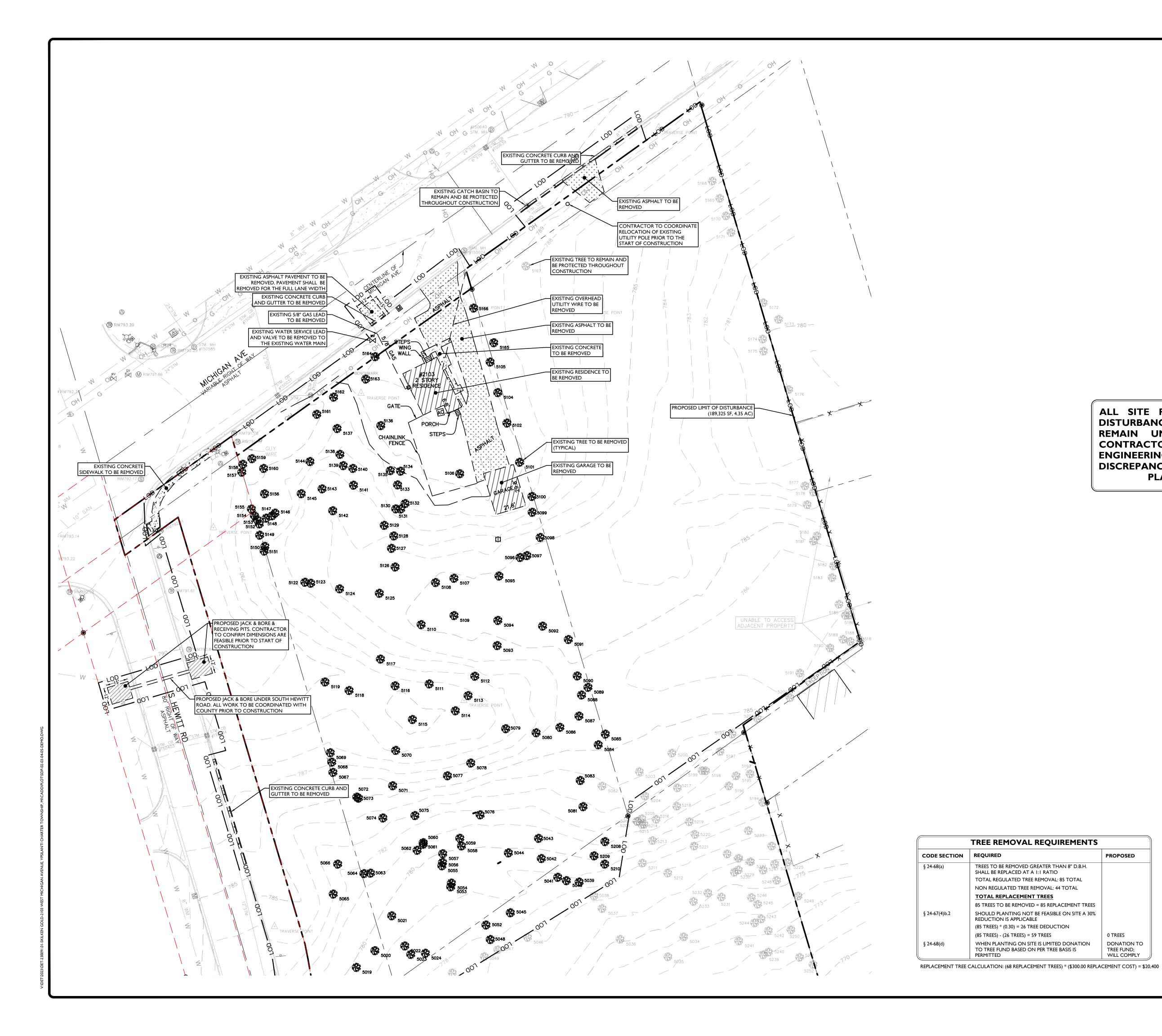


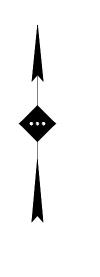
SCALE: AS SHOWN PROJECT ID: DET-230091.0

COVER SHEET

DRAWING:

C-I





SYMBOL

DESCRIPTION

FEATURE TO BE REMOVED / DEMOLISHED

LIMIT OF DISTURBANCE

CONCRETE TO BE REMOVED

ASPHALT TO BE REMOVED

TREE TO BE REMOVED

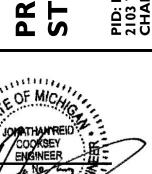
ALL SITE FEATURES WITHIN THE LIMIT OF DISTURBANCE INDICATED ON THIS PLAN ARE TO REMAIN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOTIFY STONEFIELD **ENGINEERING & DESIGN, LLC. IF SIGNIFICANT** DISCREPANCIES ARE DISCERNED BETWEEN THIS PLAN AND FIELD CONDITIONS



- I. THE WORK REFLECTED ON THE DEMOLITION PLAN IS TO PROVIDE GENERAL INFORMATION TOWARDS THE EXISTING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR IS RESPONSIBLE
- 2. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF DEMOLITION ACTIVITIES.
 3. EXPLOSIVES SHALL NOT BE USED UNLESS WRITTEN CONSENT FROM BOTH THE OWNER AND ANY APPLICABLE GOVERNING AGENCY IS OBTAINED. BEFORE THE START OF ANY EXPLOSIVE PROGRAM, THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL LOCAL, STATE, AND FEDERAL PERMITS. ADDITIONALLY, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL SEISMIC TESTING AS REQUIRED AND ANY
- WITH LOCAL, STATE, AND FEDERAL CODES. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL UTILITIES ARE DISCONNECTED IN ACCORDANCE WITH THE UTILITY AUTHORITY'S REQUIREMENTS PRIOR TO STARTING THE DEMOLITION OF ANY STRUCTURE. ALL EXCAVATIONS ASSOCIATED WITH DEMOLISHED STRUCTURES OR REMOVED TANKS SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO SUPPORT SITE AND BUILDING IMPROVEMENTS.

 A GEOTECHNICAL ENGINEER SHOULD BE PRESENT DURING BACKFILLING ACTIVITIES TO OBSERVE AND CERTIFY THAT BACKFILL

		REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION
		КН	NB/JD	NB/JD	ВҮ
		06/12/2024	05/09/2024	04/09/2024	DATE
		٣	2	_	ISSUE
APPROV	ED FOR C	CON	STR	UC	ΓΙΟΝ







I" = 30' PROJECT ID: DET-230091.01

DEMOLITION / TREE REMOVAL PLAN

DRAWING:

DEMOLITION NOTES

DONATION TO

TREE FUND;

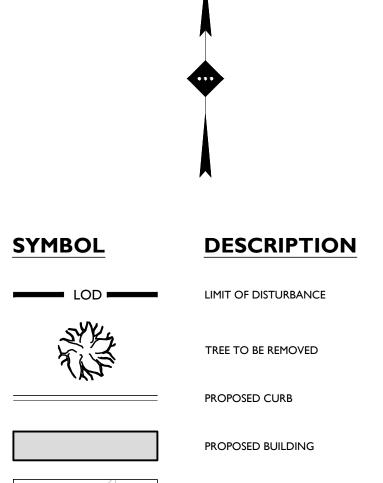
TO REVIEW THE ENTIRE PLAN SET AND ASSOCIATED REPORTS/REFERENCE DOCUMENTS INCLUDING ALL DEMOLITION ACTIVITIES AND INCIDENTAL TASKS NECESSARY TO COMPLETE THE SITE IMPROVEMENTS.

DAMAGES AS THE RESULT OF SAID DEMOLITION PRACTICES. 4. ALL DEMOLITION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE MATERIAL WAS COMPACTED TO A SUITABLE CONDITION.

5. DEMOLISHED DEBRIS SHALL NOT BE BURIED ON SITE. ALL WASTE/DEBRIS GENERATED FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL RECORDS OF THE DISPOSAL TO DEMONSTRATE COMPLIANCE WITH THE ABOVE REGULATIONS.







PROPOSED CONCRETE

PROPOSED GRADING CONTOUR

ALL SITE FEATURES WITHIN THE LIMIT OF DISTURBANCE INDICATED ON THIS PLAN ARE TO REMAIN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF SIGNIFICANT DISCREPANCIES ARE DISCERNED BETWEEN THIS PLAN AND FIELD CONDITIONS

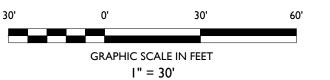


DEMOLITION NOTES

DONATION TO TREE FUND;

- I. THE WORK REFLECTED ON THE DEMOLITION PLAN IS TO PROVIDE GENERAL INFORMATION TOWARDS THE EXISTING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR IS RESPONSIBLE TO REVIEW THE ENTIRE PLAN SET AND ASSOCIATED REPORTS/REFERENCE DOCUMENTS INCLUDING ALL DEMOLITION ACTIVITIES AND INCIDENTAL TASKS NECESSARY TO COMPLETE THE
- SITE IMPROVEMENTS.
- 2. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF DEMOLITION ACTIVITIES.
 3. EXPLOSIVES SHALL NOT BE USED UNLESS WRITTEN CONSENT FROM BOTH THE OWNER AND ANY APPLICABLE GOVERNING AGENCY IS OBTAINED. BEFORE THE START OF ANY EXPLOSIVE PROGRAM, THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL LOCAL, STATE, AND FEDERAL PERMITS. ADDITIONALLY, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL SEISMIC TESTING AS REQUIRED AND ANY DAMAGES AS THE RESULT OF SAID DEMOLITION PRACTICES.
- ALL DEMOLITION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL CODES. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL UTILITIES ARE DISCONNECTED IN ACCORDANCE WITH THE UTILITY AUTHORITY'S REQUIREMENTS PRIOR TO STARTING THE DEMOLITION OF ANY STRUCTURE. ALL EXCAVATIONS ASSOCIATED WITH DEMOLISHED STRUCTURES OR REMOVED TANKS SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO SUPPORT SITE AND BUILDING IMPROVEMENTS.

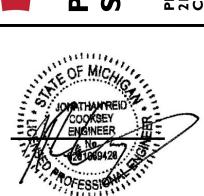
 A GEOTECHNICAL ENGINEER SHOULD BE PRESENT DURING BACKFILLING ACTIVITIES TO OBSERVE AND CERTIFY THAT BACKFILL MATERIAL WAS COMPACTED TO A SUITABLE CONDITION.
- 5. DEMOLISHED DEBRIS SHALL NOT BE BURIED ON SITE. ALL WASTE/DEBRIS GENERATED FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL RECORDS OF THE DISPOSAL TO DEMONSTRATE COMPLIANCE WITH THE ABOVE REGULATIONS.



		REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION
		КН	NB/JD	NB/JD	ВҮ
		06/12/2024	05/09/2024	04/09/2024	DATE
		3	2	-	ISSUE

NOT APPROVED FOR CONSTRUCTION







I" = 30' PROJECT ID: DET-230091.01

TREE REMOVAL PLAN & SITE PLAN OVERLAY

DRAWING:

Tree #	d.b.h.	Canopy Radius (feet)	est Michigan Avenu Botanical Name	Common Name	Condition	Comments	(N) Not Regulated (s = size, sp = species, c = condition)	Historic (H) Specimen (S)	Reccomendation
4992	14	15	Juglans spp.	Walnut	poor	- Extensive rot/hollow @ crotch	N (c)	Specimen (S)	To Remain
4993	9/7	9	Catalpa speciosa	Northern Catalpa	fair	- Contorted crown	()		To Remain
4994	13	14	Populus deltoides	Cottonwood	fair	- Dead branch(es)			To Remain
4995	14	15	Populus deltoides	Cottonwood	fair	- Bent/crooked/bowed leader			To Remain
4996	10	13	<u> </u>	Siberian Elm	fair	- Bent/crooked/bowed leader			To Remain
4997	15	16	Ulmus pumila	Cottonwood		- I-sided crown			To Remain
			Populus deltoides		fair				
4998	10	-	Populus deltoides	Cottonwood	fair	- I-sided crown			To Remain
4999	7	7	Salix spp.	Willow	poor	- HAZARD - Broken trunk/leader	N (s, c)		To Remain
5000	13	14	Populus deltoides	Cottonwood	fair	- Bent/crooked/bowed leader			To Remain
5001	14	15	Populus deltoides	Cottonwood	fair	- Dead branch(es)			To Remain
5002	13	14	Populus deltoides	Cottonwood	fair	- Contorted crown			To Remain
5003	16	17	Juglans spp.	Walnut	fair	- Dead branch(es)			To Remain
5004	18	19	Juglans spp.	Walnut	good				To Remain
5005	17 / 15	18	Morus spp.	Mulberry	poor	- Lean > 45 degrees	N (c)		To Remain
5006	23				dead		N (c)		To Remain
5007	17	18	Morus spp.	Mulberry	fair	- Contorted crown	()		To Remain
5008	33	10	Populus deltoides	Cottonwood	poor	- 75% or more dead	N (c)		To Remain
5009	8	8	Juglans spp.	Walnut	fair	- Dead branch(es)	(-)		To Remain
5010	9	9	Catalpa speciosa	Northern Catalpa	fair	- Dead branch(es)			To Remain
				· ·		- Dead branch(es)			
5011	9	9	Ulmus spp.	Elm	good	-			To Remain
5012	10	П	Juglans spp.	Walnut	fair	- Dead branch(es)			To Remain
5013	8/4	8	Juglans spp.	Walnut	fair	- Contorted crown			To Remain
5014	8	8	Juglans spp.	Walnut	fair	- Dead branch(es)			To Remain
5015	7/6	7	Juglans spp.	Walnut	fair	- 'V'-shaped crotch(es)	N (s)		To Remain
5016	15	5	Malus spp.	Apple / Crabapple	poor	- 75% or more dead	N (c)		To Remain
5017	7	7	Juglans spp.	Walnut	good		N (s)		To Remain
5018	11	12	Acer negundo	Boxelder	fair	- Contorted crown			To Be Removed
5019	9	9	Juglans spp.	Walnut	fair	- Dead branch(es)			To Be Removed
5020	10	П	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader			To Be Removed
502 I	21	22	Juglans spp.	Walnut	fair	- Dead branch(es)			To Be Removed
5022	10	11	Juglans spp.	Walnut	fair	- Dead branch(es)			To Be Removed
5023	10	11	Tilia americana	American Linden		- Dead branch(es)			To Be Removed
					good	F09/ dd	NI (-)		To Be Removed
5024	26	20	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)		
5025	8	8	Prunus spp.	Cherry	fair	- Bent/crooked/bowed leader			To Remain
5026	9	9	Juglans spp.	Walnut	fair	- Contorted crown			To Remain
5027	26	27	Prunus serotina	Black Cherry	fair	- Dead branch(es)			To Remain
5028	9	9	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader			To Remain
5029	8	8	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader			To Remain
5030	9	9	Catalpa speciosa	Northern Catalpa	fair	- Dead branch(es)			To Remain
503 I	9	9	Juglans spp.	Walnut	good				To Remain
5032	12	13	Catalþa speciosa	Northern Catalpa	fair	- Contorted crown			To Remain
5033	11	10	 Juglans spp.	Walnut	poor	- Split(ting)/break(ing) apart	N (c)		To Remain
5034	10	П	Juglans spp.	Walnut	good		()		To Remain
5035	8	8	Juglans spp.	Walnut	good				To Remain
5036	9	9	Juglans spp.	Walnut	good				To Remain
5037	22	23	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)		To Remain
5038	18	19		Elm	fair	- I-sided crown	14 (c)		To Remain
			Ulmus spp.						
5039	12	13	Ulmus spp.	Elm	fair	- Contorted crown			To Be Removed
5040	18	15	Prunus serotina	Black Cherry	poor	- Split(ting)/break(ing) apart	N (c)		To Be Removed
5041	14	15	Prunus serotina	Black Cherry	fair	- Dead branch(es)			To Be Removed
5042	8	8	Juglans spp.	Walnut	fair	- Dead branch(es)			To Be Removed
5043	12/6	13	Juglans spp.	Walnut	fair	- Contorted crown			To Be Removed
5044	12/9	13	Juglans spp.	Walnut	poor	- Split(ting)/break(ing) apart	N (c)		To Be Removed
5045	14/7	15	Ulmus spp.	Elm	fair	- Contorted crown			To Be Removed
5046	10	П	Prunus serotina	Black Cherry	fair	- Bent/crooked/bowed leader			To Remain
5047	8	8	Prunus serotina	Black Cherry	fair	- Bent/crooked/bowed leader			To Remain
5048	12	13	Prunus serotina	Black Cherry	poor	- Extensive rot & dead branches	N (c)		To Be Removed
5049	17	18	Prunus serotina	Black Cherry	poor	- Extensive rot & dead branches	N (c)		To Remain
5050	17	5	Prunus serotina	Black Cherry	•	- 75% or more dead	N (c)		To Remain
5051	12	13	Prunus serotina Prunus serotina	, , , , , , , , , , , , , , , , , , ,	poor fair	- 75% or more dead - Bent/crooked/bowed leader	1 4 (C)		To Remain
				Black Cherry			KI / A		
5052	21/9/9	10	Acer negundo	Boxelder	•	arger trunk(s) dead & substantial	N (c)		To Be Removed
5053	10	П	Prunus spp.	Cherry	fair 	- Vine-choked			To Be Removed
5054	8		_		dead		N (c)		To Be Removed
5055	8	8	Acer negundo	Boxelder	fair	- Contorted crown			To Be Removed
5056	8	8	Acer negundo	Boxelder	fair	- Bent/crooked/bowed leader			To Be Removed
5057	8	8	Prunus spp.	Cherry	poor	- 75% or more dead	N (c)		To Be Removed
5058	8		_		dead		N (c)		To Be Removed
5059	9/9/7	9	Prunus spp.	Cherry	poor	- 50% or more dead	N (c)		To Be Removed
5060	9	9	Ulmus spp.	Elm	fair	- Contorted crown	\		To Be Removed
5061	8	8	Populus deltoides	Cottonwood	poor	- 50% or more dead	N (c)		To Be Removed
	11		, opinas acitolaes			- 50% OF HIGHE GEAG	* *		
5062					dead		N (c)		To Be Removed
5063	10		-		dead		N (c)		To Be Removed
5064	9	9	Juglans spp.	Walnut	fair	- Contorted crown			To Be Removed
5065	13	14	Juglans spp.	Walnut	good				To Be Removed
5066	8	8	Juglans spp.	Walnut	good				To Be Removed
5067	11/10	12	Acer negundo	Boxelder	poor	Partially uprooted / knocked ove	N (c)		To Be Removed
5068	20/13/11	21	Morus spp.	Mulberry	fair	- Contorted crown			To Be Removed
5069	20				dead		N (c)		To Be Removed
5070	36	38	Quercus spp.	Oak (white family)	fair	- Dead branch(es)	(~)		To Be Removed
				` ,		` ,			
5071	28	29	Quercus spp.	Oak (red family)	fair	- Rot in trunk			To Be Removed
5072	10/7	11	Morus spp.	Mulberry	fair	- Contorted crown			To Be Removed
5073	26	20	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)		To Be Removed
5074	12/3	13	Juglans spp.	Walnut	fair	- 'V'-shaped crotch(es)			To Be Removed
5075	23	15	Prunus serotina	Black Cherry	poor	- 75% or more dead	N (c)		To Be Removed
	8	8		Northern Catalpa	fair	- Contorted crown	\		To Be Removed
5074	9		Catalpa speciosa	'					
5076		9	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader			To Be Removed
5077		_	, ,	14/ 1		Calledo An Los	K 1 / 3		T 0 0
5077 5078	П	0	Juglans spp.	Walnut	poor	- Split(ting)/break(ing) apart	N (c)		To Be Removed
5076 5077 5078 5079 5080		0 7 13	Juglans spp. Juglans spp. Juglans spp.	Walnut Walnut Walnut	poor fair good	- Split(ting)/break(ing) apart - Bent/crooked/bowed leader	N (c) N (s)		To Be Removed To Be Removed To Be Removed

5080	12	13	Juglans spp.	Walnut	good	
TDEE SI	IDVEV COMP		FEC CLIPA (EVILLO DATE	- D 0/20/2022		_
TREE SU	JRVEY COMP	LETED BY KEM-T	TEC SURVEYING DATE	D 9/29/2023.		

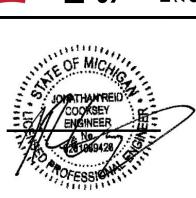
5081 5082		10		10 / 1				T D D
	11	12	Juglans spp.	Walnut	fair	- Dead branch(es)		To Be Removed
	9	9	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader		To Remain
5083	9	9	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader		To Be Removed
5084	9	9	Juglans spp.	Walnut	good			To Be Removed
5085	7	7	Juglans spp.	Walnut	good		N (s)	To Be Removed
5086	14/4	15	Juglans spp.	Walnut	fair	- Smaller trunk(s) dead	()	To Be Removed
5087	10/8	11	Catalpa speciosa	Northern Catalpa	fair	- Contorted crown		To Be Removed
	_		<u> </u>	•		- Contorted from		
5088	8	8	Juglans spp.	Walnut	good			To Be Removed
5089	24	20	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)	To Be Removed
090	20	15	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)	To Be Removed
091	21	22	Juglans spp.	Walnut	good	-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	To Be Removed
5092	9	9	Juglans spp.	Walnut	fair	- Broken branch(es)		To Be Removed
5093	22	20	Prunus serotina	Black Cherry	fair	- Dead branch(es)		To Be Removed
5094	25	26	Prunus serotina	Black Cherry	fair	- Rot in trunk		To Be Removed
5095	32	34	Prunus serotina	Black Cherry	fair	- Dead branch(es)		To Be Removed
				,		, ,	NI/)	
5096	28	25	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)	To Be Removed
5097	27	25	Prunus serotina	Black Cherry	poor	- Extensive rot & dead branches	N (c)	To Be Removed
5098	8	8	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader		To Be Removed
5099	16/10/	10	Acer negundo	Boxelder	poor	- Split(ting)/break(ing) apart	N (c)	To Be Removed
5100	17/9	18	Acer negundo	Boxelder	•	- Extensive rot & dead branches		To Be Removed
	•				poor		N (c)	
5101	12	13	Morus spp.	Mulberry	fair	- Contorted crown		To Be Removed
5102	10	11	Juglans spp.	Walnut	fair	- I-sided crown		To Be Removed
5103	23	24	Ulmus spp.	Elm	fair	- Dead branch(es)		To Remain
5104	11/11	12		Mulberry	- Door	- Extensive rot & dead branches	NI (c)	To Be Removed
	•		Morus spp.	,	poor		N (c)	
5105	7	7	Morus spp.	Mulberry	fair	- Contorted crown	N (s)	To Be Removed
5106	10	11	Acer platanoides	Norway Maple	good			To Be Removed
5107	П	12	Juglans spp.	Walnut	good			To Be Removed
5108	10	11	Juglans spp.	Walnut	fair	- Broken branch(es)		To Be Removed
			+			- Di Okeli Di alicii(es)		
5109		12	Celtis occidentalis	Hackberry	good			To Be Removed
5110	29	25	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)	To Be Removed
5111	28	20	Prunus serotina	Black Cherry	poor	- Extensive rot & dead branches	N (c)	To Be Removed
5112	26	20	Prunus serotina	Black Cherry	<u> </u>	- 50% or more dead	N (c)	To Be Removed
	_		rrunus serouna	•	poor	- 50% of more dead	• • • • • • • • • • • • • • • • • • • •	
5113	10				dead		N (c)	To Be Removed
5114	10/4/2	П	Ulmus spp.	Elm	fair	- Contorted crown		To Be Removed
5115	18	10	Prunus serotina	Black Cherry	poor	- 75% or more dead	N (c)	To Be Removed
5116	14	15	Pseudotsuga menziesii	Douglasfir	·	ower/shaded branches dead/missing	()	To Be Removed
					fair			
5117	9	9	Juglans spp.	Walnut	fair	- Contorted crown		To Be Removed
5118	12	13	Juglans spp.	Walnut	good			To Be Removed
5119	8	5	Ulmus pumila	Siberian Elm	poor	- 50% or more dead	N (c)	To Be Removed
	12 /		Parimo		dead		` '	To Be Removed
5120	_		 				N (c)	
5121	49	45	Acer saccharinum	Silver Maple	poor	- Hollow/extensive rot	N (c)	To Remain
5122	12 / 12	13	Juglans spp.	Walnut	fair	- Contorted crown		To Be Removed
5123	13	14	Juglans spp.	Walnut	fair	- Leaning		To Be Removed
						-		
5124	13	14	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader		To Be Removed
5125	8/7	8	Acer platanoides	Norway Maple	fair	- Contorted crown		To Be Removed
5126	8	8	Juglans spp.	Walnut	fair	- Contorted crown		To Be Removed
5127	8	5	Juglans spp.	Walnut	poor	- 50% or more dead	N (c)	To Be Removed
					•		(6)	
5128	13 / 13 / 11	14	Juglans spp.	Walnut	fair	- 'V'-shaped crotch(es)		To Be Removed
5129	12	13	Juglans spp.	Walnut	fair	- I-sided crown		To Be Removed
5130	9	9	Juglans spp.	Walnut	fair	- Dead branch(es)		To Be Removed
5131		12	Juglans spp.	Walnut	good	. ,		To Be Removed
5132	8/7/3	8	Morus spp.	Mulberry	fair	- Smaller trunk(s) dead		To Be Removed
5133	7/4	7	Acer negundo	Boxelder	fair	- Contorted crown	N (s)	To Be Removed
5134	8	8	Prunus serotina	Black Cherry	fair	- I-sided crown		To Be Removed
5135	8	8	Prunus serotina	Black Cherry	fair	- Leaning		To Be Removed
				,		-	NI/)	
5136	31/21	33	Morus spp.	Mulberry	poor	- Split(ting)/break(ing) apart	N (c)	To Be Removed
5137	12	13	Acer platanoides	Norway Maple	fair	- Leaning		To Be Removed
5138	8	8	Ulmus spp.	Elm	fair	- Contorted crown		To Be Removed
5139	8	8	Ulmus pumila	Siberian Elm	fair	- Extensive rot & dead branches		To Be Removed
			-					
5140	14/8	15	Morus spp.	Mulberry	fair	- Contorted crown	1	To Be Removed
	8/8/6/		_			•		+
5141					dead		N (c)	To Be Removed
	П	12	Juglans spp.	Walnut	dead fair	- Contorted crown	N (c)	To Be Removed To Be Removed
5141 5142				Walnut	fair		N (c)	
5141 5142 5143	П	12	Juglans spp.	Walnut Walnut	fair fair	- Dead branch(es)	N (c)	To Be Removed To Be Removed
5141 5142 5143 5144	11	12	Juglans spp. Juglans spp.	Walnut Walnut Walnut	fair fair fair	- Dead branch(es) - Bent/crooked/bowed leader	N (c)	To Be Removed To Be Removed To Be Removed
5141 5142 5143 5144	11	12	Juglans spp.	Walnut Walnut	fair fair	- Dead branch(es)	N (c)	To Be Removed To Be Removed To Be Removed To Be Removed
5141 5142 5143 5144 5145	11	12	Juglans spp. Juglans spp.	Walnut Walnut Walnut	fair fair fair	- Dead branch(es) - Bent/crooked/bowed leader	N (c)	To Be Removed To Be Removed To Be Removed
5141 5142 5143 5144 5145 5146	11	12 14 8 5	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader		To Be Removed To Be Removed To Be Removed To Be Removed
5141 5142 5143 5144 5145 5146 5147	11 13 8 17 21	12 14 8 5	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple Norway Maple	fair fair fair fair poor fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead		To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148	11 13 8 17 21 17	12 14 8 5 22 18	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Acer platanoides Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple Norway Maple Norway Maple	fair fair fair fair fair poor fair good	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147	11 13 8 17 21	12 14 8 5	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple Norway Maple	fair fair fair fair poor fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead		To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149	11 13 8 17 21 17	12 14 8 5 22 18	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Acer platanoides Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple Norway Maple Norway Maple	fair fair fair fair fair poor fair good	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150	11 13 8 17 21 17	12 14 8 5 22 18 15	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple Norway Maple Norway Maple Norway Maple Norway Maple	fair fair fair fair poor fair good	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150	11 13 8 17 21 17 17 11	12 14 8 5 22 18 15	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor poor fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151	11 13 8 17 21 17 17 11 14/13	12 14 8 5 22 18 15 12	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair fair poor fair good poor poor fair fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151	11 13 8 17 21 17 17 11	12 14 8 5 22 18 15	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor poor fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152	11 13 8 17 21 17 17 11 14/13	12 14 8 5 22 18 15 12	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair fair poor fair good poor poor fair fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154	11 13 8 17 21 17 17 11 14/13 15 10/3	12 14 8 5 22 18 15 12 15 16 11	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor poor fair fair fair fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Contorted crown - Smaller trunk(s) dead	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154	11 13 8 17 21 17 17 11 14/13 15 10/3	12 14 8 5 22 18 15 12 15 16 11	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor fair fair fair fair fair fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Contorted crown - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156	11 13 8 17 21 17 17 11 14/13 15 10/3 10	12 14 8 5 22 18 15 12 15 16 11 11	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor fair fair fair fair fair fair fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Contorted crown - Smaller trunk(s) dead - Contorted crown - Bent/crooked/bowed leader	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155	11 13 8 17 21 17 17 11 14/13 15 10/3	12 14 8 5 22 18 15 12 15 16 11	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor fair fair fair fair fair fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Contorted crown - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157	11 13 8 17 21 17 17 11 14/13 15 10/3 10	12 14 8 5 22 18 15 12 15 16 11 11	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor fair fair fair fair fair fair fair	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Contorted crown - Smaller trunk(s) dead - Contorted crown - Bent/crooked/bowed leader	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 13 9 8	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 13 9 8 18/18	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Contorted crown - Smaller trunk(s) dead - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 13 9 8	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Gontorted crown - Gontorted crown - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 13 9 8 18/18	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Contorted crown - Smaller trunk(s) dead - Contorted crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 13 9 8 18/18 23 8	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Contorted crown - Smaller trunk(s) dead - Contorted crown - Gontorted crown - Gontorted crown - Contorted crown - Contorted crown - Contorted crown - Contorted crown - I-sided crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161 5162	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 13 9 8 18/18 23 8 11/10	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8 12	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Juglans spp. Juglans spp.	Walnut Walnut Walnut Walnut Norway Maple Walnut	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Girdling root(s) - I-sided crown - 'V'-shaped crotch(es)	N (c) N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161 5162	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 13 9 8 18/18 23 8	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8	Juglans spp. Juglans spp. Juglans spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Contorted crown - Smaller trunk(s) dead - Contorted crown - Gontorted crown - Gontorted crown - Contorted crown - Contorted crown - Contorted crown - Contorted crown - I-sided crown	N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5155 5156 5157 5158 5159 5160 5161 5162 5163	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 13 9 8 18/18 23 8 11/10	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8 12	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Juglans spp. Juglans spp.	Walnut Walnut Walnut Walnut Norway Maple Walnut	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Girdling root(s) - I-sided crown - 'V'-shaped crotch(es)	N (c) N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161 5162 5163 5164	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 13 9 8 18/18 23 8 11/10 31 30	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8 12 33 32	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Juglans spp. Juglans spp. Acer saccharinum Ulmus pumila	Walnut Walnut Walnut Walnut Norway Maple Silver Maple Silver Maple Siberian Elm	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Bent/crooked/bowed leader - Contorted crown - 'V'-shaped crotch(es) - I-sided crown - 'V'-shaped crotch(es) - Extensive rot & dead branches - Dead branch(es)	N (c) N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161 5162 5163 5164 5165	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 10 13 9 8 18/18 23 8 11/10 31 30 13/13/8	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8 12 33 32 15	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Ulmus spp. Ulmus pumila Thuja spp.	Walnut Walnut Walnut Walnut Norway Maple Sorway Maple Norway Maple Norway Maple Norway Maple Norway Maple Sorway Maple Norway Maple Norway Maple Sorway Maple Siberian Elm Arborvitae	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Gontorted crown - Gontorted crown - I-sided crown - 'V'-shaped crotch(es) - I-sided crown - 'V'-shaped crotch(es) - Extensive rot & dead branches - Dead branch(es) - Smaller trunk(s) dead	N (c) N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161 5162 5163 5164 5165		12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8 12 33 32 15 17	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Ulglans spp. Juglans spp. Acer saccharinum Ulmus pumila Thuja spp. Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple Sorway Maple Norway Maple Norway Maple Norway Maple Norway Maple Sorway Maple Silver Maple Siberian Elm Arborvitae Norway Maple	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Bent/crooked/bowed leader - Contorted crown - 'V'-shaped crotch(es) - I-sided crown - 'V'-shaped crotch(es) - Extensive rot & dead branches - Dead branch(es)	N (c) N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161 5162 5163 5164 5165 5165 5165	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 10 13 9 8 18/18 23 8 11/10 31 30 13/13/8	12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8 12 33 32 15	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Ulmus spp. Ulmus pumila Thuja spp.	Walnut Walnut Walnut Walnut Norway Maple Sorway Maple Norway Maple Norway Maple Norway Maple Norway Maple Sorway Maple Silver Maple Siberian Elm Arborvitae Norway Maple	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Gontorted crown - Gontorted crown - I-sided crown - 'V'-shaped crotch(es) - I-sided crown - 'V'-shaped crotch(es) - Extensive rot & dead branches - Dead branch(es) - Smaller trunk(s) dead	N (c) N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161 5162 5163 5164 5165 5166 5167	11 13 8 17 21 17 17 11 14/13 15 10/3 10 10 10 13 9 8 18/18 23 8 11/10 31 30 13/13/8 16 29	12 14 8 5 22 18 15 16 11 11 11 14 9 8 20 24 8 12 33 32 15 17	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Juglans spp. Juglans spp. Acer saccharinum Ulmus pumila Thuja spp. Acer platanoides ditsia triacanthos 'Inerna	Walnut Walnut Walnut Walnut Norway Maple Sorway Maple Norway Maple Norway Maple Norway Maple Norway Maple Sorway Maple Norway Maple Siberian Elm Arborvitae Norway Maple	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Gontorted crown - Gontorted crown - I-sided crown - 'V'-shaped crotch(es) - I-sided crown - 'V'-shaped crotch(es) - Extensive rot & dead branches - Dead branch(es) - Smaller trunk(s) dead	N (c) N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161 5162 5163 5164 5165 5165 5165 5165 5166 5167 5168		12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8 12 33 32 15 17 30 14	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Unglans spp. Juglans spp. Acer saccharinum Ulmus pumila Thuja spp. Acer platanoides ditsia triacanthos 'Inernata'	Walnut Walnut Walnut Walnut Norway Maple Sorway Maple Norway Maple Norway Maple Norway Maple Norway Maple Sorway Maple Norway Maple Siberian Elm Arborvitae Norway Maple siless Honeylocust (fe	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Gontorted crown - Gontorted crown - I-sided crown - 'V'-shaped crotch(es) - I-sided crown - 'V'-shaped crotch(es) - Extensive rot & dead branches - Dead branch(es) - Smaller trunk(s) dead	N (c) N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5156 5157 5158 5159 5160 5161 5162 5163 5164 5165 5166 5167 5168 5168		12 14 8 5 22 18 15 16 11 11 11 14 9 8 20 24 8 12 33 32 15 17 30 14 11	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Juglans spp. Juglans spp. Acer saccharinum Ulmus pumila Thuja spp. Acer platanoides ditsia triacanthos 'Inernates Acer platanoides Acer platanoides	Walnut Walnut Walnut Walnut Norway Maple Sorway Maple Norway Maple Siberian Elm Arborvitae Norway Maple siless Honeylocust (fe Norway Maple	fair fair fair good poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Gontorted crown - Gontorted crown - 'V'-shaped crotch(es) - I-sided crown - 'V'-shaped crotch(es) - Extensive rot & dead branches - Dead branch(es) - Smaller trunk(s) dead - 'V'-shaped crotch(es)	N (c) N (c)	To Be Removed
5141 5142 5143 5144 5145 5146 5147 5148 5149 5150 5151 5152 5153 5154 5155 5155 5156 5157 5158 5159 5160 5161 5162 5163 5164 5163		12 14 8 5 22 18 15 12 15 16 11 11 14 9 8 20 24 8 12 33 32 15 17 30 14	Juglans spp. Juglans spp. Juglans spp. Acer platanoides Unglans spp. Juglans spp. Acer saccharinum Ulmus pumila Thuja spp. Acer platanoides ditsia triacanthos 'Inernata'	Walnut Walnut Walnut Walnut Norway Maple Sorway Maple Norway Maple Norway Maple Norway Maple Norway Maple Sorway Maple Norway Maple Siberian Elm Arborvitae Norway Maple siless Honeylocust (fe	fair fair fair poor fair good poor poor fair fair fair fair fair fair fair fai	- Dead branch(es) - Bent/crooked/bowed leader - Bent/crooked/bowed leader - 75% or more dead - I-sided crown - 75% or more dead - Extensive rot & dead branches - Contorted crown - Smaller trunk(s) dead - Contorted crown - Gontorted crown - Gontorted crown - I-sided crown - 'V'-shaped crotch(es) - I-sided crown - 'V'-shaped crotch(es) - Extensive rot & dead branches - Dead branch(es) - Smaller trunk(s) dead	N (c) N (c)	To Be Removed

TREE SURVEY COMPLETED BY KEM-TEC SURVEYING DATED 9/29/2023.

						REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION
						КН	NB/JD	NB/JD	ВУ
						06/12/2024	05/09/2024	04/09/2024	DATE
						8	2	_	ISSUE
NO	T AP	PRO	VEC	FC	R C	ON	STR	UC	ΓΙΟΝ

STONEFIELD engineering & design







I" = 30' PROJECT ID: DET-230091.01

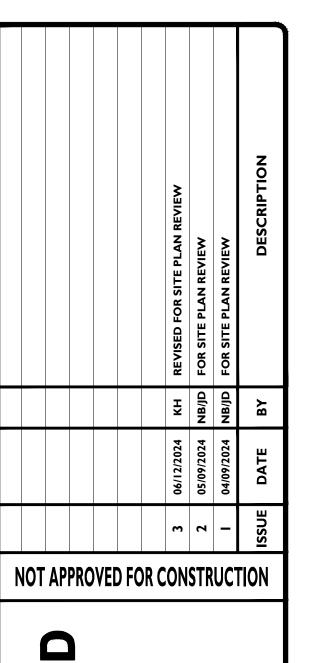
TREE INVENTORY

5172	ı							
	18	19	Quercus spp.	Oak (white family)	good			To Remain
5173	21	22	Juglans spp.	Walnut	good			To Remain
5174	10		Juglans spp.	Walnut	fair	- Contorted crown		To Remain
5175	13	14	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader		To Remain
5176	30 / 28	35	Quercus spp.	Oak (white family)	fair	- 'V'-shaped crotch(es)		To Remain
5177	32	34	Ulmus spp.	Elm	fair	- Smaller trunk(s) dead		To Remain
5178	9		_		dead		N (c)	To Remain
5179	27	28	Quercus spp.	Oak (red family)	fair	- Leaning		To Remain
5180	11	5	Prunus spp.	Cherry	poor	- 75% or more dead	N (c)	To Remain
5181	11	10	· · · · · · · · · · · · · · · · · · ·	Cherry	•	- 50% or more dead	N (c)	To Remain
			Prunus spp.	,	poor		IN (C)	
5182	10	11	Acer rubrum	Red Maple	fair 	- Bent/crooked/bowed leader		To Remain
5183	8	5	Prunus spp.	Cherry	poor	- 75% or more dead	N (c)	To Remain
5184	12	5	Prunus spp.	Cherry	poor	- 75% or more dead	N (c)	To Remain
5185	Ш		_		dead		N (c)	To Remain
5186	11				dead		N (c)	To Remain
5187	15					759/	. ,	
		5	Prunus spp.	Cherry	poor	- 75% or more dead	N (c)	To Remain
5188	20 /	21	Prunus serotina	Black Cherry	fair	- 'V'-shaped crotch(es)		To Remain
5189	16	17	Prunus serotina	Black Cherry	fair	- Dead branch(es)		To Remain
5190	20		_		dead		N (c)	To Remain
5191	25	26	Acer negundo	Boxelder	poor	- Extensive rot & dead branches	N (c)	To Remain
5192	26	27	Prunus serotina	Black Cherry	fair	- Dead branch(es)	(-)	To Remain
				,		, ,		
5193	22	23	Ulmus spp.	Elm	fair	- Dead branch(es)		To Remain
194	8	8	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader		To Remain
5195	7	7	Ulmus spp.	Elm	fair	- Contorted crown	N (s)	To Remain
5196	10	5	Prunus serotina	Black Cherry	poor	- 75% or more dead	N (c)	To Remain
5197	13	14	Acer platanoides	Norway Maple	fair	- Leaning	(-)	To Remain
	_		·	, ,			KI / X	
5198	23	10	Acer negundo	Boxelder	poor	- 75% or more dead	N (c)	To Remain
5199	- 11				dead		N (c)	To Remain
5200	8	8	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader		To Remain
5201	20	21	Prunus serotina	Black Cherry	good			To Remain
5202	20	21	Prunus serotina	Black Cherry	good			To Remain
				,	=			
5203	8	8	Juglans spp.	Walnut	good			To Remain
5204	20	21	Prunus serotina	Black Cherry	fair	- Dead branch(es)		To Remain
5205	Ш		_		dead		N (c)	To Remain
5206	14	15	Prunus serotina	Black Cherry	fair	- Contorted crown		To Remain
5207	12	13	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)	To Remain
			-	,	•		14 (c)	
5208	23	24	Prunus serotina	Black Cherry	fair 	- Dead branch(es)		To Be Remove
5209	7	7	Ulmus spp.	Elm	fair	- Contorted crown	N (s)	To Be Remove
5210	12	13	Ulmus spp.	Elm	fair	- Bent/crooked/bowed leader		To Be Remove
5211	12	13	Ulmus spp.	Elm	fair	- Bent/crooked/bowed leader		To Remain
5212	10		Ulmus spp.	Elm	fair	- Bent/crooked/bowed leader		To Remain
5213	25	26	1	Oak (red family)			N (s)	To Remain
			Quercus spp.	` ',	poor	unk compromised from large wo	N (c)	
5214	13	10	Prunus serotina	Black Cherry	fair	- Unusually small crown		To Remain
5215	25	20	Morus spp.	Mulberry	poor	- Split(ting)/break(ing) apart	N (c)	To Remain
5216	13		_		dead		N (c)	To Remain
5217	23		Morus spp.	Mulberry	poor	Partially uprooted / knocked ove	N (c)	To Remain
5218	12	13	Prunus serotina	Black Cherry	fair	- Bent/crooked/bowed leader		To Remain
5219	25	26	Prunus serotina	Black Cherry	fair	- Dead branch(es)		To Remain
				,		` '		
5220	8	8	Ulmus spp.	Elm	fair	- Contorted crown		To Remain
522 I	9	5	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)	To Remain
5222	12	5	Prunus serotina	Black Cherry	poor	- 75% or more dead	N (c)	To Remain
5223	9	9	Ulmus spp.	Elm	fair	- Contorted crown		To Remain
5224	14	15	Ulmus spp.	Elm	fair	- Bent/crooked/bowed leader		To Remain
JZZT			Oimus spp.					To Remain
				Black Cherry	fair	- Unusually small crown		
5225	9	9	Prunus serotina					To Remain
5225			Prunus serotina Acer platanoides	Norway Maple	good	·		To Remain To Remain
5225 5226	9	9		Norway Maple Black Cherry	good fair	- Broken branch(es)		
5225 5226 5227	9 8 15	9	Acer platanoides	Black Cherry		- Broken branch(es)		To Remain To Remain
5225 5226 5227 5228	9 8 15	9 8 16 13	Acer platanoides Prunus serotina	, ,	fair fair		N (c)	To Remain To Remain To Remain
5225 5226 5227 5228 5229	9 8 15 12	9 8 16 13	Acer platanoides Prunus serotina Prunus serotina —	Black Cherry Black Cherry	fair fair dead	- Broken branch(es) - Unusually small crown	N (c)	To Remain To Remain To Remain To Remain
5225 5226 5227 5228 5229 5230	9 8 15 12 14	9 8 16 13 	Acer platanoides Prunus serotina Prunus serotina — Acer negundo	Black Cherry Black Cherry Boxelder	fair fair dead poor	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted o		To Remain To Remain To Remain To Remain To Remain To Remain
5225 5226 5227 5228 5229 5230	9 8 15 12	9 8 16 13	Acer platanoides Prunus serotina Prunus serotina —	Black Cherry Black Cherry Boxelder Elm	fair fair dead	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted o	, ,	To Remain
5225 5226 5227 5228 5229 5230 5231	9 8 15 12 14	9 8 16 13 	Acer platanoides Prunus serotina Prunus serotina — Acer negundo	Black Cherry Black Cherry Boxelder	fair fair dead poor	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted o	, ,	To Remain To Remain To Remain To Remain To Remain To Remain
5225 5226 5227 5228 5229 5230 5231	9 8 15 12 14 15	9 8 16 13 16	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp.	Black Cherry Black Cherry Boxelder Elm	fair fair dead poor fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted o	, ,	To Remain
5225 5226 5227 5228 5229 5230 5231 5232	9 8 15 12 14 15 13	9 8 16 13 16 14	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp.	Black Cherry Black Cherry Boxelder Elm Black Cherry Elm	fair fair dead poor fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of the contorted crown - I-sided crown - Contorted crown	N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234	9 8 15 12 14 15 13 18 9	9 8 16 13 16 14 19 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp.	Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut	fair fair dead poor fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk	, ,	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234	9 8 15 12 14 15 13 18 9 7	9 8 16 13 16 14 19 9 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp.	Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut	fair dead poor fair fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of the contorted crown - I-sided crown - Contorted crown	N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236	9 8 15 12 14 15 13 18 9 7 8	9 8 16 13 16 14 19 9 7 8	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp.	Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut	fair fair dead poor fair fair fair fair fair good	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader	N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236	9 8 15 12 14 15 13 18 9 7	9 8 16 13 16 14 19 9 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp.	Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut Elm	fair dead poor fair fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Bent/crooked/bowed leader	N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236	9 8 15 12 14 15 13 18 9 7 8	9 8 16 13 16 14 19 9 7 8	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp.	Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut	fair fair dead poor fair fair fair fair fair good	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader	N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238	9 8 15 12 14 15 13 18 9 7 8	9 8 16 13 16 14 19 9 7 8 8	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp.	Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut Elm	fair fair dead poor fair fair fair fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Bent/crooked/bowed leader	N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238	9 8 15 12 14 15 13 18 9 7 8 8 8	9 8 16 13 16 14 19 9 7 8 8 8	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Ulmus spp. Ulmus spp.	Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut Elm Walnut Elm Elm	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader	N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240	9 8 15 12 14 15 13 18 9 7 8 8 8 10	9 8 16 13 16 14 19 9 7 8 8 8 11	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Juglans spp. Morus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut Elm Walnut Elm Mulberry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning	N (c) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Frunus spp. Prunus spp. Prunus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut Elm Walnut Elm Mulberry Cherry	fair fair dead poor fair fair fair fair fair fair fair good fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader	N (c) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm	fair fair dead poor fair fair fair fair fair fair fair good fair fair fair good	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader	N (c) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Frunus spp. Prunus spp. Prunus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut Elm Walnut Elm Mulberry Cherry	fair fair dead poor fair fair fair fair fair fair fair good fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning	N (c) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm	fair fair dead poor fair fair fair fair fair fair fair good fair fair fair good	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader	N (c) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18 17 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Ulmus spp. Ulmus spp. Ulmus spp. Prunus spp. Prunus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm	fair fair dead poor fair fair fair fair fair fair good fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Gall(s)/canker(s) on trunk	N (c) N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Ulmus spp. Prunus spp. Prunus spp. Ulmus spp. Prunus spp. Prunus spp. Prunus spp. Prunus spp. Prunus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair good fair fair fair fair fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Prunus spp. Ulmus spp. Prunus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry Black Cherry	fair fair dead poor fair fair fair fair fair fair fair good fair fair fair fair fair fair foor good fair fair poor	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning tot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches	N (c) N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Ulmus spp. Prunus spp. Prunus spp. Ulmus spp. Prunus spp. Prunus spp. Prunus spp. Prunus spp. Prunus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair good fair fair fair fair fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - Extensive rot & dead branches - Unusually small crown	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Prunus spp. Ulmus spp. Prunus spp.	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry Black Cherry	fair fair dead poor fair fair fair fair fair fair fair good fair fair fair fair fair fair foor good fair fair poor	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning tot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Prunus spp. Ulmus spp. Prunus serotina Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Walnut Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry Black Cherry Black Cherry Black Cherry	fair fair dead poor fair fair fair fair fair fair fair good fair fair fair fair fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - Extensive rot & dead branches - Unusually small crown	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18 17 9 24 7 17 17 17 12 18 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Prunus spp. Ulmus spp. Prunus serotina Prunus serotina Prunus serotina	Black Cherry Black Cherry Black Cherry Boxelder Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 17 12 18 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning tot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Bent/crooked/bowed leader	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Prunus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es)	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 17 12 18 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning tot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Bent/crooked/bowed leader	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Prunus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es)	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 17 12 18 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning tot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk	N (c) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252 5253 5254	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair good fair fair fair fair fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning tot, dead branches, & significant leader - Gall(s)/canker(s) on trunk - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk	N (c) N (s) N (c) N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18 17 9 24 7 17 17 17 12 18 9 12 14 30 11 13 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Contorted crown - I-sided crown - I-sided crown - I-sided crown - Bent/crooked/bowed leader - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Contorted crown - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk	N (c) N (s) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252 5253 5254	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9 12 14 30 11 13 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Walnut Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair good fair fair fair fair fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning tot, dead branches, & significant leader - Leaning tot, dead branches, & significant leader - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader	N (c) N (s) N (c) N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252 5253 5254	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18 17 9 24 7 17 17 17 12 18 9 12 14 30 11 13 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Contorted crown - I-sided crown - I-sided crown - I-sided crown - Bent/crooked/bowed leader - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Contorted crown - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk	N (c) N (s) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5239 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252 5253 5254 5255 5256 5257	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9 12 14 30 11 13 7	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Ulmus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Walnut Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair good fair fair fair fair fair fair fair fair	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning tot, dead branches, & significant leader - Leaning tot, dead branches, & significant leader - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader	N (c) N (s) N (s) N (s)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252 5253 5254 5255 5256 5257 5258	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9 12 14 30 11 13 7 22 12	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Hrunus spp. Ulmus spp. Prunus spp. Prunus spp. Prunus spp. Prunus spp. Arunus spp. Prunus spp. Prunus spp. Prunus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning tot, dead branches, & significant leader - Leaning tot, dead branches, & significant leader - Contorted crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader	N (c) N (s) N (s) N (s) N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5240 5241 5242 5243 5244 5245 5246 5247 5248 5248 5249 5250 5251 5252 5253 5254 5255 5256 5257 5258	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7 21 11	9 8 16 13 16 14 19 9 7 8 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9 12 14 30 11 13 7 22 12 10 11	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Hrunus spp. Prunus spp. Ulmus spp. Prunus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Leaning ot, dead branches, & significant leader - I-sided crown - I-sided crown - I-sided crown - Bent/crooked/bowed leader - Unusually small crown - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader	N (c) N (s) N (s) N (s) N (c) N (c)	To Remain
5225 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5238 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252 5253 5254 5255 5256 5257 5258	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7 21 11 16 10 9/2	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9 12 14 30 11 13 7 22 12 10 11 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Hrunus spp. Vlmus spp. Prunus spp. Ulmus spp. Prunus serotina Respo. Morus spp. Prunus serotina Prunus serotina Rorus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Leaning ot, dead branches, & significant leader - I-sided crown - I-sided crown - I-sided crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader	N (c) N (s) N (s) N (s) N (c) N (c) N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5240 5241 5242 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252 5253 5254 5255 5256 5257 5258	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7 21 11 16 10 9/2	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9 12 14 30 11 13 7 22 12 10 11 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Hrunus spp. Prunus spp. Ulmus spp. Prunus spp. Ulmus spp. Prunus serotina Rrunus serotina Carya spp. Ulmus spp. Juglans spp. Ulmus spp. Prunus serotina Rrunus serotina Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry Common Buckthorn	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Leaning ot, dead branches, & significant leader - I-sided crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader unk compromised from large wo - Contorted crown - 75% or more dead - Dead branch(es) nker(s)/gall(s) & rot throughout to	N (c) N (s) N (s) N (s) N (c) N (c) N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252 5253 5254 5253 5254 5252 5253 5254 5255 5256 5257 5258 5259 5260 5261	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7 21 11 16 10 9/2	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9 12 14 30 11 13 7 22 12 10 11 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Hrunus spp. Vlmus spp. Prunus spp. Ulmus spp. Prunus serotina Respo. Morus spp. Prunus serotina Prunus serotina Rorus spp. Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Leaning ot, dead branches, & significant leader - I-sided crown - I-sided crown - I-sided crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader	N (c) N (s) N (s) N (s) N (c) N (c) N (c)	To Remain
5225 5226 5227 5228 5229 5230 5231 5232 5233 5234 5235 5236 5237 5240 5241 5242 5243 5244 5245 5246 5247 5248 5249 5250 5251 5252 5253 5254 5255 5256 5257 5258 5259 5260 5261	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7 21 11 16 10 9/2	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9 12 14 30 11 13 7 22 12 10 11 9	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Hrunus spp. Prunus spp. Ulmus spp. Prunus spp. Ulmus spp. Prunus serotina Rrunus serotina Carya spp. Ulmus spp. Juglans spp. Ulmus spp. Prunus serotina Rrunus serotina Prunus serotina	Black Cherry Black Cherry Black Cherry Black Cherry Elm Black Cherry Elm Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry Common Buckthorn	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Leaning ot, dead branches, & significant leader - I-sided crown - I-sided crown - I-sided crown - Extensive rot & dead branches - Unusually small crown - Bent/crooked/bowed leader - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader unk compromised from large wo - Contorted crown - 75% or more dead - Dead branch(es) nker(s)/gall(s) & rot throughout to	N (c) N (s) N (s) N (s) N (c) N (c) N (c)	To Remain
5225 5227 5228 5229 5230 5231 5232 5233 5234 5238 5238 5238 5238 5240 5240 5241 5242 5242 5243 5244 5245 5246 5247 5248 5248 5249 5250 5250 5250 5251 5252 5253 5254 5255 5256 5257	9 8 15 12 14 15 13 18 9 7 8 8 8 10 15 17/8 16 9 23 7 16 16 11 17 9 11 13 29 10 12 7 21 11 16 10 9/2	9 8 16 13 16 14 19 9 7 8 8 8 11 16 18 17 9 24 7 17 17 12 18 9 12 14 30 11 13 7 22 12 10 11	Acer platanoides Prunus serotina Prunus serotina — Acer negundo Ulmus spp. Prunus serotina Ulmus spp. Juglans spp. Juglans spp. Juglans spp. Ulmus spp. Hrunus spp. Ulmus spp. Prunus spp. Prunus spp. Prunus spp. Arunus spp. Prunus spp. Prunus spp. Ulmus spp. Prunus spp. Prunus serotina Rhamnus serotina Prunus spp. Ulmus spp. Ulmus spp. Prunus spp. Acer platanoides Prunus serotina Racer platanoides Prunus serotina Carya spp. Ulmus spp. Acer platanoides Prunus serotina Prunus serotina Rhamnus cathartica	Black Cherry Black Cherry Black Cherry Black Cherry Elm Walnut Walnut Walnut Elm Mulberry Cherry Elm Cherry Elm Black Cherry Common Buckthorn Common Buckthorn	fair fair dead poor fair fair fair fair fair fair fair fai	- Broken branch(es) - Unusually small crown d branches, leaning, & contorted of contorted crown - I-sided crown - Contorted crown - Rot in trunk - Bent/crooked/bowed leader - Broken branch(es) - Bent/crooked/bowed leader - Leaning ot, dead branches, & significant leader - Leaning ot, dead branches, & significant leader - Leaning - Contorted crown - I-sided crown - I-sided crown - Bent/crooked/bowed leader - Unusually small crown - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader - Contorted crown - Dead branch(es) - Gall(s)/canker(s) on trunk - Bent/crooked/bowed leader unk compromised from large wo - Contorted crown - 75% or more dead - Dead branch(es) nker(s)/gall(s) & rot throughout to nker(s)/gall(s) & rot throughout to nker(s)/gall(s) & rot throughout to	N (c) N (s) N (s) N (s) N (c) N (c) N (c)	To Remain

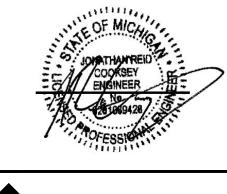
TREE SURVEY COMPLETED	BY KEM-TEC	SURVEYING	DATED	9/29/2023

5265	14/11	5	Prunus serotina	Black Cherry	poor	- 75% or more dead	N (c)	To Remain
5266	8/4	5	Rhamnus cathartica	Common Buckthorn	poor	- 50% or more dead	N (c)	To Remain
5267	8	5	Prunus serotina	Black Cherry	poor	- 50% or more dead	N (c)	To Remain
5268	21	22	Populus deltoides	Cottonwood	good			To Remain
5269	17/10	18	Morus spp.	Mulberry	poor	- Extensive rot/hollow @ crotch	N (c)	To Remain
5270	8/3	8	Salix spp.	Willow	fair	- Rot in trunk		To Remain
5271	16	17	Populus deltoides	Cottonwood	good			To Remain
5272	8/3/3/	8	Rhamnus cathartica	Common Buckthorn	poor	- Hollow/extensive rot	N (c)	To Remain
5273	П	12	Prunus serotina	Black Cherry	good			To Remain
5274	10	П	Ulmus spp.	Elm	fair	- Leaning		To Remain
5275	8	5	Ulmus spp.	Elm	poor	- 75% or more dead	N (c)	To Remain
5276	27	20	Prunus serotina	Black Cherry	poor	- 75% or more dead	N (c)	To Remain
5277	17	18	Prunus serotina	Black Cherry	poor	- Hollow/extensive rot	N (c)	To Remain
5278	12	13	Ulmus spp.	Elm	fair	- I-sided crown		To Remain
5279	10	П	Ulmus spp.	Elm	good			To Remain
5280	12 / 4 /	13	Rhamnus cathartica	Common Buckthorn	poor	nker(s)/gall(s) & rot throughout t	N (c)	To Remain
5281	7 / 5 /	7	Rhamnus cathartica	Common Buckthorn	poor	nker(s)/gall(s) & rot throughout t	N (s, c)	To Remain
5282	25	26	Ulmus spp.	Elm	good			To Remain
5283	8	8	Ulmus spp.	Elm	fair	- Bent/crooked/bowed leader		To Remain
5284	9	9	Ulmus spp.	Elm	fair	- Bent/crooked/bowed leader		To Remain
5285	9	9	Populus deltoides	Cottonwood	fair	- Rot in trunk		To Remain
5286	П	12	Ulmus spp.	Elm	good			To Remain
5287	7	7	Prunus spp.	Cherry	fair	- Leaning	N (s)	To Remain
5288	9 /	9	Rhamnus cathartica	Common Buckthorn	poor	- 50% or more dead	N (c)	To Remain
5289	19	20	Juglans spp.	Walnut	good			To Remain
5290	12	13	Morus spp.	Mulberry	poor	- Split(ting)/break(ing) apart	N (c)	To Remain
5291	14	15	Juglans spp.	Walnut	fair	- Bent/crooked/bowed leader		To Remain
5292	15		_		dead		N (c)	To Remain
5293	13	14	Juglans spp.	Walnut	fair	· Vertical crack(s)/scar(s) on trunk		To Remain

TREE SURVEY COMPLETED BY KEM-TEC SURVEYING DATED 9/29/2023.



