SPRINGFIELD CHARTER TOWNSHIP

PLANNING COMMISSION

REGULAR MEETING

July 28, 2026 l 7:00 P.M.

AGENDA

CALL TO ORDER

AGENDA APPROVAL

CONSENT AGENDA

1. Approve minutes of June 23, 2026 Regular Meeting

PUBLIC HEARING

1. Huffmaster Racing – Class B License – 10375 Dixie Hwy – 07-03-451-005 (M1)
2. Heather Highlands – Prelim/Final Site Plan – 11450 E. Holly Rd – 07-04-376-006 (RC)

OLD BUSINESS

1. Draft Data Center Zoning Ordinance Amendments

NEW BUSINESS

1. Huffmaster Racing – Class B License – 10375 Dixie Hwy – 07-03-451-005 (M1)
2. Heather Highlands – Prelim/Final Site Plan – 11450 E. Holly Rd – 07-04-376-006 (RC)
3. Sheetz Gas Station – Prelim Site Plan – 8500 Dixie Hwy – 07-24-201-019 & 07-24-201-003 (C2)

COMMUNICATION

- Levy Updates and Project Status

PUBLIC COMMENT

Public Comment is the time for audience members to comment on items not on the agenda. This is not a question-answer period. Please keep comments to no more than three minutes. Comments may be submitted in advance of the meeting to the Township Clerk at clerk@springfield-twp.us or 248-846-6510.

ADJOURNMENT

Next Meeting: August 25, 2026 Regular Meeting 7:00 p.m.

Minutes of
PLANNING COMMISSION
REGULAR MEETING
June 23, 2026

SPRINGFIELD CHARTER TOWNSHIP

Sean R. Miller, Clerk

Call to Order: Chairperson Galley called the June 23, 2026 Regular Meeting of the Springfield Township Planning Commission to order at 7:01 p.m. at the Springfield Township Civic Center, 12000 Davisburg Rd., Davisburg, MI 48350.

Commissioners
In Attendance:

Brian Galley, Chair
Ruth Ann Hines
Kevin Sclesky
Steve Felix

Absent:

Andrew Donato
Mark Yovich
Jason Price

Consultants' Present:

Megan Masson-Minock, Township Planner

Approval of Agenda:

Commissioner Sclesky moved to approve the agenda as presented. Commissioner Felix supported. Vote. Yes: Galley, Hines, Sclesky, Felix. No: None. Absent: Donato, Price, Yovich. Motion approved.

Approval of Consent Agenda:

1) Approve Minutes of May 26, 2026 Regular Meeting

Commissioner Sclesky moved to approve the Planning Commission Meeting Minutes dated May 26, 2026 as presented. Supported by Commissioner Hines. Vote. Yes: Galley, Hines, Sclesky, Felix. No: None. Absent: Donato, Price, Yovich. Motion approved.

Old Business

1. Draft Data Center Zoning Ordinance Amendments

Before beginning the agenda item, Chairperson Galley shared an update regarding the Township Supervisor Ric Davis, who recently underwent surgeries. He reported that Supervisor Davis is recovering well and expects to return to work very soon.

Chairperson Galley moved into discussion of the first agenda item which is a draft zoning ordinance amendment for data centers. He explained that the Township Board previously placed a moratorium on data center applications to allow time for review and to update Township regulations. He noted that Michigan currently has a mix of older and newly approved large-scale data centers, and that state-level legislative activity may eventually require changes. Because of this, the Township aims to put sensible protections in place now, while remaining prepared to adjust the ordinance in the future if state or federal directives conflict with local rules.

Township Planner Megan Masson-Minock provided an overview of the draft ordinance prepared. She explained that the proposed language combines earlier material from prior Township Planner Giffels Webster with additional updates based on legal review and planning experience. This draft has several categories of data centers, ranging from small "accessory" operations to very large, high-energy-use, hyperscale facilities. These categories are based on factors such as floor area, megawatt usage, acreage, and hours of operation.

Planner Masson-Minock began diving into the details of the types of data centers. She started with accessory data centers which typically are used as server rooms only by a business for its own operations, these types would be allowed in office, commercial, and industrial districts as long as they remain inside the same principal building and are not leased to others. She explained that larger facilities would require special land use approval, which gives the Township additional review authority, allowing notification requirements to nearby property owners, and discretion to deny applications if detrimental impacts are found to be incompatible with surrounding areas.

Planner Masson-Minock moved into requirements for large-scale and hyperscale operations. She explained that these include energy-generation expectations, closed-loop water systems, environmental monitoring, fire and emergency planning, and rules for noise, vibration, air quality, and thermal emissions. For the largest types of data centers, annual reporting on water and electricity use is required, along with hazard-mitigation planning and infrastructure-impact evaluations. She emphasized the need of decommissioning plans, supported by 100% escrow, to prevent the Township from the cleanup costs if a facility closes and abandons the property.

Planner Masson-Minock explained that the draft also proposes updates to phasing language, ensuring that each construction phase can stand alone, has stronger standards for construction-site screening, and vehicle-stacking room for gated entrances. She stated that definitions that support the new sections are included at the front of the draft.

Commissioner Felix asked for help to identify the standards used during special land use reviews, noting that these are key decision-making tools.

Planner Masson-Minock stated that the Township's existing ordinance section outlines those standards, which include compatibility with surrounding development, traffic and access considerations, impacts on adjacent properties, and consistency with the Master Plan.

Commissioner Sclesky commented on the wide variety of responses other Michigan communities have faced, including lawsuits following denials to applications withdrawn after public opposition. He added

that he would like more time to review the draft emphasizing the energy production and water use requirements and compare them with proposals being discussed at the state level.

Commissioner Hines noted that the setback language appeared to list distances in the wrong order, and the noise level standards that may not line up with the Township's existing ordinance.

Chairperson Galley confirmed that no data center applications have been received. He stated he has only heard about an inquiry that was a general phone call but no follow up has been made. He stated that believed phone calls were made to many municipalities statewide to get a feel of municipalities reactions. He stated he believed that based on location and infrastructure needed, the only site in the Township that might meet these standards is the industrial area near Cadillac Asphalt and the nearby DTE switch facility off Edgar Rd.

Commissioners agreed that the draft requires additional review time, especially with three members absent tonight. The Township Board's recent one-month extension of the moratorium allows for this continued work. No formal action was taken on the ordinance draft during this meeting.

Chairperson Galley noted that the Township Board is expected to take action on the data-center moratorium at its next meeting, most likely extending it.

Commissioner Sclesky confirmed this expectation.

New Business

1. Springfield Oaks Sign Application – 12451 Andersonville Road – 07-20-201-016

Chairperson Galley moved to the New Business item which a sign application for Springfield Oaks, located at 12451 Andersonville Road. He explained that the applicant is requesting a ground sign near the entrance to the 4H horse-farm facilities. He explained that this type of request comes to the Planning Commission because of the way the Township ordinance is written which handles additional signs on a parcel.

Planner Megan Masson-Minock summarized that the proposed sign meets ordinance standards except the support structure is one square foot larger than allowed. She explained that the Commission could either approve the sign on the condition that the support structure is reduced to eight square feet or require the applicant to seek a variance from the Zoning Board of Appeals. She also explained that although Springfield Oaks already has several signs near Andersonville Road, those signs are on a different parcel, so this application can still meet ordinance requirements. The new sign is intended to advertise the community garden on site is not related to the main fairgrounds entrance.

A representative from the Parks department noted that activities at the garden area will be open to the public, and that adjusting the sign to eight square feet should work.

A member of the public asked where archery activities would take place, and the Parks representative said they would be in the garden area east of the Herefords.

Commissioner Sclesky moved to approve the sign permit for Springfield Oaks County Park, with the condition that the applicant either reduce the sign from nine square feet to eight or request a variance from the ZBA. Supported by Commissioner Felix. Vote. Yes: Galley, Hines, Sclesky, Felix. No: None. Absent: Donato, Price, Yovich. Motion approved.

Communication:

1. Levy/Burroughs Materials Corporation Application Update

Chairperson Galley reminded everyone that the Township agreed some months ago to keep this item on every agenda, even if only brief information is available.

Planner Masson-Minock reported that there have been no meetings between the Township and Levy since the last update. She also informed that she contacted Levy representative Reuben Maxbauer, who said exploratory well drilling may continue next month but the schedule could change. She noted that the Township received a Freedom of Information Act request on May 22, 2026, from Levy/Burroughs Company, seeking documents and communications about their application.

Public Comment:

Chairperson Galley opened public comment at 7:44 PM. He reiterated the rules of keeping comments to three minutes. When the previous speaker finishes, raise your hand and he will recognize the next person.

A member of the public spoke about noise concerns related to data centers. He referenced examples they found online where nearby homes experienced continuous buzzing noise at high decibel levels, even several miles away. He urged the Township to put strong requirements in place so noise cannot travel off the site. He also emphasized the Township needs to require closed-loop water systems to protect the groundwater. The resident suggested that Township officials should visit an existing data center to hear the noise firsthand before making decisions.

A member of the public asked whether a moratorium on data centers was in effect.

Commissioner Sclesky explained that the Township Board initially passed a six-month moratorium and at the last meeting extended it by 30 days and will add additional 30-day extensions at each Board meeting if more time is needed.

Steve Ford, a resident of Groveland Township, shared that their Township has been approached by two data-center developers seeking access to major power infrastructure, including ITC lines. He said they are looking at large parcels near ITC lines in Groveland Township and are also very close to Springfield Township. He shares that his Township are working on ordinances to ensure any proposal makes sense for the community, especially regarding water use and environmental impacts. He encouraged Springfield Township to stay proactive and aware of what nearby communities are experiencing.

Resident Kara Okonewski addressed earlier comments about data-center inquiries being a phone call. She explained that an actual pre-application meeting took place on December 15, 2025, involving Township officials and a representative from Cushman & Wakefield. She recommended that the public and Planning

Commission to review the minutes posted on the Township's website and stressed the importance of accurate communication. She also questioned why certain officials were or were not present at different meetings.

Commissioner Felix responded by explaining that the representative was gathering information for a potential buyer, and no land had been purchased or application submitted.

Resident Dave Okonewski asked when the public would have an opportunity to ask detailed questions about the proposed zoning language for the data center. He explained that he worked in IT and there were many unclear or incomplete definitions and thresholds in the draft. He highlighted concerns about how data centers were defined, how square footage was measured, and how generator capacity was calculated. He also corrected earlier comments about megawatt-to-home-use comparisons was incorrect and it was actually closer to 830 homes not 30 homes.

Chairperson Galley encouraged him to submit his concerns in writing so they can be reviewed during the ordinance-drafting process.

Resident Stephanie Nahas spoke about concerns regarding data centers are similar to those of the proposed gravel mine. She listed issues including electricity rates, water use, noise, air quality, and long-term environmental risks. She recently went on a trip and passed many gravel mines, and she took photos to share with the Commissioners. She noted they were not located near homes, schools, or churches. She reiterated the need for the Township to conduct independent studies on property-value impacts, pointing out that studies paid for by the applicant do not match findings of independent research. She also noted that residents have already had difficulty selling their homes.

Resident Ann Mauro-Vetter focused on property values and the need for independent studies. She stated that the Township previously said independent studies had been commissioned, but none have been posted. She questioned the credibility and accuracy of the applicant's property-value report, which stated there would be no negative impact on home values from the mine. She shared multiple independent studies showing significant reductions in nearby home values when near a mine. She stressed that residents deserve accurate, unbiased information before any decisions are made.

Cindy Howell, a resident of Rose Township, expressed concerns about the gravel mine's environmental, health, and safety impacts. She felt there was a lack of transparency from Township leadership and referenced emails suggesting a possible conflict of interest in early communications between the Township Supervisor and Levy discussed a discounted gravel cost for approval of their application. She stated that these concerns undermine trust and make the review process appear biased. She emphasized the need for transparency and for decisions based on community interests rather than Levy's influence.

Kathy, a resident of Rose Township, expressed concerns about property values near the proposed mine. She criticized the applicant-funded property study as unrealistic, noting that it states there would be "zero impact" on homes directly adjacent to a mine. She said a state-licensed assessor told her the report was unreliable. She urged the Township to hire its own independent appraiser to , stating that Rose Township residents will bear the impacts without receiving any of the benefits.

Cynthia stated that residents have been voicing concerns about the gravel mine for over a year, while Levy has been allowed to move slowly through the process. She stated that the mine will have long-term negative effects on health, safety, property values, air and water quality, and quality of life. She spoke with gravel mine workers and they agreed that gravel pits do not belong near residential neighborhoods and asked the Township to consider the long-term harm to residents rather than the financial interests of the company.

A member of the public made a brief point about the applicant's "proof of need," noting that the need analysis relied on information from Ace Asphalt, who is a subsidiary of the applicant. She suggested this calls the credibility of the need assessment into question.

Heather, a Rose Township resident, described how peaceful the area has been since she moved there in 1999. She worries that gravel-truck traffic on Milford Road would increase accidents, as she has already replaced multiple windshields over the years due to gravel trains. She fears the noise and environmental impact would dramatically change daily life, and she is especially concerned for residents living even closer to the proposed site.

Anilari from Independence Township stated he was a candidate for state representative. He shared he lives less than 100 feet from the Springfield Township boarder so has a strong connection to this community. He shared that he attended the meeting to learn more about the mine and data-center issues. He said the applicant's property-value study "did not pass the smell test" and that common sense alone suggests a gravel pit near homes will negatively affect property values.

Eric Keydel stated he lives about 1,700–1,800 feet from the proposed mine. He stated that gravel pits typically make sense near highways, not neighborhoods. He shared that his family moved to Springfield Township for its nature and quiet environment, and that learning about the mine caused them to reconsider staying. He shared a personal story about a late-term pregnancy loss that shaped his family's priorities, and he worries the mine will remove the peaceful environment they sought. He also said the mine could endanger neighbors who have health conditions.

Brandon Boucher, a professional engineer living less than a mile east of the site, spoke about air-quality concerns, especially involving respirable crystalline silica (RCS). He explained how winds would carry fine particles toward nearby homes and children, and that silica dust is a known carcinogen. He described why water trucks cannot fully control microscopic dust and urged the Township to require detailed dust-dispersion studies. He said allowing an open-air mine near homes places children at serious risk.

Jack thanked the planning staff for their updates and suggested that any ordinance amendments include strong standards for backup-generator noise, citing his experience with sound-mitigated equipment at Chrysler. He also emphasized the importance of minimizing light pollution from data centers, recommending task lighting and motion-controlled systems to preserve the night sky.

Dwayne Reed spoke about the safety risks associated with heavy gravel-truck traffic on Ormond Road. He recalled earlier meetings where concerns were raised about emergency response equipment. He described the road as unsafe for large trucks due to the hills and turns, particularly in winter, and said the project poses life and death risks. He urged commission to put resident safety first.

Lisa, who lives in White Lake but has family on Ormond Road, described witnessing a fatal accident years ago involving a gravel truck and an elderly driver. She said the proposed mine raises major safety concerns for school buses, winter travel, and everyday driving. She fears for her sister and brother-in-law, one of whom has serious respiratory conditions, who live very close to the proposed site.

Commissioner Hines moved to adjourn the meeting at 8:27 PM. Supported by Commissioner Felix. Vote. Yes: Galley, Hines, Sclesky, Felix. No: None. Absent: Donato, Price, Yovich. Motion approved.

_____

Danielle Sink, Recording Secretary

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

TO: Springfield Charter Township Planning Commission

FROM: Megan A. Masson-Minock, AICP

DATE: June 15, 2026

RE: Draft Zoning Ordinance Amendments for Data Centers and Large-Scale Industrial Developments

Please find attached zoning ordinance amendments to define the application process and where and how data centers and large-scale industrial developments could be allowed in Springfield Township. As you may recall, the Township has placed a moratorium on data center developments in order to develop the proper regulations. The attached draft zoning ordinance amendments were originally drafted by Giffels Webster and then supplemented by Carlisle Wortman, based on our firm's working model and input from the law firm Rosati, Schultz, Joppich, Amtsbuechler.

At your upcoming meeting, the Planning Commission should provide input as to whether the proposed zoning ordinance amendments sufficiently address how and where these types of uses could be allowed and ask questions. The zoning ordinance amendments propose the following:

- Data centers as an accessory use in the O-S, C-1, C-2, M-1, and M-2 zoning districts under the following circumstances: the data center only serves the principal use and the data center is housed in the same building as the principal use.
- Minor data centers (floor area of 25,000 square feet or less, maximum electrical load of 1 megawatt, and lot of 10 acres or less) as a special land use in the M-1 and M-2 zoning districts.
- Major data centers (floor area of more than 25,000 square feet, electrical load greater than 1 megawatt, or lot greater than 10 acres) and large-scale industrial developments (continuous or near-continuous operation, and significant mechanical, electrical, or cooling infrastructure) as special land uses in the M-2 zoning district.
- Data centers that do not qualify as large-scale industrial developments must fully enclose equipment, when possible, use a closed-loop circulation method, submit a noise study with the site plan, and allow a post-construction noise study. Increased setbacks are required with adjacent to any residentially used or zoned property, primary /secondary school, medical clinic, park, day-care center and preschool, hospital, or medical center.

Benjamin R. Carlisle, *President* John L. Enos, *Vice President*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* Craig Strong, *Principal* Douglas J. Lewan, *Principal*
Richard K. Carlisle, *Past President/Senior Principal* R. Donald Wortman, *Past Principal*

- Large-scale industrial developments are subject to the same or stricter requirements than data centers, such as:
    - Energy and sustainability requirements and annual reporting.
    - Hazardous materials storage and waste information and management plan.
    - Decommissioning requirements if the data center ceases operation for 12 months or more, including a required escrow for 100% of the restoration cost and benchmarks.
    - Fire and emergency response plan.
    - Noise and vibration requirements, monitoring, and annual reporting.
    - Air quality and thermal emissions standards.
    - Regulations for Battery Energy Storage Systems (BESS), if proposed.
    - Regulations for on site substations or switchyards, if proposed.
    - For new large-scale industrial developments or data centers, or expansions that exceed in total on site 25,000 square feet in floor area or an IT load of 10 megawatts or more, a risk management plan is required. The risk management plan has an impact analysis, risk mitigation requirements for local workforce, public safety, environmental performance and enhancements, infrastructure improvements, sustainability/energy plan, community transparency, and a development agreement.
- Amendments to specific sections of the Zoning Ordinance to require that all phases of a development can stand "on its own in terms of the presence of services, facilities, and open space, and shall contain the necessary components to ensure protection of natural resources and the health, safety, and welfare of the users of the development and the residents of the surrounding area."
- Requirement that screening walls are installed prior to above-grade construction.
- Requirement for sufficient room for stacking of vehicles when a gate is proposed on a non-residential property.
- Definitions to support the above regulations

I will be in attendance at the June 23, 2026 Planning Commission meeting. Please let us know if you have any questions.

Respectfully submitted,

Megan A. Masson-Minock

CARLISLE/WORTMAN ASSOC.,INC
Megan Masson-Minock, AICP
Principal

MEMO

New Business

TO: Planning Commission

FROM: Supervisor's Office

DATE: July 28, 2026

RE: Huffmaster Racing – Class B License – 10375 Dixie Hwy – 07-03-451-005 (M1)

Background:

Huffmaster Racing Auto and Speed Shop received Township approval for a change of use at 10375 Dixie Highway in November 2025. The business has since submitted a request to the Township for approval to obtain a Class B Used Vehicle Dealer License and a Class C Used Vehicle Parts Dealer License. Please see the attached materials documenting their application.

Items attached:

1. Site Plan Application 6/1/26
2. Narrative Letter 6/1/26
3. Site Compliance 40-629 Letter 6/1/26
4. Carlisle Wortman Planning Review 1 6/17/26
5. Carlisle Wortman Planning Review 2 - 7/21/26
6. Fire Department Letter 1 6/2/26

SPRINGFIELD
CHARTER TOWNSHIP
SUPERVISOR'S OFFICE
248-846-6502 | FAX 248-6548

APPLICATION FOR SITE PLAN REVIEW

Please Review Instruction Page Before Completing

Applicant

Name	Huffmaster AutoHaus, LLC
Address	10375 Dixie Hwy., Ste A.
City, State, Zip	Davisburg, MI 48350
Phone	248-760-1302
Email	rjh@huffmaster.com
Interest	

All Parties of Interest (Title Holder, Contract Purchaser, Partners): Include for Each

Name	Raymond Huffmaster	Name	Robert Huffmaster
Address	9755 Pine Knob Rd., Clarkston 48348	Address	927 N Cranbrook rd, Bloomfield Hills, Mi 48301
Phone	248-616-8338	Phone	248-760-1302
Email	reh@huffmaster.com	Email	rjh@huffmaster.com
Interest	85%	Interest	10%

Name	Matthew Spicuzzi	Name	NA
Address	2786 Marlington, Waterford, MI 48329	Address	
Phone	248-561-0822	Phone	
Email	matt@huffmastermotorsports.com	Email	
Interest	5%	Interest	

Designer: (Registered Engineer, Architect, Surveyor, Landscape Architect, Planner)

Name	N/A Anthony T. Sycko, JR	Name	NA
Address	22556 Gratiot Ave. Eastpointe, MI 48021	Address	
Phone	800-295-7222	Phone	
Email	TSycko@Kemtec-Survey.com	Email	
Interest	Surveyor	Interest	

Name	NA	Name	NA
Address		Address	
Phone		Phone	
Email		Email	
Interest		Interest	

Other Consultants:

Name	NA	Name	NA
Address		Address	
Phone		Phone	
Email		Email	

General Property Information and Description:

General Location	West side of Dixie Hwy., North of Enterprise Drive
Current Zoning	M-1
Acreage	
Parcel ID Number	Per Oakgov.com - 07-03-451-005
Legal Description	
	(Attach Metes and bounds description where applicable)

Purpose of Request and Intended Use:

Please see Huffmaster Racing Auto & Speed Shop Site Plan Usage Overview
Please see sirte plan compliance
statement regarding sec. 40-629

CERTIFICATION: I hereby certify that I have reviewed the Springfield Township Zoning Ordinance and Design & Constructions Standards and agree to comply with those requirements. I have also read and understand the Instructions to Applicant. I understand that the fee entitles me to reviews of the original plan and one revision. Each additional revision will require a fee of 50% of the original.

I hereby grant permission to any township official, consultant or employee to access the property in order to review the site plan submitted.

Signature of Applicant: _____ Date 6/1/26
Rob Huffmaster
(Print Name)

Signature of Owner: _____ Date 6/1/26
Rob Huffmaster
(Print Name)

Signature of Applicant Representative: _____ Date 6/1/26
Rob Huffmaster
(Print Name)

For Township Use Only **File No.** _____

PRELIMINARY [✓] **Date Received** 6/1/26 **Fee $** 2644.25
3rd Review Fee $ _____ **4th Review Fee $** _____

FINAL [ ] **Date Received** _____ **Fee $** _____
3rd Review Fee $ _____ **4th Review Fee $** _____

FINAL ENGINEERING REVIEW [ ] **Date Received** _____ **Fee $** _____
3rd Review Fee $ _____ **4th Review Fee $** _____

12000 DAVISBURG ROAD | DAVISBURG | MICHIGAN | 48350 | 248-846-6500 | WWW.SPRINGFIELD-TWP.US

Huffmaster Racing Auto & Speed Shop Site Plan Usage Overview

Monday, March 9, 2026 1:41 PM

Request

Huffmaster Racing Auto & Speed Shop is seeking township approval for a Class B Used Vehicle Dealership and Class C Used Vehicle Parts Dealer Licenses with the plan to launch Huffmaster AutoHaus, a German specialized automotive recycling and parts reclamation business.

Business Overview

Huffmaster AutoHaus will be a European automotive recycling and restoration facility that turns end-of-life German cars into high-quality recycled parts and professionally restored vehicles, including BMW, Porsche, Audi, Mercedes-Benz, and Volkswagen.

The mission of Huffmaster AutoHaus is to support a more **sustainable automotive ecosystem** by extending the useful life of high-quality vehicle components that would otherwise be discarded. Modern vehicles contain thousands of parts that remain fully functional even when a vehicle is no longer economical to repair. Through professional dismantling and responsible recycling practices, Huffmaster AutoHaus recovers these components so they can be reused by repair facilities, restoration specialists, and automotive enthusiasts.

To responsibly operate this automotive recycling program, Huffmaster AutoHaus intends to obtain a **Michigan Class C Used Vehicle Parts Dealer License**, which authorizes the business to purchase vehicles, perform controlled depollution and dismantling, and resell usable automotive components. This license allows the facility to recover valuable parts while ensuring all materials are processed in accordance with state environmental and recycling regulations. (See Environmental Compliance Plan)

As part of this recycling process, some vehicles acquired through auctions or wholesale automotive markets may be suitable for professional repair and reconditioning. When appropriate, these vehicles will be restored using high-quality reclaimed or new OEM components and returned to the market as fully operational vehicles.

To allow this process, Huffmaster AutoHaus also intends to obtain a **Michigan Class B Used Vehicle Dealer License**, which permits the sale of vehicles that have been repaired or rebuilt as part of the recycling and service operation.

Huffmaster AutoHaus will not operate a traditional outdoor vehicle sales lot. The facility will not display vehicles along the roadway, utilize promotional inflatables, or create visual clutter associated with conventional used car dealerships. Instead there will be limited vehicle inventory that is either screened from public view or stored inside the facility. Vehicle sales will be limited and primarily occur through targeted channels such as online listings, specialty automotive marketplaces, and direct inquires. Customers purchasing vehicles will typically visit the facility by appointment, and in some cases vehicles may be delivered directly to the buyer.

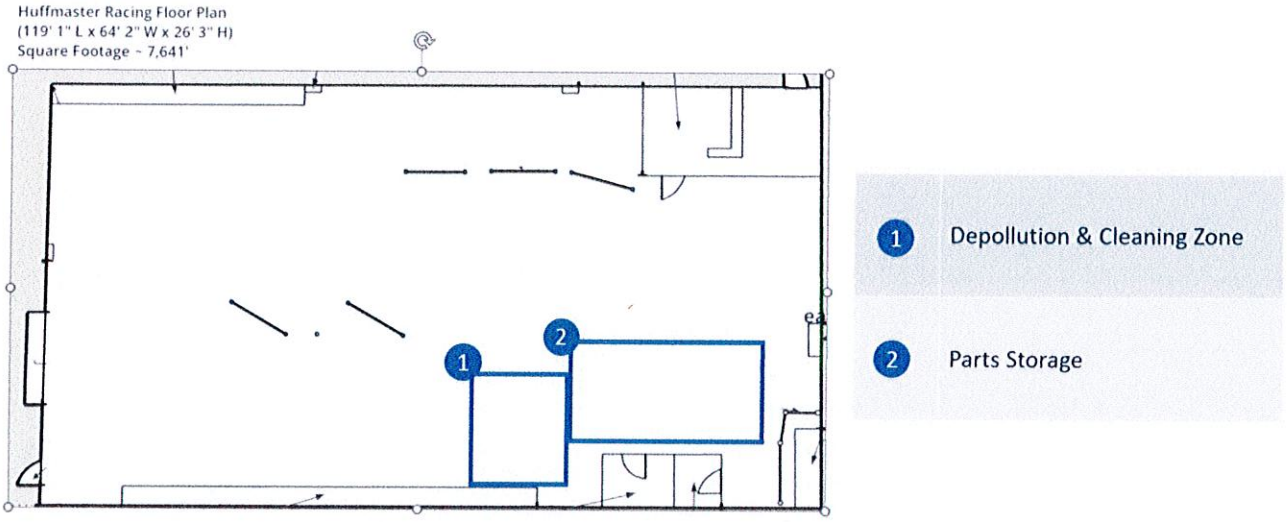
Huffmaster AutoHaus is intentionally designed to function **very differently from a traditional salvage yard or retail dealership**. Vehicles move through a structured processing system that includes inspection, fluid removal, component recovery, and responsible recycling. Recovered components are cleaned, cataloged, and stored in an organized indoor parts warehouse before being sold for reuse. Materials that cannot be reused—such as metals, fluids, batteries, and tires—are responsibly recycled through licensed recycling partners. (See Vehicle Lifecycle Diagram & Environmental Compliance Plan)

This model transforms vehicles that have reached the end of their usable life into a **sustainable source of high-quality automotive parts.** Huffmaster AutoHaus is designed to be a responsible automotive recycling and specialty service facility—not a traditional junkyard or retail dealership—with an emphasis on environmental stewardship, organized operations, and positive integration within the local community.

Site Plan

Interior

Shop Layout – Parts Reclamation

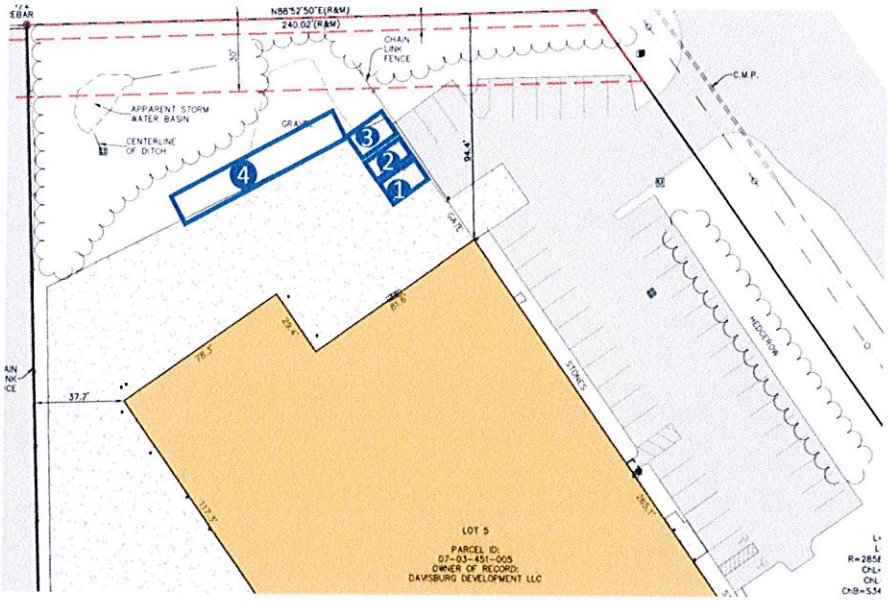


Interior Shop Layout Details

1) Depollution & Cleaning Zone
    a. Performed in a space with a containment mat designed to prevent spills and leaks with watertight seams
    b. Includes 35 gallon spill kit including HPDE can, 11 mil gloves, and heavy duty pads and socks
2) Parts Storage
    a. Heavy duty pallet racking

Exterior

Site Layout – Parts Reclamation



1	Recycled Scrap Storage (Not viewable from road)
2	Discarded Fluid Storage In Secured Structure (Not viewable from road)
3	Used Tires (Not viewable from road)
4	Car Parking (Not viewable from road)

Exterior Site Plan Details

1) Recycled Scrap Storage
   a. To utilize dumpster provided by local scrap yard (Rearden Metal Inc)
   b. Stored behind wall
   c. Taken off site on schedule or when full
2) Discarded Fluid & Battery Storage
   a. Stored in secured structure behind wall
   b. Fluid is stored in 55 gallon drums that sit on top of a spill containment pallet made from HDPE (High Density Polyethylene)
   c. Batteries are stored in a 54x30x3.5 inch ultra containment tray made out of polyethylene designed for use as a storage pad for batteries and other hazardous packages
   d. Taken off site on schedule or when full (Safety-Kleen)
3) Used Tires
   a. Stored behind wall and taken off site on schedule or when at capacity
4) Car Parking
   a. Not viewable from the road or by the public
   b. Only depolluted or fully functioning cars

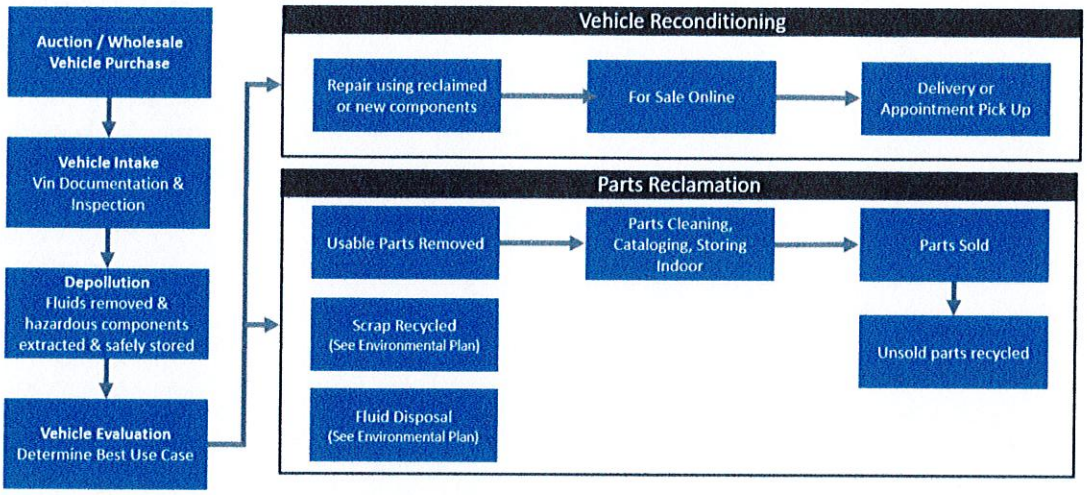
Site Plan Highlights:

- Nothing is seen from the road or by the public
- Only depolluted and functioning cars are stored outside
- Scrap, fluids, and tires are stored safely and taken off site on a schedule or when full

Vehicle Lifecycle Diagram

This diagram shows how vehicles move through the Huffmaster AutoHaus process from acquisition to their final outcome. The key point is that vehicles are processed through a structured workflow rather than stored long-term on the property.

Vehicle Lifecycle Diagram



Environmental Compliance Plan

Environmental Compliance Plan - Parts Reclamation

The purpose of Huffmaster AutoHaus is to responsibly recycle usable automotive components while maintaining strict environmental protections in accordance with Michigan Department of Environment, Great Lakes, and Energy (EGLE) guidelines.

Facility Design and Environmental Controls

The facility is designed to prevent environmental contamination through controlled vehicle processing and proper waste management.

Key features include:

- All vehicle dismantling conducted on sealed concrete surfaces
- Indoor fluid removal
- Secondary containment systems for all fluid storage with spill containment systems
- Designated vehicle intake and depollution area
- Organized parts storage and warehouse space
- Vehicle shells are taken directly to the scrap yard and not stored on site

This layout ensures vehicles are processed in a controlled environment and prevents fluid exposure to soil or stormwater.

Vehicle Depollution Process

All vehicles entering the reclamation program undergo a standardized depollution procedure prior to dismantling:

1. Vehicle intake and VIN documentation
2. Complete removal of all fluids including:
    - fuel
    - engine oil
    - transmission fluid

- coolant
- brake fluid
- power steering fluid

3. Removal of regulated components including:
   - batteries
   - airbags
   - refrigerants
   - catalytic converters
   - mercury switches (if applicable)

All fluids are captured using closed evacuation systems and stored in approved containers designed with multiple failsafe's to ensure no leakage.

Waste Stream Management

Huffmaster AutoHaus will partner with licensed recycling vendors to ensure responsible handling of all materials.

Material	Disposal Method	Preferred Vendor
Used oil	Licensed oil recycler	Safety Kleen
Coolant	Recycling facility	Safety Kleen
Batteries	Battery recycler	Rearden Metal Inc
Catalytic converters	Precious metal recycler	Rearden Metal Inc
Tires	Tire recycling facility	Warehouse Tire
Metal vehicle shells	Scrap metal processor	Rearden Metal Inc
Refrigerants	Recycled and reused	Refrigerant Services, LLC
Fuel	Reused on site	In House

This process ensures that the majority of vehicle components are recycled rather than disposed of in landfills.

Stormwater Protection

The facility utilizes a Stormwater Pollution Prevention Plan (SWPPP) to prevent contaminants from entering stormwater systems.

Measures include:

- covered dismantling areas
- proper fluid containment
- spill response equipment
- Contained depolluting area

These practices prevent oils or chemicals from entering surface water or groundwater.

Spill Prevention and Response

The facility maintains a written Spill Prevention and Response Plan including:

- spill containment kits in work areas
- employee training procedures
- emergency response protocols
- proper cleanup and documentation

All staff will receive training in spill response and environmental safety procedures.

Operational Standards

Huffmaster Racing Auto & Speed Shop will operate with the following standards:

- vehicles depolluted immediately upon arrival
- limited vehicle storage duration
- dismantling performed in controlled, indoor work areas
- compliance with EGLE and local regulations

Commitment to Responsible Operations

Huffmaster Racing Auto & Speed Shop is committed to maintaining a clean, professional automotive facility, not a traditional salvage yard. The parts reclamation program is designed to support responsible recycling, environmental protection, and efficient use of automotive resources while maintaining a safe and visually organized facility for the surrounding community.

Site Plan Compliance Statement Regarding Sec. 40-629.

Huffmaster Racing Auto & Speed Shop, operating as Huffmaster AutoHaus, has been designed and will be operated in full compliance with the applicable screening, storage, operational, and environmental standards of the Township Zoning Ordinance, including the requirements below.

(1) Screening of Site (Except Frontage and Outdoor Vehicle Storage Areas)
Huffmaster AutoHaus will have a limited vehicle inventory that will either be screened from public view or stored inside the facility.

(2) Screening of Outside Vehicle Storage Areas
Huffmaster AutoHaus will have a limited vehicle inventory that will either be screened from public view or stored inside the facility. As noted in the Overview the outdoor parking will be located behind the fenced in area and not viewable from the road.

(3) Storage of Inoperable Vehicles (72-Hour Limitation)
The facility may receive, store, process, dismantle, repair, and transfer vehicles in accordance with all applicable State of Michigan licensing requirements, including Class B Used Vehicle Dealer and Class C Automotive Recycler/Parts Reclamation operations. Vehicles undergoing repair, inspection, dismantling, parts reclamation, inventory management, or other licensed business activities may remain on-site beyond seventy-two (72) hours as permitted by applicable state law and local approvals.

Vehicles not actively associated with repair, resale, recycling, dismantling, inventory, or other authorized business operations will not be stored indefinitely. The facility will maintain an organized vehicle management system to ensure vehicles are processed, repaired, dismantled, marketed for resale, or otherwise removed from the property in a timely manner. Outdoor vehicle storage areas will be maintained in an orderly condition and operated in compliance with all applicable licensing, environmental, screening, and zoning requirements.

(4) Control of Noise, Vibration, Smoke, Odor, Heat, Glare, and Gases
The facility will incorporate operational controls and equipment designed to meet or exceed all applicable standards for noise, vibration, smoke, odor, heat, glare, and gas emissions. Primary activities are conducted indoors within enclosed buildings, significantly reducing off-site impacts. Depollution procedures are performed using sealed systems indoors, and all equipment is maintained in accordance with manufacturer and regulatory standards to prevent nuisance conditions. Exterior lighting is downward-directed and shielded to minimize glare.

(5) Waste Disposal and Sanitary Handling
Adequate and compliant means of sanitary disposal of all waste materials will be provided. All waste streams—including fluids, oils, batteries, refrigerants, tires, and scrap materials—are handled through licensed third-party recyclers or approved disposal facilities in accordance with Michigan EGLE requirements. No uncontrolled discharge or improper disposal of waste materials will occur on-site.

(6) Enclosed Storage of Materials, Supplies, and Equipment
All storage of materials, supplies, equipment, and parts inventory will occur within enclosed buildings or approved secured structures. Outside storage is limited to specifically designated and screened areas for depolluted vehicles and regulated containers that are placed within approved secondary containment systems. No general parts storage, loose materials, or unscreened equipment will be stored outdoors.

(7) Prohibition on Vehicle Dismantling in District (Compliance Statement)
The site is designed and will be operated in a manner consistent with Township requirements regarding dismantling activities. All vehicle depollution, dismantling, and parts recovery operations occur within enclosed buildings or designated controlled interior work areas equipped with sealed concrete surfaces and environmental containment systems. No uncontrolled outdoor dismantling or salvage activity will occur. All processing is performed in a structured, regulated environment consistent with applicable licensing requirements and environmental standards.

PROJECT: REZONING SITE PLAN
ADDRESS: 26615 RYAN ROAD, WARREN
CLIENT: EASTSIDE LUCKY'S, LLC

PROPERTY DESCRIPTION

THE LAND SITUATED IN THE TOWNSHIP OF SPRINGFIELD, COUNTY OF OAKLAND, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:

LOT 5, OF HOLLY GREEN'S INDUSTRIAL PARK NO-1, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 130 OF PLATS, PAGES 31 AND 32, OAKLAND COUNTY RECORDS.

SCOPE OF WORK

THE CLIENT IS LOOKING TO EXPAND THE OPERATIONS OF AN EXISTING MAJOR AUTOMOBILE REPAIR FACILITY LOCATED ON A PARCEL ZONED M-1 LIGHT INDUSTRIAL. THIS PROPOSED EXPANSION INCLUDES THE DISMANTLING AND SALVAGING OF AUTOMOBILES UNDER A CLASS B USED VEHICLE DEALER LICENSE AND A CLASS C USED VEHICLE PARTS DEALER LICENSE. THE SITE IS CURRENTLY DEVELOPED WITH ONE PRINCIPAL BUILDING, 73 PARKING SPACES, THREE OF WHICH ARE BARRIER-FREE PARKING SPACES.

GENERAL NOTES

SPECIAL LAND USE STANDARDS

1. PICKUPS: APPROXIMATELY 95% OF OUTBOUND SHIPMENTS WILL BE HANDLED THROUGH STANDARD PARCEL CARRIERS (UPS/FEDEX). A MAXIMUM OF ONE (1) LARGER FREIGHT PICKUP PER WEEK IS ANTICIPATED FOR OVERSIZED ITEMS SUCH AS ENGINES AND TRANSMISSIONS.
2. DELIVERIES: A MAXIMUM OF TWO (2) TO FOUR (4) SALVAGED VEHICLES ARE ANTICIPATED TO BE DELIVERED TO THE SITE PER MONTH.
3. EMPLOYEES: THE MAXIMUM NUMBER OF EMPLOYEES ON THE LARGEST SHIFT SHALL BE SEVEN (7).
4. HOURS OF OPERATION: HOURS OF OPERATION SHALL BE 8:00 A.M. TO 5:00 P.M., MONDAY THROUGH FRIDAY, CONSISTENT WITH THE EXISTING AUTO REPAIR FACILITY.

REQUIREMENTS FOR DISMANTLING AND SALVAGING OF AUTOMOBILES

1. ON-SITE VEHICLE STORAGE: NO MORE THAN TWO (2) SALVAGED VEHICLES SHALL BE STORED ON-SITE AT ANY GIVEN TIME.
2. FLUID MANAGEMENT: AUTOMOTIVE FLUIDS GENERATED FROM DISMANTLING ACTIVITIES, INCLUDING MOTOR OIL, TRANSMISSION FLUID, ENGINE COOLANT, AND REFRIGERANTS, SHALL BE COLLECTED, STORED, AND RECYCLED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS AND THE FACILITY'S WASTE STREAM MANAGEMENT PRACTICES.

PARKING & LOADING

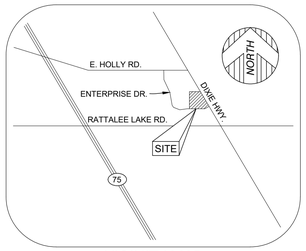
1. SHOWROOM AREA: NO SHOWROOM IS PROPOSED. ALL USED VEHICLE SALES WILL BE CONDUCTED ONLINE, WITH VEHICLES TRANSFERRED THROUGH SCHEDULED CUSTOMER PICKUPS OR COMMERCIAL FREIGHT SHIPMENT.
2. SERVICE STALLS: ONE (1) DEDICATED SERVICE STALL WILL BE UTILIZED FOR DISMANTLING AND SALVAGING OPERATIONS, SERVICING A MAXIMUM OF ONE (1) SALVAGED VEHICLE AT A TIME. THE EXISTING AUTO REPAIR FACILITY CONTAINS SEVEN (7) ADDITIONAL SERVICE STALLS, CAPABLE OF SERVICING UP TO SEVEN (7) VEHICLES SIMULTANEOUSLY, WITH ADDITIONAL SPACE AVAILABLE FOR CUSTOMER VEHICLES AWAITING SERVICE. EIGHT (8) SERVICE STALLS TOTAL.
3. LOADING AREA: THERE ARE THREE LOADING BAYS FOR THE BUILDING. THE CLIENT DOES NOT HAVE ACCESS TO ANY OF THESE BAYS. THERE IS NO DESIGNATED PLACE FOR THIS TO HAPPEN, BUT IT TYPICALLY HAPPENS IN THE TRUCK WELL OR IN THE AREA BY THE OPEN STORAGE. THEY USE A FORKLIFT TO UNLOAD AND LOAD MATERIALS ONTO OR OFF A SEMI.

NOTES -GENERAL

- ALL FLAMMABLE MATERIALS MUST BE STORED OUTSIDE THE BUILDING IN A FIRE DEPARTMENT-APPROVED LOCATION.
- ALL SITE FEATURES ARE EXISTING UNLESS OTHERWISE NOTED.

OPEN STORAGE		
1	PROPOSED RECYCLING SCRAP STORAGE	AREA = 10'x15' = 150 SF
2	PROPOSED DISCARDED FLUID STORAGE (IN SECURED STRUCTURE)	AREA = 10'x15' = 150 SF SHED = 7.5'x6.5' = 49 SF (IN AREA)
3	PROPOSED USED TIRES	AREA = 10'x15' = 150 SF
4	TRAILER STORAGE	AREA = 1,381 SF
TOTAL	1,880 SF	

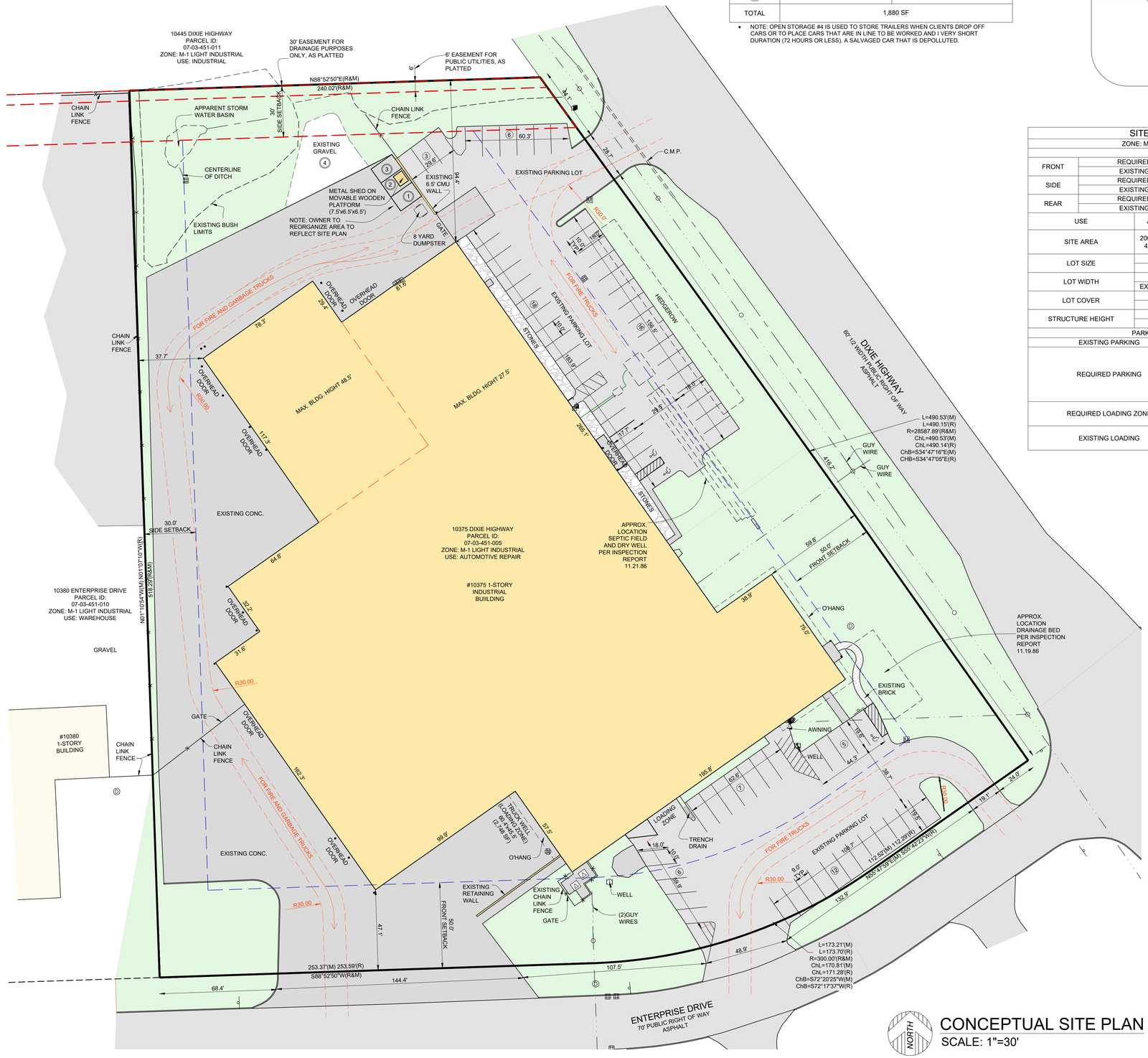
- NOTE: OPEN STORAGE #4 IS USED TO STORE TRAILERS WHEN CLIENTS DROP OFF CARS OR TO PLACE CARS THAT ARE IN LINE TO BE WORKED AND I VERY SHORT DURATION (72 HOURS OR LESS). A SALVAGED CAR THAT IS DEPOLLUTED.



VICINITY MAP

(NOT TO SCALE)

SITE DATA CHART			
ZONE: M-1: LIGHT INDUSTRIAL			
SETBACKS			
FRONT	REQUIRED	50'	
	EXISTING	59.8' & 47.1'	
SIDE	REQUIRED	30'	
	EXISTING	37.7' & 94.4'	
REAR	REQUIRED	50'	
	EXISTING	NA	
USE	AUTO/VEHICLE SALES AND SERVICE FACILITIES		
SITE AREA	200,002 SF OR 4.59 ACRES	AREA OF EXISTING STRUCTURES	#10375: 77,155 SF SHED: 42 SF TOTAL: 77,197 SF
LOT SIZE	MIN. = 1 ACRES EXISTING = 4.59 ACRES		
LOT WIDTH	MIN. = 120 EXISTING = DIXIE HWY: 490.53' & ENTERPRISE: 539.1'		
LOT COVER	MAX. = 80% EXISTING = 39%		
STRUCTURE HEIGHT	MAX HEIGHT: 28.5' OR 2 STORIES EXISTING: 48.5'		
PARKING AND LOADING			
EXISTING PARKING	73 SPACES		
REQUIRED PARKING	2 PER SERVICE STALL 8 SERVICE STALLS = 16 SPACES SHOWROOM = 1 PER 250 SF 0 SF OF SHOWROOM = 0 SPACES 1 SPACES PER SERVICE VEHICLE 8 SERVICE VEHICLES = 8 SPACES TOTAL = 24 SPACES		
REQUIRED LOADING ZONE	FOR BLDG. 20,000 - 100,000 SF 1 SPACES, + 1 SPACE PER 20,000 SF = 1 SPACE REQ.		
EXISTING LOADING	4 DOOR TRUCK WELL. 2,478 SF TOTAL		



LEGEND

(R&M)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
	TRANSFORMER
	UTILITY POLE
	GAS METER
	TELEPHONE RISER
	CABLE TV BOX
	CABLE TV RISER
	CLEANOUT
	ROUND CATCH BASIN
	SQUARE CATCH BASIN
	STORM DRAIN MANHOLE
	WELL
	BOLLARD
	FENCE POST
	MAIL BOX
	SINGLE POST SIGN
	HANDICAP PARKING
	PARCEL BOUNDARY LINE
	ADJACENT PARCELS
	EASEMENT (AS NOTED)
	BUILDING
	BUILDING OVERHANG/AWNING
	CENTERLINE DITCH
	CONCRETE CURB
	PARKING
	EDGE OF PAVEMENT
	FENCE (AS NOTED)
	WALL (AS NOTED)
	OVERHEAD UTILITY LINE
	UNDERGROUND PIPE (AS NOTED)
	BUILDING AREA
	ASPHALT
	CONCRETE

CONCEPTUAL SITE PLAN

SCALE: 1"=30'

DRAFT DRAWINGS NOT FOR CONSTRUCTION

Revision	Date	By	Description

HUFFMASTER AUTOHAUS, LLC

HUFFMASTER RACING AUTO & SPEED SHOP

10375 DIXIE HIGHWAY, DAVISBURG, MI 48350

KEM-TEC
SURVEYING - ENGINEERING - ARCHITECTURAL - ENVIRONMENTAL
22689 GRATIOT AVENUE, EASTPOINTE, MI 48021
(586) 772-2222 PHONE | (586) 772-4048 FAX

DRAWN BY:	SCALE:	DATE:	PROJECT No:
CM	AS INDICATED	07/09/26	26-01214

STATE OF MICHIGAN
CHRISTOPHER J. MANCHESTER
ARCHITECT
No. 1301058
REGISTERED ARCHITECT

TITLE:
CONCEPT SITE PLAN

SHEET No:
ASP.1

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

Date: June 17, 2026

Preliminary Site Plan & Special Land Use Review
For
Springfield Township, Michigan

Applicant:	Huffmaster Autohaus, LLC
Project Name:	Huffmaster Racing Auto & Speed Shop
Plan Date:	June 1, 2026
Location:	10375 Dixie Hwy – Southwest side of Dixie Highway, north of Enterprise Drive
Zoning:	M-1, Light Industrial
Action Requested:	Preliminary Site Plan Approval
Required Information:	As Noted

PROJECT AND SITE DESCRIPTION

The applicant is requesting Preliminary Site Plan approval for a vehicle repair and sales facility located on a 4.59-acre parcel in the M-1, Light Industrial zoning district. The applicant currently occupies the building as a major automobile repair facility and wishes to expand their business to include the dismantling and salvaging of automobiles under a Class B Used Vehicle Dealership and Class C Used Vehicle Parts Dealer License. The site currently has a principal structure with roughly 70 standard parking stalls and 3 barrier-free parking spaces.

The additional proposed use will repair and recycle European vehicles. The applicant is required to obtain a Michigan Class C used Vehicle Parts Dealer License. The applicant has provided detailed information regarding storage of vehicles and parts, disposal of hazardous materials, and the resell of refurbished vehicles. Major automobile repair facilities that perform dismantling and salvaging of automobiles,

Benjamin R. Carlisle, *President* John L. Enos, *Vice President*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* Craig Strong, *Principal* Douglas J. Lewan, *Principal*
Richard K. Carlisle, *Past President/Senior Principal* R. Donald Wortman, *Past Principal*

commercial and recreational vehicles for parts recovery are a principal use permitted subject to special conditions that are subject to special land use approval. The Planning Commission makes a recommendation on the preliminary site plan and special land use to the Township Board.

Figure 1 below depicts an aerial image of the subject site.

Figure 1. *– Subject Site Location*



Source: NearMap, April 7, 2026

PROJECT HISTORY

The applicant attended the November 19th, 2025, Site Plan Committee meeting, where they received approval for change of use to an automobile repair facility located in an existing industrial building within the M-1 zoning district. The building's previous use was a wheelchair van manufacturing and medical mobility equipment facility. The applicant was granted approval from the committee based on the following conditions:

1. Storage, dismantling, or repair of salvage-title vehicles is prohibited without Planning Commission review and proper state licensing.
2. The applicant shall submit a letter verifying that all devices and operations meet standards regarding sound, vibration, smoke, heat, and glare.
3. The applicant shall submit information to the Springfield Township Fire Department for review regarding any flammable materials, storage areas, or equipment.
4. Any flammable materials must be stored outside the building in a Fire Department–approved location.
5. A description of disposal methods for any waste materials must be provided.
6. Existing screening and landscaping approved under the prior site plan remain adequate and intact.

The applicant provided the necessary information requested and has complied with the required standards. With the proposed additional uses of the recycling, salvaging and sales of automobile parts, the applicant needs to receive special land use approval.

Items to be Addressed: *None.*

SPECIAL LAND USE

The Special Land Use criteria are listed below. The Planning Commission will need to evaluate the project against these criteria and make a recommendation to the Township Board after holding a Public Hearing. We have provided comments regarding each criterion:

1. ***The proposed use shall be of such location, size and character as to be in harmony with the appropriate and orderly development of the zoning district in which situated and shall not be detrimental to the orderly development of adjacent zoning districts.***

   CWA Comments: The proposed use is occupying an existing light industrial facility with a history of vehicle modification. The applicant has stated that the facility will incorporate operational controls and equipment designed to meet and or exceed all applicable standards for noise, vibration, odor, heat, glare, and gas emissions. The applicant also stated that primary activities are conducted within the facility. The site abuts a residential PUD to the east on the opposite side of Dixie Highway. In order to ensure the continued harmony with the PUD, the landscaping along Dixie Highway should continue to be maintained.

2. ***The location and size of the proposed use or uses, the nature and intensity of the principal use and all accessory uses, the site layout and its relation to streets giving access to it, shall be such that traffic to and from the use, and the assembly of persons in connection therewith, will not be hazardous or inconvenient to the neighborhood. In applying this standard, the planning commission and township board shall consider, among other things: convenient routes for pedestrian traffic, the relationship of the proposed use to main traffic thoroughfares and to street and road intersections, the general character and intensity of the existing and potential development of the neighborhood, and relationship to the township master plan. The planning commission and township board shall determine that the proposed use will not have a detrimental effect.***

CWA Comments: The proposed use has not been identified as a high intensity use. The site has good circulation for vehicles and the traffic volume is not expected to affect the surrounding roads. The applicant has not provided an exact number of employees that will be on site per shift. We believe that the use should not create access issues to the surrounding area unless the volume of activity significantly increases as compared to the current operation. The Planning Commission should inquire regarding deliveries, pick-ups, the number of on-site employees in the largest shift, and the proposed hours of operation.

3. ***Unless a variance is granted, the standards of density and required open spaces for the proposed use shall be at least equal to those required by this chapter in the zoning district in which the proposed use is to be located. After the granting of approval of a special land use by the township board, the zoning board of appeals shall also have the power to grant variances as provided by this chapter.***

   CWA Comments: The applicant has not provided the square footage of the existing building so the lot coverage cannot be calculated at this time. Since the building is currently existing, we do feel that the current density should not have a negative effect on the surrounding area.

4. ***The public services and facilities affected by a proposed land use or activity will be capable of accommodating increased service and facility loads caused by the land use or activity.***

   CWA Comments: The existing well and septic are to continue being utilized by the structure. Since the site is to continue to be a light industrial use, as it was previously, we see no concern for strain on existing services. We defer to the Township Engineer for additional comments regarding essential facilities and stormwater management.

5. ***Protection of the natural environment and conservation of natural resources and energy.***

   CWA Comments: The site is currently developed and due to the industrial nature of the site, there are limited natural features. The applicant has expressed no desire to alter the existing natural features or use an excessive amount of energy.

6. ***Compatibility with adjacent uses of land and promotion of the use of land in a socially and economically desirable manner.***

   CWA Comments: The surrounding area is mainly other light industrial uses. To the east, across Dixie Highway, there is a residential PUD which is protected by a healthy buffer of greenery. It appears that the PUD was designed with the light industry in mind. Therefore, we feel that the new use should be compatible with the surrounding area.

7. ***The planning commission and township board shall find that the foregoing standards are substantially met by the applicant and shall so set forth in their official record of the proceedings.***

   CWA Comments: The Planning Commission and Township Board will make the required determination.

In summary, we believe the project is compatible with the surrounding uses and overall character of the area. As long as existing greenery buffers are maintained, the proposed use should not affect the neighboring residential PUD. The Planning Commission should inquire regarding deliveries, pick-ups, and number of employees to ensure that circulation and traffic in the surrounding area is not impacted.

Items to be Addressed: *Planning Commission determination as to whether the standards for approval of special land uses in Section 40-145 have been met.*

AREA, WIDTH, HEIGHT, AND SETBACKS

The existing building is proposed to be used without any exterior modifications. The site is a corner lot with two front yards. Except for the front yard on Enterprise Road and the rear yard setback, the existing building appears to conform to the dimensional requirements of the M-1 zoning district, as shown in **Table 1**, below.

Table 1. *– M-1-Dimensional Requirements*

	REQUIRED	PROVIDED
Minimum Lot Size	1 Acres	4.99 Acres
Dixie Highway	120 ft.	>120 ft.
Enterprise Drive		>120 ft.
Min. Setbacks		
Front (Dixie Hwy)	50 ft.	60 ft.
Front (Enterprise)	50 ft.	47.1 ft.
Side (North)	30 ft.	94 ft.
Side (South)	30 ft.	47 ft.
Rear	50 ft.	38 ft.
Max. Lot Coverage	80%	Not Provided
Max. Building Height	28 ft. 6 in. (2 stories)	>28.6 ft. (1 story)

The area of the existing building was not provided on the site plan. Since current plans do not provide a building area, lot coverage cannot be accurately calculated at this time. The provided plans also do not include the lot widths along Enterprise Road and Dixie Highway, which should be included upon final site plan review.

The exact building height is not listed on the site plan. The current plans show that the existing building is 1-story, which does comply with standards for the M-1 Light Industrial zoning district. Final site plans should include the exact building height.

The existing building does not meet the front setback requirements along Enterprise Road or the rear setback requirements for the M-1 district. Per Section 40-931.c, the building may remain non-conforming as long as the non-conformity is not increased. The applicant has not expressed any intentions to alter the existing structure at this time.

Items to be Addressed: *1. Applicant provide building area. 2. Applicant provide building height dimensions. 3. Applicant provide lot widths along Enterprise Road and Dixie Highway.*

NATURAL RESOURCES

Topography: The site is existing and remains relatively flat.

Trees: The site has existing mature trees that front both Dixie Highway and Enterprise roads to the south and east. There is also sparse buffering between the site and surrounding uses to the northeast (cheer facility) and southwest (industrial).

Wetlands: There are no wetlands or other water features on site.

Soils: Soils information has not been provided.

Items to be Addressed: *None.*

BUILDING LOCATION AND SITE ARRANGEMENT

The site consists of an existing single industrial building. As previously mentioned, the exact building area is unknown. The building orientation places the front doors facing the east side of the site, just off Dixie Highway. Parking is at the southern and northern portions of the site, adjacent to Dixie Highway. Additional loading and parking are located at the western side or rear of the building connecting to Enterprise Road.

Items to be Addressed: *None.*

PARKING AND LOADING

Section 40-681 contains parking requirements for Auto/vehicle sales and service facilities and Automobile repair facilities, both minor and major. Parking calculations are provided in **Table 2** below.