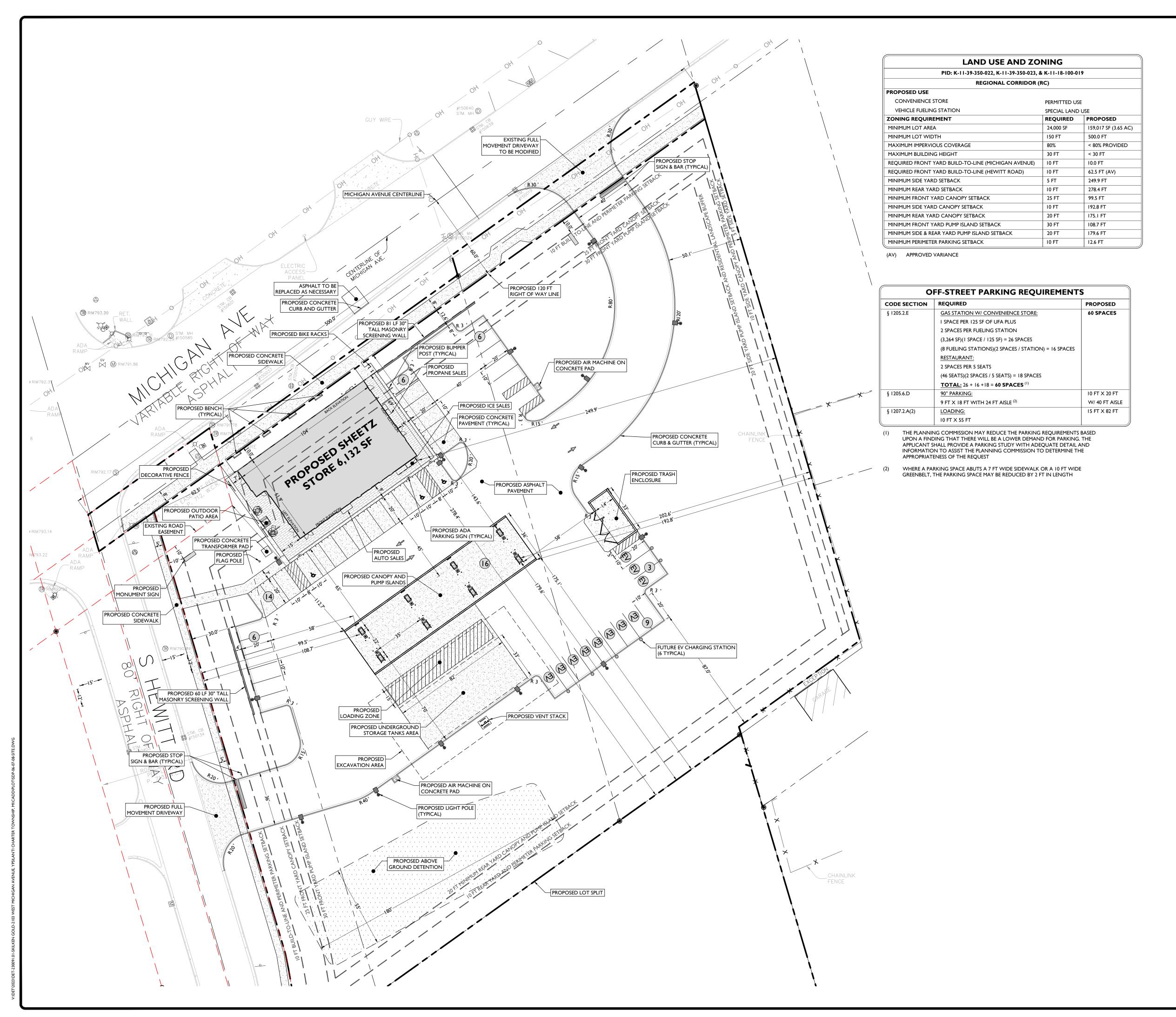


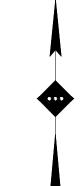




I" = 30' PROJECT ID: DET-230091.01

TREE INVENTORY





DESCRIPTION SYMBOL

SETBACK LINE

PROPOSED BUILDING

PROPOSED CURB

PROPERTY LINE

PROPOSED CONCRETE

PROPOSED BRICK PAVERS

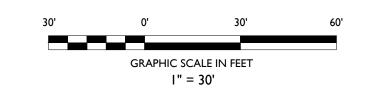
PROPOSED BUILDING DOORS

PROPOSED SCREENING FENCE

PROPOSED ABOVE GROUND DETENTION BASIN

GENERAL NOTES

- I. THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. PRIOR TO THE START OF CONSTRUCTION.
- 2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION.
- 3. ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC. AND IT'S SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL
- LIABILITY INSURANCE. 4. THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN,
- 5. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND
- METHODS OF CONSTRUCTION. 6. THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE PROPERTY NOT CONTROLLED BY THE PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY.
- 7. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTORS EXPENSE. 8. CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP
- DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS FOR REVIEW. STONEFIELD ENGINEERING & DESIGN, LLC. WILL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE PLAN SET.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. 10. THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE
- PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS. II. THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED
- SAFETY INSPECTOR TO BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES. 12. SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC. BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.



						REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION
						КН	NB/JD	NB/JD	ВҮ
						06/12/2024	05/09/2024	04/09/2024	DATE
						3	2	-	ISSUE
T	T APPROVED FOR CONSTRUCTION								

IVENIENCE EL STATION SED

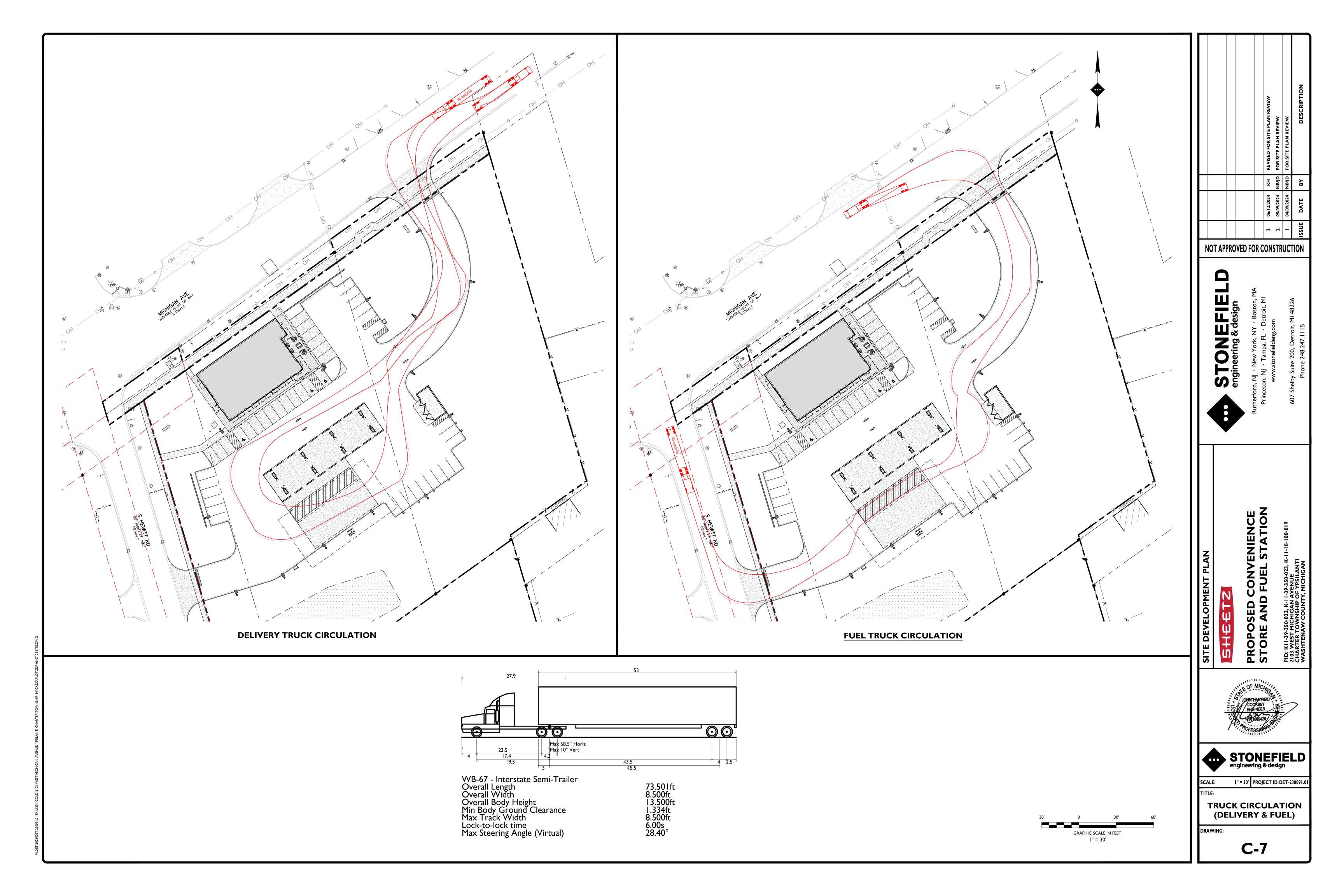
 \overline{O}

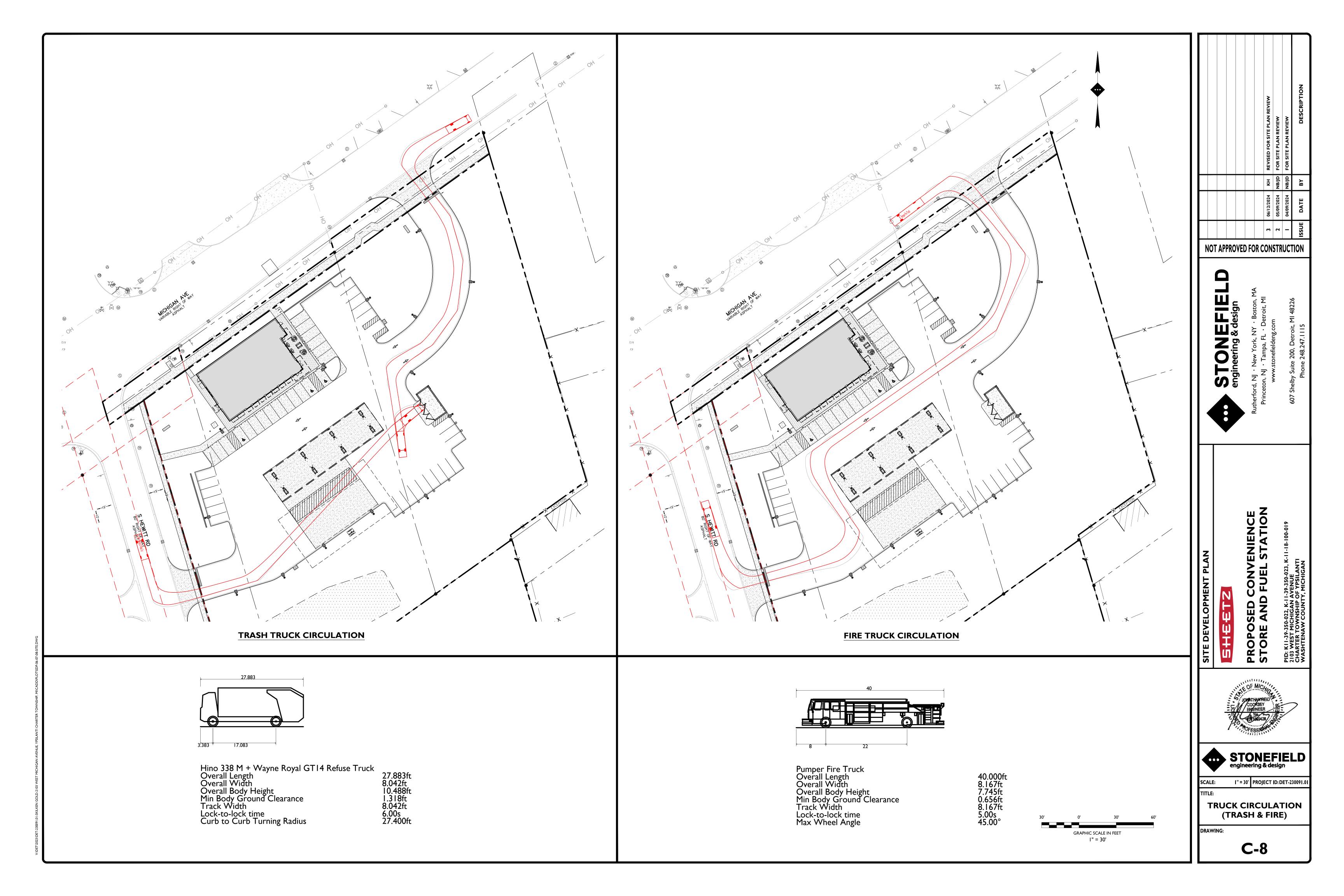


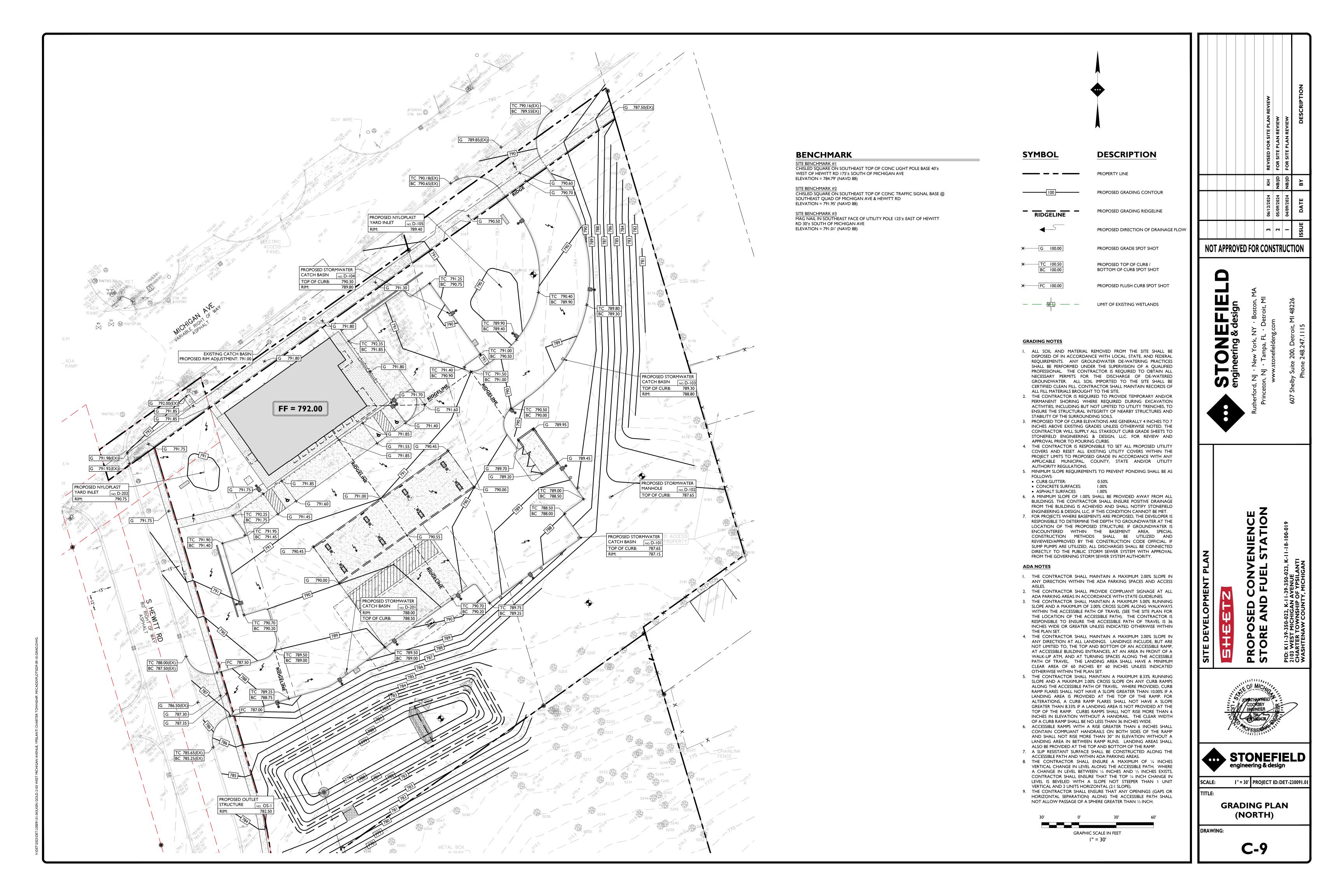
I" = 30' PROJECT ID: DET-230091.0

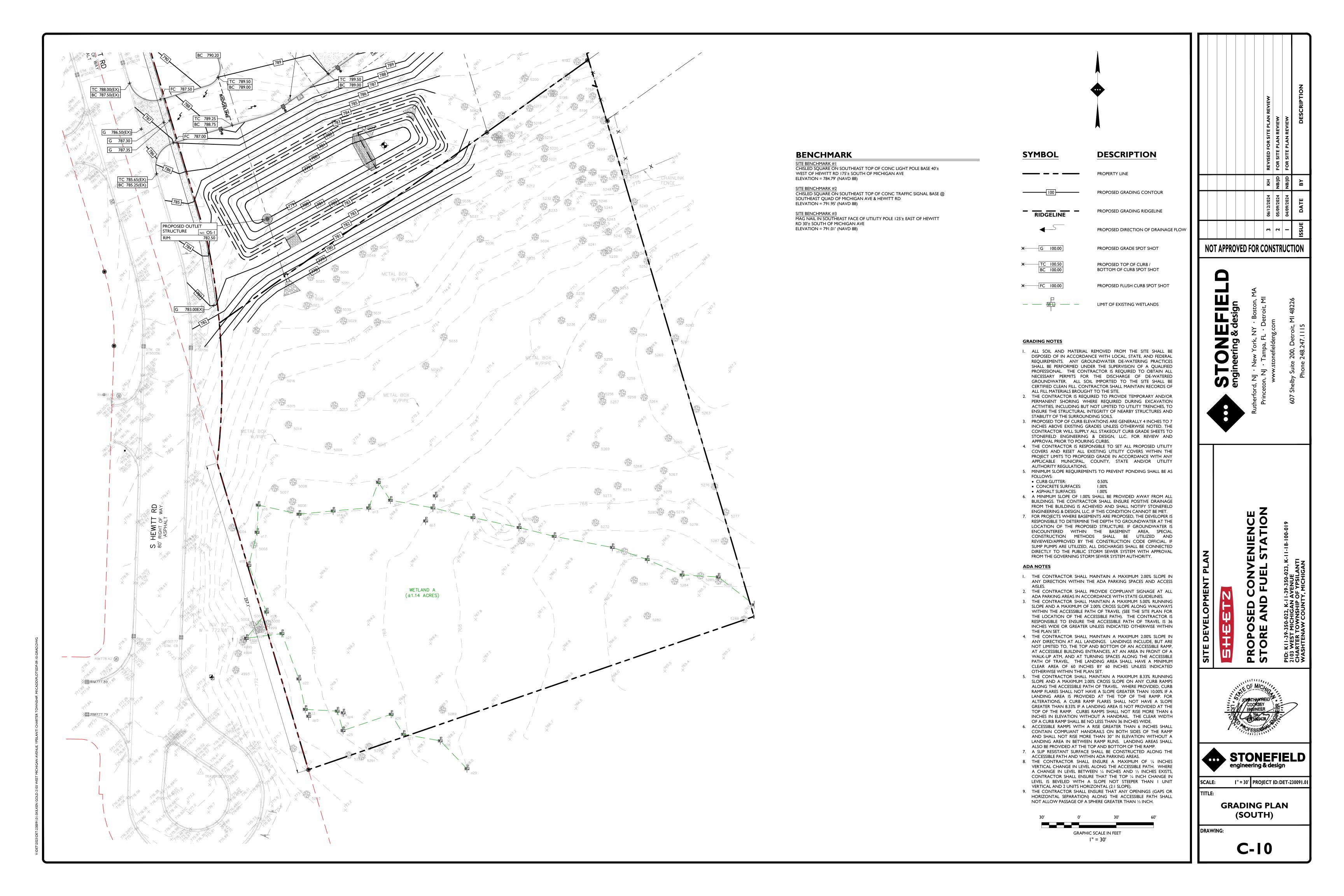
SITE PLAN

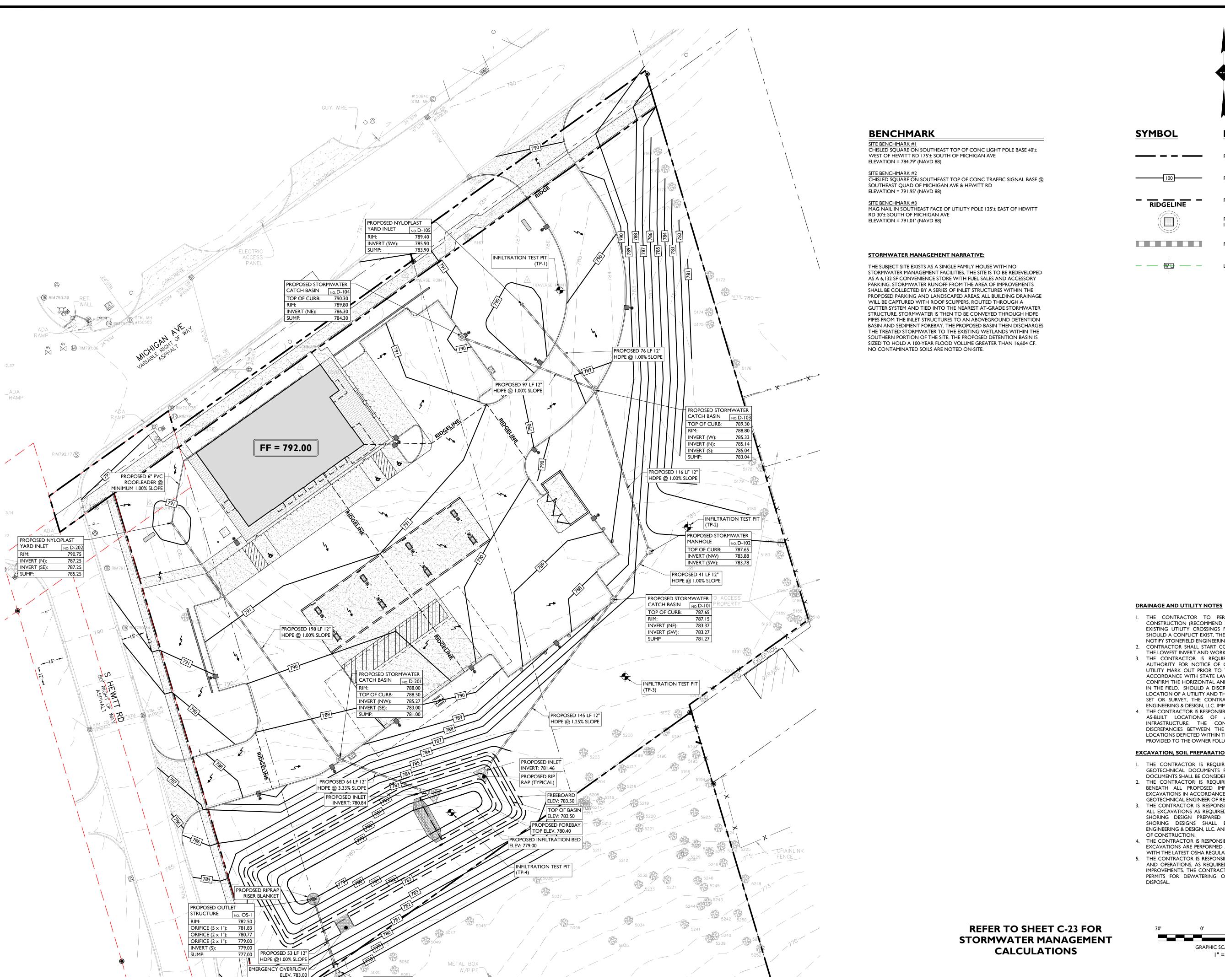
DRAWING:











SYMBOL

DESCRIPTION

PROPERTY LINE

PROPOSED GRADING CONTOUR

PROPOSED GRADING RIDGELINE RIDGELINE

> PROPOSED STORMWATER INLET STRUCTURE

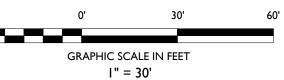
PROPOSED STORMWATER PIPING

LIMIT OF EXISTING WETLANDS

- I. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR STORMWATER IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING.
- 2. CONTRACTOR SHALL START CONSTRUCTION OF STORM LINES AT THE LOWEST INVERT AND WORK UP-GRADIENT.
- 3. THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IMMEDIATELY IN WRITING.
- 4. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

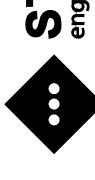
EXCAVATION, SOIL PREPARATION, AND DEWATERING NOTES

- I. THE CONTRACTOR IS REQUIRED TO REVIEW THE REFERENCED GEOTECHNICAL DOCUMENTS PRIOR TO CONSTRUCTION, THESE
- DOCUMENTS SHALL BE CONSIDERED A PART OF THE PLAN SET. 2. THE CONTRACTOR IS REQUIRED TO PREPARE SUBGRADE SOILS BENEATH ALL PROPOSED IMPROVEMENTS AND BACKFILL ALL EXCAVATIONS IN ACCORDANCE WITH RECOMMENDATIONS BY THE
- GEOTECHNICAL ENGINEER OF RECORD. 3. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHORING FOR ALL EXCAVATIONS AS REQUIRED. CONTRACTOR SHALL HAVE THE SHORING DESIGN PREPARED BY A QUALIFIED PROFESSIONAL. SHORING DESIGNS SHALL BE SUBMITTED TO STONEFIELD ENGINEERING & DESIGN, LLC. AND THE OWNER PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL OPEN EXCAVATIONS ARE PERFORMED AND PROTECTED IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING DESIGN AND OPERATIONS, AS REQUIRED, TO CONSTRUCT THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL OBTAIN ANY REQUIRED PERMITS FOR DEWATERING OPERATIONS AND GROUNDWATER



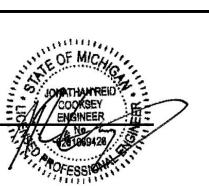
					REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION
					КН	NB/JD	NB/JD	ВҮ
					06/12/2024	05/09/2024 NB/JD	04/09/2024	DATE
					٣	2	-	ISSUE
A D	ADDDOVED FOR CONCEDUCTION							

NOT APPROVED FOR CONSTRUCTION



SED CAND

OP OR



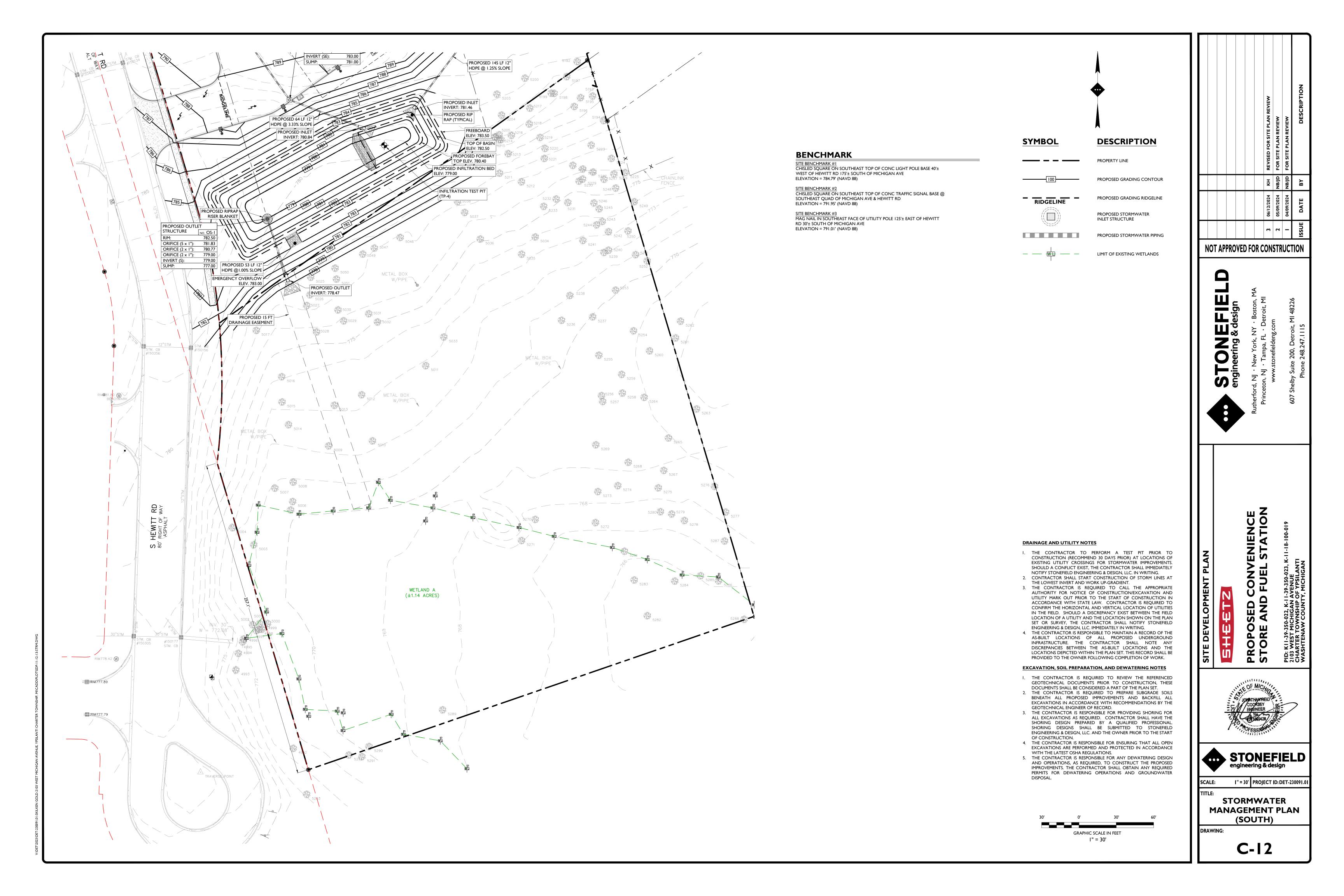


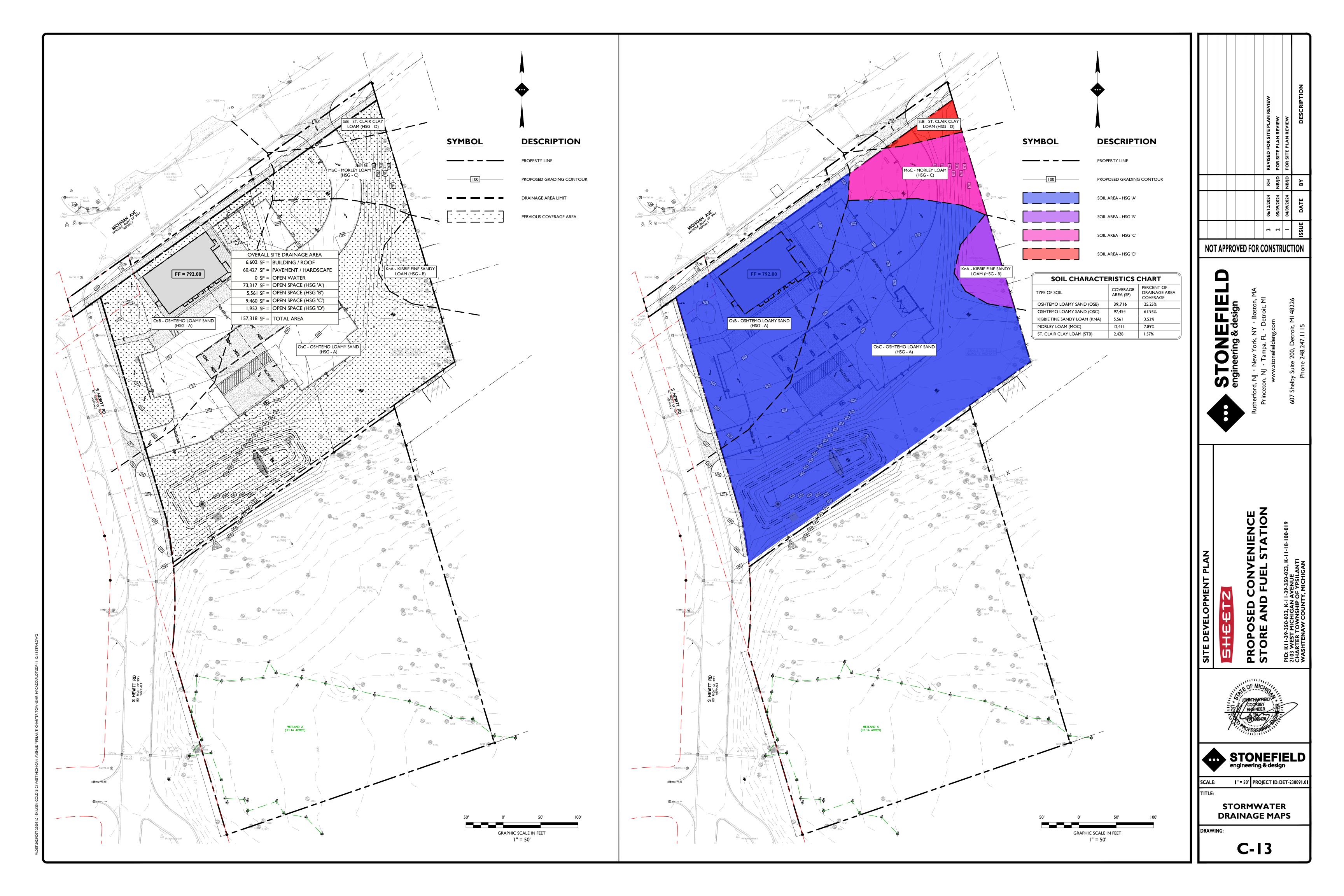
I" = 30' PROJECT ID: DET-230091.01

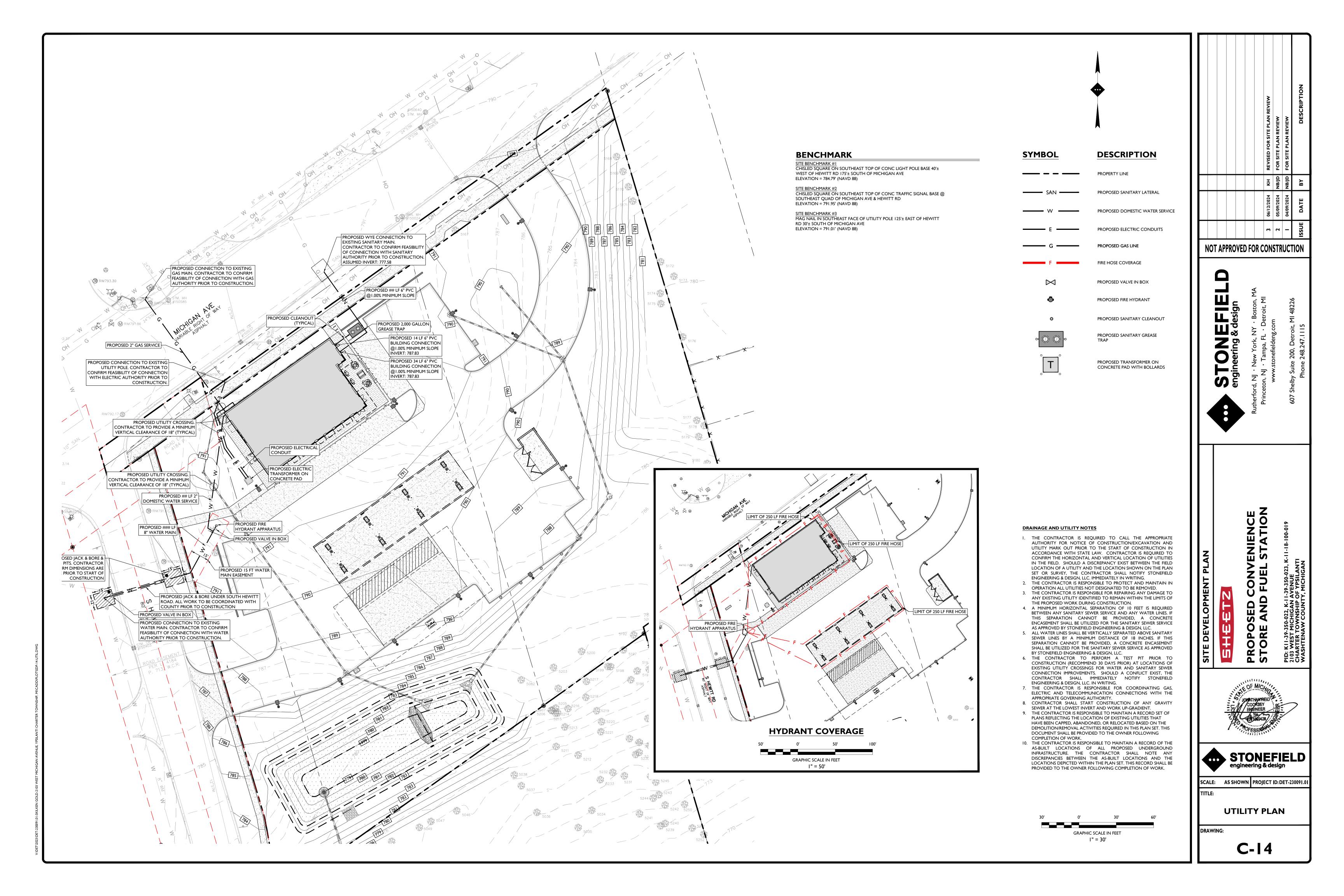
STORMWATER

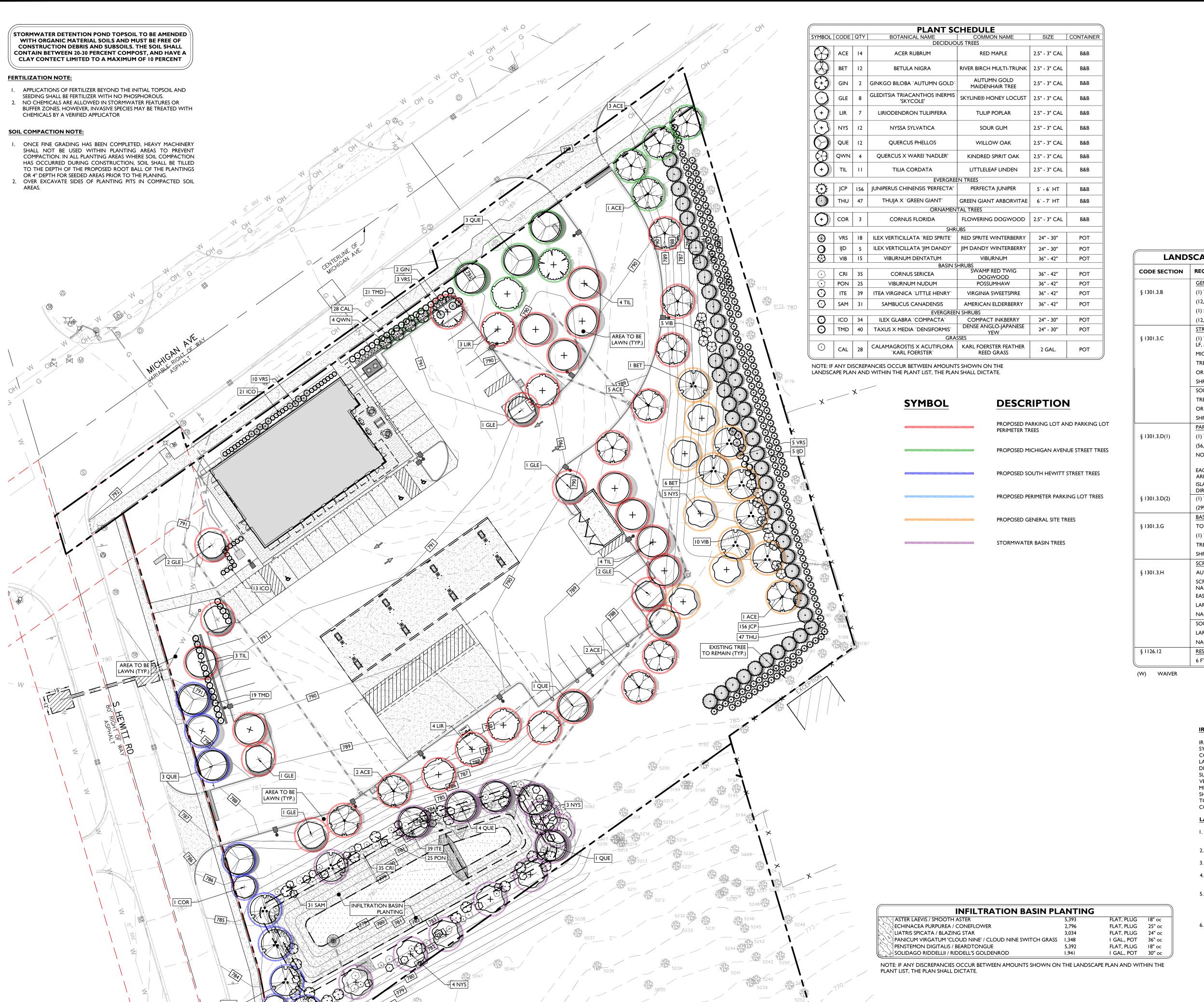
MANAGEMENT PLAN (NORTH) DRAWING:

C-II











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

ODE SECTION	REQUIRED	PROPOSED
	GENERAL LANDSCAPING:	
§ 1301.3.B	(I) TREE PER I,000 SF	
	(12,617 SF)/(1 TREE/1,000 SF) = 13 TREES	13 TREES
	(I) SHRUB PER 500 SF	
	(12,617 SF)/(1 SHRUB/500 SF) = 25 SHRUBS	25 SHRUBS
	STREET YARD LANDSCAPING:	
§ 1301.3.C	(I) TREE PER 40 LF, (I) ORNAMENTAL TREE PER 100 LF, & (I) SHRUB PER 10 LF	
	MICHIGAN AVENUE: 400 LF	
	TREE: (400 LF)/(40 LF) = 10 TREES	10 TREES
	ORNAMENTAL TREE: (400 LF)/(100 LF) = 4 TREES	4 TREES
	SHRUB: (400 LF)/(10) = 40 SHRUBS	52 SHRUBS
	SOUTH HEWITT ROAD: 309 LF	
	TREE: (309 LF)/(40 LF) = 8 TREES	8 TREES
	ORNAMENTAL TREE: (309 LF)/(100 LF) = 3 TREES	3 TREES
	SHRUB: (309 LF)/(10) = 31 SHRUBS	31 SHRUBS
	PARKING LOT LANDSCAPING:	
§ 1301.3.D(1)	(I) TREE PER 2,000 SF OF PAVED DRIVEWAY	
	(56,081 SF)/(2,000 SF) = 28 TREES	28 TREES
	NO MORE THAN 12 SPACES IN A ROW	DOES NOT COMPLY (W
	EACH TREE SHALL CONTAIN 150 SF OF LANDSCAPE AREA	COMPLIES
	ISLANDS SHALL BE NO LESS THAN 5 FT IN ANY DIRECTION	COMPLIES
§ 1301.3.D(2)	(I) TREE PER 40 LF OF PARKING LOT PERIMETER	
	(299 LF)/(40 LF) = 7 TREES	7 TREES
	BASIN POND LANDSCAPING:	
§ 1301.3.G	TOTAL PERIMETER: 649 LF	
	(I) TREE AND (I0) SHRUBS PER (50) LF	
	TREE: (649 LF)/(50 LF) = 13 TREES	13 TREES
	SHRUB: (649 LF)/(50 LF) = 13 * (10) = 130 SHRUBS	130 SHRUBS
	SCREENING:	
§ 1301.3.H	AUTOMOTIVE: SCREEN 3	
	SCREEN 3: (I) LARGE EVERGREEN TREE PER 10 LF & (I) NARROW EVERGREEN TREE PER 3 LF EAST PROPERTY LINE: 365 LF	
	LARGE EVERGREEN: (365 LF)/(10 LF) = 37 TREES	37 TREES
	NARROW EVERGREEN: (365 LF)/(3) = 122 TREES	122 TREES
	SOUTH PROPERTY LINE: 100 LF	
	LARGE EVERGREEN: (100 LF)/(10 LF) = 10 TREES	10 TREES
	NARROW EVERGREEN: (100 LF)/(3) = 155 TREES	155 TREES
§ 1126.12	RESIDENTIAL SCREENING:	
	6 FT OBSCURING WALL	NONE (W)

IRRIGATION NOTE:

IRRIGATION CONTRACTOR TO PROVIDE A DESIGN FOR AN IRRIGATION SYSTEM SEPARATING PLANTING BEDS FROM LAWN AREA. PRIOR TO CONSTRUCTION, DESIGN IS TO BE SUBMITTED TO THE PROJECT LANDSCAPE DESIGNER FOR REVIEW AND APPROVAL. WHERE POSSIBLE, DRIP IRRIGATION AND OTHER WATER CONSERVATION TECHNIQUES SUCH AS RAIN SENSORS SHALL BE IMPLEMENTED. CONTRACTOR TO VERIFY MAXIMUM ON SITE DYNAMIC WATER PRESSURE AVAILABLE MEASURED IN PSI. PRESSURE REDUCING DEVICES OR BOOSTER PUMPS SHALL BE PROVIDED TO MEET SYSTEM PRESSURE REQUIREMENTS. DESIGN TO SHOW ALL VALVES, PIPING, HEADS, BACKFLOW PREVENTION, METERS, CONTROLLERS, AND SLEEVES WITHIN HARDSCAPE AREAS.

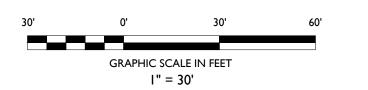
LANDSCAPING NOTES

- I. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AND LANDSCAPED AREAS TO MATCH EXISTING CONDITIONS UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED LAWN AREAS WITH A MINIMUM 4 INCH LAYER OF TOPSOIL AND SEED.

 3. THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM
- THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM 3 INCH LAYER OF MULCH.
 THE MAXIMUM SLOPE ALLOWABLE IN LANDSCAPE RESTORATION AREAS SHALL BE 3 FEET HORIZONTAL TO 1 FOOT VERTICAL (3:1
- SLOPE) UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.

 5. THE CONTRACTOR IS REQUIRED TO LOCATE ALL SPRINKLER HEADS IN AREA OF LANDSCAPING DISTURBANCE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE SPRINKLER HEADS AND LINES IN ACCORDANCE WITH OWNER'S DIRECTION
- WITHIN AREAS OF DISTURBANCE.

 6. THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED LANDSCAPED AREAS ARE GRADED TO MEET FLUSH AT THE ELEVATION OF WALKWAYS AND TOP OF CURB ELEVATIONS EXCEPT UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. NO ABRUPT CHANGES IN GRADE ARE PERMITTED IN DISTURBED LANDSCAPING



	REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION		
	KH	NB/JD	NB/JD	ВҮ		
	06/12/2024	05/09/2024 NB/JD	04/09/2024 NB/JD	DATE		
	က	2	_	ISSUE		
ADDDOVED EOD CONSTDUCTION						

NOT APPROVED FOR CONSTRUCTION

FIELD

Jesign

· Boston, MA

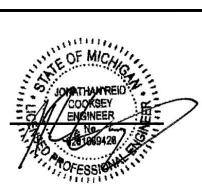
Detroit, MI

eton, NJ · Tampa, FL · Detroit, M www.stonefieldeng.com

ST engine

O CONVENIENCE ID FUEL STATION

PROPOSED C STORE AND F





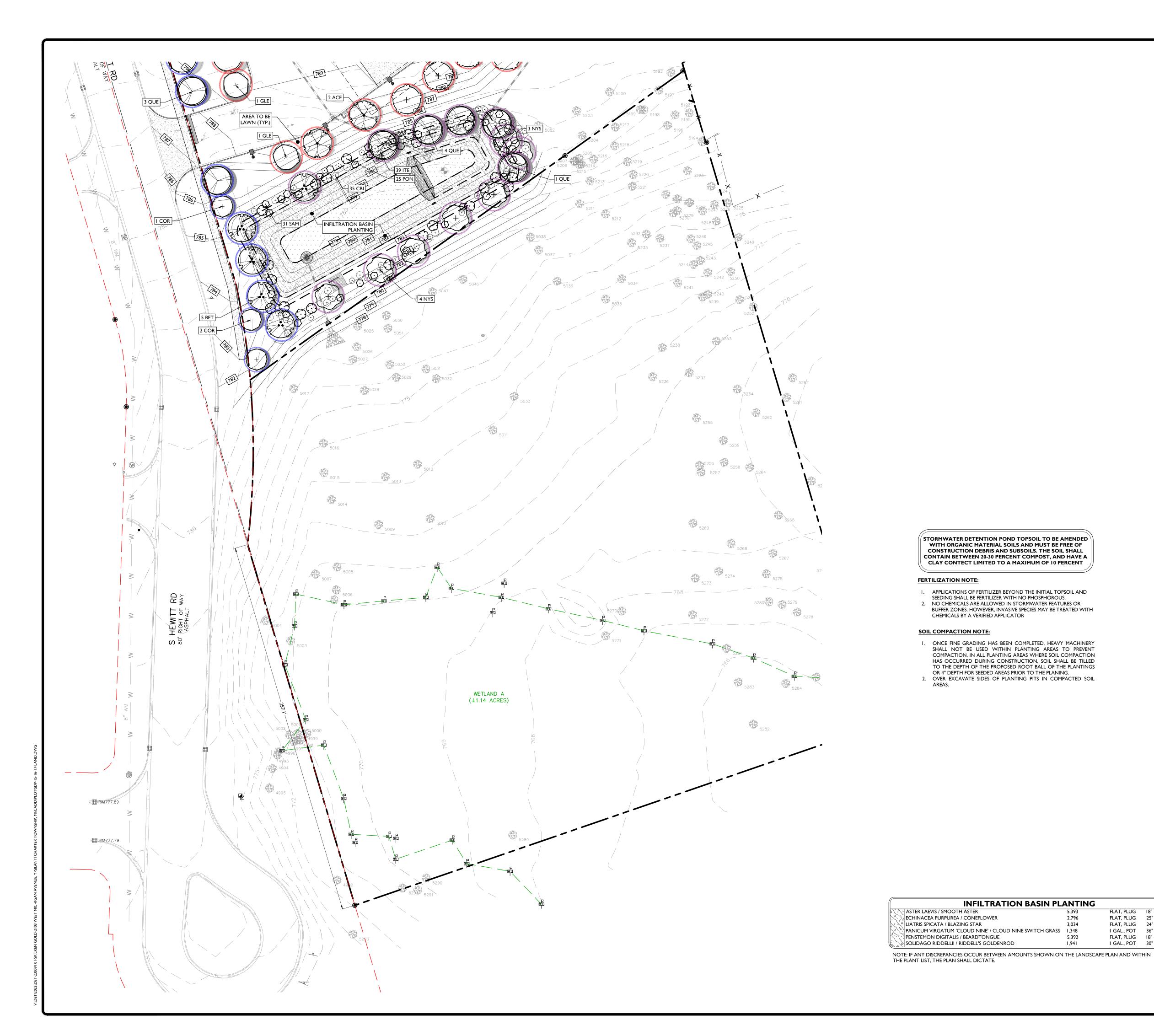
ALE: I" = 30' PROJECT ID: DET-230091.01

TLE:

LANDSCAPING PLAN

(NORTH)

DRAWING:





STORMWATER DETENTION POND TOPSOIL TO BE AMENDED
WITH ORGANIC MATERIAL SOILS AND MUST BE FREE OF CONSTRUCTION DEBRIS AND SUBSOILS. THE SOIL SHALL CONTAIN BETWEEN 20-30 PERCENT COMPOST, AND HAVE A CLAY CONTECT LIMITED TO A MAXIMUM OF 10 PERCENT

FERTILIZATION NOTE:

- APPLICATIONS OF FERTILIZER BEYOND THE INITIAL TOPSOIL AND SEEDING SHALL BE FERTILIZER WITH NO PHOSPHOROUS. 2. NO CHEMICALS ARE ALLOWED IN STORMWATER FEATURES OR BUFFER ZONES. HOWEVER, INVASIVE SPECIES MAY BE TREATED WITH
- **SOIL COMPACTION NOTE:**

CHEMICALS BY A VERIFIED APPLICATOR

I. ONCE FINE GRADING HAS BEEN COMPLETED, HEAVY MACHINERY SHALL NOT BE USED WITHIN PLANTING AREAS TO PREVENT COMPACTION. IN ALL PLANTING AREAS WHERE SOIL COMPACTION HAS OCCURRED DURING CONSTRUCTION, SOIL SHALL BE TILLED TO THE DEPTH OF THE PROPOSED ROOT BALL OF THE PLANTINGS OR 4" DEPTH FOR SEEDED AREAS PRIOR TO THE PLANING. 2. OVER EXCAVATE SIDES OF PLANTING PITS IN COMPACTED SOIL

INFILTRATION BASIN PLANTING

FLAT, PLUG 18" oc

FLAT, PLUG 25" oc

FLAT, PLUG 24" oc I GAL., POT 36" oc

FLAT, PLUG 18" oc

I GAL., POT 30" oc

SYMBOL	DE
	PROPO PERIM
	PROP
	PROPO
	PROPO
	PROPO
	STORI

ESCRIPTION

POSED PARKING LOT AND PARKING LOT METER TREES

POSED MICHIGAN AVENUE STREET TREES

POSED SOUTH HEWITT STREET TREES

POSED PERIMETER PARKING LOT TREES

POSED GENERAL SITE TREES

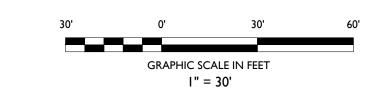
RMWATER BASIN TREES

IRRIGATION NOTE:

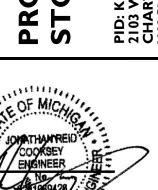
IRRIGATION CONTRACTOR TO PROVIDE A DESIGN FOR AN IRRIGATION SYSTEM SEPARATING PLANTING BEDS FROM LAWN AREA. PRIOR TO CONSTRUCTION, DESIGN IS TO BE SUBMITTED TO THE PROJECT LANDSCAPE DESIGNER FOR REVIEW AND APPROVAL. WHERE POSSIBLE, DRIP IRRIGATION AND OTHER WATER CONSERVATION TECHNIQUES SUCH AS RAIN SENSORS SHALL BE IMPLEMENTED. CONTRACTOR TO VERIFY MAXIMUM ON SITE DYNAMIC WATER PRESSURE AVAILABLE MEASURED IN PSI. PRESSURE REDUCING DEVICES OR BOOSTER PUMPS SHALL BE PROVIDED TO MEET SYSTEM PRESSURE REQUIREMENTS. DESIGN TO SHOW ALL VALVES, PIPING, HEADS, BACKFLOW PREVENTION, METERS, CONTROLLERS, AND SLEEVES WITHIN HARDSCAPE AREAS.

LANDSCAPING NOTES

- I. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AND LANDSCAPED AREAS TO MATCH EXISTING CONDITIONS UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
- 2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED LAWN AREAS WITH A MINIMUM 4 INCH LAYER OF TOPSOIL AND SEED. 3. THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM
- 3 INCH LAYER OF MULCH. 4. THE MAXIMUM SLOPE ALLOWABLE IN LANDSCAPE RESTORATION AREAS SHALL BE 3 FEET HORIZONTAL TO 1 FOOT VERTICAL (3:1
- SLOPE) UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. 5. THE CONTRACTOR IS REQUIRED TO LOCATE ALL SPRINKLER HEADS IN AREA OF LANDSCAPING DISTURBANCE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE SPRINKLER HEADS AND LINES IN ACCORDANCE WITH OWNER'S DIRECTION WITHIN AREAS OF DISTURBANCE.
- 6. THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED LANDSCAPED AREAS ARE GRADED TO MEET FLUSH AT THE ELEVATION OF WALKWAYS AND TOP OF CURB ELEVATIONS EXCEPT UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. NO ABRUPT CHANGES IN GRADE ARE PERMITTED IN DISTURBED LANDSCAPING



	REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION		
	KH	NB/JD	NB/JD	ВУ		
	06/12/2024	05/09/2024	04/09/2024	DATE		
	m	2	_	ISSUE		
APPROVED FOR CONSTRUCTION						



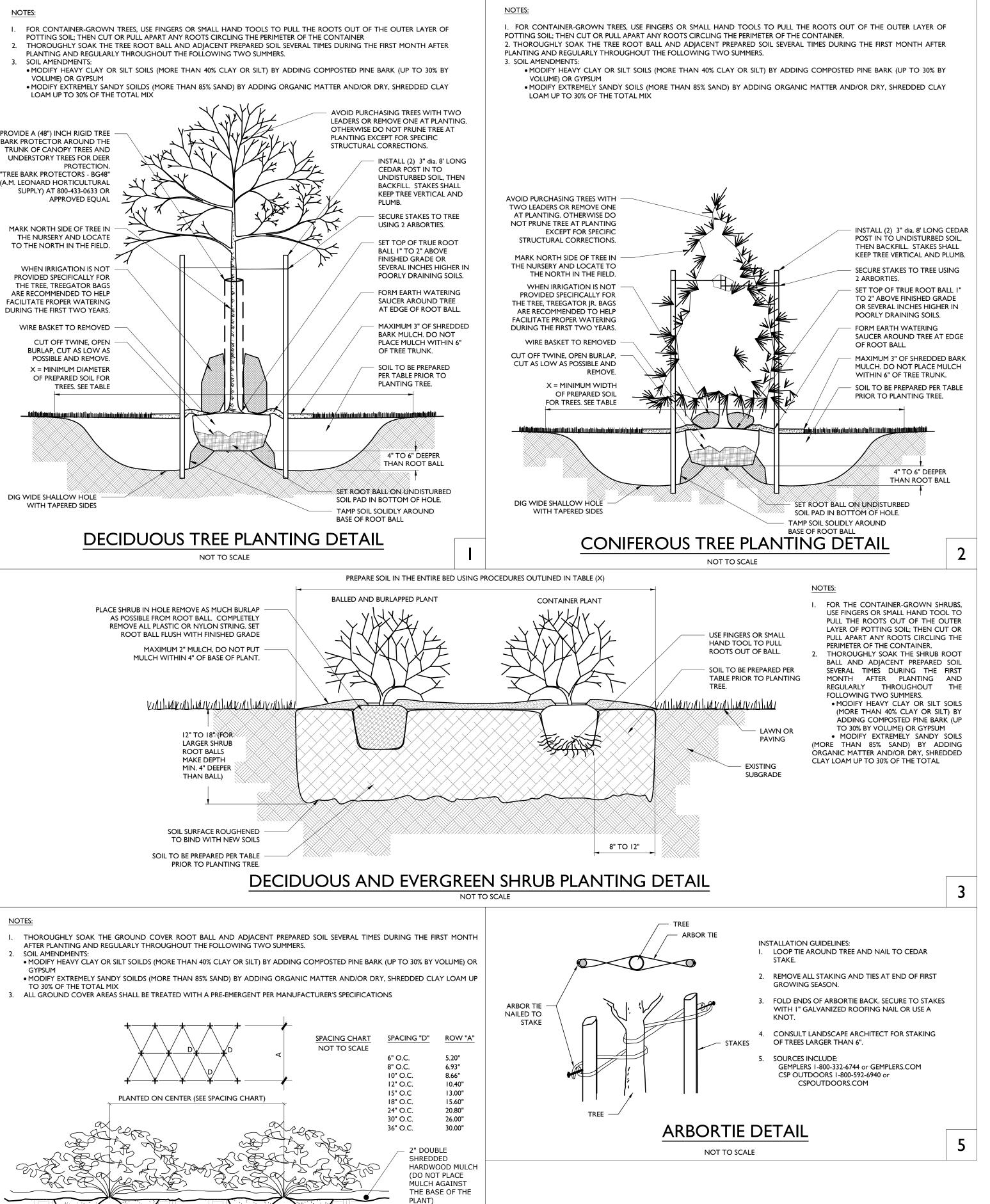




I" = 30' PROJECT ID: DET-230091.01

LANDSCAPING PLAN (SOUTH)

DRAWING:



GENTLY PULL ROOTS AWAY FROM TOPSOIL MASS WITH

1 PART SOIL AMENDMENT

(BASED ON SOIL TEST)

3 PARTS NATIVE TOPSOIL

FINGERS

GROUND COVER/PERENNIAL/ANNUAL

PLANTING DETAIL

BACKFILL SOIL

GENERAL LANDSCAPING NOTES

- I. THE LANDSCAPE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH THESE I. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004) OR LATEST SPECIFICATIONS, APPROVED OR FINAL DRAWINGS, AND INSTRUCTIONS PROVIDED BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIALS, OR OWNER/OWNER'S REPRESENTATIVE. ALL WORK COMPLETED AND MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH THE INTENTION OF THE SPECIFICATIONS, DRAWINGS, AND INSTRUCTIONS AND EXECUTED WITH THE STANDARD LEVEL OF CARE FOR THE LANDSCAPE INDUSTRY.
- . WORK MUST BE CARRIED OUT ONLY DURING WEATHER CONDITIONS FAVORABLE TO LANDSCAPE CONSTRUCTION AND TO THE HEALTH AND WELFARE OF PLANTS. THE SUITABILITY OF SUCH WEATHER CONDITIONS SHALL BE DETERMINED BY THE
- PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL. 3. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR, BEFORE ORDERING OR PURCHASING MATERIALS, TO PROVIDE
- SAMPLES OF THOSE MATERIALS TO THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL FOR APPROVAL, IF SO REQUESTED.
- 4. IF SAMPLES ARE REQUESTED, THE LANDSCAPE CONTRACTOR IS TO SUBMIT CERTIFICATION TAGS FROM TREES, SHRUBS AND SEED VERIFYING TYPE AND PURITY. 5. UNLESS OTHERWISE AUTHORIZED BY THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL, THE LANDSCAPE CONTRACTOR SHALL PROVIDE NOTICE AT LEAST FORTY-EIGHT HOURS (48 HRS.) IN ADVANCE OF THE

ANTICIPATED DELIVERY DATE OF ANY PLANT MATERIALS TO THE PROJECT SITE. A LEGIBLE COPY OF THE INVOICE, SHOWING

VARIETIES AND SIZES OF MATERIALS INCLUDED FOR EACH SHIPMENT SHALL BE FURNISHED TO THE PROJECT LANDSCAPE DESIGNER, OR GOVERNING MUNICIPAL OFFICIAL 6. THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL RESERVES THE RIGHT TO INSPECT AND REJECT PLANTS AT ANY TIME AND AT ANY PLACE.

PROTECTION OF EXISTING VEGETATION NOTES

- BEFORE COMMENCING WORK, ALL EXISTING VEGETATION WHICH COULD BE IMPACTED AS A RESULT OF THE PROPOSED CONSTRUCTION ACTIVITIES MUST BE PROTECTED FROM DAMAGE BY THE INSTALLATION OF TREE PROTECTION FENCING. FENCING SHALL BE LOCATED AT THE DRIP-LINE OR LIMIT OF DISTURBANCE AS DEPICTED WITHIN THE APPROVED OR FINAL PLAN SET, ESTABLISHING THE TREE PROTECTION ZONE. FENCE INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE PROTECTION FENCE DETAIL." NO WORK MAY BEGIN UNTIL THIS REQUIREMENT IS FULFILLED. THE FENCING SHALL BE INSPECTED REGULARLY BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION
- 9. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE CORRESPONDING LANDSCAPE PLAN AND PLANTING IN ORDER TO AVOID DAMAGE TO ROOTS, BARK OR LOWER BRANCHES, NO VEHICLE, EQUIPMENT, DEBRIS, OR OTHER MATERIALS SHALL BE DRIVEN, PARKED OR PLACED WITHIN THE TREE PROTECTION ZONE. ALL ON-SITE CONTRACTORS SHALL USE ANY AND ALL PRECAUTIONARY MEASURES WHEN PERFORMING WORK AROUND TREES, WALKS, PAVEMENTS, UTILITIES, AND ANY OTHER FEATURES EITHER EXISTING OR PREVIOUSLY INSTALLED UNDER THIS CONTRACT. 3. IN RARE INSTANCES WHERE EXCAVATING, FILL, OR GRADING IS REQUIRED WITHIN THE DRIP-LINE OF TREES TO REMAIN, THE
- WORK SHALL BE PERFORMED AS FOLLOWS: • TRENCHING: WHEN TRENCHING OCCURS AROUND TREES TO REMAIN, THE TREE ROOTS SHALL NOT BE CUT, BUT THE TRENCH SHALL BE TUNNELED UNDER OR AROUND THE ROOTS BY CAREFUL HAND DIGGING AND WITHOUT INJURY TO THE ROOTS. NO ROOTS, LIMBS, OR WOODS ARE TO HAVE ANY PAINT OR MATERIAL APPLIED TO ANY SURFACE.
- RAISING GRADES: WHEN THE GRADE AT AN EXISTING TREE IS BELOW THE NEW FINISHED GRADE, AND FILL NOT EXCEEDING 6 INCHES (6") IS REQUIRED, CLEAN, WASHED GRAVEL FROM ONE TO TWO INCHES (1" - 2") IN SIZE SHALL BE PLACED DIRECTLY AROUND THE TREE TRUNK. THE GRAVEL SHALL EXTEND OUT FROM THE TRUNK ON ALL SIDES A MINIMUM OF 18 INCHES (18") AND FINISH APPROXIMATELY TWO INCHES (2") ABOVE THE FINISH GRADE AT TREE. INSTALL GRAVEL BEFORE ANY EARTH FILL IS PLACED. NEW EARTH FILL SHALL NOT BE LEFT IN CONTACT WITH THE TRUNK OF ANY TREE REQUIRING FILL. WHERE FILL EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID TREE WELL SHALL BE CONSTRUCTED. IF APPLICABLE, TREE WELL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE WELL DETAIL."
- LOWERING GRADES: EXISTING TREES LOCATED IN AREAS WHERE THE NEW FINISHED GRADE IS TO BE LOWERED, SHALL HAVE RE-GRADING WORK DONE BY HAND TO THE INDICATED ELEVATION, NO GREATER THAN SIX INCHES (6"). ROOTS SHALL BE CUT CLEANLY THREE INCHES (3") BELOW FINISHED GRADE UNDER THE DIRECTION OF A LICENSED ARBORIST WHERE CUT EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID RETAINING WALL SHALL BE CONSTRUCTED. IF APPLICABLE, THE RETAINING WALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE RETAINING WALL DETAIL."

SOIL PREPARATION AND MULCH NOTES:

- I. LANDSCAPE CONTRACTOR SHALL OBTAIN A SOIL TEST OF THE IN-SITU TOPSOIL BY A CERTIFIED SOIL LABORATORY PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL ALLOW FOR A TWO WEEK TURNAROUND TIME FROM SUBMITTAL OF SAMPLE TO NOTIFICATION OF RESULTS
- 2. BASED ON SOIL TEST RESULTS, ADJUST THE RATES OF LIME AND FERTILIZER THAT SHALL BE MIXED INTO THE TOP SIX INCHES (6") OF TOPSOIL. THE LIME AND FERTILIZER RATES PROVIDED WITHIN THE "SEED SPECIFICATION" OR "SOD SPECIFICATION" IS APPROXIMATE AND FOR BIDDING PURPOSES ONLY. IF ADDITIONAL AMENDMENTS ARE NECESSARY, ADJUST THE TOPSOIL AS
- MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM.
- MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMING CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL OBTAINED FROM A WELL-DRAINED ARABLE SITE, FREE FROM ALL CLAY, LUMPS, COARSE SANDS, STONES, PLANTS,
- ROOTS, STICKS, AND OTHER FOREIGN MATERIAL GREATER THAN ONE INCH (1"). 4. TOPSOIL SHALL HAVE A PH RANGE OF 5.0-7.0 AND SHALL NOT CONTAIN LESS THAN 6% ORGANIC MATTER BY WEIGH 5. OBTAIN TOPSOIL ONLY FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT THE PROJECT SITE
- 5. CONTRACTOR SHALL PROVIDE A SIX INCH (6") DEEP LAYER OF TOPSOIL IN ALL PLANTING AREAS. TOPSOIL SHALL BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN SOIL CONDITIONS.
- UNLESS OTHERWISE NOTED IN THE CONTRACT, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBED AREA OF THE SITE. LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE SUB-GRADE ELEVATION MEETS THE FINISHED GRADE ELEVATION (LESS
- REOUIRED TOPSOIL). IN ACCORDANCE WITH THE APPROVED OR FINAL GRADING PLAN 9. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THE APPROVED OR FINAL CONSTRUCTION SET UNLESS OTHERWISE DIRECTED BY THE
- PROIECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL IO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SURFACE AND SUBSURFACE PLANT BED DRAINAGE PRIOR TO THE INSTALLATION OF PLANTINGS. IF POOR DRAINAGE CONDITIONS EXIST, CORRECTIVE ACTION SHALL BE TAKEN PRIOR TO INSTALLATION. ALL PLANTING AND LAWN AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW A FREE FLOW OF SURFACE
- II. DOUBLE SHREDDED HARDWOOD MULCH OR APPROVED EQUAL SHALL BE USED AS A THREE INCH (3") TOP DRESSING IN ALL SHRUB PLANTING BEDS AND AROUND ALL TREES PLANTED BY LANDSCAPE CONTRACTOR. GROUND COVER, PERENNIAL, AND ANNUAL PLANTING BEDS SHALL BE MULCHED WITH A TWO INCH (2") TOP DRESSING. SINGLE TREES OR SHRUBS SHALL BE MULCHED TO AVOID CONTACT WITH TRUNK OR PLANT STEM. MULCH SHALL BE OF SUFFICIENT CHARACTER AS NOT TO BE
- EASILY DISPLACED BY WIND OR WATER RUNOFF 12. WHENEVER POSSIBLE, THE SOIL PREPARATION AREA SHALL BE CONNECTED FROM PLANTING TO PLANTING. 13. SOIL SHALL BE LOOSENED WITH A BACKHOE OR OTHER LARGE COARSE-TILING EQUIPMENT UNLESS THE SOIL IS FROZEN OR EXCESSIVELY WET. TILING THAT PRODUCES LARGE, COARSE CHUNKS OF SOIL IS PREFERABLE TO TILING THAT RESULTS IN FINE
- GRAINS UNIFORM IN TEXTURE. AFTER THE AREA IS LOOSENED IT SHALL NOT BE DRIVEN OVER BY ANY VEHICLE 14. APPLY PRE-EMERGENT WEED CONTROL TO ALL PLANT BEDS PRIOR TO MULCHING. ENSURE COMPATIBILITY BETWEEN
- PRODUCT AND PLANT MATERIAL 15. ALL PLANTING SOIL SHALL BE AMENDED WITH THE FOLLOWING
- MYCRO® TREE SAVER A DRY GRANULAR MYCORRHIZAL FUNGI INOCULANT THAT IS MIXED IN THE BACKFILL WHEN
- PLANTING TREES AND SHRUBS. IT CONTAINS SPORES OF BOTH ECTOMYCORRHIZAL AND VA MYCORRHIZAL FUNGI (VAM), BENEFICIAL RHIZOSPHERE BACTERIA. TERRA-SORB SUPERABSORBENT HYDROGEL TO REDUCE WATER LEACHING. AND SELECTED ORGANIC MICROBIAL NUTRIENTS • DIRECTIONS FOR USE: USE 3-OZ PER EACH FOOT DIAMETER OF THE ROOT BALL, OR 3-OZ PER INCH CALIPER. MIX INTO THE
- BACKFILL WHEN TRANSPLANTING TREES AND SHRUBS. MIX PRODUCT IN A RING-SHAPED VOLUME OF SOIL AROUND THE UPPER PORTION OF THE ROOT BALL, EXTENDING FROM THE SOIL SURFACE TO A DEPTH OF ABOUT 8 INCHES, AND EXTENDING OUT FROM THE ROOT BALL ABOUT 8 INCHES INTO THE BACKFILL. APPLY WATER TO SOIL SATURATION. MYCOR® TREE SAVER® IS EFFECTIVE FOR ALL TREE AND SHRUB SPECIES EXCEPT RHODODENDRONS, AZALEAS, AND
- MOUNTAIN LAUREL. WHICH REQUIRE ERICOID MYCORRHIZAE. • SOIL PH: THE FUNGI IN THIS PRODUCT WERE CHOSEN BASED ON THEIR ABILITY TO SURVIVE AND COLONIZE PLANT ROOTS IN A PH RANGE OF 3 TO 9.
- FUNGICIDES: THE USE OF CERTAIN FUNGICIDES CAN HAVE A DETRIMENTAL EFFECT ON THE INOCULATION PROGRAM. SOIL APPLICATION OF ANY FUNGICIDE IS NOT RECOMMENDED FOR TWO WEEKS AFTER APPLICATION.
- OTHER PESTICIDES: HERBICIDES AND INSECTICIDES DO NOT NORMALLY INTERFERE WITH MYCORRHIZAL FUNGAL DEVELOPMENT, BUT MAY INHIBIT THE GROWTH OF SOME TREE AND SHRUB SPECIES IF NOT USED PROPERLY.

• FERTILIZER TABLETS ARE PLACED IN THE UPPER 4 INCHES OF BACKFILL SOIL WHEN PLANTING TREES AND SHRUBS. • TABLETS ARE FORMULATED FOR LONG-TERM RELEASE BY SLOW BIODEGRADATION, AND LAST UP TO 2 YEARS AFTER

PLANTING. TABLETS CONTAIN 12-8-8 NPK FERTILIZER, AS WELL AS A MINIMUM OF SEVEN PERCENT (7%) HUMIC ACID BY WEIGHT, MICROBIAL NUTRIENTS DERIVED FROM SEA KELP, PROTEIN BYPRODUCTS, AND YUCCA SCHIDIGERA, AND A COMPLEMENT OF BENEFICIAL RHIZOSPHERE BACTERIA. THE STANDARD 21 GRAM TABLET IS SPECIFIED HERE. DIRECTIONS FOR USE: FOR PLANTING BALLED & BURLAPPED (B&B) TREES AND SHRUBS, MEASURE THE THICKNESS OF THE TRUNK, AND USE ABOUT I TABLET (21-G) PER HALF-INCH. PLACE THE TABLETS DIRECTLY NEXT TO THE ROOT BALL, EVENLY DISTRIBUTED AROUND ITS PERIMETER, AT A DEPTH OF ABOUT 4 INCHES.

IRRIGATION DURING ESTABLISHMENT						
SIZE AT PLANTING	IRRIGATION FOR VITALITY	IRRIGATION FOR SURVIVAL				
< 2" CALIPER	DAILY FOR TWO WEEKS, EVERY OTHER DAY FOR TWO MONTHS, WEEKLY UNTIL ESTABLISHED	TWO TO THREE TIMES WEEKLY FOR TWO TO THREE MONTHS				
2"-4 CALIPER	DAILY FOR ONE MONTH, EVERY OTHER DAY FOR THREE MONTHS, WEEKLY UNTIL ESTABLISHED	TWO TO THREE TIMES WEEKLY FOR THREE TO FOUR MONTHS				
4 >" CALIPER	DAILY FOR SIX WEEKS, EVERY OTHER DAY FOR FIVE MONTHS, WEEKLY UNTIL ESTABLISHED	TWICE WEEKLY FOR FOUR TO FIVE MONTHS				

I. AT EACH IRRIGATION, APPLY TWO TO THREE GALLONS PER INCH TRUNK CALIPER TO THE ROOT BALL SURFACE. APPLY IT IN A MANNER SO ALL WATER SOAKS THE ENTIRE ROOT BALL. DO NOT WATER IF ROOT BALL IS WET/SATURATED ON THE IRRIGATION DAY.

2. WHEN IRRIGATING FOR VITALITY, DELETE DAILY IRRIGATION WHEN PLANTING IN WINTER OR WHEN PLANTING IN COOL CLIMATES. ESTABLISHMENT TAKES THREE TO FOUR MONTHS PER INCH TRUNK CALIPER. NEVER APPLY IRRIGATION IF THE SOIL IS SATURATED.

3. WHEN IRRIGATION FOR SURVIVAL, TREES TAKE MUCH LONGER TO ESTABLISH THAN REGULARLY IRRIGATED TREES. IRRIGATION MAY BE REQUIRED IN THE NORMAL HOT, DRY PORTIONS OF THE FOLLOWING YEAR.

PLANT QUALITY AND HANDLING NOTES

- REVISION AS PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION. 2. IN ALL CASES, BOTANICAL NAMES LISTED WITHIN THE APPROVED OR FINAL PLANT LIST SHALL TAKE PRECEDENCE OVER
- COMMON NAMES. 3. ALL PLANTS SHALL BE OF SELECTED SPECIMEN QUALITY, EXCEPTIONALLY HEAVY, TIGHTLY KNIT, SO TRAINED OR FAVORED IN
- THEIR DEVELOPMENT AND APPEARANCE AS TO BE SUPERIOR IN FORM, NUMBER OF BRANCHES, COMPACTNESS AND SYMMETRY. ALL PLANTS SHALL HAVE A NORMAL HABIT OR SOUND, HEALTHY, VIGOROUS PLANTS WITH WELL DEVELOPED ROOT SYSTEM. PLANTS SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR LARVAE
- 4. PLANTS SHALL NOT BE PRUNED BEFORE DELIVERY. TREES WITH ABRASION OF THE BARK, SUNSCALDS, DISFIGURING KNOTS OR FRESH CUTS OF LIMBS OVER ONE AND ONE-FOURTH INCHES (I-1/4") WHICH HAVE NOT COMPLETELY CALLOUSED SHALL BE
- 5. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH AND BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE.
- 6. THE ROOT SYSTEM OF EACH PLANT SHALL BE WELL PROVIDED WITH FIBROUS ROOTS. ALL PARTS SHALL BE SOUND, HEALTHY,
- VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. 7. ALL PLANTS DESIGNATED BALL AND BURLAP (B&B) MUST BE MOVED WITH THE ROOT SYSTEM AS SOLID UNITS WITH BALLS OF EARTH FIRMLY WRAPPED WITH BURLAP. THE DIAMETER AND DEPTH OF THE BALLS OF EARTH MUST BE SUFFICIENT TO encompass the fibrous root feeding systems necessary for the healthy development of the plant. No plant SHALL BE ACCEPTED WHEN THE BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN PREPARATORY TO OR DURING THE PROCESS OF PLANTING. THE BALLS SHALL REMAIN INTACT DURING ALL OPERATIONS. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE MUST BE HEELED-IN BY SETTING IN THE GROUND AND COVERING THE BALLS WITH SOIL OR MULCH AND THEN WATERING. HEMP BURLAP AND TWINE IS PREFERABLE TO TREATED. IF TREATED BURLAP IS USED, ALL TWINE IS TO BE CUT FROM AROUND THE TRUNK AND ALL BURLAP IS TO BE REMOVED.
- 8. PLANTS TRANSPORTED TO THE PROJECT IN OPEN VEHICLES SHALL BE COVERED WITH TARPS OR OTHER SUITABLE COVERS securely fastened to the body of the vehicle to prevent iniury to the plants. Closed vehicles shall be ADEQUATELY VENTILATED TO PREVENT OVERHEATING OF THE PLANTS. EVIDENCE OF INADEQUATE PROTECTION FOLLOWING DIGGING, CARFLESSNESS WHILE IN TRANSIT, OR IMPROPER HANDLING OR STORAGE SHALL BE CAUSE FOR REJECTION OF PLANT MATERIAL. ALL PLANTS SHALL BE KEPT MOIST, FRESH, AND PROTECTED. SUCH PROTECTION SHALL ENCOMPASS THE ENTIRE PERIOD DURING WHICH THE PLANTS ARE IN TRANSIT, BEING HANDLED, OR ARE IN TEMPORARY STORAGE.
- 10. LANDSCAPE CONTRACTOR SHALL MAKE BEST EFFORT TO INSTALL PLANTINGS ON THE SAME DAY AS DELIVERY. IF PLANTS ARE NOT PLANTED IMMEDIATELY ON SITE, PROPER CARE SHALL BE TAKEN TO PLACE THE PLANTINGS IN PARTIAL SHADE WHEN POSSIBLE. THE ROOT BALL SHALL BE KEPT MOIST AT ALL TIME AND COVERED WITH MOISTENED MULCH OR AGED WOODCHIPS. PROPER IRRIGATION SHALL BE SUPPLIED SO AS TO NOT ALLOW THE ROOT BALL TO DRY OUT. PLANTINGS HALL BE UNTIED AND PROPER SPACING SHALL BE ALLOTTED FOR AIR CIRCULATION AND TO PREVENT DISEASE, WILTING,
- AND LEAF LOSS. PLANTS THAT REMAIN UNPLANTED FOR A PERIOD OF TIME GREATER THAN THREE (3) DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH AND WATERED AS REQUIRED TO PRESERVE ROOT MOISTURE. II. NO PLANT MATERIAL SHALL BE PLANTED IN MUDDY OR FROZEN SOIL. 12. PLANTS WITH INJURED ROOTS OR BRANCHES SHALL BE PRUNED PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY
- DISEASED OR INIURED PLANTS SHALL BE REMOVED. 13. IF ROCK OR OTHER UNDERGROUND OBSTRUCTION IS ENCOUNTERED, THE LANDSCAPE DESIGNER RESERVES THE RIGHT TO
- RELOCATE OR ENLARGE PLANTING PITS OR DELETE PLANT MATERIAL FROM THE CONTRACT. 14. IF PLANTS ARE PROPOSED WITHIN SIGHT TRIANGLES, TREES SHALL BE LIMBED AND MAINTAINED TO A HEIGHT OF EIGHT FEET (8') ABOVE GRADE, AND SHRUBS, GROUND COVER, PERENNIALS, AND ANNUALS SHALL BE MAINTAINED TO A HEIGHT NOT TO EXCEED TWO FEET (2') ABOVE GRADE UNLESS OTHERWISE NOTED OR SPECIFIED BY THE GOVERNING MUNICIPALITY OR
- 15. INSTALLATION SHALL OCCUR DURING THE FOLLOWING SEASONS: PLANTS (MARCH 15 - DECEMBER 15)
- LAWNS (MARCH 15 JUNE 15 OR SEPTEMBER 1 DECEMBER 1) 16. THE FOLLOWING TREES ARE SUSCEPTIBLE TO TRANSPLANT SHOCK AND SHALL NOT BE PLANTED DURING THE FALL SEASON (STARTING SEPTEMBER 15):

(STARTHAG SELTELIDER 13).		
ABIES CONCOLOR	CORNUS VARIETIES	OSTRYA VIRGINIANA
ACER BUERGERIANUM	CRATAEGUS VARIETIES	PINUS NIGRA
ACER FREEMANII	CUPRESSOCYPARIS LEYLANDII	PLATANUS VARIETIES
ACER RUBRUM	FAGUS VARIETIES	POPULUS VARIETIES
ACER SACCHARINUM	HALESIA VARIETIES	PRUNUS VARIETIES
BETULA VARIETIES	ILEX X FOSTERII	PYRUS VARIETIES
CARPINUS VARIETIES	ILEX NELLIE STEVENS	QUERCUS VARIETIES (NOT Q. PALUSTRIS)
CEDRUS DEODARA	ILEX OPACA	SALIX WEEPING VARIETIES
CELTIS VARIETIES	JUNIPERUS VIRGINIANA	SORBUS VARIETIES
CERCIDIPHYLLUM VARIETIES	KOELREUTERIA PANICULATA	TAXODIUM VARIETIES

- CERCIS CANADENSIS LIQUIDAMBAR VARIETIES TAXUX B REPANDENS **CORNUS VARIETIES** LIRIODENDRON VARIETIES TILIA TOMENTOSA VARIETIES **CRATAEGUS VARIETIES** MALUS IN LEAF **ULMUS PARVIFOLIA VARIETIES** NYSSA SYLVATICA ZELKOVA VARIETIES
- 17. IF A PROPOSED PLANT IS UNATTAINABLE OR ON THE FALL DIGGING HAZARD LIST, AN EQUIVALENT SPECIES OF THE SAME SIZE MAY BE REQUESTED FOR SUBSTITUTION OF THE ORIGINAL PLANT. ALL SUBSTITUTIONS SHALL BE APPROVED BY THE PROJECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL PRIOR TO ORDERING AND INSTALLATION.
- 18. DURING THE COURSE OF CONSTRUCTION/PLANT INSTALLATION, EXCESS AND WASTE MATERIALS SHALL BE CONTINUOUSLY AND PROMPTLY REMOVED AT THE END OF EACH WORK DAY. ALL DEBRIS, MATERIALS, AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF AND ALL PAVED AREAS SHALL BE CLEANED.
- 19. THE LANDSCAPE CONTRACTOR SHALL DISPOSE OF ALL RUBBISH AND EXCESS SOIL AT HIS EXPENSE TO AN OFF-SITE LOCATION AS APPROVED BY THE LOCAL MUNICIPALITY. 20. A 90-DAY MAINTENANCE PERIOD SHALL BEGIN IMMEDIATELY AFTER ALL PLANTS HAVE BEEN SATISFACTORILY INSTALLED. 21. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACING MULCH THAT HAS BEEN DISPLACED BY EROSION OR
- OTHER MEANS, REPAIRING AND RESHAPING WATER RINGS OR SAUCERS, MAINTAINING STAKES AND GUYS IF ORIGINALI REQUIRED, WATERING WHEN NEEDED OR DIRECTED, WEEDING, PRUNING, SPRAYING, FERTILIZING, MOWING THE LAWN, AND PERFORMING ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION. 2. MOW ALL GRASS AREAS AT REGULAR INTERVALS TO KEEP THE GRASS HEIGHT FROM EXCEEDING THREE INCHES (3"). MOWING
- SHALL BE PERFORMED ONLY WHEN GRASS IS DRY. MOWER BLADE SHALL BE SET TO REMOVE NO MORE THAN ONE THIRD (1/3) OF THE GRASS LENGTH. WHEN THE AMOUNT OF GRASS IS HEAVY, IT SHALL BE REMOVED TO PREVENT DESTRUCTION OF THE underlying turf. Mow grass areas in such a manner as to prevent clippings from blowing on paved areas, AND SIDEWALKS. CLEANUP AFTER MOWING SHALL INCLUDE SWEEPING OR BLOWING OF PAVED AREAS AND SIDEWALKS TO CLEAR THEM FROM MOWING DEBRIS.
- 23. GRASSED AREAS DAMAGED DURING THE PROCESS OF THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL RESTORE THE DISTURBED AREAS TO A CONDITION SATISFACTORY TO THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIAL, OR OWNER/OWNER'S REPRESENTATIVE. THIS MAY INCLUDE FILLING TO GRADE, FERTILIZING, SEEDING, AND
- 24. SHOULD THE OWNER REQUIRE MAINTENANCE BEYOND THE STANDARD 90-DAY MAINTENANCE PERIOD, A SEPARATE CONTRACT SHALL BE ESTABLISHED. 25. LANDSCAPE CONTRACTOR SHALL WATER NEW PLANTINGS FROM TIME OF INSTALL AND THROUGHOUT REQUIRED 90-DAY
- MAINTENANCE PERIOD UNTIL PLANTS ARE ESTABLISHED. IF ON-SITE WATER IS NOT AVAILABLE AT THE PROJECT LOCATION, THE LANDSCAPE CONTRACTOR SHALL FURNISH IT BY MEANS OR A WATERING TRUCK OR OTHER ACCEPTABLE MANNER. 26. THE QUANTITY OF WATER APPLIED AT ONE TIME SHALL BE SUFFICIENT TO PENETRATE THE SOIL TO A MINIMUM OF EIGHT
- INCHES (8") IN SHRUB BEDS AND SIX INCHES (6") IN TURF AREAS AT A RATE WHICH WILL PREVENT SATURATION OF THE SOIL. 27. IF AN AUTOMATIC IRRIGATION SYSTEM HAS BEEN INSTALLED. IT CAN BE USED FOR WATERING PLANT MATERIAL. HOWEVER. FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY OF PLANT HEALTH AND

PLANT MATERIAL GUARANTEE NOTES

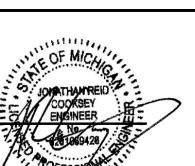
- the Landscape Contractor Shall Guarantee all plant material for a period of one year (1 yr.) from approval OF LANDSCAPE INSTALLATION BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIAL, OR OWNER/OWNER'S
- I. THE LANDSCAPE CONTRACTOR SHALL REMOVE AND REPLACE DYING, DEAD, OR DEFECTIVE PLANT MATERIAL AT HIS EXPENSE. THE LANDSCAPE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS COMPANY'S OPERATIONS. 3. ALL REPLACEMENT PLANTS SHALL BE OF THE SAME SPECIES AND SIZE AS SPECIFIED ON THE APPROVED OR FINAL PLANT LIST. REPLACEMENTS RESULTING FROM REMOVAL, LOSS, OR DAMAGE DUE TO OCCUPANCY OF THE PROJECT IN ANY PART, vandalism, physical damage by animals, vehicles, etc., and losses due to curtailment of water by local
- AUTHORITIES SHALL BE APPROVED AND PAID FOR BY THE OWNER. 4. THE CONTRACTOR SHALL INSTRUCT THE OWNER AS TO THE PROPER CARE AND MAINTENANCE OF ALL PLANTINGS.

LAWN (SEED OR SOD) NOTES:

- . SEED MIXTURE SHALL BE FRESH, CLEAN, NEW CROP SEED. SOD SHALL BE STRONGLY ROOTED, UNIFORM IN THICKNESS, AND FREE OF WEEDS, DISEASE, AND PESTS.
- L SEED OR SOD SHALL BE PURCHASED FROM A RECOGNIZED DISTRIBUTOR AND SHALL BE COMPOSED OF THE MIX OR BLEND WITHIN THE PROVIDED "SEED SPECIFICATION" OR "SOD SPECIFICATION." 3. REFERENCE LANDSCAPE PLAN FOR AREAS TO BE SEEDED OR LAID WITH SOD
- 4. SEEDING SHALL NOT BE PERFORMED IN WINDY WEATHER. IF THE SEASON OF THE PROJECT COMPLETION PROHIBITS PERMANENT STABILIZATION, TEMPORARY STABILIZATION SHALL BE PROVIDED IN ACCORDANCE WITH THE "TEMPORARY SEEDING SPECIFICATION.'
- 5. PROTECT NEW LAWN AREAS AGAINST TRESPASSING WHILE THE SEED IS GERMINATING. FURNISH AND INSTALL FENCES, SIGNS, BARRIERS OR ANY OTHER NECESSARY TEMPORARY PROTECTIVE DEVICES. DAMAGE RESULTING FROM TRESPASS, EROSION, WASHOUT, SETTLEMENT OR OTHER CAUSES SHALL BE REPAIRED BY THE LANDSCAPE CONTRACTOR AT HIS EXPENSE. REMOVE ALL FENCES, SIGNS, BARRIERS OR OTHER TEMPORARY PROTECTIVE DEVICES ONCE LAWN HAS BEEN ESTABLISHED.

						REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION
						КН	NB/JD	NB/JD	ВҰ
						06/12/2024	05/09/2024	04/09/2024	DATE
						3	2	_	ISSUE
T APPROVED FOR CONSTRUCTION									





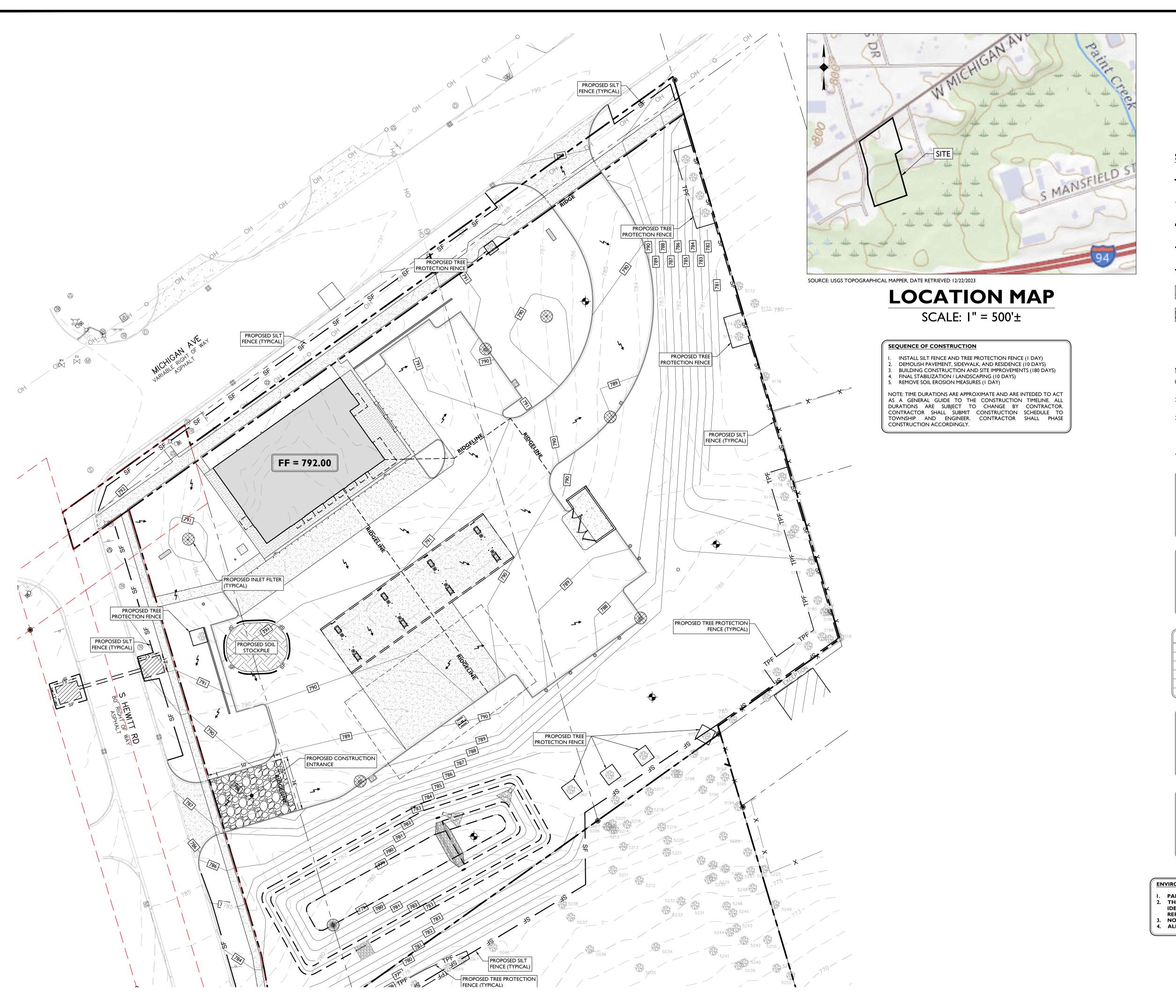




SCALE: AS SHOWN PROJECT ID: DET-230091.

LANDSCAPING DETAILS

DRAWING:





DESCRIPTION SYMBOL PROPERTY BOUNDARY ADJACENT PROPERTY BOUNDARY PROPOSED LIMIT OF DISTURBANCE PROPOSED SILT FENCE PROPOSED TREE PROTECTION FENCE PROPOSED STOCKPILE & EQUIPMENT STORAGE PROPOSED STABILIZED CONSTRUCTION ENTRANCE PROPOSED INLET PROTECTION FILTER

SOIL EROSION AND SEDIMENT CONTROL NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR SOIL EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.

 THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL AIR QUALITY STANDARDS. STANDARDS.
- 3. THE CONTRACTOR IS RESPONSIBLE TO INSPECT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES WEEKLY AND AFTER A PRECIPITATION EVENT GREATER THAN I INCH. THE CONTRACTOR SHALL MAINTAIN AN INSPECTION LOG ON SITE AND DOCUMENT CORRECTIVE ACTION TAKEN THROUGHOUT THE COURSE OF CONSTRUCTION AS REQUIRED.
- 4. ALL DEBRIS WITHIN PROPERTY LIMITS TO BE PICKED UP WEEKLY OR AS

SOIL CHARACTERISTICS CHART					
TYPE OF SOIL	OSHTEMO LOAMY SAND (OsC)				
PERCENT OF SITE COVERAGE	53.7%				
HYDROLOGIC SOIL GROUP	A				
DEPTH TO RESTRICTIVE LAYER	> 80 INCHES				
SOIL PERMEABILITY	1.98 TO 5.95 IN / HR				
DEPTH TO WATER TABLE	> 80 INCHES				

SOIL CHARACTERISTICS CHART					
TYPE OF SOIL	OSHTEMO LOAMY SAND (OsB)				
PERCENT OF SITE COVERAGE	23.8%				
HYDROLOGIC SOIL GROUP	A				
DEPTH TO RESTRICTIVE LAYER	> 80 INCHES				
SOIL PERMEABILITY	1.98 TO 5.95 IN / HR				
DEPTH TO WATER TABLE	> 80 INCHES				

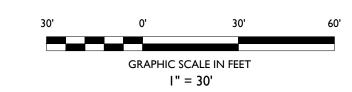
SOIL CHARACTERISTICS CHART						
TYPE OF SOIL	KIBBIE FINE SANDY LOAM (KnA)					
PERCENT OF SITE COVERAGE	13.0%					
HYDROLOGIC SOIL GROUP	B/D					
DEPTH TO RESTRICTIVE LAYER	> 80 INCHES					
SOIL PERMEABILITY	0.57 TO 1.98 IN / HR					
DEPTH TO WATER TABLE	12 TO 24 INCHES					

SOIL CHARACTERISTICS CHART					
ST. CLAIR CLAY LOAM (StB)					
4.8%					
D					
> 80 INCHES					
0.06 TO 0.20 IN / HR					
24 TO 36 INCHES					

SOIL CHARACTERISTICS CHART					
TYPE OF SOIL	MORLEY LOAM (MoC)				
PERCENT OF SITE COVERAGE	4.7%				
HYDROLOGIC SOIL GROUP	С				
DEPTH TO RESTRICTIVE LAYER	26 TO 40 INCHES				
SOIL PERMEABILITY	0.01 TO 0.20 IN / HR				
DEPTH TO WATER TABLE	> 80 INCHES				

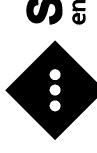
ENVIRONMENTAL NOTES:

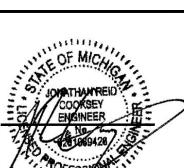
- PAINT CREEK IS LOCATED ± 2,210 FT TO THE EAST OF THE SITE
 THE SOUTHERN PORTION OF PARCEL 2 CONTAINS WETLANDS IDENTIFIED PER ASTI ENVIRONMENTAL WETLAND DELINEATION
- 3. NO PORTION OF THIS SITE LIES WITHIN A FLOOD HAZARD AREA
 4. ALL ELEVATIONS SHOWN ARE BASED ON NAVD 1988 DATUM



					REVISED FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	FOR SITE PLAN REVIEW	DESCRIPTION
					КН	NB/JD	NB/JD	ВУ
					06/12/2024	05/09/2024	04/09/2024	DATE
					3	2	_	ISSUE
T ADDROVED FOR CONSTRUCTION								

NOT APPROVED FOR CONSTRUCTION





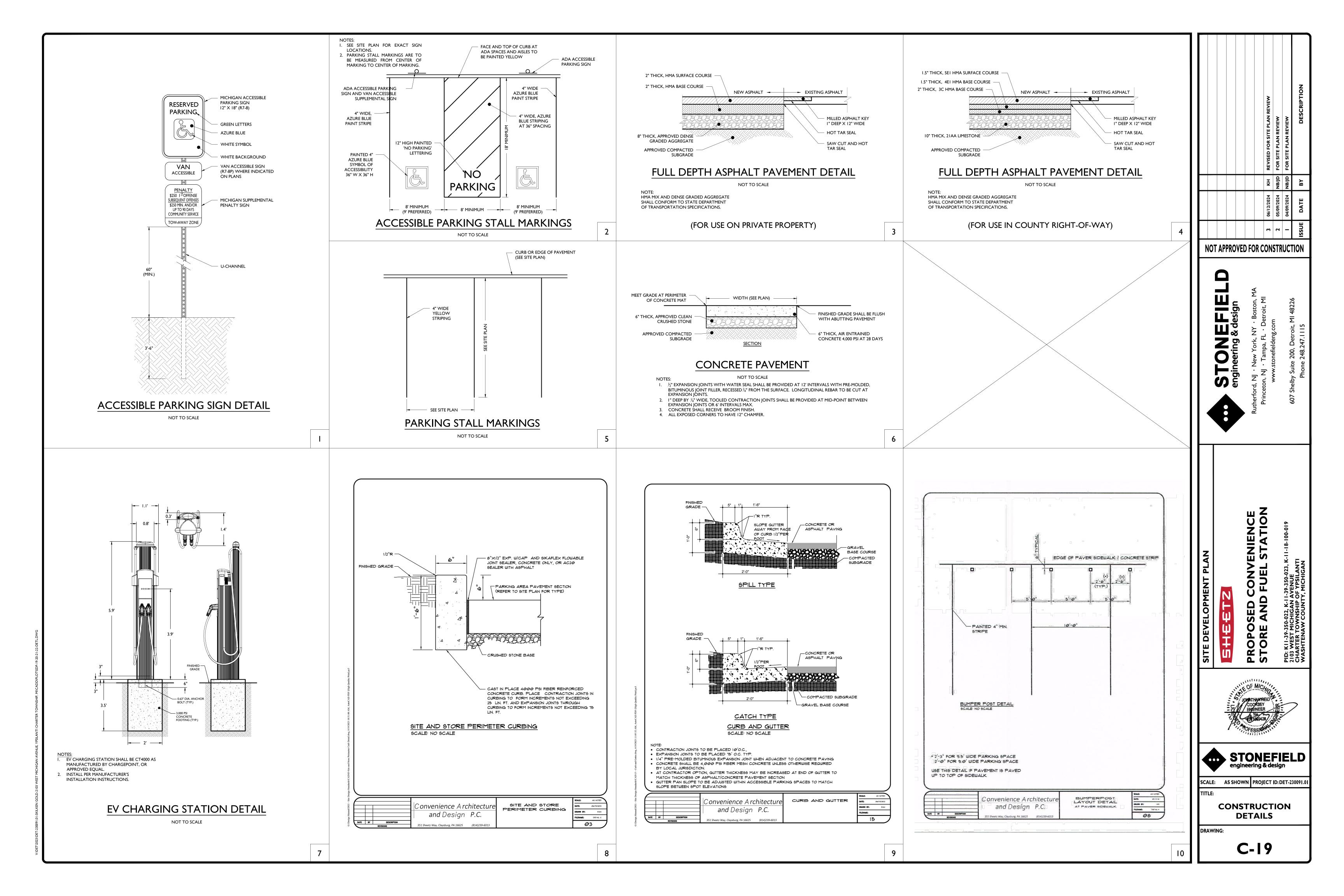


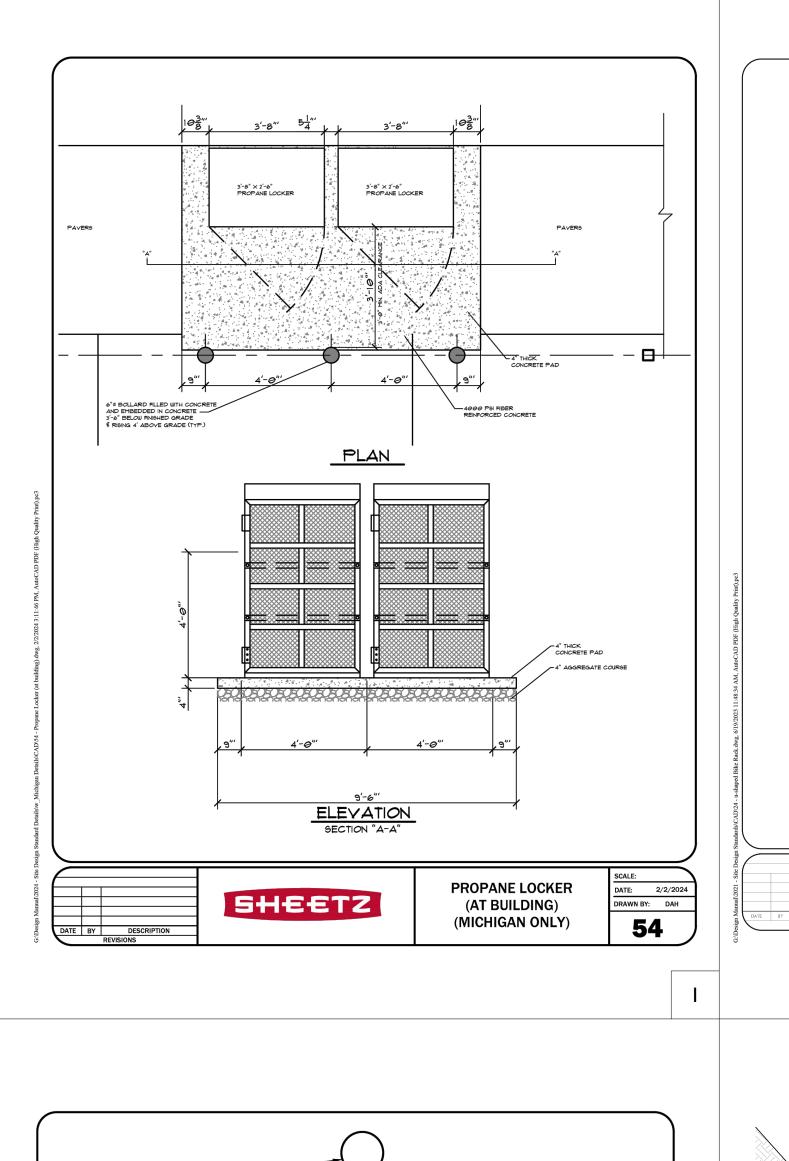
I" = 30' PROJECT ID: DET-230091.0

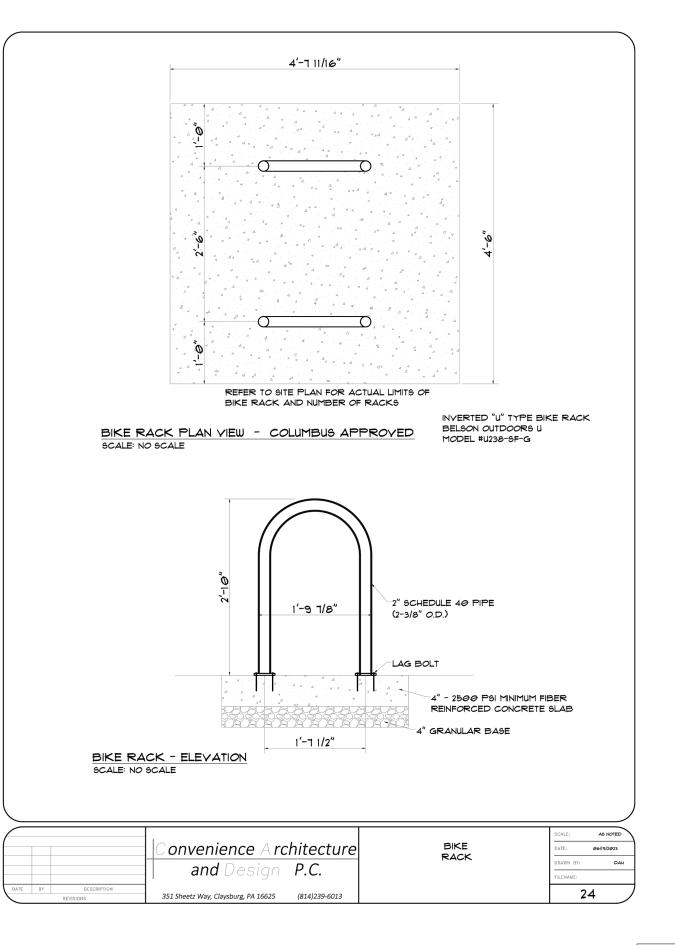
SEDIMENT CONTROL **PLAN**

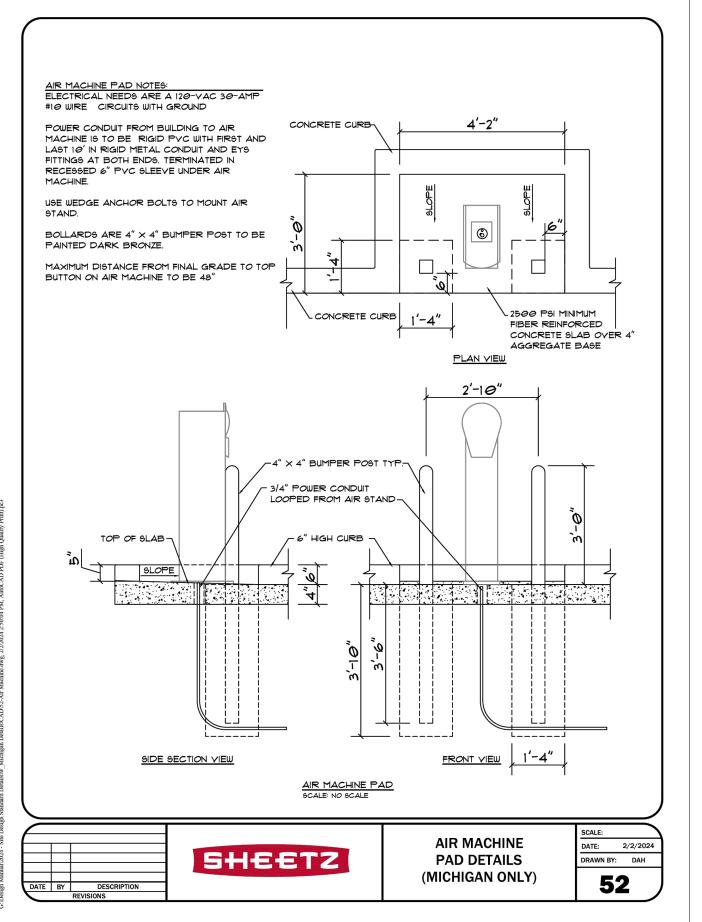
SOIL EROSION &

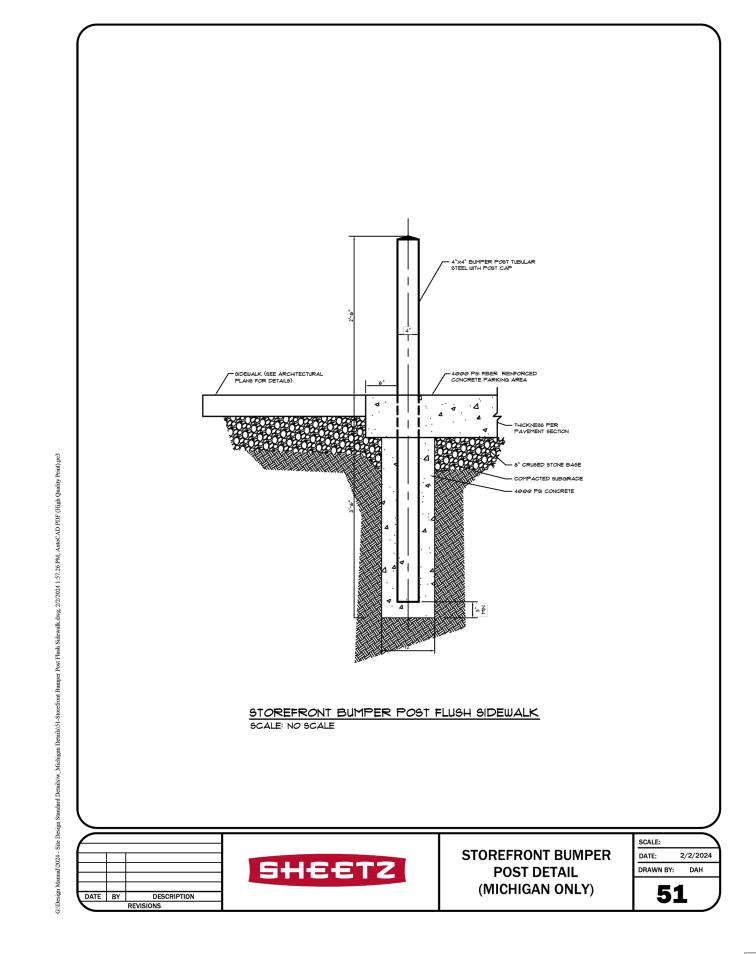
DRAWING:

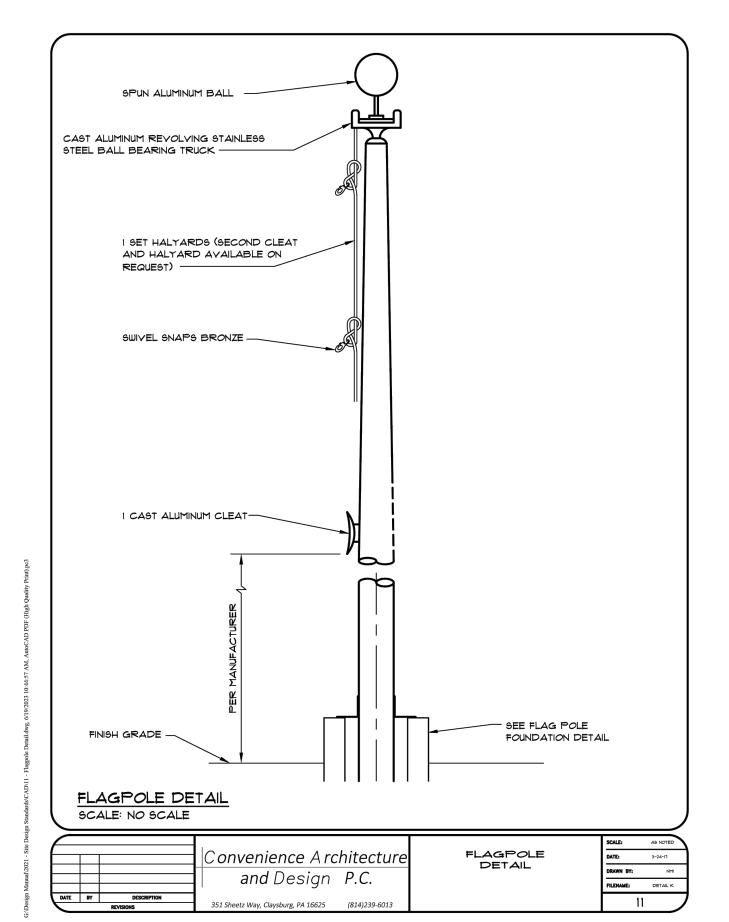


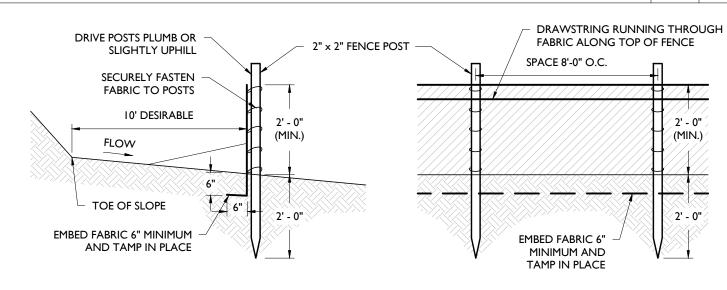










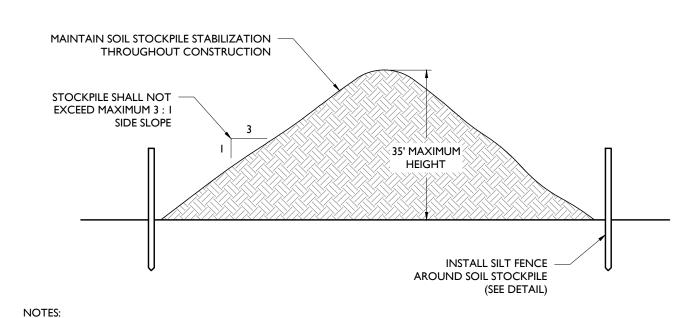


I. SECURELY FASTEN GEOTEXTILE TO FENCE POST BY USE OF WIRE TIES, HOG RINGS, STAPLES OR POCKETS. FOUR TO SIX FASTENERS PER POST.

- 2. GEOTEXTILE FABRIC TO BE EMBEDDED 6" (MIN.) AND TAMP IN PLACE. 3. SECURELY FASTEN ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE TO A POST BY WRAPPING EACH END OF THE GEOTEXTILE AROUND THE POST TWICE AND ATTACHING AS SPECIFIED IN NOTE I ABOVE. SPLICING OF
- INDIVIDUAL ROLLS SHALL NOT OCCUR AT LOW POINTS. 4. SET SILT FENCE WITHIN PROJECT LIMITS. 10'-0" IS DESIRABLE.

SILT FENCE DETAIL

NOT TO SCALE

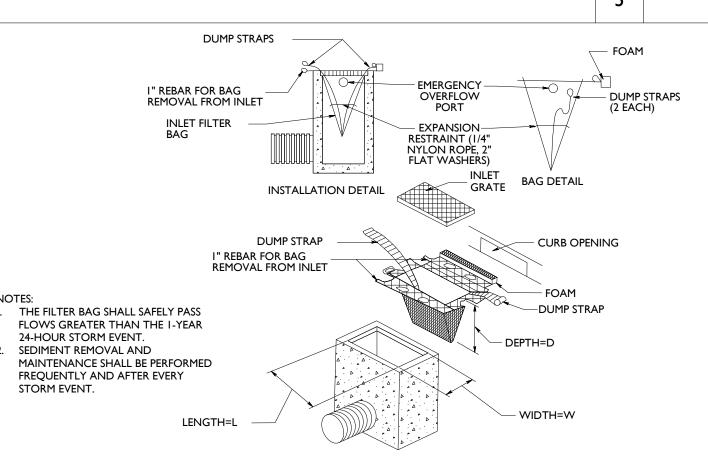


STOCKPILES SHALL BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE. 2. STOCKPILES SHALL BE STABILIZED IN ACCORDANCE WITH THE STANDARDS FOR PERMANENT OR TEMPORARY VEGETATIVE COVER

FOR SOIL STABILIZATION, AS APPROPRIATE (SEE SOIL EROSION NOTES).

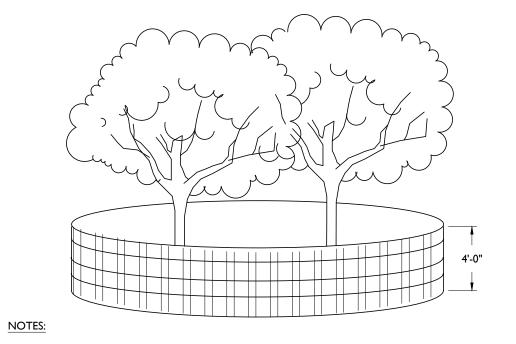
SOIL STOCKPILE DETAIL

NOT TO SCALE



INLET FILTER BAG DETAIL

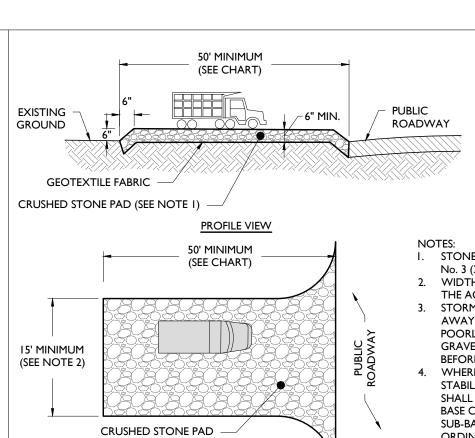
NOT TO SCALE



- SNOW FENCING IS TO BE 4'-0" HIGH AND SELF SUPPORTED. DO NOT STOCKPILE MATERIALS OR STORE EQUIPMENT WITHIN THE TREE PROTECTION FENCING. 3. SNOW FENCE TO BE INSTALLED AT DRIP LINE OF EXISTING TREE OR TREE CLUSTER TO BE PROTECTED OR NO CLOSER THAN 6' FROM TREE TRUNK IF NECESSARY.
- 4. IF THE PROJECT AREA ENCOMPASSES A PORTION OF THE DRIP LINE OF THE TREE, NO MORE THAN ONE THIRD OF THE OF THE TOTAL AREA OF WITHIN THE DRIP LINE SHOULD BE DISTURBED BY CONSTRUCTION OR REGRADING AND A 3" THICK LAYER OF MULCH SHALL BE INSTALLED OVER THE AREA OF THE DRIP LINE WHICH IS NOT PROTECTED BY FENCING TO PROVIDE A CUSHION.