Table 2. *– Off-Street Parking Requirements*

	Required	Provided
Auto/vehicle sales and service facilities	*1 space/ each 250 square feet of showroom floor area* *&* *2 spaces/ each service stall*	70 existing spaces
Automobile repair facilities, both minor and major	*4 spaces/ each service stall* *&* *1 space/ each service vehicle*	70 existing spaces
Barrier-Free	*3 spaces*	3 existing spaces
Loading	*For buildings 20,000-100,000 square feet,* *1 space plus 1 space for each 20,000 square feet*	Not provided

The applicant is proposing to use the existing parking lot without modification. The existing site hosts 70 standard parking spaces, 3 barrier-free spaces, and an unknown number of loading spaces.

At this time, the applicant has not provided the overall area of the showroom, if applicable, along with the number of service stalls and service vehicles. Without that information, any additional required parking cannot be calculated.

The number of loading spaces is not provided on the site plan as well. After reviewing aerial images, it appears that a majority of the western side or rear of the building is designated as loading space, though the applicant should provide this information upon final site plan review.

Sec. 40-681 does permit the Planning Commission to approve a reduced number of required parking spaces. The Planning Commission may also condition this modification by requiring that space be reserved for the remaining spaces if needed.

Items to be Addressed: *1. Applicant provide the overall area of the showroom. 2. Applicant provide the number of service stalls and vehicles. 3. Applicant provide the number of loading spaces.*

SITE ACCESS AND CIRCULATION

The site is accessed from a single entrance off Dixie Highway and three entrances off Enterprise Drive.

The site provides ample room for passenger vehicular circulation and meets current standards. Upon final site plan review, turning radii for a fire truck and garbage trucks should be provided.

Items to be Addressed: *Applicant provide turning radii for fire and garbage trucks.*

SAFETY PATHS AND SIDEWALKS

The site is existing and has currently has no safety path.

Items to be Addressed: *None.*

ESSENTIAL FACILITIES

The existing on-site well and septic systems are proposed to be used. The septic field location is shown in the eastern front yard. There are two wells shown, both on the southern side of the building. No documentation on the viability and capacity of either the well or the septic system has been provided.

We defer to the Township Engineer for additional comments regarding essential facilities and stormwater management.

Items to be Addressed: *Township Engineer review of essential facilities.*

LANDSCAPING

The applicant has indicated where existing landscaping exists on site. The following landscape standards apply to the site:

Greenbelt: The site greenbelt is existing, complies with current standards, and is not proposed to be changed.

Screening: The existing screening complies with current standards and is not proposed to change.

Parking Lot: The Ordinance requires one (1) tree per eight (8) parking spaces. The exact parking requirements at this time are unknown. The site currently has 70 parking spaces which would require 9 trees. The site currently complies with 10 parking lot trees per aerial photographs.

Site Landscaping: Section 40-721(6) requires at least ten percent (10%) of the site area, excluding existing public rights-of-way, to be landscaped. A calculation of the landscaped area has not been provided. However, it does appear that more than 10% of the site area is landscaped and not proposed to be changed.

Trash Enclosure: No trash enclosure is shown on the site plan nor is seen in current or historical aerial photographs. The applicant should provide details of how general trash will be stored and disposed of.

The applicant did provide plans that show site storage for vehicle byproducts such as tires, fluids and other recycled parts located in the northeastern corner of the site. The Planning Commission should inquire regarding the type of fluids stored, and if flammable, Township Fire should review plans as part of the final site plan.

Items to be Addressed: *1) Applicant provide details on how general trash will be stored and disposed of. 2) Planning Commission inquire of type of fluids being disposed on site.*

LIGHTING

Site lighting is existing and not proposed to change.

Items to be Addressed: *None.*

SIGNAGE

Sign information has not been provided. This information may be provided at final site plan.

Items to be Addressed: *None.*

FLOOR PLANS AND ELEVATIONS

The building is existing. The applicant has not expressed there will be any external changes.

Items to be Addressed: *None.*

REQUIREMENTS FOR DISMANTLING AND SALVAGING OF AUTOMOBILES

Per Section 40-455(3), major automobile repair facilities that perform dismantling and salvaging of automobiles, commercial and recreational vehicles for parts recovery must meet the following:

1. ***Devices and controls adequate to meet the standards enumerated in section 40-453 relative to sound, vibration, smoke, odor, or gases shall be installed.***

   CWA Comments: The applicant has made a statement that they will incorporate operation controls and equipment designed to meet or exceed all applicable standards above.

2. ***Adequate means of sanitary disposal of any waste material shall be provided.***

   CWA Comments: The applicant has provided plans for the disposal of fluid, tires, and other recycled vehicle parts. As previously mentioned, the Planning Commission should inquire regarding what kind of fluids will be disposed of and if the Township Fire Department should conduct a review. Also, the applicant should provide details on the disposal of general trash on the site.

3. ***Outdoor storage of vehicles being repaired or being used for parts recovery shall be screened as follows: All vehicles shall be screened from off-site view by walls (including building walls) or fences at least eight feet in height. However, a screening wall or fence less than eight feet high, but not less than six feet high, existing on the date of enactment of this provision may serve in lieu of such eight-foot wall or fence.***

   CWA Comments: The site does have existing fencing and screening that should meet the required coverage greater than 6 feet. The applicant has indicated that due to limited inventory and a majority of work taking place within the structure, they believe that the site will remain properly screened.

4. ***No more than a total of three vehicles waiting to be serviced per service bay and two vehicles for parts salvaging per service bay shall be stored at any time.***

   CWA Comments: The applicant did not list the exact number of vehicles that will be stored on site at one time. But, as previously mentioned above, the applicant does verify that there will be a limited inventory and majority of work is conducted indoors.

5. ***Adequate standing and parking facilities shall be provided on the site so that no loaded vehicle at any time stands on a public right-of-way awaiting entrance to the site.***

   CWA Comments: As mentioned above, the parking calculations cannot be fully evaluated at this time. The applicant should provide additional parking information upon final site plan review. Loading spaces were not included in this review as well. From aerial photographs of the site, it seems that a majority of the western side or rear of the building is used as loading space. Loading calculations will

be provided upon final, but at this time, we see no concern of vehicles stacking or loading within the public right-of-way.

Items to be Addressed: *Applicant provide the number of vehicles to be stored on-site.*

SUMMARY

The submitted preliminary site plan is in substantial compliance with Springfield Township's Zoning Ordinance. The following items need to be considered by the Planning Commission and addressed by the applicant to the satisfaction of the Planning Commission.

Planning Commission Considerations:

A. **Special Land Use Standards.**

1. Deliveries, Pick-ups, number of employees working in the largest shift, and the proposed hours of operation.

B. **Requirements for Dismantling and Salvaging of Automobiles.**

1. Number of vehicles stored on-site.
2. Type of fluids being disposed of on-site.

Applicant to Address:

A. **Area, width, height, and setbacks.**

1. Building area.
2. Building height dimensions.
3. Lot widths along Enterprise Road and Dixie Highway.

B. **Parking and Loading.**

1. Overall area of the showroom.
2. Number of service stalls and vehicles.
3. Number of loading spaces.

C. **Site Access and Circulation.**

1. Turning radii for fire and garbage trucks.

D. **Landscaping.**

1. Details on how general trash will be stored and disposed of.

Township Engineer or Other Agency Review: 1. Township Engineer review of essential facilities. 2. Township Fire potential review of liquids being disposed of on-site.

If the Planning Commission chooses to recommend approval of the Special Land Use, we recommend that the following be included in the motion:

1. Findings as to how the standards for approval of special land uses in Section 40-145 of the Springfield Township Zoning Ordinance have been met.
2. Approvals from Township Engineer and Township Fire Department.
3. The following items are verified at final site plan:
    a. The maximum lot coverage and building height of the building meet the requirements for the M-1 zoning district in Section 40-572 of the Springfield Township Zoning Ordinance.
    b. The parking spaces and loading spaces on site meet the minimum requirements in Division 2 of the Springfield Township Zoning Ordinance.
    c. Method of trash disposal is shown on the final site plan and screened in compliance with Section 40-721(b)(8).

Respectfully submitted,

CARLISLE/WORTMAN ASSOC., INC.
Megan Masson-Minock, AICP
Principal

CARLISLE/WORTMAN ASSOC., INC.
Benny Bono
Community Planner

cc: *Brian Piper, Superintendent*
Danielle Sink, Supervisor's Assistant
Nancy McClain, P.E.(nmcclain@giffelswebster.com)
Jason Maye, P.E. (jmayer@giffelswebster.com)
Matthew J. Covey (mcovey@springfield-twp.us)

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

Date: July 21, 2026

Preliminary Site Plan & Special Land Use Review
For
Springfield Township, Michigan

Applicant:	Huffmaster Autohaus, LLC
Project Name:	Huffmaster Racing Auto & Speed Shop
Plan Date:	July 9, 2026
Location:	10375 Dixie Hwy – Southwest side of Dixie Highway, north of Enterprise Drive
Zoning:	M-1, Light Industrial
Action Requested:	Preliminary Site Plan Approval
Required Information:	As Noted

PROJECT AND SITE DESCRIPTION

The applicant is requesting Preliminary Site Plan and Special Land Use approval for a vehicle repair and sales facility located on a 4.59-acre parcel in the M-1, Light Industrial zoning district. The applicant currently occupies the building as a major automobile repair facility and wishes to expand their business to include the dismantling and salvaging of automobiles under a Class B Used Vehicle Dealership and Class C Used Vehicle Parts Dealer License. The site currently has a 77,155 square foot principal structure, a 42 square foot shed, 70 standard parking stalls, and 3 barrier-free parking spaces.

The additional proposed use will repair and recycle vehicles. The applicant is required to obtain a Michigan Class C used Vehicle Parts Dealer License. The applicant has provided detailed information regarding storage of vehicles and parts, disposal of hazardous materials, and the resell of refurbished vehicles. Major automobile repair facilities that perform dismantling and salvaging of automobiles,

Benjamin R. Carlisle, *President* John L. Enos, *Vice President*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* Craig Strong, *Principal* Douglas J. Lewan, *Principal*
Richard K. Carlisle, *Past President/Senior Principal* R. Donald Wortman, *Past Principal*

commercial and recreational vehicles for parts recovery are a principal use permitted subject to special conditions that are subject to special land use approval. The Planning Commission makes a recommendation on the preliminary site plan and special land use to the Township Board.

Figure 1 below depicts an aerial image of the subject site.

Figure 1. *– Subject Site Location*



Source: NearMap, April 7, 2026

PROJECT HISTORY

The applicant attended the November 19th, 2025, Site Plan Committee meeting, where they received approval for change of use to an automobile repair facility located in an existing industrial building within the M-1 zoning district. The building's previous use was a wheelchair van manufacturing and medical mobility equipment facility. The applicant was granted approval from the committee based on the following conditions:

1. Storage, dismantling, or repair of salvage-title vehicles is prohibited without Planning Commission review and proper state licensing.
2. The applicant shall submit a letter verifying that all devices and operations meet standards regarding sound, vibration, smoke, heat, and glare.
3. The applicant shall submit information to the Springfield Township Fire Department for review regarding any flammable materials, storage areas, or equipment.
4. Any flammable materials must be stored outside the building in a Fire Department–approved location.
5. A description of disposal methods for any waste materials must be provided.
6. Existing screening and landscaping approved under the prior site plan remain adequate and intact.

The applicant provided the necessary information requested and has complied with the required standards. With the proposed additional uses of the recycling, salvaging and sales of automobile parts, the applicant needs to receive special land use approval.

Items to be Addressed: *None.*

SPECIAL LAND USE

The Special Land Use criteria are listed below. The Planning Commission will need to evaluate the project against these criteria and make a recommendation to the Township Board after holding a Public Hearing. We have provided comments regarding each criterion:

1. ***The proposed use shall be of such location, size and character as to be in harmony with the appropriate and orderly development of the zoning district in which situated and shall not be detrimental to the orderly development of adjacent zoning districts.***

   CWA Comments: The proposed use is occupying an existing light industrial facility with a history of vehicle modification. The applicant has stated that the facility will incorporate operational controls and equipment designed to meet or exceed all applicable standards for noise, vibration, odor, heat, glare, and gas emissions. The applicant also stated that primary activities are conducted within the facility, including sales of vehicles. The site abuts a residential PUD to the east on the opposite side of Dixie Highway. In order to ensure the continued harmony with the PUD, the landscaping along Dixie Highway should be maintained.

2. ***The location and size of the proposed use or uses, the nature and intensity of the principal use and all accessory uses, the site layout and its relation to streets giving access to it, shall be such that traffic to and from the use, and the assembly of persons in connection therewith, will not be hazardous or inconvenient to the neighborhood. In applying this standard, the planning commission and township board shall consider, among other things: convenient routes for pedestrian traffic, the relationship of the proposed use to main traffic thoroughfares and to street and road intersections, the general character and intensity of the existing and potential development of the neighborhood, and relationship to the township master plan. The planning commission and township board shall determine that the proposed use will not have a detrimental effect.***

CWA Comments: The site has good circulation for vehicles, and the traffic volume is not expected to affect the surrounding roads. The applicant has stated that no more than seven employees will be on site per shift. Large scale pick-ups are anticipated to be once a week by standard parcel carriers (UPS/FedEx). Vehicle sales will be done online with direct pickups or shipped deliveries. There is expected to be a maximum of two to four salvaged vehicles on site per month. The hours of operation will be 8:00 am to 5:00 pm, Monday through Friday, which is consistent with the existing vehicle repair facility on-site. We believe that the use should not create access issues to the surrounding area unless the volume of activity significantly increases as compared to the current operation.

3. ***Unless a variance is granted, the standards of density and required open spaces for the proposed use shall be at least equal to those required by this chapter in the zoning district in which the proposed use is to be located. After the granting of approval of a special land use by the township board, the zoning board of appeals shall also have the power to grant variances as provided by this chapter.***

   CWA Comments: The existing building and shed are 77,197 square feet and occupy roughly 39% of the site, with 80% being the maximum allowable lot coverage. The existing building does not is nonconforming for the front setback requirements along Enterprise Road and the rear setback requirements for the M-1 district. Per Section 40-931.c, the building may remain non-conforming as long as the non-conformity is not increased.

4. ***The public services and facilities affected by a proposed land use or activity will be capable of accommodating increased service and facility loads caused by the land use or activity.***

   CWA Comments: The existing well and septic are to continue being utilized by the structure. Since the site is to continue to be a light industrial use, as it was previously, we see no concern for strain on existing services. We defer to the Township Engineer for additional comments regarding essential facilities and stormwater management.

5. ***Protection of the natural environment and conservation of natural resources and energy.***

   CWA Comments: The site is currently developed and due to the industrial nature of the site, there are limited natural features. The applicant is not proposing to alter the existing natural features on-site or significantly change the amount of energy used. The applicant has provided an environmental compliance plan that addresses the vehicle depollution process, waste stream management, and stormwater management. The applicant has committed to dismantling vehicles in controlled, indoor work areas and to comply with EGLE and local regulations.

6. ***Compatibility with adjacent uses of land and promotion of the use of land in a socially and economically desirable manner.***

   CWA Comments: The surrounding area is mainly other light industrial uses. To the east, across Dixie Highway, there is a residential PUD which is protected by a healthy buffer of greenery. With the performance measures proposed and the work performed indoors, the use should be compatible with the surrounding area.

7. ***The planning commission and township board shall find that the foregoing standards are substantially met by the applicant and shall so set forth in their official record of the proceedings.***

CWA Comments: The Planning Commission and Township Board will make the required determination.

In summary, we believe the project is compatible with the surrounding uses and overall character of the area., The proposed use should not affect the neighboring uses as long as the existing landscaping is maintained, work is performed indoors, and hours of operation are limited.

Items to be Addressed: *Planning Commission determination as to whether the standards for approval of special land uses in Section 40-145 have been met.*

AREA, WIDTH, HEIGHT, AND SETBACKS

The existing building is proposed to be used without any exterior modifications. The site is a corner lot with two front yards. Except for the front yard on Enterprise Road and the rear yard setback, the existing building appears to conform to the dimensional requirements of the M-1 zoning district, as shown in **Table 1**, below.

Table 1. *– M-1-Dimensional Requirements*

	REQUIRED	PROVIDED	COMPLIANCE
Minimum Lot Size	1 Acres	4.99 Acres	Complies
Minimum Lot Width			
Dixie Highway	120 ft.	490.53 ft.	Complies
Enterprise Drive		539.1 ft.	Complies
Minimum Setbacks			
Front (Dixie Hwy)	50 ft.	59.8 ft.	Complies
Front (Enterprise)	50 ft.	47.1 ft.	Existing Non-Conformity
Side (North)	30 ft.	94.4 ft.	Complies
Rear (West)	50 ft.	37.7 ft.	Existing Non-Conformity
Maximum Lot Coverage	80%	39%	Complies
Maximum Building Height	28 ft. 6 in. (2 stories)	48.5 ft. (1 story)	Existing Non-Conformity

The existing building does not meet the front setback requirements along Enterprise Road, the rear setback requirements for the M-1 district, and the maximum building height cap. Per Section 40-931.c, the building may remain non-conforming as long as the non-conformity is not increased. The applicant is not proposing to alter the existing structure.

Items to be Addressed: *None.*

NATURAL RESOURCES

Topography: The site is existing and remains relatively flat.

Trees: The site has existing mature trees that front both Dixie Highway and Enterprise roads to the south and east. There is also sparse buffering between the site and surrounding uses to the northeast (cheer facility) and southwest (industrial).

Wetlands: There are no wetlands or other water features on site.

Soils: Soils information has not been provided.

Items to be Addressed: *None.*

BUILDING LOCATION AND SITE ARRANGEMENT

The site consists of an existing single 77,155 square foot industrial building and a 42 square foot shed. The building orientation places the front doors facing the east side of the site, just off Dixie Highway. Parking is at the southern and northern portions of the site, adjacent to Dixie Highway. Additional loading and parking are located at the western side or rear of the building connecting to Enterprise Road.

Items to be Addressed: *None.*

PARKING AND LOADING

Section 40-681 contains parking requirements for Auto/vehicle sales and service facilities and Automobile repair facilities, both minor and major. Parking calculations are provided in **Table 2** below.

Table 2. *– Off-Street Parking Requirements*

	Required	Provided
Auto/vehicle sales and service facilities	*1 space/ each 250 square feet of showroom floor area (0 square feet) = 0 spaces* *&* *2 spaces/ each service stall (8 service stalls)=16 spaces*	73 existing spaces
Automobile repair facilities, both minor and major	*4 spaces/ each service stall (8 service stalls)= 32 spaces* *&* *1 space/ each service vehicle (8 service vehicles) = 8 spaces*	73 existing spaces
Barrier-Free	*3 spaces*	3 existing spaces
Loading	*For buildings 20,000-100,000 square feet, 1 space plus 1 space for each 20,000 square feet = 1 loading space*	1 loading space
Total	*56 spaces, 3 barrier free spaces, & 1 loading space*	73 spaces, 3 barrier free spaces & 1 loading space

The applicant is proposing to use the existing parking lot without modification. The existing site hosts 70 standard parking spaces, 3 barrier-free spaces, and 3 loading bays.

The applicant has indicated that there will be no showroom, eight services stalls, and eight service vehicles. The building currently has 3 loading bays which the applicant does not have access to. Loading is proposed to happen within the truck well or open storage with products being transported via forklift. The applicant is required to have a total of 24 parking spaces, with 70 spaces provided, standards have been satisfied.

Items to be Addressed: *None.*

SITE ACCESS AND CIRCULATION

The site is accessed from a single entrance off Dixie Highway and three entrances off Enterprise Drive.

The site provides ample room for passenger vehicular circulation and meets current standards. Turning radii for fire and garbage trucks have been provided on the site plan.

We defer to Township Fire for additional comments regarding site circulation.

Items to be Addressed: *Township Fire review of site circulation.*

SAFETY PATHS AND SIDEWALKS

The site is existing and does not have a safety path or safety path easement on either street frontage. This section of Dixie Highway is designated a priority pathway per Section 40-851(b) of the Zoning Ordinance, which requires the developer to construct a pathway within an easement adjacent to the right-of-way. We are unclear as to whether this requirement was in place and/or waived with previous development approvals for this site.

Upon request of the developer, construction of the pathway on the subject property may be waived by the township if the township determines, in its sole discretion, that a pathway, if constructed, would not connect to any other pathway and would not likely be connected for at least ten years. Approval to waive construction of a pathway is conditioned in Section 40-851(b)(5), which includes the granting of an easement for construction of the safety path in the future.

Items to be Addressed: *Applicant request and Planning Commission granting of safety path waiver.*

ESSENTIAL FACILITIES

The existing on-site well and septic systems are proposed to be used. The septic field location is shown in the eastern front yard. There are two wells shown, both on the southern side of the building. No documentation on the viability and capacity of either the well or the septic system has been provided.

We defer to the Township Engineer for additional comments regarding essential facilities and stormwater management.

Items to be Addressed: *Township Engineer review of essential facilities.*

LANDSCAPING

The applicant has indicated where existing landscaping exists on site. The following landscape standards apply to the site:

Greenbelt: The site greenbelt is existing, complies with current standards, and is not proposed to be changed.

Screening: The existing screening complies with current standards and is not proposed to change.

Parking Lot: The Ordinance requires one (1) tree per eight (8) parking spaces. The site currently has 70 parking spaces which would require 9 trees. The site currently complies with 10 parking lot trees per aerial photographs.

Site Landscaping: Section 40-721(6) requires at least ten percent (10%) of the site area, excluding existing public rights-of-way, to be landscaped. A calculation of the landscaped area has not been provided. However, it does appear that more than 10% of the site area is landscaped and not proposed to be changed.

Trash Enclosure: A dumpster and separate enclosures for fluids, tires and recycled scrap metal are proposed towards the northeastern portion of the site. The applicant has stated that general trash pick-up will take place weekly.

The proposed dumpster would not comply with the standards set in Section 40-885, which require that it be enclosed on all four sides. The proposed dumpster and enclosures for fluids, tires and recycled scrap metal are proposed to be screened from Dixie Highway by a 6.5-foot CMU wall and existing vegetation to the north. The Planning Commission, at its discretion, may approve alternative methods of screening.

The disposal and recycling of other materials such as oil, tires and scrap will be facilitated by various vendors listed on the sheet labeled “Huffmaster Racing Auto & Speed Shop Site Plan Overview”. A list that contains the various types of fluids and how they will be disposed of can be found on the same sheet.

Township Fire should review disposal plans as part of the final site plan.

Items to be Addressed: *1. Trash enclosure must comply with standards found in Section 40-885 or Planning Commission approve alternate method of screening. 2. Township Fire Department review of disposal plans as part of final site plan.*

LIGHTING

Site lighting is existing and not proposed to change.

Items to be Addressed: *None.*

SIGNAGE

Sign information has not been provided. This information may be provided at final site plan.

Items to be Addressed: *None.*

FLOOR PLANS AND ELEVATIONS

The building is existing. The applicant has not proposed any external changes.

Items to be Addressed: *None.*

REQUIREMENTS FOR DISMANTLING AND SALVAGING OF AUTOMOBILES

Per Section 40-455(3), major automobile repair facilities that perform dismantling and salvaging of automobiles, commercial and recreational vehicles for parts recovery must meet the following:

1. ***Devices and controls adequate to meet the standards enumerated in section 40-453 relative to sound, vibration, smoke, odor, or gases shall be installed.***

   CWA Comments: The applicant has made a statement that they will incorporate operation controls and equipment designed to meet or exceed all applicable standards above.

2. ***Adequate means of sanitary disposal of any waste material shall be provided.***

   CWA Comments: The applicant has provided plans for the disposal of fluid, tires, and other recycled vehicle parts. A list of fluids that will be used on site and how they will be disposed can be found on the sheet labeled "*Huffmaster Racing Auto & Speed Shop Site Plan Overview*". The Planning Commission should determine if further review from the Township Fire Department is necessary.

3. ***Outdoor storage of vehicles being repaired or being used for parts recovery shall be screened as follows: All vehicles shall be screened from off-site view by walls (including building walls) or fences at least eight feet in height. However, a screening wall or fence less than eight feet high, but not less than six feet high, existing on the date of enactment of this provision may serve in lieu of such eight-foot wall or fence.***

   CWA Comments: The rear of the site is screened by a 6.5-foot CMU screen wall between the paved area in the rear of the site and Dixie Highway, a chain link fence of an unspecified height on the western property line, and a chain link gate of an unspecified height facing Enterprise Drive. The applicant has indicated that a limited number of vehicles will be stored outdoors in the northwest corner of the site and the majority of work will take place indoors. While we feel the existing screening is adequate for the operation proposed, the number of vehicles and area(s) for outdoor vehicle storage or display could increase, unless conditions were placed on an approval.

4. No more than a total of three vehicles waiting to be serviced per service bay and two vehicles for parts salvaging per service bay shall be stored at any time.

CWA Comments: The applicant has indicated that there will be a total of eight services bays and no more than two to four vehicles on site per month. We believe that this should continue to comply unless the volume of activity significantly increases as compared to the current operation.

5. Adequate standing and parking facilities shall be provided on the site so that no loaded vehicle at any time stands on a public right-of-way awaiting entrance to the site.

CWA Comments: The site's parking facilities comply with standards. Site loading is to take place in designated loading zones show on the site plan. We anticipate that site loading should not have an effect on general site circulation or cause obstructions within the right-of-way.

Items to be Addressed: *Planning Commission determination as to whether the standards for dismantling and salvaging of automobiles in Section 40-455(3) have been met.*

SUMMARY

The submitted preliminary site plan is in substantial compliance with Springfield Township's Zoning Ordinance. The following items need to be considered by the Planning Commission and addressed by the applicant to the satisfaction of the Planning Commission.

Planning Commission Considerations:

A. Special Land Use Standards.

1. Planning Commission determination as to whether the standards for approval of special land uses in Section 40-145 have been met.

B. Safety Paths and Sidewalks.

1. Determine if safety path is required or waiver should be granted.

C. Landscaping

1. Consider alternate method of screening of dumpster.

D. Requirements for Dismantling and Salvaging of Automobiles.

1. Planning Commission determination as to whether the standards for dismantling and salvaging of automobiles in Section 40-455(3) have been met.

Applicant to Address:

A. Safety Paths and Sidewalks.

1. Provide safety paths and on final site plan per direction of the Planning Commission.

B. Landscaping.

1. Trash enclosure must comply with standards found in Section 40-885 or Planning Commission approved alternate method of screening.

Township Engineer or Other Agency Review:

1. Township Engineer review of essential facilities.
2. Township Fire review of disposal plans.

If the Planning Commission chooses to recommend approval of the Special Land Use, we recommend that the following be included in the motion:

1. Findings as to how the standards for approval of special land uses in Section 40-145 of the Springfield Township Zoning Ordinance have been met.
2. Approvals from Township Engineer and Township Fire Department.
3. A condition that showrooms or outdoor display of vehicles are not allowed.
4. A condition that hours of operation are limited to 8:00 a.m. to 5:00 p.m., Monday through Friday.
5. A condition that existing screening and landscaping approved under the prior site plan remain adequate and intact.

Respectfully submitted,

CARLISLE/WORTMAN ASSOC., INC.
Megan Masson-Minock, AICP
Principal

CARLISLE/WORTMAN ASSOC., INC.
Benny Bono
Community Planner

cc: *Ric Davis, Supervisor*
Danielle Sink, Supervisor's Assistant
Nancy McClain, P.E.(nmcclain@giffelswebster.com)
Jason Maye, P.E. (jmayer@giffelswebster.com)
Matthew J. Covey (mcovey@springfield-twp.us)
Lisa J. Hamameh, Township Attorney, (lhamameh@rsjalaw.com)

SPRINGFIELD TOWNSHIP FIRE DEPARTMENT

10280 Rattalee Lake Road • Davisburg, MI 48350
Phone: 248.625.6699 Fax: 248.605.4090
Email: stfd@springfield-twp.us

Matthew J. Covey, *Fire Chief* • Matthew S. Strickland, *Assistant Chief*

Date: June 2, 2026

To: Springfield Township Planning Commission / Township Board
From: Chief Matthew Covey, Fire Chief
Subject: Fire Department Site Plan Review – 10375 Dixie Highway – Huffmaster Racing Auto & Speed Shop

The Springfield Township Fire Department reviewed the submitted site plan usage overview and supporting information for Huffmaster Racing Auto & Speed Shop located at 10375 Dixie Highway.

The Fire Department previously conducted a Life Safety Inspection at the property on December 3, 2025. During that inspection, several items were identified that required correction. Those items included repairs to penetrations in existing fire separation walls, removal of extension cord usage in the truck trailer and brake work areas, and installation of additional exit/emergency lighting within the front building visible from the roadway.

Since that inspection, Huffmaster Racing Auto & Speed Shop has corrected the deficiencies identified in Inspector Tom Oaks' inspection report.

Based on the submitted site plan and operational overview provided to the Fire Department, the department has no issue with the proposed use moving forward from a fire and life safety standpoint. The submitted information outlines indoor vehicle dismantling and parts reclamation, controlled fluid removal and storage, spill containment measures, and organized exterior storage areas screened from public view.

Any future building modifications, occupancy changes, hazardous material increases, or operational changes may require additional review, permits, and inspections through the Fire Department and Building Department.

Respectfully,

Matthew Covey

MEMO

New Business

TO: Planning Commission

FROM: Supervisor's Office

DATE: July 28, 2026

RE:

Background:

The original Heather Highlands Golf Club clubhouse has been demolished, and the owner, Dave Parker, is proposing to construct a new clubhouse. Attached are the application materials and the consultants' review comments relevant to this request. Our Planner, Megan Masson-Minock, has advised that the applicant may combine the preliminary and final site plan review into a single application.

Items attached:

1. Site Plan Application 6/3/26
2. Letter from Owner Dave Parker 7/1/26
3. Site Plan and Final Plans (Full size)
4. Lighting Plan 7/20/26
5. Giffels Webster Engineering Letter 1 6/18/26
6. Giffels Webster Engineering Mark up 1 6/18/26
7. Engineering Responses - Kieft Engineering 6/30/26
8. Carlisle Wortman Planner Review 1 6/23/26
9. Carlisle Wortman Planner Review 2 – 7/21/26
10. Planning Responses – Kieft Engineering 6/30/26
11. Fire Department Review 1 6/16/26
12. Fire Department Review 2 – 7/17/26
13. Building Department Review 1 7/17/26

SPRINGFIELD
CHARTER TOWNSHIP
SUPERVISOR'S OFFICE
248-846-6502 | FAX 248-6548



APPLICATION FOR SITE PLAN REVIEW

Please Review Instruction Page Before Completing

Applicant

Name	David Parker - Heather Highlands Golf Club
Address	11450 E. Holly Rd
City, State, Zip	Holly, MI 48442
Phone	810-255-4029 Cell 248-255-1026
Email	Dparker@partechgss.com
Interest	owner

All Parties of Interest (Title Holder, Contract Purchaser, Partners): Include for Each

Name	same as above	Name	
Address		Address	
Phone		Phone	
Email		Email	
Interest		Interest	

Name		Name	
Address		Address	
Phone		Phone	
Email		Email	
Interest		Interest	

Designer: (Registered Engineer, Architect, Surveyor, Landscape Architect, Planner)

Name	Jeff Van Camp	Name	
Address	1111 S. Creekwood Burton	Address	
Phone	810-742-0480	Phone	
Email	J vancamp@creekwoodarch.com	Email	
Interest	Architect (Creekwood Architecture)	Interest	

Name	Bill Norman - Kieft Engineering	Name	
Address	5852 S. Main St. Suite 1	Address	
Phone	Clarkston 48346	Phone	
Email	bnorman@kieftengr.com	Email	
Interest	Surveyor	Interest	

248-625-5251

Other Consultants:

Name		**Name**	
Address		**Address**	
Phone		**Phone**	
Email		**Email**	

General Property Information and Description:

General Location	Holly Rd West of Dixie, East of I-75
Current Zoning	Recreation (RC)
Acreage	169.94 acres (less than 1acre being rebuilt)
Parcel ID Number	07-04-376-006
Legal Description	Part of the S 1/2 of section 4, T4N, R8E, Springfield Twp
	(Attach Metes and bounds description where applicable)

Purpose of Request and Intended Use:

Rebuild Golf Clubhouse and restaurant

CERTIFICATION: I hereby certify that I have reviewed the Springfield Township Zoning Ordinance and Design & Constructions Standards and agree to comply with those requirements. I have also read and understand the Instructions to Applicant. I understand that the fee entitles me to reviews of the original plan and one revision. Each additional revision will require a fee of 50% of the original.

I hereby grant permission to any township official, consultant or employee to access the property in order to review the site plan submitted.

Signature of Applicant: David Parker **Date** 5/27/26

David Parker
(Print Name)

Signature of Owner: David Parker **Date** 5/27/26

David Parker
(Print Name)

Signature of Applicant Representative: Katherine Maguire **Date** 5/27/26

Katherine (Kate) Maguire 248-231-8158
(Print Name)

Katecmaguire@gmail.com

For Township Use Only **File No.** _____

PRELIMINARY | | **Date Received** _____ **Fee $** _____
3rd Review Fee $ _____ **4th Review Fee $** _____

FINAL | | **Date Received** _____ **Fee $** _____
3rd Review Fee $ _____ **4th Review Fee $** _____

FINAL ENGINEERING REVIEW | | **Date Received** _____ **Fee $** _____
3rd Review Fee $ _____ **4th Review Fee $** _____

Outlook

[EXTERNAL] FW: Letter to town

From Brian Galley <brian@buildbella.com>
Date Thu 7/2/2026 4:08 PM
To Danielle Sink <dsink@springfield-twp.us>

Caution: This email originated from outside of Springfield Township's email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Danielle,

See below letter from owner and applicant Dave Parker.

Please Confirm and forward.

Thanks,

Bria Galley

-----Original Message-----
From: Dave P <dparker@partechgss.com>
Sent: Wednesday, July 1, 2026 7:04 PM
To: Brian Galley <brian@buildbella.com>
Cc: Kate Maguire <kmaguire@heatherhighlands.com>
Subject: Letter to town

July 1, 2026
Springfield Township Planning Department Dear Township Officials, We are writing to formally express our intent to move forward with the complete revitalization of Heather Highlands Golf Club. We are excited about restoring this property into a first class golf destination that will serve the community for many years to come.
Our plans include a comprehensive renovation of the golf course, including restoration of the greens, tees, fairways, bunkers, irrigation systems, and other course infrastructure. In addition, we plan to construct a new clubhouse that will provide modern amenities for golfers, community gatherings, dining, and special events.
This project represents a significant investment in the property and in Springfield Township. Our goal is to preserve the character of the course while creating a high quality recreational facility that enhances the surrounding community.
Our ownership and management team has extensive experience developing, renovating, and operating commercial properties. Our portfolio includes the successful ownership and operation of Atlas Valley Golf Club, Crystal Lake Golf Club, and Hilltop Bar & Grill in Clarkston, along with numerous other commercial real estate projects. These experiences have given us a strong understanding of what is required to complete projects efficiently and operate them successfully over the long term.
We have assembled an experienced management team that will oversee the daily operation of Heather Highlands Golf Club, following the same proven approach that has been successful at our other properties.
We have also selected our construction team and are prepared to begin construction immediately upon receiving the necessary approvals from Springfield Township. Our objective is to move forward promptly while maintaining open communication with Township staff throughout the process.
We appreciate the Township’s time and consideration as we work through the approval process. We look forward to partnering with Springfield Township to restore Heather Highlands into an asset that the community can enjoy for generations.
Please let us know if there are any questions or if additional information would be helpful. We appreciate your consideration and look forward to working together.
Sincerely,
Dave Parker
Thanks
Dave

Preliminary Exterior Lighting Plan
40' x 90' Pavilion / Clubhouse



Purpose

This concept lighting plan is intended as a preliminary township submission. Final permit drawings should include manufacturer IES photometric files and a point-by-point photometric study.

Material List

18 Architectural LED column uplights (700 lm, 3000K, IP65/IP66)
16 Decorative shielded wall sconces (900 lm, 3000K)
24 LED canopy downlights (1,000 lm, 3000K)
12 Landscape accent lights (500 lm)
10 Shielded pathway bollards (450 lm)
6 Shielded sign lights (600 lm)
4 Entrance / emergency fixtures (1,500 lm)
1 Astronomical timer with photocell
4 Motion sensors

1 Exterior lighting control panel
Exterior conduit, wiring, junction boxes, mounting hardware and surge protection.

Estimated System Output

Total initial lumens: approximately 71,100
Estimated connected load: approximately 838 watts
Warm white (3000K) LEDs throughout
All fixtures fully shielded and directed downward.

Preliminary Photometric Targets

Covered pavilion: 3 fc average
Entrances: 5 fc average
Walkways: 1.5 fc average
Landscape: 1 fc average
Stone columns: 5–10 fc
Signs: 5 fc
Average lighting around building: 3.2–3.8 fc
Minimum walkway lighting: 0.5 fc

Township Notes

Use full-cutoff fixtures with zero uplight where possible.
Prevent light trespass beyond the property.
Lighting controlled by photocell and astronomical timer with after-hours dimming.
Final engineering package should include fixture schedule, mounting heights, BUG ratings, IES files and a point-by-point lumen study.

June 18, 2026

Springfield Township Planning Commission
Charter Township of Springfield
12000 Davisburg Road
Davisburg, Michigan 48350

RE: Preliminary Site Plan Submittal
ENGINEERING REVIEW

Project Name: Heather Highlands Clubhouse
Project No.: 20707.00

Dear Planning Commission Members:

Giffels Webster has completed our engineering review of the Preliminary Site Plan for the proposed Heather Highlands Clubhouse project plans dated June 1, 2026. We recommend approval of the site plan with comments as summarized below:

General

The 169.94-acre site is located on East Holly Road near the intersection of Oakhill Road. The property is a golf course with a clubhouse and associated maintenance buildings.

Utilities

The site is served by an existing well and septic field that will remain. An existing 12" storm sewer conveys flow from existing catch basins the parking lot to a pond located southeast of the parking and clubhouse area. There are no proposed changes to the utilities serving the building or the parking area.

Required for Preliminary Site Plan

1. None

Required for Final Site Plan

2. None

Grading

The site currently slopes from north to south and southeast across the area of the parking and the clubhouse. The proposed grading will maintain the existing flow pattern with some minor modifications to accommodate the changes in the building footprint and some additional paving in the drive area. The parking area will be extended by approximately 13 feet to allow striping of ADA parking along the front walk of the clubhouse. The drive will be modified to provide a bag drop off out of the travel path and a loading area for the kitchen of the clubhouse.

Required for Preliminary Site Plan

1. None

Required for Final Site Plan

1. None

Other Plan Comments

Required for Preliminary Site Plan

1. The Fire Marshal shall review the site for their access and fire protection requirements.

Required for Final Site Plan

1. Provide a soil erosion and sedimentation control plan. A soil erosion permit may be required from the OCWRC prior to the pre-construction meeting.

Permits

The applicant shall obtain all required permits before any work commences on site. The following is a list of permits that may be required for the project:

1. A Soil Erosion and Sedimentation Control permit from OCWRC.
2. A building permit for the proposed building from the Springfield Township Building Department.

A detailed review of the final site plans and construction plans will be required if the preliminary site plan is approved by the Planning Commission. It is the responsibility of the applicant to ensure that the construction plans meet all of the conditions of the site plan approval by the Planning Commission. Please contact us if you have any questions.

Respectfully

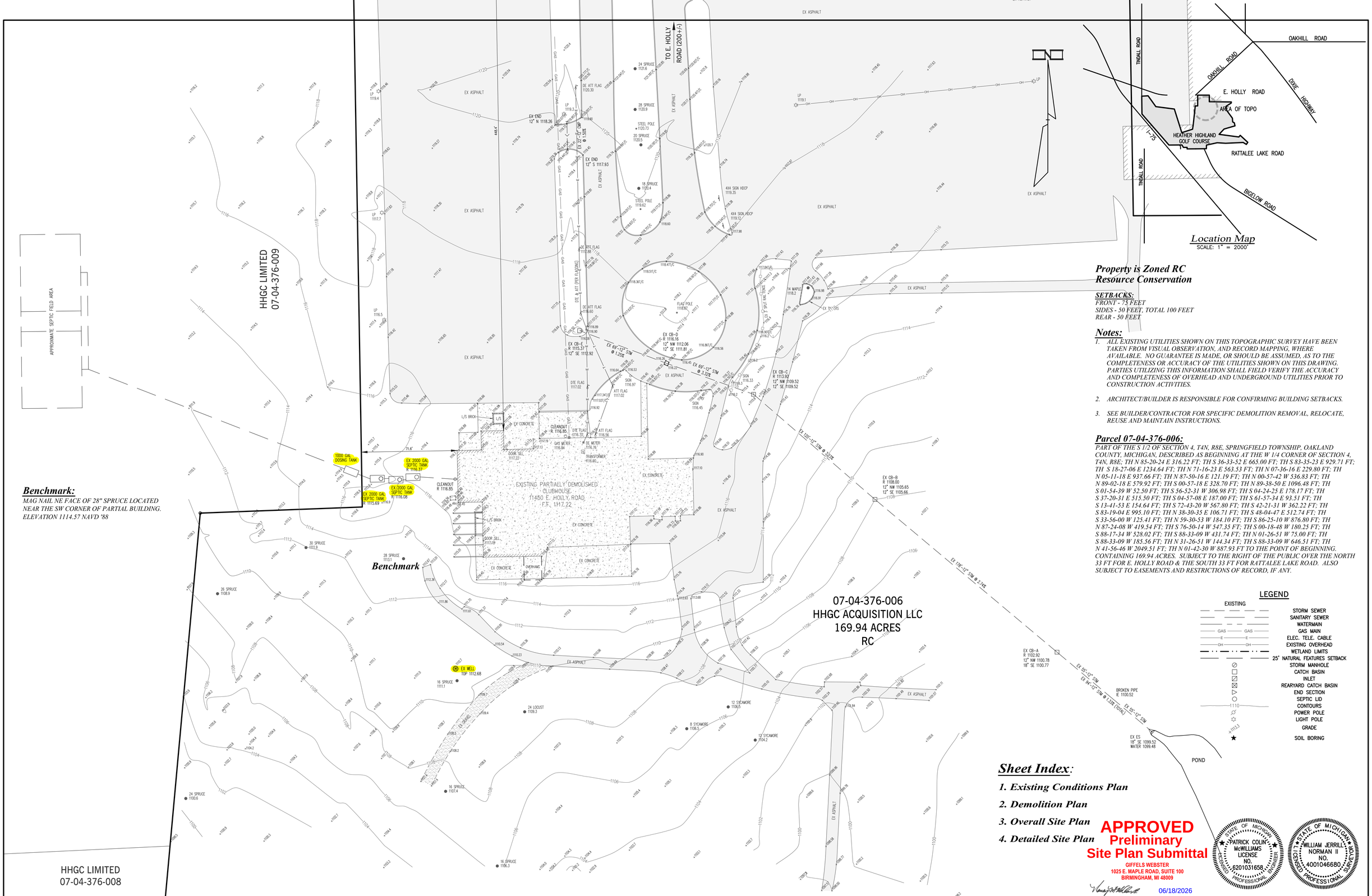
GIFFELS WEBSTER

Jason Mayer, PE
Partner

Nancy McClain, PE
Project Manager

cc: Brian Piper, Springfield Township Superintendent
Sean Miller, Springfield Township Clerk
Danielle Sink, Springfield Township
Megan A. Masson-Minock, AICP, Carlisle Wortman, Township Planner

Attachments: Marked-up Preliminary Site Plan set stamped Approved



Location Map
SCALE: 1" = 2000'

Benchmark:

MAG NAIL NE FACE OF 28" SPRUCE LOCATED NEAR THE SW CORNER OF PARTIAL BUILDING. ELEVATION 1114.57 NAVD '88

Property is Zoned RC Resource Conservation

SETBACKS:
FRONT - 75 FEET
SIDES - 50 FEET, TOTAL 100 FEET
REAR - 50 FEET

Notes:

1. *ALL EXISTING UTILITIES SHOWN ON THIS TOPOGRAPHIC SURVEY HAVE BEEN TAKEN FROM VISUAL OBSERVATION, AND RECORD MAPPING, WHERE AVAILABLE. NO GUARANTEE IS MADE, OR SHOULD BE ASSUMED, AS TO THE COMPLETENESS OR ACCURACY OF THE UTILITIES SHOWN ON THIS DRAWING. PARTIES UTILIZING THIS INFORMATION SHALL FIELD VERIFY THE ACCURACY AND COMPLETENESS OF OVERHEAD AND UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION ACTIVITIES.*
2. *ARCHITECT/BUILDER IS RESPONSIBLE FOR CONFIRMING BUILDING SETBACKS.*
3. *SEE BUILDER/CONTRACTOR FOR SPECIFIC DEMOLITION REMOVAL, RELOCATE, REUSE AND MAINTAIN INSTRUCTIONS.*

Parcel 07-04-376-006:

PART OF THE S 1/2 OF SECTION 4, T4N, R8E, SPRINGFIELD TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS BEGINNING AT THE W 1/4 CORNER OF SECTION 4, T4N, R8E; TH N 85-20-24 E 316.22 FT; TH S 36-33-52 E 665.00 FT; TH S 83-35-23 E 929.71 FT; TH S 18-27-06 E 1234.64 FT; TH N 71-16-23 E 563.53 FT; TH N 07-36-16 E 229.80 FT; TH N 05-11-18 E 937.66 FT; TH N 87-50-16 E 121.19 FT; TH N 00-57-42 W 536.83 FT; TH N 89-02-18 E 579.92 FT; TH S 00-57-18 E 328.70 FT; TH N 89-38-50 E 1096.48 FT; TH S 01-54-39 W 52.50 FT; TH S 56-52-31 W 306.98 FT; TH S 04-24-25 E 178.17 FT; TH S 37-20-31 E 515.50 FT; TH S 04-57-08 E 187.00 FT; TH S 61-57-34 E 93.51 FT; TH S 13-41-53 E 154.64 FT; TH S 72-43-20 W 567.80 FT; TH S 42-21-31 W 362.22 FT; TH S 83-19-04 E 995.10 FT; TH N 38-30-35 E 106.71 FT; TH S 48-04-47 E 512.74 FT; TH S 33-56-00 W 125.41 FT; TH N 59-30-53 W 184.10 FT; TH S 86-25-10 W 876.80 FT; TH N 87-24-08 W 419.54 FT; TH S 76-50-14 W 547.35 FT; TH S 00-18-48 W 180.25 FT; TH S 88-17-34 W 528.02 FT; TH S 88-33-09 W 431.74 FT; TH N 01-26-51 W 75.00 FT; TH S 88-33-09 W 185.56 FT; TH N 31-26-51 W 144.34 FT; TH S 88-33-09 W 646.51 FT; TH N 41-56-46 W 2049.51 FT; TH N 01-42-30 W 887.93 FT TO THE POINT OF BEGINNING. CONTAINING 169.94 ACRES. SUBJECT TO THE RIGHT OF THE PUBLIC OVER THE NORTH 33 FT FOR E. HOLLY ROAD & THE SOUTH 33 FT FOR RATTALEE LAKE ROAD. ALSO SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

LEGEND

EXISTING

- STORM SEWER
- SANITARY SEWER
- WATERMAIN
- GAS MAIN
- ELEC. TELE. CABLE
- EXISTING OVERHEAD
- WETLAND LIMITS
- 25' NATURAL FEATURES SETBACK
- STORM MANHOLE
- CATCH BASIN
- INLET
- REARYARD CATCH BASIN
- END SECTION
- SEPTIC LID
- CONTOURS
- POWER POLE
- LIGHT POLE
- GRADE
- SOIL BORING

Sheet Index:

1. *Existing Conditions Plan*
2. *Demolition Plan*
3. *Overall Site Plan*
4. *Detailed Site Plan*

APPROVED
Preliminary Site Plan Submittal
GIFFELS WEBSTER
1025 E. MAPLE ROAD, SUITE 100
BIRMINGHAM, MI 48009
06/18/2026

STATE OF MICHIGAN — PATRICK COLIN McWILLIAMS — LICENSE NO. 6201031658 — REGISTERED PROFESSIONAL ENGINEER

STATE OF MICHIGAN — WILLIAM JERRILL NORMAN II — NO. 4001046680 — REGISTERED PROFESSIONAL SURVEYOR

DATE	ISSUE

PROPRIETOR:
HEATHER HIGHLAND G.C.–DAVID PARKER
11450 E. HOLLY ROAD
HOLLY, MICHIGAN 48442
(248) 231–8158–KATE MAGUIRE

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5852 SOUTH MAIN STREET, SUITE 1, CLARKSTON, MICHIGAN 48346
PHONE (248) 625–5251 www.kiefteng.com FAX (248) 625–7110

DATE 6–1–2026	CKD. BY	DATE
DRAWN GF		
DESIGN WJN		
SECTION 4	T– 4 –N. R– 8 –E.	

72 HOURS (3 WORKING DAYS) BEFORE YOU DIG CALL MISS DIG (800) 482–7171 OR 811

Existing Conditions Plan
HEATHER HIGHLANDS GOLF COURSE - PARCEL NO. 07-04-376-006
PART OF THE S 1/2 OF SECTION 4, T4N, R8E,
SPRINGFIELD TOWNSHIP, OAKLAND COUNTY, MICHIGAN

SCALE 1" = 30'
SHEET 1 OF 4
KE 2026.069

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HHGC LIMITED
07-04-376-009

S 0°57'42" E 486.8

EX ASPHALT (RESTRIPE)

EX ASPHALT (MAINTAIN)

EX ASPHALT

TO E. HOLLY ROAD (200+/-)

18 SPRUCE 1120.4

STEEL POLE 1119.62

4X4 SIGN HDCP 1119.35

4X4 SIGN HDCP 1119.12

LP 1117.7

LP 1116.5

DTE & ATT (PER FLAGGING)

DE ATT FLAG 1117.88

DE ATT FLAG 1116.80

DTE FLAG 1117.02

ATT FLAG 1117.02

ATT FLAG 1116.56

EX CB-D
R 1116.16
12" NW 1112.06
12" SE 1111.81

EX CB-E
R 1115.37
12" SE 1112.92

EX 69'-12" STM @ 1.25%

EX 69'-12" STM @ 3.32%

EX CB-C
R 1113.92
12" NW 1109.52
12" SE 1109.52

EX 120'-12" STM @ 3.21%

EX 178'-12" STM @ 2.74%

EX 3" SPLIT RAIL FENCE

54 MAPLE 1118.2

EX TIMBERS

FLAG POLE 1118.83

SIGN 1116.33

SIGN 1116.67 (RELOCATE)

SIGN 1116.45 (RELOCATE)

(REMOVE ASPHALT CURB & REPLACE AS NECESSARY)

(REMOVE) L/S BRICK

(REMOVE) CLEANOUT R 1116.85

EX CONCRETE (REMOVE)

GAS METER 1115.94 (RELOCATE)

GAS METER (RELOCATE)

TRANSFORMER (RELOCATE)

DEMOLITION OF EXISTING BUILDING, INCLUDING ALL FOUNDATIONS AND BELOW GRADE COMPONENTS AS NECESSARY

EXISTING PARTIALLY REMOLISHED CLUBHOUSE
11450 E. HOLLY ROAD
F.F. 1117.22

EX CONCRETE (REMOVE)

L/S BRICK (REMOVE)

(REMOVE) OVERHANG

EX CONCRETE (REMOVE)

EX CONCRETE (REMOVE)

EX CONCRETE (REMOVE)

1000 GAL DOSING TANK

EX 2000 GAL SEPTIC TANK R 1116.37 (MAINTAIN)

EX 2000 GAL SEPTIC TANK R 1115.69 (MAINTAIN)

EX 2000 GAL SEPTIC TANK R/1116.08 (MAINTAIN)

CLEANOUT R 1116.85 (MAINTAIN)

71.6'

N 87°50'16" E 121.19'

NOTE: EXTEND WELL & SEPTIC LINES AS NECESSARY

SILT FENCE

SILT FENCE

EX ASPHALT (MAINTAIN)

EX CB-B
R 1108.00
12" NW 1105.65
12" SE 1105.66

EX ASPHALT

EX GRAVEL

EX WELL
TOP 1112.68

30 SPRUCE 1111.9

28 SPRUCE 1113.1

26 SPRUCE 1108.9

16 SPRUCE 1111.1

24 LOCUST 1109.3

12 SYCAMORE 1106.5

8 SYCAMORE 1106.5

12 SYCAMORE 1104.2

Benchmark:
MAG NAIL NE FACE OF 28" SPRUCE LOCATED NEAR THE SW CORNER OF PARTIAL BUILDING. ELEVATION 1114.57 NAVD '88

LEGEND

EXISTING

- STORM SEWER
- SANITARY SEWER
- WATERMAIN
- GAS MAIN
- ELEC. TELE. CABLE
- EXISTING OVERHEAD
- WETLAND LIMITS
- 25' NATURAL FEATURES SETBACK
- STORM MANHOLE
- CATCH BASIN
- INLET
- REARYARD CATCH BASIN
- END SECTION
- SANITARY MANHOLE
- GATE VALVE AND WELL
- HYDRANT
- CONTOURS
- POWER POLE
- LIGHT POLE
- GRADE
- SOIL BORING
- DEMOLITION LIMITS
- SILT FENCE

07-04-376-006
HHGC ACQUISITION LLC
169.94 ACRES
RC

STATE OF MICHIGAN
PATRICK COLIN McWILLIAMS
LICENSE NO. 6201031658
LICENSED PROFESSIONAL ENGINEER

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DATE	ISSUE

PROPRIETOR:
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11450 E. HOLLY ROAD
HOLLY, MICHIGAN 48442
(248) 231–8158–KATE MAGUIRE

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PHONE (248) 625–5251 www.kiefteng.com FAX (248) 625–7110

DATE 6–1–2026	CKD. BY	DATE
DRAWN GF		
DESIGN PCM		
SECTION 4	T– 4 –N. R– 8 –E.	

72 HOURS (3 WORKING DAYS) BEFORE YOU DIG CALL MISS DIG (800) 482–7171 OR 811

Demolition Plan

HEATHER HIGHLANDS GOLF COURSE - PARCEL NO. 07-04-376-006
PART OF THE S 1/2 OF SECTION 4, T4N, R8E,
SPRINGFIELD TOWNSHIP, OAKLAND COUNTY, MICHIGAN

SCALE 1" = 20'
SHEET 2 OF 4
KE 2026.069

WEST LOT - 113 SPACES

EAST LOT - 150 SPACES

TO E. HOLLY ROAD (120+/-)

HHGC LIMITED
07-04-376-009

APPROXIMATE SEPTIC FIELD AREA

PROPOSED NEW STRIPING

PROPOSED NEW STRIPING

PROPOSED ASPHALT

PROPOSED ASPHALT

BAG DROP

PROPOSED 8' CONCRETE WALK

Proposed Clubhouse
4,727 SF

Proposed Pavilion
3,750 SF

PROPOSED CONCRETE PATIO

PROPOSED TRANSFORMER

1000 GAL DOSING TANK

EX 2000 GAL SEPTIC TANK R 1116.37

EX 2000 GAL SEPTIC TANK R 1116.08

EX 2000 GAL SEPTIC TANK R 1115.69

CLEANOUT R 1116.85

EX ASPHALT

SILT FENCE

SILT FENCE

EX WELL TOP 1112.68

Benchmark:

MAG NAIL NE FACE OF 28" SPRUCE LOCATED NEAR THE SW CORNER OF PARTIAL BUILDING. ELEVATION 1114.57 NAVD '88

Benchmark

07-04-376-006
HHGC ACQUISITION LLC
169.94 ACRES
RC

POND

BROKEN PIPE IE 1100.52

EX CB-A R 1102.92 12" NW 1100.78 18" SE 1100.77

EX CB-B R 1108.60 12" NW 1105.65 12" SE 1105.66

EX CB-C R 1113.92 12" NW 1109.52 12" SE 1109.52

EX CB-D R 1116.16 12" NW 1112.06 12" SE 1111.81

EX CB-E R 1115.37 12" SE 1112.92

EX 178'-12" STM @ 2.74%

EX 69'-12" STM @ 1.25%

EX 69'-12" STM @ 3.32%

EX 120'-12" STM @ 3.02%

EX 55'-12" STM

EX 84'-12" STM

EX 55'-12" STM @ 1.33% (TYP.)

EX ES 18" SE 1099.52 WATER 1099.48

"PARKING CALCULATIONS"

PARKING REQUIRED:

PROPOSED CLUBHOUSE: 4,727 SF
DINING SEATING - 72
BAR SEATING - 21
PRO SHOP - 25
REMAINDER OF BUILDING OCCUPANCY - 11
SUBTOTAL = 129 PERSONS x 1 SPACE/2 PERSONS (SEATS) = 65 SPACES

PROPOSED PAVILION: 3,750 SF
SEATING - 178 PERSONS x 1 SPACE/2 PERSONS (SEATS) = 89 SPACES

GOLF COURSE:
18 HOLES x 5 SPACES/HOLE = 90 SPACES

TOTAL REQUIRED SPACES = 244 SPACES

PARKING PROVIDED:
EAST LOT = 113 SPACES (INCLUDES 8 ADA SPACES)
WEST LOT = 150 SPACES (INCLUDES 2 ADA SPACES)

TOTAL PROVIDED SPACES = 263 SPACES (INCLUDES 10 ADA SPACES)

LEGEND

	EXISTING	PROPOSED
STORM SEWER		
SEPTIC LINES		
GAS MAIN	GAS GAS	GAS GAS
ELEC. TELE. CABLE	E E	E E
OVERHEAD WIRES	OH OH	OH OH
STORM MANHOLE		
CATCH BASIN		
INLET		
REARYARD CATCH BASIN		
END SECTION		
SEPTIC LID		
WELL		
CONTOURS	1110	(16)
GRADE	+1114.3	(75.0)
FINISH FLOOR		F.F. 1117.50
MATCH EXISTING		(M)
TOP OF CURB		T/C
TOP OF SIDEWALK		T/S
TOP OF PAVEMENT		T/P
TOP OF WALL		T/W
BOTTOM OF WALL		B/W
DRAINAGE ARROW		
STANDARD CURB		
REVERSE CURB		
SOIL BORING	★	
DRAINAGE AREA		
SILT FENCE		

STATE OF MICHIGAN
PATRICK COLIN McWILLIAMS
LICENSE NO. 6201031658
LICENSED PROFESSIONAL ENGINEER

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DATE	6–1–2026	CKD. BY	DATE
DRAWN	GF		
DESIGN	PCM		
SECTION	4	T– 4 –N. R– 8 –E.	

72 HOURS (3 WORKING DAYS) BEFORE YOU DIG CALL MISS DIG (800) 482–7171 OR 811

Overall Site Plan

HEATHER HIGHLANDS GOLF COURSE - PARCEL NO. 07-04-376-006
PART OF THE S 1/2 OF SECTION 4, T4N, R8E,
SPRINGFIELD TOWNSHIP, OAKLAND COUNTY, MICHIGAN

SCALE 1" = 30'
SHEET 3 OF 4
KE 2026.069

HHGC LIMITED
07-04-376-009

S 0°57'42" E 486.8

PROPOSED NEW STRIPING

20' 24' 20' 20' 24' 20'

9.5'

29'

EX ASPHALT

EX CB-E
R 1115.37
12" SE 1112.92

EX 69'-12" STM @ 1.25%

EX 69'-12" STM @ 3.32%

EX CB-D
R 1116.16
12" NW 1112.06
12" SE 1111.81

EX CB-C
R 1113.92
12" NW 1109.52
12" SE 1109.52

EX 120'-12" STM @ 3.23%

EX CB-B
R 1108.00
12" NW 1105.65
12" SE 1105.66

EX 178'-12"

DTE & ATT (PER FLAGGING)

DTE ATT FLAG @ 1117.88

DE ATT FLAG @ 1116.80

DTE FLAG 1117.02

ATT FLAG 1117.02

DTE FLAG 1116.70

ATT FLAG 1116.56

18 SPRUCE 1120.4

STEEL POLE 1119.62

4X4 SIGN POST 1114.36

4X4 SIGN POST 1114.12

FLAG POLE 1118.83

54 MAPLE 1118.2

EX TIMBERS

EX 3' SPLIT RAIL FENCE

SIGN 1116.33

PROPOSED ASPHALT

BAG DROP

PROPOSED 8' CONCRETE WALK

(16.0)

(15.4)
(15.5)

(16.1)

(16)

(17.20)
(1117.30)

16'

(17.2)
(17.3)

(17.4)

71.6'

(17.5) 50.00'

1.96'

32.58'

5.00'

33.83' (17.5)

5.00'

35.59'

Proposed Clubhouse
4,727 SF
F.F. 1117.50
L.F.F. 1106.10

48.00'

102.00'

(17.45)

PROPOSED ASPHALT

Proposed Pavilion
3,750 SF
F.F. 1117.50

75.00'

(17.5)

(17.5)

CLEANOUT R 1116.85

PROPOSED CONCRETE PATIO

25.04'

35'

19.91'

3' (17.5)

2.54'

10.17'

19.91'

(17.0)

(17.0)

(17.0)

(MATCH)

1000 GAL DOSING TANK

EX 2000 GAL SEPTIC TANK R 1116.37

EX 2000 GAL SEPTIC TANK R 1115.69

EX 2000 GAL SEPTIC TANK R/ 1116.08

N 87°50'16" E 121.19'

PROPOSED TRANSFORMER

SILT FENCE

SILT FENCE

EX ASPHALT

EX GRAVEL

EX WELL
TOP 1112.68

30 SPRUCE 1111.9

28 SPRUCE 1113.1

26 SPRUCE 1108.9

16 SPRUCE 1111.1

24 LOCUST 1109.3

12 SYCAMORE 1106.5

8 SYCAMORE 1106.5

12 SYCAMORE 1104.2

Benchmark:
MAG NAIL NE FACE OF 28" SPRUCE LOCATED NEAR THE SW CORNER OF PARTIAL BUILDING. ELEVATION 1114.57 NAVD '88

LEGEND

EXISTING		PROPOSED
	STORM SEWER	
	SEPTIC LINES	
GAS	GAS MAIN	GAS
E	ELEC. TELE. CABLE	E
OH	OVERHEAD WIRES	OH
⊘	STORM MANHOLE	◕
□	CATCH BASIN	■
⊠	INLET	◪
⊠	REARYARD CATCH BASIN	◪
▷	END SECTION	▶
○	SEPTIC LID	●
⊛	WELL	⊛
1040	CONTOURS	(40)
+1034.4	GRADE	(39.0)
	FINISH FLOOR	F.F. 1038.00
	MATCH EXISTING	(M)
	TOP OF CURB	T/C
	TOP OF SIDEWALK	T/S
	TOP OF PAVEMENT	T/P
	TOP OF WALL	T/W
	BOTTOM OF WALL	B/W
	DRAINAGE ARROW	
	STANDARD CURB	
	REVERSE CURB	
★	SOIL BORING	
	DRAINAGE AREA	

Notes:

1. *ARCHITECT/BUILDER IS RESPONSIBLE FOR CONFIRMING BUILDING SETBACKS.*
2. *SEE BUILDER/CONTRACTOR FOR SPECIFIC DEMOLITION, REMOVAL, RELOCATE, REUSE AND MAINTAIN INSTRUCTIONS.*
3. *EXISTING DRAINAGE PATTERNS TO REMAIN THE SAME.*
4. *RELOCATE GAS METER, DE METER AND TRANSFORMER.*
5. *INSTALL SILT FENCE AS PER PLAN.*
6. *ALL ADA PARKING AND WALKS MEET STATE AND LOCAL REQUIREMENTS.*

1 1/2" MDOT 5E1 SURFACE COURSE
2 1/2" MDOT 4E1 BASE COURSE
6" COMPACTED M.D.O.T. 21AA GRAVEL

ASPHALT PAVEMENT SECTION (ON-SITE)
NO SCALE

VARIES (SEE PLAN)
1/4"/FT. SLOPE UNLESS OTHERWISE DIRECTED
*4" CONCRETE-MDOT GRADE 3500 PSI
COMPACTED SUBGRADE
4" COMPACTED CLASS II SAND BASE
*6"+ THICK IF DRIVING SNOW PLOWS ON SIDEWALK

VARIABLE WIDTH, 4"-6" THICK CONCRETE SIDEWALK
NO SCALE

07-04-376-006
HHGC ACQUISITION LLC
169.94 ACRES
RC

STATE OF MICHIGAN
PATRICK COLIN McWILLIAMS
LICENSE NO. 6201031658
LICENSED PROFESSIONAL ENGINEER

DATE	ISSUE

PROPRIETOR:
HEATHER HIGHLAND G.C.–DAVID PARKER
11450 E. HOLLY ROAD
HOLLY, MICHIGAN 48442
(248) 231–8158–KATE MAGUIRE

THIS DRAWING IS THE PROPERTY OF KIEFT ENGINEERING, INC. AND MAY NOT BE USED, REPRODUCED OR PUBLISHED, IN PART OR IN WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM KIEFT ENGINEERING, INC.