TREE PROTECTION DETAIL

NOT TO SCALE



(SEE NOTE I)

I. STONE SHALL BE ASTM C-33, SIZE No. 2 (2.5" TO 1.5") OR No. 3 (2" TO I") CLEAN CRUSHED ANGULAR STONE. WIDTH SHALL BE 15' MINIMUM OR THE FULL WIDTH OF

ROADWAY

0% TO 2%

2% TO 5%

> 5%

SLOPE OF LENGTH OF STONE REQ'D

50 FEET

COARSE FINE GRAINED SOILS

100 FEET 200 FEET

SEE NOTE 4

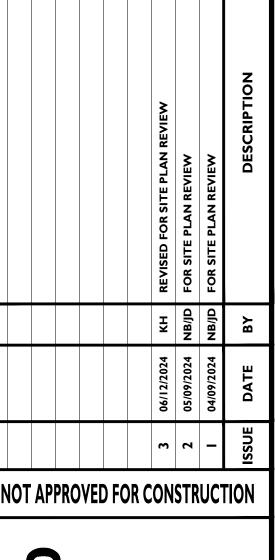
100 FEET

THE ACCESS POINT, WHICHEVER IS GREATER. STORMWATER FROM UP-SLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD, WHERE POSSIBLE. AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE THE STABILIZED CONSTRUCTION ENTRANCE. WHERE THE SLOPE OF THE ROADWAY EXCEEDS 5%, A STABILIZED BASE OF HOT MIX ASPHALT BASE COURSE SHALL BE INSTALLED. THE TYPE AND THICKNESS OF THE BASE COURSE AND USE OF DENSE GRADED AGGREGATE

SUB-BASE SHALL BE AS PRESCRIBED BY LOCAL MUNICIPAL ORDINANCE OR GOVERNING AUTHORITY. CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN THE STABILIZED CONSTRUCTION ACCESS AND THE PUBLIC ROADWAY.

STABILIZED CONSTRUCTION ACCESS DETAIL

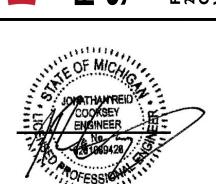
NOT TO SCALE





CONVENIENCE
FUEL STATION

ED C



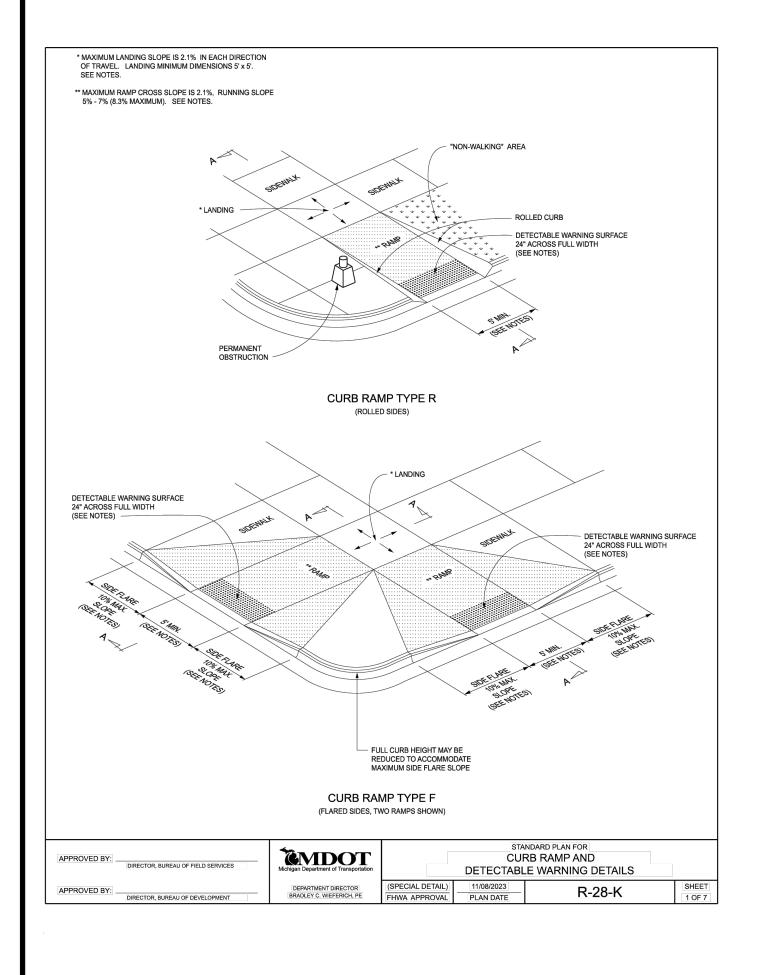


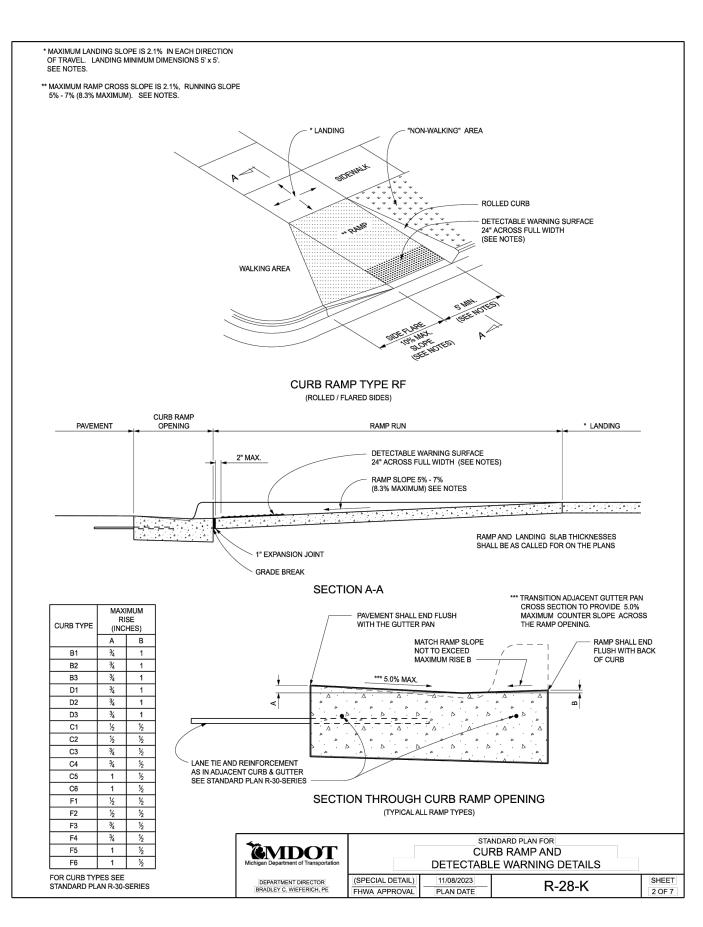
SCALE: AS SHOWN PROJECT ID: DET-230091.0

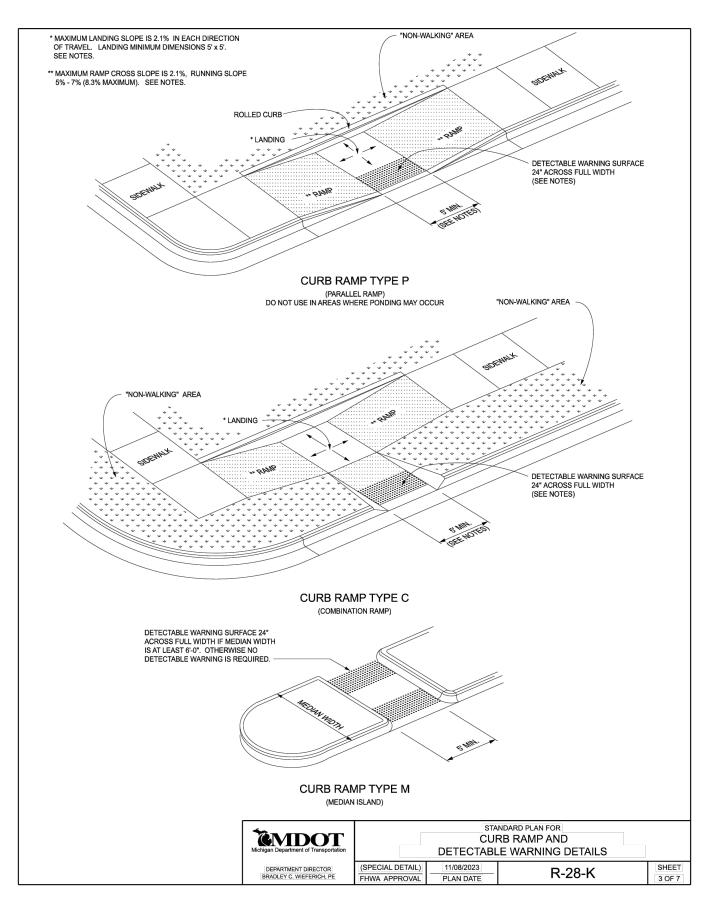
CONSTRUCTION **DETAILS**

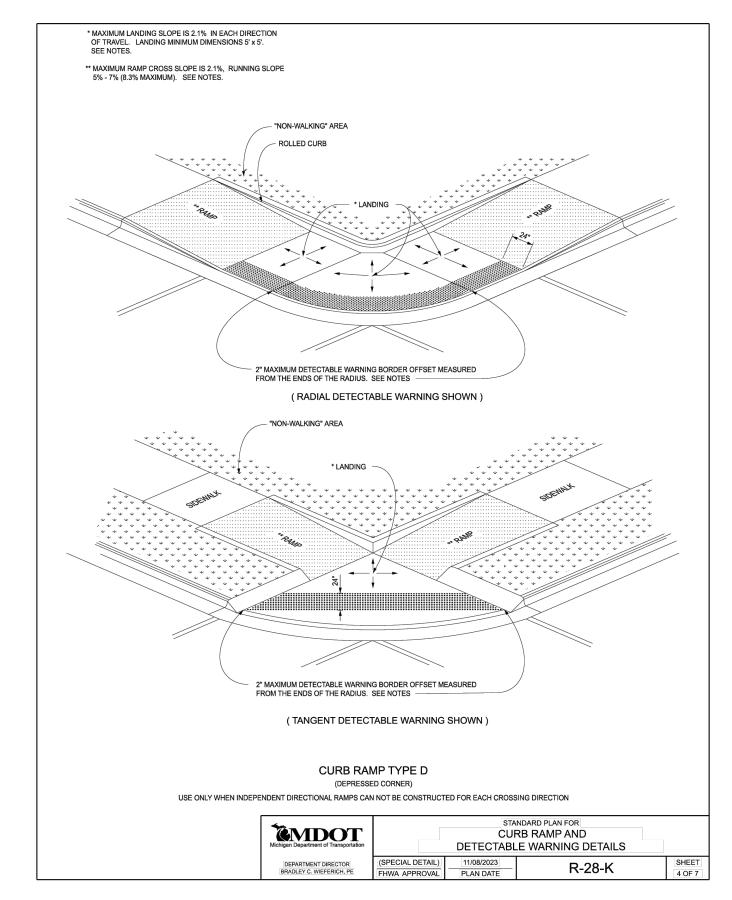
DRAWING:

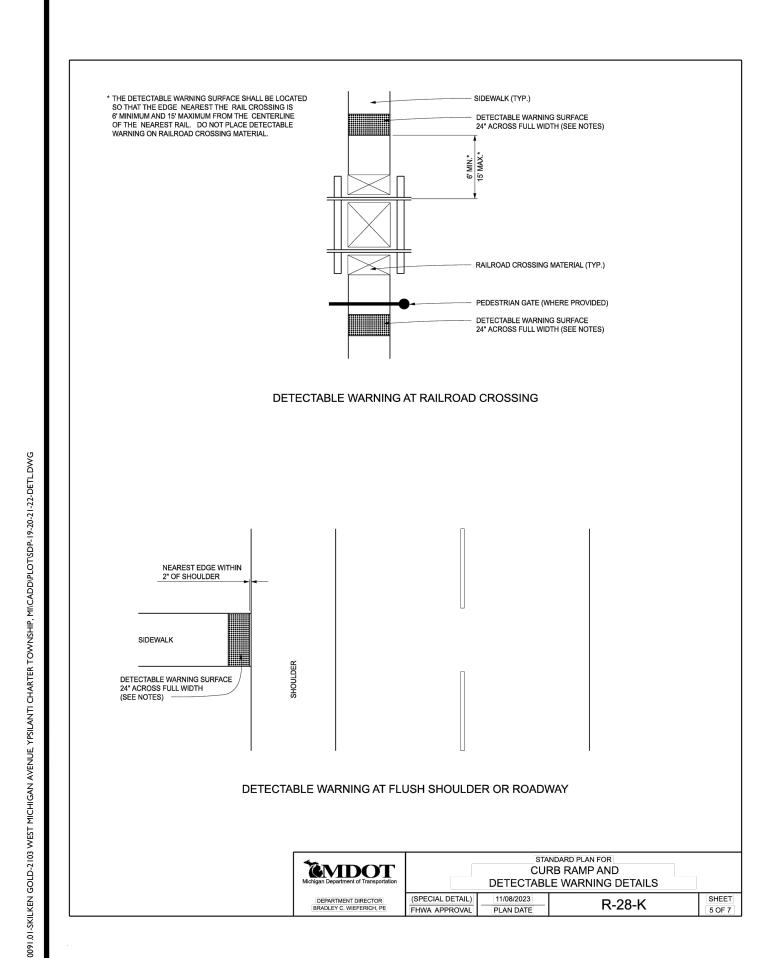
C-20

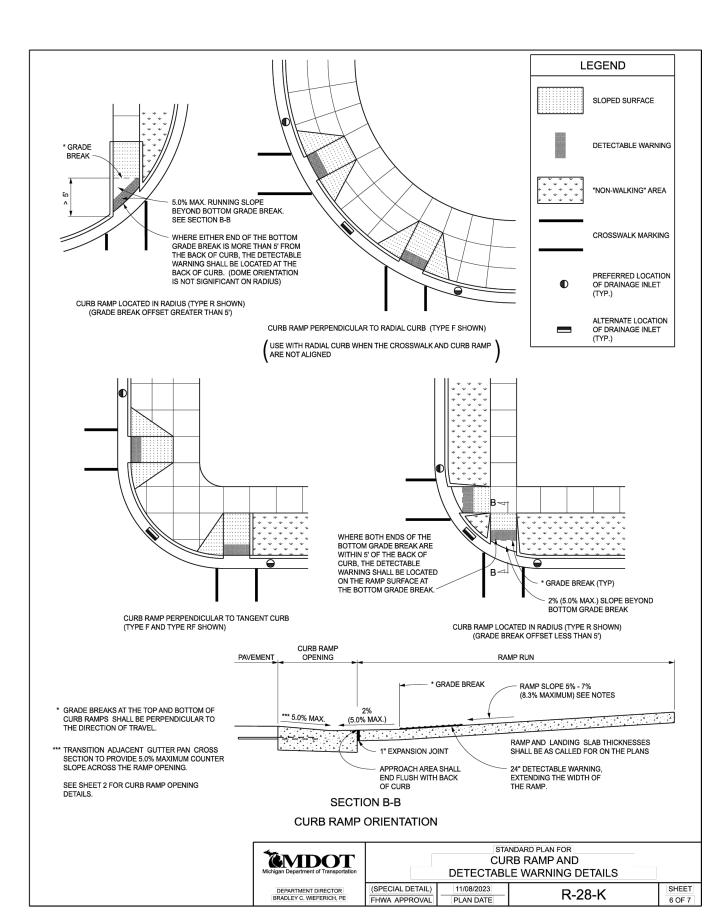


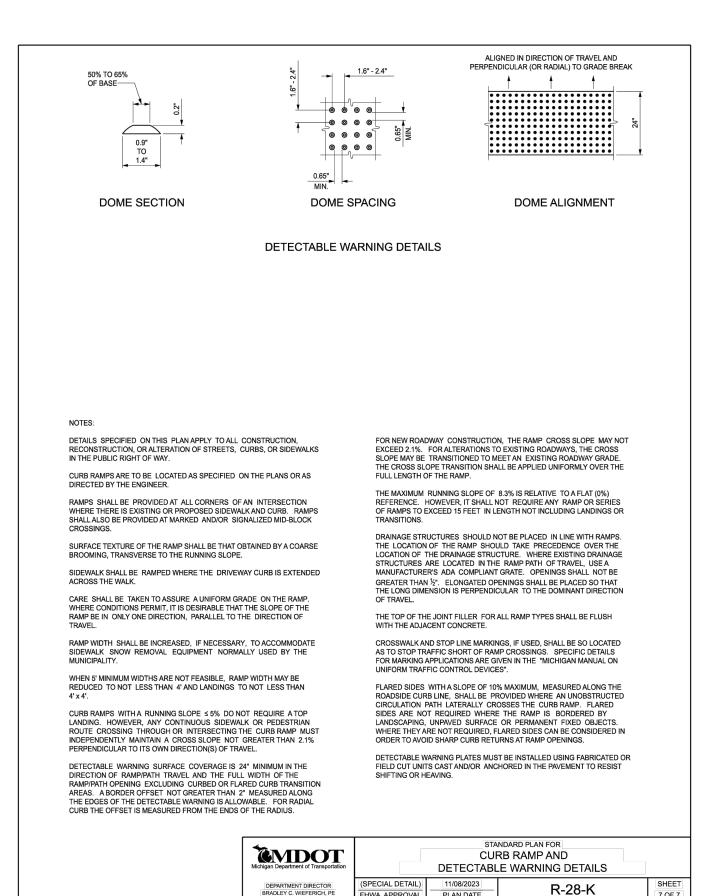




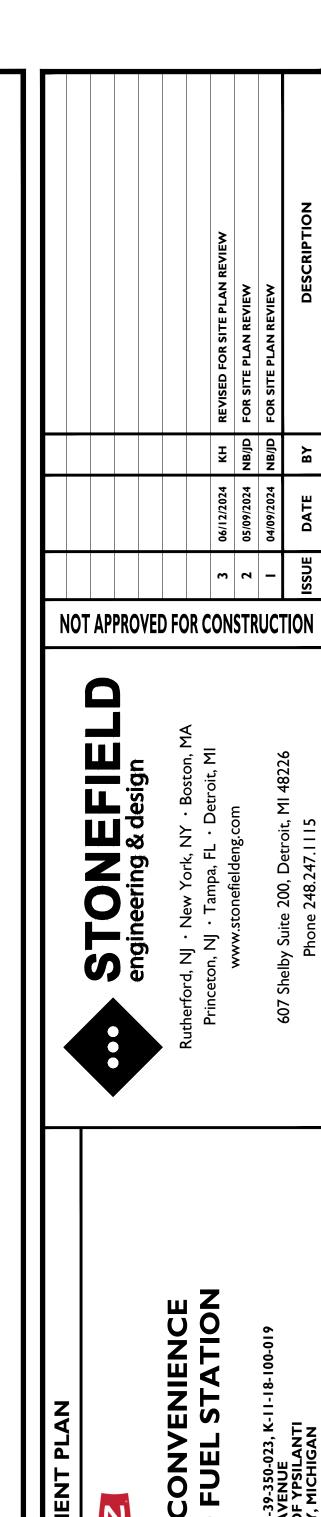












SCALE: AS SHOWN PROJECT ID: DET-230091.0
TITLE:

CONSTRUCTION

DRAWING:

C-21

DETAILS

 \overline{O}

WASHTENAW COUNTY STORMWATER CALCULATIONS (Based on Washtenaw County Stormwater Managements Regulations)				W7. IMPERVIOUS COVER POST-DEVELOPMENT 100 YEAR STORM RUNOFF CALCU	_ATION (V 100-imp-post)	W14. OUTLET DESIGN - 3 STAGE OUTLET		
	(bused on vivisitiently County Swithwater Mit	лидетена кедишилэ)			Rainfall Value (100 Year Storm Event), P: 5.11 IN	$Q_{Allow} = (0.15)(A)$	Allowable Release Rate, QAllow: 0.5417 CFS	
	lanti Township - Hewitt	Designer: KTH	Date: 06/11/24	S = (1000 / CN) - 10	Function of Watershed Soil & Conditions, S: 0.20 IN	A. FIRST FLUSH DISCHARGE		
WI. DETERMINING POST-DEVELOPN	MENT COVER TYPES, AREAS, CURVE	NUMBERS, AND RUNOFF COEFFICIENT	ΓS	$Q_{100-imp} = (P-0.2*S)^2/(P+0.8*S)$	Runoff, Q _{100-imp} : 4.87 IN	$Q_{\min-ff} = V/T_{24}$	Minimum First Flush Release Rate, Q _{Min-ff} : 0.0769 CFS	
RATIONAL METHOD VARIABLES (REQUIRED F	FOR FIRST FLUSH RUNOFF CALCULATIONS)			(1 012 0) (1 100 0)	Impervious Cover Area: 67,029 SF	$h_{ave} = 2/3 * (X_{ff} - X_{bot})$	Average Head, have: 1.18 FT	
Landcover	Area (SF)	C-Value* Weighted Value	re					
Building / Roof Pavement / Hardscape	6,602 × 60,427 ×	0.95 = 6,272 0.95 = 57,406			Cover Post Development 100-Yr Vol, V _{100-imp-post} : 27,219 CF	$A_{ff} = Q_{Min-ff} / [0.62 * \sqrt{2 * g * h_{ave}}]$	Orifice Area, A _{ff} : 0.0142 SF	
Open Water (Based on Bankfull Storage Elevation) Open Space (HSG 'A')	0 x 73,317 x	0 0.15 = 0 10,998		W8. TIME OF CONCENTRATION FOR APPLICABLE FLOW TYPES (T _{c-hrs})		Maximum # _{Orif} = A _{ff} / A _{Orif} ** Orifice Size Proposed I.00 in	Proposed # Orifice: 2.00	
Open Space (HSG 'B') Open Space (HSG 'C')	9,460 ×	0.25 = 1,390 0.30 = 2,838		If Tc < 15	5 minutes use minimum Tc Below	The Proposed Orifice is smaller than the Minimum Permitted Diameter (0.75"), but has been approved per WCWRC review dated 04-15-2022		
Open Space (HSG 'D')	I,952 x	0.45 = 878			$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$Q_{Act-ff} = 0.62 * \#_{Orif} * A_{Orif} * \sqrt{(2 * g * h_{ave})}$	Proposed First Flush Release Rate, Q _{Act-ff} : 0.0590 CFS	
Subtotals	157,319	79,782		W9. RUNOFF SUMMARY		$T_{Act-ff} = V_{ff} / Q_{Act-ff}$	Release Time, T _{Act-ff} : 31.3 Hours	
*C-values obtained from Washtenaw County Water Resources Com	nmissioner	Composite C Value, C: 0.51		First Flush Runoff Volume, V _{ff} : 6,648 CF			T > 24 Hours, Okay	
		Site Area, A: 3.61	AC	Pre-Development Bankfull Volume, V _{bf-pre} : 1,020 CF		B. BANKFULL DISCHARGE		
NRCS VARIABLES (REQUIRED FOR BANKFULL &	2 100-YEAR RUNOFF CALCULATIONS)			Pervious Cover Post Development Bankfull Volume, V _{bf-per-post} : 7 CF		$h_{ave} = 2/3 * (X_{bf} - X_{bot})$	Average Head, have: 1.89 FT	
Cover Type (Pre-Development)	Soil Type Area (SF)	Curve Number (CN)	Weighted Value	Impervious Cover Post Development Bankfull Volume, V _{bf-imp-post} : 1,851		$Q_{bf} = 0.62 * \#_{Orif} * A_{Act-Orif} * \sqrt{(2 * g * h_{ave})}$	Bank Full Release Rate, Q _{bf} : 0.0746 CFS	
Building, Roof	- 1,568	x 98.0	= 153,664	Total I	Bankfull Volume (V _{bf-post}): 11,858 CF	$T_{bf} = V_{bf} / Q_{bf}$	Release Time, T _{bf} : 44.2 Hours	
Paved Open Water	- 2,531 - 0	x 98.0 x 100.0	= 248,038 = 0	Pervious Cover Post Development 100-Year Storm Volume, V _{100-per-post} : 3,558 CF			T > 36 Hours, 3-Stage Additional Orifice Needed? Yes	
Woods (Good) Woods (Good)	A 132,819 B 5,561	30.0 55.0	3,984,570 305,855	Impervious Cover Post Development 100-Year Storm Volume, V _{100-imp-post} : 27,219 CF				
Woods (Good) Woods (Good)	C 12,411 D 2,428	70.0 x 77.0	868,770 = 186,956		ıl 100 Year Volume (V ₁₀₀): 30,777 CF	$V_{Rem} = V_{bf} - V_{ff}$	Volume Remaining, V _{Rem} : 5,209.3 CF	
	157,319		5,747,853		11 100 Year Volume (V ₁₀₀): 30,777 CF	T _{Rem} = T _{Target} - T _{Act-ff} ** Target Time Proposed: 42 Hours	Time Remaining, T _{Rem} : 10.7 Hours	
Subtotals	157,319			ONSITE INFILTRATION REQUIREMENTS		$h_{\text{ff-ave}} = 2/3 * (X_{\text{bf}} - X_{\text{ff}}) + (X_{\text{ff}} - X_{\text{bot}})$	Average Head, h _{ff-Ave} : 2.48 FT	
		Composite CN Value		$V_{bf-diff} = V_{bf-post} - V_{bf-pre}$ Bankfull V	/olume Difference, V _{bf-diff} : 10,838 CF	$Q_{ff+bf} = 0.62 * \#_{Orif} * A_{Orif} * \sqrt{(2 * g * h_{ff-ave})}$	Combined Release Rate, Q _{ff+bf} : 0.0855 CFS	
Pervious Cover Type (Post-Development) Fully Developed Open Space (Good Condition)	Soil Type Area (SF) A 73,317	Curve Number (CN) 39.0	Weighted Value 2,859,363	Onsite Infiltration Requirement: Use the greater of Bankfull Volume Difference vs. First Flush Volume Onsite Infilt	tration Requirement, V _{inf} : 10,838 CF	$V_{ff+bf} = T_{Rem} * Q_{ff+bf}$	Combined Discharge Volume, V _{ff+bf} : 3,294.9 CF	
Fully Developed Open Space (Good Condition) Fully Developed Open Space (Good Condition)	B 5,561 C 9,460	61.0	339,22 I 700,040	*Basin to include additional 20% volume if required infiltration is not provided	Bankfull Volume Difference	$V_{bf} = V_{Rem} * V_{ff+bf}$	Bankfull Discharge Volume, V _{bf} : 1,914.4 CF	
Fully Developed Open Space (Good Condition)	D 1,952	x 80.0	= 156,160	W10. DETENTION REQUIREMENTS		$Q_{bf} = V_{bf} / T_{Rem}$	Bankfull Release Rate, Q _{bf} : 0.0497 CFS	
Subtotals	90,290		4,054,784	$Q_p = 238.6 * T_c^{-0.82}$	the Unit Hydrograph, Q _p : 744 CFS / IN-MI ²			
		Composite CN Value	., CN: 44.91	*Site Area Excluding "Self Crediting" BMPs	*Total Site Area: 3.61 AC	$h_{bf-ave} = 2/3 * (x_{bf}-x_{ff})$	Average Head, h _{bf-ave} : 0.71 FT	
Impervious Cover Type (Post-Development)	Soil Type Area (SF)	Curve Number (CN)	Weighted Value		Year Storm Runoff, Q ₁₀₀ : 5.35 IN	$A_{bf} = Q_{bf} / [0.62 * \sqrt{2 * g * h_{bf-ave}}]$	Orifice Area, A _{bf} : 0.0119 SF	
Paved Parking Lots, Roofs, Driveways Open Water	A/B/C/D 67,029 A/B/C/D 0	x 98.0 x 100.0	= 6,568,842 = 0			Maximum $\#_{Orif} = A_{ff} / A_{Orif}$ ** Orifice Size Proposed: 1.00 in (0.75" Minimum)	Maximum # Orifice: 2.18	
Subtotals	67,029		6,568,842	PF = (Q _p * Q ₁₀₀ * Area) / 640	Peak Flow, PF: 22.43 CFS		Proposed # Orifice: 2.00	
Subtotals	07,027			Δ = PF - (0.15 * Area)	Δ: 21.89 CFS	$Q_{Act-bf} = 0.62 * \#_{Orif} * A_{Orif} * \sqrt{(2 * g * h_{bf-ave})}$	Proposed Bankfull Release Rate, Q _{Act-bf} 0.0456 CFS	
		Composite CN Value	e, CN: 98.00	$V_{det} = (\Delta / PF) * V_{100}$ Required	d Detention Volume, V _{det} : 30,034 CF	$T_{Act-bf} = T_{Act-ff} + V_{Rem} / (Q_{ff+bf} + Q_{act-bf})$	Release Time, T _{Act-ff} : 42.3 Hours	
W2. FIRST FLUSH RUNOFF CALCULA	ATION (V _{ff})			WII. STANDARD METHOD RUNOFF VOLUME CALCULATIONS			36 < T < 48 Hours, Okay	
V _{ff} = (I IN) * (I FT / I2 IN) * (43,560 SF) * A * C		Site Ar	ea, A: 3.61 AC	SUBSURFACE STORAGE / INFILTRATION / PERMEABLE PAVEMENT VOLUME		C. 100-YEAR STORM DISCHARGE		
		First Flush Runoff Volum	ne,V _{ff} : 6,648 CF	Infiltration Bed Area 2,686 SF		$Q_{\text{ff+bf}} = [0.62 * \#_{\text{Orif-ff}} * A_{\text{Act-Orif-ff}} * \sqrt{2 * g * (x_{100} - x_{bot})}] + [0.62 * \#_{\text{Orif-bf}} * A_{\text{Act-Orif-bf}} * \sqrt{2 * g * (x_{100} - x_{bot})}]$	Release Rate, Q _{ff+bf} : 0.1728 CFS	
W3. PRE-DEVELOPMENT BANKFULL	RUNOFF CALCULATION (V _{bf-pre})			Subsurface Depth, D: 0.00 FT		$Q_{\text{max-100}} = Q_{\text{Allow}} - (Q_{\text{ff+bf}})$	Maximum 100-Year Release Rate, Q _{max} : 0.3689 CFS	
		Rainfall Value (2 Year / 24 Hour Storm Ever	nt), P: 2.35 IN	Void Ratio 30%		$A_{\text{max-100}} = Q_{\text{max-100}} / [0.62 * \sqrt{(2 * g * (x_{100}-x_{\text{bf}}))}]$	Orifice Area, A _{max-100} : 0.0908 SF	
S = (1000 / CN*) - 10			ns, S: 17.37	Subsurface Storage Volume 0 CF		Maximum # _{Orif} = A _{max-100} / A _{Orif}	Maximum # Orifice: 6.64	
$CN_{PRE} = 36.54$		Function of Watershed Soil & Condition		Storage Volume (ft ³) Design Infiltration Infiltration Volume During	g Total Volume Reduction	** Orifice Size Proposed: 1.00 in (0.75" Minimum)	Proposed # Orifice: 5.00	
		Function of Watershed Soil & Condition		Flow Type Area (ft²) " '	(ft ³)			
$Q = (P-0.2*S)^2/(P+0.8*S)$			off, Q: 0.078 IN	Surface Soil Rate (In / hr) Storm (ft °)	12 420	$Q_{Act-100} = Q_{ff+bf} + \#_{Orif} * A_{Orif} * \sqrt{(2 * g * (x_{100}-x_{bf}))}$	Proposed 100-Year Release Rate, Q _{Act-100} : 0.3516 CFS	
Q = (P-0.2*S) ² /(P+0.8*S) *Site Area Excluding "Self Crediting" BMPs		Rund	Area: 157,319 SF	Infiltration Basin 2,686 0 0 10.00 13,430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume	0 13,430	$Q_{Act-100} = Q_{ff+bf} + \#_{Orif} * A_{Orif} * \sqrt{(2 * g * (x_{100}-x_{bf}))}$	Proposed 100-Year Release Rate, $Q_{Act-100}$: 0.3516 CFS If < 0.5417 okay	
		Rund	Area: 157,319 SF	Infiltration Basin 2,686 0 0 10.00 13,430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site	Total Volume Reduction: 13,430 CF	$Q_{Act-100} = Q_{ff+bf} + \#_{Orif} * A_{Orif} * \sqrt{2 * g * (x_{100}-x_{bf})}$ $h_{all-ave} = 2/3 * (x_{100}-x_{bf}) + (x_{bf}-x_{bot})$		
*Site Area Excluding "Self Crediting" BMPs	OPMENT BANKFULL RUNOFF CALC	*Total Site Pre-Development Bankfull Volume, V	Area: 157,319 SF	Infiltration Basin 2,686 0 0 10.00 13,430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can			If < 0.5417 okay	
*Site Area Excluding "Self Crediting" BMPs $V_{bf-pre} = Q * (1/12) * Area$	OPMENT BANKFULL RUNOFF CALC	*Total Site Pre-Development Bankfull Volume, V	Area: 157,319 SF V _{bf-pre} : 1,020 CF	Infiltration Basin 2,686 0 0 10.00 13,430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$h_{all-ave} = 2/3 * (x_{100}-x_{bf}) + (x_{bf}-x_{bot})$	If < 0.5417 okay First Flush Orifice Total Head, h _{all-ave} : 3.28 FT	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO	OPMENT BANKFULL RUNOFF CALC	*Total Site Pre-Development Bankfull Volume, V *ULATION (V _{bf-per-post}) Rainfall Value (2 Year / 24 Hour Storm Ever	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN	Infiltration Basin 2,686 0 0 10.00 13,430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infiltration	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted)	$h_{all-ave} = 2/3 * (x_{100}-x_{bf}) + (x_{bf}-x_{bot})$ $Q_{All} = 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVEL S = (1000 / CN) - 10	OPMENT BANKFULL RUNOFF CALC	*Total Site Pre-Development Bankfull Volume, V SULATION (V _{bf-per-post}) Rainfall Value (2 Year / 24 Hour Storm Ever	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN ns, S: 12.27	Infiltration Basin 2,686 0 0 10.00 13,430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{aligned} &h_{all-ave} = 2/3 * (x_{100}-x_{bf}) + (x_{bf}-x_{bot}) \\ &Q_{All} = 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ &h_{bf-ave} = 2/3 * (x_{100}-x_{bf}) + (x_{bf}-x_{ff}) \\ &Q_{bf+100} = 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \end{aligned}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO	OPMENT BANKFULL RUNOFF CALC	*Total Site Pre-Development Bankfull Volume, V SULATION (V _{bf-per-post}) Rainfall Value (2 Year / 24 Hour Storm Ever	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN ns, S: 12.27 off, Q: 0.001 IN	Infiltration Basin 2,686 0 0 10.00 13,430 I. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{aligned} &h_{all\text{-ave}} = 2/3 * (x_{100}\text{-}x_{bf}) + (x_{bf}\text{-}x_{bot}) \\ &Q_{All} = 0.62 * \#_{Orif\text{-}ff} * A_{orif\text{-}ff} * \sqrt{2 * g * h_{all\text{-ave}})} \\ &h_{bf\text{-ave}} = 2/3 * (x_{100}\text{-}x_{bf}) + (x_{bf}\text{-}x_{ff}) \\ &Q_{bf\text{+}100} = 0.62 * \#_{Orif\text{-}bf} * A_{orif\text{-}bf} * \sqrt{2 * g * h_{bf\text{-ave}})} \\ &h_{100\text{-ave}} = 2/3 * (x_{100}\text{-}x_{bf}) \end{aligned}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S)	OPMENT BANKFULL RUNOFF CALC	*Total Site Pre-Development Bankfull Volume, V SULATION (V _{bf-per-post}) Rainfall Value (2 Year / 24 Hour Storm Even Function of Watershed Soil & Condition Runce Pervious Cover	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN ns, S: 12.27 off, Q: 0.001 IN Area: 90,290 SF	Infiltration Basin 2,686 0 0 10.00 13,430 I. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf 10,838 CF	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100}\text{-}x_{bf}) + (x_{bf}\text{-}x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100}\text{-}x_{bf}) + (x_{bf}\text{-}x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100\text{-}ave} &= 2/3 * (x_{100}\text{-}x_{bf}) \\ Q_{100\text{-}ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100\text{-}ave}}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-per-post} = Q * (1/12) * Area		Runc *Total Site Pre-Development Bankfull Volume, V **CULATION (V bf-per-post) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runc Pervious Cover Pervious Cover Post Development Bankfull Volume, V	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN ns, S: 12.27 off, Q: 0.001 IN Area: 90,290 SF	Infiltration Basin 2,686 0 0 10.00 13,430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf 10,838 CF Provided Infiltration Volume: 13,430 CF	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{\text{all-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{bot}}) \\ Q_{\text{All}} &= 0.62 * \#_{\text{Orif-ff}} * A_{\text{orif-ff}} * \sqrt{2 * g * h_{\text{all-ave}}}) \\ h_{\text{bf-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{ff}}) \\ Q_{\text{bf+100}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{\text{bf-ave}}}) \\ h_{100\text{-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) \\ Q_{100\text{-ave}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{100\text{-ave}}}) \\ V_{\text{Rem}} &= V_{100} - V_{\text{bf}} \end{split}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4,343.3 CF	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S)		Runc *Total Site Pre-Development Bankfull Volume, V **CULATION (V bf-per-post) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runc Pervious Cover Pervious Cover Post Development Bankfull Volume, V	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN ns, S: 12.27 off, Q: 0.001 IN Area: 90,290 SF	Infiltration Basin 2,686 0 0 10.00 13,430 I. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf 10,838 CF	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100}\text{-}x_{bf}) + (x_{bf}\text{-}x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100}\text{-}x_{bf}) + (x_{bf}\text{-}x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100\text{-}ave} &= 2/3 * (x_{100}\text{-}x_{bf}) \\ Q_{100\text{-}ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100\text{-}ave}}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-per-post} = Q * (1/12) * Area		Runc *Total Site Pre-Development Bankfull Volume, V **CULATION (V bf-per-post) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runc Pervious Cover Pervious Cover Post Development Bankfull Volume, V	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN ns, S: 12.27 off, Q: 0.001 IN Area: 90,290 SF ofper-post: 7 CF	Infiltration Basin 2,686 0 0 10.00 13,430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infiltration Volume A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf 10,838 CF Provided Infiltration Volume: 13,430 CF % Minimum Required Infiltration Provided: 124%	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{\text{all-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{bot}}) \\ Q_{\text{All}} &= 0.62 * \#_{\text{Orif-ff}} * A_{\text{orif-ff}} * \sqrt{2 * g * h_{\text{all-ave}}}) \\ h_{\text{bf-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{ff}}) \\ Q_{\text{bf+100}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{\text{bf-ave}}}) \\ h_{100\text{-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) \\ Q_{100\text{-ave}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{100\text{-ave}}}) \\ V_{\text{Rem}} &= V_{100} - V_{\text{bf}} \end{split}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4,343.3 CF Release Time, T _{Act-ff} : 48.9 Hours	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-per-post} = Q * (1/12) * Area		Rund *Total Site Pre-Development Bankfull Volume, V **CULATION (V bf-per-post) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Rund Pervious Cover Pervious Cover Post Development Bankfull Volume, V **LCULATION (V bf-imp-post)	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN ns, S: 12.27 off, Q: 0.001 IN Area: 90,290 SF of-per-post: 7 CF	Infiltration Basin 2,686 0 0 10.00 13.430 I. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf. 10.838 CF Provided Infiltration Volume: 13,430 CF % Minimum Required Infiltration Provided: 124% Net Required Detention Volume, V det: 16,604 CF	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{\text{all-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{bot}}) \\ Q_{\text{All}} &= 0.62 * \#_{\text{Orif-ff}} * A_{\text{orif-ff}} * \sqrt{2 * g * h_{\text{all-ave}}}) \\ h_{\text{bf-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{ff}}) \\ Q_{\text{bf+100}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{\text{bf-ave}}}) \\ h_{100\text{-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) \\ Q_{100\text{-ave}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{100\text{-ave}}}) \\ V_{\text{Rem}} &= V_{100} - V_{\text{bf}} \end{split}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4,343.3 CF Release Time, T _{Act-ff} : 48.9 Hours	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-per-post} = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVE		Rund *Total Site Pre-Development Bankfull Volume, V **CULATION (V bf-per-post) Rainfall Value (2 Year / 24 Hour Storm Even Function of Watershed Soil & Condition Rund Pervious Cover Pervious Cover Post Development Bankfull Volume, V **LCULATION (V bf-imp-post) Rainfall Value (2 Year / 24 Hour Storm Even Function of Watershed Soil & Condition	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN ns, S: 12.27 off, Q: 0.001 IN Area: 90,290 SF of-per-post: 7 CF	Infiltration Basin 2,686 0 0 10.00 13,430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V infiltration Provided Infiltration Volume: 13,430 CF Provided Infiltration Volume: 13,430 CF % Minimum Required Infiltration Provided: 124% Net Required Detention Volume, V det: V det - Designed / Provided Infiltration Volume B. DETENTION VOLUME INCREASE WITHOUT INFILTRATION % Required Infiltration NOT Provided: 0%	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{\text{all-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{bot}}) \\ Q_{\text{All}} &= 0.62 * \#_{\text{Orif-ff}} * A_{\text{orif-ff}} * \sqrt{2 * g * h_{\text{all-ave}}}) \\ h_{\text{bf-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{ff}}) \\ Q_{\text{bf+100}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{\text{bf-ave}}}) \\ h_{100\text{-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) \\ Q_{100\text{-ave}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{100\text{-ave}}}) \\ V_{\text{Rem}} &= V_{100} - V_{\text{bf}} \end{split}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4,343.3 CF Release Time, T _{Act-ff} : 48.9 Hours	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-per-post} = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVE		Runce *Total Site Pre-Development Bankfull Volume, Value (2 Year / 24 Hour Storm Even Function of Watershed Soil & Condition Runce Pervious Cover Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Even Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Even Function of Watershed Soil & Condition Runce Runce	Area: 157,319 SF V _{bf-pre} : 1,020 CF nt), P: 2.35 IN ns, S: 12.27 off, Q: 0.001 IN Area: 90,290 SF fper-post: 7 CF nt), P: 2.35 IN ns, S: 0.20 IN	Infiltration Basin 2.686 0 0 10 10.00 13.430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf. 10,838 CF Provided Infiltration Volume: 13,430 CF % Minimum Required Infiltration Provided: 124% Net Required Detention Volume, V det: 16,604 CF V det - Designed Provided Infiltration Volume B. DETENTION VOLUME INCREASE WITHOUT INFILTRATION % Required Infiltration NOT Provided: 0%	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{\text{all-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{bot}}) \\ Q_{\text{All}} &= 0.62 * \#_{\text{Orif-ff}} * A_{\text{orif-ff}} * \sqrt{2 * g * h_{\text{all-ave}}}) \\ h_{\text{bf-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{ff}}) \\ Q_{\text{bf+100}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{\text{bf-ave}}}) \\ h_{100\text{-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) \\ Q_{100\text{-ave}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{100\text{-ave}}}) \\ V_{\text{Rem}} &= V_{100} - V_{\text{bf}} \end{split}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4,343.3 CF Release Time, T _{Act-ff} : 48.9 Hours	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELO S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-per-post} = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVE	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, Value (2 Year / 24 Hour Storm Even Function of Watershed Soil & Condition Runce Pervious Cover Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Even Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Even Function of Watershed Soil & Condition Runce Runce	Area: 157,319 SF Vbf-pre: 1,020 CF Int), P: 2.35 IN Ins, S: 12.27 Off, Q: 0.001 IN Area: 90,290 SF 7 CF Int), P: 2.35 IN Ins, S: 0.20 IN Off, Q: 2.122 IN Area: 67,029 SF	Infiltration Basin 2.686 0 0 10.00 13.430 1. Infiltration Rate x 6 hrs x BMP Area x Unix Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf. 10,838 CF Provided Infiltration Volume: 13,430 CF % Minimum Required Infiltration Provided: 124% Net Required Detention Volume, V det: 16,604 CF V det: 16,604 CF V det: 0% Net Required Infiltration NOT Provided: 0% Net % Penalty (20% * % Required Infiltration NOT Provided): 0% Net % Penalty (20% * % Required Infiltration NOT Provided): 0%	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{\text{all-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{bot}}) \\ Q_{\text{All}} &= 0.62 * \#_{\text{Orif-ff}} * A_{\text{orif-ff}} * \sqrt{2 * g * h_{\text{all-ave}}}) \\ h_{\text{bf-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{ff}}) \\ Q_{\text{bf+100}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{\text{bf-ave}}}) \\ h_{100\text{-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) \\ Q_{100\text{-ave}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{100\text{-ave}}}) \\ V_{\text{Rem}} &= V_{100} - V_{\text{bf}} \end{split}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4,343.3 CF Release Time, T _{Act-ff} : 48.9 Hours	
*Site Area Excluding "Self Crediting" BMPs Vbf-pre = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-per-post = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVE S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-imp-post = Q * (1/12) * Area	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Function of Watershed Soil & Condition Runce Pervious Cover Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Function of Watershed Soil & Condition Runce Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Function of Watershed Soil & Condition Runce Pervious Cover Post Development Bankfull Volume, Value Pervious	Area: 157,319 SF Vbf-pre: 1,020 CF Int), P: 2.35 IN Ins, S: 12.27 Off, Q: 0.001 IN Area: 90,290 SF 7 CF Int), P: 2.35 IN Ins, S: 0.20 IN Off, Q: 2.122 IN Area: 67,029 SF	Infiltration Basin 2.686 0 0 10 10.00 13.430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf. 10,838 CF Provided Infiltration Volume: 13,430 CF % Minimum Required Infiltration Provided: 124% Net Required Detention Volume, V det: 16,604 CF V det - Designed Provided Infiltration Volume B. DETENTION VOLUME INCREASE WITHOUT INFILTRATION % Required Infiltration NOT Provided: 0%	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{\text{all-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{bot}}) \\ Q_{\text{All}} &= 0.62 * \#_{\text{Orif-ff}} * A_{\text{orif-ff}} * \sqrt{2 * g * h_{\text{all-ave}}}) \\ h_{\text{bf-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{ff}}) \\ Q_{\text{bf+100}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{\text{bf-ave}}}) \\ h_{100\text{-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) \\ Q_{100\text{-ave}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{100\text{-ave}}}) \\ V_{\text{Rem}} &= V_{100} - V_{\text{bf}} \end{split}$	First Flush Orifice Total Head, h _{all-ave} : 3.28 FT Proposed First Flush Orifice Release Rate, Q _{All} : 0.0983 CFS Bankfull Orifice Total Head, h _{bf-ave} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4,343.3 CF Release Time, T _{Act-ff} : 48.9 Hours	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOUS S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-per-post} = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVE S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S)	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Pervious Cover Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Ever Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Impervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Ever CALCULATION (V100-per-post)	Area: 157,319 SF	Infiltration Basin 2,686 0 0 10.00 13.430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf 10.838 CF Provided Infiltration Volume: 13.430 CF % Minimum Required Infiltration Provided: 124% Net Required Detention Volume, V det: 16.604 CF V det: Designed I Provided Infiltration Volume B. DETENTION VOLUME INCREASE WITHOUT INFILTRATION % Required Infiltration NOT Provided: 0% Net % Penalty (20% * % Required Infiltration NOT Provided): 0% Total Required Detention Volume, including penalty: 16,604 CF	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100-ave} &= 2/3 * (x_{100} - x_{bf}) \\ Q_{100-ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100-ave}}) \\ V_{Rem} &= V_{100} - V_{bf} \\ T_{100} &= T_{bf} + V_{Rem} / (Q_{all} + Q_{bf+100} + Q_{100-ave}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : Proposed First Flush Orifice Release Rate, Q _{All} : Bankfull Orifice Total Head, h _{bf-ave} : Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4.343.3 CF Release Time, T _{Act-ff} 48.9 Hours T < 72 Hours, Okay	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOUS S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-per-post} = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVELOUS S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-imp-post} = Q * (1/12) * Area W6. PERVIOUS COVER POST-DEVELOUS W6. PERVIOUS COVER POST-DEVELOUS	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Function of Watershed Soil & Condition Runce Pervious Cover Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Function of Watershed Soil & Condition Runce Impervious Cover Post Development Bankfull Volume, Value (100 Year Storm Every) CALCULATION (V100-per-post) Rainfall Value (100 Year Storm Every)	Area: 157,319 SF Vbf-pre: 1,020 CF Int), P: 2.35 IN Ins, S: 12.27 Off, Q: 0.001 IN Area: 90,290 SF Int), P: 2.35 IN Ins, S: 0.20 IN Off, Q: 2.122 IN Area: 67,029 SF Inp-post: 11,851 CF	Infiltration Basin 2.686 0 0 10.00 13.430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V interpretation of the provided Infiltration Volume: 13.430 CF Provided Infiltration Volume: 13.430 CF % Minimum Required Detention Volume, V interpretation Provided: Net Required Detention Volume, V interpretation Volume B. DETENTION VOLUME INCREASE WITHOUT INFILTRATION % Required Infiltration NOT Provided: Net % Penalty (20% * % Required Infiltration NOT Provided): [[(100% + %Net Penalty) * Net Required Detention Volume] C. ON-SITE DETENTION VOLUME TO BE PROVIDED Required Detention Volume: 16,604 16 16 16 16 16 16 16 16 16 1	Total Volume Reduction: 13,430 CF be Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF	$\begin{split} h_{\text{all-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{bot}}) \\ Q_{\text{All}} &= 0.62 * \#_{\text{Orif-ff}} * A_{\text{orif-ff}} * \sqrt{2 * g * h_{\text{all-ave}}}) \\ h_{\text{bf-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) + (x_{\text{bf}}\text{-}x_{\text{ff}}) \\ Q_{\text{bf+100}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{\text{bf-ave}}}) \\ h_{100\text{-ave}} &= 2/3 * (x_{100}\text{-}x_{\text{bf}}) \\ Q_{100\text{-ave}} &= 0.62 * \#_{\text{Orif-bf}} * A_{\text{orif-bf}} * \sqrt{2 * g * h_{100\text{-ave}}}) \\ V_{\text{Rem}} &= V_{100} - V_{\text{bf}} \end{split}$	First Flush Orifice Total Head, h _{all-ave} : Proposed First Flush Orifice Release Rate, Q _{All} : Bankfull Orifice Total Head, h _{bf-ave} : Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4.343.3 CF Release Time, T _{Act-ff} 48.9 Hours T < 72 Hours, Okay	
*Site Area Excluding "Self Crediting" BMPs Vbf-pre = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-per-post = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-imp-post = Q * (1/12) * Area W6. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10	ELOPMENT BANKFULL RUNOFF CA	*Total Site Pre-Development Bankfull Volume, * **CULATION (V**)** Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Pervious Cover Post Development Bankfull Volume, V** LCULATION (V**)** Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Impervious Cover **Total Site **Previous Cover **Pervious Cover **Pervious Cover Post Development Bankfull Volume, V** **Indicate Site Site Site Site Site Site Site Si	Area: 157,319 SF	Infiltration Basin 2.686 0 0 10.00 13.430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V int Provided Infiltration Volume: 13.430 CF % Minimum Required Infiltration Provided: 124% Net Required Detention Volume, V det: V int V	Total Volume Reduction: 13,430 CF the Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF Runoff Volume Credit 2,592 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100-ave} &= 2/3 * (x_{100} - x_{bf}) \\ Q_{100-ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100-ave}}) \\ V_{Rem} &= V_{100} - V_{bf} \\ T_{100} &= T_{bf} + V_{Rem} / (Q_{all} + Q_{bf+100} + Q_{100-ave}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : Proposed First Flush Orifice Release Rate, Q _{All} : Bankfull Orifice Total Head, h _{bf-ave} : Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4.343.3 CF Release Time, T _{Act-ff} 48.9 Hours T < 72 Hours, Okay	
*Site Area Excluding "Self Crediting" BMPs V _{bf-pre} = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOUS S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-per-post} = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVELOUS S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) V _{bf-imp-post} = Q * (1/12) * Area W6. PERVIOUS COVER POST-DEVELOUS W6. PERVIOUS COVER POST-DEVELOUS	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Function of Watershed Soil & Condition Runce Pervious Cover Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Pervious Cover Post Development Bankfull Volume, Value (2 Year / 24 Hour Storm Every Function of Watershed Soil & Condition Runce Impervious Cover Post Development Bankfull Volume, Value (100 Year Storm Every) CALCULATION (V100-per-post) Rainfall Value (100 Year Storm Every)	Area: 157,319 SF	Infiltration Basin 2.686 0 0 10.00 13.430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can No Reduction can No Reduction can No Reduction can No Required Infiltration Volume: 13.430 CF **Minimum Required Infiltration Volume: Vost - Designed / Provided Infiltration Volume: 13.430 CF **Minimum Required Infiltration Volume: Vost: Net Required Detention Volume, Vost: Vost - Designed / Provided Infiltration Volume **Net % Penalty (20% * % Required Infiltration NOT Provided): Net % Penalty (20% * % Required Infiltration NOT Provided): Total Required Detention Volume, including penalty: [[100% * %Net Renalty ** Infiltration NOT Provided]: CON-SITE DETENTION VOLUME TO BE PROVIDED Required Detention Volume: 16,604 CF Required Forebay Volume: **S% of Required Detention Volume 1,204 CF **S% of Required Detention Volume 1,204 CF	Total Volume Reduction: 13,430 CF the Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF Runoff Volume Credit 2,592 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100-ave} &= 2/3 * (x_{100} - x_{bf}) \\ Q_{100-ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100-ave}}) \\ V_{Rem} &= V_{100} - V_{bf} \\ T_{100} &= T_{bf} + V_{Rem} / (Q_{all} + Q_{bf+100} + Q_{100-ave}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : Proposed First Flush Orifice Release Rate, Q _{All} : Bankfull Orifice Total Head, h _{bf-ave} : Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4.343.3 CF Release Time, T _{Act-ff} 48.9 Hours T < 72 Hours, Okay	
*Site Area Excluding "Self Crediting" BMPs Vbf-pre = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-per-post = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-imp-post = Q * (1/12) * Area W6. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, Valuation (Vbf-per-post) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Pervious Cover Post Development Bankfull Volume, Valuation of Watershed Soil & Condition Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Impervious Cover Post Development Bankfull Volume, Valuation of Watershed Soil & Condition Runce CALCULATION (V100-per-post) Rainfall Value (100 Year Storm Ever Function of Watershed Soil & Condition Runoff, Q	Area: 157,319 SF	Infiltration Basin 2.686 0 0 10.00 13.430 I. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf Provided Infiltration Volume: 13,430 CF *** Minimum Required Infiltration Provided: 124% Net Required Detention Volume, V Aut: 16,604 CF V Aut. Designed I Provided Infiltration NOT Provided: 0% Net % Penalty (20% * % Required Infiltration NOT Provided): 0% Total Required Detention Volume, including penalty: [16,604 CF] (100% * %Net Required Detention Volume, including penalty: [16,604 CF] (100% * %Net Required Detention Volume to Be PROVIDED Required Detention Volume: 16,604 CF Required Detention Volume: 16,604 CF **S% of Required Detention Volume PROPOSED FOREBAY #1 ELEVATION AREA (SF) VOLUME (CF) 779.00 498 - 780.00 1,007 753	Total Volume Reduction: 13,430 CF the Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF Runoff Volume Credit 2,592 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100-ave} &= 2/3 * (x_{100} - x_{bf}) \\ Q_{100-ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100-ave}}) \\ V_{Rem} &= V_{100} - V_{bf} \\ T_{100} &= T_{bf} + V_{Rem} / (Q_{all} + Q_{bf+100} + Q_{100-ave}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : Proposed First Flush Orifice Release Rate, Q _{All} : Bankfull Orifice Total Head, h _{bf-ave} : Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4.343.3 CF Release Time, T _{Act-ff} 48.9 Hours T < 72 Hours, Okay	
*Site Area Excluding "Self Crediting" BMPs Vbf-pre = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-per-post = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-imp-post = Q * (1/12) * Area W6. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, Valuation (Vbf-per-post) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Pervious Cover Post Development Bankfull Volume, Valuation of Watershed Soil & Condition Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Impervious Cover Post Development Bankfull Volume, Valuation of Watershed Soil & Condition Runce CALCULATION (V100-per-post) Rainfall Value (100 Year Storm Ever Function of Watershed Soil & Condition Runoff, Q	Area: 157,319 SF	Infiltration Basin 2.686 0 0 10.00 13.430 1. Infiltration Rate x 6 hrs x BMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated soils on-site No Reduction can Onsite Infilt W13. SUMMARY A. STORMWATER MANAGEMENT SUMMARY Minimum Onsite Infiltration Requirement, V inf Provided Infiltration Volume: 13.430 CF Provided Infiltration Volume: 13.430 CF % Minimum Required Infiltration Provided: 124% Net Required Detention Volume, V dat: 16.604 CF V inc - Designed I Provided Infiltration Volume B. DETENTION VOLUME INCREASE WITHOUT INFILTRATION % Required Infiltration NOT Provided: 0% Net % Penalty (20% * % Required Infiltration NOT Provided): (100% + %Net Penalty) * Net Required Detention Volume} Total Required Detention Volume, including penalty: (1100% + %Net Penalty) * Net Required Detention Volume} C. ON-SITE DETENTION VOLUME TO BE PROVIDED Required Detention Volume: 16.604 CF Required Forebay Volume: 830 CF **5% of Required Detention Volume Intial Forebay Volume: 1,204 CF Total Forebay Volume = 1,204 CF	Total Volume Reduction: 13,430 CF the Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF Runoff Volume Credit 2,592 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100-ave} &= 2/3 * (x_{100} - x_{bf}) \\ Q_{100-ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100-ave}}) \\ V_{Rem} &= V_{100} - V_{bf} \\ T_{100} &= T_{bf} + V_{Rem} / (Q_{all} + Q_{bf+100} + Q_{100-ave}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : Proposed First Flush Orifice Release Rate, Q _{All} : Bankfull Orifice Total Head, h _{bf-ave} : Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4.343.3 CF Release Time, T _{Act-ff} 48.9 Hours T < 72 Hours, Okay	
*Site Area Excluding "Self Crediting" BMPs Vbf-pre = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-per-post = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-imp-post = Q * (1/12) * Area W6. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S)	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, * *ULATION (V _{bf-per-post}) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Pervious Cover Pervious Cover Post Development Bankfull Volume, V _t **LCULATION (V _{bf-imp-post}) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Impervious Cover **Total Site **Pervious Cover **Pervious Cover **Total Site **Total Site **Total Site **Total Site **Pervious Cover **Pervious Cov	Area: 157,319 SF	Infiltration Basin 2.686 0 0 1 10.00 13.431 I. Infiltration Rate x 6 hrs x EMP Area x Unit Conversion = Infiltration Volume 2. Infiltration rate deemed negligible based on environmental investigations finding contaminated sols on-site No Reduction can No Reduction can No Reduction Can No Required Infiltration NOT Provided 0% No Required Detention Volume including penalty:	Total Volume Reduction: 13,430 CF the Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF Runoff Volume Credit 2,592 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100-ave} &= 2/3 * (x_{100} - x_{bf}) \\ Q_{100-ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100-ave}}) \\ V_{Rem} &= V_{100} - V_{bf} \\ T_{100} &= T_{bf} + V_{Rem} / (Q_{all} + Q_{bf+100} + Q_{100-ave}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : Proposed First Flush Orifice Release Rate, Q _{All} : Bankfull Orifice Total Head, h _{bf-ave} : Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4.343.3 CF Release Time, T _{Act-ff} 48.9 Hours T < 72 Hours, Okay	
*Site Area Excluding "Self Crediting" BMPs Vbf-pre = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-per-post = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-imp-post = Q * (1/12) * Area W6. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S)	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, * *ULATION (V _{bf-per-post}) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Pervious Cover Pervious Cover Post Development Bankfull Volume, V _t **LCULATION (V _{bf-imp-post}) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Impervious Cover **Total Site **Pervious Cover **Pervious Cover **Total Site **Total Site **Total Site **Total Site **Pervious Cover **Pervious Cov	Area: 157,319 SF	Surface Soil Rate (in Inf) Storm (R*)	Total Volume Reduction: 13,430 CF the Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF Runoff Volume Credit 2,592 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100-ave} &= 2/3 * (x_{100} - x_{bf}) \\ Q_{100-ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100-ave}}) \\ V_{Rem} &= V_{100} - V_{bf} \\ T_{100} &= T_{bf} + V_{Rem} / (Q_{all} + Q_{bf+100} + Q_{100-ave}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : Proposed First Flush Orifice Release Rate, Q _{All} : Bankfull Orifice Total Head, h _{bf-ave} : Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4.343.3 CF Release Time, T _{Act-ff} 48.9 Hours T < 72 Hours, Okay	
*Site Area Excluding "Self Crediting" BMPs Vbf-pre = Q * (1/12) * Area W4. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-per-post = Q * (1/12) * Area W5. IMPERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S) Vbf-imp-post = Q * (1/12) * Area W6. PERVIOUS COVER POST-DEVELOR S = (1000 / CN) - 10 Q = (P-0.2*S) ² /(P+0.8*S)	ELOPMENT BANKFULL RUNOFF CA	Runce *Total Site Pre-Development Bankfull Volume, * *ULATION (V _{bf-per-post}) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Pervious Cover Pervious Cover Post Development Bankfull Volume, V _t **LCULATION (V _{bf-imp-post}) Rainfall Value (2 Year / 24 Hour Storm Ever Function of Watershed Soil & Condition Runce Impervious Cover **Total Site **Pervious Cover **Pervious Cover **Total Site **Total Site **Total Site **Total Site **Pervious Cover **Pervious Cov	Area: 157,319 SF	Surface Soil Rate (in Inf) Storm (R*)	Total Volume Reduction: 13,430 CF the Credited Due to Contaminated Soils (No Infiltration Permitted) tration Requirement, V _{inf} : 10,838 CF Runoff Volume Credit 2,592 CF	$\begin{split} h_{all-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{bot}) \\ Q_{All} &= 0.62 * \#_{Orif-ff} * A_{orif-ff} * \sqrt{2 * g * h_{all-ave}}) \\ h_{bf-ave} &= 2/3 * (x_{100} - x_{bf}) + (x_{bf} - x_{ff}) \\ Q_{bf+100} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{bf-ave}}) \\ h_{100-ave} &= 2/3 * (x_{100} - x_{bf}) \\ Q_{100-ave} &= 0.62 * \#_{Orif-bf} * A_{orif-bf} * \sqrt{2 * g * h_{100-ave}}) \\ V_{Rem} &= V_{100} - V_{bf} \\ T_{100} &= T_{bf} + V_{Rem} / (Q_{all} + Q_{bf+100} + Q_{100-ave}) \end{split}$	First Flush Orifice Total Head, h _{all-ave} : Proposed First Flush Orifice Release Rate, Q _{All} : Bankfull Orifice Total Head, h _{bf-ave} : Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 1.50 FT Proposed Bankfull Orifice Release Rate, Q _{bf+100} : 0.07 CFS 100-Year Orifice Total Head, h _{100-ave} : 0.44 FT Proposed 100-Year Orifice Release Rate, Q _{100-ave} : 0.0905 CFS Volume Remaining, V _{Rem} : 4.343.3 CF Release Time, T _{Act-ff} 48.9 Hours T < 72 Hours, Okay	

Basin volume calculated based on a trapezoidal prism

NOT APPROVED FOR CONSTRUCTION







SCALE: AS SHOWN PROJECT ID: DET-230091.01
TITLE:

STORMWATER
MANAGEMENT
CALCULATIONS

DRAWING:

C-22

PARCEL AREA

PARCEL 1 74,455± SQUARE FEET = 1.70± ACRES PARCEL 2: $174,964\pm$ SQUARE FEET = $4.01\pm$ ACRES PARCEL 3: $72,289\pm$ SQUARE FEET = 1.65± ACRES

BASIS OF BEARING

NORTH 16°04'20" WEST, BEING THE WEST LINE OF FRENCH CLAIM 690, AS DESCRIBED.