KIEFT ENGINEERING

KIEFT ENGINEERING, INC.
PROFESSIONAL ENGINEERS AND PROFESSIONAL SURVEYORS
5852 SOUTH MAIN STREET, SUITE 1, CLARKSTON, MICHIGAN 48346
PHONE (248) 625–5251 www.kiefteng.com FAX (248) 625–7110

DATE	CKD. BY	DATE
6–1–2026		
DRAWN GF		
DESIGN WJN		
SECTION 4	T– 4 –N. R– 8 –E.	

72 HOURS (3 WORKING DAYS) BEFORE YOU DIG CALL MISS DIG (800) 482–7171 OR 811

Detailed Site Plan

HEATHER HIGHLANDS GOLF COURSE - PARCEL NO. 07-04-376-006
PART OF THE S 1/2 OF SECTION 4, T4N, R8E,
SPRINGFIELD TOWNSHIP, OAKLAND COUNTY, MICHIGAN

SCALE 1" = 20'
SHEET 4 OF 4
KE 2026.069

G:\2026\069 heather highlands\CAD\HHGC Site Plan.dwg, 4 Site, 6/2/2026 12:51:47 PM, _AutoCAD PDF (High Quality Print MOD).pc3

Kieft Engineering Responses
PCM (6-30-2026)

giffels webster

June 18, 2026

Springfield Township Planning Commission
Charter Township of Springfield
12000 Davisburg Road
Davisburg, Michigan 48350

RE: Preliminary Site Plan Submittal
ENGINEERING REVIEW

Project Name: Heather Highlands Clubhouse
Project No.: 20707.00

Dear Planning Commission Members:

Giffels Webster has completed our engineering review of the Preliminary Site Plan for the proposed Heather Highlands Clubhouse project plans dated June 1, 2026. We recommend approval of the site plan with comments as summarized below:

General

The 169.94-acre site is located on East Holly Road near the intersection of Oakhill Road. The property is a golf course with a clubhouse and associated maintenance buildings.

Utilities

The site is served by an existing well and septic field that will remain. An existing 12" storm sewer conveys flow from existing catch basins the parking lot to a pond located southeast of the parking and clubhouse area. There are no proposed changes to the utilities serving the building or the parking area.

Required for Preliminary Site Plan

✓ 1. None

Required for Final Site Plan

✓ 2. None

Grading

The site currently slopes from north to south and southeast across the area of the parking and the clubhouse. The proposed grading will maintain the existing flow pattern with some minor modifications to accommodate the changes in the building footprint and some additional paving in the drive area. The parking area will be extended by approximately 13 feet to allow striping of ADA parking along the front walk of the clubhouse. The drive will be modified to provide a bag drop off out of the travel path and a loading area for the kitchen of the clubhouse.

Required for Preliminary Site Plan

✓ 1. None

Required for Final Site Plan

✓ 1. None

Other Plan Comments

Required for Preliminary Site Plan

1. The Fire Marshal shall review the site for their access and fire protection requirements.

Agreed

Required for Final Site Plan

1. Provide a soil erosion and sedimentation control plan. A soil erosion permit may be required from the OCWRC prior to the pre-construction meeting.

Added to plan sets (shts 6+7)

Permits

The applicant shall obtain all required permits before any work commences on site. The following is a list of permits that may be required for the project:

1. A Soil Erosion and Sedimentation Control permit from OCWRC.
2. A building permit for the proposed building from the Springfield Township Building Department.

A detailed review of the final site plans and construction plans will be required if the preliminary site plan is approved by the Planning Commission. It is the responsibility of the applicant to ensure that the construction plans meet all of the conditions of the site plan approval by the Planning Commission. Please contact us if you have any questions.

Respectfully

GIFFELS WEBSTER

Jason Mayer, PE
Partner

Nancy McClain, PE
Project Manager

cc: Brian Piper, Springfield Township Superintendent
Sean Miller, Springfield Township Clerk
Danielle Sink, Springfield Township
Megan A. Masson-Minock, AICP, Carlisle Wortman, Township Planner

Attachments: Marked-up Preliminary Site Plan set stamped Approved

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

Date: June 22, 2026

Preliminary/Final Site Plan Review
For
Springfield Township, Michigan

Applicant:	David Parker
Project Name:	Heather Highlands Golf Club
Plan Date:	June 1, 2026
Location:	11450 E. Holly Road – Holly Rd west of Dixie Highway, East of I-75
Zoning:	PR, Parks and Recreation
Action Requested:	Preliminary and Final Site Plan Approval
Required Information:	As Noted

PROJECT AND SITE DESCRIPTION

The applicant is requesting Preliminary and Final Site Plan approval for the redevelopment of the Heather Highlands golf course clubhouse and additional amenities located on a 169.94-acre parcel in the RC, Resource Conservation zoning district. The site currently consists of an 18-hole golf course, and a clubhouse that serves as the principal structure. The existing clubhouse has been partially demolished and is to be fully removed. The applicant has proposed a redeveloped 4,727 square foot clubhouse with a bar, restaurant, pro shop, restriped parking lot, patio, and a 3750 square foot pavilion with the capability of hosting events.

In the PR zoning district, golf courses including accessory clubhouses, driving ranges, pro shops, maintenance buildings and recreational facilities are a principal use permitted subject to special land use approval. The Planning Commission makes a recommendation on the site plan and special land use to the Township Board.

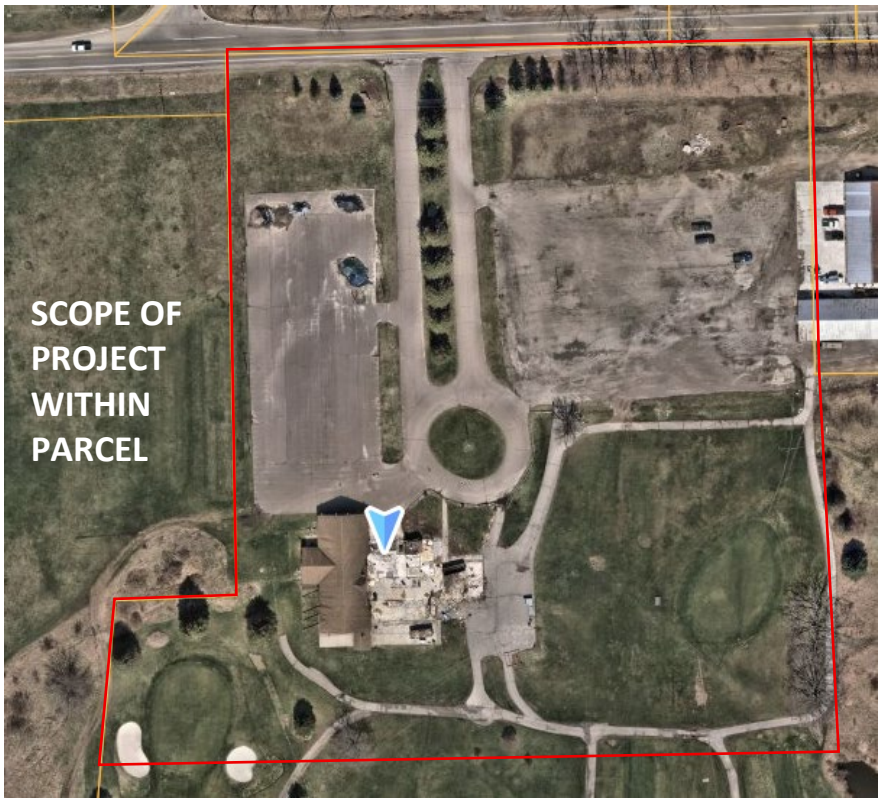
Benjamin R. Carlisle, *President* John L. Enos, *Vice President*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* Craig Strong, *Principal* Douglas J. Lewan, *Principal*
Richard K. Carlisle, *Past President/Senior Principal* R. Donald Wortman, *Past Principal*

Figure 1 below depicts an aerial image of the subject parcel.



Source: NearMap, April 7, 2026

Figure 2 below depicts an aerial image of the subject site.



PROJECT HISTORY

The site in question was the previous Heather Highlands golf course and is currently under new ownership. The course is currently not accepting tee times, though it appears that their driving range is open according to their website. New hours of operation have not been announced for both the golf course and driving range.

The applicant met with Township officials for a pre-application meeting on January 12, 2026. During the meeting, the applicant expressed their plans to update facilities, adding a restaurant, bar, pro-shop, and event center. The Township officials raised concerns over the state of the well and septic systems, to which the applicant confirmed they were in good condition. The applicant stated that they would explore the idea of high-capacity wells if needed. The Township also raised concern on the fire suppression system and that it should be up to IFC code.

Items to be Addressed: *None.*

AREA, WIDTH, HEIGHT, AND SETBACKS

The subject site and proposed building appear to conform to the dimensional requirements of the RC zoning district, as shown in Table 1, below.

Table 1. *– RC -Dimensional Requirements*

	REQUIRED	PROVIDED
Minimum Lot Size	10 Acres	169.94 Acres
Minimum Lot Width	330 ft.	>330 ft.
Min. Setbacks		
Front	75 ft.	>75 ft.
Side (East)	50 ft.	>50 ft.
Side (West)	50 ft.	71.6 ft.
Rear	50 ft.	>50 ft.
Max. Lot Coverage	5%	1.73%
Max. Building Height	28 ft. 6 in. (2 stories)	>28 ft. 6 in. (2 stories)

For final site plan, exact dimensions for the minimum lot width, building setbacks and building height must be provided.

Items to be Addressed: *Applicant provide exact dimensions for the minimum lot width, building setbacks and building height for final site plan.*

NATURAL RESOURCES

This section will only cover the scope of the project portion of the site, as seen in figure 2 above.

Topography: The site is pre-graded and relatively flat from the previous clubhouse and parking facilities.

Trees: The site currently has existing landscaping trees. These trees are not shown on the site plan, and the applicant has not expressed if they are to stay or be removed.

Wetlands: There are no wetlands or other water features on this portion of the site.

Soils: Soils information has not been provided.

Items to be Addressed: *None.*

BUILDING LOCATION AND SITE ARRANGEMENT

The site consists of an existing 18-hole golf course and a clubhouse located at the northeastern portion of the subject site. As previously mentioned, the clubhouse is currently in the process of being demolished.

Items to be Addressed: *None.*

PARKING AND LOADING

Section 40-681 contains parking requirements for Golf courses and their accessory uses. Parking calculations are provided in **Table 2** below.

Table 2. *– Off-Street Parking Requirements*

	Required	Provided
Golf Course	5 spaces/ each hole- 5 spaces x 18 holes= 90 spaces	90 spaces
Restaurant	1 space/ two people allowed within max occupancy- 72 people / 2 =36 spaces	36 spaces
Bar	1 space/ two people allowed within max occupancy- 21 people / 2 = 11 spaces	11 spaces
Retail Store (Pro Shop)	1 space/ 100 square feet of floor area- 1,485 sq. ft/100 = 15	18 spaces
Private Club (Pavilion)	1 space / three people allowed within max occupancy – 178 people / 3 = 59	89 spaces
Barrier-Free	10 spaces	10 spaces
Loading	1 space for 1,401-20,000 sq. ft.- 4,727 sq. ft.= 1	Not provided
Total	211 spaces	244 spaces

A loading space is required and not shown on the site plan.

Items to be Addressed: *Applicant provide location of required loading space.*

SITE ACCESS AND CIRCULATION

The site is accessed from a an existing boulevard entrance that enters and exits from Holly Road to the north of the site.

A circulation plan was not included. The applicant should provide plans that show trash and fire turning radii, along with overall site circulation.

In addition, compliance with Section 40-683 – Access Management and Section 40-684 – Driveway approaches cannot be evaluated. The applicant should provide plans that show the driveway spacing and driveway tapers, acceleration, deceleration and passing lanes.

Items to be Addressed: *1. Applicant submission circulation plan. 2. Applicant provide driveway spacing. 3. Applicant provide driveway tapers, acceleration, deceleration and passing lanes.*

SAFETY PATHS AND SIDEWALKS

A safety path does not exist nor is proposed along Holly Road, which is not designated a priority pathway Per Section 40-851(b)(5)b of the Zoning Ordinance, the developer is required to grant an easement for a safety path of acceptable size and location, as determined by the Township.

The applicant has proposed a new 8’ walkway that connects the proposed pavilion and clubhouse to the parking facility and a bag drop area along the roundabout. There is also a large patio proposed off the rear of the clubhouse. We recommend the applicant consider a crosswalk from the barrier-free parking spaces in the east parking lot to the existing asphalt pathway to the building entrance.

Items to be Addressed: *1. Applicant provide easement for safety path. 2. Applicant consider a crosswalk from the barrier-free parking spaces in the east parking lot to the existing asphalt pathway to the building entrance.*

ESSENTIAL FACILITIES

Existing well and septic can be seen on site plans provided. The applicant has not indicated if the existing facilities will continue to serve the proposed structure.

A transformer is proposed to the west of the proposed clubhouse.

We defer to the Township Engineer for additional comments regarding essential facilities and stormwater management.

Items to be Addressed: *1. Applicant provide details regarding use of existing well and septic. 2. Township Engineer review of essential facilities.*

LANDSCAPING

The applicant has not submitted a landscape plan. The following landscape standards apply to the site:

Greenbelt: The site greenbelt is existing, complies with current standards, and is not proposed to be changed.

Screening: The existing screening complies with current standards and is not proposed to change.

Parking Lot: Section 40-721(b)(4) requires 1 tree per 8 parking spaces. The exact parking requirements at this time are unknown. The applicant is currently proposing 244 parking spaces, which would require roughly 31 trees. The site currently has 1 parking lot tree.

The site is also required to have parking lot islands that are no less than 150 square feet. The Planning Commission may wave these standards if they feel the use is properly served as it currently exists.

Site Landscaping: Section 40-721(6) requires at least ten percent (10%) of the site area, excluding existing public rights-of-way, to be landscaped. A calculation of the landscaped area has not been provided. However, it does appear that that more than 10% of the site area is landscaped and not proposed to be changed .

Trash Enclosure: No trash enclosure is shown on the site plan. The applicant should provide details of how trash will be stored and disposed of.

Items to be Addressed: *1. Applicant provide details on how trash will be stored and disposed of. 2. Planning Commission consider need for parking lot trees and islands. 3. Applicant submission of Landscape Plan.*

LIGHTING

A lighting plan for the exterior of the building was not included.

Items to be Addressed: *Applicant submission of Lighting Plan.*

SIGNAGE

Sign information has not been provided. This information may be provided at final site plan or under administrative approval.

Items to be Addressed: *None.*

FLOOR PLANS AND ELEVATIONS

The building materials for the clubhouse and the pavilion are cultured stone veneer, composite wood siding, and asphalt shingles with fascia board and pre-finished metal roofing as accent materials. The plans provided meet the architectural standards in Section 40-821.

Items to be Addressed: *None.*

REQUIREMENTS FOR GOLF COURSES

Per Section 40-623, golf courses, including accessory clubhouses, driving ranges, pro shops, maintenance buildings and recreational facilities, must meet the following:

1. ***The site shall have direct accessibility to a paved public road.***

   CWA Comments: The driveway is proposed to access E. Holly Road, which is a paved public road.

2. ***The location of structures, such as the clubhouse and accessory buildings, and their operations shall be reviewed by the planning commission to ensure minimum disruption of the adjacent properties, and as much distance as is practicable shall be provided between golf course structures and activities abutting residential properties. A minimum 50-foot setback shall be required between any structures and any residentially zoned or used property, except that a minimum 100-foot setback shall be required between any maintenance building and/or yard and any adjacent residentially zoned or used property.***

   CWA Comments: Large-lot residential uses and R-2 zoning abuts the overall site to the east and south of the overall parcel and to the north across E. Holly Road. The proposed building is more than 100 feet from these lot lines. Buildings on the parcel directly to the east seem to be maintenance buildings associated with the golf course. The building location, design of the proposed pavilion and concrete patio would ensure minimum disruption to adjacent properties.

3. ***All storage, service, and maintenance areas when visible from adjoining residentially zoned or used land shall be screened in accordance with the requirements set forth in section 40-721.***

   CWA Comments: Due to the size of the parcel and existing vegetation, no part of the proposed clubhouse would be visible from adjoining residentially zoned or used land. The maintenance building on the adjacent parcel to the east are well screened by existing trees and vegetation.

4. ***Swimming pool areas shall be surrounded with a protective fence, six feet in height, and entry shall be provided by means of a controlled gate.***

   CWA Comments: A swimming pool is not proposed.

5. Winter activities such as skating, cross country skiing, sledding and tobogganing may be permitted by the township board, if it finds such uses to be consistent with the standards found in section 40-145.

CWA Comments: Winter activities have not been listed in the application. The applicant should clarify is any winter activities are proposed. In addition, if outdoor seating is proposed for the patio area, whether in general or as an extension of the restaurant, the standards in Section 40-646 must be met.

Items to be Addressed: *1. Applicant clarify if winter activities are proposed. 2. Applicant clarify if outdoor seating is proposed for the patio area.*

SUMMARY

The submitted preliminary/ final site plan is in substantial compliance with Springfield Township's Zoning Ordinance. The following items need to be considered by the Planning Commission and addressed by the applicant to the satisfaction of the Planning Commission.

Planning Commission Considerations:

A. Landscaping.

1. Need for parking lot trees and islands.

Applicant to Address:

A. **Area, Width, Height, and Setbacks.**

1.Exact dimension for minimum lot width.

2. Exact dimensions of proposed building setbacks.

3. Exact building height measurement.

B. **Parking and Loading.**

1. Location of required loading space.

C. **Site Access and Circulation.**

1. Submission of Circulation Plan.

2. Driveway spacing dimensions

3. Details on driveway tapers, acceleration, deceleration and passing lanes.

D. **Safety Paths and Sidewalks.**

1. Easement for safety path

2. Consideration for crosswalk connecting east parking lot with existing pathways.

E. Essential Facilities.

1. Details regarding use of existing well and septic.

F. **Landscaping.**
   1. Details on how trash will be stored and disposed.
   2. Submission of Landscape Plan.

G. **Lighting.**
   1. Submission of Lighting Plan.

H. **Requirements for Golf Courses.**
   1. Clarify if winter activities are proposed.
   2. Clarify if outdoor seating is proposed for the patio area.

Township Engineer or Other Agency Review: Township Engineer review of essential facilities.

Respectfully submitted,

CARLISLE/WORTMAN ASSOC., INC.
Megan Masson-Minock, AICP
Principal

CARLISLE/WORTMAN ASSOC., INC.
Benny Bono
Community Planner

cc: *Sean Miller, Clerk*
Brian Piper, Superintendent
Danielle Sink, Supervisor's Assistant
Brian Galley, Planning Commission Chair
Nancy McClain, P.E.(nmcclain@giffelswebster.com)
Jason Maye, P.E. (jmayer@giffelswebster.com)
Matthew J. Covey (mcovey@springfield-twp.us)

Kieft Engineering Responses
PCM (6-30-2026)

Carlisle | Wortman
ASSOCIATES, INC.

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

Date: June 22, 2026

Preliminary/Final Site Plan Review
For
Springfield Township, Michigan

Applicant:	David Parker
Project Name:	Heather Highlands Golf Club
Plan Date:	June 1, 2026
Location:	11450 E. Holly Road – Holly Rd west of Dixie Highway, East of I-75
Zoning:	PR, Parks and Recreation
Action Requested:	Preliminary and Final Site Plan Approval
Required Information:	As Noted

PROJECT AND SITE DESCRIPTION

The applicant is requesting Preliminary and Final Site Plan approval for the redevelopment of the Heather Highlands golf course clubhouse and additional amenities located on a 169.94-acre parcel in the RC, Resource Conservation zoning district. The site currently consists of an 18-hole golf course, and a clubhouse that serves as the principal structure. The existing clubhouse has been partially demolished and is to be fully removed. The applicant has proposed a redeveloped 4,727 square foot clubhouse with a bar, restaurant, pro shop, restriped parking lot, patio, and a 3750 square foot pavilion with the capability of hosting events.

In the PR zoning district, golf courses including accessory clubhouses, driving ranges, pro shops, maintenance buildings and recreational facilities are a principal use permitted subject to special land use approval. The Planning Commission makes a recommendation on the site plan and special land use to the Township Board.

Benjamin R. Carlisle, *President* John L. Enos, *Vice President*
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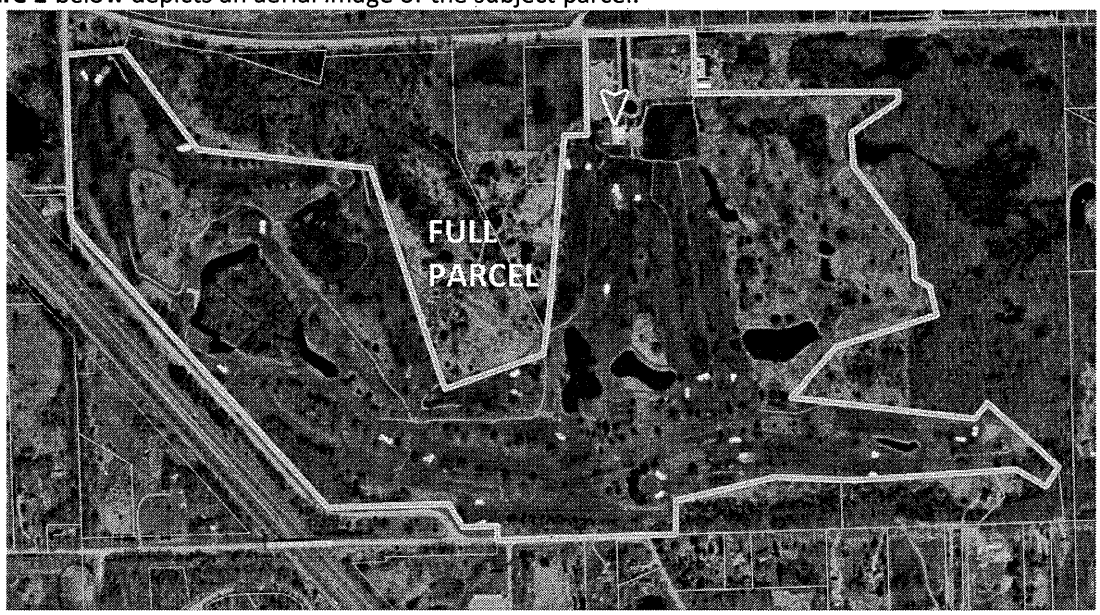
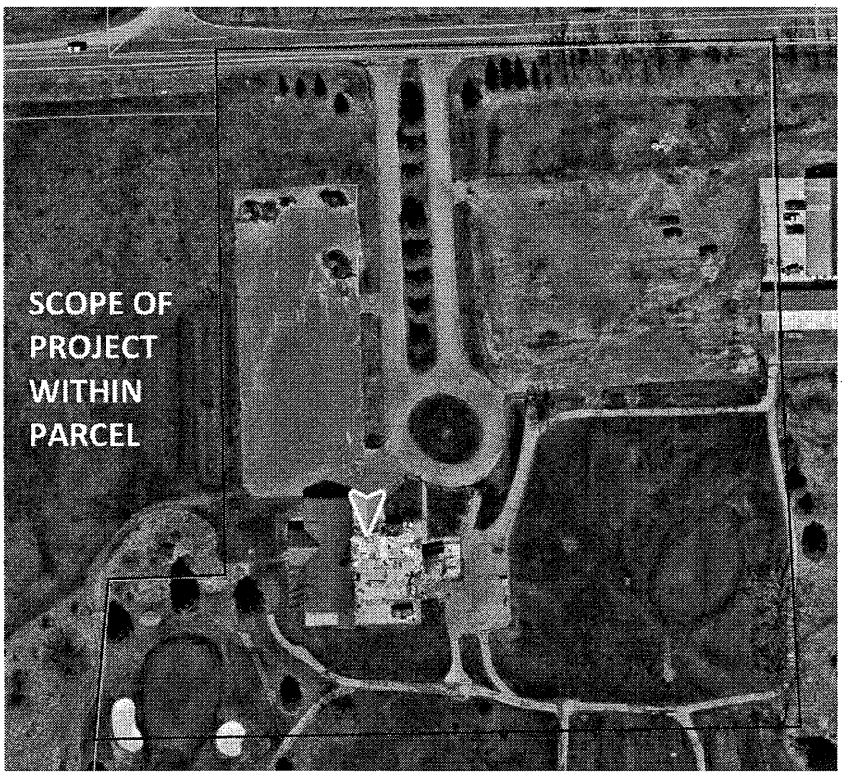
Figure 1 below depicts an aerial image of the subject parcel.



Source: NearMap, April 7, 2026

Figure 2 below depicts an aerial image of the subject site.



PROJECT HISTORY

The site in question was the previous Heather Highlands golf course and is currently under new ownership. The course is currently not accepting tee times, though it appears that their driving range is open according to their website. New hours of operation have not been announced for both the golf course and driving range.

The applicant met with Township officials for a pre-application meeting on January 12, 2026. During the meeting, the applicant expressed their plans to update facilities, adding a restaurant, bar, pro-shop, and event center. The Township officials raised concerns over the state of the well and septic systems, to which the applicant confirmed they were in good condition. The applicant stated that they would explore the idea of high-capacity wells if needed. The Township also raised concern on the fire suppression system and that it should be up to IFC code.

Items to be Addressed: *None.*

AREA, WIDTH, HEIGHT, AND SETBACKS

The subject site and proposed building appear to conform to the dimensional requirements of the RC zoning district, as shown in Table 1, below.

Table 1. *– RC -Dimensional Requirements*

	REQUIRED	PROVIDED
Minimum Lot Size	10 Acres	169.94 Acres
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Side (West)	50 ft.	71.6 ft.
Rear	50 ft.	>50 ft.
Max. Lot Coverage	5%	1.73%
Max. Building Height	28 ft. 6 in. (2 stories)	>28 ft. 6 in. (2 stories)

For final site plan, exact dimensions for the minimum lot width, building setbacks and building height must be provided.

Items to be Addressed: *Applicant provide exact dimensions for the minimum lot width, building setbacks and building height for final site plan.* (Added to SHT 3)

NATURAL RESOURCES

This section will only cover the scope of the project portion of the site, as seen in figure 2 above.

Topography: The site is pre-graded and relatively flat from the previous clubhouse and parking facilities.

Trees: The site currently has existing landscaping trees. These trees are not shown on the site plan, and the applicant has not expressed if they are to stay or be removed.

Wetlands: There are no wetlands or other water features on this portion of the site.

Soils: Soils information has not been provided.

Items to be Addressed: *None.*

BUILDING LOCATION AND SITE ARRANGEMENT

The site consists of an existing 18-hole golf course and a clubhouse located at the northeastern portion of the subject site. As previously mentioned, the clubhouse is currently in the process of being demolished.

Items to be Addressed: *None.*

PARKING AND LOADING

Section 40-681 contains parking requirements for Golf courses and their accessory uses. Parking calculations are provided in **Table 2** below.

Table 2. *– Off-Street Parking Requirements*

	Required	Provided
Golf Course	5 spaces/ each hole- 5 spaces x 18 holes= 90 spaces	90 spaces
Restaurant	1 space/ two people allowed within max occupancy- 72 people / 2 =36 spaces	36 spaces
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Retail Store (Pro Shop)	1 space/ 100 square feet of floor area- 1,485 sq. ft/100 = 15	18 spaces
Private Club (Pavilion)	1 space / three people allowed within max occupancy – 178 people / 3 = 59	89 spaces
Barrier-Free	10 spaces	10 spaces
Loading	1 space for 1,401-20,000 sq. ft.- 4,727 sq. ft.= 1	Not provided
Total	211 spaces	244 spaces

A loading space is required and not shown on the site plan.

Items to be Addressed: *Applicant provide location of required loading space.*

Added to Sht's 3 & 4

SITE ACCESS AND CIRCULATION

The site is accessed from a an existing boulevard entrance that enters and exits from E. Holly Road to the north of the site.

A circulation plan was not included. The applicant should provide plans that show trash and fire turning radii, along with overall site circulation.

In addition, compliance with Section 40-683 – Access Management and Section 40-684 – Driveway approaches cannot be evaluated. The applicant should provide plans that show the driveway spacing and driveway tapers, acceleration, deceleration and passing lanes.

✓ ***Items to be Addressed:*** *1. Applicant submission circulation plan. 2. Applicant provide driveway spacing. 3. Applicant provide driveway tapers, acceleration, deceleration and passing lanes.*
See Overall Aerial Site Plan (Sht 5)

SAFETY PATHS AND SIDEWALKS

A safety path does not exist nor is proposed along Holly Road, which is not designated a priority pathway Per Section 40-851(b)(5)b of the Zoning Ordinance, the developer is required to grant an easement for a safety path of acceptable size and location, as determined by the Township.

The applicant has proposed a new 8' walkway that connects the proposed pavilion and clubhouse to the parking facility and a bag drop area along the roundabout. There is also a large patio proposed off the rear of the clubhouse. We recommend the applicant consider a crosswalk from the barrier-free parking spaces in the east parking lot to the existing asphalt pathway to the building entrance.

✓ ***Items to be Addressed:*** *1. Applicant provide easement for safety path. 2. Applicant consider a crosswalk from the barrier-free parking spaces in the east parking lot to the existing asphalt pathway to the building entrance.* Added to Overall Aerial Site Plan (Sht 5) Relocated 2 ADA spaces to West Lot. (See Sht 4)

ESSENTIAL FACILITIES

Existing well and septic can be seen on site plans provided. The applicant has not indicated if the existing facilities will continue to serve the proposed structure.

A transformer is proposed to the west of the proposed clubhouse.

We defer to the Township Engineer for additional comments regarding essential facilities and stormwater management.

✓ ***Items to be Addressed:*** *1. Applicant provide details regarding use of existing well and septic. 2. Township Engineer review of essential facilities.*
Notes Added to Sht 3

LANDSCAPING

The applicant has not submitted a landscape plan. The following landscape standards apply to the site:

Greenbelt: The site greenbelt is existing, complies with current standards, and is not proposed to be changed.

Screening: The existing screening complies with current standards and is not proposed to change.

Parking Lot: Section 40-721(b)(4) requires 1 tree per 8 parking spaces. The exact parking requirements at this time are unknown. The applicant is currently proposing 244 parking spaces, which would require roughly 31 trees. The site currently has 1 parking lot tree.

client will seek waivers

The site is also required to have parking lot islands that are no less than 150 square feet. The Planning Commission may wave these standards if they feel the use is properly served as it currently exists.

Site Landscaping: Section 40-721(6) requires at least ten percent (10%) of the site area, excluding existing public rights-of-way, to be landscaped. A calculation of the landscaped area has not been provided. However, it does appear that that more than 10% of the site area is landscaped and not proposed to be changed .

Trash Enclosure: No trash enclosure is shown on the site plan. The applicant should provide details of how trash will be stored and disposed of.

Dumpster Enclosure added to sht 3.

Items to be Addressed: *1. Applicant provide details on how trash will be stored and disposed of. 2. Planning Commission consider need for parking lot trees and islands. 3. Applicant submission of Landscape Plan.* Note1 added on sht 3 seeking Landscape Plan waiver.

LIGHTING

A lighting plan for the exterior of the building was not included.

Items to be Addressed: *Applicant submission of Lighting Plan.* Architect/owner to provided

SIGNAGE

Sign information has not been provided. This information may be provided at final site plan or under administrative approval.

Items to be Addressed: *None.*

FLOOR PLANS AND ELEVATIONS

The building materials for the clubhouse and the pavilion are cultured stone veneer, composite wood siding, and asphalt shingles with fascia board and pre-finished metal roofing as accent materials. The plans provided meet the architectural standards in Section 40-821.

Items to be Addressed: *None.*

REQUIREMENTS FOR GOLF COURSES

Per Section 40-623, golf courses, including accessory clubhouses, driving ranges, pro shops, maintenance buildings and recreational facilities, must meet the following:

1. ***The site shall have direct accessibility to a paved public road.***

   CWA Comments: The driveway is proposed to access E. Holly Road, which is a paved public road.

2. ***The location of structures, such as the clubhouse and accessory buildings, and their operations shall be reviewed by the planning commission to ensure minimum disruption of the adjacent properties, and as much distance as is practicable shall be provided between golf course structures and activities abutting residential properties. A minimum 50-foot setback shall be required between any structures and any residentially zoned or used property, except that a minimum 100-foot setback shall be required between any maintenance building and/or yard and any adjacent residentially zoned or used property.***

   CWA Comments: Large-lot residential uses and R-2 zoning abuts the overall site to the east and south of the overall parcel and to the north across E. Holly Road. The proposed building is more than 100 feet from these lot lines. Buildings on the parcel directly to the east seem to be maintenance buildings associated with the golf course. The building location, design of the proposed pavilion and concrete patio would ensure minimum disruption to adjacent properties.

3. ***All storage, service, and maintenance areas when visible from adjoining residentially zoned or used land shall be screened in accordance with the requirements set forth in section 40-721.***

   CWA Comments: Due to the size of the parcel and existing vegetation, no part of the proposed clubhouse would be visible from adjoining residentially zoned or used land. The maintenance building on the adjacent parcel to the east are well screened by existing trees and vegetation.

4. ***Swimming pool areas shall be surrounded with a protective fence, six feet in height, and entry shall be provided by means of a controlled gate.***

   CWA Comments: A swimming pool is not proposed.

5. ***Winter activities such as skating, cross country skiing, sledding and tobogganing may be permitted by the township board, if it finds such uses to be consistent with the standards found in section 40-145.***

   CWA Comments: Winter activities have not been listed in the application. The applicant should clarify is any winter activities are proposed. In addition, if outdoor seating is proposed for the patio area, whether in general or as an extension of the restaurant, the standards in Section 40-646 must be met.

Items to be Addressed: *1. Applicant clarify if winter activities are proposed. 2. Applicant clarify if outdoor seating is proposed for the patio area.* Note added to sht 3. Note added to sht 3

SUMMARY

The submitted preliminary/ final site plan is in substantial compliance with Springfield Township's Zoning Ordinance. The following items need to be considered by the Planning Commission and addressed by the applicant to the satisfaction of the Planning Commission.

Planning Commission Considerations:

A. Landscaping. Waiver request note added on sht 3

1. Need for parking lot trees and islands.

Applicant to Address:

A. **Area, Width, Height, and Setbacks.** Added to sht 3

1.Exact dimension for minimum lot width.

2. Exact dimensions of proposed building setbacks.

3. Exact building height measurement.

B. **Parking and Loading.** Revised & Added to sht 3

1. Location of required loading space.

C. **Site Access and Circulation.** 2. & 3. Shown on Overal Aerial Site Plan (sht 5)

1. Submission of Circulation Plan. Shown on sht 3
2. Driveway spacing dimensions
3. Details on driveway tapers, acceleration, deceleration and passing lanes.

D. **Safety Paths and Sidewalks.**

1. Easement for safety path Added to Overall Aerial Site Plan (sht 5)
2. Consideration for crosswalk connecting east parking lot with existing pathways. Relocated 2 ADA spaces to West Lot on shts 3 & 4.

E. Essential Facilities.

1. Details regarding use of existing well and septic. Note added to sht 3

F. **Landscaping.**
✓1. Details on how trash will be stored and disposed. Added to Sht 3.
✓2. Submission of Landscape Plan. Waiver Note added to sht 3.

G. **Lighting.**
✓1. Submission of Lighting Plan. Architect/Owner to provide.

H. **Requirements for Golf Courses.**
✓1. Clarify if winter activities are proposed. Note added to sht 3
✓2. Clarify if outdoor seating is proposed for the patio area. Notes added to Sht 3

Township Engineer or Other Agency Review: Township Engineer review of essential facilities.

Respectfully submitted,

Megan A. Masson-Minock

CARLISLE/WORTMAN ASSOC., INC.
Megan Masson-Minock, AICP
Principal

CARLISLE/WORTMAN ASSOC., INC.
Benny Bono
Community Planner

cc: *Sean Miller, Clerk*
Brian Piper, Superintendent
Danielle Sink, Supervisor's Assistant
Brian Galley, Planning Commission Chair
Nancy McClain, P.E.(nmcclain@giffelswebster.com)
Jason Maye, P.E. (jmayer@giffelswebster.com)
Matthew J. Covey (mcovey@springfield-twp.us)

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

Date: July 21, 2026

Preliminary/Final Site Plan & Special Land Use Review
For
Springfield Township, Michigan

Applicant:	David Parker
Project Name:	Heather Highlands Golf Club
Plan Date:	June 30, 2026
Location:	11450 E. Holly Road – Holly Rd west of Dixie Highway, East of I-75
Zoning:	PR, Parks and Recreation
Action Requested:	Preliminary/Final Site Plan Approval
Required Information:	As Noted

PROJECT AND SITE DESCRIPTION

The applicant is requesting Preliminary/Final Site Plan approval for the redevelopment of the Heather Highlands golf course clubhouse and additional amenities located on a 169.94-acre parcel in the RC, Resource Conservation zoning district. The site currently consists of an 18-hole golf course, and a clubhouse that serves as the principal structure. The existing clubhouse has been partially demolished and is to be fully removed. The applicant has proposed a redeveloped 4,727 square foot clubhouse with a bar, restaurant, pro shop, restriped parking lot, patio, and a 3750 square foot pavilion with the capability of hosting events.

In the PR zoning district, golf courses including accessory clubhouses, driving ranges, pro shops, maintenance buildings, and recreational facilities are a principal use permitted subject to special land use approval. The Planning Commission makes a recommendation on the site plan and special land use to the Township Board.

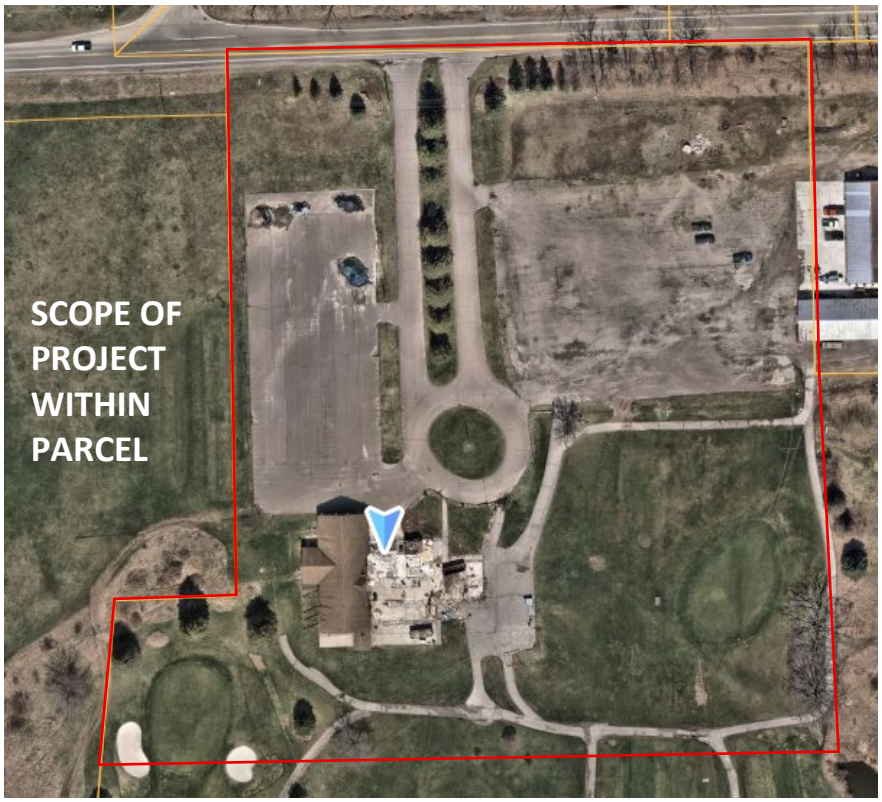
Benjamin R. Carlisle, *President* John L. Enos, *Vice President*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* Craig Strong, *Principal* Douglas J. Lewan, *Principal*
Richard K. Carlisle, *Past President/Senior Principal* R. Donald Wortman, *Past Principal*

Figure 1 below depicts an aerial image of the subject parcel.



Source: NearMap, April 7, 2026

Figure 2 below depicts an aerial image of the subject site.



PROJECT HISTORY

The site in question was the previous Heather Highlands golf course and is currently under new ownership. The course is currently not accepting tee times, though it appears that their driving range is open according to their website. New hours of operation have not been announced for both the golf course and driving range.

The applicant met with Township officials for a pre-application meeting on January 12, 2026. During the meeting, the applicant expressed their plans to update facilities, adding a restaurant, bar, pro-shop, and event center. The Township officials raised concerns over the state of the well and septic systems, to which the applicant confirmed they were in good condition. The applicant stated that they would explore the idea of high-capacity wells if needed. The Township also raised concern on the fire suppression system and that it should be up to IFC code.

Items to be Addressed: *None.*

SPECIAL LAND USE

The Special Land Use criteria are listed below. The Planning Commission will need to evaluate the project against these criteria and make a recommendation to the Township Board after holding a Public Hearing. We have provided comments regarding each criterion:

1. ***The proposed use shall be of such location, size and character as to be in harmony with the appropriate and orderly development of the zoning district in which situated and shall not be detrimental to the orderly development of adjacent zoning districts.***

   CWA Comments: The golf course use is in a location and of a size, location, and character that will be in harmony with the PR Zoning District and the adjacent zoning districts. The golf course has been in operation for decades and the intensity of the use is not anticipated to increase. The site is planned for Residential Mixed Use in the Master Plan to allow the golf course to continue to operate but to prepare for a potential transition from the golf course use. The parcels to the west of the area to be improved are zoned C-2 and planned for Residential Mixed Use. The surrounding parcels on the other property lines are zoned R-2 and planned for Medium Density Residential.

2. ***The location and size of the proposed use or uses, the nature and intensity of the principal use and all accessory uses, the site layout and its relation to streets giving access to it, shall be such that traffic to and from the use, and the assembly of persons in connection therewith, will not be hazardous or inconvenient to the neighborhood. In applying this standard, the planning commission and township board shall consider, among other things: convenient routes for pedestrian traffic, the relationship of the proposed use to main traffic thoroughfares and to street and road intersections, the general character and intensity of the existing and potential development of the neighborhood, and relationship to the township master plan. The planning commission and township board shall determine that the proposed use will not have a detrimental effect.***

   CWA Comments: The golf course use has been operating in this location for decades. The proposed club house will be smaller in terms of square footage than the previous building. The restaurant and event center within the clubhouse may create additional vehicular traffic. Holly Road is a paved street

and should be able to accommodate additional traffic. Any adjacent residential uses are separated from the parking lot and clubhouse by the golf course itself or naturalized open space.

3. ***Unless a variance is granted, the standards of density and required open spaces for the proposed use shall be at least equal to those required by this chapter in the zoning district in which the proposed use is to be located. After the granting of approval of a special land use by the township board, the zoning board of appeals shall also have the power to grant variances as provided by this chapter.***

   CWA Comments: The site in question meets all density and required open space standards and does not require a variance.

4. ***The public services and facilities affected by a proposed land use or activity will be capable of accommodating increased service and facility loads caused by the land use or activity.***

   CWA Comments: Since the site is to continue to the golf course use, we see no concern for strain on existing services. We defer to the Township Engineer for additional comments regarding essential facilities and stormwater management.

5. ***Protection of the natural environment and conservation of natural resources and energy.***

   CWA Comments: The site is currently developed as a golf course, and a smaller club house is proposed. The environmental protection and conservation of natural resources is anticipated to be unchanged.

6. ***Compatibility with adjacent uses of land and promotion of the use of land in a socially and economically desirable manner.***

   CWA Comments: The surrounding area is vacant land or large lot residential. With the smaller clubhouse, the use should continue to be compatible with the surrounding area.

7. ***The planning commission and township board shall find that the foregoing standards are substantially met by the applicant and shall so set forth in their official record of the proceedings.***

   CWA Comments: The Planning Commission and Township Board will make the required determination.

In summary, we believe the project is compatible with the surrounding uses and overall character of the area.

Items to be Addressed: *Planning Commission determination as to whether the standards for approval of special land uses in Section 40-145 have been met.*

AREA, WIDTH, HEIGHT, AND SETBACKS

The subject site and proposed building appear to conform to the dimensional requirements of the PR zoning district, as shown in Table 1, on the following page.

***Table 1.** – PR -Dimensional Requirements*

	REQUIRED	PROVIDED
Minimum Lot Size	1 Acre	169.94 Acres
Minimum Lot Width	110 ft.	579.92 ft.
Min. Setbacks		
Front	75 ft.	462.8 ft.
Side (East)	50 ft.	>50 ft.
Side (West)	50 ft.	71.6 ft.
Rear	50 ft.	2,070 ft.
Max. Lot Coverage	5%	1.73%
Max. Building Height	28 ft. 6 in. (2 stories)	28 ft. 6 in. (2 stories)

Page 3 of the revised site plan notes that the maximum building height is 28 feet, 6 inches. Applicant should include building height on the building elevations for final site plan review to verify compliance with this zoning requirement. In the Zoning Ordinance, building height is defined as "the vertical distance from grade plane to the average height of the highest roof surface."

***Items to be Addressed:** Applicant provide building height on building elevations for final site plan review.*

NATURAL RESOURCES

This section will only cover the scope of the project portion of the site, as seen in figure 2 above.

Topography: The site is pre-graded and relatively flat from the previous clubhouse and parking facilities.

Trees: The site currently has existing landscaping trees. These trees are not shown on the site plan, and the applicant has not expressed if they are to stay or be removed.

Wetlands: There are no wetlands or other water features on this portion of the site.

Soils: The site has Riddles Sandy Loam (6-12% slopes), Oshtemo-Boyer Loamy Sands (0-6% slopes), and Marlette Sandy Loam (6-12% slopes).

***Items to be Addressed:** None.*

BUILDING LOCATION AND SITE ARRANGEMENT

The site consists of an existing 18-hole golf course and a clubhouse located at the northeastern portion of the subject site. As previously mentioned, the clubhouse is currently in the process of being demolished. The new clubhouse will be in the same approximate location, but smaller in square footage.

***Items to be Addressed:** None.*

PARKING AND LOADING

Section 40-681 contains parking requirements for Golf courses and their accessory uses. Parking calculations are provided in **Table 2** below.

Table 2. *– Off-Street Parking Requirements*

	Required	Provided
Golf Course	5 spaces/ each hole- 5 spaces x 18 holes= 90 spaces	90 spaces
Restaurant	1 space/ two people allowed within max occupancy- 72 people / 2 =36 spaces	36 spaces
Bar	1 space/ two people allowed within max occupancy- 21 people / 2 = 11 spaces	11 spaces
Retail Store (Pro Shop)	1 space/ 100 square feet of floor area- 1,485 sq. ft/100 = 15 spaces	18 spaces
Private Club (Pavilion)	1 space / three people allowed within max occupancy – 178 people / 3 = 59 spaces	89 spaces
Barrier-Free	10 spaces	10 spaces
Loading	1 space for 1,401-20,000 sq. ft.- 4,727 sq. ft.= 1 loading space	1 loading space
Total	211 spaces	244 spaces

The site consists of a west parking lot and an east parking lot that also has proposed barrier-free spaces close to the proposed structure. Proposed parking layout conforms to standards required for golf course and their accessory uses.

Items to be Addressed: *None.*

SITE ACCESS AND CIRCULATION

The site is accessed from an existing boulevard entrance that enters and exits from E. Holly Road to the north of the site.

A circulation plan was provided on Sheet 3 that includes fire and garbage truck turning radii.

Plans comply with Section 40-683 – Access Management and Section 40-684 – Driveway approaches as shown on Page 5.

Items to be Addressed: *None.*

SAFETY PATHS AND SIDEWALKS

A safety path does not exist nor is it proposed along Holly Road, which is not designated a priority pathway Per Section 40-851(b)(5)b of the Zoning Ordinance, the developer is required to grant an easement for a

safety path of acceptable size and location, as determined by the Township. The proposed safety path easement can be seen on Page 5 of the plans provided.

The applicant has proposed a new 8' walkway that connects the proposed pavilion and clubhouse to the parking facility and a bag drop area along the roundabout. There is also a large patio proposed off the rear of the clubhouse.

Items to be Addressed: *None.*

ESSENTIAL FACILITIES

Existing well and septic can be seen on site plans provided. The applicant has indicated that existing well and septic is to be inspected and potentially reused.

A transformer is proposed to the west of the proposed clubhouse.

We defer to the Township Engineer for additional comments regarding essential facilities and stormwater management.

Items to be Addressed: *Township Engineer review of essential facilities.*

LANDSCAPING

The applicant has not submitted a landscape plan. The following landscape standards apply to the site:

Greenbelt: The site greenbelt is existing, complies with current standards, and is not proposed to be changed.

Screening: The existing screening complies with current standards and it is not proposed to change.

Parking Lot: Section 40-721(b)(4) requires 1 tree per 8 parking spaces. The exact parking requirements at this time are unknown. The applicant is currently proposing 244 parking spaces, which would require roughly 31 trees. The site currently has 1 parking lot tree.

The site is also required to have parking lot islands that are no less than 150 square feet.

The applicant has requested that the Planning Commission grant them a waiver for both the required 30 parking lot trees and parking lot island, as shown on Sheet 3. The Planning Commission may approve alternative landscape plantings at the perimeter of parking lots where landscaping within parking lots would be impractical due to the size of the parking lot or detrimental to safe and efficient traffic flow.

Site Landscaping: Section 40-721(6) requires at least ten percent (10%) of the site area, excluding existing public rights-of-way, to be landscaped. A calculation of the landscaped area has not been provided. However, it does appear that that more than 10% of the site area is landscaped and not proposed to be changed .

Trash Enclosure: A trash enclosure can be seen on Sheet 3 in the northeast corner of the east parking lot. The proposed trash enclosure meets the required screening standards.

A detailed landscape plan including existing site conditions and proposed future plantings have not been provided. Section 40-136 requires that a detailed landscape plan be submitted upon final site plan review. The applicant is requesting that a landscape plan be waived from the requirements. The Planning Commission should determine if the existing site is sufficient for landscape standards.

Items to be Addressed: *1. Planning Commission consider waivers for parking lot trees and islands. 2. Planning Commission consider waiver for required landscape plan.*

LIGHTING

The applicant has provided a lighting plan on the sheet titled "Pavilion Exterior Lighting Plan and Lumen Study." The plan includes 18 architectural LED column uplights. Uplighting is not permitted under Section 40-888 of the Springfield Township Zoning Ordinance. All proposed lighting fixtures should be downward-facing to minimize glare and light pollution.

Lighting fixture specifications and schematics should be provided during final site plan review to verify compliance with applicable ordinance standards. The applicant has indicated that, as required, a point-by-point photometric plan will be submitted during final site plan review.

Items to be Addressed: *Applicant replace non-compliant uplighting to meet standards of Section 40-888 of Township Ordinance.*

SIGNAGE

Sign information has not been provided. Signs must be approved as part of site plan review or by the Planning Commission at a later date.

Items to be Addressed: *Applicant to provide sign information.*

FLOOR PLANS AND ELEVATIONS

The building materials for the clubhouse and the pavilion are cultured stone veneer, composite wood siding, and asphalt shingles with fascia board and pre-finished metal roofing as accent materials. The plans provided meet the architectural standards in Section 40-821.

Items to be Addressed: *None.*

OUTDOOR SEATING

Outdoor seating appears to be proposed on the patio and in the pavilion areas. Section 40-646 has requirements for outdoor seating areas but does not list the PR Zoning District as a district where outdoor seating would be allowed. “Commercial ventures incident to normal or approved activities in the PR district are permitted” is listed as a principal use subject to special conditions and special land use approval. The special land use notice did not include this use.

In consultation with the Township Attorney, we recommend that the Planning Commission initiate a zoning ordinance text amendment to allow outdoor seating for golf courses and to narrow the breadth of the "commercial ventures" allowed in the PR zoning district. For the applicant, the outdoor seating use would need to be delayed until the Zoning Ordinance was updated.

Items to be Addressed: *1. Applicant clarify if outdoor seating is proposed. 2. Zoning Ordinance text updated to allow outdoor seating in the PR Zoning District.*

REQUIREMENTS FOR GOLF COURSES

Per Section 40-623, golf courses, including accessory clubhouses, driving ranges, pro shops, maintenance buildings and recreational facilities, must meet the following:

1. ***The site shall have direct accessibility to a paved public road.***

   CWA Comments: The driveway is proposed to access E. Holly Road, which is a paved public road.

2. ***The location of structures, such as the clubhouse and accessory buildings, and their operations shall be reviewed by the planning commission to ensure minimum disruption of the adjacent properties, and as much distance as is practicable shall be provided between golf course structures and activities abutting residential properties. A minimum 50-foot setback shall be required between any structures and any residentially zoned or used property, except that a minimum 100-foot setback shall be required between any maintenance building and/or yard and any adjacent residentially zoned or used property.***

   CWA Comments: Large-lot residential uses and R-2 zoning abuts the overall site to the east and south of the overall parcel and to the north across E. Holly Road. The proposed building is more than 100 feet from these lot lines. Buildings on the parcel directly to the east seem to be maintenance buildings associated with the golf course. The building location, design of the proposed pavilion and concrete patio would ensure minimum disruption to adjacent properties.

3. ***All storage, service, and maintenance areas when visible from adjoining residentially zoned or used land shall be screened in accordance with the requirements set forth in section 40-721.***

   CWA Comments: Due to the size of the parcel and existing vegetation, no part of the proposed clubhouse would be visible from adjoining residentially zoned or used land. The maintenance building on the adjacent parcel to the east are well screened by existing trees and vegetation.

4. ***Swimming pool areas shall be surrounded with a protective fence, six feet in height, and entry shall be provided by means of a controlled gate.***

   CWA Comments: A swimming pool is not proposed.

5. Winter activities such as skating, cross country skiing, sledding and tobogganing may be permitted by the township board, if it finds such uses to be consistent with the standards found in section 40-145.

CWA Comments: The applicant has stated on Page 3 of the site plans that winter activities are not proposed at this time.

Items to be Addressed: *None.*

SUMMARY

The submitted preliminary/ final site plan and special land use is in substantial compliance with Springfield Township's Zoning Ordinance. The following items need to be considered by the Planning Commission and addressed by the applicant to the satisfaction of the Planning Commission.

Planning Commission Considerations:

A. Special Land Use
1. Planning Commission determination as to whether the standards for approval of special land uses in Section 40-145 have been met.

B. Landscaping.
1. Waivers for required parking lot trees and parking lot islands.
2. Waiver for Landscape plan.

C. Outdoor Seating.
1. Initiate changes to outdoor seating zoning requirements to allow outdoor seating in the PR Zoning District.

Applicant to Address:

A. Area, Width, Height, and Setbacks.
1. Exact building height measurement on building elevations for final site plan review.

B. Lighting.
1. Replace non-compliant uplighting to meet standards of Section 40-888 of Township Ordinance for final site plan review.

C. Signage
1. Provide sign information for final site plan review.

D. Outdoor Seating.
1. Clarify if outdoor seating is proposed for the patio area.

Township Engineer or Other Agency Review: Township Engineer review of essential facilities.
Respectfully submitted,

CARLISLE/WORTMAN ASSOC., INC.
Megan Masson-Minock, AICP
Principal

CARLISLE/WORTMAN ASSOC., INC.
Benny Bono
Community Planner

cc: *Ric Davis, Supervisor*
Danielle Sink, Supervisor's Assistant
Brian Galley, Planning Commission Chair
Nancy McClain, P.E.(nmcclain@giffelswebster.com)
Jason Maye, P.E. (jmayer@giffelswebster.com)
Matthew J. Covey (mcovey@springfield-twp.us)
Lisa J. Hamameh, Township Attorney, (lhamameh@rsjalaw.com)

SPRINGFIELD TOWNSHIP FIRE DEPARTMENT

10280 Rattalee Lake Road • Davisburg, MI 48350
Phone: 248.625.6699 Fax: 248.605.4090
Email: stfd@springfield-twp.us

Matthew J. Covey, *Fire Chief* • Matthew S. Strickland, *Assistant Chief*

June 15, 2026

RE: Fire Department Site Plan and Building Plan Review
Reviewed By: Fire Chief Matthew J. Covey
Heather Highlands Golf Course New Construction
11450 E. Holly Road
Davisburg, MI 48350

The Springfield Township Fire Department has reviewed the submitted site plan and building plans for the proposed Heather Highlands Golf Course New Consrtuction. The project includes a new clubhouse, pavilion, commercial kitchen, parking areas, and related site improvements.

Based on discussions with project architect Jeffrey Vancamp, the clubhouse and pavilion are proposed to be separated by a code-compliant fire wall and will be evaluated as separate buildings for code purposes.

The Fire Department supports approval of the proposed site plan and building plans subject to the following items:

Building Code Compliance
The current drawing set references the 2021 Michigan Rehabilitation Code and identifies the project as a Level 3 rehabilitation.

Based on information available to the Fire Department, the original clubhouse was completely demolished, and no portion of the original structure remains. The proposed clubhouse and pavilion are considered new construction. The code analysis and construction documents should be revised to reflect the applicable requirements for new construction.

Fire Wall Separation
The fire wall separating the clubhouse and pavilion shall be clearly identified on the final construction documents and constructed in accordance with the Michigan Building Code.

Fire Protection Water Supply
The property does not have an available municipal water supply or fire hydrant system.

The applicant shall provide a high-capacity fire protection well for fire department use. Information regarding the proposed well location, anticipated flow rate, electrical service, controls, and fire department access shall be submitted for review. The final design shall provide

year-round access for fire department apparatus and include appropriate signage and operating instructions as approved by the Fire Department. The high-capacity fire protection well shall be installed and operational prior to issuance of a Certificate of Occupancy.

Life Safety Plan
The submitted plans identify occupancy classifications, occupant loads, and exit locations. A life safety plan shall be submitted showing:

- Exit access travel distances.
- Common path of egress travel distances.
- Exit discharge locations.
- Egress width calculations.
- Travel distances from all occupied portions of the building to an approved exit discharge.
- Travel distances from all basement areas to an approved exit discharge.

Particular attention should be given to travel distances and common path of egress travel from the basement storage, mechanical, and support areas.

The life safety plan shall be submitted for Fire Department review and approval.

Occupancy and Use
This review is based on the occupancy classifications, occupant loads, and building uses identified on the plans submitted to the Fire Department. The submitted plans identify Business (B) and Assembly (A-2) occupancies, including the pavilion as an A-2 Assembly occupancy.

Any increase in occupant load, seating capacity, change in use, modification to the floor plan, or change in occupancy classification may require additional Fire Department review and approval.

Commercial Kitchen Fire Protection
The commercial kitchen shall be protected by an approved UL 300 hood suppression system. Separate suppression plans shall be submitted for review and approval.

Fire Alarm System (Recommendation)
Although a fire alarm system does not appear to be required based on the submitted plans, the Fire Department recommends consideration of a monitored fire alarm system due to the assembly occupancy, commercial kitchen, basement level, and public use of the facility.

Fire Department Access
Fire department access shall be maintained in accordance with IFC 2015. Any changes affecting fire department access shall be submitted for review.

Knox Box
A Knox Box shall be installed at a location approved by the Fire Department.

Address Identification
Building address numbers shall be installed and clearly visible from the access drive in accordance with IFC 2015.

Fire Protection System Permits
Separate permits and reviews shall be required for any hood suppression system, fire alarm system, fire suppression system, or other fire protection systems required by code.

Subject to the items outlined above, the Springfield Township Fire Department supports approval of the proposed site plan and building plans.

Carlisle | Wortman
ASSOCIATES, INC.

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

July 17, 2026

Springfield Township Planning Commission

Re: 11450 E. Holly Rd. BLDG Department Comments

Planning Commissioners:

I have completed a preliminary review of the drawings provided for your review. The information provided is not enough to complete full building code compliance review, but that is not required for where the applicant is in the process. Please see my preliminary comments below.

1. The addition of the pavilion will add significant fire area to the building. The applicant should be aware that a fire suppression system may be required (if not already provided), unless the building is properly separated into smaller fire areas.

Sincerely,



Carlisle | Wortman
ASSOCIATES, INC.

Brent Strong
Director/Building Official
Phone: 734-662-2200 | Mobile: 734-323-5613
117 N. 1st Street, Suite 70, Ann Arbor, MI 48104

Benjamin R. Carlisle, *President* John L. Enos, *Vice President* Douglas J. Lewan, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* R. Donald Wortman, *Principal* Jeff Shafer, *Principal*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
Richard K. Carlisle, *Past President/Senior Principal*

MEMO

New Business

TO: Planning Commission

FROM: Supervisor's Office

DATE: July 28, 2026

RE:

Background:

Sheetz first contacted the Township in September 2025 to gain a better understanding of the Township's planning process. After several months of research and planning, the company returned for a second pre-application meeting in June 2026 and subsequently submitted an application to redevelop the existing BP gas station site as a Sheetz convenience store and gas station.

Items attached:

1. Site Plan Application 6/23/26
2. Site Development Plans, Lighting Plan, Arc Elevations, Canopy Elevations, Split Fence Detail (Full Size Plans)
3. Arc Narrative
4. Wetland Delineation Report
5. Traffic Impact Study
6. Carlisle Wortman Planner Review – 7/21/26
7. Giffels Webster Engineering Letter 7/15/26
8. Giffels Webster Engineering Plan Markup 7/15/26
9. Fire Department Review Letter 1 and Turning Radius Diagram 6/15/26
10. Fire Department Review Letter 6/25/26
11. Building Department Review 7/17/26

SPRINGFIELD
CHARTER TOWNSHIP
SUPERVISOR'S OFFICE
248-846-6502 | FAX 248-6548



APPLICATION FOR SITE PLAN REVIEW

Please Review Instruction Page Before Completing

Applicant

Name	Skilken Gold
Address	4270 Morse Road
City, State, Zip	Columbus, Ohio 43230
Phone	248.752.3331
Email	ariba@skilkengold.com
Interest	Prospective developer

All Parties of Interest (Title Holder, Contract Purchaser, Partners): Include for Each

Name		Name	
Address		Address	
Phone		Phone	
Email		Email	
Interest		Interest	

Name		Name	
Address		Address	
Phone		Phone	
Email		Email	
Interest		Interest	

Designer: (Registered Engineer, Architect, Surveyor, Landscape Architect, Planner)

Name	Stonefield Engineering & Design	Name	
Address	555 S. Old Woodward, Suite 12L	Address	
Phone	248.247.1115	Phone	
Email	jdelmotte@stonefieldeng.com	Email	
Interest	Civil Engineer	Interest	

Name		Name	
Address		Address	
Phone		Phone	
Email		Email	
Interest		Interest	

Other Consultants:

Name		Name	
Address		Address	
Phone		Phone	
Email		Email	

General Property Information and Description:

General Location	8500 Dixie Highway
Current Zoning	General Business District (C-2) w/ Dixie Highway Overlay
Acreage	6.4
Parcel ID Number	07-24-201-019 & 07-24-201-003
Legal Description	Refer to survey attached to site development plans
	(Attach Metes and bounds description where applicable)

Purpose of Request and Intended Use:

Proposed Sheetz development

CERTIFICATION: I hereby certify that I have reviewed the Springfield Township Zoning Ordinance and Design & Constructions Standards and agree to comply with those requirements. I have also read and understand the Instructions to Applicant. I understand that the fee entitles me to reviews of the original plan and one revision. Each additional revision will require a fee of 50% of the original.

I hereby grant permission to any township official, consultant or employee to access the property in order to review the site plan submitted.

Signature of Applicant: _____ Date 6/22/2026

Ashley Riba
(Print Name)

Signature of Owner: _____ Date _____

_____
(Print Name)

Signature of Applicant Representative: _____ Date 6/22/2026

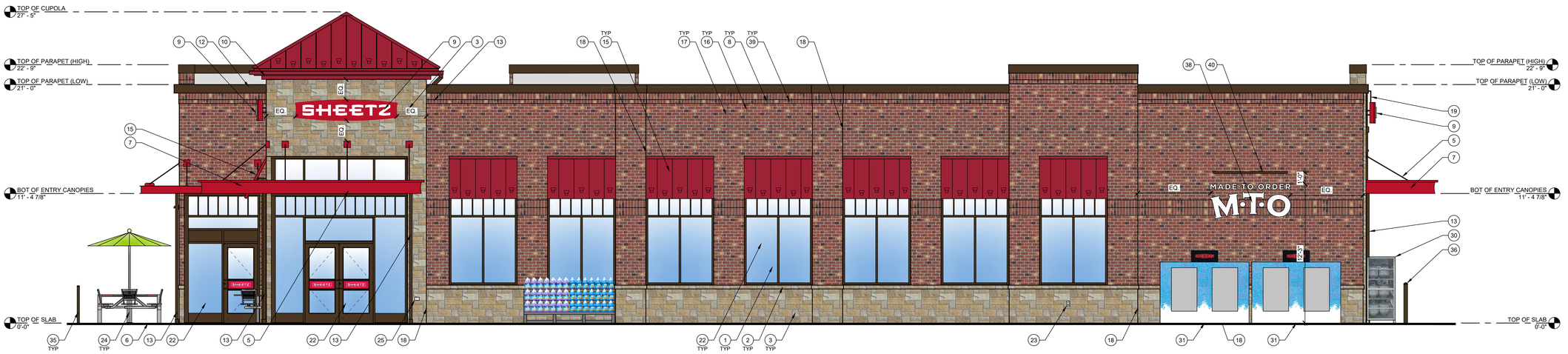
Joe Delmotte
(Print Name)

For Township Use Only **File No.** _____

PRELIMINARY ☐ **Date Received** _____ **Fee $** _____
3rd Review Fee $ _____ **4th Review Fee $** _____

FINAL ☐ **Date Received** _____ **Fee $** _____
3rd Review Fee $ _____ **4th Review Fee $** _____

FINAL ENGINEERING REVIEW ☐ **Date Received** _____ **Fee $** _____
3rd Review Fee $ _____ **4th Review Fee $** _____



1 FRONT ELEVATION
1/4" = 1'-0"

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 OTHERWISE.
- FIXTURES/EQUIPMENT BETWEEN TWO DOORS OR WINDOWS ARE TO BE CENTERED EQUALLY.
- EXTERIOR SEALANT FOR STONE SHALL COMPLY WITH SECTION 07 9005 JOINT SEALANTS, GENERAL BUILDING FASCADE WEATHER SEALANT AND SHALL MATCH THE COLOR OF THE STORE.

EXTERIOR ELEVATION KEYNOTES:

1. BRICK VENEER, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
2. CAST STONE SILL, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
3. ANCHORED CAST STONE MASONRY VENEER, COLOR: CRAB ORCHARD. SEE MASONRY SPEC
4. EXTERIOR LIGHT FIXTURE, REFER TO ELECTRICAL DRAWINGS
5. ARCHITECTURAL CANOPY, COLOR: REGAL RED, PREMIUM TWO-COAT 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)
15. METAL STANDING SEAM SHED STYLE AWNING AND FRAME ASSEMBLY, ROOF COLOR: BRITE RED, FRAME COLOR: DARK BRONZE
16. BRICK SOLDIER COURSE, COLOR: 680 BY CONTINENTAL BRICK COMPANY. SEE MASONRY SPEC
17. 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
20. 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
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31. ICE MERCHANDISER
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34. CO2 FILLPORT
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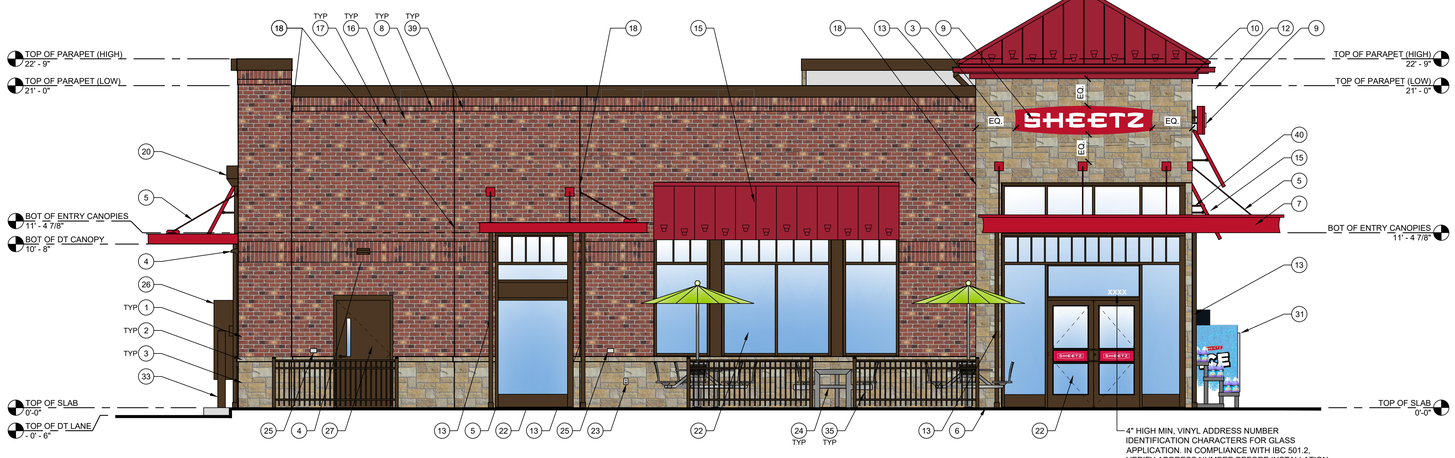

2 LEFT ELEVATION
1/4" = 1'-0"



OUTLINE AREA = 14.84 SQ.FT.
BOX AREA = 16.52 SQ.FT.
TYPICAL OF THREE
PROJECTS 7" OFF FACE OF BUILDING

A WALL MOUNTED "SHEETZ" BUILDING SIGN
1/2" = 1'-0"



OUTLINE AREA = 8.38 SQ. FT.
BOX AREA = 21.47 SQ. FT.
TYPICAL OF ONE
PROJECTS 0" OFF FACE OF BUILDING

B WALL MOUNTED "MTO" DECAL
1/2" = 1'-0"

Convenience Architecture and Design P.C.
242 Sheetz Way, Claysburg, PA 16625
phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:
NEW SHEETZ STORE

SPRINGFIELD LAVON DR.

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

KEYPLAN

MARK	DATE	DESCRIPTION

ISSUE:	05.11.2026
SITE ID NO:	214854
AUTHOR BY:	DLN
REVIEW BY:	RJH
VERSION:	6139_v1.9

EXTERIOR ELEVATIONS

A200

PRELIMINARY ELEVATIONS



3 REAR ELEVATION
1/4" = 1'-0"

TYPICAL EXTERIOR ELEVATION NOTES:

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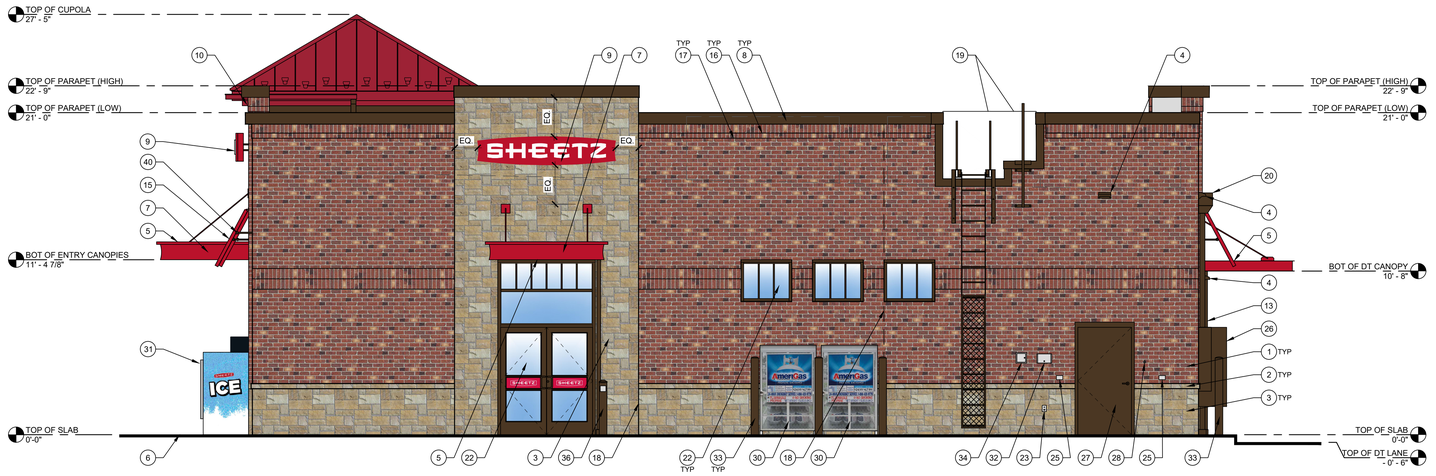
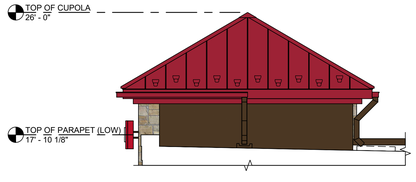
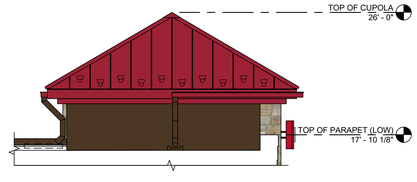


4 RIGHT ELEVATION
1/4" = 1'-0"



5 CUPOLA ELEVATION FROM ROOF
1/4" = 1'-0"



6 CUPOLA ELEVATION FROM ROOF
1/4" = 1'-0"

*C*onvenience *A*rchitecture
and *D*esign P.C.
242 Sheetz Way, Claysburg, PA 16625

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

PROJECT NAME:
NEW SHEETZ STORE

SPRINGFIELD LAVON DR.

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

KEYPLAN

MARK	DATE	DESCRIPTION

ISSUE:	05.11.2026
SITE ID NO:	214854
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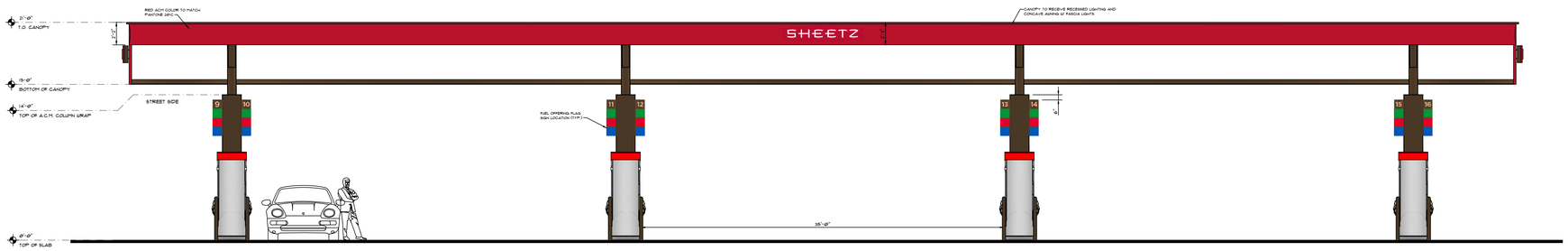
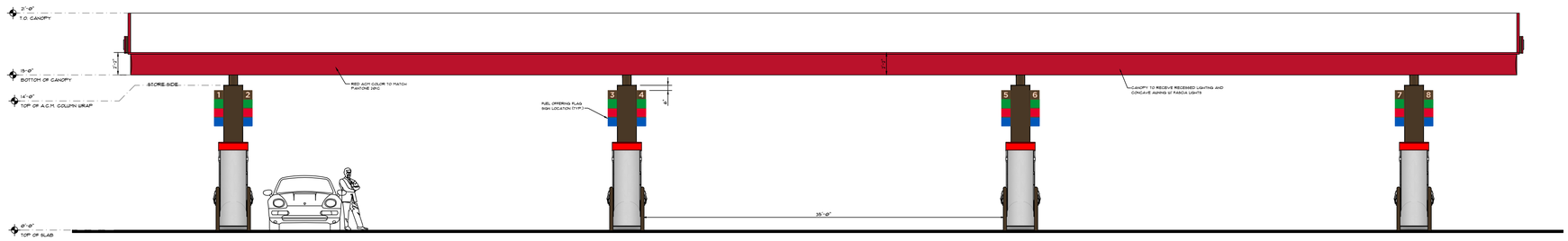
EXTERIOR ELEVATIONS

A201

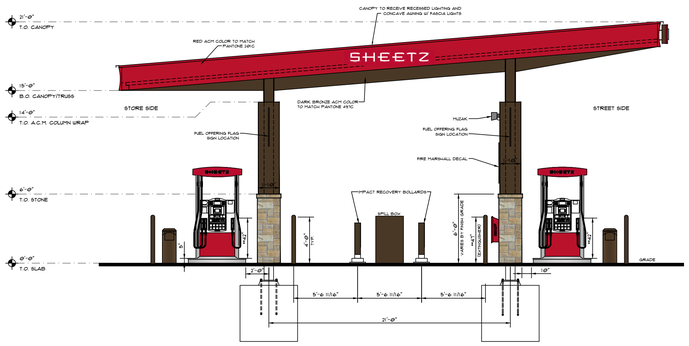
PRELIMINARY ELEVATIONS



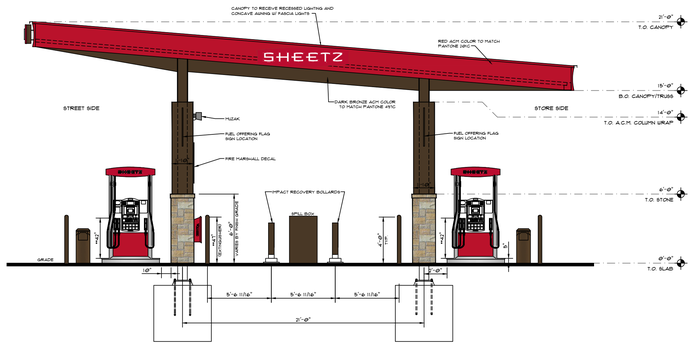
SIDE 'B' ELEVATION
SCALE: 3/16" =1'-0"



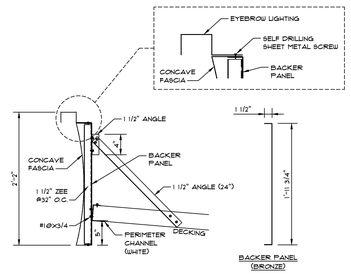
SIDE 'D' ELEVATION
SCALE: 3/16" =1'-0"



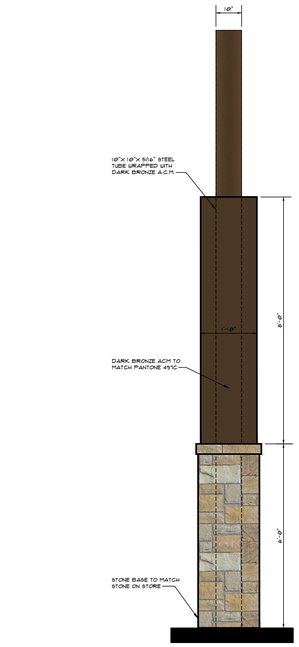
SIDE 'A' LEFT SIDE ELEVATION
SCALE: 3/16" =1'-0"



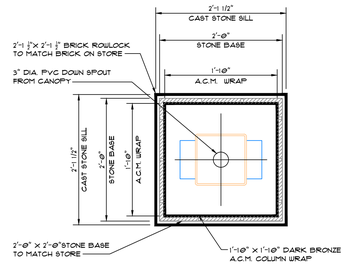
SIDE 'C' RIGHT SIDE ELEVATION
SCALE: 3/16" =1'-0"



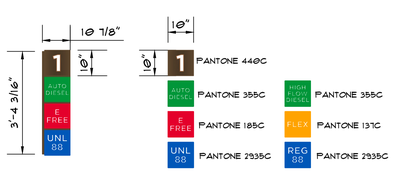
CONCAVE FASCIA MOUNTING DETAIL
SCALE: 1/4" =1'-0"



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

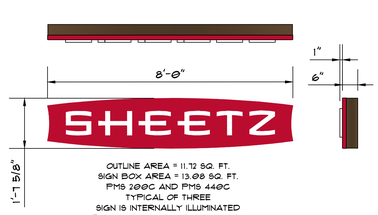


STONE COLUMN BASE DETAIL
SCALE: 1/4" =1'-0"



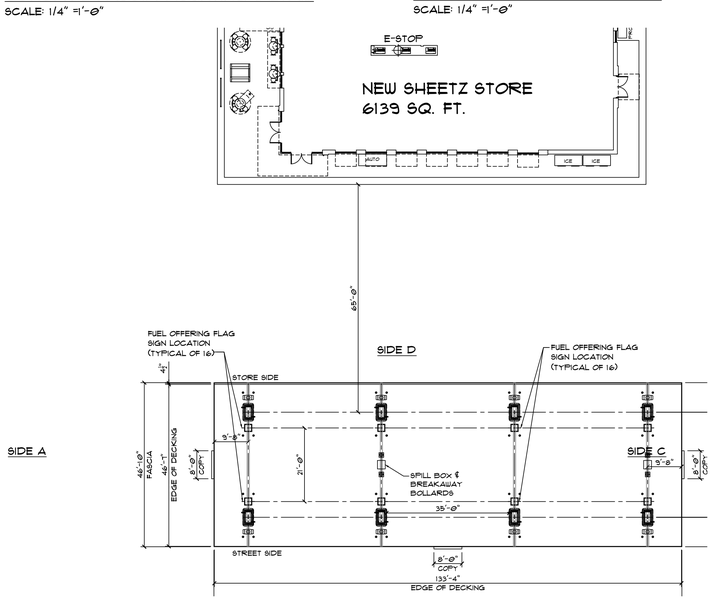
DISPENSER NUMBER AND FUEL OFFERING FLAG
VARIES PER SITE/ DISPENSER
2 PER COLUMN ON STORE SIDE COLUMNS
0.69 SQ. FT. PER PANEL
2.76 SQ. FT. MAX/FLAG

DOUBLE FACED FUEL OFFERING FLAG SIGN DETAILS
SCALE: 1/2" =1'-0"



OUTLINE AREA = 11.72 SQ. FT.
SIGN BOX AREA = 13.08 SQ. FT.
PMS 200C AND PMS 440C
TYPICAL OF THREE
SIGN IS INTERNALLY ILLUMINATED
PIN-MOUNTED TO CURVED AWNNG

CANOPY MOUNTED SHEETZ SIGN DETAIL
SCALE: 1/2" =1'-0"



PLAN VIEW FOR LOGO LOCATIONS

Convenience Architecture and Design P.C.
351 Sheetz Way, Claysburg, PA 16625
phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:
NEW SHEETZ STORE

SPRINGFIELD LAVON

Int. of Dixie Highway
and Lavon Drive
Springfield
Michigan

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

KEYPLAN

MARK	DATE	DESCRIPTION

ISSUE: 01-30-2025
PROJECT NO:
AUTHOR BY: DNC
REVIEW BY:
SHEET TITLE

GAS AWNING

AWNING

SITE DEVELOPMENT PLANS

FOR

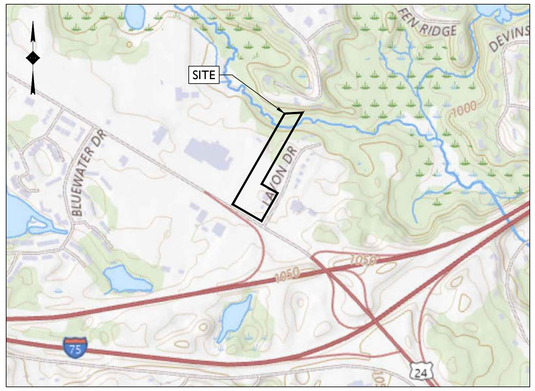
SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, & FAST FOOD RESTAURANT WITH PICKUP

PID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD, OAKLAND COUNTY, MI

APPLICANT

SKILKEN GOLD
4270 MORSE ROAD
COLUMBUS, OHIO 43230
248.752.3331
ARIBA@SKILKENGOLD.COM



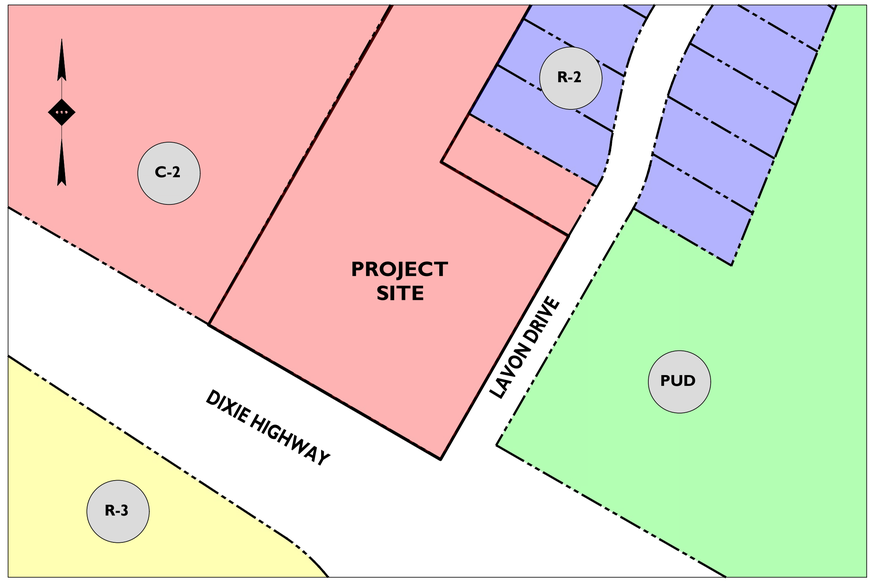
SOURCE: USGS TOPOGRAPHICAL MAPPER

LOCATION MAP
SCALE: 1" = 800'±



SOURCE: NEARMAPS ONLINE MAPPING SYSTEM

AERIAL MAP
SCALE: 1" = 100'±



SOURCE: SPRINGFIELD TOWNSHIP ZONING MAP

- C-2: GENERAL BUSINESS DISTRICT
- R-2: ONE-FAMILY RESIDENTIAL (1.0 AC.)
- PUD: PLANNED UNIT DEVELOPMENT
- R-3: ONE FAMILY RESIDENTIAL (0.5 AC.)

ZONING MAP
SCALE: 1" = 100'±

PLANS PREPARED BY:

STONEFIELD engineering & design

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

555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

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

PLAN REFERENCE MATERIALS:

1. THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO:
   - ALTA / NSPS LAND TITLE SURVEY PREPARED BY STONEFIELD ENGINEERING & DESIGN, DATED 06/01/2026
   - WETLAND DELINEATION PREPARED BY BARR, DATED 05/27/2026
   - AERIAL MAP PROVIDED BY NEARMAPS ONLINE MAPPING SYSTEM, DATE RETRIEVED 05/29/2026
   - LOCATION MAP PROVIDED BY USGS TOPOGRAPHICAL MAPS, DATE RETRIEVED 05/29/2026
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 CONSTRUCTION.

SHEET INDEX

DRAWING TITLE	SHEET #
COVER SHEET	C-1.0
SITE PLAN	C-2.0 & C-2.1
TRUCK TURNING PLAN	C-2.2
GRADING & STORMWATER MANAGEMENT PLAN	C-3.0
UTILITY PLAN	C-4.0
LANDSCAPING PLAN	C-5.0
LANDSCAPING DETAILS	C-5.1
CONSTRUCTION DETAILS	C-6.0 - C-6.3

ADDITIONAL SHEETS

DRAWING TITLE	SHEET #
ALTA / NSPS LAND TITLE SURVEY	SHEETS 1, 2, 3 OF 3

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

STONEFIELD engineering & design
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Princeton, NJ · Tampa, FL · Rutherford, NJ
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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

JONATHAN FRED COOLSEY — ENGINEER — No. 6201062426 — STATE OF MICHIGAN — REGISTERED PROFESSIONAL ENGINEER

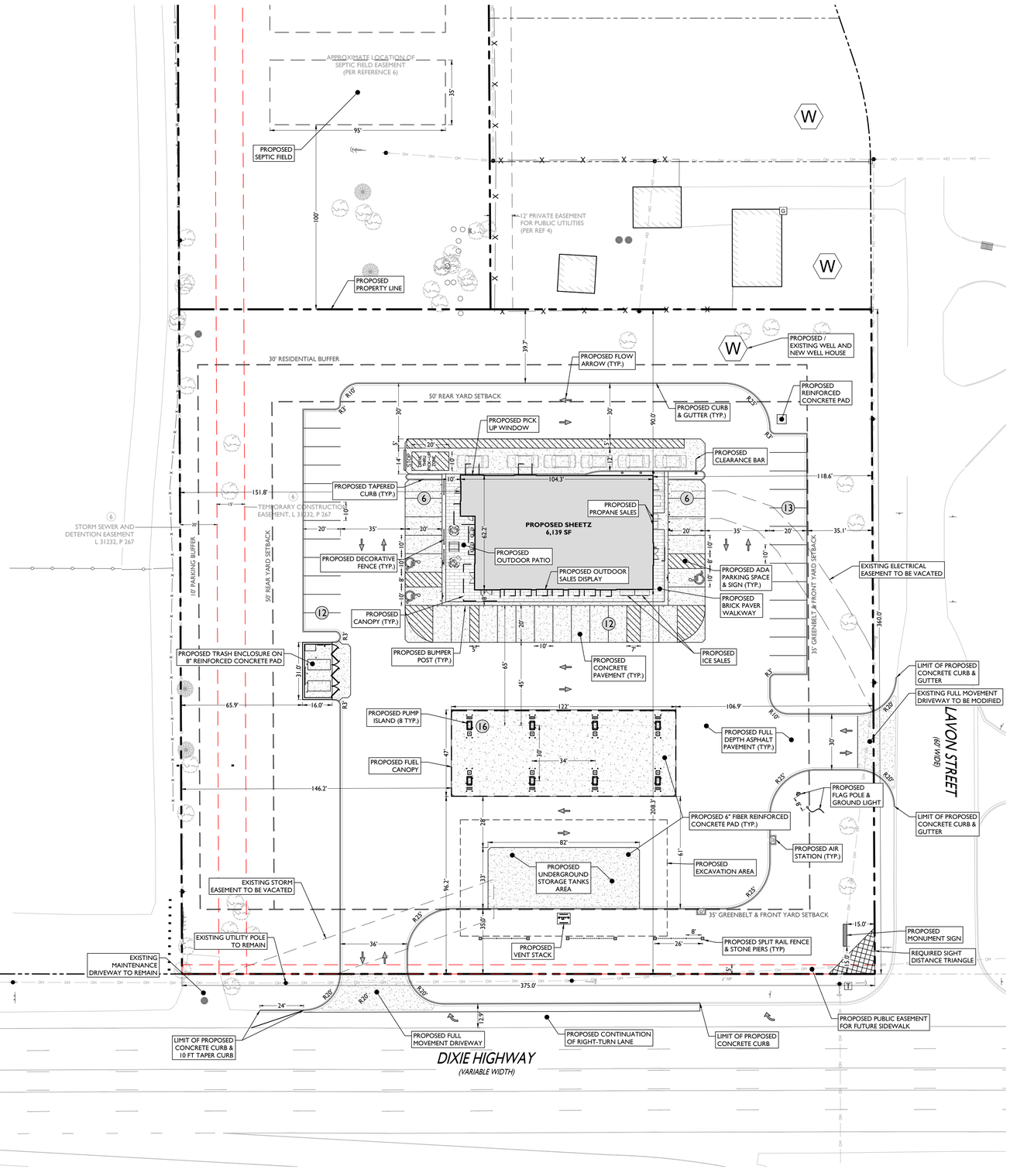
STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

TITLE: COVER SHEET

DRAWING: C-1.0

V:\DET\2025\DET-250399 SKILKEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI\CAD\PLOTS\P-1 ACOVER.DWG



LAND USE AND ZONING

PARCEL ID: 07-24-201-019 & 07-24-201-003		
GENERAL BUSINESS DISTRICT (C-2) W/ DIXIE HIGHWAY OVERLAY		
PROPOSED USE		
GAS STATION / CONVENIENCE	PERMITTED USE	
FAST FOOD RESTAURANT	PERMITTED USE	
OUTDOOR SALES	PERMITTED USE	
ZONING REQUIREMENT	**REQUIRED**	**PROPOSED**
MINIMUM LOT AREA	20,000 SF	134,938 SF (3.10 AC)
MINIMUM LOT WIDTH	150 FT	375.0 FT
MAXIMUM BUILDING COVERAGE	50%	8.10% (10,927 SF)
MAXIMUM BUILDING HEIGHT	2 STORIES (28.5 FT)	< 2 STORIES (28.5 FT)
MINIMUM FRONT YARD SETBACK	35 FT	96.2 FT
MINIMUM REAR YARD SETBACK	50 FT	90.0 FT
MINIMUM GREENBELT	35 FT	35.0 FT
MINIMUM RESIDENTIAL BUFFER	30 FT	39.7 FT
MINIMUM PARKING BUFFER	10 FT	65.9 FT
MINIMUM DRIVEWAY WIDTH	30 FT	36 FT (W)
MAXIMUM NUMBER OF DRIVEWAYS	1 PER FRONTAGE	1 DRIVEWAY
MINIMUM HEIGHT TO BOTTOM OF CANOPY	16 FT	COMPLIES
MAXIMUM CANOPY HEIGHT	25 FT*	COMPLIES

(W) WAIVER

(*) § 40-628.7: CANOPY HEIGHT MAY BE INCREASED TO 25 FT IF PITCHED ROOF IS INCORPORATED

OFF-STREET PARKING REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
§ 40-681.(1).g	GAS STATION / CONVENIENCE PARKING: 1 SPACE PER PUMP (16 PUMPS)(1 / 1 PUMP) = 16 SPACES 1 SPACE PER 100 SF (3,264 SF)(1 / 100 SF) = 33 SPACES FAST FOOD RESTAURANT PARKING: 1 SPACE PER 75 SF (1,209 SF)(1 / 75 SF) = 16 SPACES TOTAL: 16 + 33 + 16 = **65 SPACES**	16 PUMP SPACES 49 REGULAR TOTAL: **65 SPACES**
§ 40-681.(1).h	90° PARKING DIMENSIONS: 9 FT X 18 FT W/ 22 FT AISLE	10 FT X 20 FT W/ 35 FT AISLE
§ 40-681.(3).a	STACKING: 6 SPACES 12 FT X 20 FT	6 SPACES 12 FT X 20 FT

SYMBOL / DESCRIPTION

- PROPERTY LINE
- SETBACK LINE
- PROPOSED CONCRETE CURB & GUTTER
- PROPOSED TAPERED CURB
- PROPOSED SIGNS / BOLLARDS
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED BUILDING DOORS

GENERAL NOTES

1. 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, LLC.
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.
11. 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.

30' 0' 30' 60'

GRAPHIC SCALE IN FEET

1" = 30'

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

STONEFIELD engineering & design

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

555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN — JONATHAN REED COOKSEY — ENGINEER — No. 6201061428 — PROFESSIONAL ENGINEER

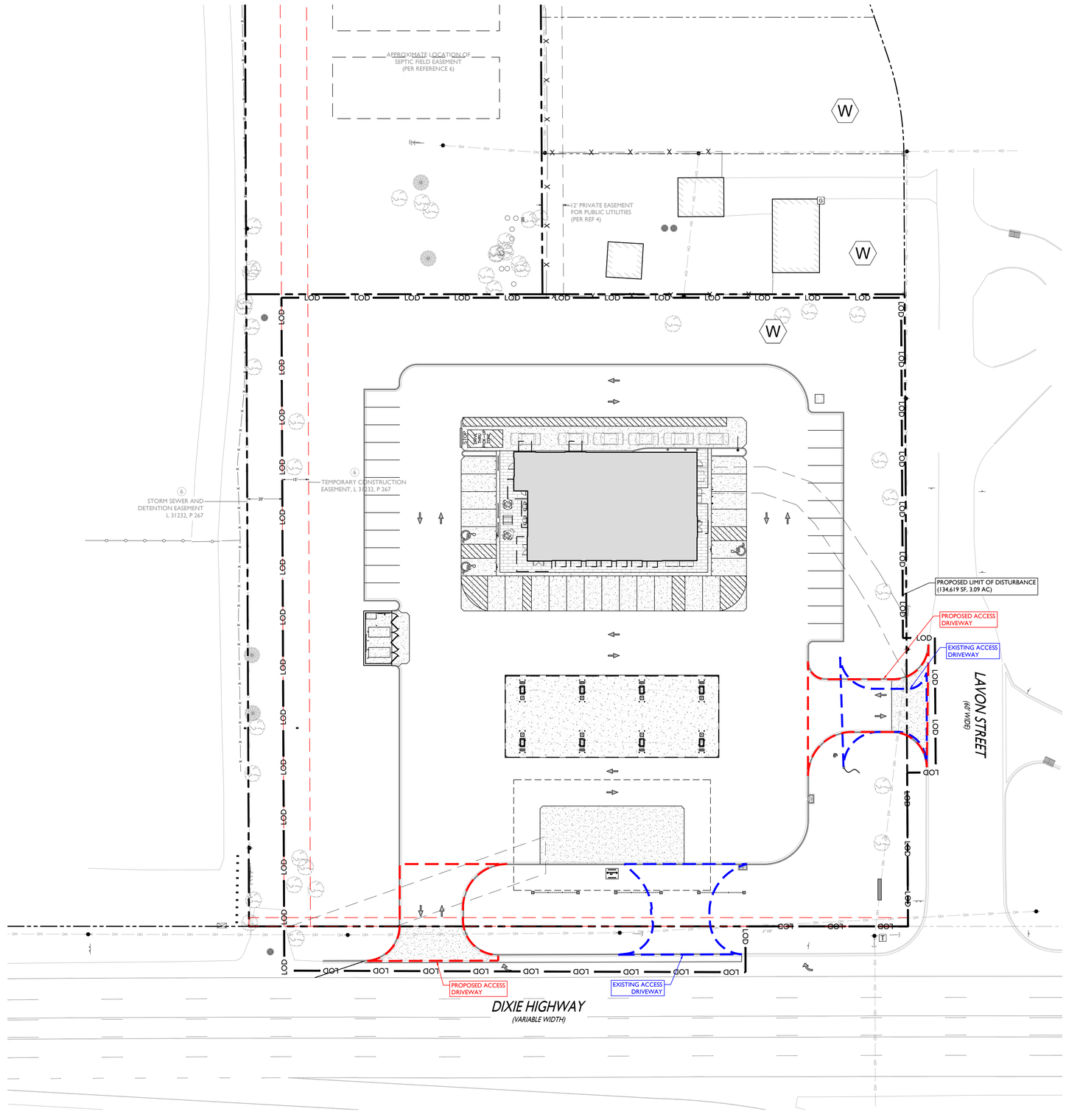
STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE: SITE PLAN

DRAWING: C-2.0

V:\DET\2025\DET-250399 (MUKLN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI)\CAD\PLOT\SP-2.0-2.3.DWG



SYMBOL	DESCRIPTION
	PROPERTY LINE
LOD	PROPOSED LIMIT OF DISTURBANCE
	EXISTING ACCESS DRIVEWAY
	PROPOSED ACCESS DRIVEWAY

30' 0' 30' 60'

GRAPHIC SCALE IN FEET
1" = 30'

ISSUE	DATE	BY	DESCRIPTION
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2	05/07/2026	KH	PRELIMINARY SITE
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SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION,
CONVENIENCE STORE, FAST FOOD
RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

JONATHAN REED COOLSEY
ENGINEER
No. 6201060426
STATE OF MICHIGAN
LICENSED PROFESSIONAL ENGINEER

STONEFIELD engineering & design

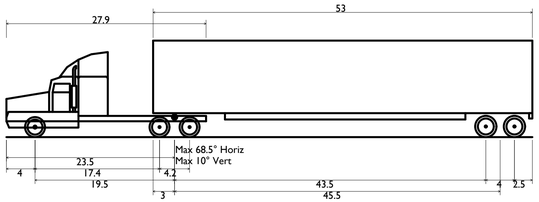
SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE:
SITE PLAN

DRAWING:
C-2.1

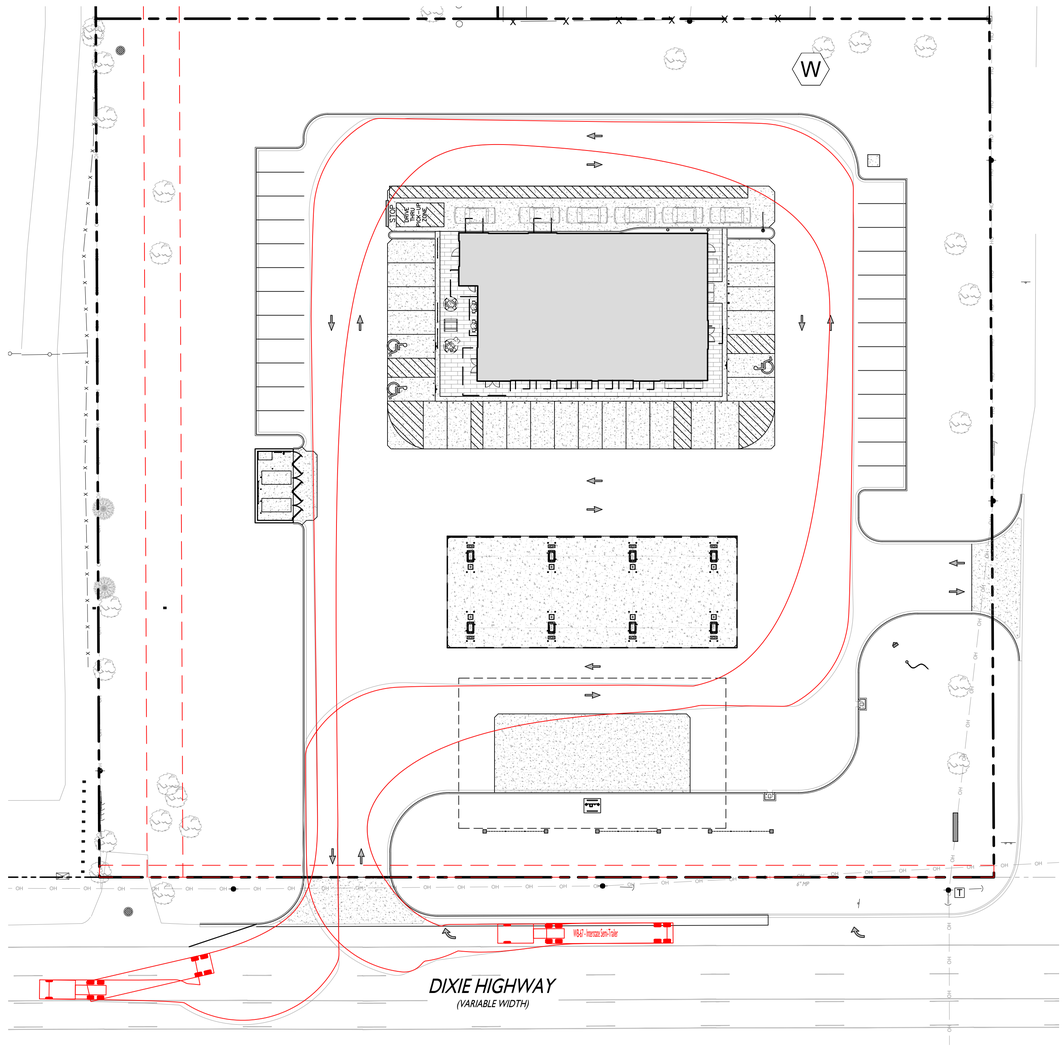
V:\DET\2025\DET-250399 BRAUN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI\CAD\PLOT\DP-2-2.2.1 SITE.DWG

FUELING / LOADING TRUCK ROUTE

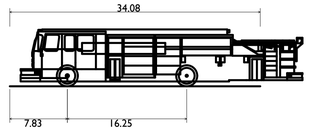


WB-67 - Interstate Semi-Trailer

Overall Length	73.501ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	28.40°

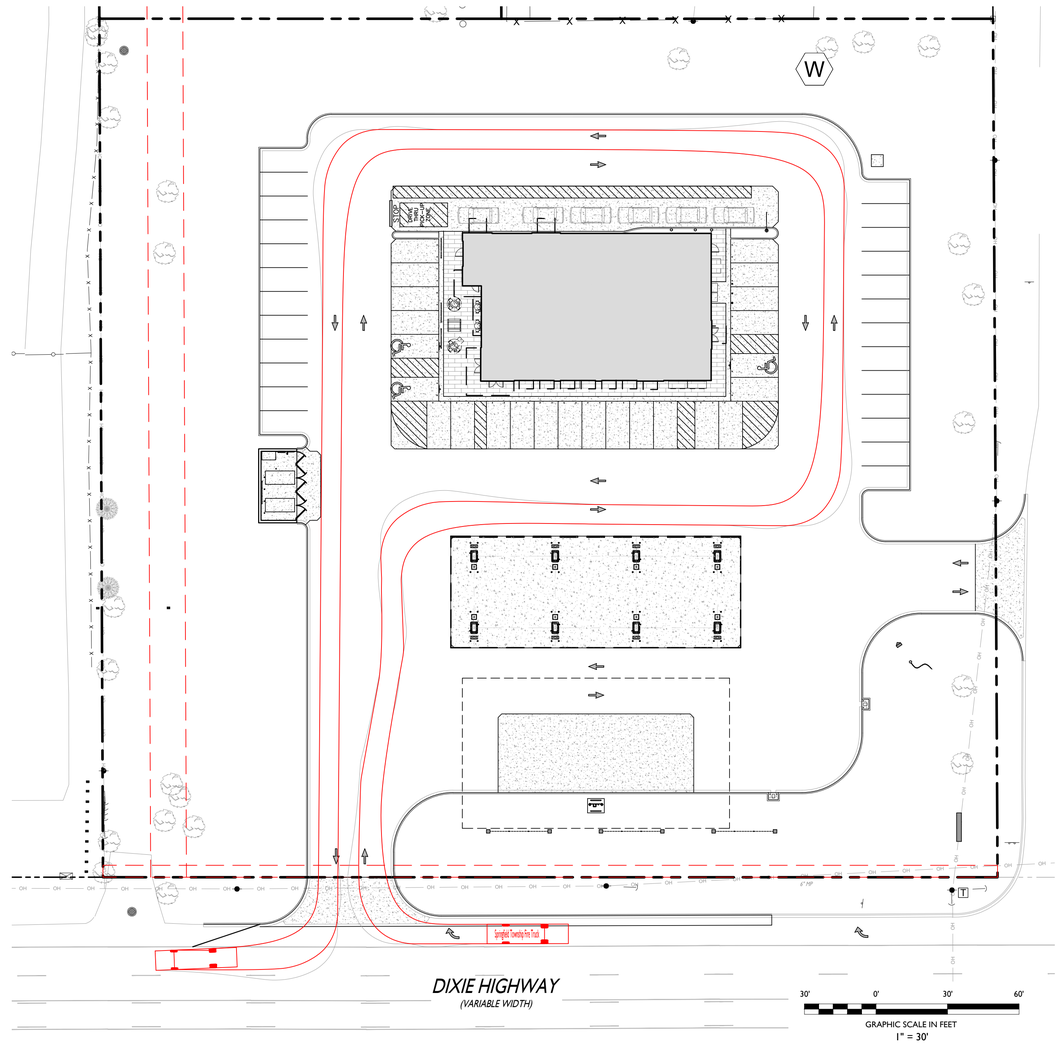


FIRE TRUCK ROUTE



Springfield Township Fire Truck (Sutphen 2011 Pumper)

Overall Length	34.080ft
Overall Width	8.167ft
Overall Body Height	7.745ft
Min Body Ground Clearance	0.656ft
Track Width	8.167ft
Lock-to-lock time	5.00s
Max Wheel Angle	42.00°



ISSUE	DATE	BY	DESCRIPTION
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SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION,
CONVENIENCE STORE, FAST FOOD
RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN
JONATHAN REID COCKBEY
ENGINEER
No. 6201060426
LICENSED PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE: TRUCK TURNING PLAN

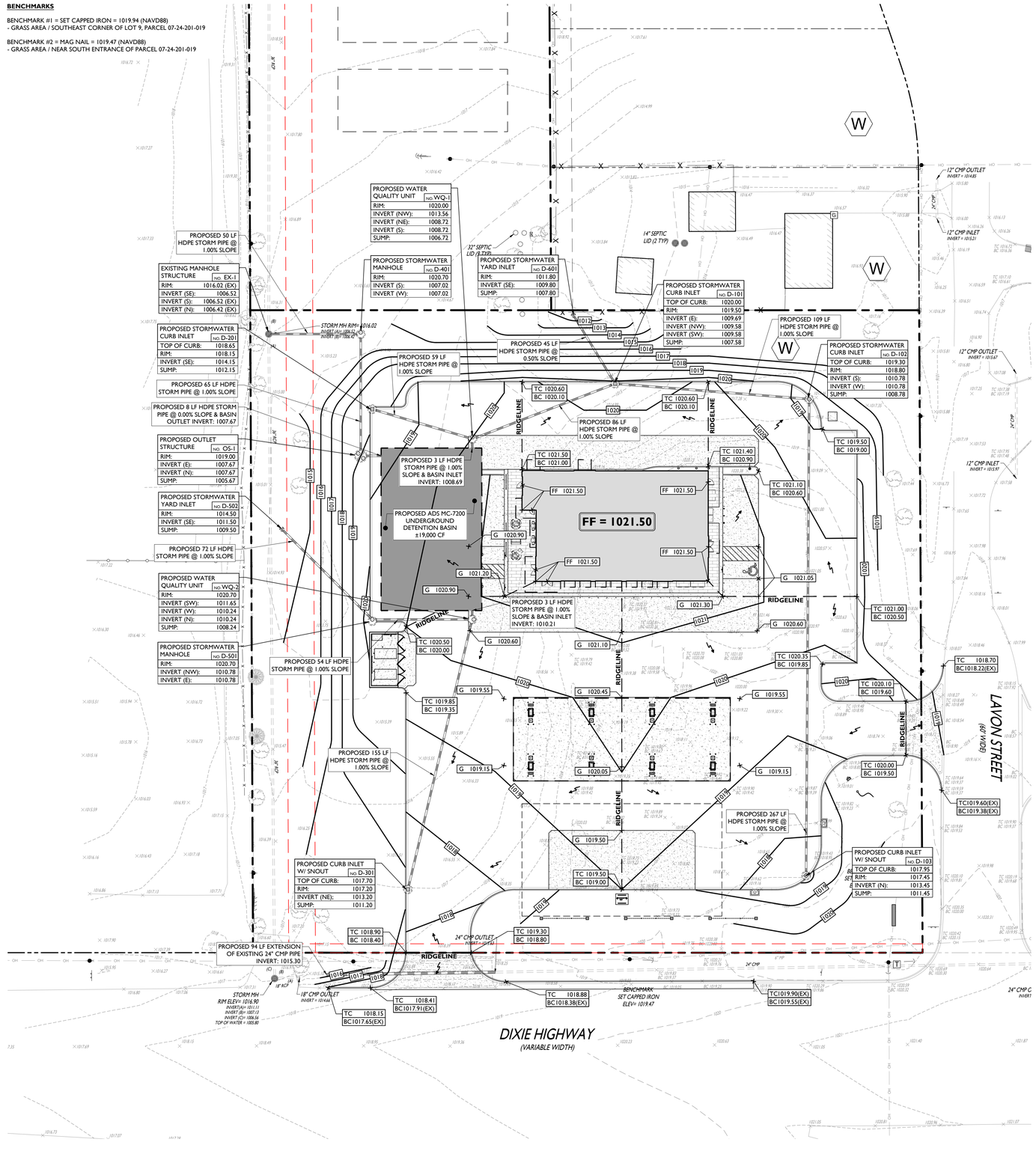
DRAWING: C-2.2

V:\DET\2025\DET-250399 (AVALON GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI)\CAD\SITE\TSP-1.0-2.3.DWG

BENCHMARKS

BENCHMARK #1 = SET CAPPED IRON = 1019.94 (NAVD88)
- GRASS AREA / SOUTHEAST CORNER OF LOT 9, PARCEL 07-24-201-019

BENCHMARK #2 = MAG NAIL = 1019.47 (NAVD88)
- GRASS AREA / NEAR SOUTH ENTRANCE OF PARCEL 07-24-201-019



STORMWATER MANAGEMENT CALCULATIONS

Based on Oakland County Stormwater Management Regulations (Updated as of 04/07/2025)

Project: SG - Springfield | Designer: JD | Date: 06/03/26

Determination of Surface Runoff

Landcover		Area (AC)	Area (SF)		C-Value*		Weighted Value
Building / Pavement		1.71	74,492	x	0.90	=	67,043
Landscaped Areas	HSG 'C'	1.39	60,430	x	0.35	=	21,151
Subtotals		3.10	134,922				88,193

Composite C Value, C: 0.65

$I = 30.209^{0.22} / (9.17+T)^{0.81}$ — Average Rainfall Intensity, I: 2.76 IN/HR

T_c, Time of Concentration:
- Residencial Developments over 5 acres - 20 min
- Commercial or Industrial Developments over 5 acres - 15 min
- Any Development under 5 acres - 10 min

Design Storm Period, P: 1 YEARS

Time of Concentration, Tc: 10.0 MINS

PART D: Channel Protection Volume Control

$V_{CPv} = 3,630 * 1.00 * C * A$ — Required CPVC Volume, V_{CP-R}: 9,501 CF

Provided CPVC Volume, V_{CP-P}: 0.00 CF

Is High Ground Water Present On-Site? No

Is Infiltration >0.24 in/hr Available On-Site? No — Infiltration is Waived

CPVC is not provided as site soils are not suitable for infiltration.

PART E: Water Quality Control

$V_{WQ} = 3,630 * C * A$ — Water Quality Volume, V_{WQ}: 7,308 CF

$Q_{WQ} = C * A * (10.20 / (Tc + 9.13)^{0.61})$ — Water Quality Rate, Q_{WQ}: 5.56 CFS

Is a Forebay Proposed On-Site? No — Water Quality Unit provided
See Specifications in Site Development Plans

PART F: Channel Protection Rate Control: Extended Detention

$V_{ED} = 6,897 * C * A$ — Extended Detention Volume, V_{ED}: 13,886 CF

PART G: Detention & Flood Control Facilities

$Q_{100YR} = C * I_{100} * A$ — 100-yr Post-Development Peak Inflow Rate, Q_{100YR}: 15.33 CFS

$I_{100} = 82.3 / [(Tc + 9.13) ^ (0.81)]$ — 100-yr Rainfall Intensity, I_{100}: 7.62 in/hr

$Q_{REL} = 1.1055 - 0.206*LN(A)$ — Variable Release Rate, Q_{REL}: 0.87 CFS/ac
*Allowable Peak Release Rate Not to Exceed: 1) Restricted Rate for the Drain, or 2) The pro-rated Share of the Drain's Capacity, or 3) Q_{100} (max 1.0 CFS/ac)

$Q_{100R} = Q_{REL} * A$ — 100-YR Release Rate, Q_{100R}: 2.70 CFS

$R = 0.206 - 0.15 * LN (Q_{100R} / Q_{100UN})$ — Storage Curve Factor, R: 0.47 CFS

$V_{100R} = V_{100R} * R - V_{CPv}$ — Post Development 100-yr Runoff Volume, V_{100RU}: 38,222 CF

$V_{100RD} = V_{100R} * R - V_{CPv}$ — 100-yr Detention Volume, V_{100RD}: 17,829 CF

SYMBOL / DESCRIPTION

- PROPERTY LINE
- 100 — PROPOSED GRADING CONTOUR
- RIDGELINE — PROPOSED GRADING RIDGELINE
- PROPOSED DIRECTION OF DRAINAGE FLOW
- G 100.00 — PROPOSED GRADE SPOT SHOT
- TC 100.50 / BC 100.00 — PROPOSED TOP OF CURB / BOTTOM OF CURB SPOT SHOT
- FF 100.00 — PROPOSED FINISH FLOOR SPOT SHOT
- PROPOSED STORMWATER STRUCTURES
- PROPOSED STORMWATER PIPING
- PROPOSED UNDERGROUND OUTLET STRUCTURE

GRADING NOTES

1. ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.
2. THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
4. THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.
5. MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:
   - CURB GUTTER: 0.50%
   - CONCRETE SURFACES: 1.00%
   - ASPHALT SURFACES: 1.00%
6. A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET.
7. FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

DRAINAGE AND UTILITY NOTES

1. 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. THE 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

1. 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.
4. 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 DISPOSAL.

STORMWATER UNDERGROUND BMP CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL INSTALL AND BACKFILL THE UNDERGROUND BMP IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. UNDERGROUND BASINS SHALL UTILIZE A STONE BACKFILL WITH A MINIMUM VOID RATIO OF 40%.
3. NO CONSTRUCTION LOADING OVER UNDERGROUND BASINS IS PERMITTED UNTIL BACKFILL IS COMPLETE PER THE MANUFACTURER'S SPECIFICATIONS. NO VEHICLES SHALL BE STAGED OR OPERATE FROM A FIXED POSITION OVER THE BASIN.

ADA NOTES

1. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
2. THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
4. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
5. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
6. ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
7. A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.
8. THE CONTRACTOR SHALL ENSURE A MAXIMUM OF ¼ INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN ¼ INCHES AND ½ INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP ¼ INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1 UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
9. THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN ½ INCH.

30' 0' 30' 60'
GRAPHIC SCALE IN FEET
1" = 30'

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

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SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
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OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN — JONATHAN REED GOOSBEY — ENGINEER — No. 6201060629 — PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE: GRADING & STORMWATER MANAGEMENT PLAN

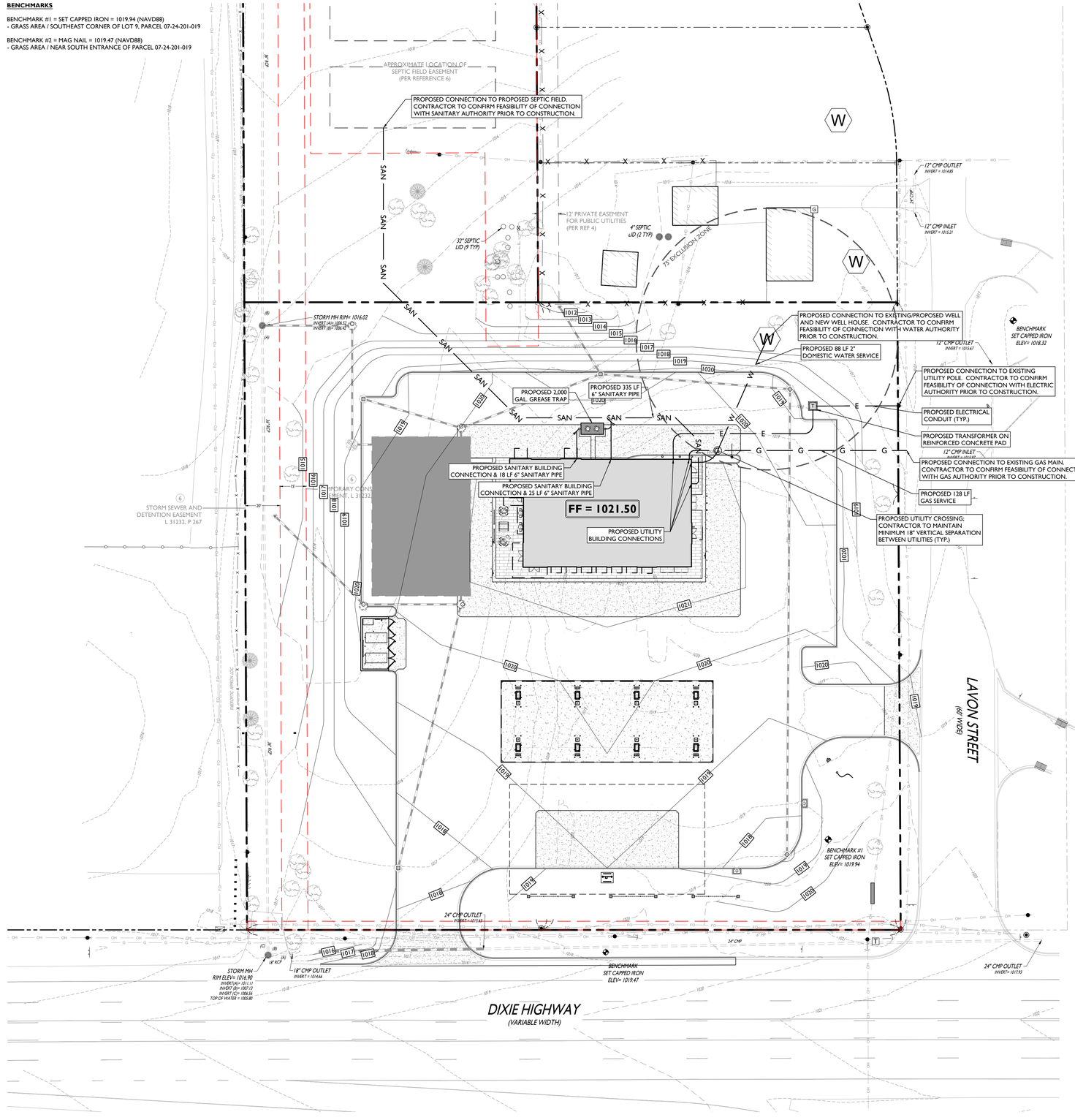
DRAWING: C-3.0

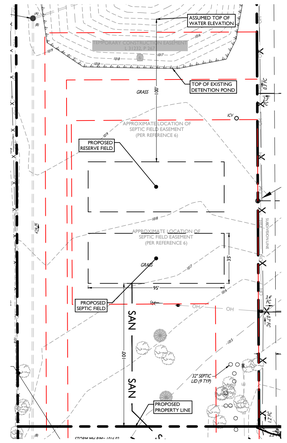
V:\DET\2025\DET-250399 (SHEETZ) GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI\CAD\PLOT\PTB\SP-3.0 GRADING.DWG

BENCHMARKS

BENCHMARK #1 = SET CAPPED IRON = 1019.94 (NAVD88)
- GRASS AREA / SOUTHEAST CORNER OF LOT 9, PARCEL 07-24-201-019

BENCHMARK #2 = MAG NAIL = 1019.47 (NAVD88)
- GRASS AREA / NEAR SOUTH ENTRANCE OF PARCEL 07-24-201-019





SEPTIC FIELD INSET

50' 0' 50' 100'

GRAPHIC SCALE IN FEET
1" = 50'

KNOX BOX TO BE PROVIDED. LOCATION TO BE APPROVED BY FIRE DEPARTMENT

SYMBOL	DESCRIPTION
	PROPERTY LINE
SAN	PROPOSED SANITARY LATERAL
W	PROPOSED DOMESTIC WATER SERVICE
E	PROPOSED ELECTRIC CONDUIT
G	PROPOSED GAS LINE
S	PROPOSED SANITARY MANHOLE / CLEANOUT
T	PROPOSED TRANSFORMER ON CONCRETE PAD

DRAINAGE AND UTILITY NOTES

1. 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.
2. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED.
3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF THE PROPOSED WORK DURING CONSTRUCTION.
4. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
5. ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18 INCHES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
6. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING.
7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRIC AND TELECOMMUNICATION CONNECTIONS WITH THE APPROPRIATE GOVERNING AUTHORITY.
8. CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY SEWER AT THE LOWEST INVERT AND WORK UP-GRADIENT.
9. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.
10. 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.