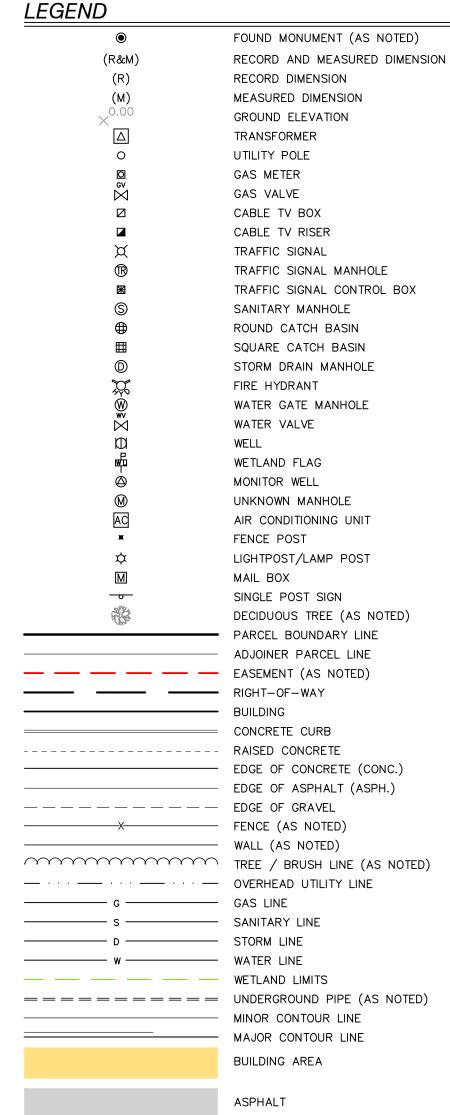
BENCHMARK

SITE BENCHMARK #1 CHISLED SQUARE ON SOUTHEAST TOP OF CONC LIGHT POLE BASE 40'± WEST OF HEWITT RD 175'± SOUTH OF MICHIGAN AVE ELEVATION = 784.79' (NAVD 88)

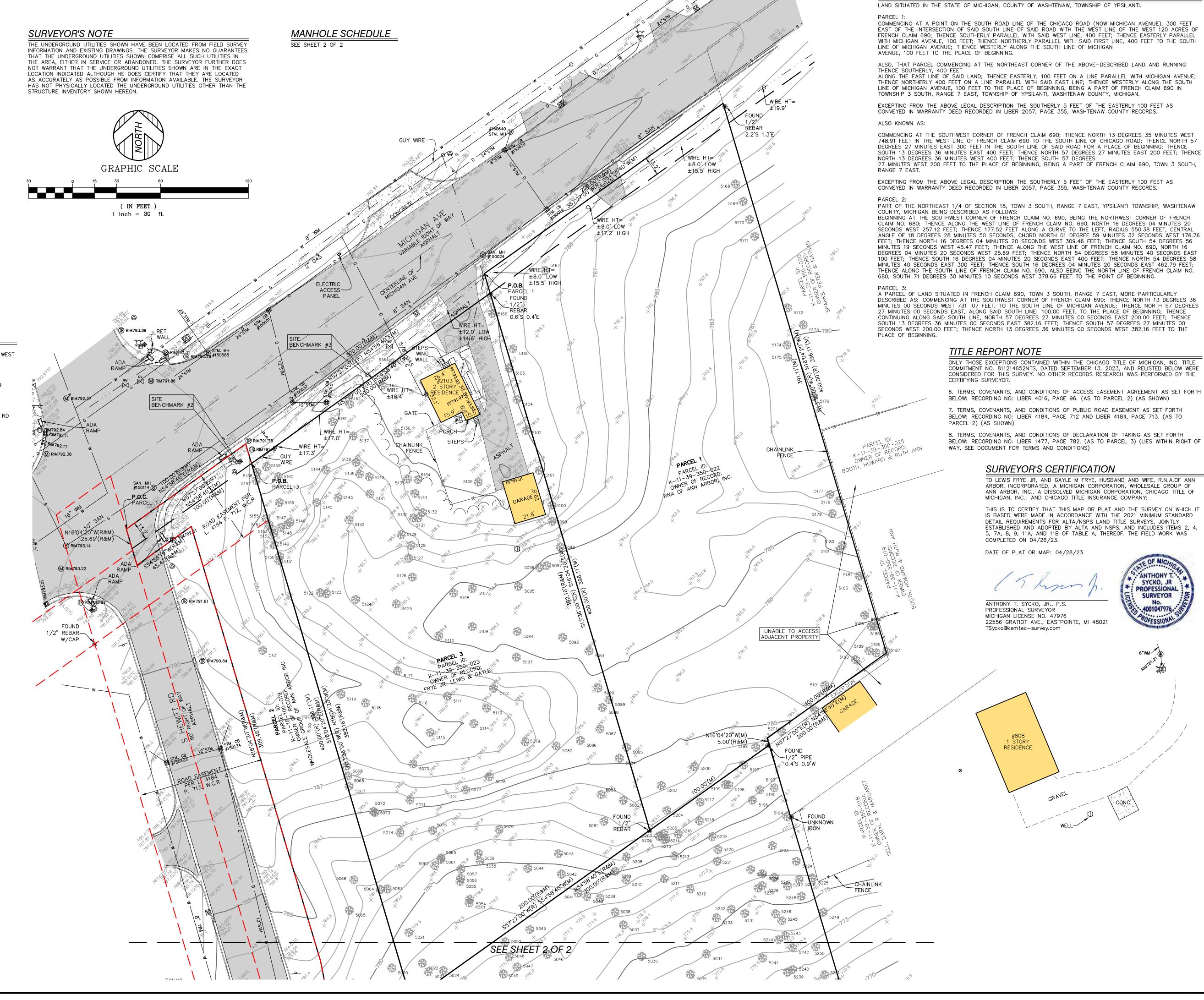
SITE BENCHMARK #2 CHISLED SQUARE ON SOUTHEAST TOP OF CONC TRAFFIC SIGNAL BASE @ SOUTHEAST QUAD OF MICHIGAN AVE & HEWITT RD ELEVATION = 791.95' (NAVD 88)

SITE BENCHMARK #3

MAG NAIL IN SOUTHEAST FACE OF UTILITY POLE 125'± EAST OF HEWITT RD 30'± SOUTH OF MICHIGAN AVE ELEVATION = 791.01' (NAVD 88)

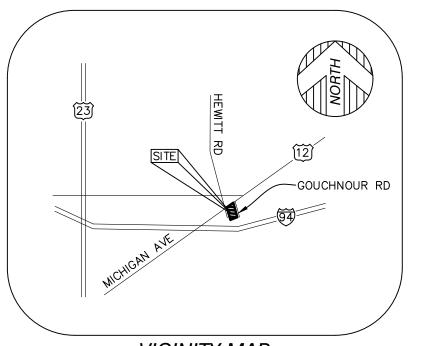


CONCRETE



PROPERTY DESCRIPTION

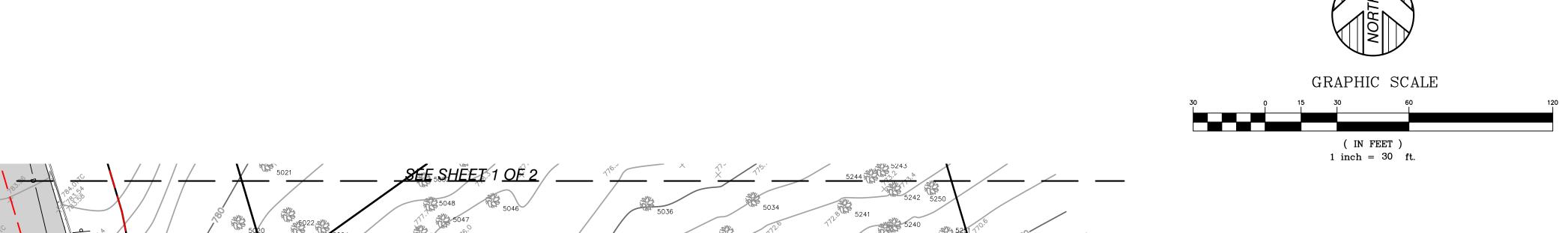
1 OF 2 SHEETS

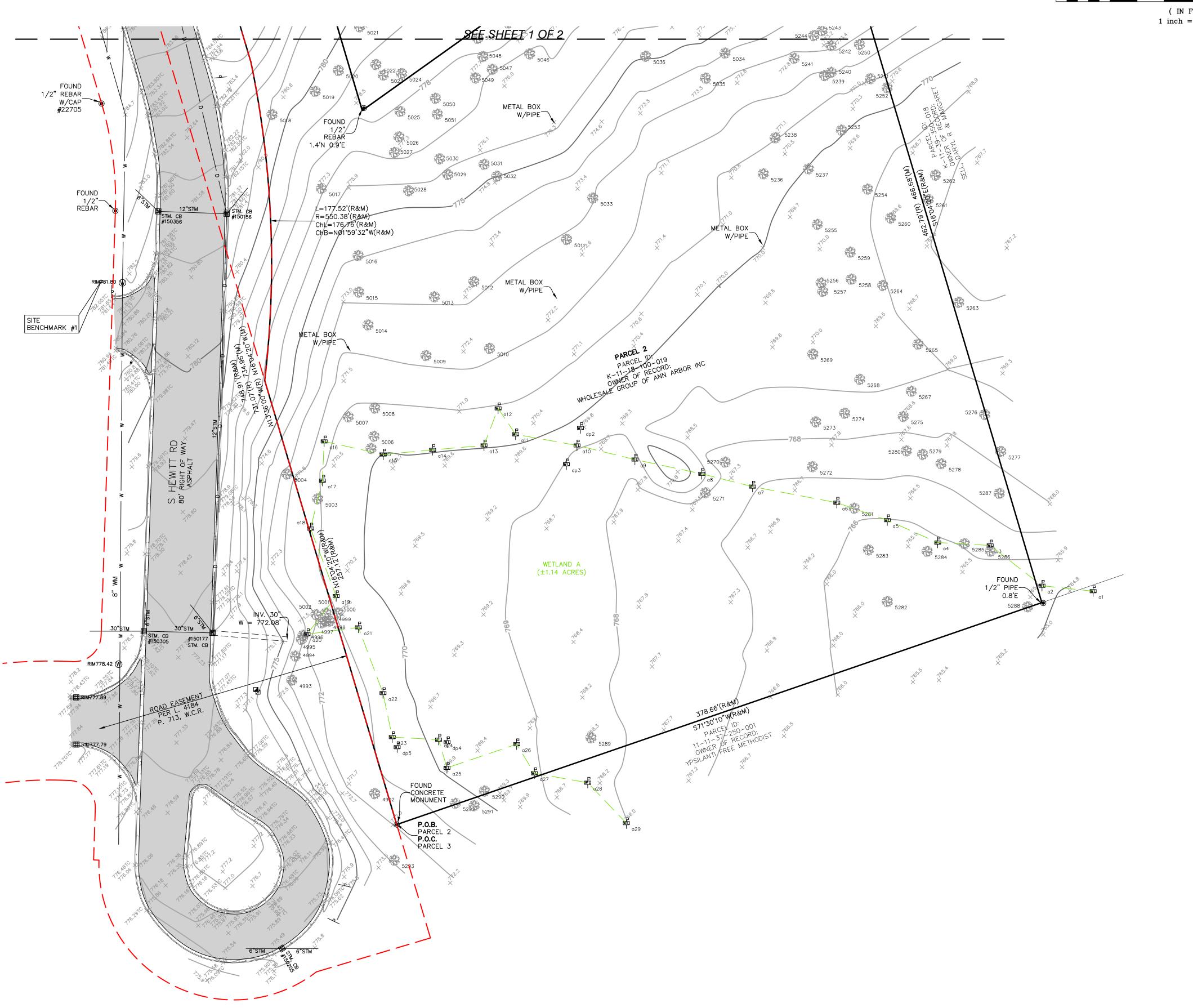


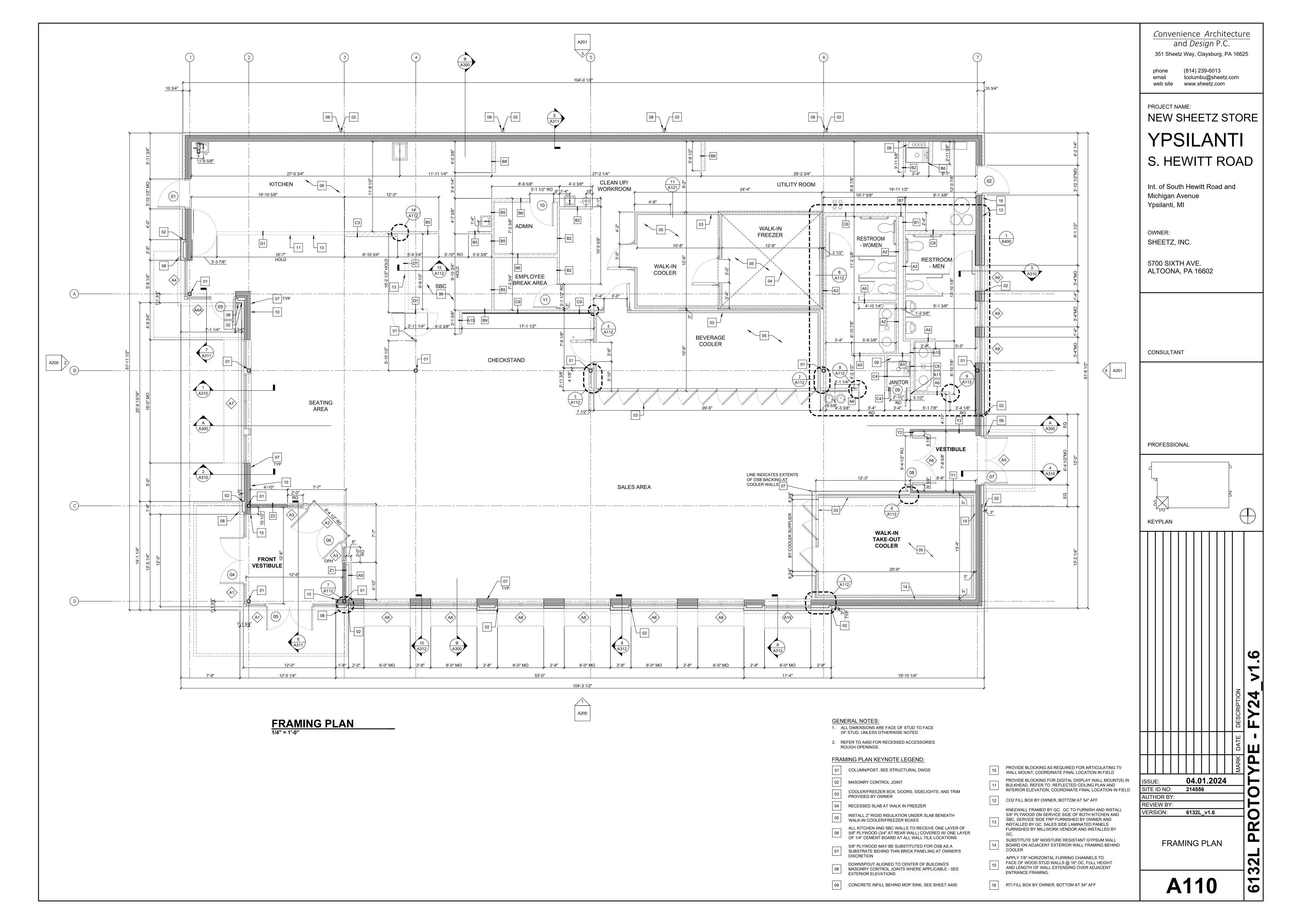
VICINITY MAP
(NOT TO SCALE)

NUM	TYPE	RIM (FT)	SIZE (IN)	DIR II	NV ELEV (FT)
70010	BEEHIVE CATCH BASIN		12	W	787.99
			FULL OF DE	EBRIS	
150019	CATCH BASIN	790.06	12	NW	784.63
			FULL OF D	DIRT	
L50024	SANITARY MANHOLE	790.50	8	SW	778.32
			8	NE	778.38
			6	S	781.85
150037	CATCH BASIN	791.11	12	N	787.67
			12	Ε	787.81
			B/STRUCT	URE	787.51
150114	SANITARY MANHOLE	792.17	10	SW	780.99
			8	NE	780.29
L50134	CATCH BASIN	788.06	12	W	782.43
			12	S	782.24
			6	NE	784.22
			B/STRUCT	URE	779.81
150156	CATCH BASIN	781.26	12	W	774.63
			12	N	775.52
			12	S	773.64
			6	NE	777.12
		Е	S/STRUCTUR	ξE.	771.68
150177	CATCH BASIN	777.42	12	N	773.00
			30	W	771.69
			6	NW	771.92
			30	Ε	OFFSET
			B/STRUCT	URE	769.64
150205	CATCH BASIN	775.35	6	W	772.46
			6	Ε	772.47
			B/STRUCT	URE	771.25
L50304	CATCH BASIN	777.55	30	W	772.30
			30	Ε	771.90
			6	N	773.79
			B/STRUCT	URE	771.46
150356	CATCH BASIN	781.28	12	Ε	774.76
			6	NW	777.57
			B/STRUCT	URE	774.28
150403	CATCH BASIN	788.10	12	Ε	782.61
			6	NW	784.20
			B/STRUCT	URE	780.55
150585	STORM MANHOLE	791.40	24	NE	787.22
			24	SW	787.47
			24	NW	787.96
150600	CATCH BASIN	791.13	24	SW	787.13
			12	SE	786.93
			24	NE	787.12
150639	CATCH BASIN	789.98	12	SE	785.35
			12	NE	784.58
			6	SW	785.95
			B/STRUCT	URE	783.00
150640	CATCH BASIN	790.70	12	SW	785.92
			24	SW	783.85

B/STRUCTURE















5HHEETZ

SHEETZ, INCORPORATED
5700 SIXTH AVENUE
ALTOONA, PA 16602
(814) 946-3611

NEW SHEETZ STORE "YPSILANTI"

INT. OF MICHIGAN AVENUE AND HEWITT ROAD YPSILANTI, MICHIGAN

SIGNAGE SQUARE FOOTAGE BREAKDOWN

BUILDING ELEVATIONS

SHEETZ SIGN = 16.55 SQ. FT. \times 2 = 33.10 SQ. FT.

TOTAL = 33.10 SQ. FT.

33.10 SQ. FT.

GAS PRICE MONUMENT

SIGN

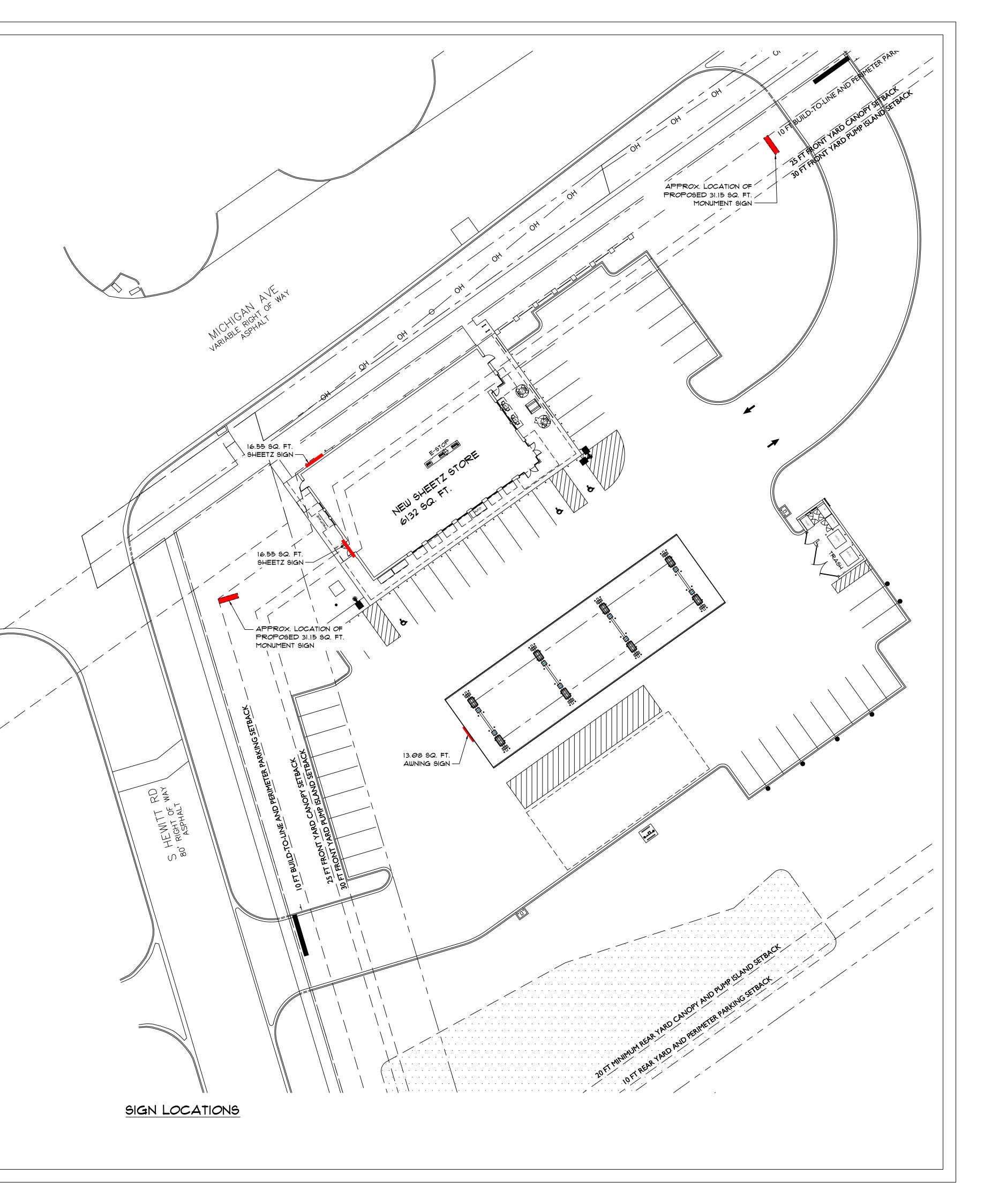
SHEETZ SIGN = 12.13 SQ. FT. \times 1 = 12.13 SQ. FT. GAS PRICE SIGN = 19.02 SQ. FT. \times 1 = 19.02 SQ. FT.

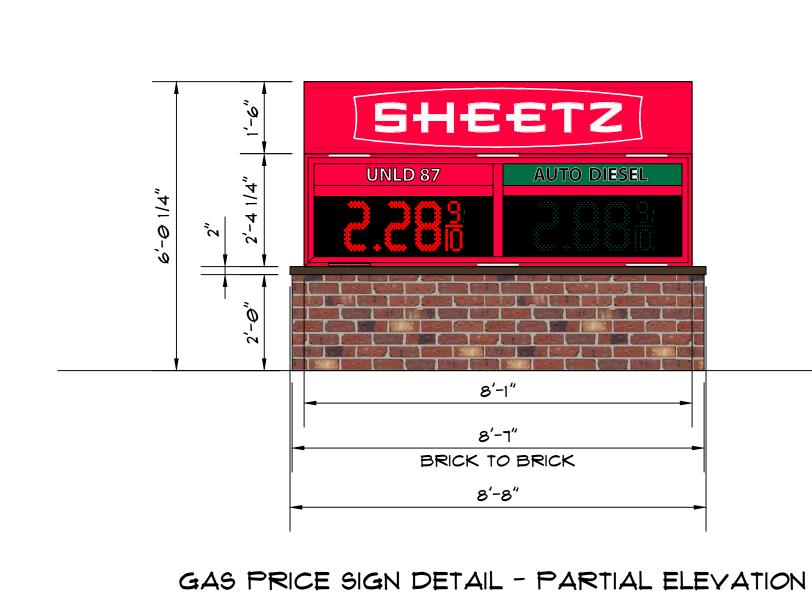
TOTAL = 31.15 SQ. FT. × 2 = 62.30 SQ. FT.

GAS CANOPY AWNING SHEETZ SIGN AREA = 13.08 SQ. FT. X 1 = 13.08 SQ. FT.

FUEL OFFERING FLAG AREA = 2.76 SQ. FT. $\times 16$ = 44.16 SQ. FT.

TOTAL = 57.24 SQ. FT. 57.24 SQ. FT.





8'-7"

BRICK TO BRICK

SIGN CABINET

-8'-1" L × 3'-10"H × 24"D SIGN CABINET

PLAN VIEW

SCALE: 1/2"=1'-0"

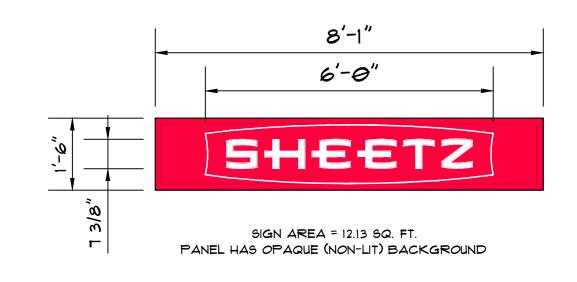
BRICK BASE BELOW —

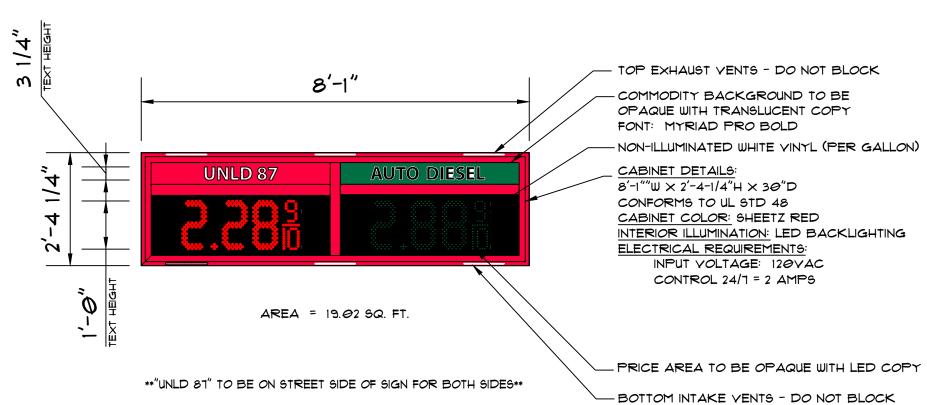
SCALE: 1/2" = 1'-0"

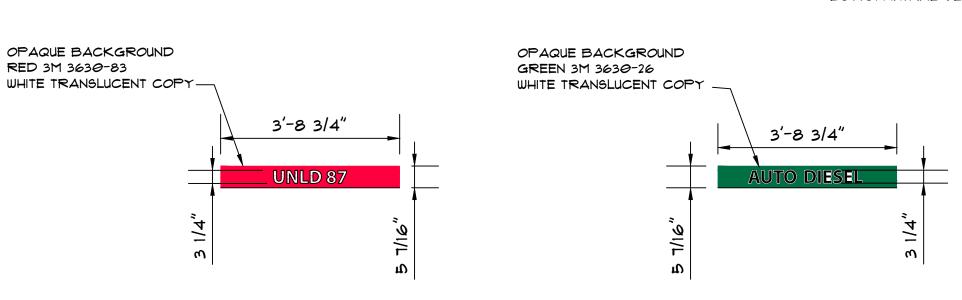
BRICK VENEER BASE TO MATCH BUILDING -

2'-0"

MONUMENT SIGN SIDE ELEVATION
SCALE: 1/2"=1'-0"







SIGN CABINET DETAILS TOTAL SIGN AREAS: 31.15 SQ. FT.

*SIGN IS TYPICAL OF TWO

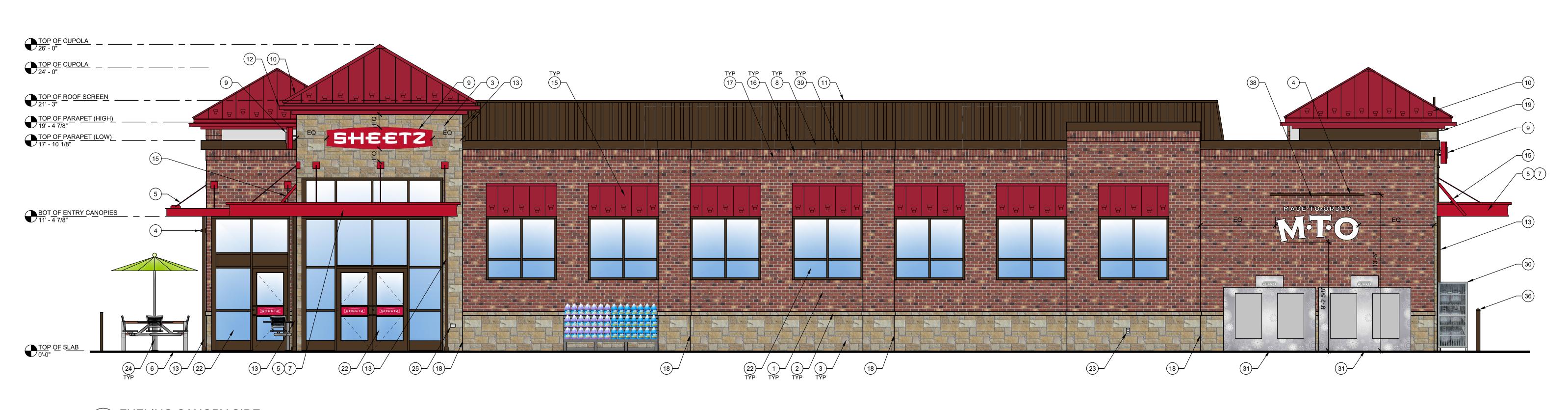
AREA: 31.15 SQ. FT.

er-contract\MI-214556-Ypsilanti-Hewitt Koad\Sign Package\MI-Ypsilanti-Hewitt-monument.dwg, 4/5/2024 1:34:22 PN

Convenience Architecture and *Design* P.C. 351 Sheetz Way, Claysburg, PA 16625 phone (814) 239-6013 tcolumbu@sheetz.com web site www.sheetz.com PROJECT NAME: NEW SHEETZ STORE **YPSILANTI** Int. of Michigan Avenue and Hewitt Road Ypsilanti Michigan SHEETZ, INC. 5700 SIXTH AVE. ALTOONA, PA 16602 CONSULTANT **PROFESSIONAL** KEYPLAN 04-05-24 PROJECT NO: AUTHOR BY: DNC **REVIEW BY:** SHEET TITLE

MONUMENT SIGN

DETAILS



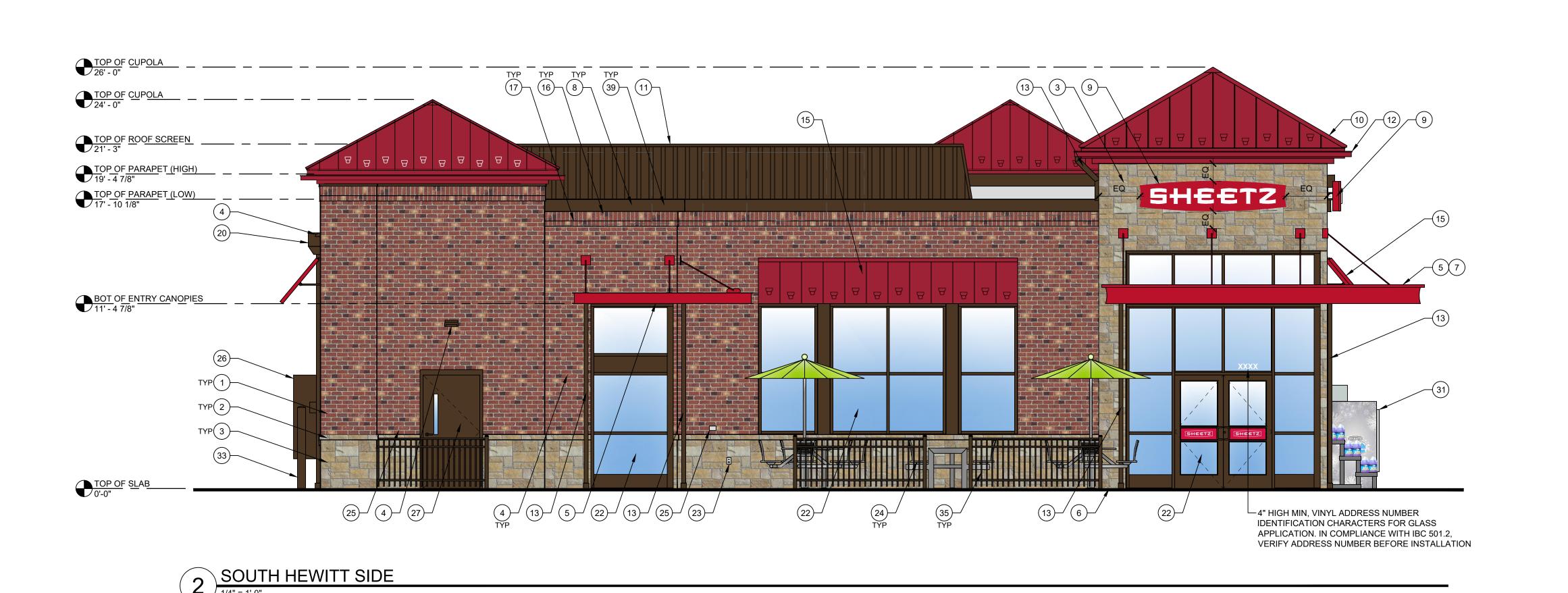
FUELING CANOPY SIDE

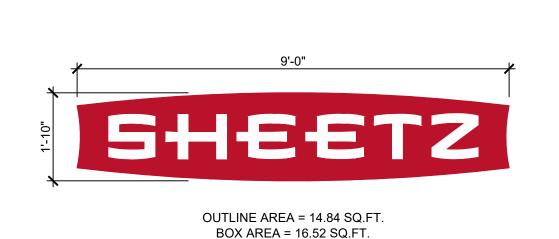
TYPICAL EXTERIOR ELEVATION NOTES:

- ALL LIGHTS SHOWN ABOVE AND/OR BELOW DOORS OR WINDOWS ARE TO BE CENTERED ON THE DOOR OR WINDOW UNLESS NOTED
- FIXTURES/EQUIPMENT BETWEEN TWO DOORS OR WINDOWS ARE TO BE CENTERED EQUALLY.
- EXTERIOR SEALANT FOR STONE SHALL COMPLY WITH SECTION 07 9005
- AND SHALL MATCH THE COLOR OF THE STORE. EXTERIOR ELEVATION KEYNOTES:
- BRICK VENEER, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE ✓ MASONRY SPEC
- (2) CAST STONE SILL, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
- ANCHORED CAST STONE MASONRY VENEER, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
- (4) EXTERIOR LIGHT FIXTURE, REFER TO ELECTRICAL DRAWINGS ARCHITECTURAL CANOPY, COLOR: REGAL RED, PREMIUM TWO-COAT
- $\stackrel{\circ}{\smile}$ KYNAR FINISH (6) BRICK PAVER WALKWAY
- (7) LIGHTED CURVED FASCIA CANOPY ATTACHMENT
- (8) METAL COPING, COLOR: DARK BRONZE
- (9) WALL MOUNTED BUILDING SIGN, SEE SHEET A200.
- (10) STANDING SEAM METAL ROOF, COLOR: BRITE RED
- (11) ROOF EQUIPMENT SCREEN, COLOR: DARK BRONZE (12) GUTTER, COLOR TO MATCH CUPOLA COLOR
- (13) DOWNSPOUT, COLOR: DARK BRONZE
- (14) DRIVE-THRU WINDOW (IF APPLICABLE)
- METAL STANDING SEAM SHED STYLE AWNING AND FRAME ASSEMBLY, ROOF COLOR: BRITE RED, FRAME COLOR: DARK BRONZE
- BRICK SOLDIER COURSE, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC BRICK ROWLOCK COURSE, COLOR: 680 BY CONTINENTAL BRICK
- COMPANY. SEE MASONRY SPEC
- (18) CONTROL JOINT, SEE MASONRY SPEC
- (19) STEEL ROOF LADDER AND CRANKY POST, COLOR: DARK BRONZE
- STANDARD THROUGH WALL SCUPPER WITH CONDUCTOR HEAD & DOWNSPOUT, COLOR: DARK BRONZE
- (21) OVERFLOW SCUPPER
- (22) ALUMINUM STOREFRONT SYSTEM, SEE A600
- (23) EXTERIOR HOSE BIB, REFER TO PLUMBING DRAWINGS
- (24) OUTDOOR FURNITURE
- (25) ELECTRICAL RECEPTACLE, REFER TO ELECTRICAL DRAWINGS
- (26) ELECTRICAL EQUIPMENT, REFER TO ELECTRICAL DRAWINGS
- (27) HM DOOR AND FRAME, COLOR: DARK BRONZE
- (28) EMERGENCY WATER CONNECTION, REFER TO PLUMBING DRAWINGS
- SEAMLESS ALUM PANEL SYSTEM WITH EXPOSED FASTENERS, COLOR: DARK BRONZE
- (30) PROPANE LOCKER
- (31) ICE MERCHANDISER
- (32) RTI FILLPORT
- (33) STEEL BOLLARD, COLOR: DARK BRONZE
- (34) CO2 FILLPORT (35) DECORATIVE ALUMINUM FENCE, COLOR DARK BRONZE
- AUTOMATIC DOOR PUSH PLATE AND BOLLARD, BOLLARD COLOR: DARK BRONZE
- GAS METER AND RISER, REFER TO CIVIL UTILITY PLAN, COLOR: DARK BRONZE
- (38) MTO GRAPHIC DECAL, SEE SHEET A200.
- LIGHT CHANNEL AT PARAPET COPING. SEE ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.

FIRST FLOOR GLAZING CALCULATION (2' TO 8')									
FUELING CA	NOPY SIDE = 626 S	Q FT							
DESCRIPTION	AREA (SQ FT)	% OF COVERAGE							
TRANSPARENT GLAZING	196.10	31.33%							
FAUX WINDOW GLAZING	N/A	N/A							
TOTAL GLAZING	196.10	31 33%							

TOTAL GLAZING CALCULATION									
FUELING CANOR	FUELING CANOPY SIDE = 1,842 SQ FT								
DESCRIPTION	AREA (SQ FT)	% OF COVERAG							
TRANSPARENT GLAZING	465.10	25.25%							
FAUX WINDOW GLAZING	N/A	N/A							

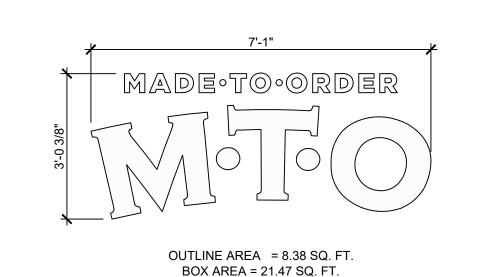




TYPICAL OF FOUR

PROJECTS 7" OFF FACE OF BUILDING

WALL MOUNTED "SHEETZ" BUILDING SIGN



TYPICAL OF ONE PROJECTS 0" OFF FACE OF BUILDING

AREA (SQ FT) % OF COVERAGE

TOTAL GLAZING CALCULATION SOUTH HEWITT SIDE = 1,109 SQ FT

352.44

DESCRIPTION

TRANSPARENT GLAZING

FAUX WINDOW GLAZING

TOTAL GLAZING

AREA (SQ FT) % OF COVERAGE

31.78%

FIRST FLOOR GLAZING CALCULATION (2' TO 8')

SOUTH HEWITT SIDE = 496 SQ FT

TRANSPARENT GLAZING

FAUX WINDOW GLAZING

TOTAL GLAZING

B WALL MOUNTED "MTO" DECAL

Convenience Architecture and *Design* P.C. 351 Sheetz Way, Claysburg, PA 16625

(814) 239-6013 tcolumbu@sheetz.com web site www.sheetz.com

PROJECT NAME: NEW SHEETZ STORE

YPSILANTI S. HEWITT ROAD

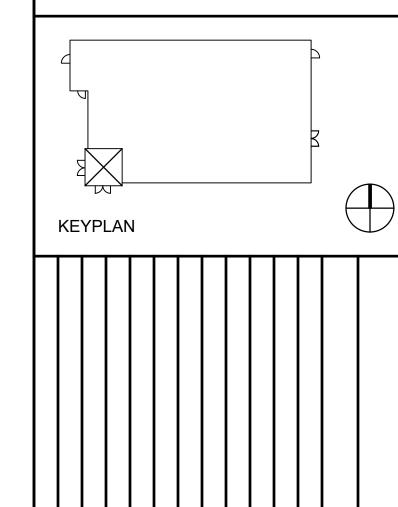
Int. of South Hewitt Road and Michigan Avenue Ypsilanti, MI

OWNER: SHEETZ, INC.

5700 SIXTH AVE. ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL



08.14.2024 SITE ID NO: 214556 **AUTHOR BY:** RJK

RJH

6132L_v1.6

PRELIMIN,

REVIEW BY:

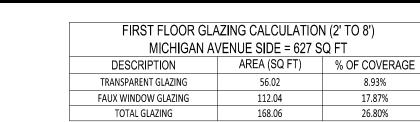
VERSION:

EXTERIOR ELEVATIONS



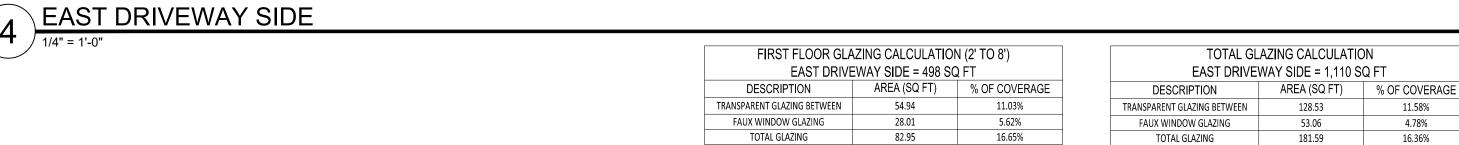
TYPICAL EXTERIOR ELEVATION NOTES:

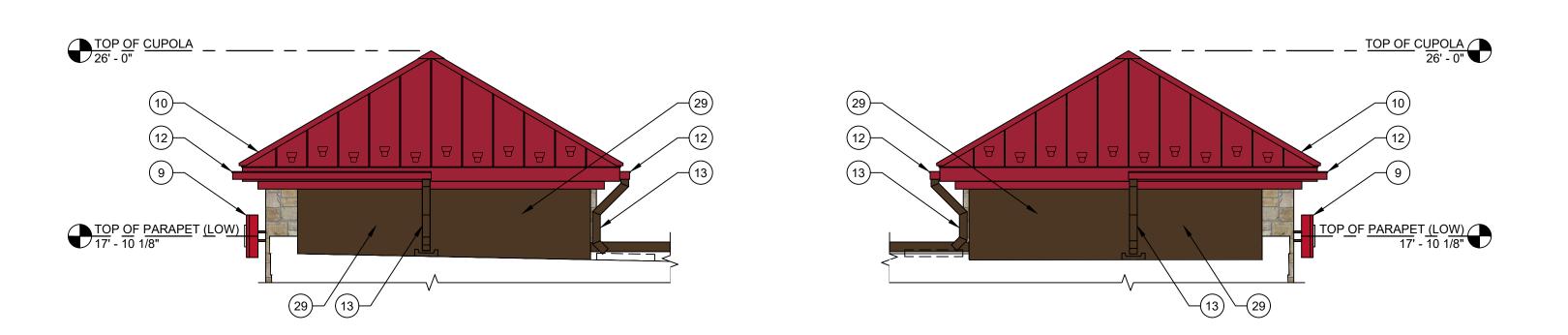
- ALL LIGHTS SHOWN ABOVE AND/OR BELOW DOORS OR WINDOWS ARE TO BE CENTERED ON THE DOOR OR WINDOW UNLESS NOTED
- FIXTURES/EQUIPMENT BETWEEN TWO DOORS OR WINDOWS ARE TO BE CENTERED EQUALLY.
- EXTERIOR SEALANT FOR STONE SHALL COMPLY WITH SECTION 07 9005 AND SHALL MATCH THE COLOR OF THE STORE.
- EXTERIOR ELEVATION KEYNOTES: BRICK VENEER, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE
- ✓ MASONRY SPEC (2) CAST STONE SILL, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
- ANCHORED CAST STONE MASONRY VENEER, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
- (4) EXTERIOR LIGHT FIXTURE, REFER TO ELECTRICAL DRAWINGS
- ARCHITECTURAL CANOPY, COLOR: REGAL RED, PREMIUM TWO-COAT $\stackrel{5}{\smile}$ KYNAR FINISH
- (6) BRICK PAVER WALKWAY
- (7) LIGHTED CURVED FASCIA CANOPY ATTACHMENT
- (8) METAL COPING, COLOR: DARK BRONZE
- (9) WALL MOUNTED BUILDING SIGN, SEE SHEET A200.
- (10) STANDING SEAM METAL ROOF, COLOR: BRITE RED
- (11) ROOF EQUIPMENT SCREEN, COLOR: DARK BRONZE
- (12) GUTTER, COLOR TO MATCH CUPOLA COLOR
- (13) DOWNSPOUT, COLOR: DARK BRONZE
- (14) DRIVE-THRU WINDOW (IF APPLICABLE)
- METAL STANDING SEAM SHED STYLE AWNING AND FRAME ASSEMBLY, ROOF COLOR: BRITE RED, FRAME COLOR: DARK BRONZE
- BRICK SOLDIER COURSE, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
- BRICK ROWLOCK COURSE, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
- (18) CONTROL JOINT, SEE MASONRY SPEC
- (19) STEEL ROOF LADDER AND CRANKY POST, COLOR: DARK BRONZE
- STANDARD THROUGH WALL SCUPPER WITH CONDUCTOR HEAD & DOWNSPOUT, COLOR: DARK BRONZE
- (21) OVERFLOW SCUPPER
- (22) ALUMINUM STOREFRONT SYSTEM, SEE A600
- (23) EXTERIOR HOSE BIB, REFER TO PLUMBING DRAWINGS
- (24) OUTDOOR FURNITURE
- (25) ELECTRICAL RECEPTACLE, REFER TO ELECTRICAL DRAWINGS
- (26) ELECTRICAL EQUIPMENT, REFER TO ELECTRICAL DRAWINGS
- (27) HM DOOR AND FRAME, COLOR: DARK BRONZE
- (28) EMERGENCY WATER CONNECTION, REFER TO PLUMBING DRAWINGS
- SEAMLESS ALUM PANEL SYSTEM WITH EXPOSED FASTENERS, COLOR: DARK BRONZE
- (30) PROPANE LOCKER
- (31) ICE MERCHANDISER
- (32) RTI FILLPORT
- (33) STEEL BOLLARD, COLOR: DARK BRONZE
- (34) CO2 FILLPORT
- (35) DECORATIVE ALUMINUM FENCE, COLOR DARK BRONZE
- AUTOMATIC DOOR PUSH PLATE AND BOLLARD, BOLLARD COLOR: DARK BRONZE
- GAS METER AND RISER, REFER TO CIVIL UTILITY PLAN, COLOR: DARK BRONZE
- (38) MTO GRAPHIC DECAL, SEE SHEET A200.
- LIGHT CHANNEL AT PARAPET COPING. SEE ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.



TOTAL GLAZING CALCULATION								
MICHIGAN AVENUE SIDE = 1,893 SQ FT								
DESCRIPTION	AREA (SQ FT)	% OF COVERAGE						
TRANSPARENT GLAZING	106.13	5.61%						
FAUX WINDOW GLAZING	318.38	16.82%						
TOTAL GLAZING	424.50	22.42%						







5 CUPOLA ELEVATION FROM ROOF



128.53

11.58%

Convenience Architecture and *Design* P.C.

351 Sheetz Way, Claysburg, PA 16625

(814) 239-6013 tcolumbu@sheetz.com www.sheetz.com

PROJECT NAME: **NEW SHEETZ STORE**

YPSILANTI S. HEWITT ROAD

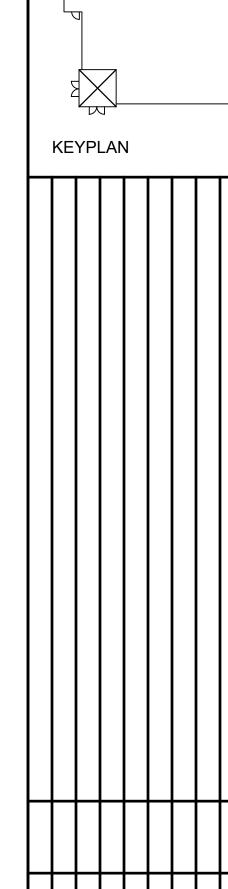
Int. of South Hewitt Road and Michigan Avenue Ypsilanti, MI

OWNER: SHEETZ, INC.

5700 SIXTH AVE. ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL



08.14.2024 ISSUE: SITE ID NO: 214556 **AUTHOR BY:** RJK

RJH

6132L_v1.6

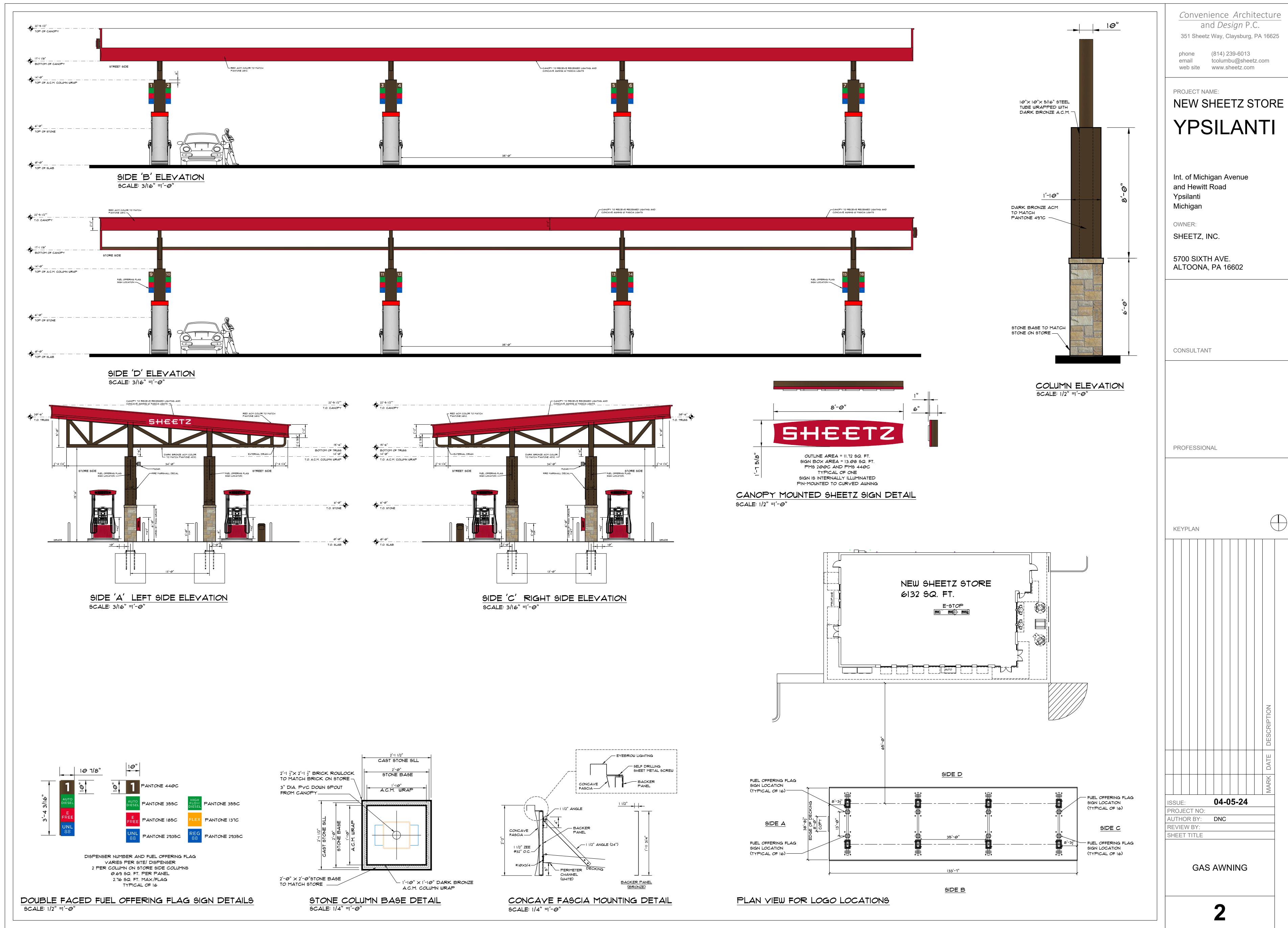
PRELIMIN

REVIEW BY:

VERSION:

EXTERIOR ELEVATIONS

A201



Convenience Architecture and *Design* P.C. 351 Sheetz Way, Claysburg, PA 16625 (814) 239-6013

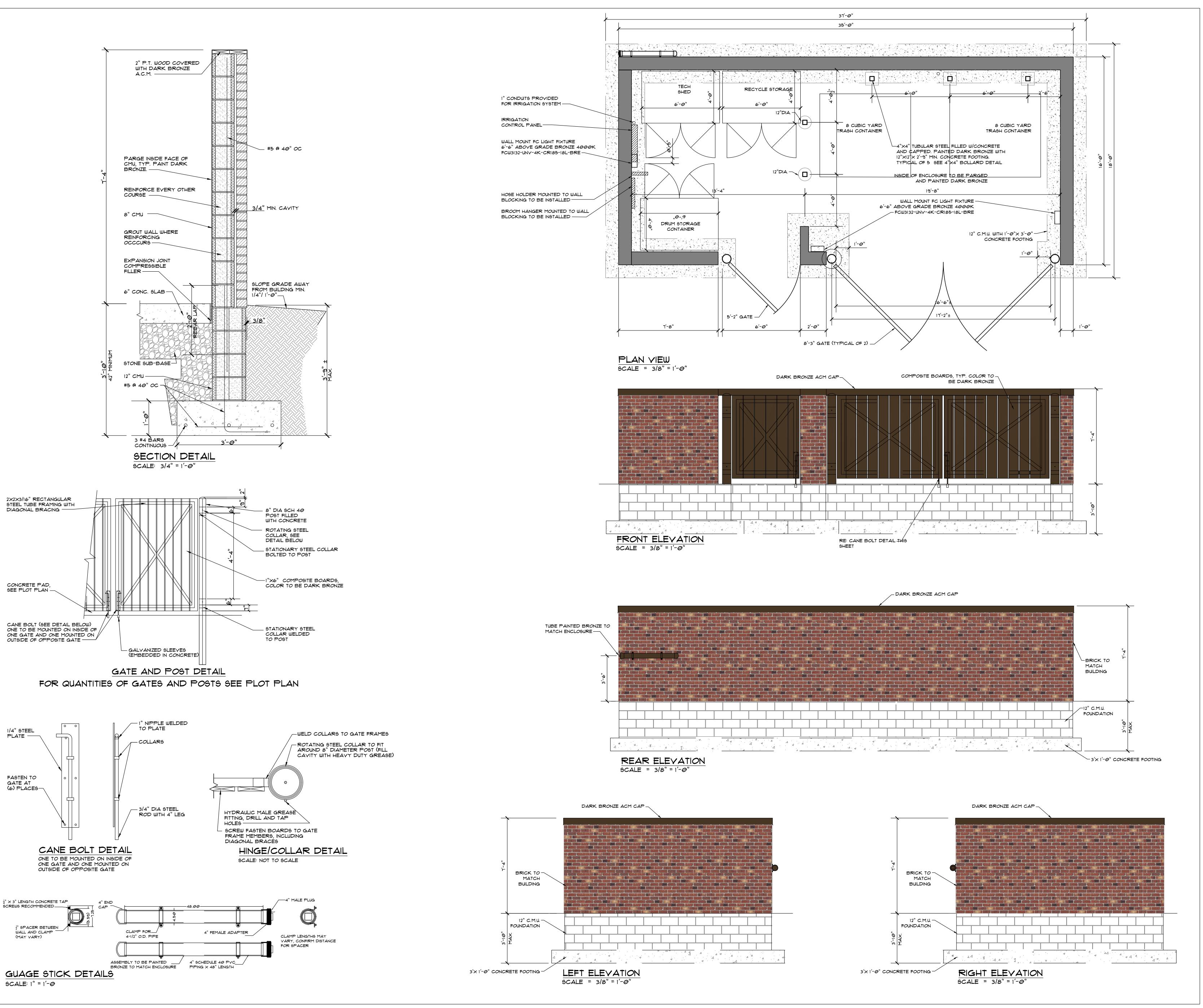
web site www.sheetz.com

YPSILANTI

Int. of Michigan Avenue

04-05-24

GAS AWNING



1/4" STEEL

GATE AT

Convenience Architecture and *Design* P.C.