30' 0' 30' 60'

GRAPHIC SCALE IN FEET
1" = 30'

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

STONEFIELD engineering & design
Birmingham, MI · New York, NY · Salem, MA
Princeton, NJ · Tampa, FL · Rutherford, NJ
www.stonefieldeng.com
555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN
JONATHAN FRED GOODSEY
SWINNER
6201060426
REGISTERED PROFESSIONAL ENGINEER

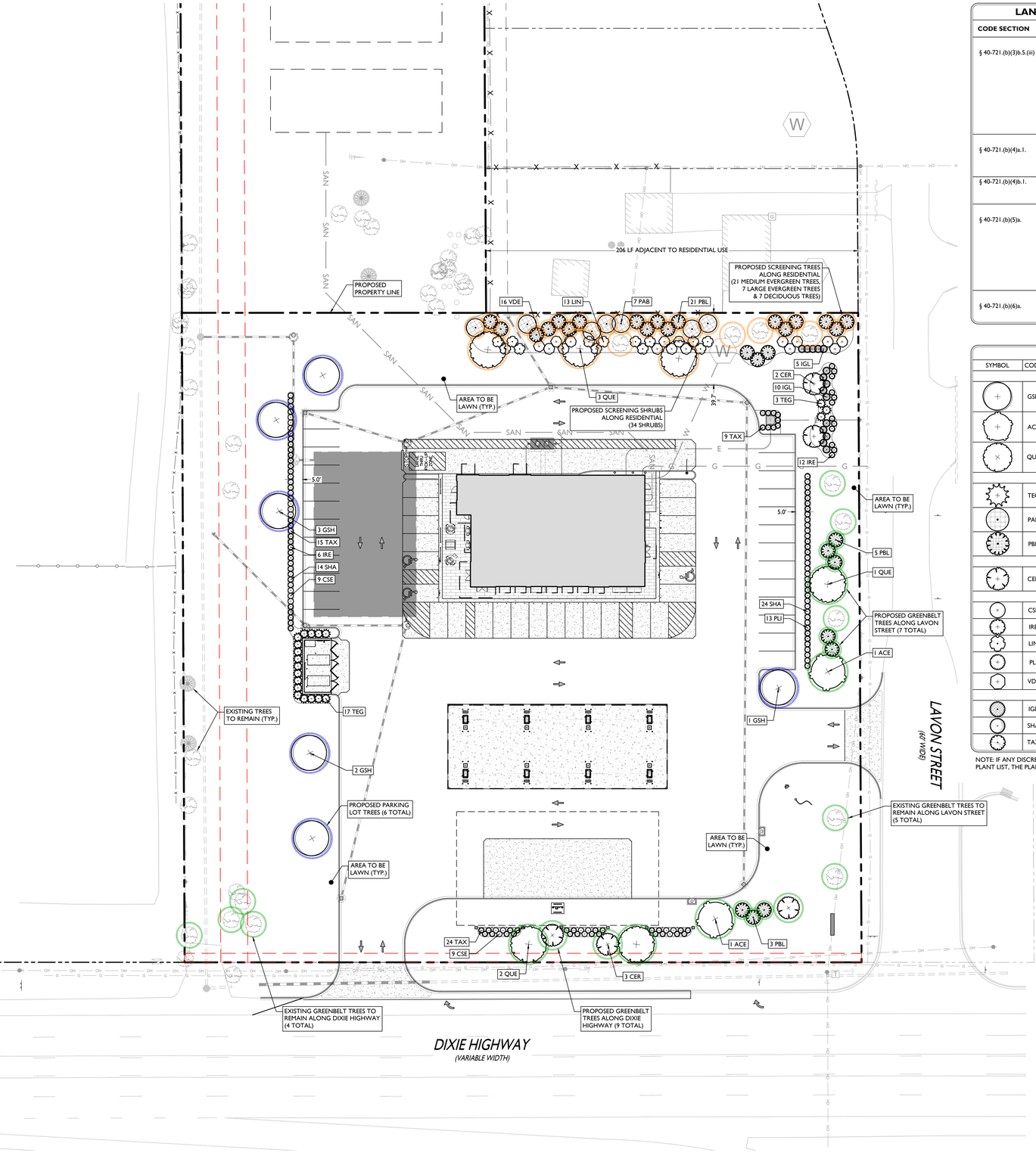
STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE: UTILITY PLAN

DRAWING: C-4.0

V:\DET\2025\DET-250399 (SOLKEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI)\ACAD\PLOTS\DP-4 SUTILITY.DWG



LANDSCAPING AND SCREENING REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
§ 40-721.(b)(3)b.5.(iii)	SCREENING NO. 3 REQUIREMENTS	
	MINIMUM WIDTH: 30 FT	39.7 FT
	1 MEDIUM EVERGREEN TREE PER 10 LF	
	1 LARGE EVERGREEN TREE, 1 DECIDUOUS TREE, AND 5 SHRUBS PER 30 LF	
	(206 FT) * (1 TREE / 10 FT) = 21 MEDIUM EVERGREEN TREES	21 TREES
	(206 FT) * (1 TREE / 30 FT) = 7 LARGE EVERGREEN TREES	7 TREES
	(206 FT) * (1 TREE / 30 FT) = 7 DECIDUOUS TREES	4 EXISTING TREES 2 PROPOSED TREES
	(206 FT) * (5 SHRUBS / 30 FT) = 34 SHRUBS	34 SHRUBS
§ 40-721.(b)(4)a.1.	PARKING LOT TREES	
	1 TREE FOR EVERY 8 PARKING SPACES	
	(49 SPACES) * (1 TREE / 8 SPACES) = 6 TREES	6 TREES
	MINIMUM AREA: 150 SF	COMPLIES
§ 40-721.(b)(4)b.1.	PERIMETER PARKING LOT LANDSCAPING	
	LANDSCAPING, BERMING, OR SOLID WALL REQUIRED TO SCREEN PARKING FROM PUBLIC ROADS	COMPLIES
§ 40-721.(b)(5)a.	GREENBELTS	
	MINIMUM WIDTH: FRONT YARD SETBACK	COMPLIES
	1 TREE PER 30 LF	
	DIXIE HIGHWAY: 375 FT	
	(375 FT) * (1 TREE / 30 FT) = 13 TREES	4 EXISTING TREES 9 PROPOSED TREES
	LAVON STREET: 360 FT	
	(360 FT) * (1 TREE / 30 FT) = 12 TREES	5 EXISTING TREES 7 PROPOSED TREES
§ 40-721.(b)(6)a.	SITE LANDSCAPING	
	MINIMUM SITE LANDSCAPING: 10%	
	(134,938 SF) * (0.10) = 13,494 SF	19,482 SF (14.4%)

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
DECIDUOUS TREES						
	GSH	6	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	2" - 2.5" CAL	B&B
	ACE	2	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2" - 2.5" CAL	B&B
	QUE	6	QUERCUS PALUSTRIS	PINK OAK	2" - 2.5" CAL	B&B
EVERGREEN TREES						
	TEG	20	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	6' - 8' HT	B&B
	PAB	7	PICEA ABIES	NORWAY SPRUCE	6' - 8' HT	B&B
	PBL	29	PICEA GLAUCA DENSATA	BLACK HILLS SPRUCE	6' - 8' HT	B&B
ORNAMENTAL TREES (SINGLE-STEM)						
	CER	5	CERCIS CANADENSIS	EASTERN REDBUD	1.5" - 2" CAL	B&B
SHRUBS						
	CSE	18	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED TWIG DOGWOOD	18" - 24" HT	POT
	IRE	18	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	18" - 24" HT	POT
	LIN	13	LINDERA BENZOIN	SPICEBUSH	24" - 30" HT	POT
	PLI	13	PHYSOCARPUS OPULIFOLIUS 'LITTLE DEVIL'	LITTLE DEVIL DWARF NINEBARK	18" - 24" HT	POT
	VDE	16	VIBURNUM DENTATUM	VIBURNUM	24" - 30" HT	POT
EVERGREEN SHRUBS						
	IGL	15	ILEX GLABRA	INKBERRY HOLLY	24" - 30" HT	POT
	SHA	38	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	18" - 24" HT	POT
	TAX	48	TAXUS X MEDIA 'DENSIFORMIS'	DENSE ANGLO-JAPANESE YEW	18" - 24" HT	POT

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE LANDSCAPE PLAN AND WITHIN THE PLANT LIST, THE PLAN SHALL DICTATE.

SYMBOL	DESCRIPTION
	PROPOSED SCREENING TREES
	PROPOSED PARKING LOT TREES
	PROPOSED GREENBELT TREES

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

LANDSCAPING NOTES

1. 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 AREAS.

30' 0' 30' 60'
GRAPHIC SCALE IN FEET
1" = 30'

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
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NOT APPROVED FOR CONSTRUCTION

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SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN
JONATHAN FRED GOONSEY
ENGINEER
No. 6201046426
REGISTERED PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 30' PROJECT ID: DET-250399

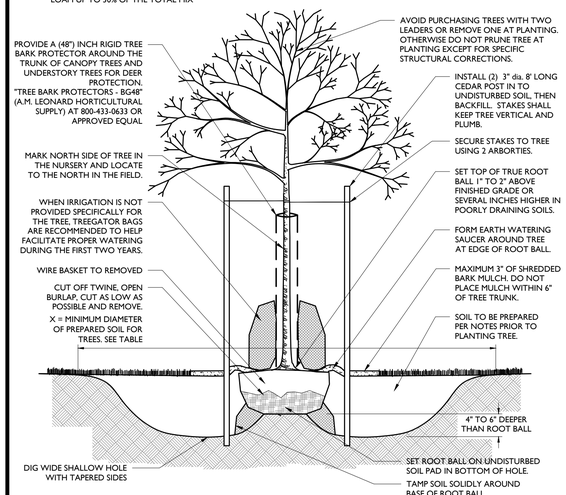
TITLE:
LANDSCAPING PLAN

DRAWING:
C-5.0

V:\DET\2025\DET-250399 SHEATZ GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI\CAD\PLOT\SDP\C-5.0 LANDSCAPING.DWG

NOTES:

1. FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
2. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
3. SOIL AMENDMENTS:
   - 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 SOILDS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX



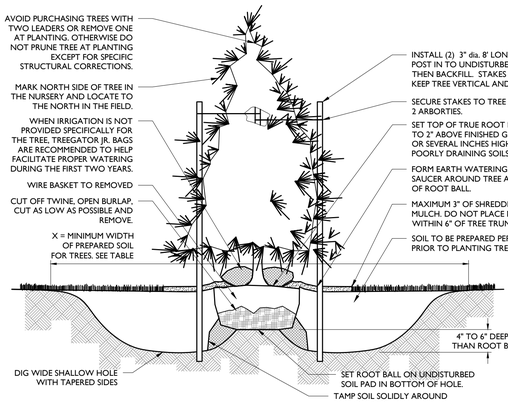
DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

1

NOTES:

1. FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
2. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
3. SOIL AMENDMENTS:
   - 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 SOILDS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX

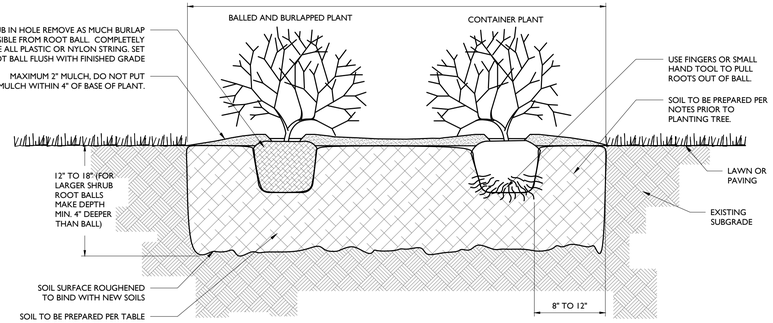


CONIFEROUS TREE PLANTING DETAIL

NOT TO SCALE

2

PREPARE SOIL IN THE ENTIRE BED USING PROCEDURES OUTLINED IN TABLE (X)



NOTES:

1. FOR CONTAINER-GROWN SHRUBS, USE FINGERS OR SMALL HAND TOOL TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
2. THOROUGHLY SOAK THE SHRUB ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
   - 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% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL

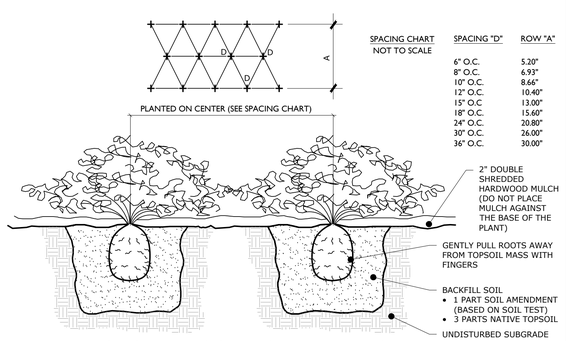
DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL

NOT TO SCALE

3

NOTES:

1. THOROUGHLY SOAK THE GROUND COVER ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
2. SOIL AMENDMENTS:
   - MODIFY HEAVY CLAY OR SILT SOILDS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
   - MODIFY EXTREMELY SANDY SOILDS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX
3. ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT PER MANUFACTURER'S SPECIFICATIONS



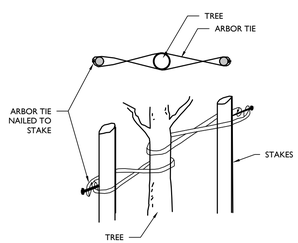
SPACING CHART
NOT TO SCALE

SPACING "D"	ROW "A"
6" O.C.	5.20"
8" O.C.	6.93"
10" O.C.	8.66"
12" O.C.	10.40"
15" O.C.	13.00"
18" O.C.	15.60"
24" O.C.	20.80"
30" O.C.	26.00"
36" O.C.	30.00"

GROUND COVER/PERENNIAL/ANNUAL PLANTING DETAIL

NOT TO SCALE

4



INSTALLATION GUIDELINES:

1. LOOP TIE AROUND TREE AND NAIL TO CEDAR STAKE.
2. REMOVE ALL STAKING AND TIES AT END OF FIRST GROWING SEASON.
3. FOLD ENDS OF ARBORTIE BACK. SECURE TO STAKES WITH 1" GALVANIZED ROOFING NAIL OR USE A KNOT.
4. CONSULT LANDSCAPE ARCHITECT FOR STAKING OF TREES LARGER THAN 6".
5. SOURCES INCLUDE:
   GEMPLERS 1-800-332-6744 or GEMPLERS.COM
   CSP OUTDOORS 1-800-592-6940 or CSPOUTDOORS.COM

ARBORTIE DETAIL

NOT TO SCALE

5

GENERAL LANDSCAPING NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH THESE 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.
2. 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 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:

1. 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. NO 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 ACTIVITIES HAVE BEEN COMPLETED.
2. 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 FIXTURES 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, THESE 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:

1. 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 FOLLOWS:
   - 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.
3. 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 WEIGHT.
5. OBTAIN TOPSOIL ONLY FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT THE PROJECT SITE.
6. 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.
7. 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.
8. LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE SUB-GRADE ELEVATION MEETS THE FINISHED GRADE ELEVATION (LESS THE REQUIRED 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 PROJECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL.
10. 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 WATER.
11. 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 CLODS OR 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.

HEALTHY START MACRO TABS 12-8-8

- 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 1 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

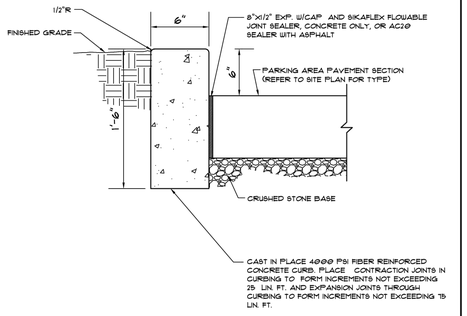
TABLE NOTES:
1. AT EACH IRRIGATION, APPLY TWO TO THREE GALLONS PER INCH TRUNK CALIPER TO THE ROOT BALL SURFACE. APPLY IT IN A MANNER SO ALL WATER SOAKS THE ENTIRE ROOT BALL. DO NOT WATER IF ROOT BALL IS WET/SATURATED ON THE IRRIGATION DAY.

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:

1. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004) OR LATEST 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 (1-1/4") WHICH HAVE NOT COMPLETELY CALLOUSED SHALL BE REJECTED.
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 INJURY TO THE PLANTS. CLOSED VEHICLES SHALL BE ADEQUATELY VENTILATED TO PREVENT OVERHEATING OF THE PLANTS. EVIDENCE OF INADEQUATE PROTECTION FOLLOWING DIGGING, CARELESSNESS WHILE IN TRANSIT 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.
9. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE CORRESPONDING LANDSCAPE PLAN AND PLANTING DETAILS.
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 TIMES AND COVERED WITH MOISTENED MULCH OR ADDED WOODCHIPS. PROPER IRRIGATION SHALL BE SUPPLIED SO AS TO NOT ALLOW THE ROOT BALL TO DRY OUT. PLANTINGS SHALL 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.
11. 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 INJURED 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 AGENCY.
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 TRAN



SITE AND STORE PERIMETER CURBING
SCALE: NO SCALE

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	SITE AND STORE PERIMETER CURBING	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 03

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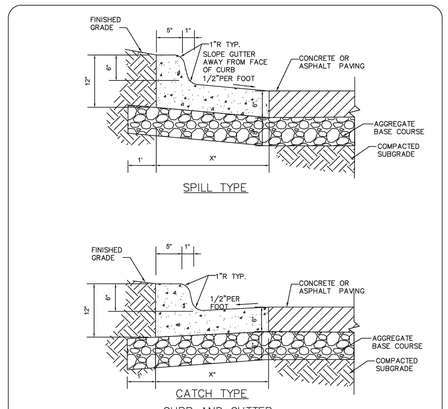

CURB AND GUTTER
SCALE: NO SCALE

NOTE:
- *ADJUST WIDTH PER LOCAL JURISDICTIONAL REQUIREMENTS (1.5' MIN).
- CONTRACTION JOINTS TO BE PLACED 10'O.C.
- EXPANSION JOINTS TO BE PLACED 75' O.C.
- 1/4" PRE-MOLDED BITUMINOUS EXPANSION JOINT WHEN ADJACENT TO CONCRETE PAVING
- CONCRETE SHALL BE 4,000 PSI FIBER MESH CONCRETE UNLESS OTHERWISE REQUIRED BY LOCAL JURISDICTION.
- AT CONTRACTOR OPTION, GUTTER THICKNESS MAY BE INCREASED AT END OF GUTTER TO MATCH THICKNESS OF ASPHALT/CONCRETE PAVING SECTION
- GUTTER PAN SLOPE TO BE ADJUSTED WITHIN ACCESSIBLE PARKING SPACES TO MATCH SLOPE BETWEEN SPOT ELEVATIONS.

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	CURB AND GUTTER DETAIL	SCALE: DATE: 03/10/2026 DRAWN BY: SJL/DLK 15

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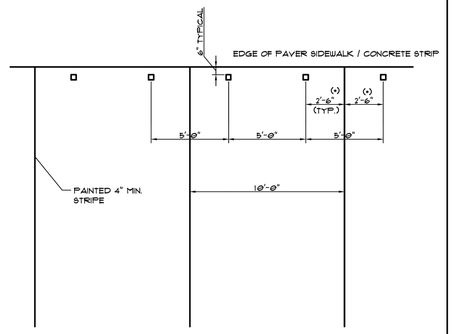

BUMPER POST DETAIL
SCALE: NO SCALE

• 2'-3" FOR 9.5' WIDE PARKING SPACE
2'-0" FOR 9.0' WIDE PARKING SPACE

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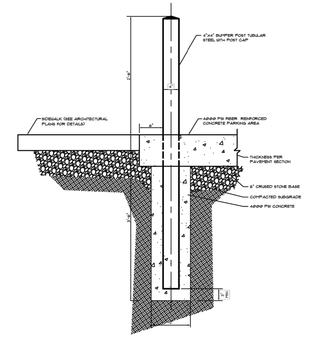
DATE | BY | DESCRIPTION REVISIONS	SHEETZ	BUMPERPOST LAYOUT DETAIL AT PAVER SIDEWALK	SCALE: DATE: 4/7/2026 DRAWN BY: DAH 08

3



STOREFRONT BUMPER POST FLUSH SIDEWALK
SCALE: NO SCALE

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	STOREFRONT BUMPER POST DETAIL (MICHIGAN ONLY)	SCALE: DATE: 2/2/2024 DRAWN BY: DAH 51

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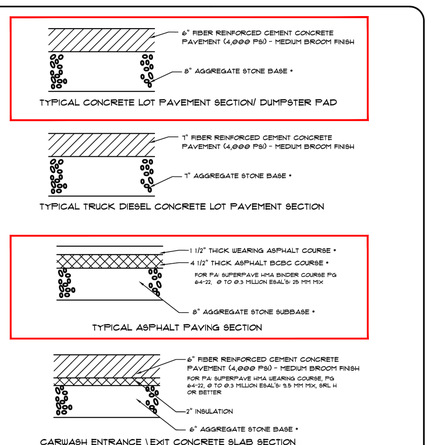

* PROPOSED MDOT 21AA STONE

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	SITE PAVEMENT DETAILS	SCALE: DATE: 12/12/2023 DRAWN BY: DAH 20

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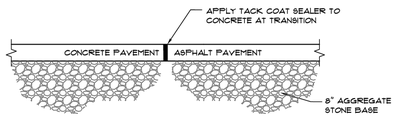
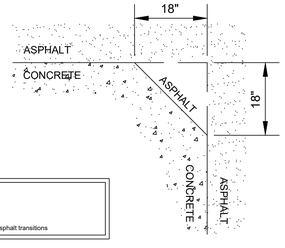


CONCRETE / ASPHALT PAVEMENT TRANSITION DETAIL
N.T.S.

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	ASPHALT PAVING DETAILS	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 27

6



CONCRETE / ASPHALT chamfer
SCALE: NO SCALE

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	CONCRETE/ASPHALT CHAMFER DETAIL	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 28

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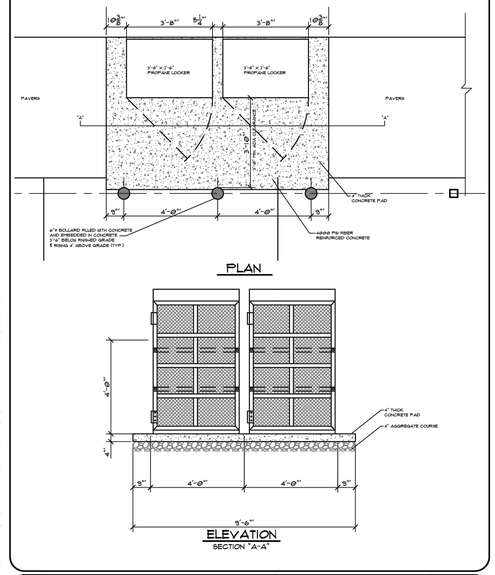

PLAN

ELEVATION
SECTION "A-A"

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	PROPANE LOCKER (AT BUILDING) (MICHIGAN ONLY)	SCALE: DATE: 2/2/2024 DRAWN BY: DAH 54

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8

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

STONEFIELD engineering & design
Birmingham, MI • New York, NY - Salem, MA
Princeton, NJ - Tampa, FL - Rutherford, NJ
www.stonefieldeng.com
555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

JONATHAN REID COONSEY — STATE OF MICHIGAN — No. 6201060426 — REGISTERED PROFESSIONAL ENGINEER

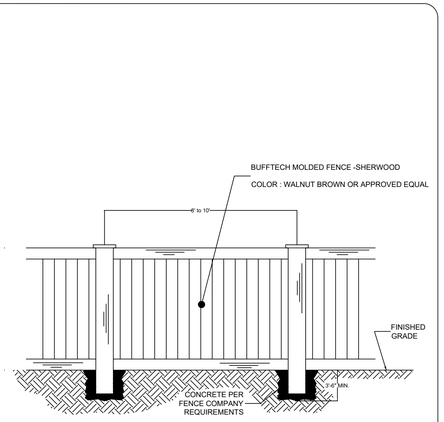
STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

TITLE: CONSTRUCTION DETAILS

DRAWING: C-6.0

V:\DET\2025\DET-250399 SOLIDEX GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP\PLANS\CAD\PLOTTER\DET-250399 A1x3 DETAIL.DWG



VINYL BOARD ON BOARD FENCE
SCALE: N.T.S.

DATE BY DESCRIPTION REVISIONS	SHEETZ	PRIVACY FENCE DETAIL (MICHIGAN ONLY)	SCALE: DATE: 2/2/2024 DRAWN BY: DAH 57

1

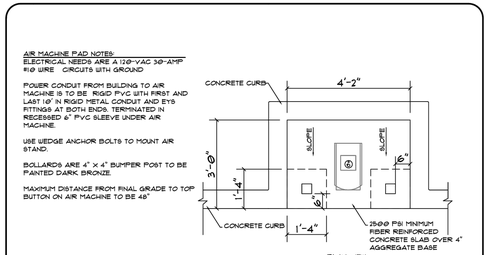
AIR MACHINE PAD NOTES:
ELECTRICAL NEEDS ARE A 120-VAC 30-AMP #10 WIRE CIRCUITS WITH GROUND

POWER CONDUIT FROM BUILDING TO AIR MACHINE IS TO BE RIGID PVC WITH FIRST AND LAST 10' IN RIGID METAL CONDUIT AND EYS FITTINGS AT BOTH ENDS. TERMINATED IN RECESSED 6" PVC SLEEVE UNDER AIR MACHINE.

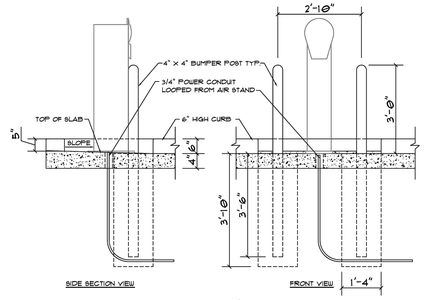
USE WEDGE ANCHOR BOLTS TO MOUNT AIR STAND.

BOLLARDS ARE 4" X 4" BUMPER POST TO BE PAINTED DARK BRONZE.

MAXIMUM DISTANCE FROM FINAL GRADE TO TOP BUTTON ON AIR MACHINE TO BE 48"



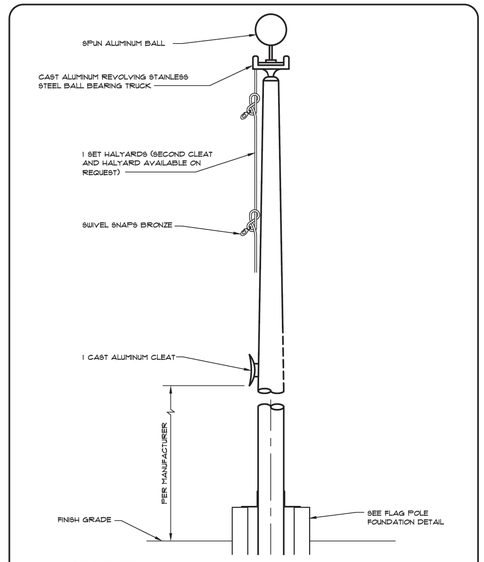
PLAN VIEW



AIR MACHINE PAD
SCALE: NO SCALE

DATE BY DESCRIPTION REVISIONS	SHEETZ	AIR MACHINE PAD DETAILS (MICHIGAN ONLY)	SCALE: DATE: 2/2/2024 DRAWN BY: DAH 52

2

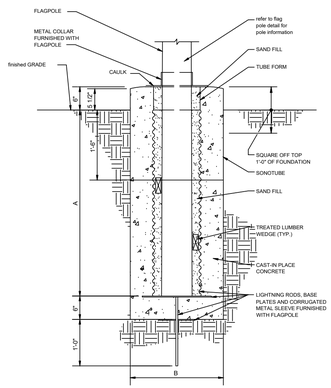


FLAGPOLE DETAIL
SCALE: NO SCALE

DATE BY DESCRIPTION REVISIONS	SHEETZ	FLAGPOLE DETAIL	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 11

3

LEGEND				
POLE HEIGHT	SLEEVE SIZE	A	B	COLLAR BASE SIZE
40'	12" DIA.	48"	24" DIA.	16" DIA.
35'	10" DIA.	42"	22" DIA.	12" DIA.



FLAGPOLE FOUNDATION
SCALE: NO SCALE

DATE BY DESCRIPTION REVISIONS	SHEETZ	FLAGPOLE FOUNDATION	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 12

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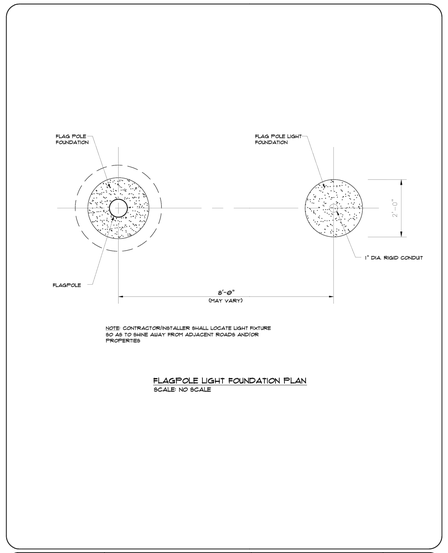
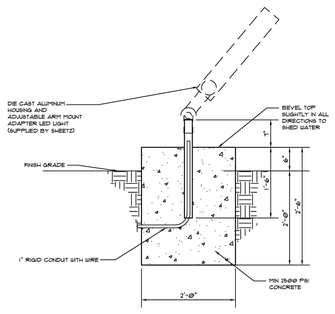


NOTE: CONTRACTOR/INSTALLER SHALL LOCATE LIGHT FIXTURE SO AS TO SHINE AWAY FROM ADJACENT ROADS AND/OR PROPERTIES

FLAGPOLE LIGHT FOUNDATION PLAN
SCALE: NO SCALE

DATE BY DESCRIPTION REVISIONS	SHEETZ	FLAGPOLE AND LIGHT FOUNDATION LAYOUT PLAN	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 14

5

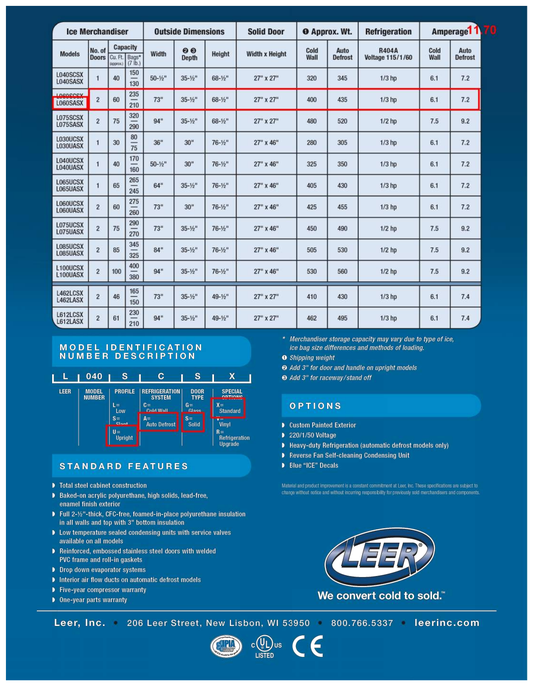


FLAGPOLE LIGHT FOUNDATION
SCALE: NO SCALE

DATE BY DESCRIPTION REVISIONS	SHEETZ	FLAGPOLE LIGHT FOUNDATION	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 13

6





Ice Merchandiser			Outside Dimensions			Solid Door	❶ Approx. Wt.		Refrigeration	Amperage	
Models	No. of Doors	Capacity Cu. Ft. (approx.)	Width	❷ ❸ Depth	Height	Width x Height	Cold Wall	Auto Defrost	R404A Voltage 115/1/60	Cold Wall	Auto Defrost
L040SCSX L040SASX	1	40	150 130	50-½"	35-½"	68-½"	27" x 27"	320	345	1/3 hp	6.1	7.2
L060SCSX L060SASX	2	60	235 210	73"	35-½"	68-½"	27" x 27"	400	435	1/3 hp	6.1	7.2
L075SCSX L075SASX	2	75	320 290	94"	35-½"	68-½"	27" x 27"	490	520	1/2 hp	7.5	9.2
L030USCSX L030USASX	1	30	80 75	36"	30"	76-½"	27" x 46"	280	305	1/3 hp	6.1	7.2
L040USCSX L040USASX	1	40	170 160	50-½"	30"	76-½"	27" x 46"	325	350	1/3 hp	6.1	7.2
L065USCSX L065USASX	1	65	265 245	64"	35-½"	76-½"	27" x 46"	405	430	1/3 hp	6.1	7.2
L060USCSX L060USASX	2	60	275 260	73"	30"	76-½"	27" x 46"	425	455	1/3 hp	6.1	7.2
L075USCSX L075USASX	2	75	290 270	73"	35-½"	76-½"	27" x 46"	450	490	1/2 hp	7.5	9.2
L085USCSX L085USASX	2	85	345 325	84"	35-½"	76-½"	27" x 46"	505	530	1/2 hp	7.5	9.2
L100USCSX L100USASX	2	100	400 380	94"	35-½"	76-½"	27" x 46"	530	560	1/2 hp	7.5	9.2
L462LCSX L462LASX	2	46	165 150	73"	35-½"	49-½"	27" x 27"	410	430	1/3 hp	6.1	7.4
L612LCSX L612LASX	2	61	230 210	94"	35-½"	49-½"	27" x 27"	462	495	1/3 hp	6.1	7.4

11.70

MODEL IDENTIFICATION NUMBER DESCRIPTION

L | 040 | S | C | S | X

LEER | MODEL NUMBER | PROFILE: L = Low, S = Slant, U = Upright | REFRIGERATION SYSTEM: C = Cold Wall, A = Auto Defrost | DOOR TYPE: G = Glass, S = Solid | SPECIAL: X = Standard, V = Vinyl, R = Refrigeration Upgrade

STANDARD FEATURES

- Total steel cabinet construction
- Baked-on acrylic polyurethane, high solids, lead-free, enamel finish exterior
- Full 2-½"-thick, CFC-free, foamed-in-place polyurethane insulation in all walls and top with 3" bottom insulation
- Low temperature sealed condensing units with service valves available on all models
- Reinforced, embossed stainless steel doors with welded PVC frame and roll-in gaskets
- Drop down evaporator systems
- Interior air flow ducts on automatic defrost models
- Five-year compressor warranty
- One-year parts warranty

* Merchandiser storage capacity may vary due to type of ice, ice bag size differences and methods of loading.
❶ Shipping weight
❷ Add 3" for door and handle on upright models
❸ Add 3" for raceway/stand off

OPTIONS

- Custom Painted Exterior
- 220/1/50 Voltage
- Heavy-duty Refrigeration (automatic defrost models only)
- Reverse Fan Self-cleaning Condensing Unit
- Elkay "ICE" Decals

Material and product improvement is a constant commitment at Leer, Inc. These specifications are subject to change without notice and without incurring responsibility for previously sold merchandisers and components.

LEER — We convert cold to sold.™

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ICE BOX DETAIL
NOT TO SCALE

7

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

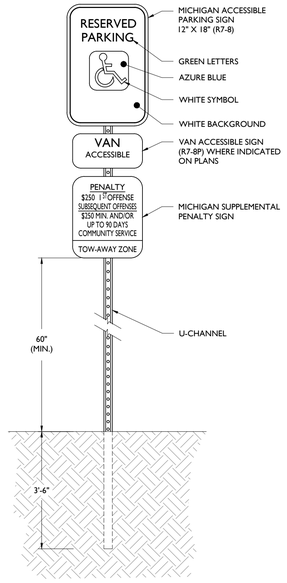
JONATHAN REID COONSEY 6201047426 STATE OF MICHIGAN REGISTERED PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

TITLE: CONSTRUCTION DETAILS

DRAWING: C-6.1

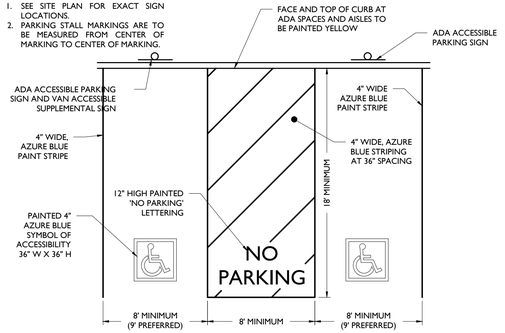


ACCESSIBLE PARKING SIGN DETAIL

NOT TO SCALE

1

NOTES:
1. SEE SITE PLAN FOR EXACT SIGN LOCATIONS.
2. PARKING STALL MARKINGS ARE TO BE MEASURED FROM CENTER OF MARKING TO CENTER OF MARKING.



ACCESSIBLE PARKING STALL MARKINGS

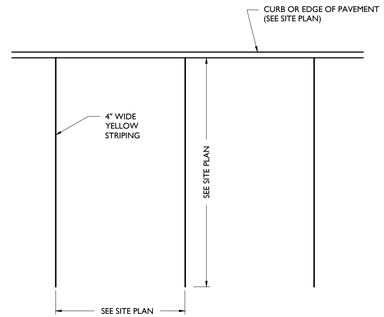
NOT TO SCALE

2

PAVEMENT STRIPING & MARKINGS NOTES:

1. ALL SIGNING AND STRIPING IN EXISTING CONDITION IN CONFLICT WITH THE PROPOSED DESIGN PLAN SHALL BE REMOVED.
2. ALL PROPOSED SIGNING AND STRIPING SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
3. PAVEMENT STRIPING AND MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS.
4. UNLESS OTHERWISE SPECIFIED, ALL STRIPING AND MARKINGS IN THE PUBLIC RIGHT-OF-WAY SHALL BE OF THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.
5. UNLESS OTHERWISE SPECIFIED, ON SITE PARKING STALL STRIPING, FIRE LANE STRIPING AND DIRECTIONAL ARROWS SHALL BE EPOXY PAINT. ON SITE STOP BARS, "DO NOT ENTER" BARS, AND ASSOCIATED LETTERING SHALL BE THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.

3



PARKING STALL MARKINGS

NOT TO SCALE

4

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION,
CONVENIENCE STORE, FAST FOOD
RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN



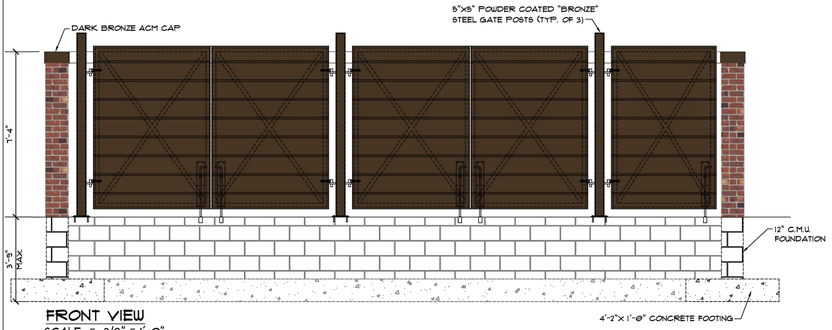
STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

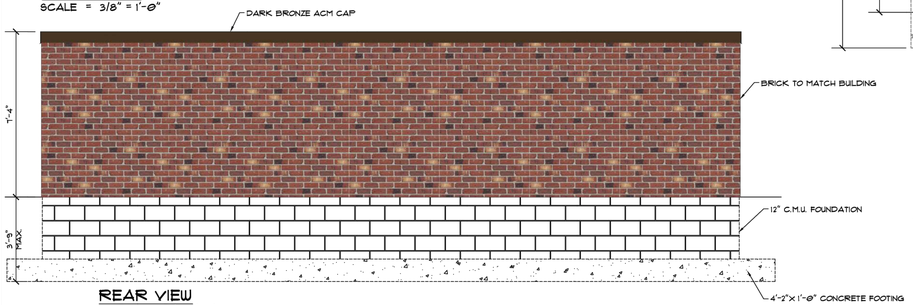
TITLE:
CONSTRUCTION DETAILS

DRAWING:
C-6.2

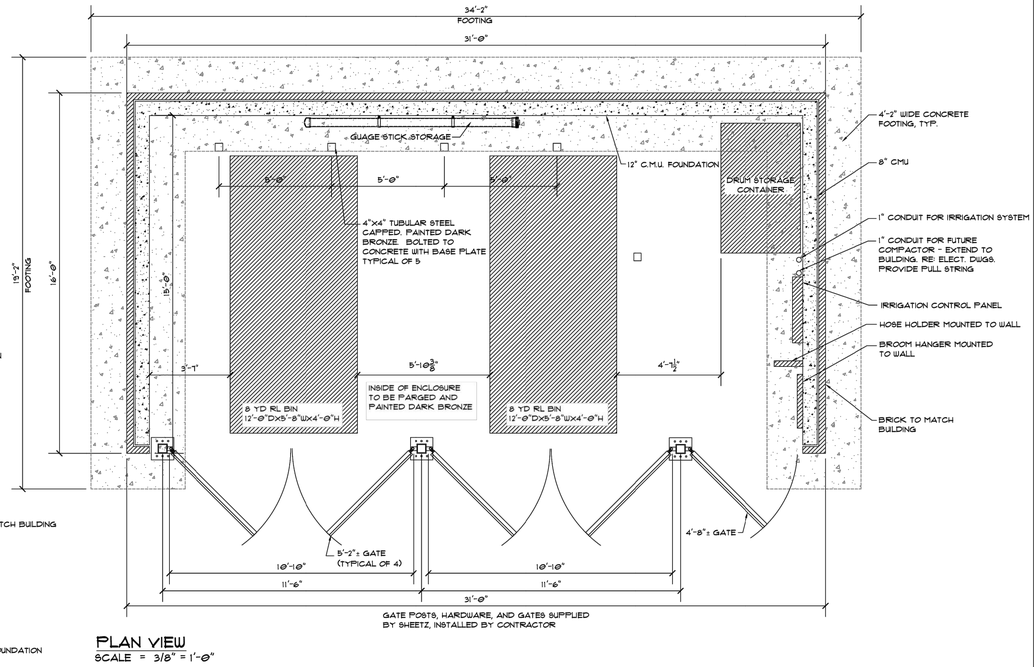
V:\DET\2025\DET-250399 SOLEIN, GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI\CAD\PLOT\SUP # 6.4.3 DETS.DWG



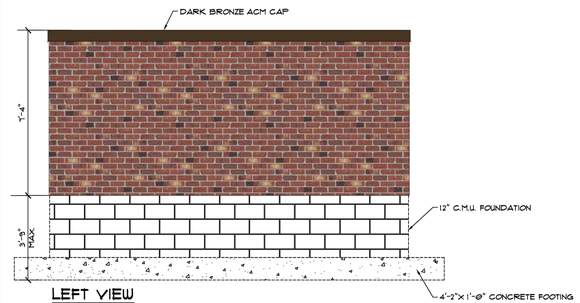
FRONT VIEW
SCALE = 3/8" = 1'-0"



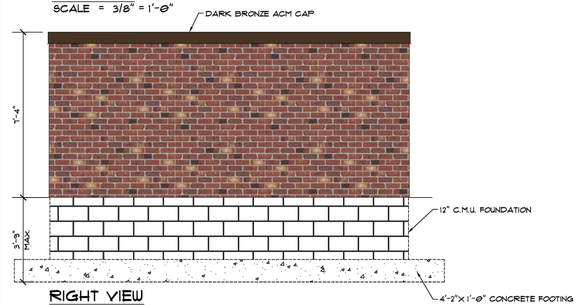
REAR VIEW
SCALE = 3/8" = 1'-0"



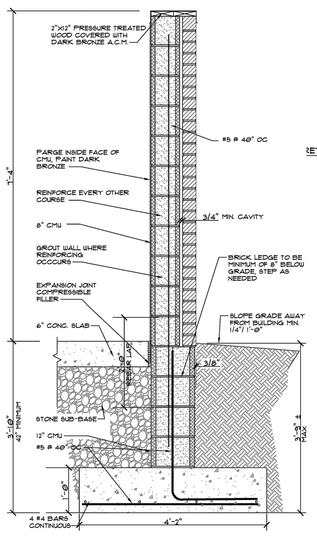
PLAN VIEW
SCALE = 3/8" = 1'-0"



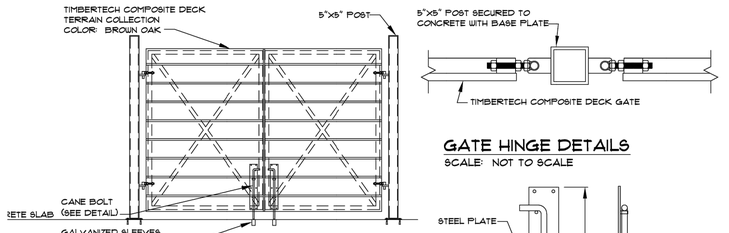
LEFT VIEW
SCALE = 3/8" = 1'-0"



RIGHT VIEW
SCALE = 3/8" = 1'-0"



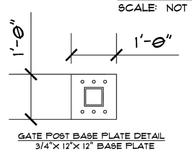
WALL SECTION
SCALE: 3/4" = 1'-0"



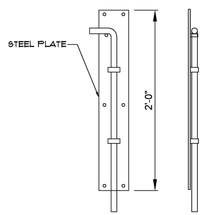
SEE PLAN VIEW FOR QUANTITIES OF GATES AND POSTS

GATE HINGE DETAILS
SCALE: NOT TO SCALE

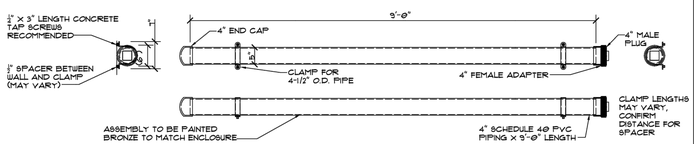
DUMPSTER GATE DETAILS
SCALE: NOT TO SCALE



GATE POST BASE PLATE DETAIL
3/4"x 12"x 12" BASE PLATE



CANE BOLT DETAIL
ONE TO BE MOUNTED ON INSIDE OF ONE GATE AND ONE MOUNTED ON OUTSIDE OF OPPOSITE GATE



GUAGE STICK DETAILS
SCALE: 3/4" = 1'-0"

Convenience Architecture and Design P.C.
351 Sheetz Way, Claysburg, PA 16625
phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:

OWNER:

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

MARK	DATE	DESCRIPTION

ISSUE: 07-29-25
PROJECT NO:
AUTHOR BY: NMI
REVIEW BY:
SHEET TITLE

TRASH ENCLOSURE

1

STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

TITLE:
CONSTRUCTION DETAILS

DRAWING:
C-6.3

STATE OF MICHIGAN JONATHAN FRED COOKSEY ENGINEER No. 6201060428 PROFESSIONAL ENGINEER

V:\DET\2025\DET-250399 (KALEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP MI)\CAD\PLOTS\DP-6.6-A3-1-DETL.DWG
G:\Sheetz_Site Standards\Trash Layouts\2026-Trash Enclosure new.dwg, 5/14/2026 9:28:46 PM, DWG To PDF.pc3

SYMBOL DESCRIPTION

SYMBOL	DESCRIPTION
	BUILDING
	CONCRETE SIDEWALK / MAT
	ASPHALT / CONCRETE CURB
D.C	DEPRESSED CURB
	PROPERTY LINE
	VACATED / INTERIOR LOT LINE
	ADJACENT PROPERTY LINE
	SECTION LINE
	RIGHT OF WAY LINE
	SUBDIVISION LINE
	EASEMENT
x x	CHAIN LINK FENCE
o o	BOARD-ON-BOARD FENCE
	UTILITY POLE
	GUY WIRE
	LIGHT POLE
	SIGNS
WV	WATER VALVE
GV	GAS VALVE
	DRAIN
	INLET
	MAN HOLE
	BOLLARDS
	4"x6" FRAME POST
	BOX (ELEC, GAS, ETC.)
E.P.	EDGE OF PAVEMENT
OH	OVERHEAD WIRE
G	UNDERGROUND GAS LINE
FO	UNDERGROUND FIBER OPTIC LINE
E	UNDERGROUND ELEC. LINE
T	UNDERGROUND COMMUNICATIONS LINE
SAN	SANITARY SEWER LINE
	STORM PIPE
100	MAJOR CONTOUR
101	MINOR CONTOUR
TC 100.50	TOP OF CURB SHOT
100.00	GRADE SPOT SHOT

SYMBOL	DESCRIPTION
BC 100.00	BOTTOM OF CURB SHOT
TW 102.00	TOP OF WALL SHOT
BW 100.00	BOTTOM OF WALL SHOT
	WALL
	PAVEMENT STRIPING
	DELINEATOR
	VEGETATION LINE
	ROOF OVERHANG
	TOP OF BANK
	GAS MARKER
	TELE-COMMUNICATIONS MARKER
W	WATER WELL
E	ELEC METER
G	GAS METER
T	TELEPHONE PEDESTAL
ICV	IRRIGATION CONTROL VALVE
C/O	CLEAN OUT
M.W.	MONITORING WELL
	VENT / STAND PIPE
	ROOF LEADER
	MAILBOX
	IRON ROD
	SURVEY MONUMENT
	SECTION CORNER
	BENCH MARK
	DECIDUOUS TREE
	PINE TREE
	SHRUB
ELEV	ELEVATION
FF	FINISH FLOOR
MH	MANHOLE
(M)	MEASURED
(R)	RECORD
BL	BLUE LINES
WL	WHITE LINES
YL	YELLOW LINES
TDO	TURN DOWN OUTLET

SURVEY NOTES:

1. THIS SURVEY AND THE BOUNDARIES SHOWN HEREON ARE THE RESULT OF AN ACTUAL FIELD SURVEY PERFORMED ON SEPTEMBER 5, 2025 BASED ON AVAILABLE MAPS AND DEEDS OF RECORD, AND PHYSICAL EVIDENCE. THIS SURVEY IS SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND AGREEMENTS OF RECORD THAT A TITLE SEARCH MAY DISCLOSE.
2. THIS SURVEY IS VALID ONLY WHEN A DIGITAL SEAL IS AFFIXED HERETO.
3. THE SURVEYOR IS NOT QUALIFIED TO IDENTIFY ENVIRONMENTAL CONDITIONS OR THE PRESENCE OR ABSENCE OF WETLANDS.
4. THE CERTIFICATION SHOWN HEREON IS NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.
5. ANY SUBSURFACE UTILITIES SHOWN HAVE BEEN LOCATED FROM MARKOUTS OBSERVED ON SITE DURING THE FIELD SURVEY, AND SURFACE FEATURES SUCH AS VALVES, MANHOLES AND GRATES. STORM DRAINAGE AND OR SANITARY INVERTS ARE DEPICTED BASED ON OBSERVATIONS MADE IN THE FIELD. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION USED. THE SURVEY HAS NOT PHYSICALLY LOCATED THE UTILITIES. BEFORE ANY EXCAVATIONS ARE BEGUN, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
6. BEARINGS ARE REFERENCED TO THE MICHIGAN STATE PLANE COORDINATE SYSTEM (NAD83) SOUTH ZONE. ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), ESTABLISHED VIA RTK GPS OBSERVATIONS UTILIZING MICHIGAN DEPARTMENT OF TRANSPORTATION CONTINUOUSLY OPERATING REFERENCE SYSTEM (MDOT CORS).
7. BASEMENT OR BELOW GRADE STRUCTURES (IF ANY) ARE UNKNOWN.
8. THE OUTLET INVERTS FOR THE STORM SEWER STRUCTURES LOCATED ON PARCEL 2 ARE TURN DOWN OUTLETS TO PROVIDE LIQUID SEPARATION, MAKING THESE INVERT MEASUREMENTS UNOBTAINABLE.
9. BENCHMARK #1 = SET CAPPED IRON = 1019.94 (NAVD88)
   - GRASS AREA / SOUTHEAST CORNER OF LOT 9, PARCEL 07-24-201-019
   BENCHMARK #2 = MAG NAIL = 1019.47 (NAVD88)
   - GRASS AREA / NEAR SOUTH ENTRANCE OF PARCEL 07-24-201-019

PARCEL DESCRIPTION:

LAND SITUATED IN THE STATE OF MICHIGAN, COUNTY OF OAKLAND, TOWNSHIP OF SPRINGFIELD

PARCEL 1:
LOT 7 OF SUPERVISORS PLAT OF SPRINGFIELD ESTATES, ACCORDING TO THE RECORDED PLAT THEREOF, AS RECORDED IN LIBER 60 OF PLATS, PAGE 35, OAKLAND COUNTY RECORDS.

PARCEL 2:
PART OF LOTS 8 AND 9, OF SUPERVISORS PLAT OF SPRINGFIELD ESTATES, AS RECORDED IN LIBER 60 OF PLATS, PAGE 35, OAKLAND COUNTY RECORDS, MORE PARTICULARLY DESCRIBED AS: BEGINNING AT A POINT NORTH 33 DEGREES 17 MINUTES 20 SECONDS EAST 250 FEET FROM THE MOST WESTERLY CORNER OF LOT 8; THENCE NORTH 33 DEGREES 17 MINUTES 20 SECONDS EAST 110 FEET; THENCE SOUTH 56 DEGREES 24 MINUTES 10 SECONDS EAST 206 FEET; THENCE SOUTH 33 DEGREES 17 MINUTES 20 SECONDS WEST 110 FEET; THENCE NORTH 56 DEGREES 24 MINUTES 10 SECONDS WEST 206 FEET TO THE POINT OF BEGINNING

AND

PART OF LOTS 8 AND 9 OF SUPERVISORS PLAT OF SPRINGFIELD ESTATES, A SUBDIVISION OF PART OF THE NORTH 1/2 OF SECTION 24, TOWN 4 NORTH, RANGE 8 EAST ACCORDING TO THE PLAT THEREOF, AS RECORDED IN LIBER 60 OF PLATS, PAGE 35, OAKLAND COUNTY RECORDS, MORE PARTICULARLY DESCRIBED AS: BEGINNING AT THE MOST WESTERLY CORNER OF LOT 8, THENCE NORTH 33 DEGREES, 17 MINUTES 20 SECONDS EAST 250 FEET, THENCE SOUTH 56 DEGREES 24 MINUTES 10 SECONDS EAST 206 FEET, THENCE SOUTH 33 DEGREES 17 MINUTES 20 SECONDS WEST 250 FEET, THENCE NORTH 56 DEGREES 24 MINUTES 10 SECONDS WEST 206 FEET TO THE POINT OF BEGINNING, EXCEPTING ANY PART TAKEN FOR I-75 INTERCHANGE.

BEING THE SAME PROPERTY AS DESCRIBED IN A TITLE COMMITMENT PREPARED BY CHICAGO TITLE INSURANCE COMPANY, ISSUING OFFICE COMMITMENT NUMBER 631263147NTS, COMMITMENT DATE AUGUST 26, 2025 AT 08:00 AM.

SURVEY REFERENCES:

1. DEED BETWEEN AUTO CITY SERVICE, INC AND HILLTOP CAMP BC LLC, DATED DECEMBER 23, 2019 AND RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, OAKLAND COUNTY, MICHIGAN, IN LIBER 53638 PAGE 599.
2. DEED BETWEEN AUTO CITY SERVICE, INC AND 8500 DIXIE HIGHWAY, LLC, DATED JULY 2, 2019 AND RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, OAKLAND COUNTY, MICHIGAN, IN LIBER 52983 PAGE 878.
3. "SUPERVISORS PLAT OF SPRINGFIELD ESTATES" A SUBDIVISION OF PART OF THE NORTH 1/2 OF SECTION 24, TOWN 4 NORTH, RANGE 8 EAST, SPRINGFIELD TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DATED JANUARY 26, 1950 AND RECORDED IN THE OAKLAND COUNTY REGISTER OF DEEDS OFFICE IN LIBER 60 OF PLATS ON PAGE 35.
4. "SPRINGFIELD ESTATES NO 1" A SUBDIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 24, TOWN 4 NORTH, RANGE 8 EAST, SPRINGFIELD TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DATED FEBRUARY 9, 1966 AND RECORDED IN THE OAKLAND COUNTY REGISTER OF DEEDS OFFICE IN LIBER 117 OF PLATS ON PAGE 17.
5. "GRADING PLAN" PROPOSED NEW GAS STATION C-STORE FOR AUTO CITY SERVICE, SPRINGFIELD TOWNSHIP SITE 8496 AND 8500 DIXIE HIGHWAY, PREPARED BY ASSELIN ASSOCIATES ARCHITECTS, DATED MARCH 08, 2001.
6. "OVERALL SITE PLAN" PROPOSED NEW GAS STATION C-STORE FOR AUTO CITY SERVICE, TO BE SPRINGFIELD TOWNSHIP SITE 8496 & 8500 DIXIE HIGHWAY, SHEET C1.1 OF 6, PREPARED BY ASSELIN ASSOCIATES ARCHITECTS, DATED JUNE 02, 2003.
7. A TITLE COMMITMENT PREPARED BY CHICAGO TITLE INSURANCE COMPANY, ISSUING OFFICE COMMITMENT NUMBER 631263147NTS, COMMITMENT DATE AUGUST 26, 2025 AT 08:00 AM.

FLOOD NOTE:

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE (AREA OF MINIMAL FLOOD HAZARD) (UNSHADED) OF THE FLOOD INSURANCE RATE MAP, COMMUNITY NO. 260478, MAP NUMBER 26125C0327F WHICH BEARS AN EFFECTIVE DATE OF SEPTEMBER 29, 2006.

AREA NOTES

TOTAL LAND AREA

PARCEL 2 (PART OF LOTS 8 & 9) AREA=
74,176 SQUARE FEET± OR 1.703 ACRES±
PARCEL 1 (LOT 7) AREA=
205,979 SQUARE FEET± OR 4.729 ACRES±

EXISTING STRIPED PARKING

REGULAR = 7 SPACES
HANDICAP = 2 SPACES

TOTAL = 9 SPACES

SCHEDULE B - PART II EXCEPTIONS:

CHICAGO TITLE INSURANCE COMPANY, ISSUING OFFICE COMMITMENT NUMBER 631263147NTS, COMMITMENT DATE AUGUST 26, 2025 AT 08:00 AM.

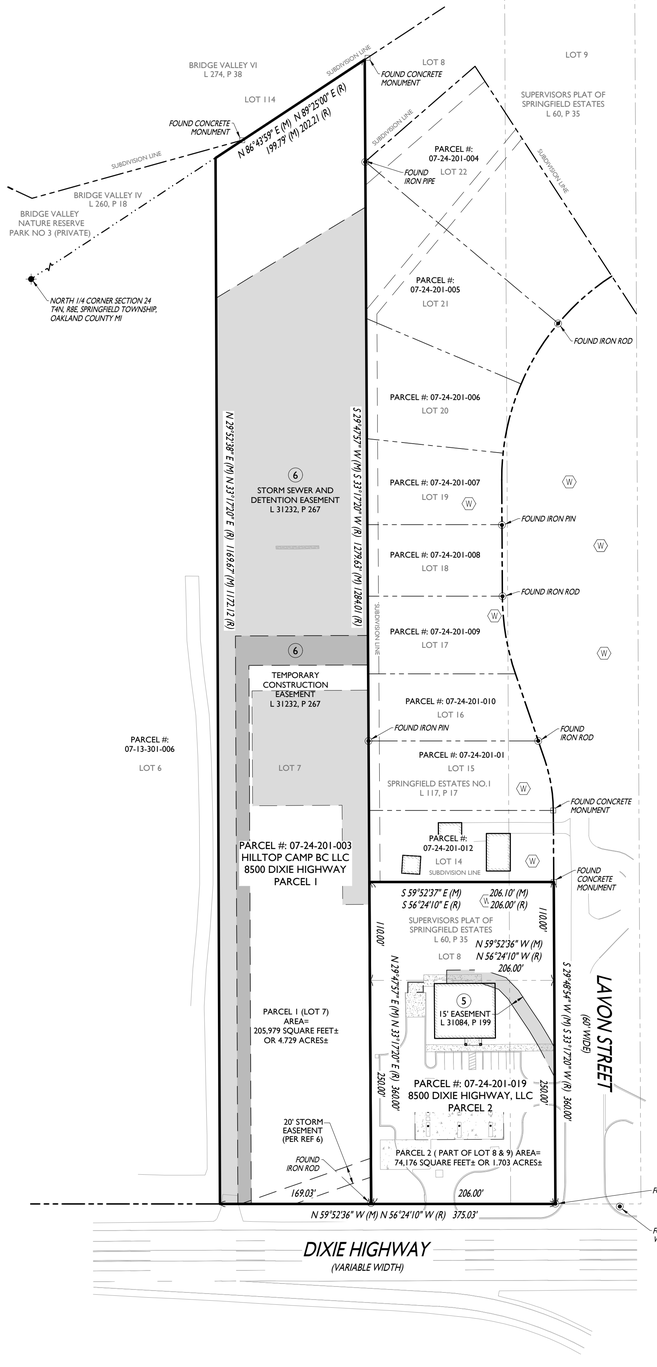
EXCEPTIONS 1 THROUGH 3, INCLUSIVE, AND 9 THROUGH 11, INCLUSIVE, ARE NOT SURVEY RELATED.

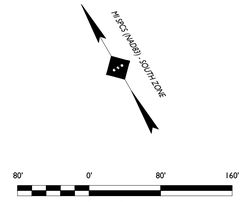
4. COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH IN THE DOCUMENT RECORDING NO: LIBER 1874, PAGE 162; LIBER 2589, PAGE 350 AND LIBER 13518, PAGE 285. **(LIBER 1874, PAGE 162 - BUILDING AND USE RESTRICTIONS AFFECT PARCEL 1 AND PARCEL 2; LIBER 2589, PAGE 350: BUILDING AND USE RESTRICTIONS AFFECT PARCEL 2; NOTHING TO SHOW) (LIBER 13518, PAGE 285 - AFFECTS PARCEL 2; GAS STATION RESTRICTION APPEARS TO HAVE EXPIRED (20 YEAR RESTRICTION; DOCUMENT RECORDED IN 1993)**

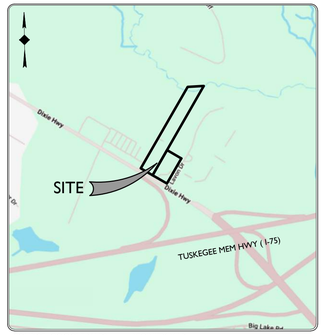
(5.) RIGHT(S) OF WAY AND/OR EASEMENT(S) AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT: GRANTED TO: DETROIT EDISON COMPANY RECORDING NO: LIBER 31084, PAGE 199. **(AFFECTS PARCEL 2; APPROXIMATE LOCATION IS SHOWN PER UTILITY MARKINGS)**

(6.) RIGHT(S) OF WAY AND/OR EASEMENT(S) AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT: GRANTED TO: BOARD OF COUNTY ROAD COMMISSIONER FOR OAKLAND COUNTY (A PUBLIC BODY CORPORATE) RECORDING NO: LIBER 31232, PAGE 267. **(AFFECTS PARCEL 1; SHOWN)**

7. TERMS, COVENANTS, AND CONDITIONS OF AGREEMENT FOR RIGHT OF FIRST REFUSAL (ASSETS AND PREMISES) AS SET FORTH BELOW: RECORDING NO: LIBER 52984, PAGE 24. **(AFFECTS PARCEL 2; RIGHT OF FIRST REFUSAL UNTIL 2035; NOTHING TO SHOW)**







SOURCE: GOOGLE MAPS VICINITY MAP
NOT TO SCALE

811
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ALTA / NSPS LAND TITLE SURVEY

MAP OF SURVEY OF:

PARCEL #: 07-24-201-019 AND PARCEL 07-24-201-003
PART OF NORTH 1/4 OF SECTION 24, TOWN 4 NORTH, RANGE 8 EAST
8500 DIXIE HIGHWAY AND VACANT DIXIE HIGHWAY
SPRINGFIELD TOWNSHIP
OAKLAND COUNTY, MICHIGAN

ISSUE	DATE	DRAFT BY	CHECK BY	FIELD DATE	FIELD CREW	DESCRIPTION
2	06/01/26	AG	AG	-	-	ADD WETLANDS
1	09/15/25	DJS	AG	09/05/25	JU	FOR ISSUE

THIS IS TO DECLARE THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 8, 9 & 13 OF TABLE A THEREOF.