351 Sheetz Way, Claysburg, PA 16625

(814) 239-6013 phone tcolumbu@sheetz.com email www.sheetz.com

PROJECT NAME:

NEW SHEETZ STORE

YPSILANTI

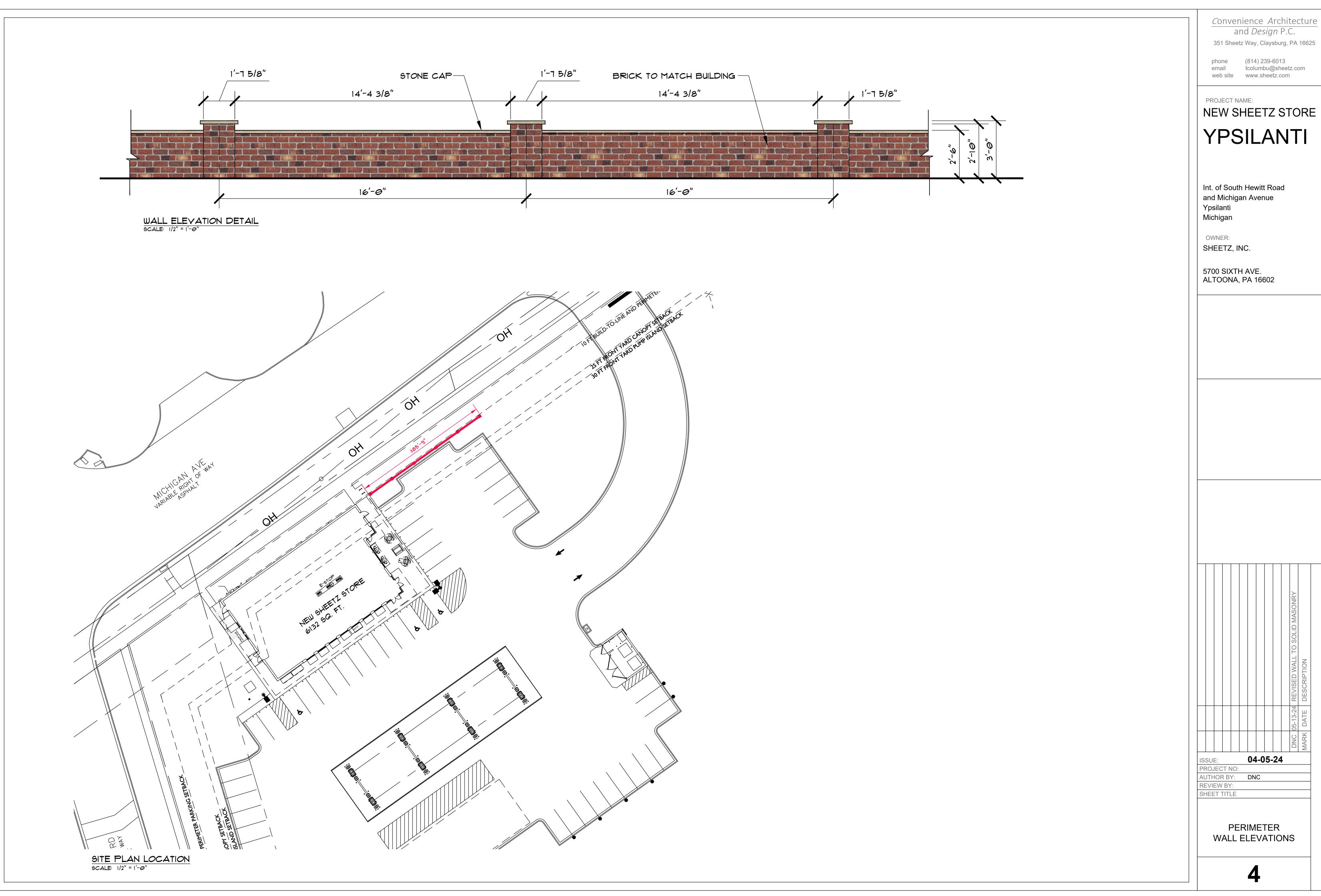
Int. of South Hewitt Road and Michigan Avenue Ypsilanti Michigan

OWNER:

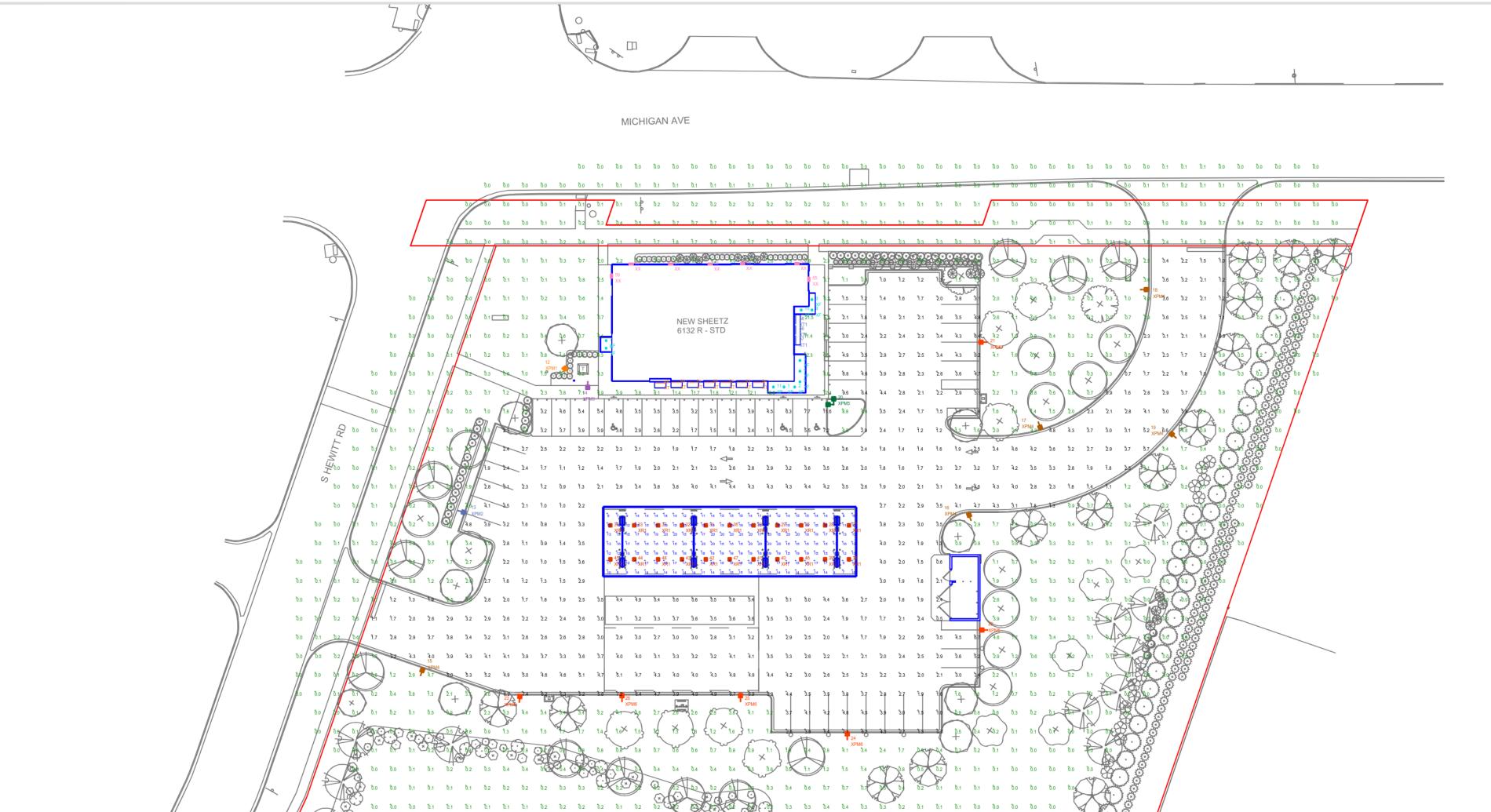
SHEETZ, INC.

5700 SIXTH AVE. ALTOONA, PA 16602

04-05-24 ISSUE: PROJECT NO: AUTHOR BY: DNC REVIEW BY: SHEET TITLE TRASH **ENCLOSURE**



NEW SHEETZ STORE





- ALL AREA LIGHTS, EXCEPT #19, ON NEW 20 FT. POLE MOUNTED ON 3 FT. CONCRETE BASE

- AREA LIGHT #19 ON NEW 15 FT. POLE MOUNTED ON 3 FT. CONCRETE BASE

LUMINAIRE LOCATION SUMMARY									
LUM NO.	LABEL	MTG. HT.	TILT						
1-11	XF	11.33	0						
12	XPM1	1	166						
13	XPM2	23	0						
14	XPM3	23	0						
15-18	XPM4	23	0						
19	XPM4	18	0						
20	XPM5	23	0						
21-26	XPM6	23	0						
27-37	XR1	17.45	0						
38-48	XR1	19.02	0						
49-55	XT	13.5	0						
56-58	XT1	13.5	0						
59-64	XX	15.5	0						
65	XX	11.333	0						

THIS SITE IS LOCATED IN A REGION WHERE LIGHTING IS REGULATED BY LOCAL ORDINANCES

ILLUMINATION LEVELS ARE THE RESULT OF CONDITIONS OR REQUESTS BY OTHERS RED LEONARD ASSOCIATES IS NOT RESPONSIBLE FOR INCIDENTS CAUSED BY INSUFFICIENT LIGHTING

SECURITY AND SAFETY REASONS

FOOTCANDLE LEVELS CALCULATED AT GRADE USING INITIAL LUMEN VALUES									
LABEL	MIN	AVG/MIN	MAX/MIN						
SITE PAVED AREA	3.09	11.6	0.5	6.18	23.20				
UNDEFINED	0.70	21.5	0.0	N.A.	N.A.				
UNDER CANOPY	15.78	20	7	2.25	2.86				

LUMINAIRE SCHEDU	LUMINAIRE SCHEDULE									
SYMBOL	QTY	LABEL	ARRANGEMENT	LUMENS	LLF	BUG RATING	WATTS/LUMINAIRE	TOTAL WATTS	MANUFACTURER	CATALOG LOGIC
	11	XF	Single	1037	1.000	B1-U0-G0	13	143	LF Illumination LLC (Ledil)	BULLET MINI-5911-1AA-T-13C-9240-M-DMU-BLACK COLOR 90CRI
+	1	XPM1	SINGLE	11000	1.020	B4-U0-G1	68	68	Cree Lighting	OSQ-ML-C-AA-XX w/PGM-1 + OSQM-C-11L-40K7-33-UL-NM-XX
	1	XPM2	Single	10450	1.020	B2-U0-G2	97	97	Cree Lighting	OSQ-ML-C-DA-XX + OSQM-C-16L-40K7-3B-UL-NM-XX
+	1	XPM3	Single	15200	1.020	B3-U0-G3	97	97	Cree Lighting	OSQ-ML-C-DA-XX + OSQM-C-16L-40K7-3M-UL-NM-XX
	5	XPM4	Single	9575	1.020	B2-U0-G2	97	485	Cree Lighting	OSQ-ML-C-DA-XX + OSQM-C-16L-40K7-4B-UL-NM-XX
*	1	XPM5	2 @ 90 degrees	15200	1.020	B3-U0-G2	97	194	Cree Lighting	OSQ-ML-C-DA-XX + OSQM-C-16L-40K7-4M-UL-NM-XX
	6	XPM6	Single	15200	1.020	B3-U0-G2	97	582	Cree Lighting	OSQ-ML-C-DA-XX + OSQM-C-16L-40K7-4M-UL-NM-XX
+	22	XR1	Single	5475	1.020	B2-U2-G1	44	968	Cree Lighting	CP5-13L-50K9-DF-UL-DM-XX-Q1-HZ
	7	XT	Single	1840	1.000	N.A.	20	140	SPI Lighting Inc.	SEW12146 5FT-L20W[AN08] 1120-277V 4000K SMA (12IN PROJECTION STEM, BLACK, 80CRI)
-	3	XT1	Single	1472	1.000	N.A.	16	48	SPI Lighting Inc.	SEW12146 4FT-L16W[AN08] 120-277V 4000K SMA (12IN PROJECTION STEM, BLACK, 80CRI)
	7	XX	Single	1921	1.000	B1-U0-G0	16	112	WILLIAMS OUTDOOR	VWM-H-L17/840-TL-DBZ-CGL-DIM-UNV (BRONZE COLOR 80CRI)



R3 JAN 06/03/24 1340 Kemper Meadow Dr, Forest Park, OH 45240 513-574-9500 | redleonard.com

DESCRIPTION REVISED PER UPDATED SITE PLAN MOVED FLAG POLE TO AVOID CONFLICT REVISED PER UPDATED SITE PLAN, REMOVED PARAPET LIGHTING REVISED PER CITY COMMENTS

DISCLAIMER ANY SITE PLAN(S), FLOOR PLAN(S), RENDERING(S), LIGHTING LAYOUT(S) AND PHOTOMETRIC PLAN(S) INCLUDING BUT NOT LIMITED TO ANY PROJECT(S) CREATED/PRODUCED BY RED LEONARD ASSOCIATES INC., ARE ONLY INTENDED FOR ILLUSTRATION AND QUOTING PURPOSES ONLY. RED LEONARD ASSOCIATES HAS THE RIGHT TO USE THIRD PARTY LASERS, SCANNERS, AND CAMERAS BUT ACTUAL PROJECT CONDITIONS, DIMENSIONS, AND ACCURACY OF MEASUREMENTS MAY DIFFER FROM THESE OR ANY PARAMETERS. RED LEONARD ASSOCIATES INC. ASSUMES NO LIABILITY FOR WHAT IS CREATED/PRODUCED IN THESE RECREATIONS. THIS INCLUDES BUT IS NOT LIMITED TO THE USE OF, INSTALLATION OF AND/OR INTEGRITY OF EXISTING BUILDING(S), SURROUNDING AREA FOR PRODUCT(S) SUCH AS EXISTING POLE(S), ANCHOR BOLT(S), BASE(S), ARCHITECTURAL AND SIGNAGE STRUCTURE(S), LANDSCAPING PLAN(S), LIGHTING PLAN(S), FIXTURE SELECTION(S) AND PLACEMENT, MATERIAL(S), COLOR ACCURACY, TEXTURE(S), AND ANYTHING ATTRIBUTED TO PHOTO REALISM THAT IS CREATED. FURTHERMORE, RED LEONARD ASSOCIATES INC., DOES NOT ASSUME LIABILITY WHATSOEVER FOR ANY PURCHASES MADE BY CLIENT BEFORE, DURING, OR AT THE CONCLUSION OF THE PUBLISHED WORK. THE CUSTOMER, ITS RELATIVE AFFILIATES, AS WELL AS ANY OTHER PERSON(S) IN VIEWING OF THIS PRODUCT IS RESPONSIBLE FOR VERIFYING COMPLIANCE WITH ANY BUT NOT LIMITED TO ALL CODES, PERMITS, RESTRICTIONS, INSTRUCTIONS, PURCHASES, AND INSTALLATIONS OF OBJECTS VIEWED WITHIN THIS DOCUMENT(S) OR PROJECT(S). SYMBOLS ARE NOT DRAWN TO SCALE. SIZE IS FOR CLARITY PURPOSES ONLY. SIZES AND DIMENSIONS ARE APPROXIMATE, ACTUAL MEASUREMENTS MAY VARY. DRAWINGS ARE NOT INTENDED FOR ENGINEERING OR CONSTRUCTION USE. THIS DOCUMENT, ANY RED LEONARD DRAWING(S), OR PROJECT(S) IS NOT TO BE USED AND/OR INTENDED FOR ENGINEERING OR CONSTRUCTION PURPOSES, BUT FOR ILLUSTRATIVE PURPOSES ONLY. ANY LOCATIONS OF EMERGENCY LIGHTING SHOWN WERE PROVIDED BY OTHERS. RED LEONARD ASSOCIATES IS NOT RESPONSIBLE FOR INSUFFICIENT LIGHTING DURING AN EMERGENCY EVENT. ANY USE OF THIS DOCUMENTATION AND/OR OTHER ARTICLES PRODUCED BY RED LEONARD WITHOUT WRITTEN AUTHORIZATION FROM JAYME J. LEONARD IS STRICTLY PROHIBITED.

SCALE: LAYOUT BY: 1" = 40' DAR DWG SIZE: DATE:

3/5/24

D

SHEETZ YPSILANTI, MI RL-9503-S1-R4





www.lfillumination.com

Toll Free: 855-885-1335

Fax: 818-576-1335

ADDITIONAL FIXTURE INFO



ADDITIONAL FIXTURE INFO

CPY500™ Series

optical control to minimize uplight yet attract the eye of drivers

Assembled in the USA by Cree Lighting from US and imported parts

CRI: Minimum 70 CRI (40K, 50K, 57K); 80 CRI (30K); 90 CRI (40K, 50K)

Synapse® accessories/1 year on field-installed accessories

Class I, Division 2 Hazardous Location for select models

IP65 overall, IP66 optics/IP66 driver housing

* Must specify color: BK (Black), BZ (Bronze), SV (Silver) or WH (White)

Applications: Petroleum canopies, CNG fueling stations

Performance Summary

Efficacy: Up to 175 LPW

Initial Delivered Lumens: Up to 20 900

CCT: 3000K, 4000K, 5000K, 5700K

The CPYS00™ Series LED luminaire features a large 11" X 11" glass optic that delivers the best in visual comfort and performance. Diffused optics minimize glare and increase visual comfort while delivering top-of-category 175 LPW efficiency and high-performance light distribution. Its sleek and low-profile form blends into the canopy while still being easily serviceable from below. Above the canopy, its uniquely angled extruded aluminum driver housing allows the CPYS00™ Series to easily install around existing structures, making it ideal for both retrofit or new construction applications. Optional bezels provide enhanced aesthetics and optical configuration to minimize unlikely that what we have the descriptions of the configurations.

Limited Warranty[†]: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish/up to 5 years for

Suitable for use with standard and hazardous locations 4.5" (114mm) H x 2.75" (70mm) W x 2.0" (51mm) D die-ca:

- 1/2 [13mm] hub in each end and in back Tynapse® SimplySnap 10V Interface

Requires other Synapse components to cor - Refer to DIM10-220F spec sheet for details Single Backer Plates



Styk Exterior Wall - Stem

· Anodized finish provides durable corrosion protection

. EFFICACY: 102 lm/W delivered (with Forward Throw

Black power cord standard unless otherwise specified. Max

distance to the driver (including OAP) is: #18 AWG = 50', #16

AWG = 75', #14 AWG = 100'. For extended distances, contact

CONSTRUCTION: Extruded aluminum construction provides

durable protection for internal components and is recyclable

• FINISH: Housing available in anodized finishes only. End caps

MODIFICATIONS: Consult factory for all modification requests,

• DIMMING: 0-10V controls standard to 1%

protected against minor surge events

including RGB and static LED colors

• EMERGENCY: Emergency battery remote optional • INTEGRATED SURGE PROTECTION: LED components are

and mounting components painted to match.

• LIGHT SOURCE: IP66 white LED light engine CRI: 80+ (contact factory for 90+) • LUMEN MAINTENANCE: L70 = >50,000 Hrs.

Handcrafted in USA

SPECIFICATIONS

distribution)

factory.

 CCT: 3000K, 3500K, or 4000K VOLTAGE: 120-277V standard 7 XT SEW12146 | 5FT-L20W[AN08] | 1120-277V | 4000K | SMA (12IN PROJECTION STEM, BLACK, 80CRI) SEW12146 | 4FT-L16W[AN08] | 120-277V | 4000K | SMA (12IN PROJECTION STEM, BLACK, 80CRI)

WALL MOUNTED

Shimstone Design Studio

Blends seamlessly with a variety of architectural styles

(LZO).
OPTICAL SYSTEM – General output
provides full cutoff.
LED SOURCE – ANSI 3000K, 4000K,
or 5000K CCT; 70 or 80 CRI LEDs. L20:
circuit board design. L10 & L17: Chip on

ida

VVM LED Voltaire Mini Architectural Wall Pack



ORDERING EXAMPLE: VWM H - L20/740 - T3 - DBZ - SDGL - OPTIONS - DIM - UNV

SHEETZ 2.0

TYPE: XS2

Williams

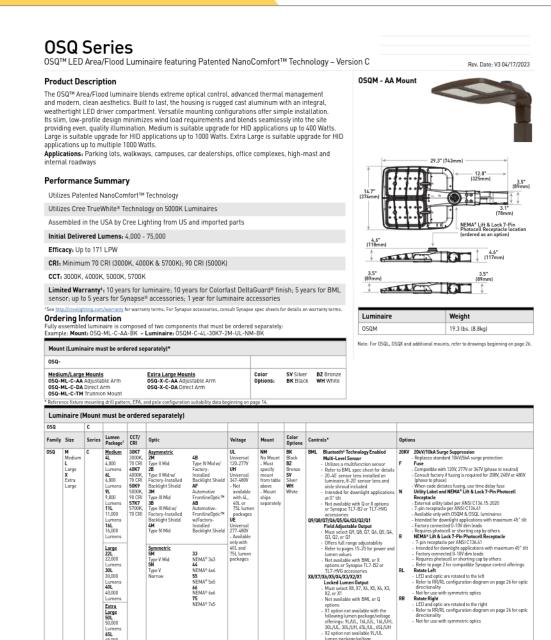
ILLUMINATION **BULLET - MINI** OUTDOOR RECESSED FIXED DOWNLIGHT WET LOCATION - IP66 LED CATALOG NUMBER 1/2" NPT Adapter w/ Gasket to accept connector supply — 5.00" (127) DOWNLIGHT ELECTRICAL Integral LED driver included Primary wiring compartment with power supply Superpure aluminum reflector Die-cast aluminum trir Powder coat finish Dimmable HOUSING MOUNTING Swing out pressure fit mounting clips Adjustable up to 1.80" max. ceiling thickness Ceiling Cut-Out - Ø4.65 LABELS LED SOURCE Field-changeable opticCREE ORDERING INFO 19C 19W LED 1420lm

Ordering Example: 5911-1AA-T-19C-8030-N-DMU-SS

Chatsworth CA 91311

©2023 LF ILLUMINATION LLC

withdraw specifications without prior notice.



OSQ™ LED Area/Flood Luminaire featuring Patented NanoComfort™ Technology – Version C

CREET IGHTING NANOCOMEORT™ TECHNOLOGY

CONSTRUCTION & MATERIALS

CREE TRUEWHITE® TECHNOLOGY
A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that detivers an exclusive combination of 90 - CRI, beautiful light characteristics and lifelong color consistency, all white maintaining high luminous efficacy – a true no compromise solution.

OSQ-ML-C-AA mounts to a horizontal or vertical 2" (51mm) IP, 2.375" [60mm] O.D. tenon and can be adjusted 180° in 2.5" increments

OSQ-X-C-AA mounts to a horizontal or vertical 2" [51mm] IP, 2.375-2.50" (60-64mm] O.D. steel tenon and can be adjusted 180" in 5.0" increments. NOTE: Tenon length must be a minimum of 3.75" (95mm), and tenon must be steel

Trunnion mount is constructed of A500 and A1011 steel and is adjustable from 0-180° in 15° degree increments. Trunnion mount secures to surface with [1] 3/4° bolt or [2] 1/2° or 3/8° bolts

Designed for uplight and downlight applications. Uplight orientation not suitable for use with N or R options

Exclusive Colorfast DettaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and parasion. Silver, bronz, black, and white are available

 Weight
 Housing Size
 Extra Large

 Mount
 Medium
 Large
 Extra Large

 Direct Arm
 19.7 lbs. (8.9kg)
 28.8 lbs. (13.1kg)
 45.8 lbs. [20.8kg]

 Adjustable Arm
 19.3 lbs. (8.8kg)
 28.4 lbs. (12.7kg)
 48.6 lbs. [22.0kg]

 Trunnion
 23.2 lbs. (10.5kg)
 32.3 lbs. (14.7kg)
 N/A

For BML sensor add 0.1 lbs. [45g], and for NEMA receptacle, add 0.3 lbs. [136g].

When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current

ELECTRICAL SYSTEM
• Input Voltage: 120-277V, 277-480V or 347-480V, 50/60Hz, Class 1 drivers

Designed with 0-10V dimming capabilities. Controls by others
Refer to <u>Oimming spec sheet</u> for details

Maximum 10V Source Current 1.8mA

Operating Temperature Ranger -40°C - +40°C [-40°F - +104°F]

Meets FCC Part 15, Subpart B, Class A limits for conducted an

RoHS compliant. Consult factory for additional details

Assembled in the USA by Cree Lighting from US and imported parts

Power Factor: > 0.9 at full load

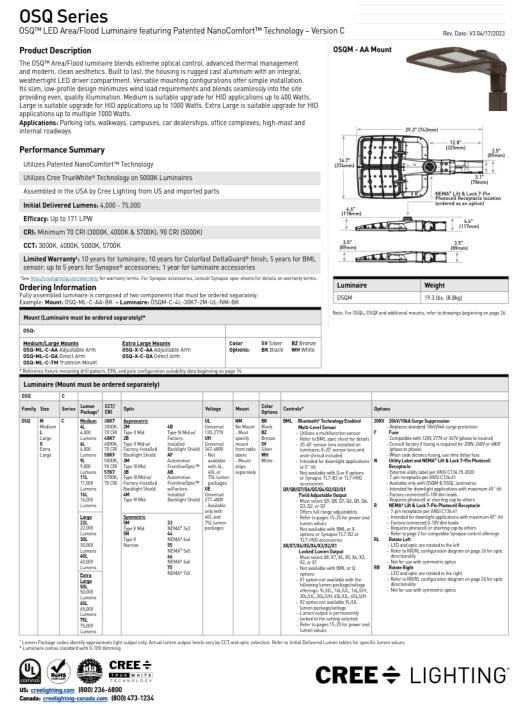
Suitable for wet locations

Total Harmonic Distortion: < 20% at full load

REGULATORY & VOLUNTARY QUALIFICATIONS

res include 15" (381mm) 18/5 cord exiting the luminaire

. Adjustable arm mount adapters are rugged die cast aluminum



Product Specifications

SYNAPSE® SIMPLYSNAP INTELLIGENT CONTROL

-HVG Jitable for 120-480V (UL, UE and UH) voltages equires NEMA/ANSI C136.41 7-Pin Dimming

.SW-450-002 cludes On-Site Controller (SS450-002) and

aditions. n accordance with IES TM-21, Reported values represent interpolate ato 6x the tested duration in the IES LM-80 report for the LED.

Precumstated
Backlight Shield
OSQ-M-C-BLSF [Medium]
OSQ-L-C-BLSF [Large]
OSQ-X-C-BLSF [Extra Large]
- Not for use with rotated optics
Bird Spikes
OSQ-M-C-BROSPK
OSQ-L-C-BROSPK
OSQ-X-C-BROSPK

motion sensing, and daylight harvesting with utility-grade power monitoring and support of up to 1000 does per gateway. The system leatures a reliable and robust self-healing mesh network with a browser-based interface that rurs on smartphones, tables, and PCs. The Twist-Lock Lighting Controller TICT-PS2 or TL7-HVG) and Excontroller (55490-002) take the OSQ Series to a new performance plateau, providing extreme energy productivity, code compliance and a better light experience.

smptysmen services and services are services and services are services and services and services and services are services

(Optional, for increased range, 8dB gain)

KIT-ANT4205M

- Kit includes antenna, 20° cable and bracket
KIT-ANT360

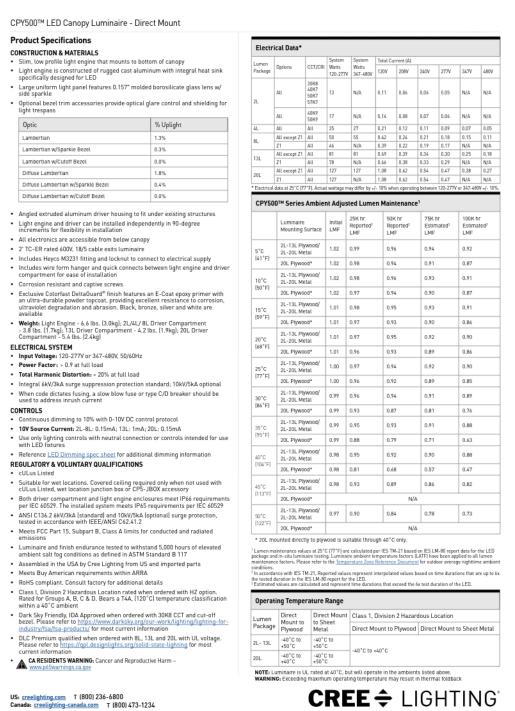
- Kit includes antenna, 30° cable and bracket

KIT-ANT600 - Kit includes antenna, 50° cable and bracket - Refer to <u>Outdoor antenna spec sheet</u> for details



Replaces standard 6kV/3kA surge protection
 Class I, Div. 2 Hazardous Location Certificat

Rev. Date: V6 11/01/2022





JOB NAME: SHEETZ



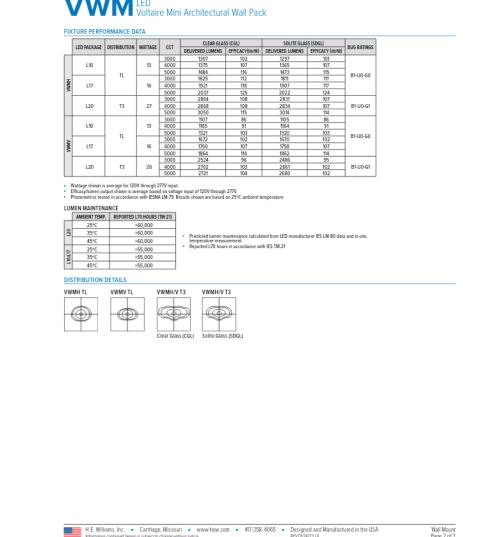
SPILIGHTING

PROJECT DETAILS



TPTX-25 TOOL Tamper-resistant tool for Torx head screws

VWMH-L10/840-TL-DBZ-CGL-QS-DIM-UNV VWMH-L17/840-TL-DBZ-CGL-QS-DIM-UNV

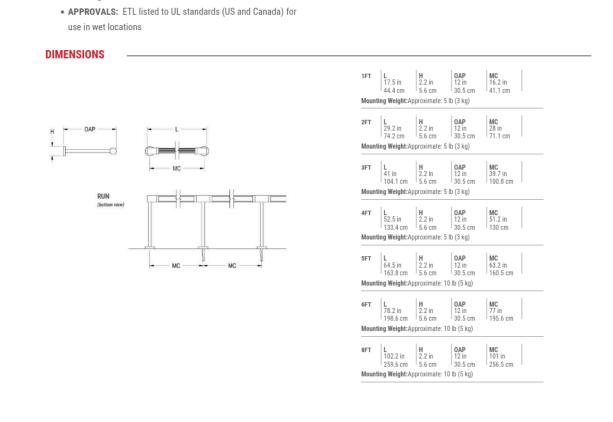


MODEL #: REFER TO LIGHTING FIXTURE SCHEDULE FOR MODEL NUMBER AND DESCRIPTION

Shimstone Design Studio LLC, 7400 1st Avenue, North Bergen, NJ 07047, Tel: 201.861.5390







SPILIGHTING P:262.242.1420 | SPIteam@spilighting.com | Last Revised: 6/1/2023 | Design Rights Reserved | SEW12146 | 2 of 6

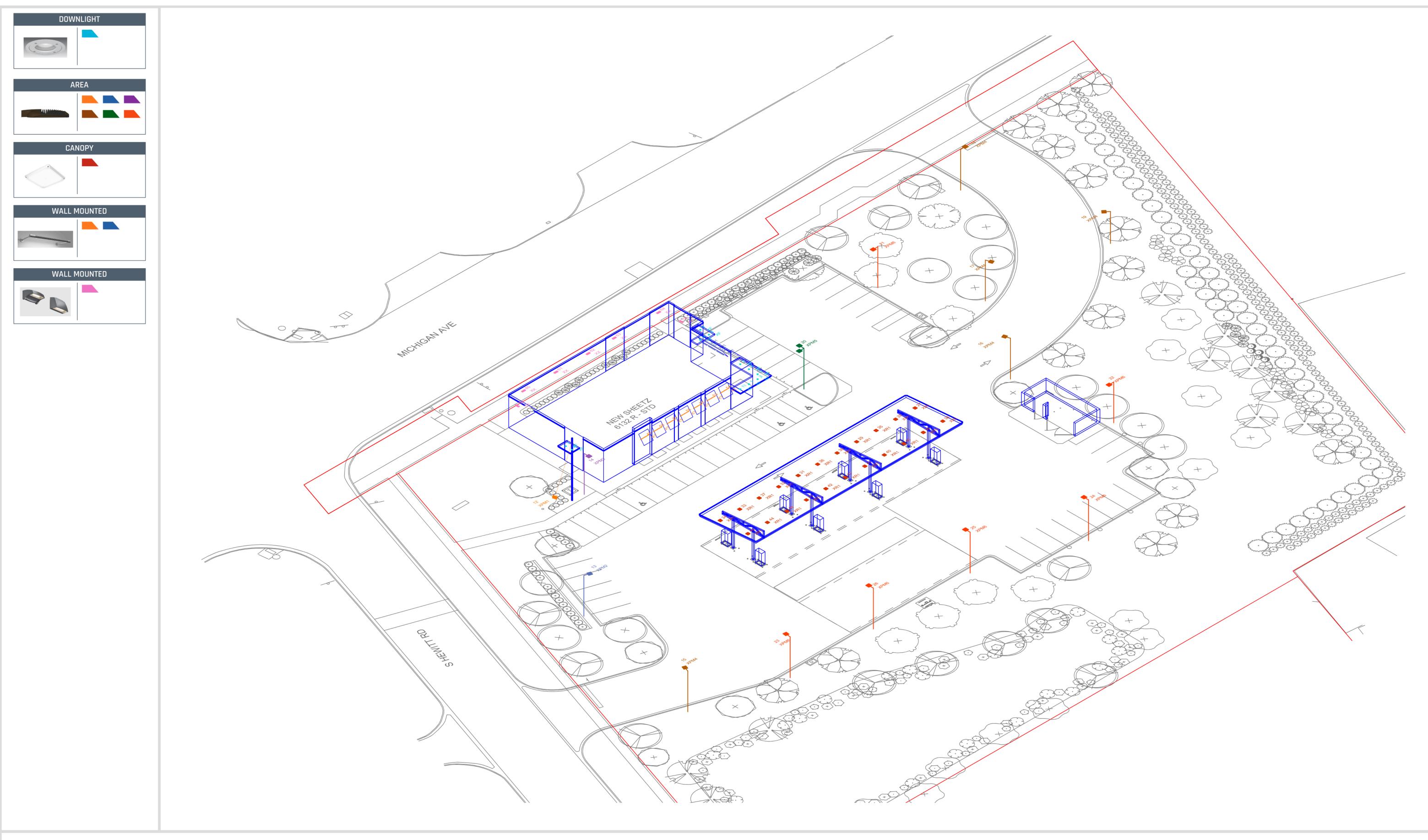
PROJECT NAME: SHEETZ YPSILANTI, MI DRAWING NUMBER: RL-9503-S1-R4



TYPE: XS2



ANY SITE PLAN(S), FLOOR PLAN(S), RENDERING(S), LIGHTING LAYOUT(S) AND PHOTOMETRIC PLAN(S) INCLUDING BUT NOT LIMITED TO ANY PROJECT(S) CREATED/PRODUCED BY RED LEONARD ASSOCIATES INC., ARE ONLY INTENDED FOR ILLUSTRATION AND QUOTING PURPOSES ONLY. RED LEONARD ASSOCIATES HAS THE RIGHT TO USE THIRD PARTY LASERS, SCANNERS, AND CAMERAS BUT ACTUAL PROJECT CONDITIONS, DIMENSIONS, AND ACCURACY OF MEASUREMENTS MAY DIFFER FROM THESE OR ANY PARAMETERS. RED LEONARD ASSOCIATES INC. ASSUMES NO LIABILITY FOR WHAT IS CREATED/PRODUCED IN THESE RECREATIONS. THIS INCLUDES BUT IS NOT LIMITED TO THE USE OF, INSTALLATION OF AND/OR INTEGRITY OF EXISTING BUILDING(S), SURROUNDING AREA FOR PRODUCT(S) SUCH AS EXISTING POLE(S), ANCHOR BOLT(S), BASE(S), ARCHITECTURAL AND SIGNAGE STRUCTURE(S), LANDSCAPING PLAN(S), LIGHTING PLAN(S), FIXTURE SELECTION(S) AND PLACEMENT, MATERIAL(S), COLOR ACCURACY, TEXTURE(S), AND ANYTHING ATTRIBUTED TO PHOTO REALISM THAT IS CREATED, FURTHERMORE, RED LEONARD ASSOCIATES INC., DOES NOT ASSUME LIABILITY WHATSOEVER FOR ANY PURCHASES MADE BY CLIENT BEFORE, DURING, OR AT THE CONCLUSION OF THE PUBLISHED WORK. THE CUSTOMER, ITS RELATIVE AFFILIATES, AS WELL AS ANY OTHER PERSON(S) IN VIEWING OF THIS PRODUCT IS RESPONSIBLE FOR VERIFYING COMPLIANCE WITH ANY BUT NOT LIMITED TO ALL CODES, PERMITS, RESTRICTIONS, INSTRUCTIONS, PURCHASES, AND INSTALLATIONS OF OBJECTS VIEWED WITHIN THIS DOCUMENT(S) OR PROJECT(S), SYMBOLS ARE NOT DRAWN TO SCALE, SIZE IS FOR CLARITY PURPOSES ONLY, SIZES AND DIMENSIONS ARE APPROXIMATE, ACTUAL MEASUREMENTS MAY VARY, DRAWINGS ARE NOT INTENDED FOR ENGINEERING OR CONSTRUCTION USE. THIS DOCUMENT, ANY RED LEONARD DRAWING(S), OR PROJECT(S) IS NOT TO BE USED AND/OR INTENDED FOR ENGINEERING OR CONSTRUCTION PURPOSES, BUT FOR ILLUSTRATIVE PURPOSES ONLY. ANY USE OF THIS DOCUMENTATION AND/OR OTHER ARTICLES PRODUCED BY RED LEONARD WITHOUT WRITTEN AUTHORIZATION FROM JAYME J. LEONARD IS STRICTLY PROHIBITED.

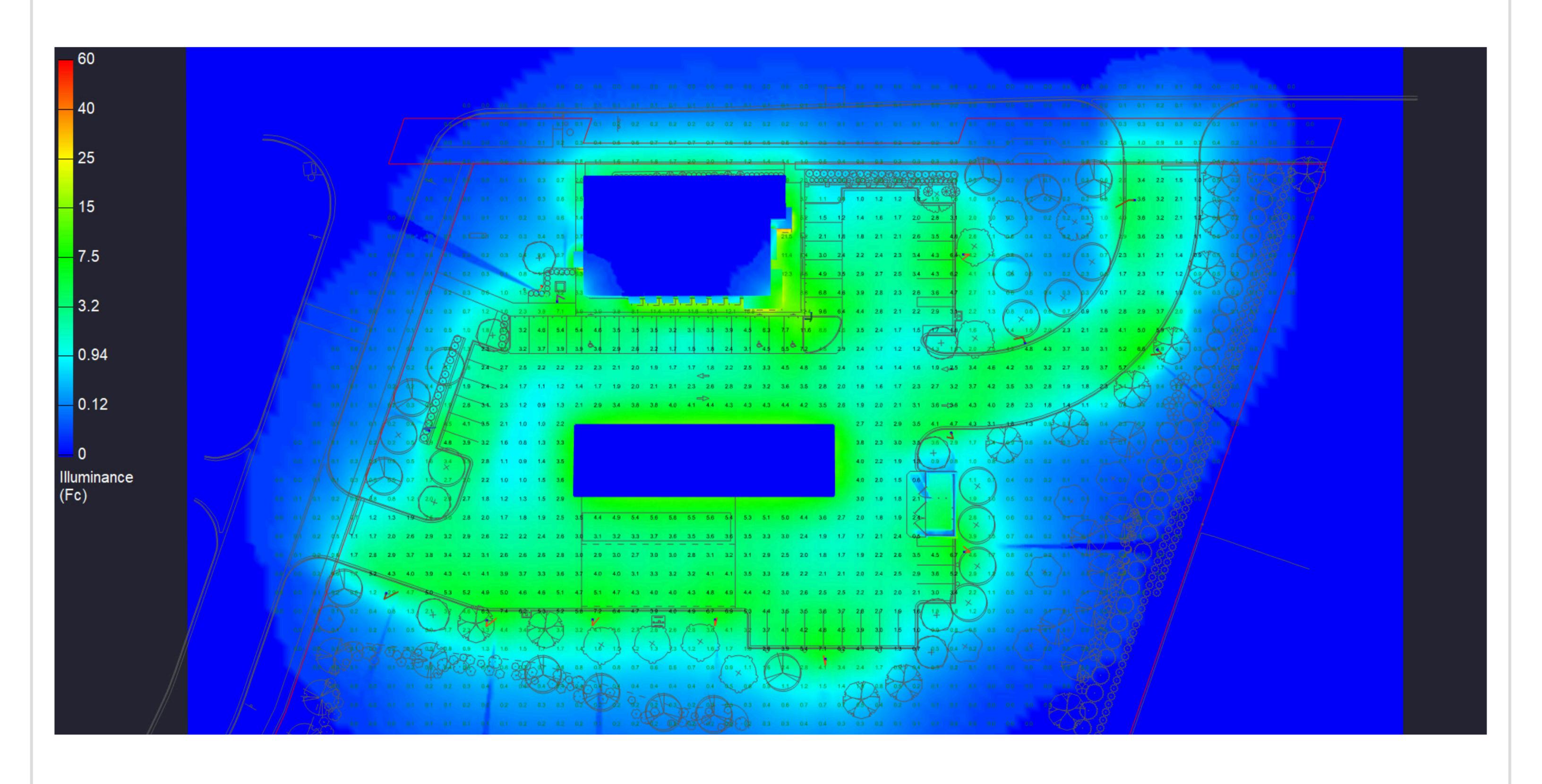




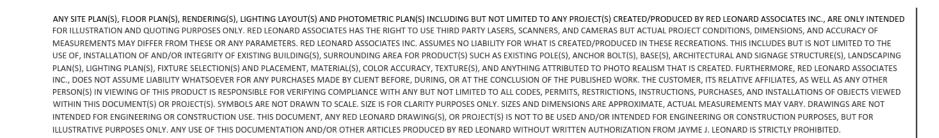
ANY SITE PLAN(S), FLOOR PLAN(S), RENDERING(S), LIGHTING LAYOUT(S) AND PHOTOMETRIC PLAN(S) INCLUDING BUT NOT LIMITED TO ANY PROJECT(S) CREATED/PRODUCED BY RED LEONARD ASSOCIATES INC., ARE ONLY INTENDED FOR ILLUSTRATION AND QUOTING PURPOSES ONLY. RED LEONARD ASSOCIATES HAS THE RIGHT TO USE THIRD PARTY LASERS, SCANNERS, AND CAMERAS BUT ACTUAL PROJECT CONDITIONS, DIMENSIONS, AND ACCURACY OF MEASUREMENTS MAY DIFFER FROM THESE OR ANY PARAMETERS. RED LEONARD ASSOCIATES INC. ASSUMES NO LIABILITY FOR WHAT IS CREATED/PRODUCED IN THESE RECREATIONS. THIS INCLUDES BUT IS NOT LIMITED TO THE USE OF, INSTALLATION OF AND/OR INTEGRITY OF EXISTING BUILDING(S), SURROUNDING AREA FOR PRODUCT(S) SUCH AS EXISTING POLE(S), ANCHOR BOLT(S), BASE(S), ARCHITECTURAL AND SIGNAGE STRUCTURE(S), LANDSCAPING PLAN(S), LIGHTING PLAN(S), FIXTURE SELECTION(S) AND PLACEMENT, MATERIAL(S), COLOR ACCURACY, TEXTURE(S), AND ANYTHING ATTRIBUTED TO PHOTO REALISM THAT IS CREATED. FURTHERMORE, RED LEONARD ASSOCIATES INC., DOES NOT ASSUME LIABILITY WHATSOEVER FOR ANY PURCHASES MADE BY CLIENT BEFORE, DURING, OR AT THE CONCLUSION OF THE PUBLISHED WORK. THE CUSTOMER, ITS RELATIVE AFFILIATES, AS WELL AS ANY OTHER PERSON(S) IN VIEWING OF THIS PRODUCT IS RESPONSIBLE FOR VERIFYING COMPLIANCE WITH ANY BUT NOT LIMITED TO ALL CODES, PERMITS, RESTRICTIONS, INSTRUCTIONS, PURCHASES, AND INSTALLATIONS OF OBJECTS VIEWED WITHIN THIS DOCUMENT(S) OR PROJECT(S). SYMBOLS ARE NOT DRAWN TO SCALE. SIZE IS FOR CLARITY PURPOSES ONLY. SIZES AND DIMENSIONS ARE APPROXIMATE, ACTUAL MEASUREMENTS MAY VARY. DRAWINGS ARE NOT INTENDED FOR ENGINEERING OR CONSTRUCTION PURPOSES, BUT FOR ILLUSTRATIVE PURPOSES ONLY. ANY USE OF THIS DOCUMENTATION AND/OR OTHER ARTICLES PRODUCED BY RED LEONARD WITHOUT WRITTEN AUTHORIZATION FROM JAYME J. LEONARD IS STRICTLY PROHIBITED.

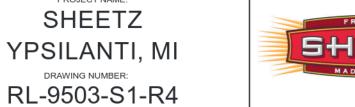
SHEETZ
YPSILANTI, MI
DRAWING NUMBER:
RL-9503-S1-R4

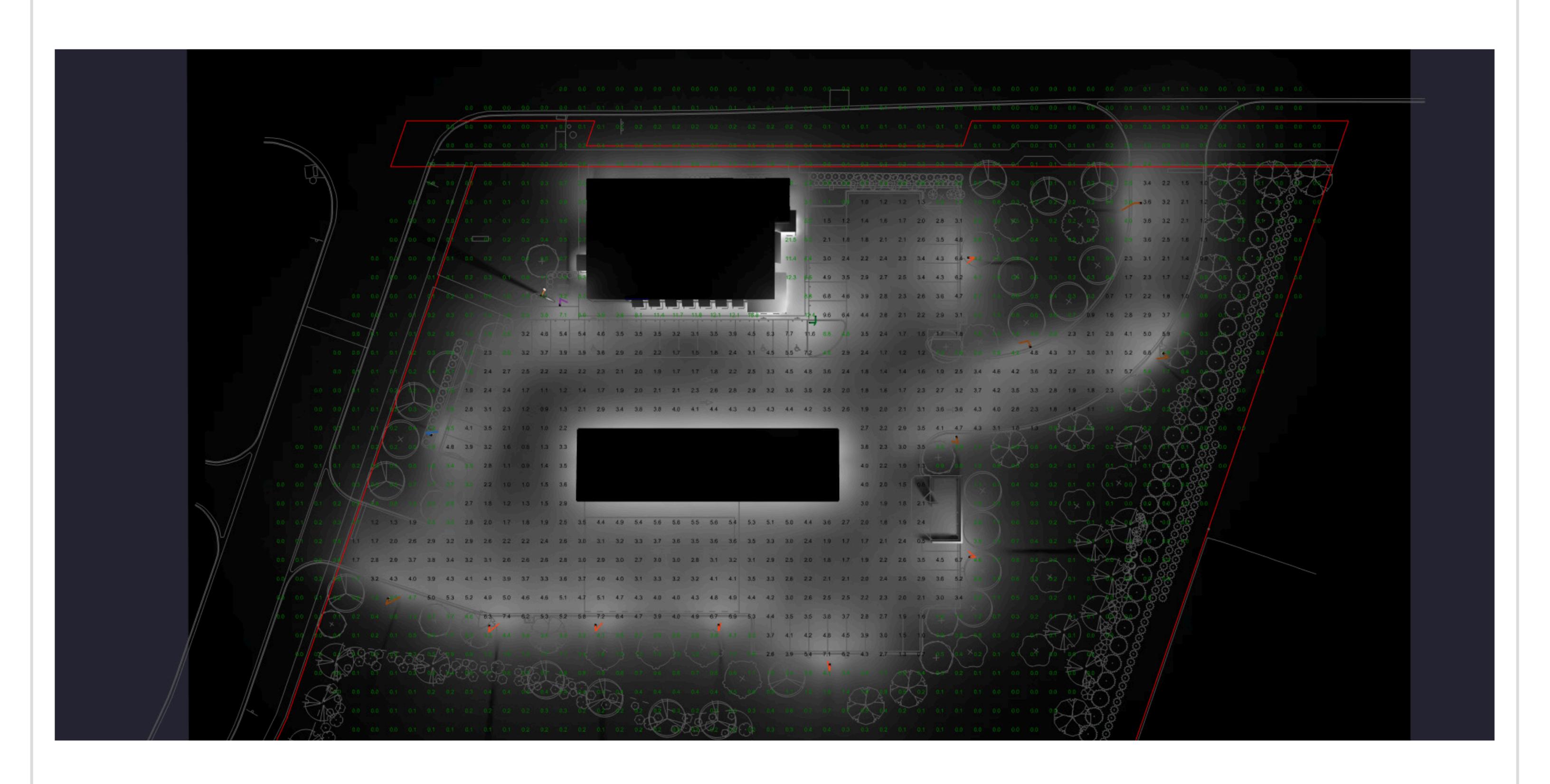




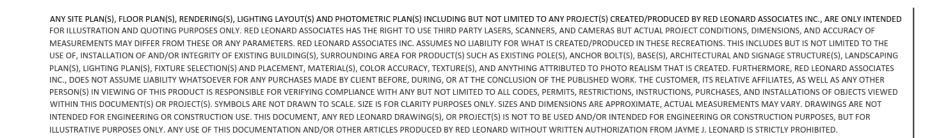


















MATERIALS TESTING CONSULTANTS

April 2, 2024 Project No. 231688R

Skilken Gold 4270 Morse Road Columbus, Ohio 43230

Attention:

Derick Riba

Project Manager

Reference:

Report of Geotechnical Investigation

Sheetz, West Michigan Avenue and Hewitt Road

Ypsilanti, Michigan

Dear Mr. Riba:

MATERIALS TESTING CONSULTANTS, Inc. has completed a geotechnical investigation for the abovereferenced project. The findings of the study along with recommendations for the design of foundations and earth-related structures are presented in the attached report.

We appreciate this opportunity to provide foundation engineering services and express our interest in providing continuing services in the areas of subgrade verification, special inspections and quality testing on various construction materials. Please contact our office should you have any questions or require further assistance.

Sincerely,

MATERIALS TESTING CONSULTANTS, INC.

Isaac L. MacMillan, P.E.

Project Engineer

Robert J. Warren, P.E. Senior Project Manager

att: Report



MATERIALS TESTING CONSULTANTS

GEOTECHNICAL REPORT

SHEETZ, WEST MICHIGAN AVENUE AND HEWITT ROAD YPSILANTI, MICHIGAN

Prepared For:

SKILKEN GOLD Columbus, Ohio

Prepared By:

MATERIALS TESTING CONSULTANTS, INC.

April 2024 MTC Project No. 231688R



TABLE OF CONTENTS

SECTION	<u>ON</u>	PAGE
1.0	INTRODUCTION	1
2.0	DESIGN CONSIDERATIONS	2
2.1	Available Information	2
2.2	Location and Type of Structure	2
3.0	INVESTIGATION METHODOLOGY	3
3.1	Field Investigation	3
3.2	Laboratory	5
4.0	INVESTIGATION RESULTS	5
4.1	Regional Geology	5
4.2	Site Conditions	5
4.3	Subsurface Conditions	7
5.0	CONCLUSIONS AND RECOMMENDATIONS	9
5.1	Foundations	9
5.2	Site and Subgrade Preparation	10
5.3	Groundwater	12
5.4	Slopes and Temporary Excavations	13
5.5	Concrete Floor Slabs and Rigid Pavements	13
5.6	Flexible Pavement	14
5.7	MBC Seismic Considerations	15
6.0	CLOSURE	16

FIGURE FIG. 1: BORING LOCATION PLAN – EXISTING CONDITIONS

FIG. 2: BORING LOCATION PLAN - PROPOSED CONSTRUCTION

APPENDIX LIMITATIONS

TEST DRILLING AND SAMPLING PROCEDURES

BORING LOG TERMINOLOGY AND CLASSIFICATION OUTLINE

BORING LOGS

SUMMARY OF LABORATORY TEST DATA

SUMMARY LETTER OF INFILTRATION TESTING (12-8-2023)



REPORT OF GEOTECHNICAL INVESTIGATION SHEETZ YPSILANTI

1.0 INTRODUCTION

MATERIALS TESTING CONSULTANTS, INC. (MTC) has completed a geotechnical investigation for Sheetz Ypsilanti, located east of the intersection of West Michigan Avenue and Hewitt Road in Ypsilanti, Michigan. This work has been performed as described in our proposal number 17655 dated September 29, 2023. Authorization to proceed was received from Mr. Andrew Richlen, P.E. of Silken Gold on January 30, 2024.

The scope of this study in general includes the following:

- performance of a field investigation including soil test borings and field engineering reconnaissance;
- review of recovered samples by one of our engineers and assignment of technical soil classifications;
- performance of laboratory testing on selected soil samples;
- engineering evaluation of encountered conditions with respect to the proposed construction; and
- · preparation of this report.

Presented herein are descriptions of our understanding of the design considerations, the investigation program, encountered conditions and engineering recommendations. The Appendix contains the report limitations, boring log terminology, soil classification chart and boring logs.



2.0 DESIGN CONSIDERATIONS

2.1 Available Information

We have been provided the following documents and information for use in this investigation:

- A site development plan prepared by Stonefield Engineering and Design dated February 6,
 2024 and received from Mr. Andrew Richlen, P.E. of Skilken Gold on February 7, 2024.
- A topographic survey prepared by Kem-Tec dated December 8, 2023, received from Mr. Andrew Richlen, P.E. of Skilken Gold on February 7, 2024.
- Soil boring logs from the project site prepared by Materials Testing Consultants for Casto dated May 11, 2023. Permission to utilize the boring information was provided by Mr. Mitch Augustine of Casto in an email dated September 26, 2023.
- A site grading plan prepared by Stonefield Engineering and Design dated March 19, 2024 and received from Mr. Eric Williams, P.E. of Stonefield Engineering and Design on March 25, 2024.
- Telephone and email correspondence with Mr. Andrew Richlen, P.E. and Mr. Derick Riba of Skilken Gold regarding the type of construction and scope of geotechnical investigation.

2.2 <u>Location and Type of Structure</u>

The proposed construction will be located in plan as shown on the attached Boring Location Plans, Figure No 1 and 2. The site is located east of the intersection of South Hewitt Road and West Michigan Avenue in Ypsilanti, Michigan.

The proposed construction includes a 6,132 sq. ft. convenience store, a fuel island with canopy, underground fuel storage, new site pavements and a new stormwater detention basin. The convenience store building will be single-story, approximately 60 by 100 ft in plan with no basement. The fuel island canopy will be approximately 135 by 35 ft in plan and on the order of 25 feet high. We have considered the proposed convenience store finish floor elevation will be at el 792, and the bottom of underground fuel storage tanks will be on the order of 10 to 12 ft below finished grades at el 778 to 780.







We have considered the convenience store will be of steel and masonry construction and the fuel island canopy will be of steel construction. We have considered maximum column loads of 50 kips and maximum wall loads of 5 kips per lineal foot.

Asphalt and concrete pavement areas are planned. Traffic is expected to consist of relatively light passenger vehicles with only occasional heavier axle wheel loadings from trucks for deliveries, refuse pickup, etc. We have considered a maximum traffic loading of 750 vehicles per day. Finish pavement grades will range from el 786 to 791.

Based on the site grading plan provided by Mr. Eric Williams, P.E. of Stonefield Engineering and Design, we understand the existing grades will be modified significantly to balance the site. New fill will be placed to raise site grades between 1 and 6 ft above existing elevations within the fuel island and convenience store footprints. Fills up to 6 ft are also planned within pavement areas. Fills between 1 and 4 ft are planned for the stormwater detention basin sides with a cut of 2 ft at the basin bottom.

We should be informed of any changes between the actual design conditions and those described herein as this information may affect our recommendations.

3.0 INVESTIGATION METHODOLOGY

3.1 Field Investigation

Subsurface conditions were investigated by 18 conventional soil test borings and 4 test pits divided across 3 separate investigations:

- May 2023 Borings B-2, B-5, B-10 and B-14 were drilled to depths of 10 to 20 ft near the northeast quadrant of the property during a preliminary subsurface investigation for a separate development.
- November 2023 Four test pits were excavated at the project site for infiltration testing.
- February 2024 Borings B-101 through B-114 were drilled to depths of 10 to 35 ft for the Sheetz site design.





Boring locations are shown on the attached plans, Figure Nos. 1 and 2. The test pit locations, test pit logs and infiltration test results are summarized in the letter dated December 8, 2023 attached to this report.

One of our engineers staked the approximate boring locations in the field. Boring elevations were approximated by GPS. The elevations used in this report are given in feet and are based on NAVD 88 datum with boring coordinates based on the Michigan State Plane South coordinate system. If more precise location and elevation data are desired, a registered professional land surveyor should be retained to locate the borings and determine their ground elevations.

The drilling was performed using conventional hollow-stem auger methods to advance the boreholes. The boreholes were backfilled to the original ground surface after drilling completion.

Soil samples were recovered on regular intervals by means of the Standard Penetration Test (SPT), ASTM D1586. The SPT test involves the use of a 140-lb hammer with a 30-inch drop to drive a standard 2.0-inch 0.D. split spoon sampler. The number of hammer blows required to drive the sampler 12 inches, after seating 6 inches, is termed the soil N-value and provides an indication of the soil's relative density and strength parameters at the sample location. SPT blow counts in 6-inch increments are recorded on the boring logs. The drill rig was equipped with an automatic hammer system which delivers a more consistent driving energy to the sampler compared to the rope and cathead system.

Recovered samples were sealed, labeled and transported to our laboratory. All soil samples will be discarded after sixty days unless a longer hold time is specifically requested.

The recovered soil samples were reviewed by an engineer and technically classified according to the methods of ASTM D2488 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)". Estimates of the unconfined compressive strength of the cohesive samples were made using a calibrated penetrometer. A copy of the test boring logs along with a description of the terminology used on the logs and a chart of the ASTM D2488 group symbol names are provided in the Appendix.





Borings were drilled and other sampling was conducted solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.

3.2 <u>Laboratory</u>

Selected samples were subjected to laboratory testing per ASTM D2216 "Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass" and ASTM D2974 "Test Methods for Determining the Water (Moisture) Content, Ash Content, and Organic Material of Peat and Other Organic Soils." The laboratory test results are noted on the boring logs and summarized in a table provided in the Appendix.