THE FIELDWORK WAS COMPLETED ON SEPTEMBER 5, 2025

ANTHONY D. GIGLIO JR, PS
MICHIGAN PROFESSIONAL SURVEYOR No. 4001071395

SCALE: 1"=80'	PROJECT ID: DET-250399	SHEET: 1 OF 3

Z:\ALTA\PERSONAL\TYRONNGILKEY\PROJ\GAS\DET\2025\DET-250399 SIGLEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI_GAS\TYRONNGILKEY\DET-250399 - 1\DWG

MATCHLINE

SEE SHEET 3

PARCEL #: 07-24-201-010

LOT 16

LOT 9

FOUND IRON PIN

FOUND IRON ROD

S 29°45'57" W (M) S 33°17'20" W (R) 1278.63' (M) 1280.10' (R)

N 29°52'38" E (M) N 33°17'20" E (R) 1189.67' (M) 1172.12' (R)

APPROXIMATE LOCATION OF SEPTIC FIELD EASEMENT (PER REFERENCE 6)

GRASS

PARCEL #: 07-24-201-01

LOT 15

SPRINGFIELD ESTATES NO.1
L 117, P 17

FOUND CONCRETE MONUMENT

12' PRIVATE EASEMENT FOR PUBLIC UTILITIES (PER REF 4)

4" SEPTIC LID (2 TYP)

32" SEPTIC LID (9 TYP)

FRAME GARAGE

ASPHALT DRIVE

SINGLE STORY FRAME DWELLING

FRAME SHED

PARCEL #: 07-24-201-012

LOT 14

SUBDIVISION LINE

GATE

2.2' FC

S 59°52'37" E (M) 206.10' (M)
S 56°24'10" E (R) 206.00' (R)

FOUND CONCRETE MONUMENT

12" RCP INLET
INVERT = 1010.31

100.00'

LOT 8

SUPERVISORS PLAT OF SPRINGFIELD ESTATES
L 60, P 35

LOT 9

N 59°52'36" W (M)
N 56°24'10" W (R)
206.00'

CONC BLOCK TRASH ENCLOSURE

GENERATOR

PARCEL #: 07-24-201-019
8500 DIXIE HIGHWAY, LLC
PARCEL 2
SINGLE STORY FRAME BUILDING
FOOTPRINT= 4,176 SQ FT

PARCEL 2 (PART OF LOT 8 & 9) AREA=
74,176 SQUARE FEET± OR 1.703 ACRES±

15' EASEMENT
L 31084 P 199

67.9'

66.2'

66.1'

61.9'

COLUMN (2 TYP)

CATCH BASIN
GRT= 1020.06
INVERT (A)= 1015.46
INVERT (B)= 1019.46
INVERT (C)= TOO
TOP OF WATER= 1019.46

N 59°52'36" E (M) N 33°17'20" E (R) 360.00'

PARCEL #: 07-24-201-003
HILLTOP CAMP BC LLC
8500 DIXIE HIGHWAY
PARCEL 1

PARCEL 1 (LOT 7)
AREA=
205,979 SQUARE FEET±
OR 4.729 ACRES±

250.00'

ASPHALT

AIR COMPRESSOR

CATCH BASIN
GRT= 1018.76
INVERT (A)= 1016.86
INVERT (B)= 1009.06
INVERT (C)= TOO
TOP OF WATER= 1008.86

CATCH BASIN
GRT= 1018.29
INVERT (A)= 1012.29
INVERT (B)= TOO
TOP OF WATER= 1012.29

CANOPY

INLET GRT= 1018.57
INVERT (A)= 1008.67
INVERT (B)= TOO
TOP OF WATER= 1008.21

RAISED CONC PAD & FUEL PUMP (TYP)

METAL LID (TYP)

CANOPY COLUMN (6 TYP)

CATCH BASIN
GRT= 1018.29
INVERT (A)= 1011.29
INVERT (B)= TOO
TOP OF WATER= 1010.99

CATCH BASIN
GRT= 1018.31
INVERT (A)= 1015.01
INVERT (B)= 1015.01
INVERT (C)= 1012.21
INVERT (D)= TOO
TOP OF WATER = 1011.81

STANDING VENT PIPE (6 TYP)

COMMERCIAL SIGN: "BP"

BENCHMARK #1
SET CAPPED IRON
ELEV= 1019.94

FOUND IRON ROD

206.00'

LAYTON STREET (60' WIDE)

INLET GRT.= 1016.35

CONC CURB

ASPHALT

12" CMP OUTLET
INVERT = 1014.85

12" CMP INLET
INVERT = 1013.21

TC 1016.72
BC 1016.36

TC 1017.10
BC 1016.61

BENCHMARK
SET CAPPED IRON
ELEV= 1018.32

12" CMP OUTLET
INVERT = 1013.67

TC 1017.38
BC 1017.19

CONC CURB

12" CMP INLET
INVERT = 1013.97

TC 1017.95
BC 1017.68

SIGN: "STOP"

INLET GRT.= 1017.91

INLET GRT.= 1018.52

SIGN: "DEAD END"

SIGN: "NO PARKING..."

SIGN: "LAYTON ST."

FOUND IRON PIN WITH CAP "RED"

24" CMP OUTLET
INVERT= 1017.93

STORM MH RIM= 1016.02
INVERT (A)= 1006.22
INVERT (B)= 1006.42

TEMPORARY CONSTRUCTION EASEMENT, L 31232, P 267

STORM SEWER AND DETENTION EASEMENT
L 31232, P 267

GATE

RUINOUS ASPHALT

4"x6" SQUARE POST (TYP)

20' STORM EASEMENT (PER REF 6)

169.03'

24" CMP OUTLET
INVERT = 1015.63

FOUND IRON ROD

STORM MH RIM= 1019.17
INVERT (A)= 1010.07
INVERT (B)= 1007.47
INVERT (C)= 1007.17

STORM MH
RIM ELEV= 1016.90
INVERT (A)= 1011.11
INVERT (B)= 1007.13
INVERT (C)= 1006.96
TOP OF WATER = 1005.80

18" CMP OUTLET
INVERT = 1014.66

18" RCP

SIGN: NO U TURN

SIGN: SCHOOL X-ING AHEAD

N 59°52'36" W (M) N 56°24'10" W (R) 375.03'

BENCHMARK
SET CAPPED IRON
ELEV= 1019.47

CONC CURB & GUTTER

24" CMP

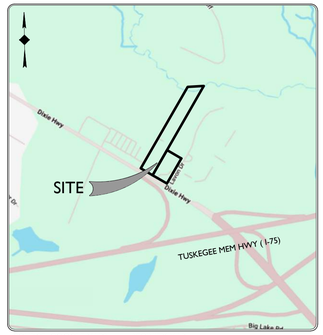
SIGN: "NO PARKING..."

DIXIE HIGHWAY
(VARIABLE WIDTH)

N 18°25'19"W (M) S 33°17'20" W (R)

GRAPHIC SCALE IN FEET
1" = 30'

30' 0' 30' 60'



SOURCE: GOOGLE MAPS VICINITY MAP
NOT TO SCALE

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ALTA / NSPS LAND TITLE SURVEY

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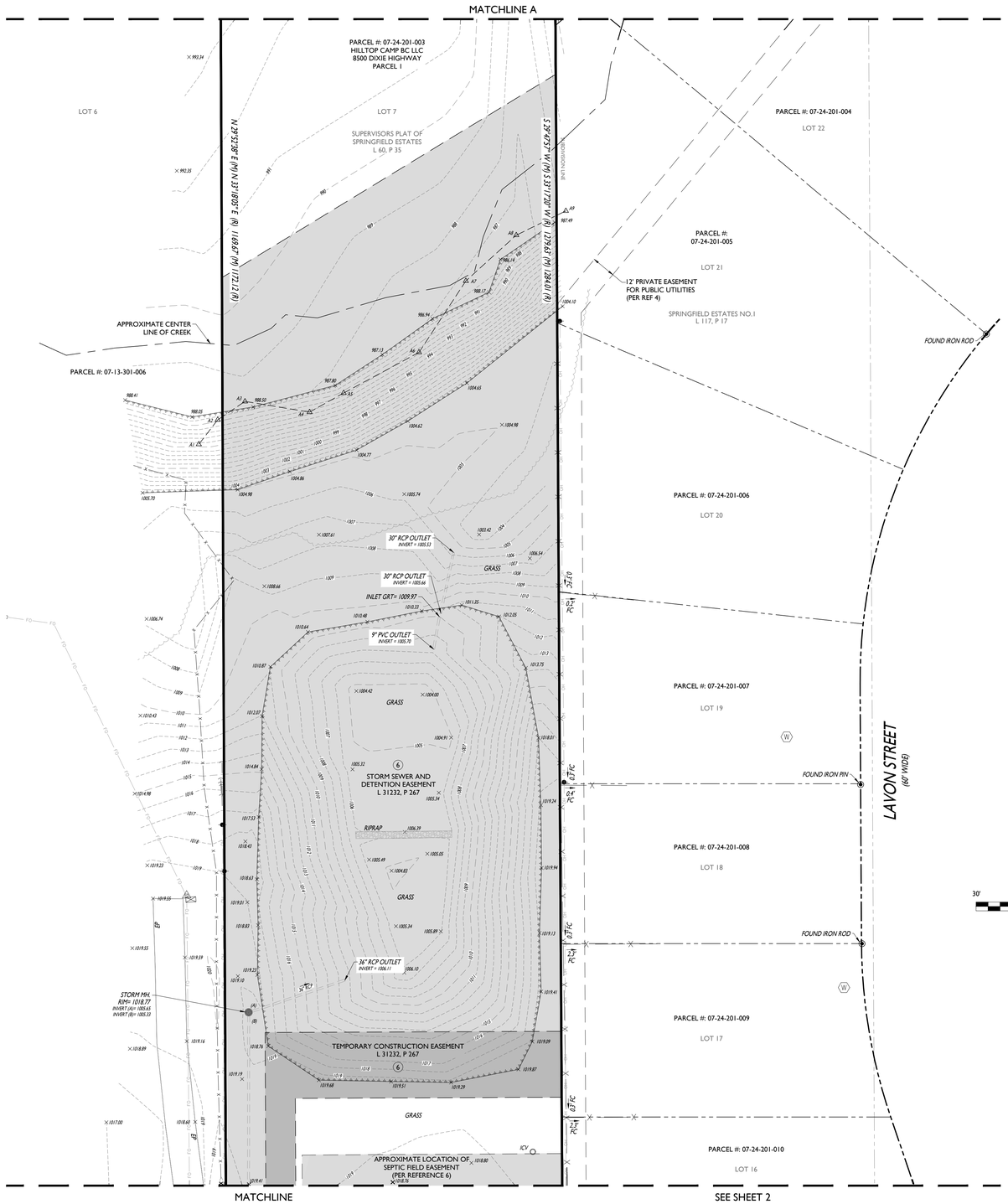
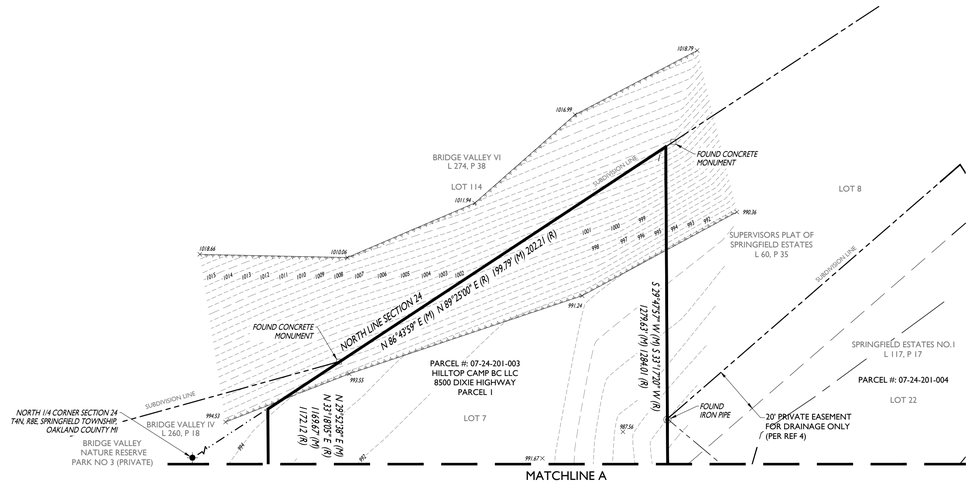
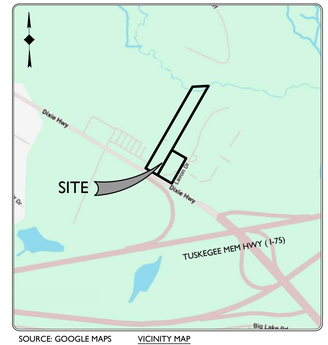
ANTHONY D. GIGLIO JR, PS
MICHIGAN PROFESSIONAL SURVEYOR No. 4001071395

SCALE: 1"=30'	PROJECT ID: DET-250399	SHEET: 2 OF 3

Z:\AUTHEROON\AUTHORING\DRAWINGS\ALTA\PHOENIX\DET\2025\DET-250399 SIGLEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI_SURVEY\DWG\DET-250399 - 1(2).DWG







SOURCE: GOOGLE MAPS VICINITY MAP
NOT TO SCALE



30' 0' 30' 60'
GRAPHIC SCALE IN FEET
1" = 30'

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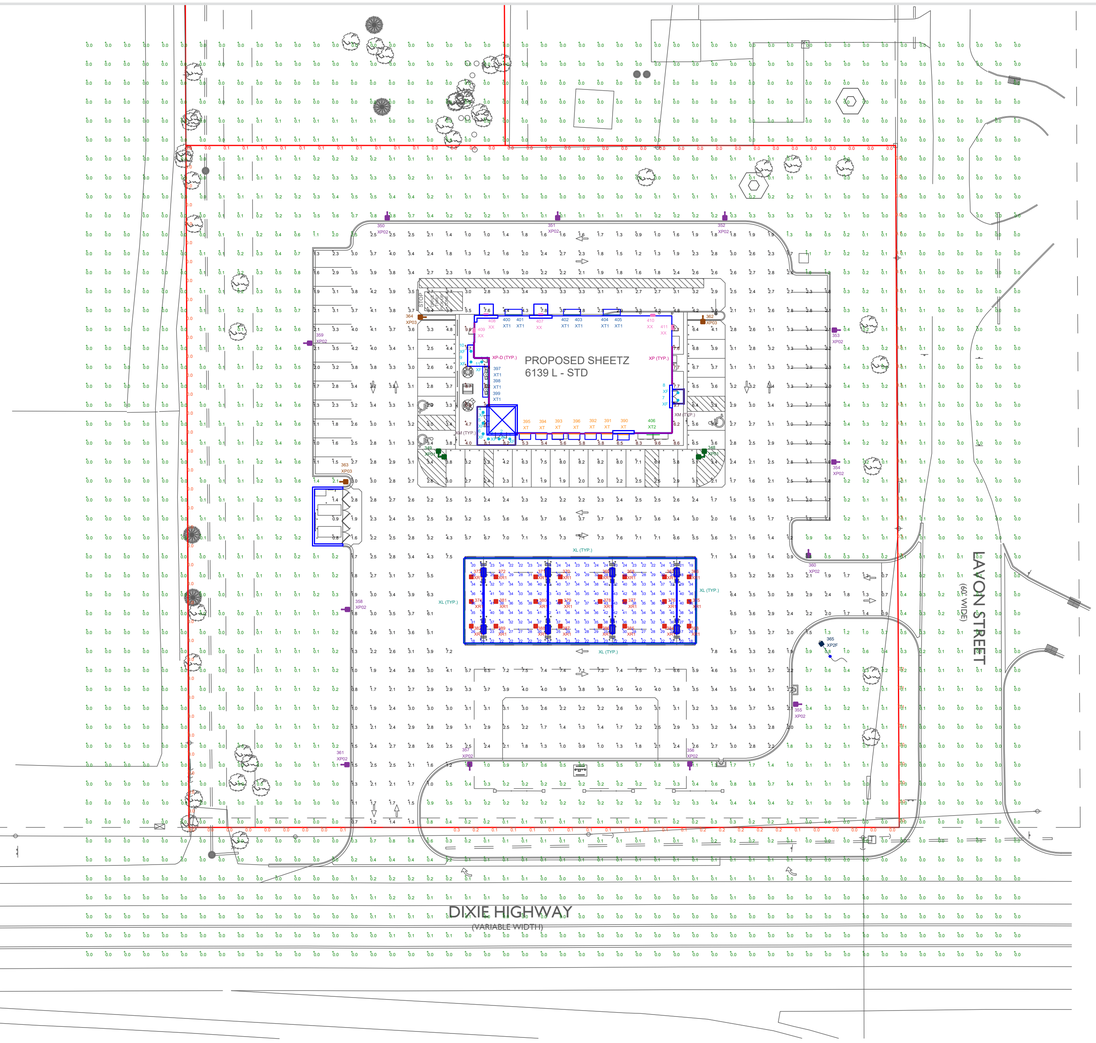
ANTHONY D. GIGLIO JR, PS
MICHIGAN PROFESSIONAL SURVEYOR No. 4001071395

SCALE: 1"=30'	PROJECT ID: DET-250399	SHEET: 3 OF 3

Z:\AUTHEPOR\BUILT\WORK\DSKAVEY\PROJ\GANTDET\DET-250399 ISSUED CAD\D - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI_SURVEY\WG\GADDET-250399 - 1.DWG



LUMINAIRE LOCATION SUMMARY			
LUM NO.	LABEL	MTG. HT.	TILT
1 - 11	XF	11.33	0
12 - 40	XL	21.763	0
41	XL	21.783	0
42 - 70	XL	17.887	0
71	XL	21.593	5
72	XL	21.24	5
73	XL	20.89	5
74	XL	20.537	5
75	XL	20.183	5
76	XL	19.83	5
77	XL	19.476	5
78	XL	19.123	5
79	XL	18.77	5
80	XL	18.415	5
81	XL	18.062	5
82	XL	18.062	5
83	XL	18.415	5
84	XL	17.887	0
85	XL	18.77	5
86	XL	19.123	5
87	XL	19.476	5
88	XL	19.83	5
89	XL	20.183	5
90	XL	20.537	5
91	XL	20.89	5
92	XL	21.24	5
93	XL	21.593	5
94 - 109	XM	12	0
110 - 258	XP	21	0
259 - 269	XP	22.75	0
270	XP	21	0
271 - 344	XP-D	21	0
345 - 347	XP-D	22.75	0
348, 349	XP01	22	0
350 - 361	XP02	22	0
362 - 364	XP03	22	0
365	XP2F	1	166
366 - 373	XR1	17.46	0
374 - 381	XR1	18.55	0
382 - 389	XR1	19.71	0
390 - 396	XT	13.5	50
397 - 405	XT1	13.5	50
406	XT2	13.25	0
407 - 409	XX	10	0
410, 411	XX	15.42	0

NOTES:
- ALL AREA LIGHTS ON NEW 19 FT. POLE MOUNTED ON 3 FT. CONCRETE BASE
- FOOTCANDLE LEVELS CALCULATED AT GRADE USING INITIAL LUMEN VALUES UNLESS NOTED OTHERWISE.

NORTH

GRAPHIC SCALE

0 40 80 120 160

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

LUMINAIRE SCHEDULE												
SYMBOL	QTY	LABEL	ARRANGEMENT	LUMENS	DIMMING (LUMEN MULTIPLIER)	LATF	LLF	BUG RATING	WATTS/LUMINAIRE	TOTAL WATTS	MANUFACTURER	CATALOG LOGIC
	11	XF	Single	1037	0.200	1.000	0.200	N.A.	10	110	Amerlux, LLC	ORDX4-10-409-M-CSTM-RB-UDM
	82	XL	Single	136	1.000	1.000	1.000	N.A.	4.12	337.84	Blair Companies	LINEAR STRIP LIGHT (BY OTHERS, SHOWN FOR CONTRIBUTION)
	16	XM	Single	136	0.700	1.000	0.700	N.A.	4.12	65.92	Blair Companies	LB-110-00-XX-025-RD[1]FR4-15
	161	XP	Single	305	1.000	1.000	1.000	N.A.	3.66	589.26	P-LED	STREET WRAP FLEX BACK BEND 4000K
	77	XP-D	Single	25	1.000	1.000	1.000	N.A.	0.305	23.485	P-LED	STREET WRAP FLEX BACK BEND 4000K
	2	XP01	2 @ 90 degrees	6272	1.000	1.040	1.040	B1-U0-G3	45	180	Lithonia Lighting	DSX0 LED P2 40K 70CRI T4M MVOLT SPA FAO DXXXX
	12	XP02	Single	6396	1.000	1.040	1.040	B0-U0-G2	69	828	Lithonia Lighting	DSX0 LED P3 40K 70CRI BLC3 MVOLT SPA FAO DXXXX
	3	XP03	Single	11295	1.000	1.040	1.040	B2-U0-G3	93	279	Lithonia Lighting	DSX0 LED P4 40K 70CRI T4M MVOLT SPA FAO DXXXX
	1	XP2F	Single	8630	1.000	1.050	1.050	B4-U0-G2	64	64	Lithonia Lighting	DSXF2 LED P1 40K 70CRI NSP MVOLT IS FV DXXXX + MOUNTING POST
	24	XR1	Single	10502	1.000	1.000	1.000	B3-U0-G1	74	1776	Lithonia Lighting	RCNY LED AL02 50K 90CRI SYMF MVOLT BZS DWHXD SETTING 4
	7	XT	Single	1840	0.400	1.000	0.400	N.A.	20	140	SPI Lighting Inc.	SEW12146 5FT L20W AN08 120-277V 4000K PSE SMA OAP (6.00 IN.) FIXT. HEAD FACTORY SET TO 50 DEGREE TILT AWAY FROM BLDG.
	9	XT1	Single	1472	0.400	1.000	0.400	N.A.	16	144	SPI Lighting Inc.	SEW12146 4FT L16W AN08 120-277V 4000K PSE SMA OAP (6.00 IN.) FIXT. HEAD FACTORY SET TO 50 DEGREE TILT AWAY FROM BLDG.
	1	XT2	Single	2208	0.300	1.000	0.300	N.A.	24	24	SPI Lighting Inc.	SEW12146 6FT L24W AN08 120-277V 4000K SMA PSE OAP12
	5	XX	Single	1921	0.900	1.000	0.900	B1-U0-G0	16	80	WILLIAMS OUTDOOR	VWM-H-L17/840-TL-DBZ-CGL-DIM-UNV (BRONZE COLOR 80CRI)

CALCULATION SUMMARY					
LABEL	AVG	MAX	MIN	AVG/MIN	MAX/MIN
BUILDING ISLAND	7.08	9.7	4.0	1.77	2.43
PROPERTY LINE_NONRESIDENTIAL	0.05	0.3	0.0	N.A.	N.A.
PROPERTY LINE_RESIDENTIAL	0.03	0.1	0.0	N.A.	N.A.
SITE PAVED AREA	3.03	8.2	0.7	4.33	11.71
UNDEFINED	0.09	2.5	0.0	N.A.	N.A.
UNDER CANOPY	31.38	43	17	1.85	2.53

REDLEONARD ASSOCIATES
1340 Kemper Meadow Dr, Forest Park, OH 45240
513-574-9500 | redleonard.com

REV.	BY	DATE	DESCRIPTION
R1	DAR	6/26/26	ADJUSTED LIGHT LEVELS UNDER CANOPY

DISCLAIMER

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SCALE: 1" = 40'
LAYOUT BY: DAR
DWG SIZE: D
DATE: 6/19/26

PROJECT NAME:
SHEETZ
CLARKSTON, MI
DRAWING NUMBER:
RL-11279-S1-R1

SHEETZ

	QTY	LABEL	DESCRIPTION
DOWNLIGHT	11	XF	ORDX4-10-409-M-CSTM-RB-UDM



	QTY	LABEL	DESCRIPTION
STREET WRAP	161	XP	STREET WRAP FLEX BACK BEND 4000K
	77	XP-D	STREET WRAP FLEX BACK BEND 4000K

	QTY	LABEL	DESCRIPTION
AREA	2	XP01	DSX0 LED P2 40K 70CRI T4M MVOLT SPA FAO DXXXX
	12	XP02	DSX0 LED P3 40K 70CRI BLC3 MVOLT SPA FAO DXXXX
	3	XP03	DSX0 LED P4 40K 70CRI T4M MVOLT SPA FAO DXXXX



	QTY	LABEL	DESCRIPTION
FLOOD	1	XP2F	DSXF2 LED P1 40K 70CRI NSP MVOLT IS FV DXXXX + MOUNTING POST



	QTY	LABEL	DESCRIPTION
CANOPY	24	XR1	RCNY LED ALO2 50K 90CRI SYMF MVOLT BZS DWHXD SETTING 4



ORDX4

Open Rated Exterior Downlight



Project:

Features and Specs

Construction:
- Cast aluminum top housing with integral driver.
- Dust and water tight (IP65) sealed optical chamber.
- Die-cast aluminum trim and faceplate.
- Stainless steel hardware.

Finish:
- Architectural Grade Polyester Powder Coat.

Optics:
- Beam Spread: 15°, 24°, 38°
- CCT: 2700K, 3000K, 4000K
- CRI: 80 or 90+ typ
- Polycarbonate TIR optic with white backing for maximum efficacy.

Electrical:
- Integral LED driver included, 120-277V.
- Primary wiring compartment with power supply.
- Standard driver supports (4) different dimming protocols - TRIAC/ELV/0-10V/PWM.
- Dimming percentage less than 1% - All dimming methods.

Mounting:
- Swing out pressure fit stainless steel mounting clips.
- Adjustable from 0.07" to 1.25" ceiling thickness.
- Ceiling cutout: 4.65" dia.

Lifespan:
- Estimated 50,000+ hour LED lifespan based on IES LM-80 results and TM-21 calculations.

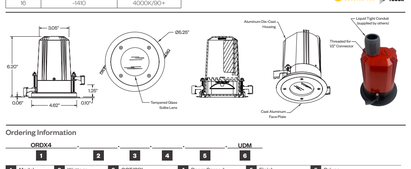
Listings:
- UL listed for wet locations (suitable for use in open or uncovered applications)

Assembled in the USA

5 year limited warranty

Performance Data (with Medium beam)

Wattage	Delivered Lumens	Color Temp/CRI
10	1040	4000K/80+
16	1440	4000K/80+



Ordering Information

ORDX4 - _ - _ - _ - _ - _ - UDM

1 Model	2 Wattage	3 CCT/CRI	4 Beam Spread	5 Finish	6 Driver
ORDX4	10 10W	27 2700K/80 CRI	BP spot 15°	BLK black	UDM universal 4 in 1 dimming TRIAC/ELV/0-10V/PWM
	16 16W	30 3000K/80 CRI	N narrow 24°	SLV silver	
		40 4000K/80 CRI	M medium 38°	BRZ bronze	
		279 2700K/90+ CRI		CSTM-RB custom red/black	
		309 3000K/90+ CRI			
		409 4000K/90+ CRI			

Amerlux reserves the right to change details that do not affect overall function and performance.

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LIT-ED2002 • 03/14/25 • Page 1 of 1

amerlux
A Delta Group Company

Shimstone Design Studio
LIGHTING DESIGN

SHEETZ 2.0



STREET WRAP™ FLEX **BACK-BEND**

Our border solution is perfect for adding an extra punch of color to your building! No pricey customization or set-up fee. Enjoy wrapping your building quickly and easily.

SPECIFICATIONS

Certifications	UL 94 V-0, UL & cUL Recognized (SAM Manual), CE, RoHs
Dimensions	24' and Custom Lengths Available
Input	24V
Operating Temp	-40° to +65°C
Power	3.66 W per foot
Power Supply	P-LED 24V
Protection Grade	IP67
Run Footage	Max. 24'

FEATURES
- Bends front to back
- 2.36" minimum bending radius
- Dual-extrusion, diffused silicone lens and thermal conductive base
- Easy installation
- Applications: neon tube light source, building and sign outline lighting, and cove lighting, indoor/outdoor
- UV resistant
- Evenly illuminates
- Standard colors cuttable every 3.937" (100mm), RGB cuttable every 2.8149" (72mm)

PRODUCT OPTIONS

24' SPECS					
Color	Wavelength/CCT	Jacket Color	Lm./ft	Cut Section Length	Max Length/96 W PS
Sign White	6500K	White	305	3.937" (100mm)	287.4016"
Natural White	5000K	White	305	3.937" (100mm)	287.4016"
Medium White	4000K	White	305	3.937" (100mm)	287.4016"
Red	625 nm	Red	82	3.937" (100mm)	287.4016"
Blue	468 nm	Blue	35	3.937" (100mm)	287.4016"
Green	525 nm	Green	140	3.937" (100mm)	287.4016"
Yellow	590 nm	Yellow	158	3.937" (100mm)	287.4016"
Orange	609 nm	Orange	116	3.937" (100mm)	287.4016"
Cyan	N/A	White	36	2.8119" (71.4mm)	287.7244"
Amber	N/A	White	45	2.8119" (71.4mm)	287.7244"
Pink	N/A	White	17	2.8119" (71.4mm)	287.7244"
RGB	N/A	White	N/A	2.8119" (71.4mm)	287.7244"

Max Length/96 W 24 PS	Wi Max Length	SKU					
287.4016"	87.7	M-SX024-65					
287.4016"	87.7	M-SX024-50					
287.4016"	87.7	M-SX024-40					
287.4016"	87.7	M-SX024-RD					
287.4016"	87.7	M-SX024-BL					
287.4016"	87.7	M-SX024-GR					
287.4016"	87.7	M-SX024-YL					
287.4016"	87.7	M-SX024-OR					
287.7244"	87.5	M-SX024-CN					
287.7244"	87.5	M-SX024-AM					
287.7244"	87.5	M-SX024-PK					
287.7244"	87.5	M-SX024-3C					

Custom colors will utilize white LEDs behind a color matched silicone over molding and the MOQ is 656 16Ft. (200 meters).

IMPORTANT WARRANTY INFO

This warranty is void if any cuts are made in the field. Any cuts must be made by Principal LED to maintain warranty.

NOTE: The LED neon itself and all its components may not be mechanically stressed. Please ensure that the power supply is adequate to operate the total load. Only qualified personnel should be allowed to perform installations. The design of the housing should be according to the IP standards in the application. If surge protection structure not within the power supply, additional surge protection device should be installed. Please read the instruction manual carefully before using the product and please ensure you have read and fully understood it. Please do not twist the product and do not bend it in wrong direction, see Figure 1 for a correct demonstration.



SOS PROJECT #: 0609.0 **MODEL #:** REFER TO LIGHTING FIXTURE SCHEDULE FOR MODEL NUMBER AND DESCRIPTION **TYPE: XL1**

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

ADDITIONAL FIXTURE INFO



d-series

D-Series Size 0

LED Area Luminaire

Specifications

EPA:	0.46 ft² (0.04 m²)
Length:	26.18" (66.5 cm)
Width:	14.06" (35.7 cm)
Height H1:	2.26" (5.7 cm)
Height H2:	7.46" (18.9 cm)
Weight:	23 lbs (10.4 kg)

Design Select options indicated by this color background.

Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect. *See ordering tree for details.

Ordering Information

EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED

Series	LEDs	Color temperature[1]	Color Rendering Index[1]	Distribution	Voltage	Mounting
DSX0 LED	Forward optics: P1 P2 P3 P4 P5 P6 P7 P8	30K 3000K; 40K 4000K; 50K 5000K	70CRI; 70CRI; 70CRI	AFR Automotive front row; T1S Type I short; T2M Type II medium; T2R Type II medium; T3LG Type III low glare[2]; T3M Type III medium; T3LG Type III low glare[2]; T4FT Forward throw medium; T4M Type IV medium; T4LG Type IV low glare[2]; T4FTM Forward throw medium; BLC3 Type III backlight control[3]; BLC4 Type IV backlight control[3]; LCCO Left corner cutoff[3]; RCCO Right corner cutoff[3]; SPAUN Square narrow pole mounting (#8 drilling, 3" max. SQ pole)[4]; WBA Wall bracket[4]; WA Worn arm adapter (mounts on 2 3/8" OD horizontal Arms)[4]	MVOLT (120V-277V)[5]; HVOLT (347V-480V)[5]; XVOLT (277V-480V)[5,6]; 120[6,7]; 208[6,7]; 240[6,7]; 277[6,7]; 347[6,7]; 480[6,7]	Shipped included: SPA Square pole mounting (#8 drilling, 3.5" max. SQ pole); RPA Round pole mounting (#8 drilling, 2" max. RND pole); SPA5 Square pole mounting (#5 drilling, 3" max. SQ pole); RPA5 Round pole mounting (#5 drilling, 2" max. RND pole); SPA3N Square narrow pole mounting (#8 drilling, 3" max. SQ pole); WBA Wall bracket;[8] WA Worn arm adapter (mounts on 2 3/8" OD horizontal Arms)[8]

Control options	Other options	Finish (required)
Shipped installed: NLTAIR2 PIRHN nLight AIR generation 2 enabled with bi-level motion + ambient sensor, 8-40' mounting height, ambient sensor enabled at 25 fc;[9,10,11] PIR High/low, motion sensor, 8-40' mounting height, ambient sensor enabled at 25 fc;[9,10,11] PIR1FC3V Network, high/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 1 fc;[9,10,11] PER NEMA twist-lock receptacle only (controls ordered separately);[12] PER5 Five-pin receptacle only (controls ordered separately);[12] PER7 Seven-pin receptacle only (controls ordered separately);[12] FAO Field adjustable output;[13] BL30 Bi-level switched dimming, 30% ; BL50 Bi-level switched dimming, 50% ; DMG 0-10v dimming, wires pulled through back of fixture (for use with an external control, ordered separately);[14]	Shipped installed: LNS Left rotated optics;[1] RNS Right rotated optics;[1] CCE Coastal Construction;[2] WA 120° ambient operation;[3] BAA Buy America(n) Act Compliant SF Single fuse (120, 277, 347V);[4] DF Double fuse (208, 240, 480V);[4] Shipped separately: EGSR External Gare Shield (reversible, field install required, matches housing finish) HS House-side shield (black finish standard);[5]	DDBXD Dark bronze; DBLXD Black; DNAXD Natural Aluminum; DWHXD White; DBLBD Black; DDBXD Bronze; DNAXD Natural Aluminum; DWHGD Textured white; DDBTXD Dark bronze; DBLBXD Black; DNATXD Textured natural aluminum; DWHGXD Textured white

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DSX0 LED
Rev. 03/26/24
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ADDITIONAL FIXTURE INFO



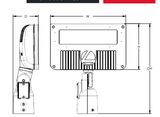
d-series

D-Series DSXF2

LED Floodlight

Specifications

EPA @ 90°:	0.8 ft² (0.07 m²)
Depth:	4.32" (11.0 cm)
Width:	12.87" (32.7 cm)
Height:	7.83" (19.9 cm)
Overall Height	15.33" (39.0 cm)
Weight:	12.0 lbs (5.4 kg)



Introduction

The D-Series floodlights feature a site-wide offering to meet specifier's every floodlighting need in application. The D-Series flood offers three sizes delivering 3,000 to 27,000 lumens. Available with seven precision optics, three mountings and three color temperatures, D-Series floodlights offer vast design capabilities while delivering significant energy savings and long life.

The DSXF2 delivers 7,000 to 17,000 lumens, meeting a large breadth of illumination requirements for design and renovation when replacing 175W, 250W and 400W HID floodlights. All configurations are assembled in the USA allowing for quick delivery.

Ordering Information

EXAMPLE: DSXF2 LED P1 40K 70CRI MSP MVOLT THK DDBXD

DSXF2 LED

Series	Performance Package	Color Temperature	CRI	Distribution	Voltage	Mounting
DSXF2 LED	P1 P2 P3 P4[1]	30K 3000K; 40K 4000K; 50K 5000K	70CRI	WFL Wide flood (60L); FL Flood (50L); MFL Medium flood (40A); WFR Wide flood, rectangular (60L); NSP Horizontal flood (40A); MSP Medium spot (40A); NSP Narrow spot (30L)	MVOLT[2]; 347; 480	Shipped included: THK Knuckle with 1.75" NPT threaded pipe; THK2 Knuckle with 2" NPT threaded pipe; IS Integral slipfitter (fits 2-3/8" O.D. tenon)

Options	Shipped separately[3]	Finish (required)
Shipped installed: PE Photocontrol, button style (MVOLT or 347V);[4] DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) SPD10KV Separate surge protection CCE Coastal Construction	UBV Upper/bottom visor (universal) FV Full visor VL Vandal guard	DDBXD Dark bronze; DBLXD Black; DNAXD Natural aluminum; DWHXD White

Accessories[4]

DSXF2 LED Rev. 03/26/24 Page 4 of 6

NOTES
1. Performance package P4 is not available with HMF, MFL, NSP and NSP optics.
2. MVOLT driver operates on line voltage from 120-277V (50/60 Hz).
3. Requires MVOLT or 347V. Not available in 480V.
4. Also available as separate accessories; see Accessories information at left.

For more mounting options, visit our DSXF2 Floodlight Ordering Info page.

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DSXF2 LED
Rev. 03/26/24
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ADDITIONAL FIXTURE INFO



RCNY LED

Recessed LED Canopy/Ceiling Luminaire

Specifications

	RCNY LED
Width:	11.5"
Height:	5.9"
Length:	11.5"
Weight:	14lbs

Introduction

The RCNY LED recessed luminaire is designed to provide exceptional energy savings and versatility in one fixture. With a compact design the RCNY provides superior illumination while blending into the canopy space seamlessly. The RCNY is unique in that as a recessed canopy it can be installed in both 12" and 16" canopy decks. Features such as Adjustable Lumen Output Dial with 8 Settings and forward throw distribution (ASYC) option make the RCNY one of the most versatile gas station canopies in the market. Lumen dial and driver are both accessible from below. With up to 179 LPW the RCNY LED delivers up to 90% in energy savings when replacing metal halide luminaires. With over 100,000 hour life expectancy (12+ years of 24/7 continuous operation), the RCNY LED luminaire provides significant maintenance savings over traditional luminaires. Class 1 Division 2 also available. Wet location junction box available upon request.

INSTALL INSTRUCTIONS

Ordering Information

EXAMPLE: RCNY LED ALO2 50K 70CRI SYMC MVOLT BZS DWHXD

RCNY LED

Series	Package	Color Temperature	CRI	Lens
RCNY LED	ALO1 2,000-12,000 Lumens; ALO2 4,000-24,000 Lumens	30K 3000K; 40K 4000K; 50K 5000K; 57K 5700K	70CRI; 80CRI; 90CRI	59WC Symmetric Clear Lens; ASYC Asymmetric Clear Lens; SYMF Symmetric Frost Lens

Voltage	Trim	Trim Finish	Option
MVOLT 120-277V; HVOLT 347-480V	BZS 11.5" Square Bezel	DWHXD White; DBLXD Black; DDBXD Bronze; DNAXD Natural Aluminum	CCE Coastal Protection; SPD10KV 10K Surge Protection; DMG[1] 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)

Accessories
Ordered and shipped separately.

Catalog Number	Description	Dimensions
FF12RW*	RCNY Backplate for 12" Decks	Fits Existing Hole 11.5" x 24" x 18GA Galv Steel
FF16RW*	RCNY Backplate for 16" Decks	Fits Existing Hole 15.5" x 24" x 18GA Galv Steel
BF16RW*	RCNY 16" Beamplate	Fits Existing Footprint of Existing Fixture 16" x 16" x 16GA Aluminum
BF16RW**	RCNY 24" Beamplate	Fits Existing Footprint of Existing Fixture 24" x 24" x 16GA Aluminum
WL-BB3	Waterproof J-Box 1/2 Inch with Cover	For Power Supply Wiring 2.8" x 4.6" x 2.0" Aluminum

* Add "B" to the end of the catalog number for individual unit pack or "36" for packs of 6 units

NOTES
1. 90CRI not available with 57K.
2. FAO not included with fixture, ALO2 will be set at 26,000 lumens and ALO1 at 12,000 Lumens.

Catalog Number / Notes / Type

Use this field to provide any additional information that you may need. This page is not part of the ordering process.

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RCNY LED
Rev. 02/13/25

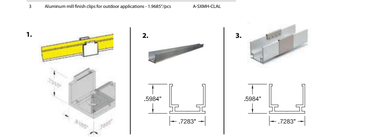
Shimstone Design Studio
LIGHTING DESIGN

SHEETZ 2.0



INSTALLATION ACCESSORIES

Type	Description	Part Number
1	Transparent PC clips	A-SXWH-CLPL
2	3.28 ft. and 8 ft. aluminum mill finish extrusions for outdoor application	A-SXWH-TRAL
3	Aluminum mill finish clips for outdoor applications - 1.96875" /pcs	A-SXWH-CLAL



END CAP

Type	Product	Ordering Part Number
1	Silicone End Cap	A-SXWH-ECSI
2a	Silicone Insert Single Color	X-CX-SX-SI1C
2b	Silicone Insert RGB	X-CX-SX-SIRC
3	Silicone Glue	A-SWFX-GA

End cap quantities are available upon request.

DIMENSIONS





WIRING

Single Color Product



RGB Product



SOS PROJECT #: 0609.0 **MODEL #:** REFER TO LIGHTING FIXTURE SCHEDULE FOR MODEL NUMBER AND DESCRIPTION **TYPE: XL1**

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

Ordering Information

Accessories
Ordered and shipped separately.

BU12PE 1.5 ft	Photocell - SSL twist-lock (120-277V) [1]
BU24PE 1.5 ft	Photocell - SSL twist-lock (347V) [1]
BU480E 1.5 ft	Photocell - SSL twist-lock (480V) [1]
DSHS8T3BR	Shorting cap [2]
DSHS4	House-side shield (mirror package number P1-7, P10-13 and all 8')
DSBPA 3PKBK	Round pole adapter kit (drilling specify finish)
DSBPA3 3PKBK	Square pole adapter kit (drilling specify finish)
DSBPA4 3PKBK	Square pole adapter kit 4" (drilling specify finish)
DSXEGSR 3PKBK	External gare shield (specify finish)
DSXBSSR 3PKBK	Bird spike deterrent bracket (specify finish)

NOTES
1. Rotated optics available with packages P10, P11, P12 and P13. Must be combined with option LNS or RNS.
2. T3LG, T4LG, BLC3, BLC4, LCCO, RCCO not available with options AFR, T1S, T2M, T2R, T3M, T4FT, T4M, T4FTM, SPAUN, WBA, WA.
3. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
4. HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
5. HVOLT not available with package P1, P2 and P13 when combined with option NLTAIR2 PIRHN or option PIR.
6. XVOLT operates with any voltage between 277V and 480V (50/60 Hz).
7. Not available with options SPA, RPA, SPA5, RPA5, SPAUN, WBA, WA, BAA, DF, SF, DMG and BS30 for use with 4ft drilling only (fixture for use with 4ft drilling).
8. WBA cannot be combined with Type 5 distributions plus photocell (PE).
9. NLTAIR2 PIRHN not available with options BL30, BL50 or DMG. Reference Motion Sensor Default Settings table on page 3 to see functionality.
10. NLTAIR2 PIRHN not available with other controls including PIR, PIR1, PIR1FC3V, PER, PER5, PER7, FAO, BL30, BL50 and DMG. NLTAIR2 PIRHN not available with P1, P2 and P13 when combined with options NLTAIR2 PIRHN or option PIR. NLTAIR2 PIRHN not available with P3 using MVOLT or HVOLT. NLTAIR2 PIRHN not available with P7, P8 and P10 using MVOLT, NLTAIR2 PIRHN not available with P1 using MVOLT or HVOLT. NLTAIR2 PIRHN not available with P4, P5 and P6 using MVOLT or HVOLT. PIR not available with P1, P2 and P13 using MVOLT or HVOLT. PIR not available with P7, P8 and P10 using MVOLT.
11. Reference Motion Sensor Default Settings table on page 3 to see functionality. Controls ordered and shipped as separate line item from Acuity Brands Controls. See Motion Sensor Table on page 3 for more information.
12. Reference Control Options table on page 3.
13. Requires 0-10V fixture input. Not available with DMG.
14. BL30 and BL50 are not available with NLTAIR2 PIRHN, PIR, PIR1, PIR1FC3V, PER, PER5, PER7, FAO, BL30, BL50 or DMG.
15. Not available with NLTAIR2 PIRHN, PIR, PIR1, PIR1FC3V, PER5, PER7, BL30, BL50 and FAO.
16. Reference Motion Sensor Default Settings table on page 4 to see functionality.
17. Reference Controls Options table on page 4.
18. Not available with P1, P2, P3, P4, P5, P6, P7, P8, BLC3, BLC4, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
19. CCE option not available with options BS and EGSR. Contact Technical Support for availability.
20. Option HA not available with performance packages P6, P7, P12 and P13.
21. Reference Shipped Accessories table on page 4 to see ordering trees for Controls Table on page 4.
22. Single fuse (SF) requires 120, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF).

Shield Accessories



External Glare Shield (EGSR)



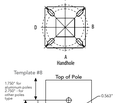
House Side Shield (HS)

Drilling

HANDHOLE ORIENTATION
(from top of pole)



Template #8



Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single (#S)	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
2-3/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490

Mounting Pattern	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side C & D	Round Pole Only	Side A, B, C & D
Drill Pattern/Qty	#8	DM19ARS	DM28ARS	DM29ARS	DM39ARS	DM32ARS	DM49ARS

	Minimum Length of Pole Required for Proper Support					
SPA	#8	3.5"	3.5"	3.5"	3.5"	3.5"
RPA	#8	3"	3"	3"	3"	3"
SPA5	#5	3"	3"	3"	3"	3"
RPA5	#5	3"	3"	3"	3"	3"
SPA3N	#8	3"	3"	3"	3"	3"

DSX0 Area Luminaire - EPA

The table (centered) and integral mounting arm. Other sensors, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration	Single (MS1)	1 @ 120 (SA1)	2 @ 90 (SA2)	3 @ 90 (SA3)	3 @ 120 (SA1)	4 @ 90 (SA4)
Mounting Type						
DSX0 with SPA	0.44	0.88	0.96	1.18	—	1.16
DSX0 with ORS, SPA3N	0.51	1.02	1.06	1.26	—	1.29
DSX0 with RPA, RPA5	0.51	1.02	1.06	1.26	1.24	1.29
DSX0 with RPA	0.64	1.28	1.24	1.67	1.70	1.93

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DSX0 LED
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Mounting, Options and Accessories

Mountings



IS – Adjustable Slipfitter (Fits 2-3/8" O.D. tenon)



YKCA2 - Yoke with 16-3 SO cord, 2ft



THK - Threaded Knuckle with 1/2" NPT threaded pipe

External Shields



UBV Visor Top Mounted



UBV Visor Bottom Mounted



FV - Full Visor

Accessories



VG - Vandal Guard

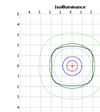


DSXF1/2TS - THK Slipfitter Accessory

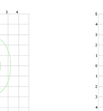
Photometric Diagrams

Full photometric data report available within 2 weeks from request. Contact Acuity Tech Support.

SYMMETRIC CLEAR LENS



ASYMMETRIC CLEAR LENS



Performance Data

Symmetric Clear Lens

Performance Package	Lumens	System Watts	30K (3000K, 70 CRI) Lumens	30K (3000K, 70 CRI) LPW	40K (4000K, 70 CRI) Lumens	40K (4000K, 70 CRI) LPW	50K (5000K, 70 CRI) Lumens	50K (5000K, 70 CRI) LPW
AL02	1	24	3,240	134	3,804	158	3,832	160
AL02	2	42	6,198	147	6,383	152	6,463	154
AL02	3	57	8,540	152	8,909	156	9,021	158
AL02	4	74	11,206	152	11,686	157	11,750	159
AL02	5	89	13,615	153	14,058	158	14,215	160
AL02	6	107	16,234	152	16,778	156	16,949	158
AL02	7	123	18,256	148	18,823	153	19,060	155
AL02	8	152	19,770	130	20,393	134	20,641	136
AL01	1	14	1,868	133	1,926	138	1,951	139
AL01	2	24	3,519	147	3,629	151	3,674	153
AL01	3	32	4,912	154	5,065	158	5,129	160
AL01	4	40	6,298	160	6,598	165	6,681	167
AL01	5	48	8,122	169	8,374	174	8,479	177
AL01	6	57	9,004	170	9,285	175	10,116	177
AL01	7	66	10,898	165	11,238	170	11,379	172
AL01	8	72	11,746	164	12,160	169	12,313	171

Performance Package	Lumens	System Watts	40K (4000K, 90 CRI) Lumens	40K (4000K, 90 CRI) LPW	50K (5000K, 90 CRI) Lumens	50K (5000K, 90 CRI) LPW
AL02	1	26	3,195	123	3,411	131
AL02	2	45	5,628	125	6,012	134
AL02	3	61	7,957	130	8,500	139
AL02	4	79	10,142	128	10,834	137
AL02	5	96	12,261	128	13,178	137
AL02	6	114	14,093	124	15,055	132
AL02	7	132	15,848	120	16,965	128
AL02	8	161	16,293	116	18,078	128
AL01	1	14	1,587	113	1,696	121
AL01	2	25	2,798	112	2,989	120
AL01	3	33	3,877	117	4,142	126
AL01	4	39	5,041	129	5,385	138
AL01	5	47	6,105	130	6,521	139
AL01	6	53	7,085	132	7,483	141
AL01	7	66	7,894	121	8,432	128
AL01	8	66	8,412	127	8,986	136

Symmetric Frost Lens

Performance Package	Setting	System Watts	30K (3000K, 70 CRI) Lumens	30K (3000K, 70 CRI) LPW	40K (4000K, 70 CRI) Lumens	40K (4000K, 70 CRI) LPW	50K (5000K, 70 CRI) Lumens	50K (5000K, 70 CRI) LPW
AL02	1	24	3,296	137	3,598	150	3,650	152
AL02	2	42	6,198	147	6,383	152	6,463	154
AL02	3	57	8,540	150	8,909	156	9,021	158
AL02	4	74	11,206	151	11,686	157	11,750	159
AL02	5	89	13,615	153	14,058	158	14,215	160
AL02	6	107	16,234	152	16,778	156	16,949	158
AL02	7	123	18,256	148	18,823	153	19,060	155
AL02	8	152	19,770	130	20,393	134	20,641	136
AL01	1	14	1,868	133	1,926	138	1,951	139
AL01	2	24	3,519	147	3,629	151	3,674	153
AL01	3	32	4,912	154	5,065	158	5,129	160
AL01	4	40	6,298	160	6,598	165	6,681	167
AL01	5	48	7,740	161	7,981	166	8,081	168

	QTY	LABEL	DESCRIPTION
WALL MOUNTED	7	XT	SEW12146 5FT L20W AN08 120-277V 4000K PSE SMA OAP (6.00 IN.) FIXT. HEAD FACTORY SET TO 50 DEGREE TILT AWAY FROM BLDG.



	QTY	LABEL	DESCRIPTION
WALL MOUNTED	9	XT1	SEW12146 4FT L16W AN08 120-277V 4000K PSE SMA OAP (6.00 IN.) FIXT. HEAD FACTORY SET TO 50 DEGREE TILT AWAY FROM BLDG.



	QTY	LABEL	DESCRIPTION
WALL MOUNTED	1	XT2	SEW12146 6FT L24W AN08 120-277V 4000K SMA PSE OAP12



	QTY	LABEL	DESCRIPTION
WALL MOUNTED	5	XX	VWM-H-L17/840-TL-DBZ-CGL-DIM-UNV (BRONZE COLOR 80CRI)



Styk Exterior Wall - Stem

SEW12146 2.20 in

SPI LIGHTING
PROJECT DETAILS

JOB NAME: SHEETZ
TYPE: 5' Awning Light
NOTES: Fixture head to be fixed at a 5o degree angle down away from the building.

ORDERING CODE: SEW12146 | 5FT-L20W[AN08] | 120-277V | 4000K | PSE | SMA | OAP[6.00in.]
*Please Note: Default specifications " **DF_XXX** " will not appear in the ordering code.*

DESCRIPTION

Styk was built to provide the most lumens with the smallest luminaire package, while optimizing life. Not limited to decorative lighting, effective functional lighting is provided through the optimal light control in this minimal package. It's three optical offerings enable tremendous flexibility including wall washing, wall grazing, and asymmetric lighting solutions. It is excellent at lighting signs and facades. The family features wall, ceiling, and pendant models in a variety of stylish, clean mounting options. Available in 1' to 8' lengths, Styk can be mounted individually or configured in runs.



MADE IN USA · BABA · EMR · IP66 · WET · LED

FEATURES & BENEFITS

- Sleek 1.5" diameter housing
- A forward throw optic, for even wall wash illumination, is standard
- Symmetrical optic options are available for more volumetric illumination
- Lamp body can be rotated up to 330° and locks into position for precise fixture alignment
- Up to 1,450 lumens per foot delivered (with Forward Throw distribution)
- Up to 18" projection with no vertical support needed
- Anodized finish provides durable corrosion protection
- All visible fasteners are flush mounted, providing a clean design
- Handcrafted in USA, BABA Compliant

SPECIFICATIONS

- **LIGHT SOURCE:** IP66 white LED light engine
- **CRI:** 80+ or 90+
- **LUMEN MAINTENANCE:** L70 = >50,000 Hrs.
- **EFFICACY:** 102 lm/W delivered (with Forward Throw distribution)
- **CCT:** 2700K, 3000K, 3500K, 4000K, 5000K
- **VOLTAGE:** 120-277V standard
- **DRIVER:** Includes one remote damp listed Class 2 power supply 8FT-L113W which has two. 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 factory.
- **DIMMING:** 0-10V controls standard to 1%
- **CONTROLS:** Contact factory for control options (e.g., Lutron Athena, Current NX, nLight, Enlighted, Encelium, Wattstopper, WaveLinx, or Casambi).
- **EMERGENCY:** Remote battery option is provided with 10W Constant Power Battery back-up, providing 90 Minutes of Emergency operation. Contact factory for other Emergency options.
- **INTEGRATED SURGE PROTECTION:** LED components are protected against minor surge events
- **CONSTRUCTION:** Extruded aluminum construction provides durable protection for internal components and is recyclable
- **FINISH:** Housing available in anodized finishes only. End caps and mounting components painted to match.
- **MODIFICATIONS:** Consult factory for all modification requests, including RGB and static LED colors
- **APPROVALS:** ETL listed to UL standards (US and Canada) for use in wet locations

Styk Exterior Wall - Stem

SEW12146 2.20 in

SPI LIGHTING
PROJECT DETAILS

JOB NAME: SHEETZ
TYPE: 4' Awning Light
NOTES: Fixture head to be fixed at a 5o degree angle down away from the building.

ORDERING CODE: SEW12146 | 4FT-L16W[AN08] | 120-277V | 4000K | PSE | SMA | OAP[6.00in.]
*Please Note: Default specifications " **DF_XXX** " will not appear in the ordering code.*

DESCRIPTION

Styk was built to provide the most lumens with the smallest luminaire package, while optimizing life. Not limited to decorative lighting, effective functional lighting is provided through the optimal light control in this minimal package. It's three optical offerings enable tremendous flexibility including wall washing, wall grazing, and asymmetric lighting solutions. It is excellent at lighting signs and facades. The family features wall, ceiling, and pendant models in a variety of stylish, clean mounting options. Available in 1' to 8' lengths, Styk can be mounted individually or configured in runs.



MADE IN USA · BABA · EMR · IP66 · WET · LED

FEATURES & BENEFITS

- Sleek 1.5" diameter housing
- A forward throw optic, for even wall wash illumination, is standard
- Symmetrical optic options are available for more volumetric illumination
- Lamp body can be rotated up to 330° and locks into position for precise fixture alignment
- Up to 1,450 lumens per foot delivered (with Forward Throw distribution)
- Up to 18" projection with no vertical support needed
- Anodized finish provides durable corrosion protection
- All visible fasteners are flush mounted, providing a clean design
- Handcrafted in USA, BABA Compliant

SPECIFICATIONS

- **LIGHT SOURCE:** IP66 white LED light engine
- **CRI:** 80+ or 90+
- **LUMEN MAINTENANCE:** L70 = >50,000 Hrs.
- **EFFICACY:** 102 lm/W delivered (with Forward Throw distribution)
- **CCT:** 2700K, 3000K, 3500K, 4000K, 5000K
- **VOLTAGE:** 120-277V standard
- **DRIVER:** Includes one remote damp listed Class 2 power supply 8FT-L113W which has two. 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 factory.
- **DIMMING:** 0-10V controls standard to 1%
- **CONTROLS:** Contact factory for control options (e.g., Lutron Athena, Current NX, nLight, Enlighted, Encelium, Wattstopper, WaveLinx, or Casambi).
- **EMERGENCY:** Remote battery option is provided with 10W Constant Power Battery back-up, providing 90 Minutes of Emergency operation. Contact factory for other Emergency options.
- **INTEGRATED SURGE PROTECTION:** LED components are protected against minor surge events
- **CONSTRUCTION:** Extruded aluminum construction provides durable protection for internal components and is recyclable
- **FINISH:** Housing available in anodized finishes only. End caps and mounting components painted to match.
- **MODIFICATIONS:** Consult factory for all modification requests, including RGB and static LED colors
- **APPROVALS:** ETL listed to UL standards (US and Canada) for use in wet locations

Styk Exterior Wall - Stem

SEW12146 2 in

SPI LIGHTING
PROJECT DETAILS

JOB NAME: SHEETZ
TYPE:
NOTES:

ORDERING CODE: SEW12146 | 5FT-L20W[AN08] | 120-277V | 4000K | SMA
*Please Note: Default specifications " **DF_XXX** " will not appear in the ordering code.*

DESCRIPTION

Styk was built to provide the most lumens with the smallest luminaire package, while optimizing life. Not limited to decorative lighting, effective functional lighting is provided through the optimal light control in this minimal package. It's three optical offerings enable tremendous flexibility including wall washing, wall grazing, and asymmetric lighting solutions. It is excellent at lighting signs and facades. The family features wall, ceiling, and pendant models in a variety of stylish, clean mounting options. Available in 1' to 8' lengths, Styk can be mounted individually or configured in runs.



designed for LED · WET · EMR

FEATURES & BENEFITS

- Sleek 1.5" diameter housing
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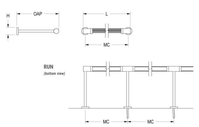
- Symmetrical optic options are available for more volumetric illumination
- Lamp body can be rotated up to 330° and locks into position for precise fixture alignment
- Up to 1,450 lumens per foot delivered (with Forward Throw distribution)
- Up to 18" projection with no vertical support needed
- Anodized finish provides durable corrosion protection
- All visible fasteners are flush mounted, providing a clean design
- Handcrafted in USA

SPECIFICATIONS

- **LIGHT SOURCE:** IP66 white LED light engine
- **CRI:** 80+ (contact factory for 90+)
- **LUMEN MAINTENANCE:** L70 = >50,000 Hrs.
- **EFFICACY:** 102 lm/W delivered (with Forward Throw distribution)
- **CCT:** 3000K, 3500K, or 4000K
- **VOLTAGE:** 120-277V standard
- **DRIVER:** Includes one remote damp listed Class 2 power supply 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 factory.
- **DIMMING:** 0-10V controls standard to 1%
- **EMERGENCY:** Emergency battery remote optional
- **INTEGRATED SURGE PROTECTION:** LED components are protected against minor surge events
- **CONSTRUCTION:** Extruded aluminum construction provides durable protection for internal components and is recyclable
- **FINISH:** Housing available in anodized finishes only. End caps and mounting components painted to match.
- **MODIFICATIONS:** Consult factory for all modification requests, including RGB and static LED colors
- **APPROVALS:** ETL listed to UL standards (US and Canada) for use in wet locations

DIMENSIONS



1FT	L 17.5 in / 44.4 cm	H 2.2 in / 5.6 cm	OAP 12 in / 30.5 cm	MC 16.2 in / 41.1 cm	
2FT	L 29.2 in / 74.2 cm	H 2.2 in / 5.6 cm	OAP 12 in / 30.5 cm	MC 28 in / 71.1 cm	
3FT	L 41 in / 104.1 cm	H 2.2 in / 5.6 cm	OAP 12 in / 30.5 cm	MC 39.7 in / 100.8 cm	
4FT	L 52.5 in / 133.4 cm	H 2.2 in / 5.6 cm	OAP 12 in / 30.5 cm	MC 51.2 in / 130 cm	
5FT	L 64.3 in / 163.8 cm	H 2.2 in / 5.6 cm	OAP 12 in / 30.5 cm	MC 63.2 in / 160.5 cm	
6FT	L 78.2 in / 198.6 cm	H 2.2 in / 5.6 cm	OAP 12 in / 30.5 cm	MC 77 in / 195.6 cm	
8FT	L 102.2 in / 259.6 cm	H 2.2 in / 5.6 cm	OAP 12 in / 30.5 cm	MC 101 in / 256.5 cm	

Mounting Weight: Approximate: 5 lb (3 kg)
Mounting Weight: Approximate: 5 lb (3 kg)
Mounting Weight: Approximate: 5 lb (3 kg)
Mounting Weight: Approximate: 5 lb (3 kg)
Mounting Weight: Approximate: 10 lb (5 kg)
Mounting Weight: Approximate: 10 lb (5 kg)
Mounting Weight: Approximate: 10 lb (5 kg)

Shimstone Design Studio
LIGHTING DESIGN

SHEETZ 2.0

VWM LED Voltaire Mini Architectural Wall Pack

Williams

CATALOG #
TYPE:
PROJECT





VWM-H Front view
Weight: 6.5 Lbs.