4.0 INVESTIGATION RESULTS

4.1 Regional Geology

The Map of the Surface Formations of the Southern Peninsula of Michigan, published by the State of Michigan, indicates the site is in an area of moraines. Soil conditions in this type of geologic area typically consist of unsorted layers of sand, silt, and/or clay. The thickness of individual units and horizontal alignment may vary due to the direct deposition of this material from glacial ice drift. Areas with more distinctly sorted sand, silt and/or clay strata may be present, while in other areas the soil can consist of silty sand, clayey sand, etc. The Map of Bedrock Topography of the Southern Peninsula of Michigan indicates bedrock to be between elevations 550 and 600 ft, on the order of 180 to 240 ft below existing site elevations.

4.2 Site Conditions

At the time of our field work most of the project site was thickly wooded. The existing site grades generally sloped down from the north and west to the south and east with elevations approximately ranging from 791 to 780. A low-lying area was present near the center of the



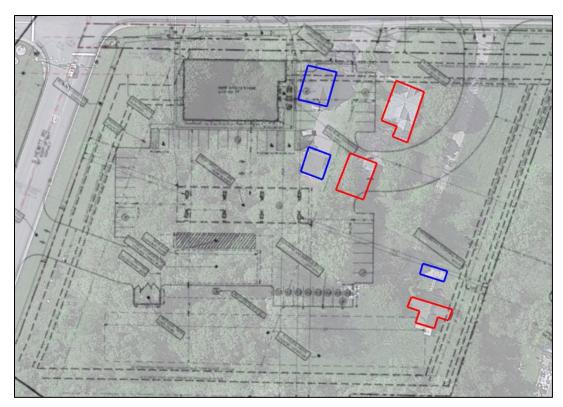


site at an approximate elevation of 785 with grades sloping up about 5 ft to the north, south and west. The observed low-lying area was located in the general vicinity of the proposed fuel canopy and underground storage tanks.

During our investigation an existing residential structure and garage were present to the east of the proposed Sheetz store. Historic aerial



photographs of the site available on Google Earth indicated several other residential structures were present at the project site and demolished between 2011 and 2015. In addition, remnants of an abandoned concrete slab or pavement section were observed at the ground surface where the southeasternmost structure was previously located. Additional demolition debris or existing undocumented fill not observed during our reconnaissance or detected by the soil borings may be present.



Aerial image of the project site from 2010 with proposed site plan overlay. The approximate locations of previous structures are outlined in red and existing structures in blue.



4.3 Subsurface Conditions

The investigation, in general, encountered 2 to 6 inches of sandy and clayey topsoil at the surface with the exception of Borings B-107, B-111 and B-114 which did not encounter topsoil. General summaries of the subgrade soil encountered in the building and pavement areas follow.

New Convenience Store – Borings B-101 through B-105

Below the topsoil, Borings B-101 through B-105 generally encountered very loose to loose sand with varying amounts of silty and clayey fines (SC, SM, SP-SM, SP-SC) and very stiff lean clay (CL) to depths ranging from 4 to 7 ft (els 779.2 to 784.9). Boring B-105 encountered fill consisting of loose poorly graded sand with clay (SP-SC) from the surface to a depth of 3 ft (el 783.2).

Below these soils, loose to medium dense poorly graded sand (SP) was encountered to the explored depth of 20 ft (els 766.2 to 770.4) in Borings B-101, B-102, B-104 and B-105. Boring B-103 encountered loose to medium dense poorly graded sand (SP) to a depth of 23 ft (el 763.7) and medium dense silty sand (SM) to the explored depth of 35 ft (el 751.7).

Fuel Island Canopy and Storage Tanks - Borings B-106 through B-111

Below the topsoil, Borings B-106 through B-109 and B-111 generally encountered very loose to loose sand with varying amounts of silty and clayey fines (SC, SP-SC, SP-SM) to depths of 3 to 8 ft (els 776.6 to 787.2) overlying very loose to medium dense poorly graded sand (SP) to the explored depth of 20 ft (els 764.5 to 770.2). Boring B-111 encountered a very stiff lean clay (CL) stratum from 13 to 14.2 ft (els 776.0 to 777.2).

Boring B-110 encountered very loose poorly graded sand with clay (SP-SC) and stiff sandy lean clay (CL) to a depth of 5.5 ft (el 783.4), medium dense silty sand (SM) and sandy silt (ML) to a depth of 12.5 ft (el 776.4) and poorly graded sand with silt (SP-SM) to the explored depth of 20 ft (el 768.9).





Pavement Areas – Borings B-2, B-14 and B-112 through B-114

Borings B-2, B-14 and B-112 generally encountered medium stiff to hard lean clay (CL) to depths of 5 to 10 ft (els 775.1 to 782.0). Boring B-112 encountered fill consisting of medium dense poorly graded sand with silt (SP-SM) from the surface to a depth of 3 ft (el 782.1). Boring B-2 encountered loose to medium dense poorly graded sand (SP) from a depth of 5 ft (el 782) to the explored depth of 20 ft (el 767.0).

Borings B-113 and B-114 generally encountered very loose to medium dense clayey sand (SC), poorly graded sand with silt and clay (SP-SM) (SP-SC) and poorly graded sand (SP) to the explored depth of 10 ft (els 774.9 to 775.0). Boring B-114 encountered fill consisting of poorly graded sand with clay (SP-SC) and trace organic fines and glass debris from the surface to a depth of 3 ft (el 781.9).

The relative density of granular soil is based on recorded SPT N-values while the consistency of cohesive soil is based on both recorded SPT N-values and on estimates of the unconfined compressive strength obtained with a calibrated penetrometer.

Groundwater was encountered in Borings B-2, B-5, B-10, B-101 through B-111 and B-113 at depths ranging from 8.5 to 17.2 ft (els 771.7 to 778.9). Groundwater levels may fluctuate due to seasonal variations such as precipitation, snowmelt, nearby drain, river or lake levels and other factors that may not be evident at the time of measurement. Groundwater levels may be different at the time of construction.

Test Pits for Stormwater Structures

The December 2023 Summary Letter of Infiltration Testing, included in the Appendix, summarized the findings of the test pits as follows:

"In general, Test Pits TP-1, TP-2 and TP-3 encountered approximately three to four inches of topsoil over lean clay, silty clay, and silt soils. Test Pit TP-4 encountered 8 inches of topsoil overlying granular soil to the explored depth. Test Pits TP-1 and TP-2 encountered clayey fill with debris, topsoil and organics to an approximate depth of two feet below the existing grade (els 784 ft to 782 ft). None of the test pits encountered groundwater."

Report of Geotechnical Investigation Project No. 231638R Page 9



This section has provided a generalized description of the encountered subsurface soil conditions. The boring and test pit logs located in the Appendix should be reviewed for detailed soil descriptions. Some variation between boring and test pit locations may be expected.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Due to variations in the existing topography, new fill will be placed to raise site grades between 1 and 6 ft above existing elevations within the fuel island and convenience store footprints. Fills up to 6 ft are also planned within pavement areas. Engineered fill should be placed from a suitable native subgrade as recommended in Section 5.2 of this report.

The native subgrade soil on the site is generally expected to provide adequate support for foundations, slabs and pavements, with the exception of the very loose granular soils encountered within the upper 2 to 5 ft in Borings B-102, B-104, B-106, B-107 and B-108. Some improvement of very loose native soils should be expected during construction. In addition, Borings B-2, B-105, B-112 and B-114 encountered undocumented fill to depths of 3 to 5 ft. Undocumented fill likely exists in other areas of the project site due to previous demolition of structures. Over-excavation to remove existing undocumented fill should be performed prior to placing new engineered fill or constructing foundations, floor slabs and pavements. Remediation of unsuitable subgrade soil is addressed in Section 5.2.

5.1 Foundations

A conventional shallow continuous and spread foundation system is recommended for support of the proposed structures. It is important that the recommendations of this report, in particular those pertaining to subgrade preparation, construction observation and testing, be implemented during design and construction.



The following parameters are recommended for foundation design:

Table 5.1.1 - Foundation Design Parameters

Bearing pressure for square or rectangular foundations, maximum net allowable	3,000 psf
Bearing pressure for continuous foundations, maximum net allowable	3,000 psf
Minimum width of square or rectangular foundations	24 inches
Minimum width of continuous foundations	18 inches
Minimum embedment depth for frost protection	42 inches

Foundations are expected to bear on the native loose to medium dense granular soil or very stiff lean clay as encountered in the borings or on approved engineered fill. Subgrade preparation recommendations are contained in the following section.

Foundation recommendations presented herein are based on a safety factor to resist bearing capacity failure of at least 3.0 and a maximum anticipated total foundation settlement of 1 inch or less.

5.2 Site and Subgrade Preparation

All topsoil, vegetation, roots and any other miscellaneous debris should be removed from within the proposed construction areas. The limits of the proposed construction area, prior to the placement of any structures or engineered fill material, should be proof-rolled and, where granular soil is present, compacted in the upper 12 inches using suitable compaction equipment to at least 95 percent of the soil's maximum ASTM D1557 dry density by the Contractor. Proof-rolling is defined as the passing of relatively heavy construction equipment over the soil subgrade under observation by the Geotechnical Engineer. The response of the soil, when subjected to the applied load, is subjectively evaluated by qualified geotechnical personnel with respect to its ability to support the overlying soil or structure. In areas where excessive deflection is observed, special subgrade preparation measures may be recommended to provide an acceptable subgrade condition. These measures may consist of compaction of the subgrade at moisture contents close to the optimum value, undercutting affected areas and replacing with engineered fill, use of a geotextile separation fabric or some combination of these measures. Subgrade improvement is likely to be required where





undocumented fill and soft or loose surficial soil has been encountered (Borings B-2, B-102, B-104, B-105, B-106, B-107, B-108, B-112 and B-114).

Due to the very loose granular soils and undocumented fill encountered within the upper 2 to 5 ft in Borings B-2, B-102, B-104, B-105, B-106, B-107, B-108, B-112 and B-114, it is expected that some form of subgrade improvement will be required within portions of the canopy and building areas to provide suitable foundation bearing conditions. Variations between borings may exist that could necessitate subgrade improvements beyond these areas. Subgrade improvement may include, but not be necessarily limited to, densification of existing soil in-place or excavation of all unsuitable material to an approved subgrade and replacement with engineered fill. If overexcavation is selected, it should encompass soil within the stress influence region of the foundation, defined as a region bordered by 2V:1H planes extending down and away from the bottom edge of the foundation to the approved bearing stratum.

The foundation subgrade should be inspected and tested by qualified geotechnical personnel. As part of the inspection and testing, the subgrade at each individual bearing element should be verified to be consistent with the conditions encountered in this investigation and the indicated recommended allowable bearing pressures. This testing should include the verification of acceptable unconfined compressive strengths in cohesive soil and a dynamic cone penetrometer (ASTM STP399) to verify minimum relative densities and equivalent N-values in granular soil. Care should be taken to maintain the natural moisture content of clayey subgrade soil which may become soft when saturated from rainfall, etc.

Engineered fill is approved on-site or imported soil placed in uniform layers and compacted to a minimum required density. Generally, on-site soil with group symbols of SP, SP-SC or SP-SM are expected to be suitable for engineered fill. Cohesive and fine-grained soils may be used as engineered fill; however, due to the need for moisture contents during compaction to be within a relatively narrow range, they are relatively difficult to compact especially in wet or cold weather. Imported engineered fill should meet the requirements for MDOT Class II granular material. MDOT Class II soil or approved on-site soil meeting the requirements of SP or SP-SM should be used as backfill against below-grade walls and foundations.





Granular engineered fill and backfill should be compacted to at least 95 percent of the soil's maximum dry density as determined by the Modified Proctor test (ASTM D1557). Vibratory compaction methods are typically found to be most effective in granular soils; however, relatively light equipment should be used adjacent to retaining or basement walls to avoid overstressing the walls. Engineered fill composed of primarily clay soil should be compacted to least 95 percent of the maximum Standard Proctor dry density (ASTM D698). Moisture contents during compaction should be within ±2 percent of the soil's optimum moisture content. Sheepsfoot type compactors with a kneading form of compaction are typically found to be most effective in cohesive soil.

The fill should be placed and compacted in horizontal layers not exceeding 9 inches. Field density tests should be taken on each lift, as the fill is being placed, to verify compliance with compaction specifications.

If the earthwork takes place during winter months, fill must not be placed on frozen ground and fill with frozen conglomerations of soil must not be used.

Existing structures are present on the project site. Demolition of existing structures should include the complete removal of all foundations, floor slabs, pavements and associated debris. Following demolition, excavations should be backfilled with engineered fill as recommended in this report. Because the site has been previously developed, there may be buried items not encountered in our borings, such as a septic tank, well, or utility conduit, which may cause settlement problems. The contract documents should reflect that it is necessary to remove or relocate such structures and to fill the excavation with engineered fill.

5.3 Groundwater

Groundwater was encountered in Borings B-2, B-5, B-10, B-101 through B-111 and B-113 at depths ranging from 8.5 to 17.2 ft (els 771.7 to 778.9). Groundwater was encountered substantially below the anticipated excavation depth for foundations, however, excavations for fuel storage tanks may extend to a depth close to the encountered groundwater levels. Suitable control of groundwater should be anticipated and planned for accordingly before the start of construction. The contractor should be responsible for selecting and implementing an appropriate groundwater control system. The contractor should have previous dewatering





experience on sites with similar conditions. Suitable silt and sediment traps should be incorporated into the dewatering system.

5.4 Slopes and Temporary Excavations

The owner and the contractor should make themselves aware of and become familiar with applicable local, state, and federal safety regulations, including current OSHA excavation and trench safety standards. Construction site safety generally is the sole responsibility of the contractor. The contractor shall also be solely responsible for the means, methods, techniques, sequences and operations of construction operations. We are providing the following information solely as a service on this project and, under no circumstances, should our provision of the following information be construed to mean that we are assuming responsibility for construction site safety or the contractor's activities; such responsibility is not implied and should not be inferred.

The Contractor should be aware that slope height, slope inclination, and excavation depths (including utility trench excavations) should in no case exceed those specified in local, state, or federal safety regulations; e.g., OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926, or successor regulations. For this site, the overburden soil encountered in our exploratory program is primarily granular soil. We anticipate that OSHA will classify these materials as Type C. OSHA recommends a maximum slope inclination of 1½H:1V for Type C soil under ideal conditions. If any excavation, including a utility trench, is extended to a depth of more than 20 ft, OSHA requires that the side slopes of such excavation be designed by a professional engineer registered in the State of Michigan.

5.5 Concrete Floor Slabs and Rigid Pavements

Subgrade preparation in floor slab areas should be as described in the "Site and Subgrade Preparation" section of this report. For design of the concrete floor slabs and rigid pavements supported on-grade, a modulus of subgrade reaction value, K_{30} , of 100 psi/inch is recommended. We recommend placement of at least 4 inches of MDOT Class II fill directly beneath the floor slab. Design of concrete slabs should be in accord with ACI and the applicable building code recognized design guidelines. If a vapor sensitive covering will be placed over the floor slab or the slab will be in a humidity-controlled area, a vapor



retarder/barrier is recommended following ACI 302.1R-15 guidelines and the floor covering manufacturer's guidelines.

Where rigid pavements will be constructed, a minimum concrete thickness of 6 inches is recommended. A plain jointed (unreinforced) concrete pavement with proper spacing of control joints is recommended. Load transfer devices (dowel bars) are not expected to be necessary given the expected axle loadings from primarily passenger vehicles and occasional deliveries. A minimum 6-in base of MDOT Class II sand should be placed underneath the concrete. The concrete strength should be designed for a minimum modulus of rupture, S'c, of 600 psi and the concrete should be air entrained. The pavement should be properly jointed (sawcut) with the joints sealed. A jointing plan should be prepared as part of the design. Typically, joints are placed every 12 to 15 ft with the sawcut extending approximately 1/4 of the pavement depth.

5.6 Flexible Pavement

Subgrade preparation in pavement areas should be as described in the "Site and Subgrade Preparation" section of this report. The following flexible pavement sections are recommended:

Table 5.6.1 - Flexible Pavement Section

Traffic Condition	Standard Duty	Heavy Duty
Sand subbase thickness, inches	10	12
Aggregate base thickness, inches	6	8
Bituminous leveling course thickness, inches	2.0	2.5
Bituminous wearing course thickness, inches	1.5	1.5

The following materials are recommended:

Table 5.6.2 - Flexible Pavement Materials

Sand subbase	MDOT Class II granular
Aggregate base	MDOT 21AA Natural Aggregate
Bituminous leveling	MDOT 13A
Bituminous wearing	MDOT 36A
Binder grade	PG 58-28







Sand subbase material should be laboratory tested to confirm MDOT Class II grading requirement. MDOT standard specifications for materials and placement should be observed. We recommend a maximum of 17 percent recycled asphalt pavement (RAP), measured as a percent of asphalt replacement, be utilized in HMA mixes. Air voids should be field regressed to 3.5 percent using liquid asphalt cement.

A natural aggregate base product, often consisting of crushed limestone, is recommended relative to crushed concrete aggregate base products considering the long-term performance risk crushed concrete presents due to potential hydration of free cement and decreased permeability over time.

Construction procedures and workmanship are of key importance with respect to pavement appearance and long-term pavement performance. Key components of workmanship include appropriate joint construction resulting in sufficient density, prevention of segregation, and maintaining a minimum temperature during placement. At a minimum, the procedures outlined in Section 501 of the 2020 MDOT Specifications should be followed with respect to equipment, placement, and temperatures. Compaction of the asphalt courses should range between 92 and 96 percent of the Theoretical Maximum Density (TMD) based on MDOT requirements.

It is recommended that cracks that may develop in the pavement be quickly and properly sealed through a regular maintenance program. Also, the subgrade should be sufficiently sloped to provide drainage within the sand subbase and underdrains should be provided within the subbase, at catch basins and pavement edges, to facilitate drainage. At each catch basin, four underdrains with a watertight connection should extend out radially at least 20 ft. A suitable rubberized asphalt sealant should be placed between all concrete curb/HMA joints immediately after paving.

5.7 MBC Seismic Considerations

The seismic design category can be determined with noted exceptions following Section 1613 of the 2015 Michigan Building Code. The Risk Category under Section 1613.3.5 shall be determined by a licensed structural engineer. Based on the subsurface conditions identified in the soil borings, our experience with the geological conditions in the site vicinity and the



procedures outlined in Section 1613 of the 2015 Michigan Building Code and Chapter 20, Table 20.3-1 of ASCE 7, we recommend assigning a Site Class D to this site. A Site Class D designates a stiff soil profile in the upper 100 ft with average SPT uncorrected N-values between 15 and 50 in granular soil and average undrained shear strengths, s_u, between 1,000 and 2,000 psf in cohesive soil. Recommended seismic ground motion values are provided in Table 5.7.1.

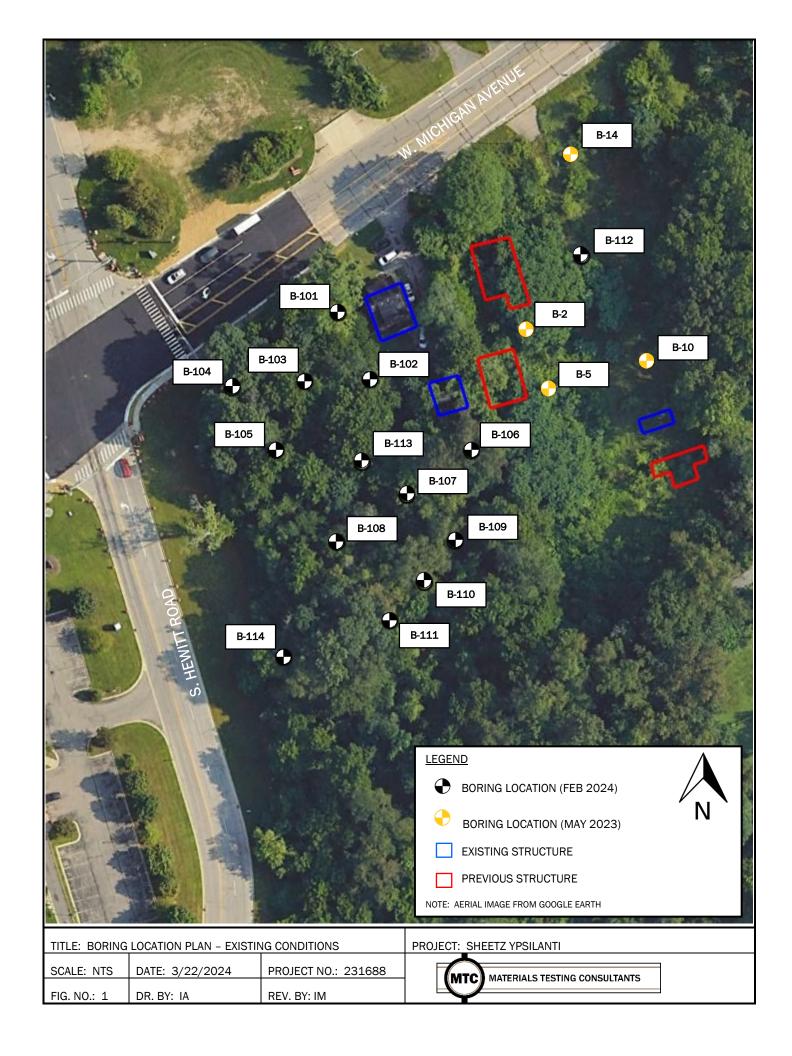
Table 5.7.1 - Recommended Seismic Ground Motion Values

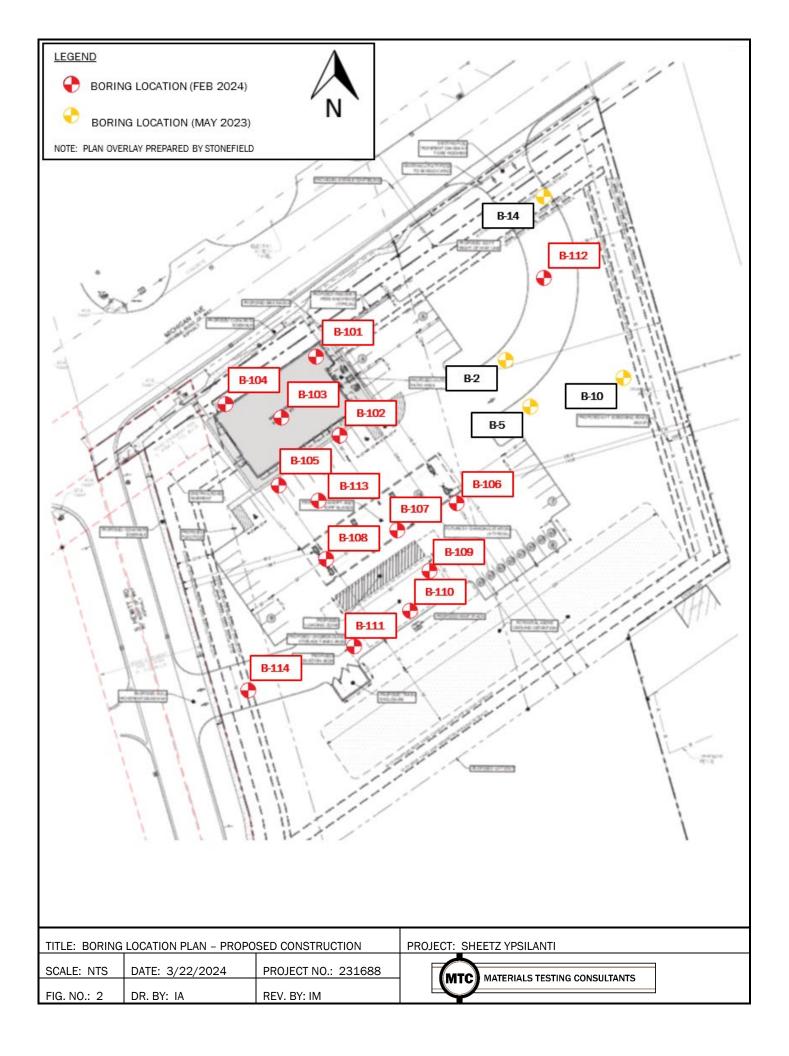
Table 6.7.12 Recommended Colomic Greate Western Value									
2015 Michigan Building Code Values	Short Period (0.2 sec)	Long Period (1 sec)							
Spectral Response Acceleration, Figure 1613.3.1 (1 and 2), %g	S _s = 10	S _I = 5							
Seismic Site Coefficient, Table 1613.3.3 (1 and 2)	F _a = 1.6	$F_v = 2.4$							
Maximum Considered Spectral Response Acceleration, Equations 16-37 and 16-38	S _{MS} = 0.160g	S _{MI} = 0.120g							
5% Damped Spectral Response Acceleration, Equations 16-39 and 16-40	S _{DS} = 0.107g	S _{DI} = 0.080g							

6.0 CLOSURE

In this report, descriptions of the geotechnical investigation, encountered conditions and recommendations for the design of foundations and earth-related structures have been provided. The limitations of this study are described in the Appendix.

The recommendations presented in this report are based upon a limited number of subsurface samples obtained from various sampling locations. The samples may not fully indicate the nature and extent of the variations that actually exist between sampling locations. For that reason, among others, we strongly recommend that a qualified geotechnical firm be retained to observe earthwork construction. If variations or other latent conditions become evident during construction, it will be necessary for us to review these conditions and our recommendations as appropriate.







APPENDIX

- Limitations
- Test Drilling and Sampling Procedures
- Boring Log Terminology and Classification Outline
- Boring Logs
- Summary of Laboratory Test Data
- Summary Letter of Infiltration Testing

LIMITATIONS



Soil Variations

The recommendations in this report are based upon the data obtained from the soil borings. This report does not reflect variations which may occur between these borings, and which would not become evident until construction. If variations then become evident, it would be necessary for a re-evaluation of recommendations of this report, after performing on-site observations.

Warranties

We have prepared this report in accordance with generally accepted soil and foundation engineering practices. We make no other warranties, either expressed or implied, as to the professional advice provided under the terms of our agreement and included in this report. This report is prepared exclusively for our client and may not be relied upon by other parties without written consent from our office.

Boring Logs

In the process of obtaining and testing samples and preparing this report, we follow reasonable and accepted practice in the field of soil engineering. Field logs maintained during drilling describe field occurrences, sampling locations, and other information. The samples obtained in the field are subjected to additional testing in the laboratory and differences may exist between the field logs and the final logs. The engineer reviews the field logs and laboratory test data, and then prepares the final boring logs. Our recommendations are based on the contents of the final logs.

Review of Design Plans and Specifications

In the event that any changes in the design of the building or the location, however slight, are planned, our recommendations shall not be considered valid unless modified or approved in writing by our office. We recommend that we be provided the opportunity to review the final design and specifications in order to determine whether changes in the original concept may have affected the validity of our recommendations, and whether our recommendations have, in fact, been implemented in the design and specifications.



TEST DRILLING AND SAMPLING PROCEDURES

Test [<u> Drilling Methods:</u>
X	Hollow stem auger, ASTM D6151
	Mud rotary, ASTM D5783
	_ Casing advancer, ASTM D5872
	_ Rock coring, ASTM D2113
	_ Core/Hand Auger
provid proce CPT I	Cone penetration test data can be used to interpret subsurface stratigraphy and can de data on engineering properties of soils. The ASTM procedure does not include a edure for determining soil classification from CPT testing. Soil classifications shown on logs are based on published procedures and are not based on physical ASTM soil ification tests.
Samr	oling Methods:
-	SPT, ASTM D1586, Auto hammer (140 lb., 30" drop, 2" OD split spoon sampler) Thin-walled tube sampler (Shelby), ASTM D1587
seatir densi	The number of hammer blows required to drive the SPT sampler 12 inches, aftering 6 inches, is termed the soil N-value and provides an indication of the soil's relative ty and strength parameters at the sample location. SPT blow counts in 6 inchements are recorded on the boring logs.
<u>Drill F</u>	Rig:
	CME 55 (ATV)
X	Acker Renegade (ATV)
	CME 45 Truck
X	Geoprobe 7822 (ATV)
	Geoprobe Rotary Sonic
	noles Backfilled With:
X	_ Excavated soil
	Cement bentonite grout
	Piezometer or Monitoring Well (see notes on logs)
	_ Concrete or asphalt patch where appropriate
Samp	ole Handling and Disposition:
X	_ Samples labeled, placed in jars, returned to MTC Laboratory
X	_ Discard after 60 days



BORING LOG TERMINOLOGY AND ASTM D 2488 CLASSIFICATION OUTLINE

MAJOR DIVISIONS

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE-GRAINED SOILS (major portions retained on No. 200 sieve): includes (1) clean gravel and sands and (2) silty or clayey gravels and sands. Condition is rated according to relative density as determined by laboratory tests or standard penetration resistance tests.

Descriptive Terms	Relative Density	SPT Blow Count
Very loose	0 to 15 %	< 5
Loose	15 to 35 %	5 to 10
Medium dense	35 to 65 %	10 to 30
Dense	65 to 85 %	30 to 50
Very dense	85 to 100 %	> 50

Per ASTM D2487, the following conditions must be met based on laboratory testing to justify the label 'well graded' in a soil describition.

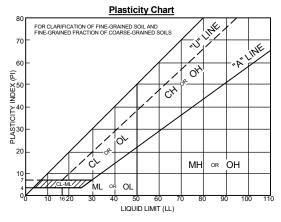
Gravel:
$$C_0 = \frac{D_{60}}{D_{10}}$$
 greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3

Sand:
$$C_{_{U}} = \frac{D_{_{60}}}{D_{_{10}}}$$
 greater than 6; $C_{_{C}} = \frac{(D_{_{30}})^2}{D_{_{10}} \times D_{_{60}}}$ between 1 and 3

FINE-GRAINED SOILS (major portions passing on No. 200 sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings, SPT blow count, or unconfined compression tests.

Unconfined Compressive

Descriptive Terms	Strength TSF	SPT Blow Count
Very soft	< 0.25	< 2
Soft	0.25 to 0.5	2 to 4
Medium stiff	0.5 to 1.0	4 to 8
Stiff	1.0 to 2.0	8 to 15
Very stiff	2.0 to 4.0	15 to 30
Hard	> 4.0	> 30



			CLEAN GRAVELS	GW		OR WITHOUT SAND
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE	0 SIEVE	GRAVELS MORE THAN HALF COARSE	WITH LESS THAN 15% FINES	GP		POORLY-GRADED GRAVELS WITH OR WITHOUT SAND
	JILS AN NO. 20	FRACTION IS LARGER THAN NO. 4 SIEVE	GRAVELS WITH 15%	GM		SILTY GRAVELS WITH OR WITHOUT SAND
	AINED SC RSER TH		OR MORE FINES	GC		CLAYEY GRAVELS WITH OR WITHOUT SAND
	COARSE-GRAINED SOILS IALF IS COARSER THAN N	SANDS	CLEAN	SW		WELL-GRADED SANDS WITH OR WITHOUT GRAVEL
	CO THAN HAI	MORE THAN HALF COARSE	SANDS WITH LESS THAN 15% FINES	SP		POORLY-GRADED SANDS WITH OR WITHOUT GRAVEL
	MORE	FRACTION IS FINER THAN NO. 4 SIEVE SIZE		SP-SM		POORLY-GRADED SANDS WITH SILT WITH OR WITHOUT GRAVEL
		5.22	SANDS WITH 15% OR MORE FINES	SM		SILTY SANDS WITH OR WITHOUT GRAVEL
\setminus			MORET INES	SC		CLAYEY SANDS WITH OR WITHOUT GRAVEL
	200 SIEVE			ML		INORGANIC SILTS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
	S NO. 200 8	SILTS AN	ID CLAYS 50% OR LESS	CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO.	NED SOIL: IER THAN			OL		ORGANIC SILTS OR CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
			МН		INORGANIC SILTS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL	
	SILTS AN LIQUID LIMI THAN		СН		INORGANIC CLAYS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL	
	MORI			ОН		ORGANIC SILTS OR CLAYS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL
	Н	IIGHLY ORGANI	C SOILS	PT/OL	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	PEAT AND OTHER HIGHLY ORGANIC SOILS

GENERAL NOTES

- Classifications are based on the United Soil Classification System and include consistency, moisture, and color. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate.
- 2. "Grades with" or "Grades without" may be used to describe soil when characteristics vary within a stratum.
- 3. Preserved soil samples will be discarded after 60 days unless alternate arrangements have been made.

GROUNDWATER OBSERVATIONS:

<u>During</u> - indicates water level encountered during the boring <u>End</u>- indicates water level immediately after drilling Date and Depth - Measurements at indicated date

SAMPLE TYPES AND NUMBERING

	X	s	SPT, split barrel sample, ASTM D1586				
		U	Shelby tube sample, ASTM D1587				
		R	Rock core run				
Γ		*s	Other than 2" split barrel sample				
l		L	SPT with liner, ASTM D1586				
l		Α	Auger cuttings				
L		G	Geoprobe liner				

MINOR COMPONENT QUANTIFYING TERMS

TYPICAL NAMES

WELL-GRADED GRAVELS WITH

Less than 5%	TRACE
5 to 10%	FEW
15 to 25%	LITTLE
30 to 40%	SOME
50 to 100%	MOSTLY

GRAIN SIZE						
BOULDER	>12"					
COBBLE	12" to 3"					
COARSE GRAVEL	3" to 0.75"					
FINE GRAVEL	0.75" to No. 4					
COARSE SAND	No. 4 to No. 10					
MEDIUM SAND	No. 10 to No.40					
FINE SAND	No. 40 to No. 200					



Project No.: 231242 Boring No.: B-2

Date End: 05/11/2023

Sheet: 1 of 1

Project: 2103 West Michigan Avenue - GEO

Client: Casto

Location: Ypsilanti, Michigan Drill Type: Geoprobe 7822

Crew Chief: MS Field Eng.: IA Rev. By: IM
Coordinates: N=266324.7 E=13319621.4 (MI South ift)
Elevation: 787.0 ft Datum: NAVD 88 (GPS Observation)

Notes:

Plugging Record: Backfilled borehole with compacted cuttings. Cave in at

Dia. Groundwater, ft. Tooling Type Casing Auger 4 1/2" During 13 Sampler Split Spoon 2" End 15 Core Seepage

Date Begin: 05/11/2023

i luggi	15.5 ft. Depth Drilled: 20.0 ft.										
Compo	nent P	ercentages	s: Trace	< 5%, Few 5-10%	6, Little 15	5-25%	, Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
Elev.			Recov.	Penetration	*USCS			QP	MST	חח	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	tsf	WS1	DD pcf	REMARKS
				ASTM D 1586	Symbol	-A /			70	рсі	F:::: 0 014- F 01
786.0	1	S-1	1.5	2-2-3			3" Clayey Topsoil	1			Fill: 0.0' to 5.0'
785.0	2			N=5			Brown lean CLAY; mostly clayey fines, moist, Fill with roots and brick chips				
784.0	3				CL		moist, i iii with roots and brick omps				
783.0	4										
782.0	5	S-2	1.5	3-4-5 N=9			5.0				
781.0	6			11-9		/////	Brown poorly graded SAND; mostly	1			
780.0	7						medium to fine sand, moist				
	— i	S-3	1.5	3-3-3							
779.0	8		1.0	N=6							
778.0	9	S 4	1 =	4-4-4							
777.0	10	S-4	1.5	N=8							
776.0	11										
775.0	12										
774.0	13				SP						
773.0	14						Grades wet at 13'				
772.0	15	S-5	1.5	7-11-14 N=25							
771.0	16			14 20							
770.0	17										
769.0	18										
768.0	19	S-6	1.5	6-10-20							
767.0	20	0-0	1.5	N=30			20.0 End of Boring				
							End of Borning				
	1 1										

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231242 Boring No.: B-5

Sheet: 1 of 1

Project: 2103 West Michigan Avenue - GEO

Client:

Location: Ypsilanti, Michigan Drill Type: Geoprobe 7822

Crew Chief: MS Field Eng.: IA Rev. By: IM Coordinates: N=266279.2 E=13319639.2 (MI South ift) Elevation: 785.1 ft Datum: NAVD 88 (GPS Observation)

Notes:

Date Begin: 05/11/2023 Date End: 05/11/2023							
Tooling	Type	Dia.	Groundwater, ft.				
Casing	Auger	4 1/2"	During	13			
Sampler	Split Spoon	2"	End	13			
Core			Seepage				
Tube			Date	Depth, ft.			
SPT Hammer							

Fluggi	ng Ke		0 ft.	porenoie with c	ompacie	u culi	Depth Drilled: 19.0 ft.				
						5-25%	, Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
Elev.		Sample	Recov.	Penetration	*USCS			QP	MST	DD	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	tsf	W	pcf	REMARKS
				ASTM D 1586	Symbol	`^\ 1 _{y.`} .	6" Clayey Topsoil0.5		/*	Poi	
784.1	1	S-1	1.5	1-1-3 N=4			Brown lean CLAY with sand; mostly clayey	1			
783.1	2				CL		fines, little medium to fine sand, moist				
782.1	3										
781.1	4		4.5	2-2-2			4.0	1			
780.1	5	S-2	1.5	N=4			Brown poorly graded SAND; mostly medium to fine sand, trace silty fines, moist				
779.1	6						modiam to line dana, trade only imod, molet				
778.1	7	₹		6-8-11							
777.1	8	S-3	1.5	N=19							
776.1	9			5-8-10							
775.1	10	S-4	1.5	N=18							
774.1	11										
773.1	12				SP						
772.1	13										
771.1	14			7 0 10			Grades wet at 13'				
770.1	15	S-5	1.5	7-8-10 N=18							
769.1	16										
768.1	17										
767.1	18										
766.1	19	S-6	0.5	3/6"			19.0				
			0.0	0/0			End of Boring				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231242
Boring No.: B-10
Sheet: 1 of 1

Project: 2103 West Michigan Avenue - GEO

Client: Casto

Location: Ypsilanti, Michigan Drill Type: Geoprobe 7822

Crew Chief: MS Field Eng.: IA Rev. By: IM
Coordinates: N=266301.6 E=13319715.9 (MI South ift)
Elevation: 781.7 ft Datum: NAVD 88 (GPS Observation)

Notes:

Plugging Record: Backfilled borehole with compacted cuttings. Cave in at 5.5

Date Begin: 05/11/2023 Date End: 05/11/2023

Tooling	Туре	Dia.	Groundwater, ft.			
Casing	Auger	4 1/2"	During	8.5		
Sampler	Split Spoon	2"	End	N/A		
Core			Seepage			
Tube		·	Date	Depth, ft.		
SPT Hammer						

		ft.					Depth Drilled: 10.0 ft.				
						5-25%	, Some 30-45%, Mostly 50-100%		QP:	= Calib	rated Penetrometer (tons/sq. f
Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6") ASTM D 1586	*USCS Group Symbol		*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
700 7	1			1-1-10	Symbol	`\\ 1 _% .	6" Clayey Topsoil0.5			· ·	
780.7	1	S-1	1.5	N=11			Brown lean CLAY; mostly clayey fines,				
79.7	2						moist				
78.7	3				CL						
77.7	4			3-4-4	CL						
76.7	5	S-2	1.5	N=8							
75.7	6						6.0				
74.7	7			3-3-3			Brown poorly graded SAND; mostly				
73.7	8	S-3	1.5	N=6	SP		medium to fine sand, trace silty fines, moist				
72.7	9			2.4.0	J.		Grades wet at 8.5'				
71.7	10	S-4	1.5	3-4-6 N=10			10.0				
				11 10			End of Boring				
		1									

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Date Begin: 05/11/2023

Project No.: 231242
Boring No.: B-14

Date End: 05/11/2023

Sheet: 1 of 1

Project: 2103 West Michigan Avenue - GEO

Client: Casto

Location: Ypsilanti, Michigan Drill Type: Geoprobe 7822

Crew Chief: MS Field Eng.: IA Rev. By:IM

Coordinates: N=266461 E=13319654 (MI South ift)

Elevation: 786.9 ft Datum: NAVD 88 (GPS Observation)

Notes:

ging Record: Backfilled borehole with compacted cuttings. Cave in at 5.0

Dia. Groundwater, ft. Tooling Type Casing Auger 4 1/2" During None N/A Sampler Split Spoon 2" End Core Seepage

 Sampler
 Split Spoon
 2"
 End
 N/A

 Core
 Seepage

 Tube
 Date
 Depth, ft.

 SPT Hammer
 Depth, ft.

Pluaai	ugging Record: Backfilled borehole with compacted cuttings. Cave in at 5.0										
. laggi		ft.	ominou i	SCI CITCIO WITH O	ompaoto	Depth Drilled: 10.0 ft.					
Compo	Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100% QP = Calibrated Penetrometer (tons/sq. ft.)										
Elev.	Depth	Sample	Recov.	Penetration	*USCS						
FT.	FT.	Number	FT.	(Blows Per 6")	Group	*DESCRIPTION	QP	MST	DD	REMARKS	
				ASTM D 1586	Symbol		tsf	%	pcf		
785.9	1	S-1	1.0	1-2-3		6" Topsoil 0.5	-			S-1: Poor recovery;	
784.9	2	3-1	1.0	N=5		Brown lean CLAY; mostly clayey fines, few medium to fine sand. moist				possible coarse gravel / COBBLE	
783.9	3				CL	medium to fine sand, moist					
782.9	4			4-8-12		4.0					
781.9	5	S-2	1.5	N=20		Brown lean CLAY; mostly clayey fines,					

moist 780.9 6 779.9 10-15-20 7 S-3 1.5 CL N=35 778.9 8 777.9 9 6-14-22 S-4 1.5 10 776.9 N=36 10.0 End of Boring

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688
Boring No.: B-101
Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold
Location: Ypsilanti, Michigan
Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM
Coordinates: N=266327.6 E=13319473.7 (MI South ift)
Elevation: 790.4 ft Datum: NAVD 88 (GPS Observation)

Notes:

Date Begin:0)2/28/2024	Date End: (02/28/2024			
Tooling	Type	Dia.	Groundwater, ft.			
Casing	HSA	4 1/4"	During	15.0		
Sampler	SPT	2"	End	15.0		
Core			Delayed Gr	oundwater, ft.		
Tube			Date	Depth, ft.		
SPT Hammer	Auto					

Pluggii	ng Re	cord: Bad 15.	ckfilled i 8 ft.	borehole with c	ompacte	d cutt	ings. Cave in at Depth Drilled: 20.0 ft.				<u> </u>
Compo	nent P			< 5%, Few 5-10%	%, Little 1	5-25%,	Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
Elev.	Depth	Sample	Recov.	Penetration	*USCS			65			
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	QP	MST	DD	REMARKS
				ASTM D 1586	Symbol	. A 1. · .I		tsf	%	pcf	
789.4	1	S-1	1.5	2-4-6 N=10			4" Clayey Topsoil	2.0	21.0		
788.4	2			N-10			Brown lean CLAY; mostly clayey fines, moist				
787.4	3				CL						
786.4	4			10-12-14	"-				47.0		
785.4	5	S-2	1.5	N=26				2.5	17.0		
784.4	6					////	Light brown poorly graded SAND; mostly	1			
783.4	7	S-3	1.5	5-11-12			medium to fine sand, trace silty fines, moist				
782.4	8	3-3	1.5	N=23			•				
781.4	9										
780.4	10	S-4	1.5	11-12-13 N=25							
779.4	11			14-25							
778.4	12										
777.4	13				SP						
776.4	14				35						
775.4	15	S-5	1.5	7-8-10 N=18							
774.4	16			IN-10			Grades wet at 15'				
773.4	17										
772.4	18										
771.4	19										
770.4	20	S-6	1.5	10-10-11 N=21			20.0				
770.1	20			IN-21			End of Boring				
							Č				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688
Boring No.: B-102
Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold
Location: Ypsilanti, Michigan
Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM
Coordinates: N=266258.9 E=13319492.4 (MI South ift)
Elevation: 788.9 ft Datum: NAVD 88 (GPS Observation)

Notes:

Plugging Record: Backfilled borehole with compacted cuttings. Cave in at

Date Begin:0	2/28/2024	Date End: 02/28/2024				
Tooling	Туре	Dia.	Groundwater, ft.			
Casing	HSA	4 1/4"	During	12.0		
Sampler	SPT	2"	End	17.2		
Core			Delayed Gr	oundwater, ft.		
Tube			Date	Depth, ft.		

Auto

SPT Hammer

ı luggi	18.0 ft. Depth Drilled: 20.0 ft.										
Compo	nent P				6, Little 15	5-25%,	Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
Elev.			Recov.	Penetration	*USCS			QP	MST	DD	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	tsf	WS1	pcf	REMARKS
				ASTM D 1586	Symbol	`.	√4" Clavey Topsoil / 0.3		/0	ры	Occasional roots from 0' to
787.9	1	S-1	0.6	2-2-2 N=4			(]			7'
786.9	2			11-4	SC		Brown poorly graded SAND with clay; mostly coarse to fine sand, little clayey				S-1: Poor recovery;
785.9	3						fines, moist				possible coarse gravel / COBBLE
784.9	4			4-3-2			4.0				
783.9	5	S-2	1.5	N=5			Brown poorly graded SAND; mostly				
782.9	6						medium to fine sand, trace silty fines, moist				
781.9	7	S-3	1.5	4-6-7							
780.9	8	0-3	1.5	N=13							
779.9	9										
778.9	10	S-4	1.5	8-6-10 N=16							
777.9	11			14.10							
776.9	12										
775.9	13				SP		Grades wet at 12'				
774.9	14										
773.9	15	S-5	1.5	7-9-10 N=19							
772.9	16			N-19							
771.9	17										
770.9	18										
769.9	19										
768.9	20	S-6	1.5	7-11-11			20.0				
100.9	20			N=22		21.11.1	20.0 End of Boring				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-103 Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266277.6 E=13319443.0 (MI South ift) Elevation: 786.7 ft Datum: NAVD 88 (GPS Observation)

Notes:

Date Begin:0	2/28/2024	Date End: 02/28/2024				
Tooling	Туре	Dia.	Groundwater, ft.			
Casing	HSA	4 1/4"	During	12.0		
Sampler	SPT	2"	End	11.5*		
Core			Delayed Gr	oundwater, ft.		
Tube			Date	Depth, ft.		
SPT Hammer	Auto					

i luggi	ng rte		0 ft.	oorenole with c	ompacie	a Guit	Depth Drilled: 35.0 ft.				
				< 5%, Few 5-10%	6, Little 15	-25%,	, Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
		Sample	Recov.	Penetration	*USCS			QP	MST	DD	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	tsf	%	pcf	REMARKS
705.7				ASTM D 1586 1-2-3	Symbol	1/2	\4" Clayey Topsoil /_0.3/			P = -	Occasional roots from 0' to
785.7	2	S-1	1.5	N=5			Brown clayey SAND; mostly coarse to fine				10'
784.7					SC		sand, some clayey fines, moist				
783.7	3						3.0 Brown poorly graded SAND with silt; mostly				
782.7	4	S-2	1.5	3-3-4	SP-SM		coarse to fine sand, few silty fines, moist				
781.7	5	0-2	1.5	N=7			5.5				
780.7	6			0.00			Light brown to brown poorly graded SAND;				
779.7	7	S-3	1.5	3-3-3 N=6			mostly coarse to fine sand, trace silty fines, moist				
778.7	8			0			molec				
777.7	9	S-4	1.5	3-3-3							
776.7	10	3-4	1.5	N=6							
775.7	11										
774.7	12										
773.7	13						Grades wet at 12'				
772.7	14	٠.	4.5	5-6-9	SP						
771.7	15	S-5	1.5	N=15	J.						Charged augus with water
770.7	16										Charged augers with water at 15'
769.7	17										*End water level may be
768.7	18						Grades gray at 17'				influenced by charged augers
767.7	19			5-11-15							, and the second
766.7	20	S-6	1.5	N=26							
765.7	21										
764.7	22										
763.7	23						23.0				
762.7	24			5-10-12			Gray silty SAND; mostly fine sand, little silty fines, wet				
761.7	25	S-7	1.5	N=22			inies, wet				
760.7	26										
759.7	27										
758.7	28										
757.7	29			5-7-10	SM						
756.7	30	S-8	1.5	N=17	O IVI						
755.7	31										
754.7	32										
753.7	33										
752.7	34			5-10-15							
751.7	35	S-9	1.5	N=25			35.0				
							End of Boring				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-104 Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266290.5 E=13319403.0 (MI South ift) Elevation: 790.1 ft Datum: NAVD 88 (GPS Observation)

Notes:

Plugging Record: Backfilled borehole with compacted cuttings. Cave in at 12.0 ft.

Date Begin:0	2/28/2024	Date End: 02/28/2024					
Tooling	Type	Dia.	Dia. Groundwate				
Casing	HSA	4 1/4"	During	12.0			
Sampler	SPT	2"	End	NA			
Core			Delayed Gr	oundwater, ft.			
Tube			Date	Depth, ft.			
SPT Hammer	Auto						

Depth Drilled: 20.0 ft

00		12.	0 ft.		•		Depth Drilled: 20.0 ft.				
Compo	onent P	ercentages	s: Trace	< 5%, Few 5-10%	6, Little 15	5-25%	, Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
Elev.	Depth	Sample	Recov.	Penetration	*USCS			65	MOT		
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	QP	MST	DD	REMARKS
		_		ASTM D 1586	Symbol			tsf	%	pcf	
789.1	1	S-1	1.4	2-2-2			4" Clayey Topsoil0.3	1			Occasional roots from 0' to 8'
788.1	2			N=4			Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines,				
787.1	3				SP-SC		trace fine gravel, moist				
786.1	4				36-30		-				
785.1	5	S-2	1.5	3-2-5 N=7							
784.1	6			'' '			5.5	1			
783.1	7	7	l	4-4-4	SP		Brown poorly graded SAND; mostly medium to fine sand, trace silty fines, moist				
782.1	8	S-3	1.5	N=8	5P		, , ,				
	9						8.0 Brown poorly graded SAND; mostly coarse	1			
781.1	1	S-4	1.5	4-3-3			to fine sand, moist				
780.1	10	J - -		N=6							
779.1	11										
778.1	12										
777.1	13						Grades wet at 12'				
776.1	14			2-4-6	SP						
775.1	15	S-5	1.5	N=10	01						
774.1	16										Charged augers with water at 15'
773.1	17										ै End water level may be
772.1	18										influenced by charging
771.1	19										augers
770.1	20	S-6	1.5	9-12-14 N=26			20.0				
770.1	20			IN-20			End of Boring				
							9				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-105

Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266222.7 E=13319440.9 (MI South ift) Elevation: 786.2 ft Datum: NAVD 88 (GPS Observation)

Notes:

Date Begin: (02/09/2024	Date End: (02/09/2024	
Tooling	Type	Dia.	Ground	dwater, ft.
Casing	HSA	4 1/4"	During	9.5
Sampler	SPT	2"	End	11.5*
Core			Delayed Gr	oundwater, ft.
Tube			Date	Depth, ft.
SPT Hammer	Auto			

		12.	0 ft.				Depth Drilled: 20.0 ft.				
						5-25%	, Some 30-45%, Mostly 50-100%		QP:	= Calib	rated Penetrometer (tons/sq. ft.)
Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Penetration (Blows Per 6")	*USCS Group		*DESCRIPTION	QP	MST	DD	
FI.	F1.	Number	FI.	ASTM D 1586	Symbol		DESCRIPTION	tsf	%	pcf	REMARKS
785.2	1			WOH/12"-3-2	Суппоот		\2" Sandy Topsoil \0.2	 			WOH = Weight of Hammer
784.2		S-1	1.5	N=5	SP-SC		Dark brown poorly graded SAND with clay;				Fill: 0' to 3'
783.2	_				01 -00		mostly coarse to fine sand, few clayey fines, moist, Fill 3.0				
782.2		S-2	1.5	3-3-4			Light brown silty SAND; mostly fine sand, some silty fines, moist				
781.2		3-2	1.5	N=7	SM		come only most, most				
780.2				4.4.5							
779.2		S-3	1.5	4-4-5 N=9			7.0 Light brown poorly graded SAND; mostly	-			
778.2	-						medium to fine sand, trace silty fines, moist				
777.2 776.2		S-4	1.5	3-4-4							
775.2				N=8			Grades wet at 9.5'				
774.2											
773.2											
772.2					SP						
771.2		S-5	1.5	7-8-8 N=16			Grades gray at 14'				
770.2				11 10							Charged augers with water
769.2	_										at 15' *End water level may be
768.2											influenced by charging
767.2	19			0.40.40							augers
766.2	20	S-6	1.5	8-10-13 N=23			20.0				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-106 Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266209.5 E=13319588.9 (MI South ift) Elevation: 784.5 ft Datum: NAVD 88 (GPS Observation)

Notes:

Date Begin:0	2/09/2024	Date End:	02/09/2024	
Tooling	Туре	Dia.	Ground	dwater, ft.
Casing	HSA	4 1/4"	During	12.0
Sampler	SPT	2"	End	10.5*
Core			Delayed Gr	oundwater, ft.
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Fluggii	ig Ke		0 ft.	porenoie with d	ompacie	u Cull	Depth Drilled: 20.0 ft.				
Compo	nent P					-25%	, Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
	Depth	Sample	Recov.	Penetration	*USCS		*DECODIDE::	QP	MST	DD	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	tsf	%	pcf	REMARKS
700.5	_			ASTM D 1586 2-1-1	Symbol	د زیالت	√4" Sandy Topsoil /~_0.3/			F	Occasional roots from 0' to
783.5	1	S-1	1.5	N=2	SP-SC		Brown poorly graded SAND with clay;				8'
782.5	2				01 -00		mostly coarse to fine sand, few clayey fines, 2.5				
781.5	3						moist				
780.5	4		4.5	4-4-4	SP-SM		Brown poorly graded SAND with silt; mostly coarse to fine sand, few silty fines, moist				
779.5	5	S-2	1.5	N=8			5.5				
778.5	6						Light brown to brown poorly graded SAND;				
777.5	7	S-3	1.5	4-4-5			mostly coarse to fine sand, trace silty fines,				
776.5	8			N=9			moist				
775.5	9			3-4-6							
774.5	10	S-4	1.5	3-4-6 N=10							
773.5	11										
772.5	12										
771.5	13				SP		Grades wet at 12'				
770.5	14										
769.5	15	S-5	1.5	7-8-9 N=17							
768.5	16			14 17							Charged augers with water
767.5	17										at 15' *End water level may be
766.5	18										influenced by charging
765.5	19										augers
764.5	20	S-6	1.5	9-12-16 N=28			20.0				
701.0				IN-20			20.0				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 **Boring No.:** B-107 **Sheet:** 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold
Location: Ypsilanti, Michigan
Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM
Coordinates: N=266185.3 E=13319538.2 (MI South ift)
Elevation: 784.6 ft Datum: NAVD 88 (GPS Observation)

Notes:

Plugging Record: Backfilled borehole with compacted cuttings. Cave in at

11.5 ft

Date Begin: 02/09/2024 Date End: 02/09/2024 Dia. Groundwater, ft. Tooling Type Casing HSA 4 1/4" During 12.0 SPT 2" Sampler End 11.2 Delayed Groundwater, ft. Core Tube Date Depth, ft. SPT Hammer Auto

Depth Drilled: 20.0 ft.

		11.	5 ft.				Depth Drilled: 20.0 ft.				
Compo	nent P	ercentages	s: Trace	< 5%, Few 5-10%	%, Little 15	-25%	, Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
Elev.	Depth	Sample	Recov.	Penetration	*USCS			0.5	MOT	-	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	QP	MST %	DD pcf	REMARKS
				ASTM D 1586	Symbol	777		tsf	70	pci	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
783.6	1	S-1	1.5	WOH-2-2	sc		Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist				WOH = Weight of Hammer
782.6	2			N=4			2.0	<u>)</u>			Occasional roots from 0' to 2'
781.6	3						Brown poorly graded SAND with silt; mostly				_
780.6	4			0.00			coarse to fine sand, few silty fines, moist				
779.6	5	S-2	1.5	3-3-3 N=6							
778.6	6			"	SP-SM						
777.6	7			2-4-5							
776.6	8	S-3	1.5	N=9							
						<u> </u>	8.0 Brown poorly graded SAND; mostly coarse)			
775.6	9	S-4	1.5	3-4-5			to fine sand, trace silty fines, moist				
774.6	10	J-4	1.5	N=9			•				
773.6	11										
772.6	12										
771.6	13						Grades wet at 12'				
770.6	14			6-8-9	SP						
769.6	15	S-5	1.5	N=17	35						
768.6	16										Charged augers with water
767.6	17										at 15' *End water level may be
766.6	18										influenced by charging
765.6	19										augers
764.6	20	S-6	1.5	6-10-14			20.0				
704.0	20			N=24			20.0	1			
											

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-108 Sheet: 1 of 1

Date End: 02/09/2024

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266160.5 E=13319479.9 (MI South ift) Elevation: 786.3 ft Datum: NAVD 88 (GPS Observation)

Notes:

Plugging Record: Backfilled borehole with compacted cuttings. Cave in at 15.2 ft.

Groundwater, ft. Tooling Type Dia. Casing HSA 4 1/4" During 12.5 SPT Sampler 2" End 13.3* Delayed Groundwater, ft. Core Tube Date Depth, ft.

Depth Drilled: 20.0 ft

SPT Hammer

Date Begin: 02/09/2024

Auto

00		15.	2 ft.		•		Depth Drilled: 20.0 ft.				
Compo	onent P	ercentages	s: Trace	< 5%, Few 5-10%	%, Little 15	5-25%	, Some 30-45%, Mostly 50-100%		QP	= Calib	rated Penetrometer (tons/sq. ft.
Elev.	Depth	Sample	Recov.	Penetration	*USCS			QP	MST	DD	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	tsf	W	pcf	REMARKS
705.0				ASTM D 1586	Symbol	· · · · · · · · · · · · · · · · · · ·	\2" Sandy Topsoil \0.2		-	P 0.	 WOH= Weight of Hammer
785.3	1	S-1	1.5	WOH/18"			Brown poorly graded SAND with silt; mostly	1			Occasional roots from 0' to
784.3	2				00.014		coarse to fine sand, few silty fines, moist				9.5'
783.3	3				SP-SM						
782.3	4	S-2	1.5	3-2-2							
781.3	5	0-2	1.0	N=4			5.0 Light brown to brown poorly graded SAND;	1			
780.3	6			2.2.2			mostly medium to fine sand, trace silty				
779.3	7	S-3	1.5	2-3-2 N=5			fines, moist				
778.3											
777.3	9	S-4	1.5	3-2-3							
776.3	10	• .	1.0	N=5							
775.3	11										
774.3					SP						
773.3					35		Grades wet at 12.5'				
772.3	14	S-5	1.5	6-8-9							
771.3	15		1.0	N=17							Charged augers with wate
770.3											at 15'
769.3	17										*End water level may be influenced by charging
768.3	18										augers
767.3	19 20	S-6	1.5	9-11-17							
766.3	20		1.0	N=28			20.0				
		1									

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-109 Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266156.1 E=13319565.5 (MI South ift) Elevation: 785.0 ft Datum: NAVD 88 (GPS Observation)

Notes:

Date Begin:0	2/09/2024	Date End:	02/09/2024	
Tooling	Туре	Dia.	Ground	lwater, ft.
Casing	HSA	4 1/4"	During	9.5
Sampler	SPT	2"	End	10.5*
Core			Delayed Gr	oundwater, ft.
Tube			Date	Depth, ft.
SPT Hammer	Auto			

		12.	0 ft.				Depth Drilled: 20.0 ft.				
						-25%	, Some 30-45%, Mostly 50-100%		QP	= Calib	rated Penetrometer (tons/sq. ft.)
	Depth	Sample	Recov.	Penetration	*USCS		*DESCRIPTION	QP	MST	DD	
FT.	FT.	Number	FT.	(Blows Per 6") ASTM D 1586	Group Symbol		*DESCRIPTION	tsf	%	pcf	REMARKS
784.0	1			2-2-3	Суппол		4" Sandy Topsoil0.3				Occasional roots from 0' to
783.0	2	S-1	1.5	N=5			Brown poorly graded SAND with clay;				9.5'
782.0	3						mostly coarse to fine sand, few clayey fines, moist				
781.0	4				SP-SC		moist				
780.0	5	S-2	1.5	3-4-4 N=8							
779.0	6						6.0				
778.0	7	S-3	1.5	3-4-4			Light brown to brown poorly graded SAND;				
777.0	8	5-3	1.5	N=8			mostly medium to fine sand, trace silty fines, moist				
776.0	9						inico, moiot				
775.0	10	S-4	1.5	3-4-4 N=8			Crades wat at 0.5!				
774.0	11						Grades wet at 9.5'				
773.0	12										
772.0	13				SP						
771.0	14			7-8-11	35						
770.0	15	S-5	1.5	N=19							
769.0	16										Charged augers with water at 15'
768.0	17										*End water level may be
767.0	18										influenced by charging augers
766.0	19	7		8-10-13							augoro
765.0	20	S-6	1.5	N=23			20.0				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-110 Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266123.3 E=13319549.8 (MI South ift) Elevation: 788.9 ft Datum: NAVD 88 (GPS Observation)

Notes:

Date Begin:0	2/08/2024	Date End:	02/08/2024	
Tooling	Туре	Dia.	Ground	lwater, ft.
Casing	HSA	4 1/4"	During	10.0
Sampler	SPT	2"	End	13.0
Core			Delayed Gr	oundwater, ft.
Tube			Date	Depth, ft.
SPT Hammer	Auto			

i luggi	ing i to		0 ft.	Soletiole With 0	ompaoio	u out	Depth Drilled: 20.0 ft.				
						5-25%	, Some 30-45%, Mostly 50-100%		QP	= Calib	rated Penetrometer (tons/sq. ft.)
		Sample	Recov.	Penetration	*USCS		*DESCRIPTION	QP	MST	DD	
FT.	FT.	Number	FT.	(Blows Per 6") ASTM D 1586	Group Symbol		*DESCRIPTION	tsf	%	pcf	REMARKS
787.9	1				Symbol	1	\3" Sandy Topsoil /_0	.3/		· ·	WOH= Weight of Hammer
786.9	2	S-1	1.4	WOH/12"-1	SP-SC		Dark brown to brown poorly graded SAND				Occasional roots from 0' to
785.9	3						Milli clay, mostly coarse to fine sand, few	.0			5.5'
784.9	4						\clayey fines, moist Brown sandy lean CLAY; mostly clayey				
783.9	5	S-2	1.5	2-2-3	CL		fines, some coarse to fine sand, moist	1.5			
782.9	6			N=5				.5			
781.9	7			7-9-11			Light brown silty SAND; mostly fine sand, little silty fines, moist				
780.9	8	S-3	1.5	N=20	SM		indie siny inies, moist				
779.9	9				Oivi						
778.9	10	S-4	1.5	9-10-9			g	.5			
777.9	11			N=19			Light brown sandy SILT; mostly silty fines, some fine sand, moist				
	12				ML		Grades wet at 10'				
776.9 775.9	13						12	.5			
774.9	14						Brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, wet				
773.9	15	S-5	1.5	6-8-10			medium to line sand, lew slity lines, wet				
772.9	16			N=18							
771.9	17				SP-SM						
770.9	18										
769.9	19										
768.9	20	S-6	1.5	6-8-10			20				
700.9	20			N=18		E 1111	20	.0			
1											

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688
Boring No.: B-111
Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold
Location: Ypsilanti, Michigan
Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM
Coordinates: N=266094.4 E=13319505.7 (MI South ift)
Elevation: 790.2 ft Datum: NAVD 88 (GPS Observation)

Notes:

Plugging Record: Backfilled borehole with compacted cuttings. Cave in at 7.5

	_,			
Tooling	Type	Dia.	Ground	lwater, ft.
Casing	HSA	4 1/4"	During	18.5
Sampler	SPT	2"	End	NA
Core			Delayed Gr	oundwater, ft.
Tube			Date	Depth, ft.
SPT Hammer	Auto			

Denth	Drilled:	20	∩ ft	

oth	rcentages Sample	: Trace		6, Little 15	5-25%,	Some 30-45%, Mostly 50-100%		OP :	- Calib	rated Penetrometer (tons/sq. ft.)
	Sample	Deserv							Callb	iaicu reneiioinetei (tons/sq. π.)
- '	•		Penetration	*USCS			QP	MOT	DD	
Г. І	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	tsf	MST %	pcf	REMARKS
			ASTM D 1586	Symbol		Drawn a cally avaided CAND with alarm	LOI	/0	Poi	WOH= Weight of Hammer
—▲	S-1	1.5	WOH/16"			mostly medium to fine sand, few clavey				_
				SP-SC		fines, moist				Occasional roots from 0' to 3'
3)			
··▼			1-1-1			Light brown poorly graded SAND; mostly medium to fine sand, trace silty fines, moist				
	S-2	1.5	N=2			modum to fine band, trade only fines, most				
	S-3	1.5	9-12-13							
			N=25	SP						
· •	ļ		6-11-18	O.						
o 👗	S-4	1.5	N=29							
1										
2										
3						13.0)			
4			10 11 12	CL		Brown lean CLAY; mostly clayey fines, few	4.0	12.4		
5 X	S-5	1.5	N=24		////	\ Coarse to line saird, trace coarse to line \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1			
6										
7						medium to fine sand, trace silty fines, moist				
8				SP						
9						0 1 1405				
	S-6	1.5					,			
3 1 5 6 7 8 9	X	S-2 S-3 S-4 S-5	S-2 1.5 S-3 1.5 S-4 1.5 S-5 1.5	S-1 1.5 WOH/16" S-2 1.5 1-1-1 N=2 S-3 1.5 9-12-13 N=25 S-4 1.5 6-11-18 N=29 S-5 1.5 10-11-13 N=24	S-1 1.5 WOH/16" SP-SC S-2 1.5 1-1-1 N=2 S-3 1.5 9-12-13 N=25 S-4 1.5 6-11-18 N=29 S-5 1.5 10-11-13 N=24 SP	S-1 1.5 WOH/16" SP-SC S-2 1.5 1-1-1 N=2 S-3 1.5 9-12-13 N=25 SP S-4 1.5 6-11-18 N=29 S-5 1.5 10-11-13 N=24 SP	S-1 1.5 WOH/16" SP-SC Brown poorly graded SAND with clay; mostly medium to fine sand, few clayey fines, moist S-2 1.5 1-1-1 N=2 Light brown poorly graded SAND; mostly medium to fine sand, trace silty fines, moist S-3 1.5 9-12-13 N=25 SP S-4 1.5 6-11-18 N=29 CL Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist Light brown poorly graded SAND; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist Light brown poorly graded SAND; mostly medium to fine sand, trace silty fines, moist Grades wet at 18.5'	S-1 1.5 WOH/16" SP-SC Brown poorly graded SAND with clay; mostly medium to fine sand, few clayey fines, moist S-2 1.5 1-1-1 N=2 Light brown poorly graded SAND; mostly medium to fine sand, trace silty fines, moist S-3 1.5 9-12-13 N=25 SP S-4 1.5 6-11-18 N=29 S-5 1.5 10-11-13 N=24 S-6 1.5 10-12-14 Grades wet at 18.5' Brown poorly graded SAND; mostly mostly fines, few coarse to fine sand, trace coarse to fine gravel, moist Grades wet at 18.5'	S-1 1.5 WOH/16" SP-SC Brown poorly graded SAND with clay; mostly medium to fine sand, few clayey fines, moist S-2 1.5 1-1-1 N=2 Light brown poorly graded SAND; mostly medium to fine sand, trace silty fines, moist S-3 1.5 9-12-13 N=25 SP S-4 1.5 6-11-18 N=29 S-5 1.5 10-11-13 N=24 CL Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist Light brown poorly graded SAND; mostly fines, few coarse to fine sand, trace coarse to fine gravel, moist Light brown poorly graded SAND; mostly medium to fine sand, trace silty fines, moist Grades wet at 18.5' Brown poorly graded SAND; mostly fines, moist	S-1 1.5 WOH/16" SP-SC Brown poorly graded SAND with clay; mostly medium to fine sand, few clayey fines, moist S-2 1.5 1-1-1 N=2 Light brown poorly graded SAND: mostly medium to fine sand, trace silty fines, moist S-3 1.5 9-12-13 N=25 SP S-4 1.5 6-11-18 N=29 SP CL Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist Light brown poorly graded SAND: mostly medium to fine sand, trace coarse to fine gravel, moist Light brown poorly graded SAND: mostly medium to fine sand, trace silty fines, moist S-5 1.5 10-12-14 Grades wet at 18.5'

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-112

Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266390.5 E=13319656.2 (MI South ift) Elevation: 785.1 ft Datum: NAVD 88 (GPS Observation)

Notes:

Plugging Record: Backfilled borehole with compacted cuttings. Cave in at 8.0

Depth Drilled: 10.0 ft.

Date End: 02/28/2024 Date Begin: 02/28/2024 Dia. Groundwater, ft. Tooling Type Casing HSA 4 1/4" During None SPT Sampler 2" End NA Delayed Groundwater, ft. Core Date Depth, ft.

Tube SPT Hammer Auto

	ft. Depth Drilled: 10.0 ft.										
Compo	Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100% QP = Calibrated Penetrometer (tons/sq.								rated Penetrometer (tons/sq. ft.)		
Elev.	Depth	Sample	Recov.	Penetration	*USCS			_		_	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	QP	MST	DD	REMARKS
				ASTM D 1586	Symbol			tsf	%	pcf	
784.1	1			6-8-7		111	3" Sandy Topsoil /_0.3/				Fill: 0' to 3'
		S-1	1.5	N=15	00.014		Dark brown to gray poorly graded SAND				
783.1	2				SP-SM		with silt and gravel; mostly coarse to fine				
782.1	3						sand, little coarse to fine gravel, few silty 3.0				
781.1	4			0.40.40			\fines, moist, Fill				
780.1	5	S-2	1.5	8-12-16 N=28			Brown lean CLAY; mostly clayey fines, few	3.5	13.9		
779.1	6			IN-20			coarse to fine gravel, moist				
778.1	7	S-3	1.5	9-9-13	CL		Grades without gravel and with few coarse	3.0	14.3		
777.1	8			N=22			to fine sand				
776.1	9										
775.1	10	S-4	1.5	13-17-17			100	3.25	12.1		
115.1	10	, ,		N=34	-	<i>[]]]]</i>	10.0				
							End of Boring				
l											

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-113

Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266210.6 E=13319479.1 (MI South ift) Elevation: 785.0 ft Datum: NAVD 88 (GPS Observation)

Notes:

Date Begin: 0	2/28/2024	Date End: 02/28/2024				
Tooling	Type	Dia.	Groundwater, ft.			
Casing	HSA	4 1/4"	During	8.7		
Sampler	SPT	2"	End	NA		
Core			Delayed Gr	oundwater, ft.		
Tube		·	Date	Depth, ft.		
SPT Hammer	Auto					

	ft. Depth Drilled: 10.0 ft.										
						5-25%,	Some 30-45%, Mostly 50-100%		QP:	= Calib	rated Penetrometer (tons/sq. ft.)
		Sample	Recov.	Penetration	*USCS		*DECODIDATION	QP	MST	DD	
FT.	FT.	Number	FT.	(Blows Per 6") ASTM D 1586	Group Symbol		*DESCRIPTION	tsf	%	pcf	REMARKS
784.0	1			2-2-2	Gyrribor	777	_4" Sandy Topsoil \0.3				Occasional roots from 0' to
783.0	2	S-1	1.5	N=4	SC		Dark brown clayey SAND; mostly coarse to				3'
782.0	3				30		fine sand, some clayey fines, moist				
781.0	4						3.0 Brown poorly graded SAND with silt; mostly				
780.0	5	S-2	1.5	2-2-3			medium to fine sand, few silty fines, moist				
779.0	6			N=5	SP-SM						
778.0	7			4-5-3							
777.0	8	S-3	1.5	N=8			7.2				
776.0	9				SP		Brown poorly graded SAND; mostly medium to fine sand, moist				
775.0	10	S-4	1.5	2-2-3	35		Grades wet at 8.7'				
113.0	10			N=5			10.0 End of Boring				
							Ziid Si Boiling				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: B-114 Sheet: 1 of 1

Project: Sheetz, West Michigan Avenue and Hewitt Road

Client: Skilken Gold Location: Ypsilanti, Michigan Drill Type: Acker Renegade

Crew Chief: NB Field Eng.: IA Rev. By: IM Coordinates: N=266054.6 E=13319419.7 (MI South ift) Elevation: 784.9 ft Datum: NAVD 88 (GPS Observation)

Notes:

Date Begin: 0	2/08/2024	Date End: 02/08/2024				
Tooling	Type	Dia.	lwater, ft.			
Casing	HSA	4 1/4"	During	None		
Sampler	SPT	2"	End	NA		
Core			Delayed Gr	oundwater, ft.		
Tube			Date	Depth, ft.		
SPT Hammer	Auto					

	ft. Depth Drilled: 10.0 ft.										
						5-25%	, Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
		Sample	Recov.	Penetration	*USCS			QP	MST	DD	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION		WS1 %	pcf	REMARKS
				ASTM D 1586	Symbol			tsf			F:11 01 1 01
783.9	1	S-1	1.3	2-2-3			Dark brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines,		13.4		Fill: 0' to 3' S-1: Organic Content = 2.5%
782.9	2			N=5	SP-SC		moist, Fill with trace organic fines and glass				7. Organio Content
781.9	3						debris 3.0				
780.9	4		4.5	5-5-6			Light brown poorly graded SAND; mostly				
779.9		S-2	1.5	N=11			coarse to fine sand, trace silty fines, moist				
778.9											
				4.5.0	SP						
777.9		S-3	1.5	4-5-6 N=11	32						
776.9				'\ ''							
775.9	9			5-6-7							
774.9	10	S-4	1.5	N=13			10.0				
							End of Boring				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



SUMMARY OF LABORATORY TEST DATA

Boring Number	Sample Number	Depth (ft)	Sample USCS Classification	Natural Moisture Content (ASTM D2216) (%)	Organic Content (ASTM D2974) (%)
B-101	S-1	0-1.5	CL	21.0	
B-101	S-2	3.5-5	CL	17.0	
B-111	S-5	13.5-15	CL	12.4	
B-112	S-2	3.5-5	CL	13.9	
B-112	S-3	6-7.5	CL	14.3	
B-112	S-4	8.5-10	CL	12.1	
B-114	S-1	0 - 1.5	SP-SC	13.4	2.5

* S - Split Spoon Sample (ASTM D 1586)

PROJECT NO.: 231688
PAGE: 1 OF 1



MATERIALS TESTING CONSULTANTS

December 8, 2023 Project No. 231688

Skilken Gold 4270 Morse Road Columbus, Ohio 43230

Attention: Andrew Richlen, P.E.

Project Manager

Reference: Summary of Infiltration Testing

Sheetz, West Michigan Avenue and Hewitt Road

Ypsilanti, Michigan

Dear Mr. Richlen:

We have completed infiltration testing for the above-referenced project. Four test pits were completed on the property located at 2013 West Michigan Avenue in Ypsilanti, as shown on Figure No. 1.

At the time of our field work, the area of investigation was vacant and covered with grass, brush, and trees. The site, in general, sloped down from north to south with elevations ranging from 790 to 779 ft.

Four test pits were excavated to depths of eight feet to ten feet (els 774 ft to 777 ft) using an 18-inch wide bucket. Test pit locations are shown on the attached location plan, Figure No. 1.

A summary of the subsurface conditions encountered within the test pits is provided. The attached test pit logs contain detailed soil descriptions. Some variation in subsurface conditions may be expected.

In general, Test Pits TP-1, TP-2 and TP-3 encountered approximately three to four inches of topsoil over lean clay, silty clay, and silt soils. Test Pit TP-4 encountered 8 inches of topsoil overlying granular soil to the explored depth. Test Pits TP-1 and TP-2 encountered clayey fill with debris, topsoil and organics to an approximate depth of two feet below the existing grade (els 784 ft to 782 ft). None of the test pits encountered groundwater.

Infiltration tests were performed within Test Pit TP-4 using the double ring method outlined in the Washtenaw County Water Resource Commissioner's Procedures and Design Criteria for Storm Water Management. Infiltration tests were not performed in Test Pits TP-1 through TP-3 due to the encountered clay and silt soils.

The double ring infiltration tests were performed in Test Pit TP-4 at a depth of 4 feet below existing grade (el 778 ft). Two concentric rings were used to perform the tests, with a 6-inch



Summary Letter of Infiltration Testing Project No. 231688 December 8, 2023 Page 2

outer ring diameter and 4-inch inner ring diameter. The purpose of the outer ring is to prevent divergent flow of water from the inner ring while water level in the inner ring is monitored to calculate a one-dimensional infiltration rate. Readings were taken at 10-minute intervals for a maximum of eight intervals. The individual infiltration test reports are attached. Test pits were backfilled to the surface with excavated soil at the conclusion of testing. A summary of the stabilized infiltration rates, average rate, and design rate (safety factor of 2) for each Test Pit are listed in Table 1, below.

Table 1 - Infiltration Test Results

Test Pit	Test Elevation (ft)	Test No.	Stabilized Infiltration Rate (in/hr)	Average Infiltration Rate (in/hr)	Design Infiltration Rate (in/hr)
TP-4	778	4.1	45	45	10*
17-4	110	4.2	45	45	10.,

^{*}WCWRC Procedures and Design Criteria for Stormwater Management specify a maximum design infiltration of 10 in/hr.

We appreciate the opportunity to provide this service to you on this project. Should you have any questions or require further assistance, please contact our office.

Sincerely,

MATERIALS TESTING CONSULTANTS, INC.

Isaac MacMillan, P.E.

Project Engineer

Robert Warren, P.E. Project Manager

Attachments: Figure No. 1 - Test Pit Location Plan

Infiltration Test Reports

Test Pit Terminology and Classification Outline

Test Pit Logs





TITLE: TEST PIT LOCATION PLAN		PROJECT: SHEETZ, 2013 WEST MICHIGAN AVENUE, YPSILANTI				
SCALE: AS SHOWN	DATE: 12/08/2023	PROJECT NO.: 231688	MTC MATERIALS TESTING CONSULTANTS			
FIG. NO.: 1	DR. BY: JM	REV. BY: RW	MITCHIALS TESTING CONSULTANTS			



Double Ring Infiltration Test

Client: Project:

Skilken Gold 4270 Morse Road Columbus, OH 43230 231688G Sheetz, 2013 W Michigan Ave, Ypsilanti 2013 W Michigan Ave

Activity Information

Weather: Cloudy Low / High Temp, °F: 33 / 43 Activity Date: 11/22/2023

Tested By: MacMillan, Isaac Test No.: 4.1

DOUBLE RING INFILTRATION TEST - SEMCOG METHOD

Pre-Test Soaking Duration (min): 60

Water Level Drop in Last 30 Minutes of Presoak (in): 17 ¹/₂

Inner Diameter (in): 4 Outer Diamter (in): 6 Ground Surface Elev. (ft): 782

Test Elev. (ft): 778

Groundwater Elev. (ft): N/A

Soil Description: Light brown poorly graded SAND

	Test Data							
Time (min:sec)	Water Drop (in)	Time Interval (min)	Infiltration Rate (inches per hour)					
10:00	10	10	60					
20:00	9	10	54					
30:00	9	10	54					
40:00	8 1/4	10	49 1/2					
50:00	8	10	48					
60:00	8	10	48					
70:00	7 3/4	10	46 1/2					
80:00	7 1/2	10	45					

Note:

This test method provides a measure of infiltration rate, not hydraulic conductivity. Although the units of infiltration rate, and hydraulic conductivity are similar, there is a distinct difference between these two quantities. They cannot be directly related unless the hydraulic boundary conditions, such as hydraulic gradient and the extent of lateral flow of water are known or can be reliably estimated. Test results apply only to the specific test location, depth/elevation, and in-situ moisture content and density at time of test. An appropriate factor of safety should be applied to these results.

Remarks: Initial head: 21 in.



Double Ring Infiltration Test

Client: Project:

Skilken Gold 4270 Morse Road Columbus, OH 43230 231688G Sheetz, 2013 W Michigan Ave, Ypsilanti 2013 W Michigan Ave

Activity Information

Weather: Cloudy Low / High Temp, °F: 33 / 43 Activity Date: 11/22/2023

Tested By: MacMillan, Isaac Test No.: 4.2

DOUBLE RING INFILTRATION TEST - SEMCOG METHOD

Pre-Test Soaking Duration (min): 60 Ground Surface Elev. (ft): 782

Water Level Drop in Last 30 Minutes of Presoak (in): 18 Test Elev. (ft): 778

Inner Diameter (in): 4 Groundwater Elev. (ft): N/A

Outer Diamter (in): 6

Soil Description: Light brown poorly graded SAND

	Test Data								
Time (min:sec)	Water Drop (in)	Time Interval (min)	Infiltration Rate (inches per hour)						
10:00	10	10	60						
20:00	8 1/2	10	51						
30:00	8 1/2	10	51						
40:00	8 1/2	10	51						
50:00	8	10	48						
60:00	8	10	48						
70:00	8	10	48						
80:00	7 1/2	10	45						

Note:

This test method provides a measure of infiltration rate, not hydraulic conductivity. Although the units of infiltration rate, and hydraulic conductivity are similar, there is a distinct difference between these two quantities. They cannot be directly related unless the hydraulic boundary conditions, such as hydraulic gradient and the extent of lateral flow of water are known or can be reliably estimated. Test results apply only to the specific test location, depth/elevation, and in-situ moisture content and density at time of test. An appropriate factor of safety should be applied to these results.

Remarks: Initial head: 21 in.



TEST PIT LOG TERMINOLOGY AND ASTM D 2488 CLASSIFICATION OUTLINE

CLEAN

GRAVELS

WITH LESS

THAN 15%

FINES

GRAVELS

WITH 15%

OR MORE

FINES

CLEAN

SANDS WITH LESS THAN

15% FINES

SANDS WITH

15% OR MORE FINES

SILTS AND CLAYS

LIQUID LIMIT 50% OR LESS

GW

GP

GM

GC

SW

SP

SP-SM

SM

SC

ML

CL

OL

MH

CH

OH

1/ 1/1/ V

MEDIUM SAND

FINE SAND

0

MAJOR DIVISIONS

GRAVELS

MORE THAN

COARSE FRACTION IS

LARGER

THAN NO. 4

SIFVE

SANDS

MORE THAN

HALF COARSE FRACTION IS

FINER THAN

NO. 4 SIEVE

SIZE

SIEVE

200

COARSE-GRAINED SOILS HALF IS COARSER THAN NO.

THAN

200 SIEVE

Š

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE-GRAINED SOILS (major portions retained on No. 200 sieve): includes (1) clean gravel and sands and (2) silty or clayey gravels and sands. Condition is rated according to relative density as determined by laboratory tests or standard penetration resistance tests.

Descriptive Terms	Relative Density	SPT Blow Count
Very loose	0 to 15 %	< 5
Loose	15 to 35 %	5 to 10
Medium dense	35 to 65 %	10 to 30
Dense	65 to 85 %	30 to 50
Very dense	85 to 100 %	> 50

Per ASTM D2487, the following conditions must be met based on laboratory testing to justify the label 'well graded' in a soil

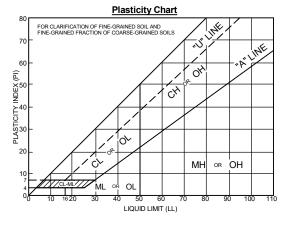
Gravel:
$$C_U = \frac{D_{60}}{D_{10}}$$
 greater than 4; $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3

Sand:
$$C_0 = \frac{D_{60}}{D_{10}}$$
 greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3

FINE-GRAINED SOILS (major portions passing on No. 200 sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings, SPT blow count, or unconfined compression tests.

Unconfined Compressive

Descriptive Terms	Strength TSF	SPT Blow Count
Very soft	< 0.25	< 2
Soft	0.25 to 0.5	2 to 4
Medium stiff	0.5 to 1.0	4 to 8
Stiff	1.0 to 2.0	8 to 15
Very stiff	2.0 to 4.0	15 to 30
Hard	> 4.0	> 30



FINE-GRAINED SOILS HALF IS FINER THAN N SILTS AND CLAYS THAN LIQUID LIMIT GREATER **THAN 50%** PT/OL HIGHLY ORGANIC SOILS SAMPLE TYPES AND NUMBERING s SPT, split barrel sample, ASTM D1586 U Shelby tube sample, ASTM D1587 R Rock core run *s Other than 2" split barrel sample SPT with liner, ASTM D1586 Α Auger cuttings G Geoprobe liner

MINOR COMPONENT QUANTIFYING TERMS Less than 5% TRACE FEW 5 to 10% 15 to 25% LITTLE 30 to 40% SOME 50 to 100% MOSTLY **GRAIN SIZE** BOULDER >12" COBBLE 12" to 3" COARSE GRAVEL 3" to 0.75" FINE GRAVEL 0.75" to No. 4 COARSE SAND No. 4 to No. 10

No. 10 to No.40

No. 40 to No. 200

TYPICAL NAMES

WELL-GRADED GRAVELS WITH

POORLY-GRADED GRAVELS

WITH OR WITHOUT SAND

SILTY GRAVELS WITH OR

CLAYEY GRAVELS WITH OR

WELL-GRADED SANDS WITH OR

POORLY-GRADED SANDS WITH

POORLY-GRADED SANDS WITH

WITHOUT SAND

WITHOUT SAND

WITHOUT GRAVEL

OR WITHOUT GRAVEL

SILT WITH OR WITHOUT

SILTY SANDS WITH OR

CLAYEY SANDS WITH OR

INORGANIC SILTS OF LOW TO

MEDIUM PLASTICITY WITH OR

INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR

WITHOUT SAND OR GRAVEL

WITHOUT SAND OR GRAVEL

ORGANIC SILTS OR CLAYS OF LOW TO MEDIUM PLASTICITY

WITH OR WITHOUT SAND OR

INORGANIC SILTS OF HIGH

INORGANIC CLAYS OF HIGH

SAND OR GRAVEL

SAND OR GRAVEL

ORGANIC SOILS

PLASTICITY WITH OR WITHOUT

PLASTICITY WITH OR WITHOUT

ORGANIC SILTS OR CLAYS OF

HIGH PLASTICITY WITH OR

PEAT AND OTHER HIGHLY

WITHOUT SAND OR GRAVEL

WITHOUT GRAVEL

WITHOUT GRAVEL

GRAVEL

GRAVEL

OR WITHOUT SAND

GENERAL NOTES

- 1. Classifications are based on the United Soil Classification System and include consistency, moisture, and color. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate.
- 2. "Grades with" or "Grades without" may be used to describe soil when characteristics vary within a stratum.
- 3. Preserved soil samples will be discarded after 60 days unless alternate arrangements have been made.

GROUNDWATER OBSERVATIONS:

<u>During</u> - indicates water level encountered during the boring End- indicates water level immediately after drilling Date and Depth - Measurements at indicated date



Project No.: 231688
Boring No.: TP-1
Sheet: 1 of 1

Date End: 11/22/2023

Project: Sheetz, 2013 W Michigan Ave, Ypsilanti

Client: Skilken Gold Location: Ypsilanti, Michigan

Drill Type: Excavator

Crew Chief: Field Eng.: IM Rev. By: RW

Coordinates: N=266382.1 E=13319632.3 (MI South ift)

Elevation: 786 ft Datum:

Notes: Approximate elevation inferred from site plan

Plugging Record: Backfilled with excavated soil.

Tooling	Type	Dia.	Ground	water, ft.		
Excavator	Bucket	18"	During	None		
			End	None		

	End	None
	Seepage	
	Date	Depth, ft.

Depth Excavated: 10.0 ft

Date Begin: 11/22/2023

	Depth Excavated: 10.0 ft.										
Compo	onent P	ercentage	s: Trace	< 5%, Few 5-10%	%, Little 1	5-25%	o, Some 30-45%, Mostly 50-100%		QP	= Calib	rated Penetrometer (tons/sq. ft.)
Elev.	Depth	Sample	Recov.	Penetration	*USCS			QP	MOT		
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	tsf	MST %	DD pcf	REMARKS
				ASTM D 1586	Symbol	/////	Death harring learn CLAV, marchinelearn	lSi	/0	pci	Fill: 0' to 2'
785.0	1				CL		Dark brown lean CLAY; mostly clayey fines, moist, Fill with organic fines				FIII. 0 t0 2
784.0	2						Drain tile and bedding sand encountered $\frac{2.0}{}$	3.0			
783.0 782.0	3						Light brown SILTY CLAY; mostly clayey and				
781.0	5						silty fines, moist				
780.0	6										
779.0	7				CL-ML			3.0			
778.0	8										
777.0	9										
776.0	10						10.0				
							End of Test Pit				
					[
	1	1	1	I	1	1	I and the second	1	I .	1	l .

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Date Begin: 11/22/2023

Project No.: 231688 Boring No.: TP-2 Sheet: 1 of 1

Date End: 11/22/2023

Project: Sheetz, 2013 W Michigan Ave, Ypsilanti

Client: Skilken Gold Location: Ypsilanti, Michigan

Drill Type: Excavator

Crew Chief: Field Eng.: IM Rev. By: RW

Coordinates: N=266245.4 E=13319707.4 (MI South ift)

Elevation: 784 ft Datum:

Notes: Approximate elevation inferred from site plan

ging Doord: Packfilled with ex

Tooling	Туре	Dia.	Groundwater, ft.			
Excavator	Bucket	18"	During	None		
			End	None		
			Seepage			

Date Depth, ft.

Pluggi	ng Re	cord: Ba	ckfilled	with excavated	soil.		Don'th Fusionated 0.00 ft				
Compo	nont E	Percentage	e: Trace	< 5% Equ 5 100	% Little 14	5 25%	Depth Excavated: 9.0 ft. , Some 30-45%, Mostly 50-100%		∩P.	- Calib	rated Penetrometer (tons/sq. ft.)
Elev.			Recov.	Penetration	*USCS	J-20 ⁷ /0	, Come 30-43 /0, Iviosity 30-100 //		۷۲	– Calib	rated Ferretionneter (tons/sq. 1t.)
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	QP	MST	DD	REMARKS
				ASTM D 1586	Symbol			tsf	%	pcf	
783.0	1							1.3/			Fill: 0' to 2.3'
782.0 781.0	3				CL			2.0			Fill contains concrete rubble and brick fragments.
780.0	4						Brown to light brown SILTY CLAY; mostly silty and clayey fines, moist	3.0			Buried topsoil at 2'
779.0	5										
778.0	6				CL-ML						
777.0	7						Occasional fine sand lenses from 6' to 8'				
776.0	8										
775.0	9						Ş	0.0			
							End of Test Pit				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Project No.: 231688 Boring No.: TP-3 Sheet: 1 of 1

Date End: 11/22/2023

Project: Sheetz, 2013 W Michigan Ave, Ypsilanti

Client: Skilken Gold Location: Ypsilanti, Michigan

Drill Type: Excavator

Crew Chief: Field Eng.: IM Rev. By: RW

Coordinates: N=266131.4 E=13319671.6 (MI South ift)

Elevation: 786 ft Datum:

Notes: Approximate elevation inferred from site plan

Plugging Record: Backfilled with excavated soil.

Tooling	Type	Dia.	Groundwater, ft.				
Excavator Bucket		18"	During	None			
			End	None			
			Seepage				
			Date	Depth, ft.			

Date Begin: 11/22/2023

liuggi	Depth Excavated: 9.0 ft.										
Compo	nent P	ercentages	s: Trace	< 5%, Few 5-10%	6, Little 15	5-25%	, Some 30-45%, Mostly 50-100%		QP :	= Calib	rated Penetrometer (tons/sq. ft.)
	Depth	Sample	Recov.	Penetration	*USCS			OD	MOT	רט	
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
				ASTM D 1586	Symbol	: A 1			70	рсі	
785.0	1						4" Clayey Topsoil0.3				
784.0	2				CL		Brown lean CLAY; mostly clayey fines, moist with occasional silt lenses	3.0			
783.0	3				CL						
782.0	4						4.0				
781.0	5						Light brown SILT; mostly silty fines,	3.5			
780.0	6						moist with occasional clay lenses	0.0			Moderate excavation
779.0	7				ML						difficulty from 4' to 9'
778.0	8										
777.0	9						9.0				
							End of Test Pit				

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



Date Begin: 11/22/2023

Project No.: 231688
Boring No.: TP-4
Sheet: 1 of 1

Date End: 11/22/2023

Project: Sheetz, 2013 W Michigan Ave, Ypsilanti

Client: Skilken Gold Location: Ypsilanti, Michigan

Drill Type: Excavator

Crew Chief: Field Eng.: IM Rev. By: RW

Coordinates: N=266050.4 E=13319582.4 (MI South ift)

Elevation: 782 ft Datum:

Notes: Approximate elevation inferred from site plan

Plugging Record: Backfilled with excavated soil.

Tooling	Type	Type Dia. Grour					
Excavator	Bucket	18"	During	None			
•			End	None			

 Duoket	10	Daring	140110
		End	None
		Seepage	
		Date	Depth, ft.

Pluggi	ugging Record: Backfilled with excavated soil.										
Compr	nent F	Percentage	s: Trace	< 5% Few 5-10°	% little 1₽	5-25%	Depth Excavated: 8.0 ft. Some 30-45%, Mostly 50-100%		ΩP	= Calih	rated Penetrometer (tons/sq. ft.)
		Sample	Recov.	Penetration	*USCS	2070,	Como 00-1070, Inioday 00-10070				rates i energineter (tons/sq. ft.)
FT.	FT.	Number	FT.	(Blows Per 6")	Group		*DESCRIPTION	QP	MST	DD	REMARKS
				ASTM D 1586	Symbol			tsf	%	pcf	T LEWN W W CO
781.0	1					3 1/2	8" Sandy Topsoil 0.7				
780.0	2						Brown poorly graded SAND with clay; mostly medium sand, few				
779.0	3				SP-SC		clayey fines, moist				
778.0	4						4.0	,			
777.0	5						Light brown poorly graded SAND; mostly medium to fine sand, trace silty fines,				
776.0	6				SP		medium to fine sand, trace silty fines, moist with occasional silt lenses				
775.0	7				32						
774.0	8						8.8	,			
							End of Test Pit				
									1		

^{*} Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



June 7, 2024

Ypsilanti Charter Township Attn: Planning & Zoning Department 7200 South Huron River Drive Ypsilanti, MI 48197

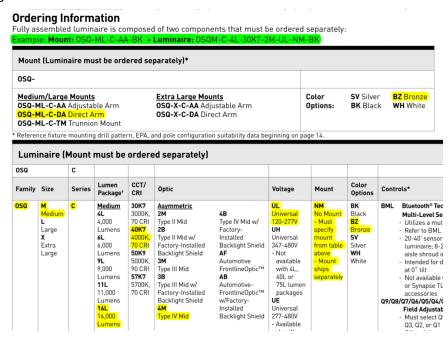
RE: Response to Lighting Plan Review comments for location: Sheetz; 2103 West Michigan Ave; Ypsilanti, MI 48197

To whom it may concern,

Sheetz, Inc. has contracted with Red Leonard Associates to provide adjustments to the lighting plan proposed for this location. That updated plan has been included in this re-submission for your review. In particular, these were our responses to the review comments provided.

1. The ordinance requires that light fixtures shall be shielded and direct light away from adjoining properties. Manufacturer cut sheets showing that the proposed fixtures can be shielded need to be provided.

RESPONSE: All lighting is shielded and directed away from adjoining properties. Cut sheets are provided on the second page of the lighting plan. It is important to cross-reference the lighting fixture model number from the first page. For example, light standard number "122" by the trash enclosure is a "XPM6" fixture. The table at the bottom of page 1 outlines that a 'XPM6" has the long form model number "OSQ-ML-C-DA-XX + OSQM-C-16L-40K7-4M-UL-NM-XX." The chart on page 2 clarifies that.





2. The canopy light fixtures exceed the maximum light levels of 20 footcandles. The proposed light levels under the canopy range from 21 to 58 footcandles.

RESPONSE: Light levels have been reduced to a maximum of 20 footcandles under the canopy.

3. The building-mounted light fixtures at the parking lot entry door also exceed the maximum light level of 20 footcandles. The proposed light levels that exceed this maximum are between 26-31 footcandles.

RESPONSE: Maximum light output at the building entrances is now 16.8 footcandles.

4. Light fixture XPM4 is near the residences to the east. The maximum mounting height of fixtures adjacent to residential areas is 18 feet (including the base). These fixtures are proposed at 23 feet.

RESPONSE: Fixture number "19" has been reduced to 18' in height.

5. The Kelvin color temperature of the proposed fixtures has not been provided and needs to be.

RESPONSE: The chart identified in response to comment #1 identifies how to read the Kelvin temperature. We are proposing 4000k.

6. The photometric plan shows linear strip lights (84 lights identified as "XL") around the gas pump canopy. Lighting intended to attract attention to the use and not strictly for security purposes are prohibited. The strip lights are shown in the image below: On the building, the photometric plan shows 276 light fixtures identified as "XP" in single and double rows around the entire exterior of the building. Also shown are an additional 16 fixtures with a "light strip" shape (identified as "XM") proposed around the canopy over the front door. These building mounted fixtures are in addition to other building fixtures at doorways and along sidewalks abutting the building. As mentioned above, Sec. 1303(6) prohibits the use of building lighting intended to attract attention to the building and/or use and is not strictly designed for security purposes.

RESPONSE: All strip lighting has been removed from the building parapet, building entrances, and fueling canopy.



Please feel free to reach out to Alex Siwicki with any questions at (330) 402-6861 or asiwicki@sheetz.com.

Sincerely,

Alexander Siwicki

Engineering & Entitlements

Sheetz, Inc.

39300 West 12 Mile Road; Suite 100

Farmington Hills, MI 48331

June 12, 2024

Benjamin R. Carlisle, AICP, LEED AP Charter Township of Ypsilanti 7200 S. Huron River Drive Ypsilanti, MI 48197

RE: Site Plan Review #1

Proposed Convenience Store and Fuel Sales

Parcel ID: K11-39-350-022, K-11-39-350-023, K-11-18-100-019

2103 West Michigan Avenue

Ypsilanti Charter Township, Washtenaw County, Michigan

Mr. Carlisle:

Our office is submitting documents on behalf of the Applicant to address the outstanding conditions of the contained within the latest Site Plan review letter. Please find the following items enclosed:

ITEM DESCRIPTION	DATED	COPIES	PREPARED BY
Site Development Plans	06-12-2024	I	Stonefield Engineering & Design
Architectural Plans	05-21-2024	I	Sheetz
Lighting Plans	06-07-2024	I	Red Leonard Associates

The following is an itemized response to the comments contained within the Carlisle Wortman Associates Review Letter dated April 26, 2024. For the sake of brevity, any comments that are statements of fact or have been previously addressed are not included in the response below:

Natural Features

1. Planning Commission to discuss how the amount of impervious surface on site complies with the steep slope standards.

Noted.

2. Correct Tree Inventory Table showing trees #5165 and #5166 as "removed."

The Tree Inventory Table has been updated. Refer to Sheets C-4 & C-5 of the Site Development Plans.

3. Consider alternatives to preserve 30" Honeylocust tree.

The proposed sidewalk has been deflected to preserve the existing honeylocust.

Municipal Response Letter Proposed Convenience Store and Fuel Sales Ypsilanti, MI June 12, 2024

4. Show symbols for trees to be removed on the same sheet as the site improvements to confirm exemption from tree removal mitigation requirements.

An additional Tree Removal Plan has been provided overlayed atop the Site Plan. Refer to Sheet C-3 of the Site Development Plans.

Area, Width, Height, Setbacks

1. Move outdoor sales proposed on the front of the building (W. Michigan Ave.) to another side of the building where it will be located outside of the setback.

The proposed outdoor sales are located on the southern façade. Refer to Sheet C-6 of the Site Development Plans as well as the Architectural Plans.

2. Applicant to obtain required variances for building and parking location along S. Hewitt.

The required variances will be pursued through the Zoning Board of Appeals.

3. Show proposed height of flat roof on elevation plans.

The proposed height of flat roof is provided within the Land Use and Zoning Table on Sheet C-3 of the Site Development Plans.

4. Recommend Planning Commission condition any approval on implementation of the proposed lot split shown on the plans.

Noted.

5. Amend plans to show 30-inch masonry wall along parking lot abutting S. Hewitt Rd. build-to line.

A 30" masonry wall is proposed along parking abutting S. Hewitt Rd. and Michigan Ave. Refer to Sheet C-6 of the Site Development Plans.

Parking, Loading

1. Provide building floor plans so that usable floor area dimensions can be confirmed.

Refer to the attached Architectural Plans.

2. Parking lot abutting S. Hewitt Rd. build-to line: either reduce to 60-feet along the build-to line, or applicant obtains a variance.

The parking row abutting S. Hewitt Rd. has been reduced to 60 FT. Refer to Sheet C-6 of the Site Development Plans.

3. Increase width of most westerly sidewalk abutting the building to 7-feet.

The sidewalk has been increased to 7 FT in width. Refer to Sheet C-6 of the Site Development Plans.

Municipal Response Letter Proposed Convenience Store and Fuel Sales Ypsilanti, MI June 12, 2024

Site Access, Circulation, Traffic

1. Planning Commission and applicant discuss shifting the gas-pump canopy to the west to allow easier turning movements for tanker trucks around canopy.

Noted.

2. Add sidewalk connection from development to S. Hewitt Rd right-of-way.

A sidewalk connection to S. Hewitt Rd. has been added. Refer to Sheet C-6 of the Site Development Plans.

Screening & Landscaping

1. Planning Commission to consider using Oak Tree alternatives to meet the "ornamental tree" requirement along W. Michigan Ave.

Noted.

2. Add 18 shrubs to plans to meet Street Yard Landscaping requirement.

Additional shrubs have been added to north of the building to meet the street yard landscaping requirements.

3. Either eliminate one parking space along south side of building, or add a landscape island.

The applicant is requesting a waiver.

4. Replace stripped pavement with landscape island where bays of parking along the building intersect.

The striped pavement has been replaced with a landscaped island. Refer to Sheet C-6 of the Site Development Plans.

5. Add 13 trees to meet the parking lot landscaping requirement.

Additional trees have been added south of the canopy to meet the parking lot landscaping requirements.

6. Use shrubs in place of 59 herbaceous perennials around detention basin.

The detention basin plantings have been revised accordingly.

7. Consider species alternative to English Laurel; increase size of Viburnum and Elderberry.

The English Laurel has been replaced with a Japanese Yew, and the viburnam & elderberry sizes have been updated accordingly.

8. Planning Commission to consider ordinance flexibility in landscaping requirements.

Noted.

Municipal Response Letter Proposed Convenience Store and Fuel Sales Ypsilanti, MI June 12, 2024

9. Planning Commission to consider the heavy landscaped screen vs. six-foot-tall screening wall.

Noted.

Lighting

1. Address lighting issues, as described in this review.

Refer to the attached Lighting Plan.

Elevations And Floor Plans

1. Provide elevations of proposed canopy.

Elevations for the proposed canopy are provided within the attached Architectural Plans.

2. Applicant demonstrates that the proposed design with the canopy unattached to the principal building is more functional and aesthetically pleasing.

Correct – It is Sheetz prerogative to provide an aesthetically pleasing site for consumers, and have designed their flagship building and canopy to strongly supplement one another.

3. Add more glazing to W. Michigan Ave. façade or applicant seeks a variance.

The applicant is seeking a waiver for glazing along the Michigan Ave. frontage.

4. Provide transparency calculations for other three facades (west, south & east), including any applicable "transparency alternatives."

Transparency calculations for all four facades are provided within the attached Architectural Plans.

Should you have any questions regarding the submission items or responses above please do not hesitate to contact our office.

Regards,

Eric Williams, PE

Stonefield Engineering and Design, LLC

: William

Nik Bauer

Stonefield Engineering and Design, LLC

IBSM

 $Z:\label{prop:linear_constraints} Z:\label{prop:linear_constraints} Z:\label{prop:linear_constraints} Z:\label{prop:linear_constraints} I:\label{prop:linear_constraints} I:\label{prop:linear_constraints} Z:\label{prop:linear_constraints} I:\label{prop:linear_constraints} I:\l$

June 12, 2024

Stacie L. Monte & Matthew D. Parks, P.E. Charter Township of Ypsilanti 7200 S. Huron River Drive Ypsilanti, MI 48197

RE: Site Plan Review #1

Proposed Convenience Store and Fuel Sales

Parcel ID: K11-39-350-022, K-11-39-350-023, K-11-18-100-019

2103 West Michigan Avenue

Ypsilanti Charter Township, Washtenaw County, Michigan

Ms. Monte & Mr. Parks:

Our office is submitting documents on behalf of the Applicant to address the outstanding conditions of the contained within the latest Site Plan review letter. Please find the following items enclosed:

ITEM DESCRIPTION	DATED	COPIES	PREPARED BY
Site Development Plans	06-12-2024	I	Stonefield Engineering & Design

The following is an itemized response to the comments contained within the OHM Advisors Review Letter dated April 19, 2024. For the sake of brevity, any comments that are statements of fact or have been previously addressed are not included in the response below:

B. Site Plan Comments

Site Utilities

 It is recommended that the applicant provide the domestic water service connection directly to the existing water main instead of to the proposed hydrant service. This office defers to YCUA on the review and approval of the final water main and water service layout.

Noted.

Stormwater Management

2. The applicant shall provide a stormwater narrative, clarifying the existing and proposed stormwater management, as well as how stormwater will be managed around the building (i.e. roof drains, etc.).

A stormwater management narrative is provided on Sheet C-II of the Site Development Plans.

Municipal Response Letter Proposed Convenience Store and Fuel Sales Ypsilanti, MI June 12, 2024

Paving and Grading

3. It is recommended that the applicant provide a sidewalk connection to the sidewalk along S Hewitt Rd.

A sidewalk connection to S. Hewitt Rd. has been provided. Refer to Sheet C-6 of the Site Development Plans.

Should you have any questions regarding the submission items or responses above please do not hesitate to contact our office.

Regards,

Eric Williams, PE

Fre William

Stonefield Engineering and Design, LLC

Nik Bauer

Stonefield Engineering and Design, LLC

nibBu

 $Z:\label{thm:local_constraint} Z:\label{thm:local_constraint} Z:\label{thm:local_constraint} Z:\label{thm:local_constraint} I:\label{thm:local_constraint} Z:\label{thm:local_constraint} I:\label{thm:local_constraint} I:\label{thm:local_constraint$

June 12, 2024

Gary Streight, PE Project Manager Washtenaw County Road Commission 555 N. Zeeb Road Ann Arbor, MI

RE: Engineering Review

Proposed Convenience Store and Fuel Sales

Parcel ID: K11-39-350-022, K-11-39-350-023, K-11-18-100-019

2103 West Michigan Avenue

Ypsilanti Charter Township, Washtenaw County

Mr. Straight:

Our office is submitting documents on behalf of the Applicant to address the outstanding conditions of the Board's Resolution including comments contained within the latest Engineering review email. Please find the following items enclosed:

ITEM DESCRIPTION	DATED	COPIES	PREPARED BY
Site Development Plans	06-12-2024	I	Stonefield Engineering & Design

The following is an itemized response to the comments contained within the Engineering Review Email dated May 15, 2024. For the sake of brevity, any comments that are statements of fact or have been previously addressed are not included in the response below:

Comments

I. Investigate the possibility of an existing sanitary sewer lead serving the property rather than installing a new lead. If no sanitary lead exists, the pavement area removed and replaced shall be a full lane width, not a partial width.

At this time no existing sewer leads are available for reuse. The proposed sanitary connection has been updated to show a full lane's width removal & replacement.

2. The watermain crossing Hewitt Road shall be a jack and bore. The proximity to the intersection will not provide sufficient space for vehicle stacking if the road were to be open cut.

This has been revised. Refer to Sheets C-2 & C-14 for the newly proposed jack & bore locations & details.

3. The HMA pavement cross section shall be 1.5" 5EI, 1.5" 4EI, 2" 3C over 10" 21AA limestone.

This has been revised. Refer to detail #4 on Sheet C-19

4. Include MDOT Special Detail R-28 series in the plan set.

STONEFIELDENG.COM

WCRC Response Letter Proposed Convenience Store and Fuel Sales Ypsilanti, MI June 12, 2024

This has been added. Refer to Sheet C-21

5. Provide a cost estimate for all work within the right of way.

A cost estimate will be provided during the future engineering review phase.

6. An inspection fee equal to 3% of the cost estimate, \$500 minimum, along with a deposit equal to the full amount of the cost estimate must be provided in the form of a letter of credit or cashier's check.

All fees & deposits will be provided during the future engineering review phase.

7. Provide the name, contact info and certificate of insurance for the contractor performing the work.

All contact information will be provided during the future engineering review phase.

Should you have any questions regarding the submission items or responses above please do not hesitate to contact our office.

Regards,

Eric Williams, PE

Fre William

Stonefield Engineering and Design, LLC

Kevin Heffernan, PE

Stonefield Engineering and Design, LLC

V:\DET\2023\DET-230091.01-Skilken Gold-2103 West Michigan Avenue, Ypsilanti Charter Township, MI\Correspondence\Outgoing\County\2024-06-11_WCRC Response Letter.docx

June 12, 2024

Theresa M. Marsik, P.E. Stormwater Engineer Washtenaw County Water Resources Commission 705 N Zeeb Road Ann Arbor, MI 48103

RE: Site Plan Review #1

Proposed Convenience Store and Fuel Sales

Parcel ID: K11-39-350-022, K-11-39-350-023, K-11-18-100-019

2103 West Michigan Avenue

Ypsilanti Charter Township, Washtenaw County, Michigan

Ms. Marsik:

Our office is submitting documents on behalf of the Applicant to address the outstanding conditions of the contained within the latest Site Plan review letter. Please find the following items enclosed:

ITEM DESCRIPTION	DATED	COPIES	PREPARED BY
Site Development Plans	06-12-2024	I	Stonefield Engineering & Design
Geotechnical Report & Infiltration Analysis	04-02-2024	I	Materials Testing Consultants

The following is an itemized response to the comments contained within the Washtenaw County Water Resources Commission Review Letter dated May 22, 2024. For the sake of brevity, any comments that are statements of fact or have been previously addressed are not included in the response below:

1. The engineer's certificate of outlet, accompanied by corresponding calculations and documentation, should be submitted to our office for review.

The certificate of outlet will be deferred until the engineering review phase. Please note the development team has had multiple meetings with EGLE to confirm that the overall discharge to the southern wetlands is acceptable.

2. An infiltration testing report, meeting the reporting requirements listed in the rules of this office and signed and sealed by a licensed geotechnical engineer, should be submitted to our office for review.

Please refer to the Geotechnical Report & Infiltration Analysis, included within this resubmission.

3. A storm water narrative should be prepared and submitted to our office for review.

Refer to the stormwater narrative on Sheet C-12.

4. A drainage area map should be included with the design plans on the grading sheet.

Refer to the drainage maps on Sheet C-13, outlining all pervious areas as well as the type & hydrologic group of the underlying soils.

County Response Letter Proposed Convenience Store and Fuel Sales Ypsilanti, MI June 12, 2024

- 5. An emergency overflow channel, approximately 0.25 to 0.5 feet above the 100-year storm volume elevation, with an unimpeded route to a receiving channel should be included in the detention basin design.
 - A 10'-wide emergency overflow has been added to the south side of the proposed basin. The emergency overflow will be designed per all County requirements, and more details will be added during the engineering review phase.
- 6. A 6-inch interceptor layer of sand must be applied to the bottom of the infiltration basin to filter out sediment and debris. In addition, a maintainable engineered structure, such as an infiltration trench, must be placed in the bottom of the infiltration basin.
 - Noted. A cross-section & additional details of the proposed basin will be added during the engineering review phase. The basin will include the 6" sand interceptor layer and will be noted within the proposed cross-section.
- 7. Based on site information available on MapWashtenaw and in the rules of this office, portions of the site are covered by hydrologic soil types B, C, and D. The soil types and the areas that they cover should be presented on the grading plan. The curve numbers and runoff coefficients used on Worksheet W1 should be revised to reflect both the proposed impervious and pervious areas that are underlain by hydrologic soil groups B, C, and D.
 - Refer to the drainage maps on Sheet C-13, outlining all soil types & hydrologic groups noted onsite. Per the provided geotechnical report & available mapping, we conclude that the vast majority of underlying soils reflect HSG 'A' due to their sandy nature and high infiltration rates. This has been reflected in the updated stormwater calculations on Sheet C-22.
- 8. The curve number used on Worksheet W3 corresponds to hydrologic group C soils, rather than a weighted average based on those portions of the drainage area that are underlain by groups B, C ,and group D soils. This directly affects the required infiltration volume determined on Worksheet W9 and should be corrected.
 - This has been revised Refer to the above response #7.
- 9. Worksheet W11 included a volume credit for storage in stone. A profile drawing of the basin must be included in the next submittal. At a minimum, the bottom of basin elevation, the thickness of the stone layer, the freeboard elevation, and the emergency overflow elevation must be called out.
 - No Stone storage is proposed, and the subsurface credit has been removed. Refer to the updated stormwater calculations on Sheet C-22.
- 10. The next submittal should include outlet calculations.
 - Outlet calculations have been provided Refer to Sheet C-22.
- 11. The basin area shown on the landscape plan was hatched up to Elevation 783 feet. The plan did not contain a legend that identified the significance of the hatching.
 - a. If it was to denote the area of the basin plantings, the hatched areas should be expanded to include both the basin and buffer areas.
 - The hatching represents the infiltration basin planting. Mix information has been provided in table-form at the bottom of Sheet C-15.
- 12. A long-term stormwater maintenance plan, including budget and responsible party, should be designed and included with the plan set.

County Response Letter Proposed Convenience Store and Fuel Sales Ypsilanti, MI June 12, 2024

A stormwater O&M plan will be provided during the future engineering review phase.

13. Inspection of the infiltration basin following storms of 1 inch or more should be added to the long-term maintenance plan.

Noted. A stormwater O&M plan will be provided during the future engineering review phase.

14. A note should be added to indicate that no chemicals are allowed in stormwater features or buffer zones with the following exception: invasive species may be treated with chemicals by a certified applicator.

The above note has been added in the top-left corner of Sheet C-15.

15. The note regarding stormwater detention pond planting soils, listed on plan sheets C-13 and C-14, must be modified to state that the clay content of the planting soil should be limited to a maximum of 10 percent.

The above note has been added.

16. Within areas above the first flush elevation of the proposed infiltration basin, seeding and/or live plantings are allowed. Only native seeds (as defined by Michigan Flora, michiganflora.net) are allowed for permanent soil stabilization. Annual seeds are allowed in an amount necessary to temporarily stabilize the limits of disturbance. Include the species list and quantity for the Native Grass seed mix.

Noted. Plantings have been limited to the extents of the basin, and species have been selected with the above native planting lists in mind.

17. Below the first flush elevation within the proposed infiltration basin, live plantings must cover the entire area. The first flush elevation should be noted on the details. Native plants are preferred. Cultivars and non-native perennials are allowable if approved by WCWRC. Plants listed on the WCWRC Rain Garden Plant List are acceptable. Invasive species are not allowed (see the City of Ann Arbor's invasive species list).

Refer to the infiltration basin planting table on Sheets C-15 & C-16.

18. Plantings should be locally adapted and appropriate to the hydric conditions proposed. For more information on individual species, see "Plants for Stormwater Design: Species Selection for the Upper Midwest" by Daniel Shaw & Rusty Schmidt.

Noted.

19. Please see the attached invoice for the current fees and remit these fees upon receipt. As requested, the invoice is being submitted directly to Skilken Gold.

Noted.

County Response Letter
Proposed Convenience Store and Fuel Sales
Ypsilanti, MI
June 12, 2024

Should you have any questions regarding the submission items or responses above please do not hesitate to contact our office.

Regards,

Eric Williams, PE

Fre William

Stonefield Engineering and Design, LLC

Z:\Michigan\DET\2023\DET\-230091.01-Skilken Gold-2103 West Michigan Avenue, Ypsilanti Charter Township, MI\Correspondence\Outgoing\County\2024-05-23_WCWRC Response Letter.docx

June 12, 2024

Scott D. Westover
Director of Engineering
Ypsilanti Community Utilities Authority
2777 State Road
Ypsilanti, MI 48198

RE: Site Plan Review #1

Proposed Convenience Store and Fuel Sales
Parcel ID: K11-39-350-022, K-11-39-350-023, K-11-18-100-019

2103 West Michigan Avenue

Ypsilanti Charter Township, Washtenaw County, Michigan

Mr. Westover:

Our office is submitting documents on behalf of the Applicant to address the outstanding conditions of the contained within the latest Site Plan review letter. Please find the following items enclosed:

ITEM DESCRIPTION	DATED	COPIES	PREPARED BY
Site Development Plans	05-09-2024	I	Stonefield Engineering & Design

The following is an itemized response to the comments contained within the Ypsilanti Community Utilities Authority Review Letter dated April 25, 2024. For the sake of brevity, any comments that are statements of fact or have been previously addressed are not included in the response below:

1. Both 2059 and 2103 W. Michigan have water services connected to the 8" diameter water main on the opposite side of the road, if not used for the proposed redevelopment the project will be responsible for disconnecting each service from the water main with each corporation stop closed.

A note has been added to the demolition plan stating that the existing service connections shall be removed to the 8" water main within the Michigan Ave. right-of-way. Refer to Sheet C-2 of the Site Development Plans.

2. Both 2059 and 2103 W. Michigan were connected to the sanitary sewer system – 2059 was tapped into the sanitary sewer pipe and 2103 was tapped into a manhole in the southerly curb line east of the existing driveway. If these services are not reused as part of the proposed redevelopment the project will be responsible for properly abandoning each connection.

The existing sanitary sewers will be properly abandoned during construction.

3. The proposed 8" diameter water main alignment needs to be revised such that it is perpendicular to the centerline of Hewitt Road until it is outside the influence of the pavement.

The proposed water service connection has been updated to be perpendicular to the Hewitt Rd. centerline. Refer to Sheet C-I3 of the Site Development Plans.

STONEFIELDENG.COM

YCUA Response Letter
Proposed Convenience Store and Fuel Sales
Ypsilanti, MI
June 12, 2024

Should you have any questions regarding the submission items or responses above please do not hesitate to contact our office.

Regards,

Eric Williams, PE

Fre William

Stonefield Engineering and Design, LLC

Nik Bauer

Stonefield Engineering and Design, LLC

NiBBur

Z:\Michigan\DET\2023\DET\2003\

June 12, 2024

Steve Wallgren, Fire Marshal Charter Township of Ypsilanti Fire Department Bureau Of Fire Prevention 222 South Ford Boulevard Ypsilanti, MI 48198

RE: Site Plan Review #1

Proposed Convenience Store and Fuel Sales
Parcel ID: K11-39-350-022, K-11-39-350-023, K-11-18-100-019
2103 West Michigan Avenue

Ypsilanti Charter Township, Washtenaw County, Michigan

Mr. Wallgren:

Our office is submitting documents on behalf of the Applicant to address the outstanding conditions of the contained within the latest Site Plan review letter. Please find the following items enclosed:

ITEM DESCRIPTION	DATED	COPIES	PREPARED BY
Site Development Plans	06-12-2024	I	Stonefield Engineering & Design

The following is an itemized response to the comments contained within the Charter Township of Ypsilanti Fire Department Review Letter dated April 22, 2024. For the sake of brevity, any comments that are statements of fact or have been previously addressed are not included in the response below:

Site Access

• Fire Department site access is adequate.

Noted

A minimum of 13' 6" height clearance is required for the Fuel Canopy.

A vertical clearance of 17'1" is provided under the canopy.

Suppression / Hydrants

• The proposed Hydrant location provides the appropriate 250' coverage of the structure.

Noted.

Municipal Response Letter Proposed Convenience Store and Fuel Sales Ypsilanti, MI June 12, 2024

Should you have any questions regarding the submission items or responses above please do not hesitate to contact our office.

Regards, William

Eric Williams, PE

Stonefield Engineering and Design, LLC

Z:\Michigan\DET\2023\DET\2003\