FEATURES

- Designed to illuminate sidewalks, entrances, and pathways. Ideal
- Intended for use in both uplight and downlight applications.
- Efficacy: Up to 80% energy compared to HID systems.
- Blends seamlessly with a variety of architectural styles.
- Available on Quick Ship
- Made-Right-Here™ in the USA

SPECIFICATIONS

- HOUSING – Die-cast aluminum enclosure.
- THERMAL MANAGEMENT – Integral die-cast aluminum heat sink fins and base provide passive thermal management. Rated ambient operating temperature: -40°C to 50°C (-5°F to 122°F). Suitable for wet locations.
- OPTICAL SYSTEM – General output distribution (GO).
- LED SOURCE – 4485 3000K, 4000K, or 5000K CCT, 70 or 80 CRI LEDs. L20 two-panel board design. L16 & L17: Chip-on board.
- LED DRIVER – 0-10V dimming. Universal voltage 120-277V, 50/60Hz. Total current draw = 96.7mA. 120-347V, power factor > 90, THD <20%, at full load. FCC Class A compliant. Quick Ship configurations are pre-calculated L70 >50,000 hours per IES TM-21.
- FINISH – Super durable polyester powder coat finish applied to corrosion free, multi-stage pretreated metal, meets and exceeds 3M® 4090 specifications for 5000 hours.
- MOUNTING – Surface mounts directly over a 4" maximum outlet box. Must be mounted to a minimum 2" deep box with a solid support fixture weight (6.5 lbs.).
- LISTINGS –
  - Listed and certified as luminaire suitable for wet locations.
  - IDA Dark Sky approved (downlight configurations only).
  - RoHS compliant.
  - IP65 rated
  - Title 24 compliant with PC option.
- WARRANTY – 5-year limited warranty, see [warranty].

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

ORDERING INFO

SERIES	TYPE [1]	LUMENS [2]	CRI/CCT	DISTRIBUTION [3]
VWM	H Horizontal	L16 1,600lm	70 3000K	TL Lambertian
	V Vertical	L17 1,700lm [4]	730 3500K	T3 Type III [4]
		L20 2,000lm	740 4000K	
		80 CRI	750 5000K	
		L16 1,600lm	2700	
		L17 1,700lm	830 3000K	
			840 4000K	

SHIELDING	
SDGL	Micro-prismatic tempered glass lens
CGL	Clear tempered glass lens

FINISH OPTIONS [1]	
BLK	Black (BAL #9004)
DBZ	Dark bronze
DBR	Medium bronze
GRA	Graphite
SLV	Satin aluminum (BAL #9006)
WHT	White (BAL #9003)

OPTIONS	
PC	Button-style photocell [5]
DMG	10kA/5kV surge protection
TP	Tamper-resistant Torx head screws [6]

CONTROL	
DIM	Dimming driver powered for 0-10V (no voltage applications)

VOLTAGE	
120	120V
208	208V
277	277V
UNV	120-277V

ACCESSORIES

TPTA 25 TOOL Tamper-resistant tool for Torx head screws. [7]

QUICKSHIP

VWM-H-L16/840-TL-DBZ-CGL-GS-DIM-UNV
VWM-H-L17/840-TL-DBZ-CGL-GS-DIM-UNV

NOTES

1. Specify 2 for FIXTURE DETAILS.
2. Lumens rated based on 5000 CCT. Actual lumens may vary +/- 5%, see page 2 for FIXTURE PERFORMANCE DATA.
3. Specify 2 for DISTRIBUTION DETAILS.
4. Available with T3/CGL/CCT only.
5. 120 & 277 only.
6. Specify 2 for FINISH OPTIONS.
7. Factory-installed. 120V, 208V, or 277V only; must specify voltage. See page 2 for FIXTURE DETAILS. Loft style when viewed from behind fixture.
8. Tamper-resistant Torx head screws only. Safety screws providing added support to the lens are not tamper-resistant (lens is sealed to the fixture via adhesive). Requires a tamper-resistant tool, see accessories.
9. Tamper-resistant tool must be ordered separately. Please specify quantity required per project.

SDS PROJECT #: 0609.0 **MODEL #:** REFER TO LIGHTING FIXTURE SCHEDULE FOR MODEL NUMBER AND DESCRIPTION **TYPE: XS2**

Shimstone Design Studio
LIGHTING DESIGN

SHEETZ 2.0

VWM LED Voltaire Mini Architectural Wall Pack

FIXTURE PERFORMANCE DATA

	LED PACKAGE	DISTRIBUTION	WATTAGE	CCT	CLEAR GLASS (CGL) DELIVERED LUMENS	CLEAR GLASS (CGL) EFFICACY (lm/W)	SOLITE GLASS (SDGL) DELIVERED LUMENS	SOLITE GLASS (SDGL) EFFICACY (lm/W)	BUG RATINGS
VWM	L16	TL	11	3000	1,167	102	1,029	90	B1-U0-G2
				4000	1,275	107	1,063	107	
	L17		14	3000	1,486	102	1,310	90	
				4000	1,623	112	1,353	93	
			16	4000	1,623	108	1,467	92	
				5000	2,137	125	2,012	124	
	L20	T3	21	4000	2,664	108	2,331	107	B1-U0-G1
				5000	3,508	125	3,070	124	
			28	4000	3,550	115	3,018	114	
				5000	4,677	132	3,977	131	
VWM	L16	TL	11	3000	1167	86	1165	86	B1-U0-G2
				4000	1275	93	1063	93	
	L17		14	3000	1486	83	1310	83	
				4000	1623	102	1470	102	
			16	4000	1162	82	1058	82	
				5000	1864	74	1862	74	
	L20	T3	21	4000	2664	108	2331	107	B1-U0-G1
				5000	3508	125	3070	124	
			28	4000	3550	115	3018	114	
				5000	4726	104	4060	102	

- Voltage shown is average for 120V through 277V input.
- Efficacy/lumen output shown is average based on voltage input of 120V through 277V.
- Photometrics tested in accordance with IESNA LM-79. Results shown are based on 25°C ambient temperature.

LUMEN MAINTENANCE

	AMBIENT TEMP	REPORTED LTN HOURS TM-21
25	25°C	>60,000
40	40°C	>60,000
25	25°C	>55,000
40	40°C	>55,000

- Predicted lumen maintenance calculated from LED manufacturer IES LM-80 data and in-situ temperature measurement.
- Reported LTN hours in accordance with IES TM-21.

DISTRIBUTION DETAILS

VWM-H-TL



VWM-V-TL



VWM-H-T3

Clear Glass (CGL)

VWM-V-T3

Solite Glass (SDGL)

SDS PROJECT #: 0609.0 **MODEL #:** REFER TO LIGHTING FIXTURE SCHEDULE FOR MODEL NUMBER AND DESCRIPTION **TYPE: XS2**

REDLEONARD ASSOCIATES
1340 Kemper Meadow Dr, Forest Park, OH 45240
513-574-9500 | redleonard.com

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PROJECT NAME:
SHEETZ
CLARKSTON, MI
DRAWING NUMBER:
RL-11279-S1-R1

SHEETZ

DOWNLIGHT



STREET WRAP

AREA



FLOOD



CANOPY

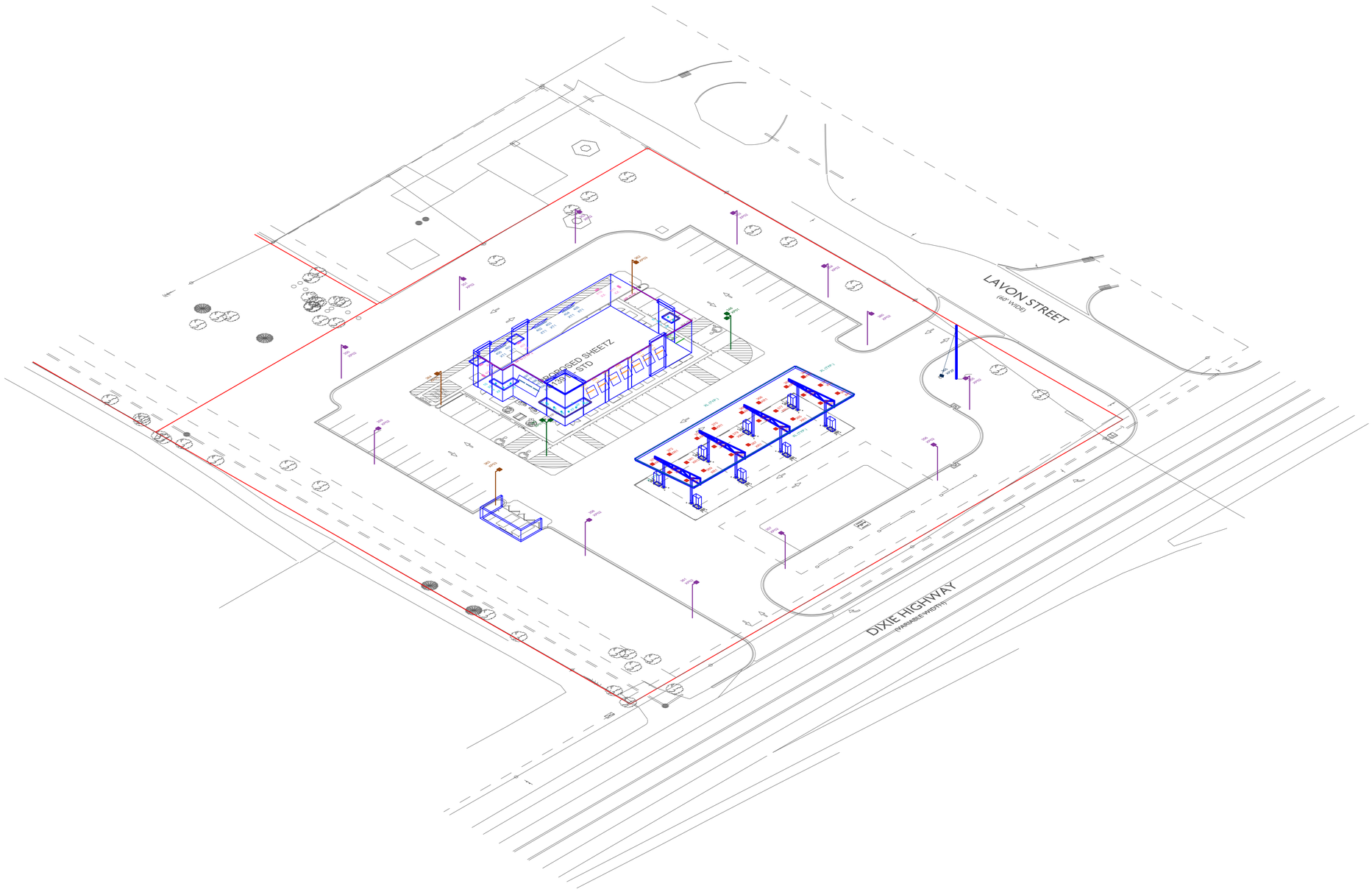


WALL MOUNTED



WALL MOUNTED





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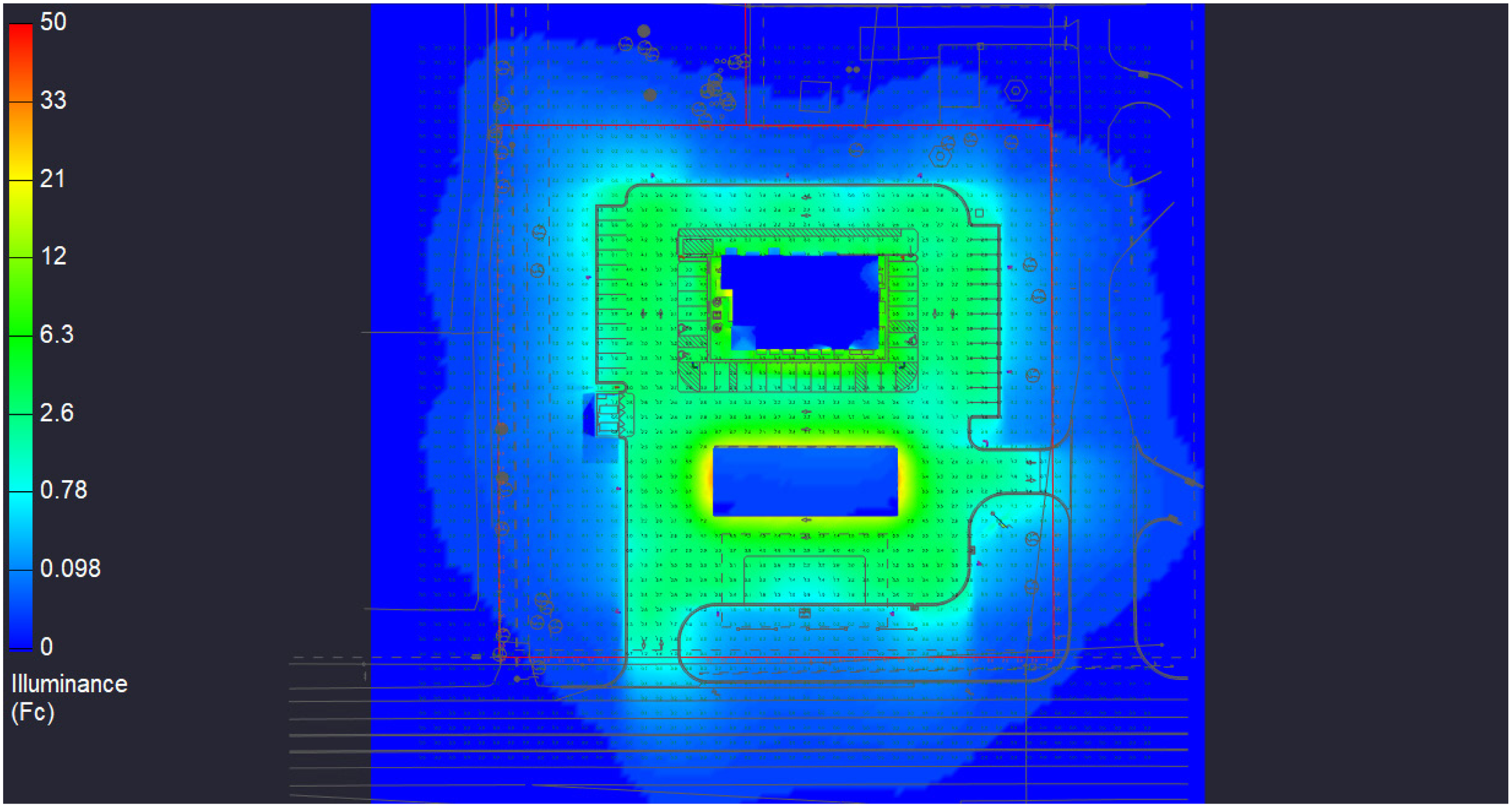
PROJECT NAME:
SHEETZ
CLARKSTON, MI
DRAWING NUMBER:
RL-11279-S1-R1

SHEETZ



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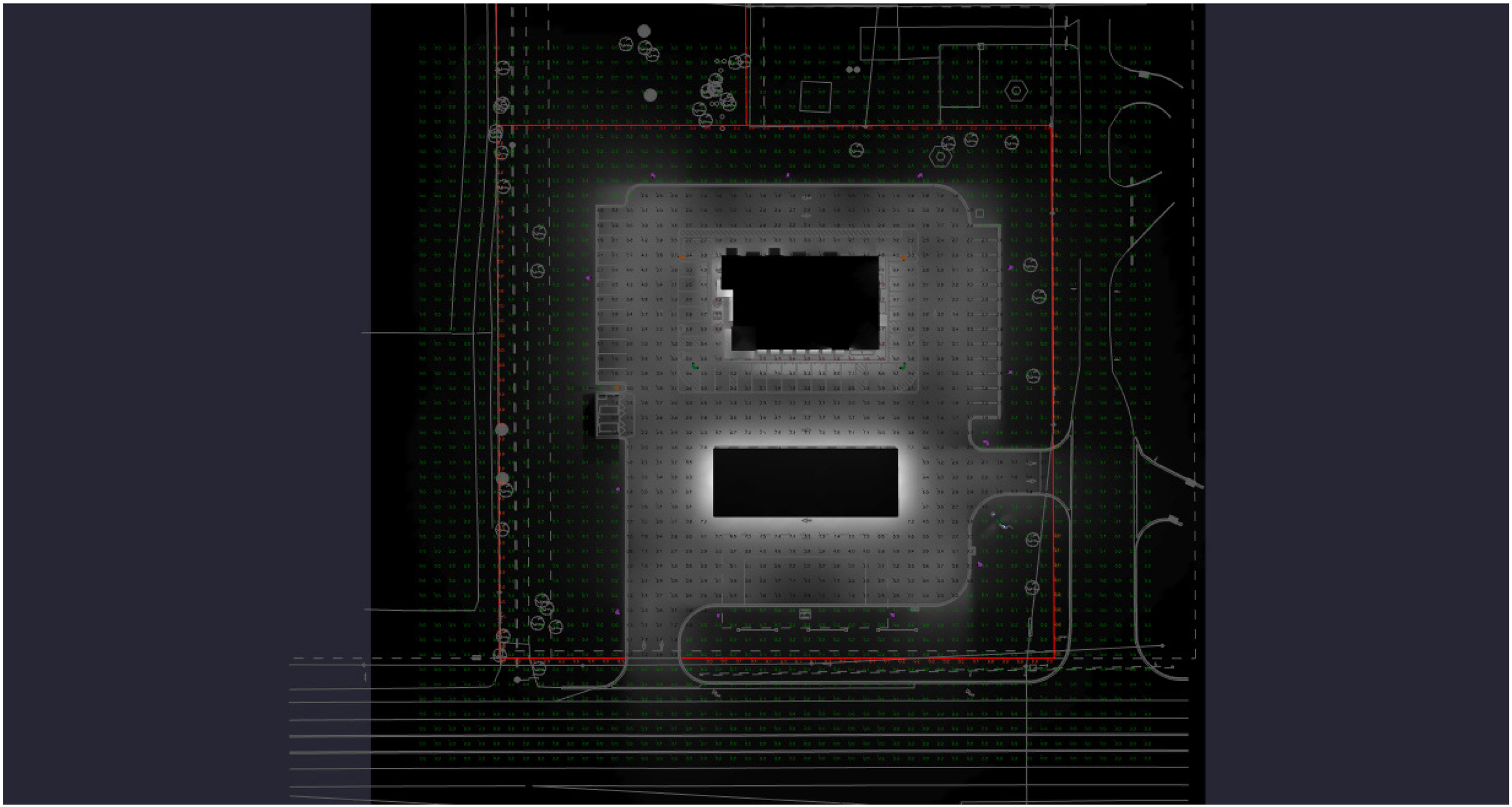

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PROJECT NAME:
SHEETZ
CLARKSTON, MI

DRAWING NUMBER:
RL-11279-S1-R1

SHEETZ

June 19, 2026

Springfield Township
12000 Davisburg Road.
Davisburg, MI 48350

Re: Sheetz
Lavon Dr.
Springfield Township, MI
Dixie Highway Design Guidelines

To Whom It May Concern:

After review of the Dixie Highway Design Guidelines and incorporation of required elements into our design; I would like to walk you through the proposed elevations for the new Sheetz store to be located at the intersection of Lavon Drive and the Dixie Highway, Springfield Township, Michigan.

Sidewalk pavers are to be provided at all customer/pedestrian contact areas. We are using the stone fence pier detail and adding it to our outdoor dining/ patio area fence.

A dark bronze roof screen has been added to simulate a low slope hip roof with overhangs of the Prairie style. The exterior façade of our store has a neutral stone watertable with red brick above. Horizontal brick soldier coursing has been incorporated around the perimeter of the store to break up the brick façade. The trim around door and window openings and the parapet cap is dark bronze. The window awnings, mapes canopies and cupola roof are also metal. Even though we are trending in the Prairie style of architecture, we have used the Craftsman style of windows and have included decorative window mullions in the upper portion of the windows.

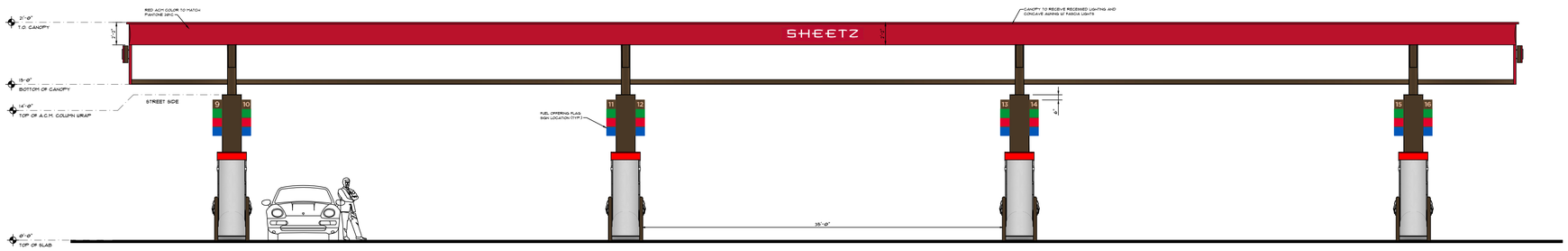
It is my hope that this design is found acceptable to the Dixie Highway Design Guidelines. If additional revisions are required, please let me know.

Please feel free to reach out to Rebecca Hawranick with any questions at 814-600-9740.

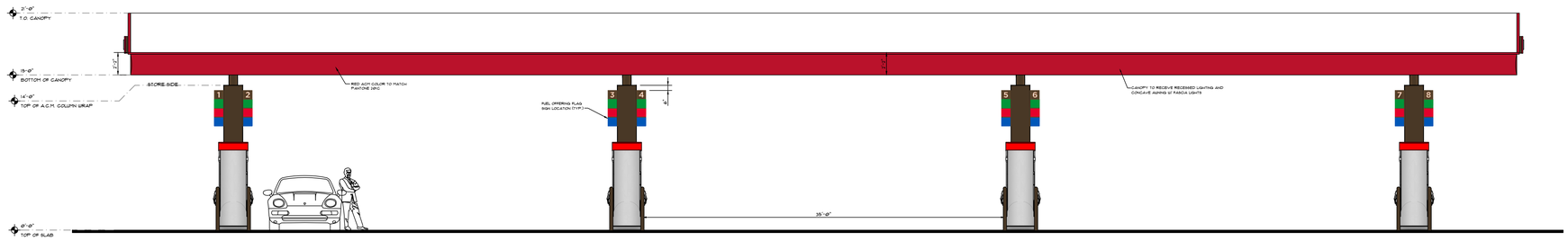
Very truly yours,

Rebecca Hawranick AIA, NCARB, LEED AP
Architect I

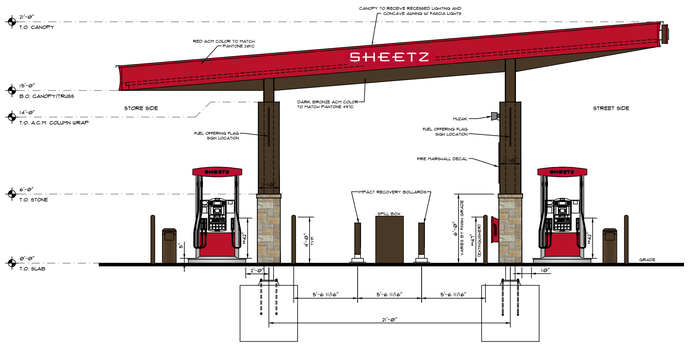
Convenience Architecture and Design P.C.
242 Sheetz Way
Claysburg, PA 16625
www.sheetz.com



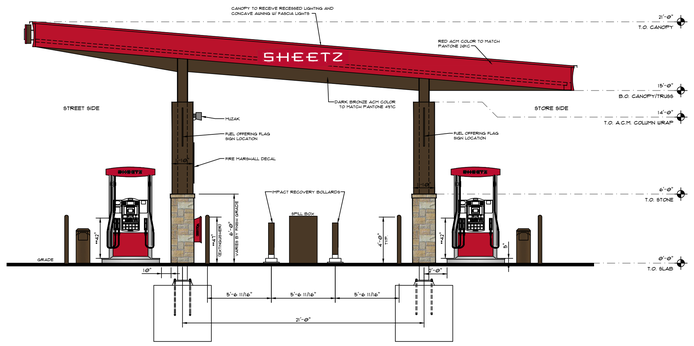
SIDE 'B' ELEVATION
SCALE: 3/16" =1'-0"



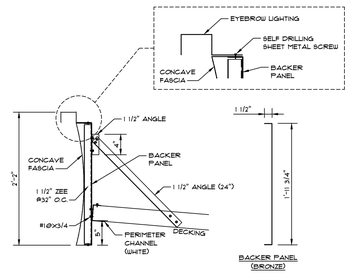
SIDE 'D' ELEVATION
SCALE: 3/16" =1'-0"



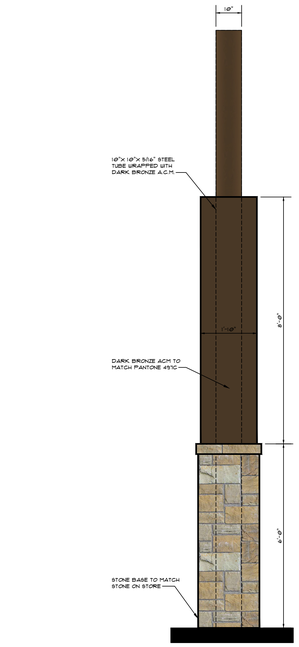
SIDE 'A' LEFT SIDE ELEVATION
SCALE: 3/16" =1'-0"



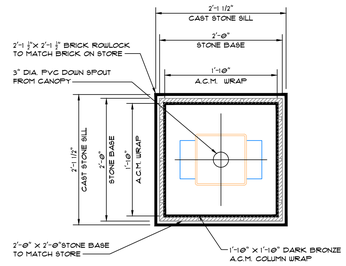
SIDE 'C' RIGHT SIDE ELEVATION
SCALE: 3/16" =1'-0"



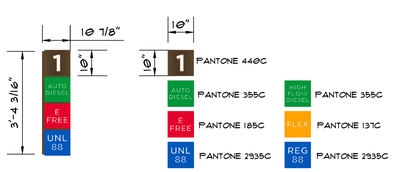
CONCAVE FASCIA MOUNTING DETAIL
SCALE: 1/4" =1'-0"



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

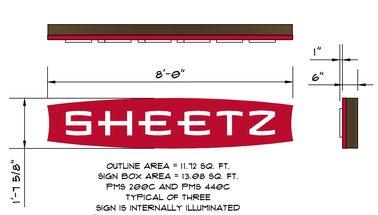


STONE COLUMN BASE DETAIL
SCALE: 1/4" =1'-0"



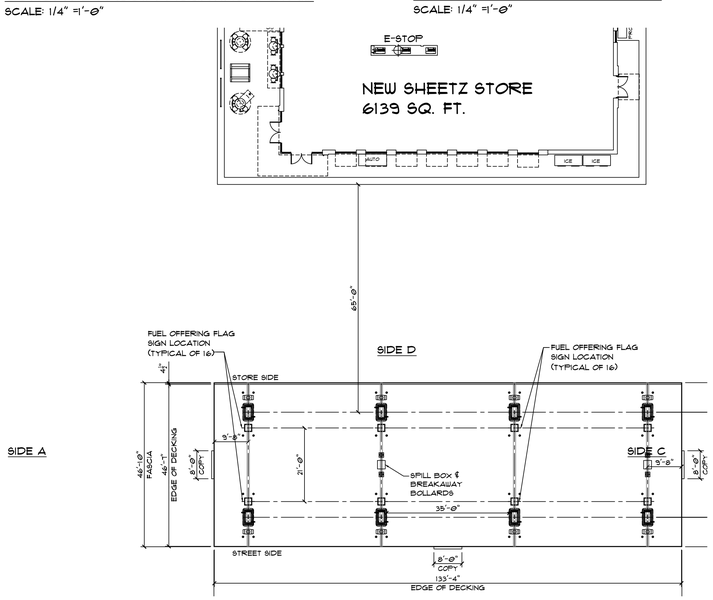
DISPENSER NUMBER AND FUEL OFFERING FLAG
VARIES PER SITE/ DISPENSER
2 PER COLUMN ON STORE SIDE COLUMNS
0.69 SQ. FT. PER PANEL
2.76 SQ. FT. MAX/FLAG

DOUBLE FACED FUEL OFFERING FLAG SIGN DETAILS
SCALE: 1/2" =1'-0"



OUTLINE AREA = 11.72 SQ. FT.
SIGN BOX AREA = 13.08 SQ. FT.
PMS 200C AND PMS 440C
TYPICAL OF THREE
SIGN IS INTERNALLY ILLUMINATED
PIN-MOUNTED TO CURVED AWNNG

CANOPY MOUNTED SHEETZ SIGN DETAIL
SCALE: 1/2" =1'-0"



PLAN VIEW FOR LOGO LOCATIONS

Convenience Architecture and Design P.C.
351 Sheetz Way, Claysburg, PA 16625
phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:
NEW SHEETZ STORE

SPRINGFIELD LAVON

Int. of Dixie Highway
and Lavon Drive
Springfield
Michigan

OWNER:
SHEETZ, INC.

5700 SIXTH AVE.
ALTOONA, PA 16602

CONSULTANT

PROFESSIONAL

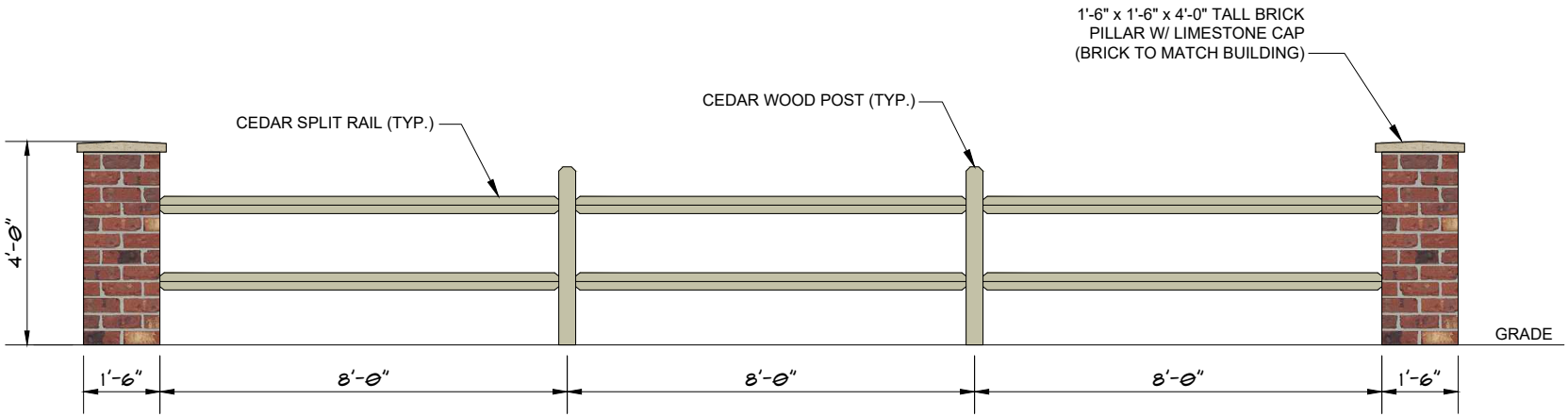
KEYPLAN

MARK	DATE	DESCRIPTION

ISSUE: 01-30-2025
PROJECT NO:
AUTHOR BY: DNC
REVIEW BY:
SHEET TITLE

GAS AWNING

AWNING



NOTE: CEDAR WOOD TO REMAIN
UNFINISHED TO WEATHER NATURALLY

SCALE:
DATE: 06/22/2026
DRAWN BY: DNC

SPLIT FENCE DETAIL

SHEET 2

DATE	BY	DESCRIPTION

REVISIONS

June 19, 2026

Springfield Township
12000 Davisburg Road.
Davisburg, MI 48350

Re: Sheetz
Lavon Dr.
Springfield Township, MI
Dixie Highway Design Guidelines

To Whom It May Concern:

After review of the Dixie Highway Design Guidelines and incorporation of required elements into our design; I would like to walk you through the proposed elevations for the new Sheetz store to be located at the intersection of Lavon Drive and the Dixie Highway, Springfield Township, Michigan.

Sidewalk pavers are to be provided at all customer/pedestrian contact areas. We are using the stone fence pier detail and adding it to our outdoor dining/ patio area fence.

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It is my hope that this design is found acceptable to the Dixie Highway Design Guidelines. If additional revisions are required, please let me know.

Please feel free to reach out to Rebecca Hawranick with any questions at 814-600-9740.

Very truly yours,

Rebecca Hawranick AIA, NCARB, LEED AP
Architect I

Convenience Architecture and Design P.C.
242 Sheetz Way
Claysburg, PA 16625
www.sheetz.com

June 5, 2026

Ashley Riba
Skilken Gold
4270 Morse Road
Columbus, OH 43230

Re: Wetland Delineation and Invasive Species Report – 8500 Dixie Highway, Springfield Township, Oakland County, Michigan
Barr Project: 22631382.00

Dear Ms. Ashley Riba:

Pursuant to your request, Barr Engineering Michigan, LLC. (Barr) conducted a wetland delineation at 8500 Dixie Highway, Springfield Township, Oakland County, Michigan on May 27, 2026. One unnamed watercourse and one wetland (Wetland A) likely regulated by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) was identified onsite. In regard to invasive species, of the three invasive species Springfield Township requires management for, only black and pale swallow wort (*Cynanchum louisea // Vincetoxicum nigrum* and *Cynachum rossicum // Vincetoxicum rossicum*, respectively) were identified onsite. This report summarizes the wetland delineation results and rationale for the regulatory determination completed by Barr as well as the invasive species survey results and proposed management plan.

1 Area of Investigation Description

The Area of Investigation (AOI) includes parcel numbers 07-24-201-003 and 07-24-201-019 located at the above-referenced location as shown on Figure 1. Approximate Area of Investigation. Surrounding land uses include commercial developments, residential developments, Interstate 75 and associated on and off ramps, forested areas, and open grassy areas. Within the AOI, there is a gas station with mowed lawn, forested areas, open grassy areas, wetlands, and an unnamed watercourse.

2 Wetland Delineation

2.1 Desktop Review

Barr conducted a desktop review of the site to evaluate aerial imagery, topography, soil types, and mapped wetlands within the site prior to the wetland delineation. As part of the desktop review, Barr staff reviewed resources such as aerial photography (Figure 1), the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) Soil Units (Figure 2. Web Soil Survey Soil Map Units), and the EGLE Wetland Map Viewer (Figure 3. EGLE Wetlands Map Viewer).

There are three soil units present on site including Houghton and Adrian mucks, 0 to 1 percent slopes (27, very poorly drained); Ormas loamy sand, 0 to 6 percent slopes (67B, well drained); and Ormas loamy sand, 6 to 12 percent slopes (67C, well drained) as shown on Figure 2. The soil unit Houghton and Adrian mucks is considered hydric by the WSS.

The EGLE Wetlands Map Viewer identified both wetlands and areas of wetland soils, as identified by the National Wetlands Inventory (NWI) and Michigan Resource Inventory System (MIRIS) within the AOI.

2.2 Methodology

Barr investigated the AOI for the presence of any lakes, ponds, wetlands, and watercourses based on *MCL 324 Part 301 (Inland Lakes and Streams)* and *Part 303 (Wetland Protection).* The wetland delineation was conducted in a manner consistent with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0,* USACE 2012*).* Wetland delineation procedures outlined in these manuals require the evaluation of on-site vegetation, soils, and hydrologic characteristics. Site observations are described in the sections below. The wetland boundaries were flagged in the field with alphanumerically labeled pink pin flags and/or pink flagging tape. Flagging was located using a GPS unit capable of sub-meter accuracy.

2.3 Results

The AOI includes an unnamed watercourse and emergent wetland habitat (Wetland A). Figure 4. Wetland Delineation depicts the GPS-surveyed locations of wetlands within the AOI as well as the approximate location of the unnamed watercourse. Attachment A – USACE Wetland Determination Data Forms provide additional details for identified wetlands.

2.3.1 Watercourses

An unnamed watercourse enters from the northwest corner of the site, flows through Wetland A, and leaves the AOI to the northeast. This watercourse included a defined bed and banks and evidence of flow and therefore meets the definition of a stream under Part 301.

2.3.2 Wetland A

Wetland A contains emergent wetland, as well as the unnamed watercourse. Wetland A is in the northern portion of the AOI, is approximately 0.24 acres on site, and is bound by flags A1 – A9. Vegetation encountered in this wetland includes skunk cabbage (*Symplocarpus foetidus*) and eastern red cedar (*Juniperus virginiana*). In addition to wetland vegetation, the wetland soil indicator loamy mucky mineral was met. Wetland hydrology included the observation of saturation, geomorphic position, and passing the FAC-neutral test.

2.3.3 Adjacent Uplands

In contrast, the upland areas contained plants such as black cherry (*Prunus serotina*), sugar maple (*Acer saccharum*), red oak (*Quercus rubra*), European buckthorn (*Rhamnus cathartica*), oriental bittersweet (*Celastrus orbiculatus*), annual bluegrass (*Poa annua*), Scots pine (*Pinus sylvestris*), black locust (*Robinia pseudocacia*), bull thistle (*Cirsium vulgare*), and box elder (*Acer negundo*). Although indicators of hydric soils and secondary indicators of hydrology were occasionally observed in areas determined to be upland, wetland vegetation was not satisfied and hydrology indicators were not sufficient to qualify the area as a wetland..

3 Invasive Species Survey

3.1 Methodology

An invasive species survey and management plan was completed for the AOI in accordance with *Springfield Charter Township, (Oakland Co.), Michigan Code of Ordinances, Chapter 12 – Environment, Article V. – Invasive Species Control*. Springfield Charter Township requires survey for and management of Japanese knotweed (*Reynoutria japonica*), common reed (*Phragmites australis*), and black and pale swallow wort (*Cynanchum louisea // Vincetoxicum nigrum* and *Cynachum rossicum // Vincetoxicum*

rossicum, respectively). The AOI was investigated in transects for any presence of the above invasive species. Locations of invasive species were delineated with a GPS-unit capable of sub-meter accuracy and areas of invasive species were described by species type and density.

3.2 Invasive Species Survey Results

No areas of Japanese knotweed or common reed were identified within the AOI during the May 27, 2026, site visit. Areas of black and pale swallow wort were identified throughout the AOI, primarily in southwest and west central wooded areas. Patches of swallow wort ranged from single plants to approximately 4,814 square feet. Density of the swallow wort ranged from sparse to moderate. Invasive species GPS-surveyed locations are identified on Figure 5. Invasive Species.

3.3 Invasive Species Management Plan

3.3.1 Initial Chemical Treatment

Prior to construction, a qualified person(s) possessing a pesticide applicators license through the Michigan Department of Agriculture and Rural Development should apply a triclopyr mixture through foliar spray to the swallow wort. The triclopyr amine formulation (Garlon 3A) is recommended because it can be used safely in wetlands. Although swallow wort was not observed within the wetland, the amine formulation is still recommended as a precaution because infestations occur near the onsite wetland and watercourse, helping protect local habitats. The amine formulation should be used with a wetland-approved non-ionic surfactant due to the waxy cuticle present on black and pale swallow wort.

3.3.2 Mechanical Removal of Invasives During Construction

During construction, much of the soil surface where the invasive species are present will be removed, thereby mechanically removing invasive species. Special care must be taken when removing soil with areas of invasive species. The black and pale swallow wort plant should be removed entirely, ensuring all of the root crown is removed. Although black and pale swallow wort cannot spread through rhizomes, a plant may regenerate if any part of the root crown is left in the ground. All removed plant material must be bagged in black trash bags and disposed of at a landfill or burned.

3.3.3 Long Term Management

After surface soil removal, areas with any remaining black and pale swallow wort should be treated according to Section 3.3.1. After construction, treatment should continue until development is complete and the site is stabilized.

Once a year, during the growing season in late May or early June, an ecologist, botanist, or otherwise qualified individual should note presence, location with GPS, density, and size of area of invasive species, if observed. Invasive species observed will be treated according to the management plan discussed in Section 3.3.1.

4 Conclusions

Based on observations of topography, vegetation, soil, and indicators of hydrology, Barr has determined that wetland habitat is present within the AOI. According to Part 303, Wetlands Protection, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, wetlands regulated by the State of Michigan include wetlands that are:

1. Located within 500 feet of, or having a direct surface water connection to, an inland lake, pond, river, or stream; or
2. Greater than 5 acres in size; or
3. Located within 1,000 feet of, or having a direct surface water connection to, the Great Lakes or Lake St. Clair; or
4. A water of the United States as that term is used in section 502(7) of the Federal Water Pollution Control Act, 33 USC 1362; or
5. Known to have a documented presence of an endangered or threatened species under Part 365 of State of Michigan 1994 PA 451, as amended or the Federal Endangered Species Act of 1973, Public Law 93-205; or
6. Rare or imperiled.

In addition to those resources regulated by EGLE, some communities have wetland ordinances and/or natural feature setback requirements. This is not the case for Springfield Charter Township.

It is Barr's opinion that the AOI includes one watercourse and one wetland (Wetland A) likely regulated by EGLE under Part 301 and Part 303, respectively. Wetland A is likely regulated because it is contiguous to a regulated stream. Contiguous is defined by EGLE as being within 500 feet of the stream or having a direct surface or groundwater connection. Permits from EGLE would be required to place fill or structures, excavate soil, drain surface water, or make use of Wetlands A or the watercourse.

Regarding invasive species, only one invasive species recognized by Springfield Charter Township was identified onsite, black and pale swallow wort. The invasive species should be managed according to the plan described in Section 3.3. Monitoring and continued treatment should occur until the population of swallow wort has been eliminated.

5 Limitations

Please be advised that EGLE and in some cases, USACE, have regulatory authority regarding the wetland boundary location(s) and jurisdictional status of wetlands in the State of Michigan.

Barr's wetland determination was performed in general accordance with accepted procedures for conducting wetland determinations in the state of Michigan. Barr provides no warranty, guarantee, or other agreement in respect to the period of time for which this wetland determination will remain valid. Barr's conclusions reflect our professional opinion based on the site conditions within the AOI observed during the site visits. Discrepancies may arise between current and future wetland determinations and delineations due to changes in vegetation and/or hydrology as the result of land use practices or other environmental factors, whether on-site or on adjacent or nearby properties. In addition, wetland delineations performed outside the growing season, typically from late-October until late-April, may differ from those performed at the same site during the growing season.

We recommend that our wetland boundary determination and jurisdictional opinion be reviewed by EGLE prior to undertaking any earthmoving, site clearing, or hydrology altering activities on the site.

Thank you for the opportunity to provide this wetland delineation. If you have any questions, please contact me at your convenience at 734.922.4439 or dknox@barr.com.

Sincerely,

Barr Engineering Michigan, LLC



Alison McClear
Environmental Scientist



Dana R. Knox, SPWS,
Senior Environmental Consultant
Certification No. 213

Enclosed:

Figure 1	Approximate Area of Investigation
Figure 2	Soil Units
Figure 3	EGLE Wetland Map Viewer
Figure 4	Wetland Delineation
Figure 5	Invasive Species
Attachment A	USACE Wetland Determination Data Forms

Figures





Approx. Parcel Boundary

Approx. Area of Investigation (AOI)

0 125 250

Feet

Imagery: Nearmap (4/7/2026)

Approximate Area of Investigation
8500 Dixie Highway
Springfield Township
Oakland County, Michigan
For Skilken Gold

FIGURE 1

BARR

Barr Footer: ArcGISPro 3.6.1, 2026-05-15 11:39 File: I:\Projects\23\6313\82\Maps\Reports\WetlandDelineation\WetlandDelineation.aprx Layout: Fig01 Approximate Area of Investigation User: erm3



Soil Units within the Area of Investigation		
Map Unit Symbol	Map Unit Name	Drainage Class
27	Houghton and Adrian mucks	Very poorly drained
67B	Ormas loamy sand, 0 to 6 percent slopes	Well drained
67C	Ormas loamy sand, 6 to 12 percent slopes	Well drained



Approx. Parcel Boundary

Approx. Area of Investigation (AOI)

Soil Unit

N

0 125 250

Feet

Imagery: Nearmap (4/7/2026)

Soil Units
8500 Dixie Highway
Springfield Township
Oakland County, Michigan
For Skilken Gold

FIGURE 2

BARR

Barr Footer: ArcGISPro 3.6.1, 2026-05-15 11:39 File: I:\Projects\2263\1382\Maps\Reports\WetlandDelineation\WetlandDelineation.aprx Layout: Fig02 Soil Units User: erm3





Approx. Parcel Boundary

Approx. Area of Investigation (AOI)

Part 303 State Wetland Inventory (EGLE)

Wetlands as identified on NWI and MIRIS maps

Soil areas which include wetland soils

Wetlands as identified on NWI and MIRIS maps and soil areas which include wetland soils

N

0 125 250

Feet

Imagery: Nearmap (4/7/2026)

EGLE Wetlands Map Viewer
8500 Dixie Highway
Springfield Township
Oakland County, Michigan
For Skilken Gold

FIGURE 3

BARR

Barr Footer: ArcGISPro 3.6.1, 2026-05-15 11:39 File: I:\Projects\22\63\11382\Maps\Reports\WetlandDelineation\WetlandDelineation.aprx Layout: Fig03 EGLE Wetlands Map Viewer User: emm3





Approx. Parcel Boundary

Approx. Area of Investigation (AOI)

Stream/River (NHD)

Approx. +/-500ft Watercourse Offset

Wetland Flag

Data Point

Delineated Wetland

Emergent

N

0 125 250

Feet

Imagery: Nearmap (4/7/2026)

Notes:
The wetland delineation with GPS survey was completed on: May 27, 2026.
It is Barr's opinion that the following wetlands are regulated by EGLE in the AOI: Wetland A.

Wetland Delineation
8500 Dixie Highway
Springfield Township
Oakland County, Michigan
For Skilken Gold

FIGURE 4

BARR

Barr Footer: ArcGISPro 3.7, 2026-06-01 11:31 File: I:\Projects\22\63\1382\Maps\Reports\WetlandDelineation\WetlandDelineation.aprx Layout: Fig04 Wetland Delineation User: ERM3





Approx. Parcel Boundary

Approx. Area of Investigation (AOI)

Swallow wort

(approx. areas)

Moderate Density

Sparse Density

(approx. locations)

Moderate Density
(approx. area: 10 sqft)

Sparse Density
(approx. area: <5 sqft)

Single Plant

0 125 250
Feet

Imagery: Nearmap (4/7/2026)

Invasive Species
8500 Dixie Highway
Springfield Township
Oakland County, Michigan
For Skilken Gold

FIGURE 5

BARR

Barr Footer: ArcGISPro 3.7, 2026-06-01 14:09 File: I:\Projects\22\63\1382\Maps\Reports\WetlandDelineation\WetlandDelineation_aprx Layout: Fig05 Invasive Species User: ERM3

Attachment A

USACE Wetland Determination Data Forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 8500 Dixie Highway, Springfield City/County: Springfield Township, Oakland Sampling Date: 5/27/2026

Applicant/Owner: Skilken Gold State: MI Sampling Point: DP1-U

Investigator(s): Barr Engineering Co.- Alison McClear and Macy McPherson Section, Township, Range: S24 T4N R8E

Landform (hillside, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave

Slope (%): 0-2 Lat: 42.74401 Long: -83.45595 Datum: WGS84

Soil Map Unit Name: Omas loamy sand NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling pc X

Hydrophytic Vegetation Present? Yes ____ No X
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	2	Yes	FAC
2. *Robinia pseudoacacia*	5	Yes	FACU
3.			
4.			
5.			
	7	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. *Pinus sylvestris*	25	Yes	UPL
2. *Robinia pseudoacacia*	20	Yes	FACU
3. *Elaeagnus umbellata*	15	Yes	UPL
4.			
5.			
	60	=Total Cover	
Herb Stratum (Plot size: 5' Radius)			
1. *Poa annua*	60	Yes	FACU
2. *Galium aparine*	5	No	FACU
3. *Cirsium vulgare*	2	No	FACU
4. *Rhamnus cathartica*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	72	=Total Cover	
Woody Vine Stratum (Plot size: 30' Radius)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	7	x 3 =	21
FACU species	92	x 4 =	368
UPL species	40	x 5 =	200
Column Totals:	139 (A)		589 (B)

Prevalence Index = B/A = 4.24

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP1-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	75	10YR 3/3	25	C		Loamy/Clayey	Distinct redox concentrations
8-16	2.5Y 3/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 8500 Dixie Highway City/County: Springfield Township, Oakland Sampling Date: 5/27/2026

Applicant/Owner: Skilken Gold State: MI Sampling Point: DP2-U

Investigator(s): Barr Engineering Co. Alison McClear and Macy McPherson Section, Township, Range: S24 T4N R8E

Landform (hillside, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex

Slope (%): 4-8 Lat: 42.7447 Long: -83.45545 Datum: WGS84

Soil Map Unit Name: Ormas Loamy Sand NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*	30	Yes	FACU
2. *Acer saccharum*	50	Yes	FACU
3. *Quercus rubra*	10	No	FACU
4.			
5.			
	90	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. *Rhamnus cathartica*	15	Yes	FAC
2. *Ulmus americana*	15	Yes	FACW
3.			
4.			
5.			
	30	=Total Cover	
Herb Stratum (Plot size: 5' Radius)			
1. *Celastrus orbiculatus*	15	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	90	x 4 =	360
UPL species	15	x 5 =	75
Column Totals:	135 (A)		510 (B)

Prevalence Index = B/A = 3.78

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP2-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/2	100					Loamy/Clayey	
11-16	10YR 2/2	50	10YR 5/6	50	C		Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 9/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 8500 Dixie Highway, Springfield City/County: Springfield Township, Oakland Sampling Date: 5/27/2026

Applicant/Owner: Skilken Gold State: MI Sampling Point: DP2-W

Investigator(s): Barr Engineering Co, Alison McClear and Macy McPherson Section, Township, Range: S24 T4N R8E

Landform (hillside, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave

Slope (%): 0-3 Lat: 42.74476 Long: -83.45546 Datum: WGS84

Soil Map Unit Name: Houghton and Adrian Muck NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana*	2	No	FACU
2.			
3.			
4.			
5.			
	2 =Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. *Symplocarpus foetidus*	100	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30' Radius)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	102 (A)		108 (B)

Prevalence Index = B/A = 1.06

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP2-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Mucky Loam/Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- X Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes X No ___ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

fishbeck
Engineers | Architects | Scientists | Constructors

Sheetz Springfield Township Traffic Impact Study

Project No. 2501693
December 1, 2025

Draft

fishbeck
Engineers | Architects | Scientists | Constructors

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Sheetz Springfield Township
Traffic Impact Study

Prepared For:
Skilken Gold
Colombus, OH

December 1, 2025
Project No. 2501693

Draft

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List of Abbreviations/Acronyms

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
EB	eastbound
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
LUC	Land Use Code
MDOT	Michigan Department of Transportation
mph	miles per hour
NB	northbound
RCOC	Road Commission for Oakland County
SB	southbound
sf	square foot/feet
TIS	traffic impact study
TMC	turning movement count
Township	Springfield Township
TWLTL	two-way left-turn lane
v/c	volume-to-capacity ratio
vpd	vehicles per day
VFP	vehicle fueling positions
WB	westbound

References

Institute of Transportation Engineers, 2017, *Trip Generation Handbook*, 3rd Edition.
Institute of Transportation Engineers, 2025, *Trip Generation Manual*, 12th Edition.
Michigan Department of Transportation, 2024, *Electronic Traffic Control Device Guidelines.*
Michigan Department of Transportation, 2017, *Geometric Design Guidance*.
Michigan Department of Transportation, 2022, *Michigan Manual on Uniform Traffic Control Devices*.
Transportation Research Board, 2022, *Highway Capacity Manual,* 7th Edition.

Executive Summary

Fishbeck has conducted a traffic impact study (TIS) for a proposed development located in the northwest corner of the intersection of Dixie Highway and Lavon Drive in Springfield Township (Township), Oakland County, Michigan. The site is currently occupied by a BP gas station with one access point on Dixie Highway and one access point on Lavon Drive. The existing BP gas station will be demolished. The proposed development will consist of a 6,139-square-foot (sf) Sheetz convenience store and gas station with 16 vehicle fueling positions (VFP). The development will utilize the existing BP gas station driveway on Lavon Drive, and the existing BP gas station driveway on Dixie Highway will be relocated to approximately 350 feet west of Lavon Drive. Additionally, the site will utilize a proposed unsignalized driveway approximately 360 feet north of Dixie Highway. The development will be completed in one phase, assumed to be open and fully operational in 2027.

This study was conducted according to the methodologies and guidance published by the Institute of Transportation Engineers (ITE), the American Association of State Highway and Transportation Officials (AASHTO), the Michigan Department of Transportation (MDOT), Road Commission for Oakland County (RCOC), and Springfield Township (Township).

Vehicular turning movement counts (TMC) were collected at the study intersections on Thursday, October 23, 2025, during the weekday morning (7 a.m. to 9 a.m.) and afternoon (4 p.m. to 6 p.m.) peak periods for the roadway network.

Site-generated traffic was forecast using the information and methodologies specified in the ITE *Trip Generation Manual*. Existing traffic volumes, site layout, and engineering judgement were used to develop a trip distribution model for the a.m. and p.m. peak hours for the new traffic that would be generated by the proposed development.

A portion of the site-generated trips are anticipated to be “pass-by” in nature, meaning they already exist on the adjacent road network and are interrupted to visit the site.

Operational analyses were conducted for existing, background, and total future conditions based on the *Highway Capacity Manual* (HCM), 7th Edition, methodologies using Synchro traffic analysis software. Synchro network models were also simulated using SimTraffic to evaluate network operations including intersection queueing.

Based on the findings of the HCM operational analyses and site traffic generation, Table 1 has the recommended future improvements to the study intersections to mitigate traffic operation impacts.

Table 1 – Recommended Improvements

Intersection	Future
Dixie Highway and West Site Driveway	Install WB Right-Turn Taper

The opinions, findings, and conclusions expressed in this TIS are those of Fishbeck and not necessarily those of the Owner/Applicant, MDOT, RCOC, or the Township.

Prepared By:

Sion Pizzi, EIT – Fishbeck

Jill Bauer, PE, PTOE – Fishbeck

1.0 Introduction

1.1 Project Overview

On behalf of Skilken Gold, Fishbeck has conducted a TIS for a proposed development located in the northwest corner of the intersection of Dixie Highway and Lavon Drive in Springfield Township (Township), Oakland County, Michigan. The site is currently occupied by a BP gas station with one access point on Dixie Highway and one access point on Lavon Drive. The existing BP gas station will be demolished. The proposed development will consist of a 6,139-sf Sheetz convenience store and gas station with 16 VFP. The development will utilize the existing BP gas station driveway on Lavon Drive, and the existing BP gas station driveway on Dixie Highway will be relocated to approximately 350 feet west of Lavon Drive. Additionally, the site will utilize a proposed unsignalized driveway approximately 360 feet north of Dixie Highway. The development will be completed in one phase, assumed to be open and fully operational in 2027.

The project location and study intersections are displayed in Figure 1.

Figure 1 – Project Location and Study Network



Maps Data: Google, ©2025 Airbus, Maxar Technologies

1.2 Study Methodology

The objectives of this TIS were to determine what impacts the proposed project would have on adjacent roadway traffic operations, and to develop recommendations for any improvements necessary to mitigate the project

impacts on the studied intersections. Study analyses were completed relative to typical weekday a.m. and p.m. peak periods.

This study was conducted according to the methodologies and guidance published by ITE, AASHTO, MDOT, RCOC, and the Township. Key study assumptions including background growth and existing traffic adjustments were presented to RCOC via email on November 5, 2025. RCOC provided concurrence with the existing traffic adjustments for this TIS via email on November 13, 2025.

1.3 Intersection Characteristics

Based on the type and size of the proposed development and the likely area of influence for the site trips, traffic operations were analyzed for the following intersections:

- Dixie Highway and Lavon Drive (unsignalized).
- Dixie Highway and West Site Driveway (proposed unsignalized driveway approximately 350 feet west of Lavon Street).
- Lavon Drive and South Site Driveway (existing unsignalized driveway approximately 175 feet north of Dixie Highway).
- Lavon Drive and North Site Driveway (proposed unsignalized driveway approximately 360 feet north of Dixie Highway).

The existing intersection lane configurations, traffic controls, and posted speed limits are displayed in Figure 2.

1.4 Roadway Characteristics

The characteristics of the study area roadways are described in Table 2. The data points referenced were from the MDOT Traffic Count Database System online maps.

Table 2 – Roadway Characteristics

Roadway	Jurisdiction	Speed Limit (mph)	No. of Lanes	Roadway Classification	AADT		
					Direction	Volume (vpd)	Year
Dixie Highway	RCOC	55	5-6	Minor Arterial	WB	10,665	2024
					EB	9,830	2024
Lavon Drive	RCOC	25	3-2	Local	N/A	N/A	N/A

AADT Average Annual Daily Traffic
EB eastbound
mph miles per hour
vpd vehicles per day
WB westbound

1.5 Existing Traffic Volumes

Vehicular TMCs were collected at the following study intersections during the weekday morning (7 a.m. to 9 a.m.) and afternoon (4 p.m. to 6 p.m.) peak periods of the road network on Thursday, October 23, 2025:

- Dixie Highway and Lavon Drive.
- Dixie Highway and BP Gas Station Driveway.

Adjustments were applied to existing volumes to account for the I-75 construction and ramp closures east of the site. The EB and WB Dixie Highway traffic volumes are expected to decrease once construction is complete and traffic regains access to the closed ramps.

Traffic volume information can be found in Appendix 1, which includes heavy vehicle data. The existing traffic volumes used in this study are provided in Figure 3.

Figure 2 – 2025 Existing Lane Configurations

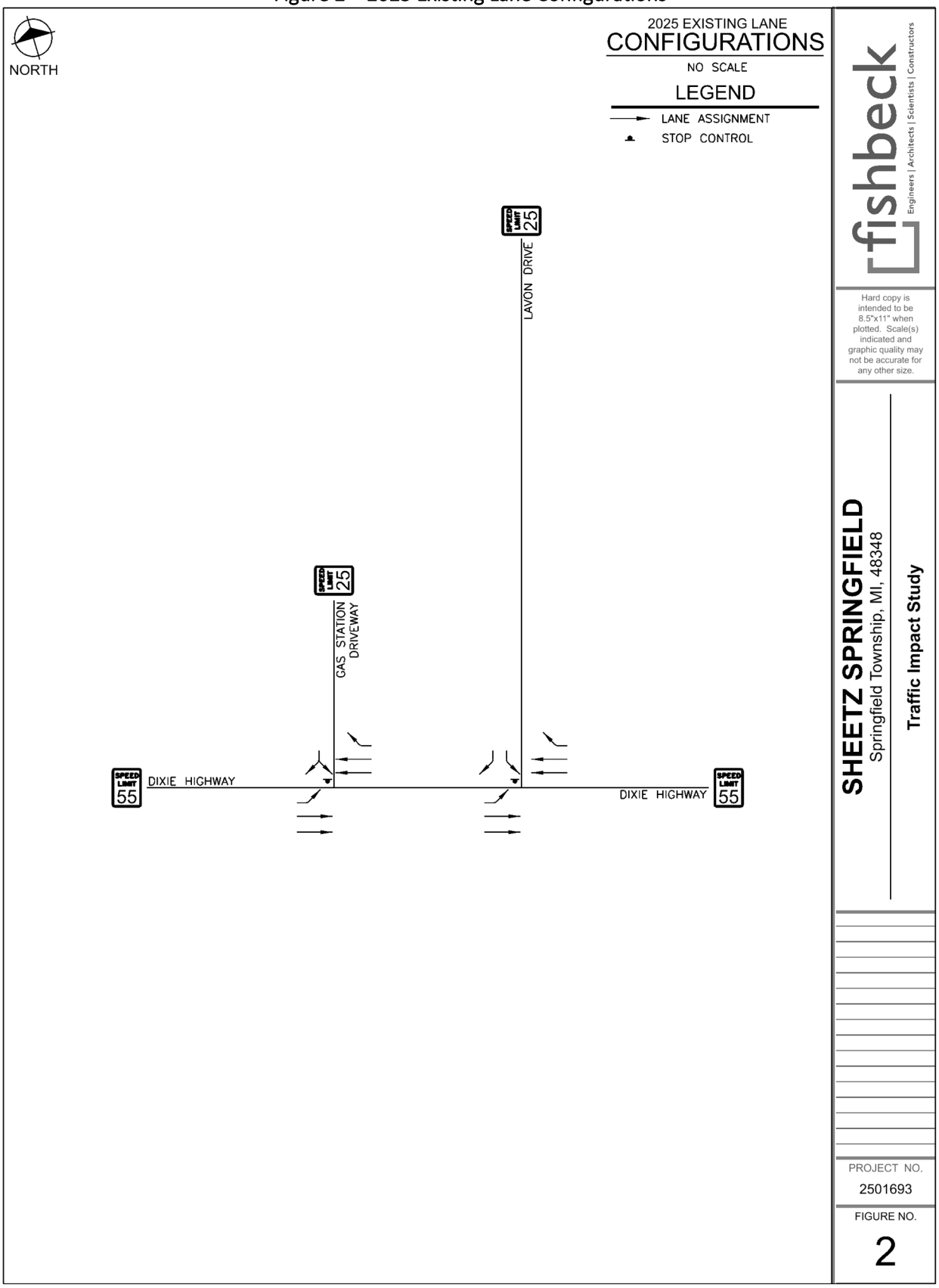
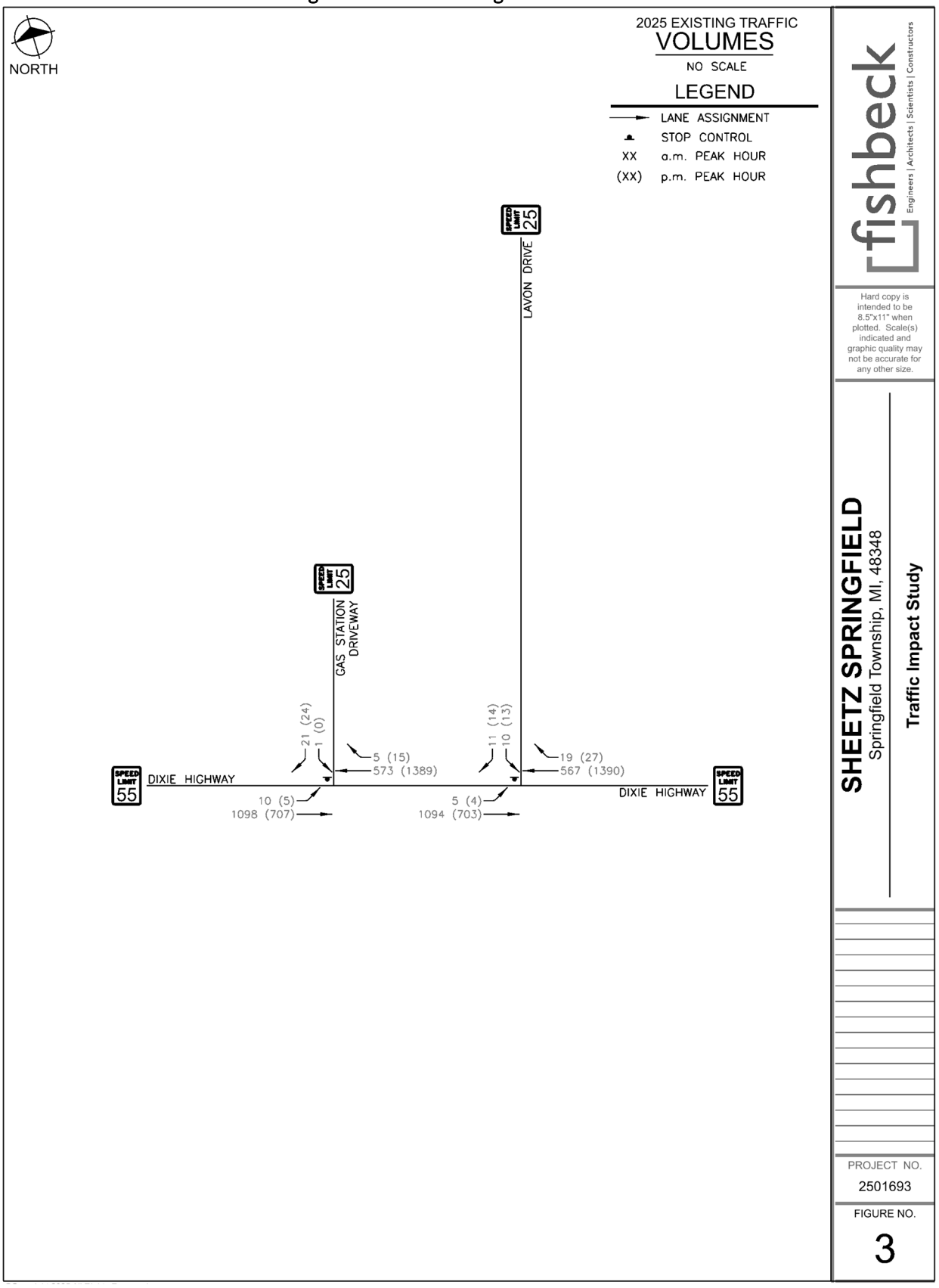


Figure 3 – 2025 Existing Traffic Volumes



2.0 2025 Existing Conditions Analysis

2.1 Traffic Operations Analysis Methodology

Synchro was used to perform HCM operational analyses during the a.m. and p.m. peak hours for all intersections within this study. According to the HCM, Level of Service (LOS) is a qualitative measure describing operational conditions of a traffic stream or intersection. LOS ranges from A to F, with LOS A representing desirable traffic operations characterized by low delay and LOS F representing extremely poor traffic operations characterized by excessive delays and long vehicle queues. LOS D is generally considered acceptable for most areas. Table 3 presents the HCM LOS criteria for unsignalized intersections. The color coding in the table is used in the operational analysis summary tables later in this report.

Table 3 – LOS Criteria

LOS	Control Delay (s/veh)
	Unsignalized
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50 or v/c > 1.0

s/veh seconds per vehicle
v/c volume-to-capacity ratio

2.2 2025 Existing Conditions Traffic Analysis

Synchro models for the existing network were created based on the existing roadway configurations and traffic controls, as observed in the field and from available aerial and street-level imagery.

The resulting LOS and delay for the existing conditions are provided in Table 4.

Table 4 – LOS Analysis for 2025 Existing Conditions

Approach	LOS/Delay (s/veh)			
	a.m. Peak Hour		p.m. Peak Hour	
Dixie Highway and Lavon Drive (SB Stop-Controlled)				
EB Dixie Highway	A	0.0	A	0.1
WB Dixie Highway	Free		Free	
SB Lavon Drive	B	14.4	C	24.6
Overall	A	0.3	A	0.4
Dixie Highway and Gas Station Driveway (SB Stop-Controlled)				
EB Dixie Highway	A	0.1	A	0.1
WB Dixie Highway	Free		Free	
SB Gas Station Driveway	B	11.0	C	16.6
Overall	A	0.2	A	0.3

NB northbound SB southbound

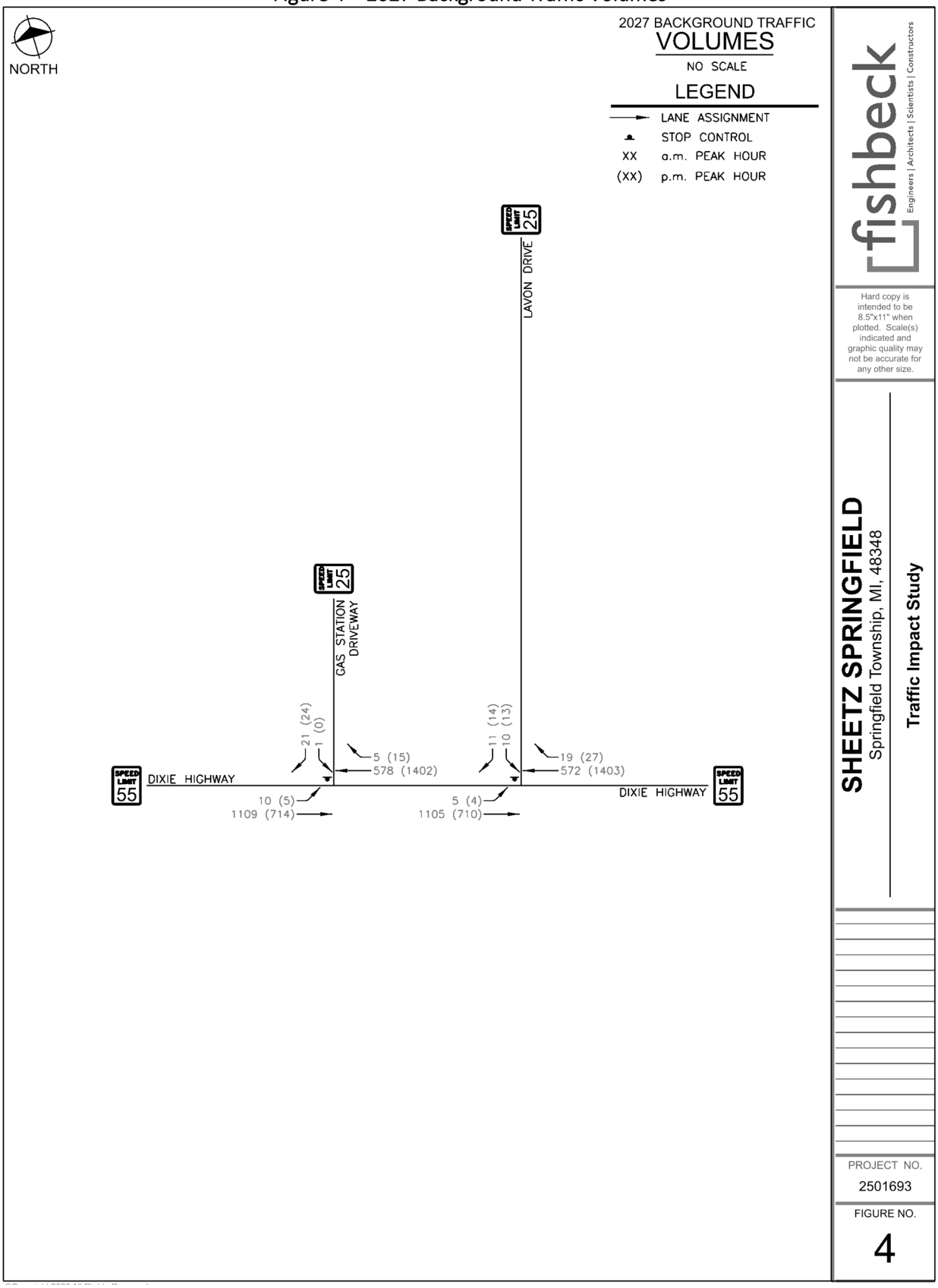
Further analysis of the LOS results for existing conditions revealed that all movements, approaches, and intersections are expected to operate at an acceptable LOS C or better during both the a.m. and p.m. peak hours.

SimTraffic simulations were also reviewed to observe network operations and vehicle queues. For existing conditions, study network operations are acceptable, with no significant vehicle queues or spill-back from available storage lanes. See Appendix 2 for the existing conditions LOS reports and queueing analysis reports.

3.0 2027 Background Conditions Analysis

Historical population data from the US Census Bureau was referenced to determine the applicable growth rate for the existing traffic volumes to the project build-out year in 2027. Based on this review, a background growth rate of 0.5% was utilized. No background developments were identified and included in the background traffic conditions. The total background traffic volumes are presented in Figure 4.

Figure 4 – 2027 Background Traffic Volumes



3.1 2027 Background Conditions Traffic Analysis

The resulting LOS and delay for the background conditions are provided in Table 5.

Table 5 – LOS Analysis for 2027 Background Conditions

Approach	LOS/Delay (s/veh)			
	a.m. Peak Hour		p.m. Peak Hour	
Dixie Highway and Lavon Drive (SB Stop-Controlled)				
EB Dixie Highway	A	0.0	A	0.1
WB Dixie Highway	Free		Free	
SB Lavon Drive	B	14.4	C	24.9
Overall	A	0.3	A	0.4
Dixie Highway and Gas Station Driveway (SB Stop-Controlled)				
EB Dixie Highway	A	0.1	A	0.1
WB Dixie Highway	Free		Free	
SB Gas Station Driveway	B	11.0	C	16.7
Overall	A	0.2	A	0.3

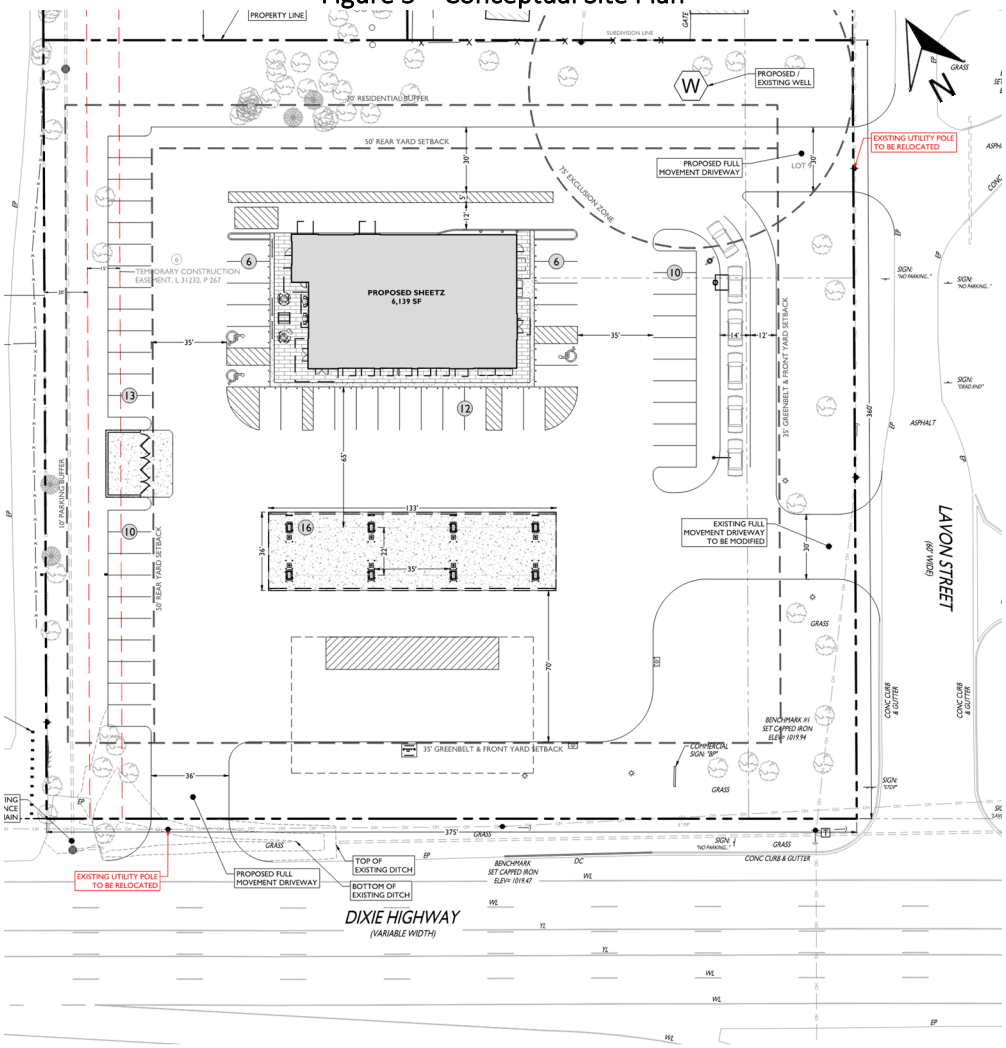
Further analysis of the LOS results for background conditions revealed that all movements, approaches, and intersections are expected to continue to operate at an acceptable LOS D or better during both the a.m. and p.m. peak hours.

SimTraffic simulations were also reviewed to observe network operations and vehicle queues. For background conditions, study network operations are acceptable, with no significant vehicle queues or spill-back from available storage lanes. See Appendix 3 for the background conditions LOS reports and queueing analysis reports.

4.0 Site Traffic Characteristics

A representation of the current conceptual site plan is provided in Figure 5.

Figure 5 – Conceptual Site Plan



4.1 Trip Generation

Using the information and methodologies specified in the ITE *Trip Generation Manual*, Fishbeck forecast the weekday a.m. and p.m. peak hour trips associated with the proposed development.

A portion of the site-generated trips are anticipated to be "pass-by" in nature, meaning they already exist on the adjacent road network and are interrupted to visit the site. According to ITE methodology, new trips are assumed to return to their direction of origin whereas pass-by trips continue in their original direction of travel. The ITE *Trip Generation Manual* was used to calculate what percentage of the trips would be pass-by trips, meaning they are vehicles already on the network that would access the development and are not additional trips added to the network.

Due to the removal of the existing BP gas station, the existing trips in and out of the BP gas station were removed from future condition volumes.

Table 6 presents the resulting trip generation for the development. Refer to Appendix 4 for additional information.

Table 6 – Trip Generation for Proposed Development

ITE Land Use	LUC	Units	a.m. Peak Hour			p.m. Peak Hour			Weekday
			In	Out	Total	In	Out	Total	
Convenience Store/Gas Station (VFP 16-24)	945	6,139 sf	203	196	399	188	187	375	3,944
Pass-By Rates, LUC 945: 76% a.m.; 75% p.m.			154	149	303	141	140	281	-
Total New Trips			49	47	96	47	47	94	-

LUC Land Use Code

4.2 Trip Distribution

The directions that site traffic will travel to and from were based upon existing traffic patterns during the a.m. and p.m. peak hours. The existing traffic patterns reflect the gravity between origins and destinations in the study area, and therefore an accurate indication of where the proposed trips would be coming from and going to. Table 7 and Table 8 provides the probable distribution based on existing traffic patterns.

Table 7 – Trip Distribution for New Trips

Direction	Via	a.m. Peak Hour		p.m. Peak Hour	
		To	From	To	From
East	Dixie Highway	66%	34%	33%	67%
West	Dixie Highway	34%	66%	67%	33%

Table 8 – Trip Distribution for Pass-By Trips

Direction	Via	a.m. Peak Hour	p.m. Peak Hour
EB	Dixie Highway	65%	33%
WB	Dixie Highway	35%	67%

The trip distribution for the site is indicated in Figure 6. The pass-by volumes are indicated in Figure 7. These trips were added to the background volumes (Figure 4) to result in the future conditions volumes in Figure 8.

Figure 6 – New Trip Generation Volumes

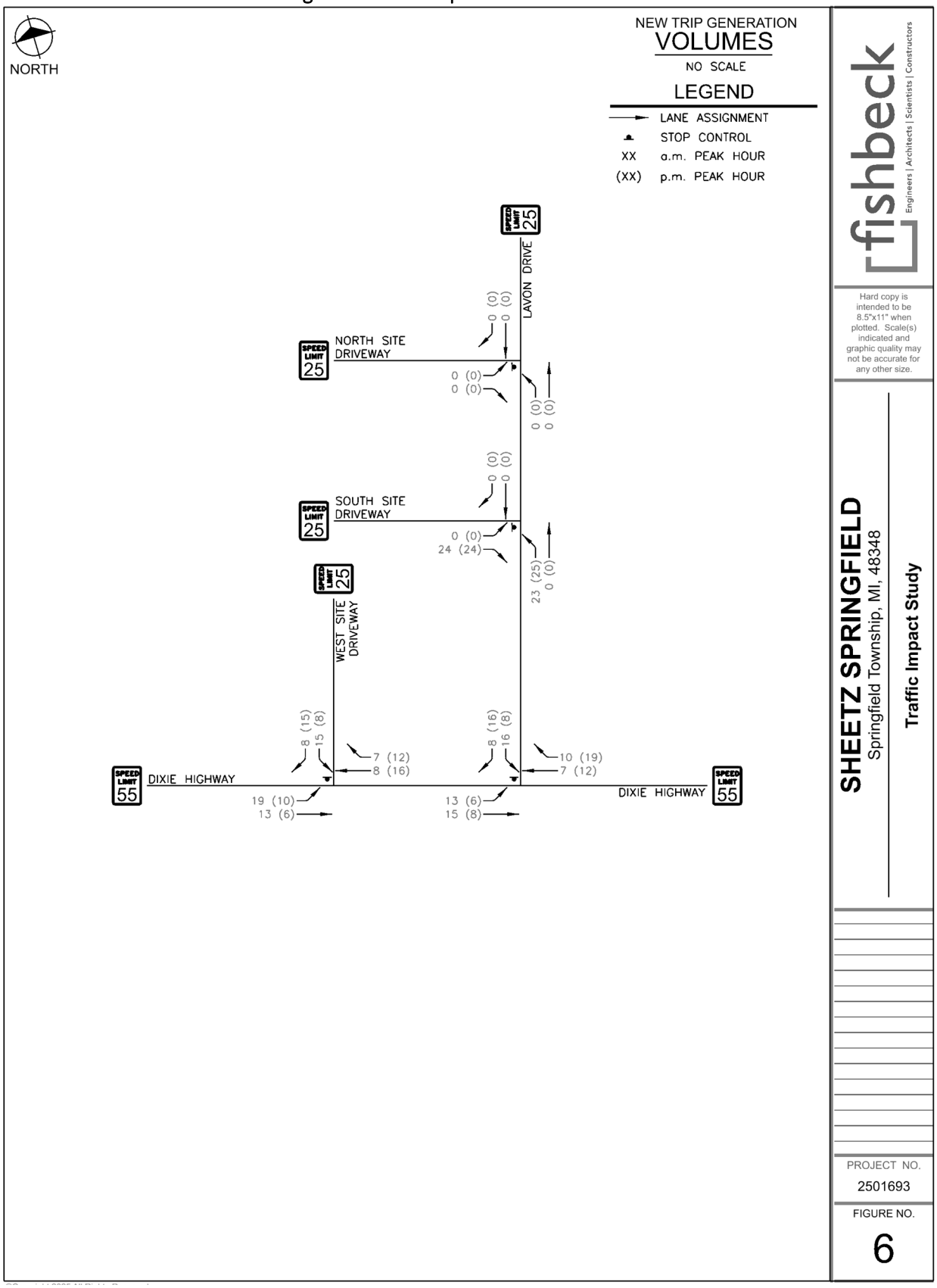


Figure 7 – Pass-By Volumes

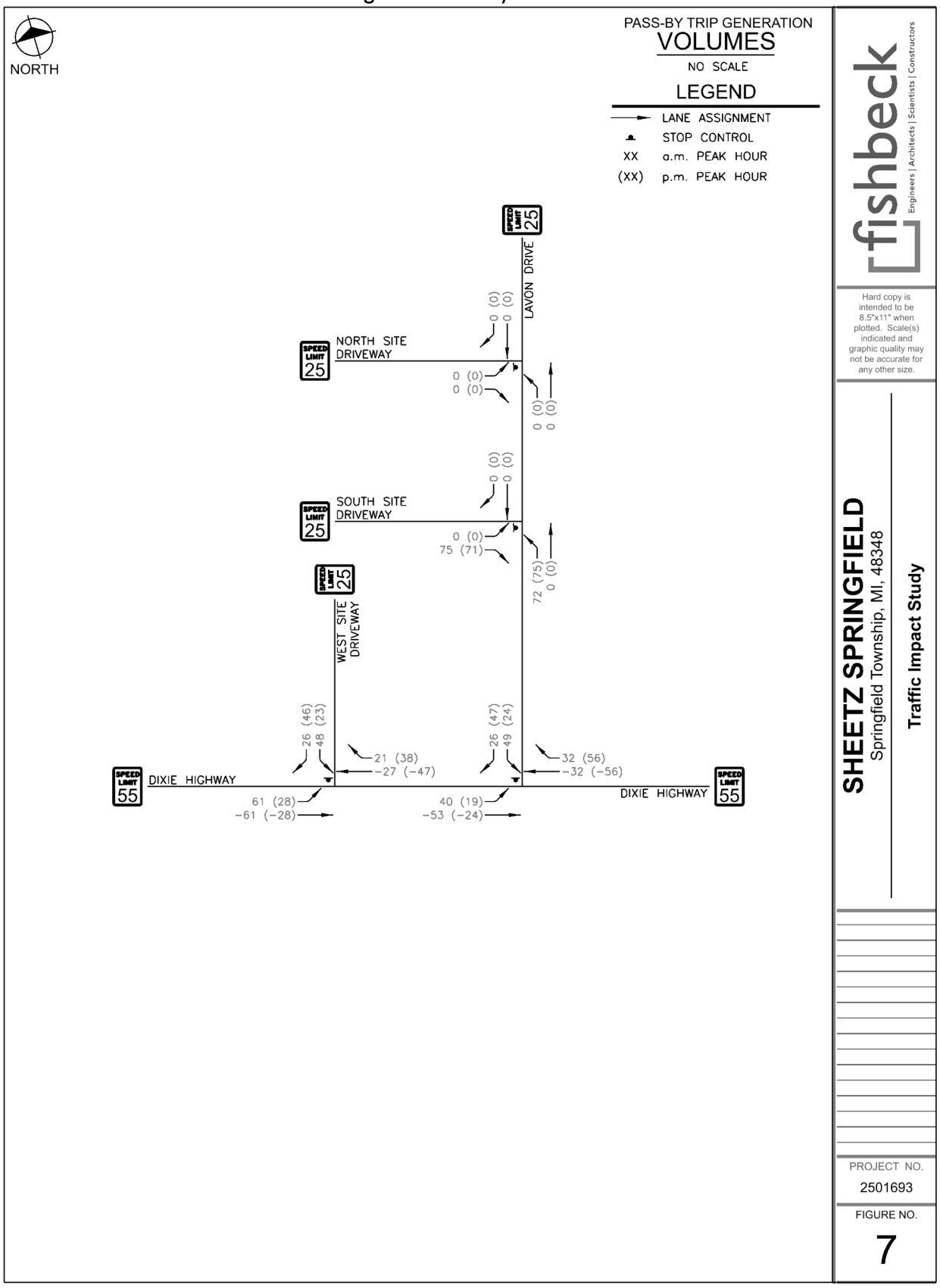
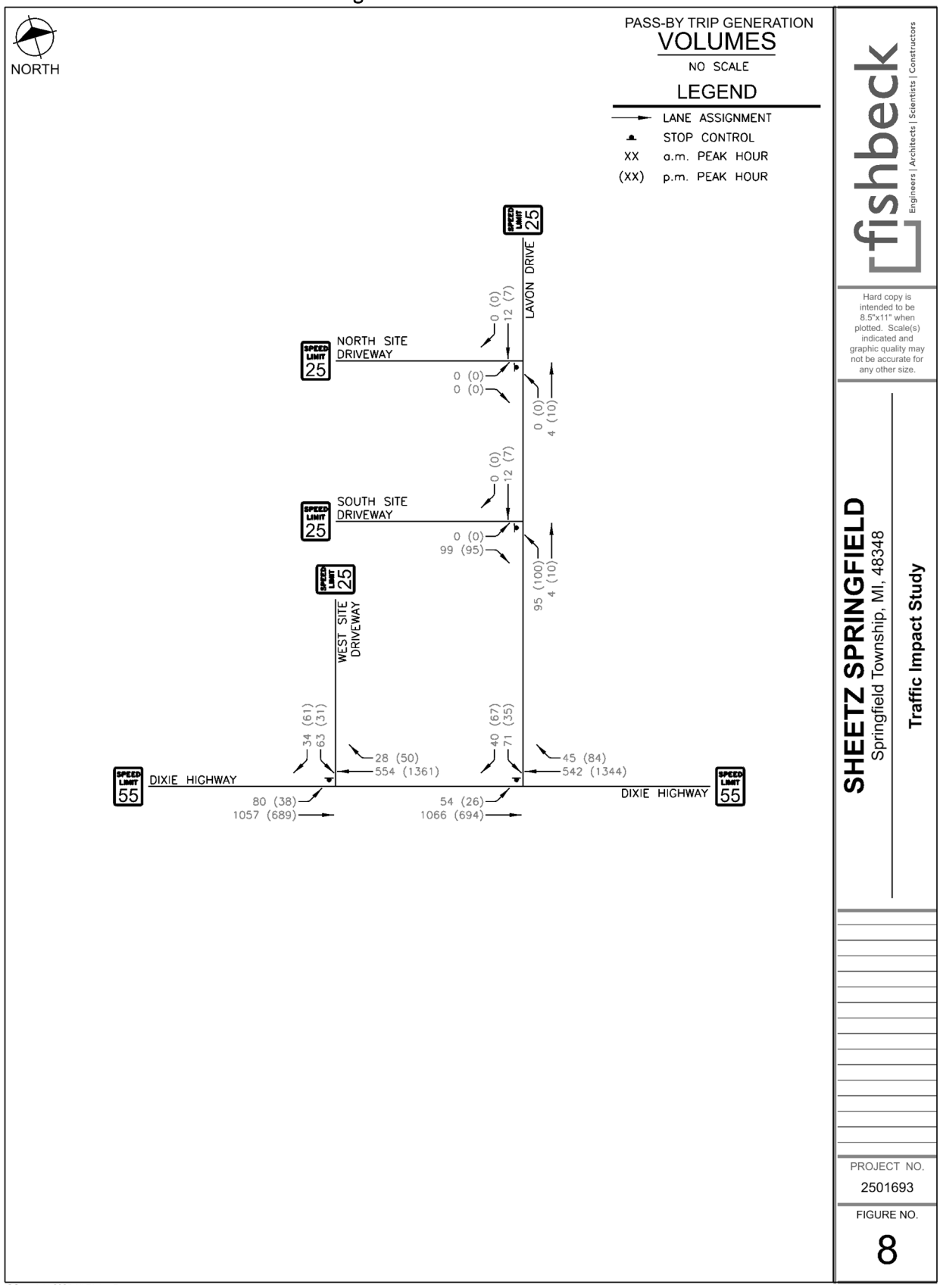


Figure 8 – 2027 Future Traffic Volumes



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SHEETZ SPRINGFIELD
Springfield Township, MI, 48348
Traffic Impact Study

PROJECT NO.
2501693

FIGURE NO.
8

5.0 2027 Future Conditions Analysis

5.1 Turn Lane Analysis

An evaluation was performed in accordance with RCOC requirements to determine if left-turn or right-turn treatment is warranted at the site driveways. The results of the evaluation indicated that a WB right-turn taper is recommended at the intersection of Dixie Highway and West Site Driveway. Left-turn lane warrants were not produced because the existing Dixie Highway roadway configuration includes a two-way left-turn lane (TWLTL).

For the North and South Site Driveways on Lavon Drive, the projected volumes would not meet thresholds to recommend turn-lane treatments.

All turn-lane charts are provided in Appendix 5. The results of the evaluation are presented in Table 9.

Table 9 – Turn Lane Evaluation

Intersection	Movement	Existing Treatment	Result
Dixie Highway and West Site Driveway	EB Left	TWLTL	-
	WB Right	-	Right-Turn Taper Only

5.2 2027 Future Conditions Traffic Analysis

The resulting LOS and delay for the future conditions are presented in Table 10.

Table 10 – LOS Analysis for 2027 Future Conditions

Approach	LOS/Delay (s/veh)			
	a.m. Peak Hour		p.m. Peak Hour	
Dixie Highway and Lavon Drive (SB Stop-Controlled)				
EB Dixie Highway	A	0.4	A	0.5
WB Dixie Highway	Free		Free	
SB Lavon Drive	C	23.0	D	27.2
Overall	A	2.4	A	1.8
Dixie Highway and West Site Driveway (SB Stop-Controlled)				
EB Dixie Highway	A	0.7	A	0.7
WB Dixie Highway	Free		Free	
SB West Site Driveway	C	19.1	D	25.5
Overall	A	1.4	A	1.3
Lavon Drive and South Site Driveway (SB Stop-Controlled)				
EB South Site Driveway	A	8.7	A	8.7
NB Lavon Drive	A	7.1	A	6.7
SB Lavon Drive	Free		Free	
Overall	A	7.3	A	7.3
Lavon Drive and North Site Driveway (SB Stop-Controlled)				
EB North Site Driveway	A	0.0	A	0.0
NB Lavon Drive	A	0.0	A	0.0
SB Lavon Drive	Free		Free	
Overall	A	0.0	A	0.0

Further analysis of the LOS results for future conditions revealed that most movements, approaches, and intersections are expected to operate at an acceptable LOS D or better during both the a.m. and p.m. peak hours, with the following exceptions:

- Dixie Highway and Lavon Drive:
  - The SB left-turn movement would operate at a LOS E in the p.m. peak hour.
    - Delay increased from 34.8 s/veh to 41.5 s/veh (+6.7 s/veh increase). The 95th-percentile queue is 91 feet (4 vehicles).
- Dixie Highway and West Site Driveway:
  - The SB left-turn movement would operate at a LOS E in the p.m. peak hour.
    - The 95th-percentile queue is 75 feet (3 vehicles).

SimTraffic simulations were also reviewed to observe network operations and vehicle queues at the site driveways. For the intersection of Dixie Highway and West Site Driveway, the inbound 95th-percentile queue lengths do not exceed 55 feet (2 vehicles) in either peak hour, and the outbound 95th-percentile queue lengths do not exceed 111 feet (4 vehicles) in either peak hour. For the intersection of Lavon Drive and South Site Driveway, the inbound 95th-percentile queue lengths do not exceed 6 feet (1 vehicle) in either peak hour, and the outbound 95th-percentile queue lengths do not exceed 71 feet (3 vehicles) in either peak hour.

For future conditions, study network operations are acceptable, with no significant vehicle queues or spill-back from available storage lanes. In both peak hours, the 95th-percentile queues on SB Lavon Drive extend up to the South Driveway as vehicles are waiting for gaps to turn onto Dixie Highway. No 95th-percentile queue lengths for the turning movements exceed the provided storage length. See Appendix 6 for the future conditions LOS reports and queueing analysis reports.

6.0 Findings and Recommendations

The analyses conducted for this TIS indicate the proposed development will not result in any significant operational impacts to the adjacent road network with the recommended improvements. The proposed site access configuration is appropriate and will acceptably facilitate site ingress and egress.

Based on the findings of the HCM operational analyses, and site traffic generation, Table 11 includes the recommended future improvements to the study intersections to mitigate traffic impacts.

Table 11 – Recommended Improvements

Intersection	Future
Dixie Highway and West Site Driveway	Install WB Right-Turn Taper

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Appendix

Traffic Data

1

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9001 - Dixie Highway and Lavon Drive	a.m. Peak Hour		PHF		0.93			0.91						0.60	
	10/23/25		% Heavy		6%			5%						14%	
	7:45 - 8:45 a.m.	2025	Existing	5	1354			825	19				10		11
		2025	Existing Adj.	5	1094			567	19				10		11
		2027	Background	5	1105			572	19				10		11
		BP Gas Station Removal Adjustments		-4	-1			-5	-16				-4		-5
		Site Generated		13	15			7	10				16		8
		Pass By		40	-53			-32	32				49		26
		Total Site Gen		53	-38			-25	42				65		34
		Total Future		54	1066			542	45				71		40

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9002 - Dixie Highway and Gas Station Driveway	a.m. Peak Hour		PHF		0.95			0.90						0.69	
	10/23/25		% Heavy		5%			7%						5%	
	7:30 - 8:30 a.m.	2025	Existing	10	1363			832	5				1		21
		2025	Existing Adj.	10	1098			573	5				1		21
		2027	Background	10	1109			578	5				1		21
		BP Gas Station Removal Adjustments		-10	-4			-5	-5				-1		-21
		Site Generated													
		Pass By													
		Total Site Gen													
		Total Future													

I-75 on-ramp excluded from synchro model

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9003 - Dixie Highway and West Site Driveway	a.m. Peak Hour		PHF		0.95			0.90						0.69	
	10/23/25		% Heavy		5%			7%						5%	
	7:30 - 8:30 a.m.	2025	Existing												
		2025	Existing Adj.												
		2027	Background												
		Volumes after BP Gas Station Removal		0	1105			573	0				0		0
		Site Generated		19	13			8	7				15		8
		Pass By		61	-61			-27	21				48		26
		Total Site Gen		80	-48			-19	28				63		34
		Total Future		80	1057			554	28				63		34

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9004 - Lavon Driveway and South Site Driveway	a.m. Peak Hour		PHF		-						0.91			0.60	
	10/23/25		% Heavy		-						5%			14%	
	7:30 - 8:30 a.m.	2025	Existing												
		2025	Existing Adj.												
		2027	Background												
		Volumes after BP Gas Station Removal		0		0				0	4			12	0
		Site Generated				24				23					
		Pass By		0		75				72					
		Total Site Gen		0		99				95	0			0	0
		Total Future		0		99				95	4			12	0

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9005 - Lavon Driveway and North Site Driveway	a.m. Peak Hour		PHF		-						0.91			0.60	
	10/23/25		% Heavy		-						5%			14%	
	7:30 - 8:30 a.m.	2025	Existing												
		2025	Existing Adj.												
		2027	Background												
		Volumes after BP Gas Station Removal		0		0				0	4			12	0
		Site Generated													
		Pass By													
		Total Site Gen		0		0				0	0			0	0
		Total Future		0		0				0	4			12	0

Count Date: 10/23/2025
Count Year: 2025
Existing Adj. Year: 2025

Existing Adjustment Rate: 1.00
Growth Rate: 0.5%
Buildout Year: 2027
Scenario: a.m. Peak Hour

Volume Balancing:

Proposed Adjustment		
	a.m.	p.m.
EB	-19.41%	-26.66%
WB	-31.30%	-23.58%

Population 2020: 1274395 Growth Rate (%) 0.599096
Population 2010: 1202362
Referenced From US Census Bureau database

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9001 - Dixie Highway and Lavon Drive	p.m. Peak Hour		PHF		0.89			0.95						0.68	
	10/23/25		% Heavy		2%			2%						4%	
	4:15 - 5:15 p.m.	2025	Existing	4	959			1815	27				13		14
		2025	Existing Adj.	4	703			1380	27				13		14
		2027	Background	4	710			1403	27				13		14
		BP Gas Station Removal Adjustments		-3				-15	-18				-10		-10
		Site Generated		6	8			12	19				8		16
		Pass By		19	-24			-56	56				24		47
		Total Site Gen		25	-16			-44	75				32		63
		Total Future		26	694			1344	84				35		67

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9002 - Dixie Highway and Gas Station Driveway	p.m. Peak Hour		PHF		0.89			0.95						0.60	
	10/23/25		% Heavy		2%			2%						8%	
	4:30 - 5:30 p.m.	2025	Existing	5	947			1817	15				0		24
		2025	Existing Adj.	5	703			1380	15				0		24
		2027	Background	5	714			1402	15				0		24
		BP Gas Station Removal Adjustments		-5	-3			-10	-15						-24
		Site Generated													
		Pass By													
		Total Site Gen													
		Total Future													

I-75 on-ramp excluded from synchro model

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9003 - Dixie Highway and West Site Driveway	p.m. Peak Hour		PHF		0.89			0.95						0.60	
	10/23/25		% Heavy		2%			2%						8%	
	4:30 - 5:30 p.m.	2025	Existing												
		2025	Existing Adj.												
		2027	Background												
		Volumes after BP Gas Station Removal		0	711			1392	0				0		0
		Site Generated		10	6			16	12				8		15
		Pass By		28	-28			-47	38				23		46
		Total Site Gen		38	-22			-31	50				31		61
		Total Future		38	689			1361	50				31		61

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9004 - Lavon Driveway and South Site Driveway	p.m. Peak Hour		PHF		-						0.95			0.68	
	10/23/25		% Heavy		-						2%			4%	
	4:30 - 5:30 p.m.	2025	Existing												
		2025	Existing Adj.												
		2027	Background												
		Volumes after BP Gas Station Removal		0		0				0	10			7	0
		Site Generated				24				25					
		Pass By		0		71				75					
		Total Site Gen		0		95				100	0			0	0
		Total Future		0		95				100	10			7	0

Intersection	Time period	Year	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#9005 - Lavon Driveway and North Site Driveway	p.m. Peak Hour		PHF		-						0.95			0.68	
	10/23/25		% Heavy		-						2%			4%	
	4:30 - 5:30 p.m.	2025	Existing												
		2025	Existing Adj.												
		2027	Background												
		Volumes after BP Gas Station Removal		0		0				0	10			7	0
		Site Generated													
		Pass By													
		Total Site Gen		0		0				0	0			0	0
		Total Future		0		0				0	10			7	0

Count Date: 10/23/2025
Count Year: 2025
Existing Adj. Year: 2025

Existing Adjustment Rate: 1.00
Growth Rate: 0.5%
Buildout Year: 2027
Scenario: p.m. Peak Hour

BP Gas Station Removal Adjustments

Volume Balancing:

Proposed Adjustment		
	a.m.	p.m.
EB	-19.41%	-26.66%
WB	-31.30%	-23.58%

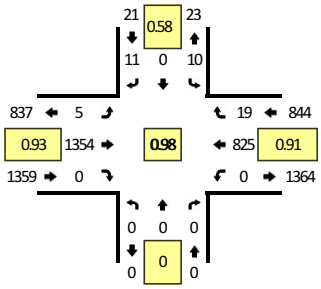
Type of peak hour being reported: Intersection Peak

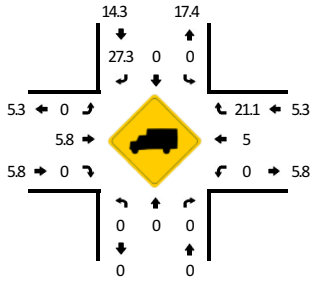
Method for determining peak hour: Total Entering Volume

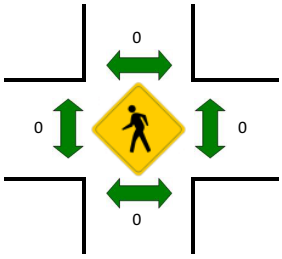
LOCATION: Lavon Dr -- Dixie Highway
CITY/STATE: Oakland, MI

QC JOB #: 17289601
DATE: Thu, Oct 23 2025

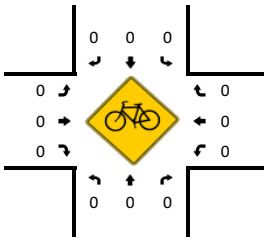
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

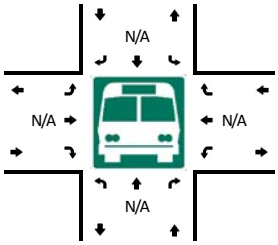




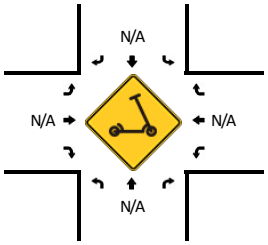












15-Min Count Period Beginning At	Lavon Dr (Northbound)				Lavon Dr (Southbound)				Dixie Highway (Eastbound)				Dixie Highway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	5	0	1	0	3	235	0	0	0	114	2	0	360	
7:15 AM	0	0	0	0	8	0	2	0	0	230	0	0	0	178	3	0	421	
7:30 AM	0	0	0	0	6	0	1	0	0	333	0	0	0	196	3	0	539	
7:45 AM	0	0	0	0	2	0	1	0	1	314	0	1	0	227	4	0	550	1870
8:00 AM	0	0	0	0	1	0	3	0	2	362	0	0	0	191	9	0	568	2078
8:15 AM	0	0	0	0	1	0	4	0	0	341	0	0	0	205	2	0	553	2210
8:30 AM	0	0	0	0	6	0	3	0	1	337	0	0	0	202	4	0	553	2224
8:45 AM	0	0	0	0	1	0	2	0	1	313	0	0	0	183	3	0	503	2177

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	12	0	8	1448	0	0	0	764	36	0	2272
Heavy Trucks	0	0	0		0	0	4		0	72	0		0	32	4		112
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/5/2025 6:54 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

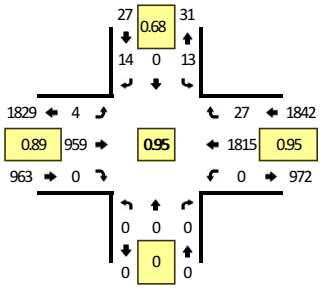
Type of peak hour being reported: Intersection Peak

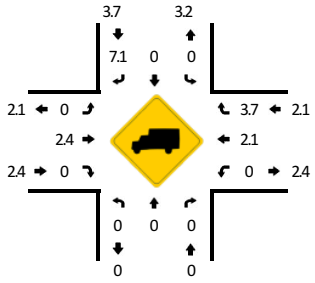
Method for determining peak hour: Total Entering Volume

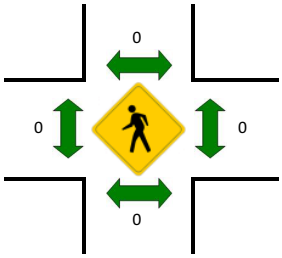
LOCATION: Lavon Dr -- Dixie Highway
CITY/STATE: Oakland, MI

QC JOB #: 17289602
DATE: Thu, Oct 23 2025

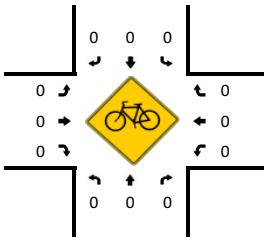
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

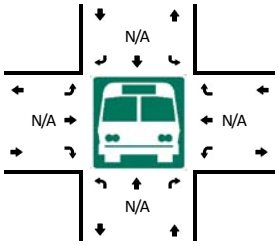




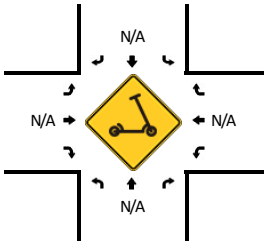












15-Min Count Period Beginning At	Lavon Dr (Northbound)				Lavon Dr (Southbound)				Dixie Highway (Eastbound)				Dixie Highway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	4	0	6	0	2	211	0	0	0	456	10	0	689	
4:15 PM	0	0	0	0	2	0	3	0	0	235	0	0	0	422	6	0	668	
4:30 PM	0	0	0	0	5	0	5	0	1	269	0	0	0	454	8	0	742	
4:45 PM	0	0	0	0	4	0	4	0	3	209	0	0	0	460	9	0	689	2788
5:00 PM	0	0	0	0	2	0	2	0	0	246	0	0	0	479	4	0	733	2832
5:15 PM	0	0	0	0	2	0	5	0	0	218	0	0	0	429	7	0	661	2825
5:30 PM	0	0	0	0	3	0	0	0	1	237	0	0	0	407	2	0	650	2733
5:45 PM	0	0	0	0	0	0	0	0	0	188	0	0	0	438	6	0	632	2676

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	20	0	20	0	4	1076	0	0	0	1816	32	0	2968
Heavy Trucks	0	0	0		0	0	4		0	32	0		0	68	4		108
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/5/2025 6:54 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

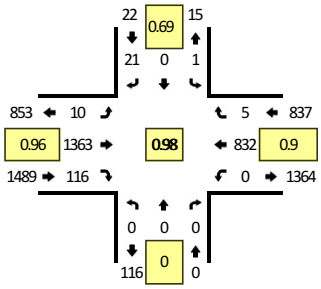
Type of peak hour being reported: Intersection Peak

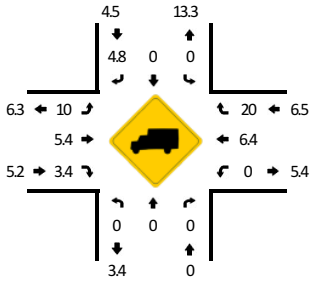
Method for determining peak hour: Total Entering Volume

LOCATION: BP Driveway -- Dixie Highway
CITY/STATE: Oakland, MI

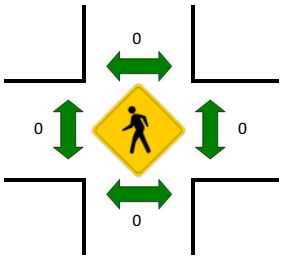
QC JOB #: 17289603
DATE: Thu, Oct 23 2025

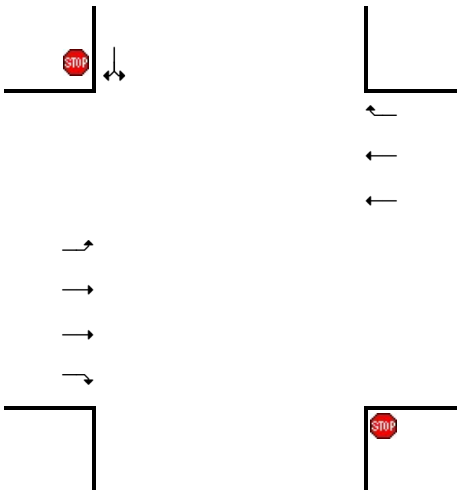
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

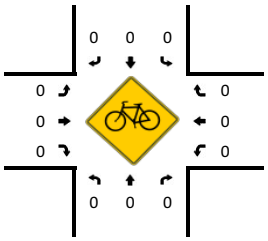


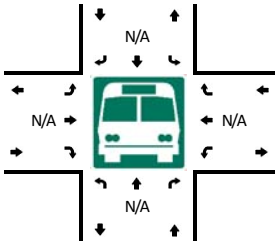


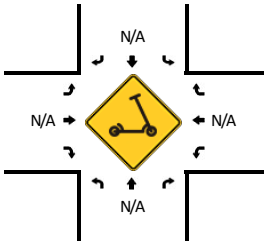
TRUE DATA TO IMPROVE MOBILITY











15-Min Count Period Beginning At	BP Driveway (Northbound)				BP Driveway (Southbound)				Dixie Highway (Eastbound)				Dixie Highway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	6	0	7	198	23	0	0	113	2	0	349	
7:15 AM	0	0	0	0	0	0	4	0	5	243	29	0	0	183	1	0	465	
7:30 AM	0	0	0	0	0	0	2	0	7	343	39	0	0	204	1	0	596	
7:45 AM	0	0	0	0	0	0	8	0	0	316	21	0	0	230	2	0	577	1987
8:00 AM	0	0	0	0	0	0	8	0	2	361	24	0	0	194	0	0	589	2227
8:15 AM	0	0	0	0	1	0	3	0	1	343	32	0	0	204	2	0	586	2348
8:30 AM	0	0	0	0	0	0	2	0	3	339	28	0	0	200	4	0	576	2328
8:45 AM	0	0	0	0	0	0	2	0	2	314	25	0	0	181	3	0	527	2278

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	0	0	8	0	28	1372	156	0	0	816	4	0	2384
Heavy Trucks	0	0	0		0	0	0		0	88	12		0	60	0		160
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/5/2025 6:54 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

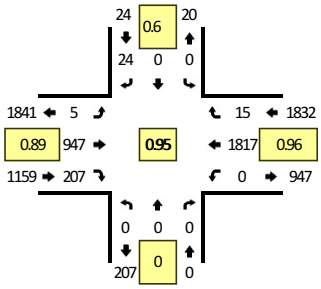
Type of peak hour being reported: Intersection Peak

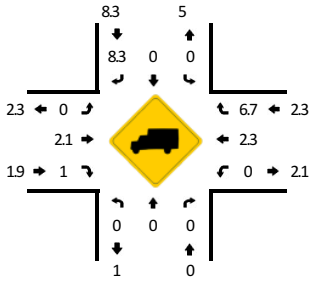
Method for determining peak hour: Total Entering Volume

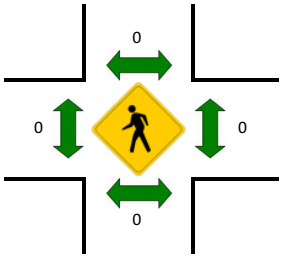
LOCATION: BP Driveway -- Dixie Highway
CITY/STATE: Oakland, MI

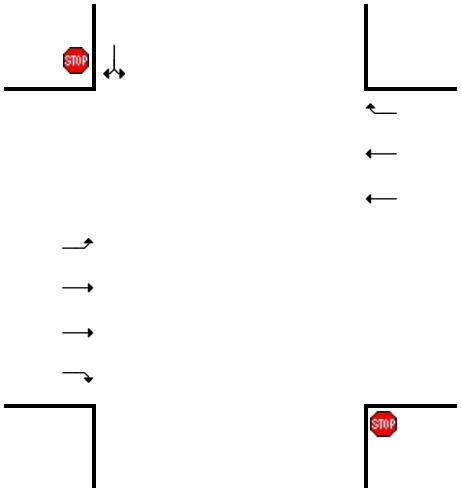
QC JOB #: 17289604
DATE: Thu, Oct 23 2025

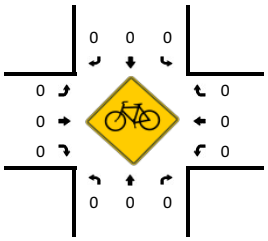
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

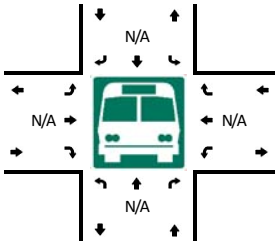


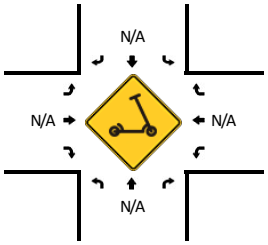












15-Min Count Period Beginning At	BP Driveway (Northbound)				BP Driveway (Southbound)				Dixie Highway (Eastbound)				Dixie Highway (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	6	0	3	214	37	0	0	461	2	0	723	
4:15 PM	0	0	0	0	0	0	3	0	1	235	48	0	0	423	1	0	711	
4:30 PM	0	0	0	0	0	0	10	0	2	271	54	0	0	450	7	0	794	
4:45 PM	0	0	0	0	0	0	4	0	1	214	40	0	0	460	3	0	722	2950
5:00 PM	0	0	0	0	0	0	7	0	2	246	55	0	0	473	3	0	786	3013
5:15 PM	0	0	0	0	0	0	3	0	0	216	58	0	0	434	2	0	713	3015
5:30 PM	0	0	0	0	1	0	3	0	2	238	39	0	0	407	1	0	691	2912
5:45 PM	0	0	0	0	0	0	7	0	1	189	46	0	0	436	2	0	681	2871

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	0	0	40	0	8	1084	216	0	0	1800	28	0	3176
Heavy Trucks	0	0	0		0	0	4		0	32	4		0	72	4		116
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 11/5/2025 6:54 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

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Appendix

Existing LOS Output Reports

2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1094	567	19	10	11
Future Vol, veh/h	5	1094	567	19	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	110	0	150
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	91	91	60	60
Heavy Vehicles, %	6	6	5	5	14	14
Mvmt Flow	5	1176	623	21	17	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	644	0	-	0	1222	312
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	599	-
Critical Hdwy	4.22	-	-	-	7.08	7.18
Critical Hdwy Stg 1	-	-	-	-	6.08	-
Critical Hdwy Stg 2	-	-	-	-	6.08	-
Follow-up Hdwy	2.26	-	-	-	3.64	3.44
Pot Cap-1 Maneuver	910	-	-	-	156	650
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	480	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	910	-	-	-	155	650
Mov Cap-2 Maneuver	-	-	-	-	286	-
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	480	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.04	0	14.36
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	910	-	-	-	286	650
HCM Lane V/C Ratio	0.006	-	-	-	0.058	0.028
HCM Ctrl Dly (s/v)	9	-	-	-	18.4	10.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1098	573	5	1	21
Future Vol, veh/h	10	1098	573	5	1	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	69	69
Heavy Vehicles, %	5	5	7	7	5	5
Mvmt Flow	11	1156	637	6	1	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	642	0	-	0	1236	318
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	599	-
Critical Hdwy	4.2	-	-	-	6.9	7
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	2.25	-	-	-	3.55	3.35
Pot Cap-1 Maneuver	918	-	-	-	164	669
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	503	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	918	-	-	-	162	669
Mov Cap-2 Maneuver	-	-	-	-	297	-
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	503	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.08	0	10.99
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	918	-	-	-	633
HCM Lane V/C Ratio	0.011	-	-	-	0.05
HCM Ctrl Dly (s/v)	9	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection: 9001: Dixie Highway & Lavon Drive

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	29	52	53
Average Queue (ft)	2	11	9
95th Queue (ft)	16	38	36
Link Distance (ft)		265	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		150
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 9002: Dixie Highway & Gas Station Driveway

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	49	43
Average Queue (ft)	5	13
95th Queue (ft)	25	34
Link Distance (ft)		83
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	250	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	703	1390	27	13	14
Future Vol, veh/h	4	703	1390	27	13	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	110	0	150
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	95	95	68	68
Heavy Vehicles, %	2	2	2	2	4	4
Mvmt Flow	4	790	1463	28	19	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1492	0	-	0	1867	732
Stage 1	-	-	-	-	1463	-
Stage 2	-	-	-	-	404	-
Critical Hdwy	4.14	-	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	2.22	-	-	-	3.54	3.34
Pot Cap-1 Maneuver	446	-	-	-	63	359
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	637	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	446	-	-	-	62	359
Mov Cap-2 Maneuver	-	-	-	-	142	-
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	637	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.07	0	24.57
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	446	-	-	-	142	359
HCM Lane V/C Ratio	0.01	-	-	-	0.134	0.057
HCM Ctrl Dly (s/v)	13.2	-	-	-	34.2	15.6
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	707	1389	15	0	24
Future Vol, veh/h	5	707	1389	15	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	95	95	60	60
Heavy Vehicles, %	2	2	2	2	8	8
Mvmt Flow	6	794	1462	16	0	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1478	0	-	0	1871	731
Stage 1	-	-	-	-	1462	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	4.14	-	-	-	6.96	7.06
Critical Hdwy Stg 1	-	-	-	-	5.96	-
Critical Hdwy Stg 2	-	-	-	-	5.96	-
Follow-up Hdwy	2.22	-	-	-	3.58	3.38
Pot Cap-1 Maneuver	452	-	-	-	60	351
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	622	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	452	-	-	-	59	351
Mov Cap-2 Maneuver	-	-	-	-	137	-
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	622	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.09	0	16.57
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	452	-	-	-	351
HCM Lane V/C Ratio	0.012	-	-	-	0.114
HCM Ctrl Dly (s/v)	13.1	-	-	-	16.6
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection: 9001: Dixie Highway & Lavon Drive

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	32	4	50	53
Average Queue (ft)	3	0	13	12
95th Queue (ft)	16	0	40	40
Link Distance (ft)			265	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	50	110		150
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 9002: Dixie Highway & Gas Station Driveway

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	27	46
Average Queue (ft)	4	15
95th Queue (ft)	19	38
Link Distance (ft)		86
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	250	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

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Appendix

Background LOS Output Reports

3

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1105	572	19	10	11
Future Vol, veh/h	5	1105	572	19	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	110	0	150
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	91	91	60	60
Heavy Vehicles, %	6	6	5	5	14	14
Mvmt Flow	5	1188	629	21	17	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	649	0	-	0	1233	314
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	605	-
Critical Hdwy	4.22	-	-	-	7.08	7.18
Critical Hdwy Stg 1	-	-	-	-	6.08	-
Critical Hdwy Stg 2	-	-	-	-	6.08	-
Follow-up Hdwy	2.26	-	-	-	3.64	3.44
Pot Cap-1 Maneuver	906	-	-	-	153	647
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	476	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	906	-	-	-	152	647
Mov Cap-2 Maneuver	-	-	-	-	283	-
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	476	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.04	0	14.44
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	906	-	-	-	283	647
HCM Lane V/C Ratio	0.006	-	-	-	0.059	0.028
HCM Ctrl Dly (s/v)	9	-	-	-	18.5	10.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1109	578	5	1	21
Future Vol, veh/h	10	1109	578	5	1	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	69	69
Heavy Vehicles, %	5	5	7	7	5	5
Mvmt Flow	11	1167	642	6	1	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	648	0	-	0	1247	321
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	605	-
Critical Hdwy	4.2	-	-	-	6.9	7
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	2.25	-	-	-	3.55	3.35
Pot Cap-1 Maneuver	914	-	-	-	161	666
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	500	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	914	-	-	-	160	666
Mov Cap-2 Maneuver	-	-	-	-	294	-
Stage 1	-	-	-	-	472	-
Stage 2	-	-	-	-	500	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.08	0	11.02
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	914	-	-	-	630
HCM Lane V/C Ratio	0.012	-	-	-	0.051
HCM Ctrl Dly (s/v)	9	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection: 9001: Dixie Highway & Lavon Drive

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	30	53	59
Average Queue (ft)	3	11	10
95th Queue (ft)	16	38	37
Link Distance (ft)		265	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		150
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 9002: Dixie Highway & Gas Station Driveway

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	49	46
Average Queue (ft)	5	13
95th Queue (ft)	26	35
Link Distance (ft)		83
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	250	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	710	1403	27	13	14
Future Vol, veh/h	4	710	1403	27	13	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	110	0	150
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	95	95	68	68
Heavy Vehicles, %	2	2	2	2	4	4
Mvmt Flow	4	798	1477	28	19	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1505	0	-	0	1885	738
Stage 1	-	-	-	-	1477	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	4.14	-	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	2.22	-	-	-	3.54	3.34
Pot Cap-1 Maneuver	441	-	-	-	61	356
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	441	-	-	-	60	356
Mov Cap-2 Maneuver	-	-	-	-	140	-
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	634	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.07	0	24.92
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	441	-	-	-	140	356
HCM Lane V/C Ratio	0.01	-	-	-	0.137	0.058
HCM Ctrl Dly (s/v)	13.3	-	-	-	34.8	15.7
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	714	1402	15	0	24
Future Vol, veh/h	5	714	1402	15	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	95	95	60	60
Heavy Vehicles, %	2	2	2	2	8	8
Mvmt Flow	6	802	1476	16	0	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1492	0	-	0	1888	738
Stage 1	-	-	-	-	1476	-
Stage 2	-	-	-	-	412	-
Critical Hdwy	4.14	-	-	-	6.96	7.06
Critical Hdwy Stg 1	-	-	-	-	5.96	-
Critical Hdwy Stg 2	-	-	-	-	5.96	-
Follow-up Hdwy	2.22	-	-	-	3.58	3.38
Pot Cap-1 Maneuver	446	-	-	-	58	347
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	619	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	446	-	-	-	57	347
Mov Cap-2 Maneuver	-	-	-	-	134	-
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	619	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.09	0	16.71
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	446	-	-	-	347
HCM Lane V/C Ratio	0.013	-	-	-	0.115
HCM Ctrl Dly (s/v)	13.2	-	-	-	16.7
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection: 9001: Dixie Highway & Lavon Drive

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	29	4	56	53
Average Queue (ft)	3	0	16	11
95th Queue (ft)	18	0	46	38
Link Distance (ft)			265	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	50	110		150
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9002: Dixie Highway & Gas Station Driveway

Movement	EB	WB	WB	SB
Directions Served	L	T	R	LR
Maximum Queue (ft)	27	10	4	60
Average Queue (ft)	5	0	0	16
95th Queue (ft)	21	7	3	42
Link Distance (ft)		120	120	86
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)	250			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

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Appendix

Trip Generation Calculations

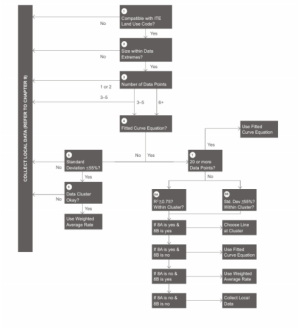
4

ITE Land Use	Land Use Code	Units		a.m. Peak Hour			p.m. Peak Hour			Weekday
				In	Out	Total	In	Out	Total	
Convenience Store/Gas Station (VFP 16-24)	945	6139	sf	203	196	399	188	187	375	3,944
Total				203	196	399	188	187	375	3,944
Pass-By Rates, LUC 945: 76% a.m.; 75% p.m.				154	149	303	141	140	281	
Total New Trips				49	47	96	47	47	94	3,944
Total Pass-By Trips				154	149	303	141	140	281	3,944

ITE Land Use	Land Use Code	Units		a.m. Peak Hour			p.m. Peak Hour			Weekday
				In	Out	Total	In	Out	Total	
Single Family Detached Housing	210	15	du	4	12	16	10	7	17	387

BP Gas Station Removal Adjustments Calcs

Figure 4.2 Process for Selecting Average Rate or Equation in *Trip Generation Manual* Data



Pass-By Rates

Land Use	a.m. Peak		p.m. Peak Hour	
	In	Out	In	Out
945	76%	76%	75%	75%

ITE Land Use	Land Use Code	Units	Time Period	Equation	R2	Rate	Pass-By	Studies	Notes
Convenience Store/Gas Station (GFA 5.5 - 10k)	945	16 VFP	a.m.	-	-	23.21	76%	55	Fitted Curve Equation not given --> Use Average Rate
			p.m.	-	-	21.08	75%	55	Fitted Curve Equation not given --> Use Average Rate
			Weekday	-	-	203.35	-	23	Fitted Curve Equation not given --> Use Average Rate
Convenience Store/Gas Station (VFP 16-24)	945	6,139 sf	a.m.	-	-	64.97	76%	59	Fitted Curve Equation not given --> Use Average Rate
			p.m.	-	-	61.09	75%	66	Fitted Curve Equation not given --> Use Average Rate
			Weekday		-	642.41	-	31	Fitted Curve Equation not given --> Use Average Rate

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Appendix

Turn Lane Charts

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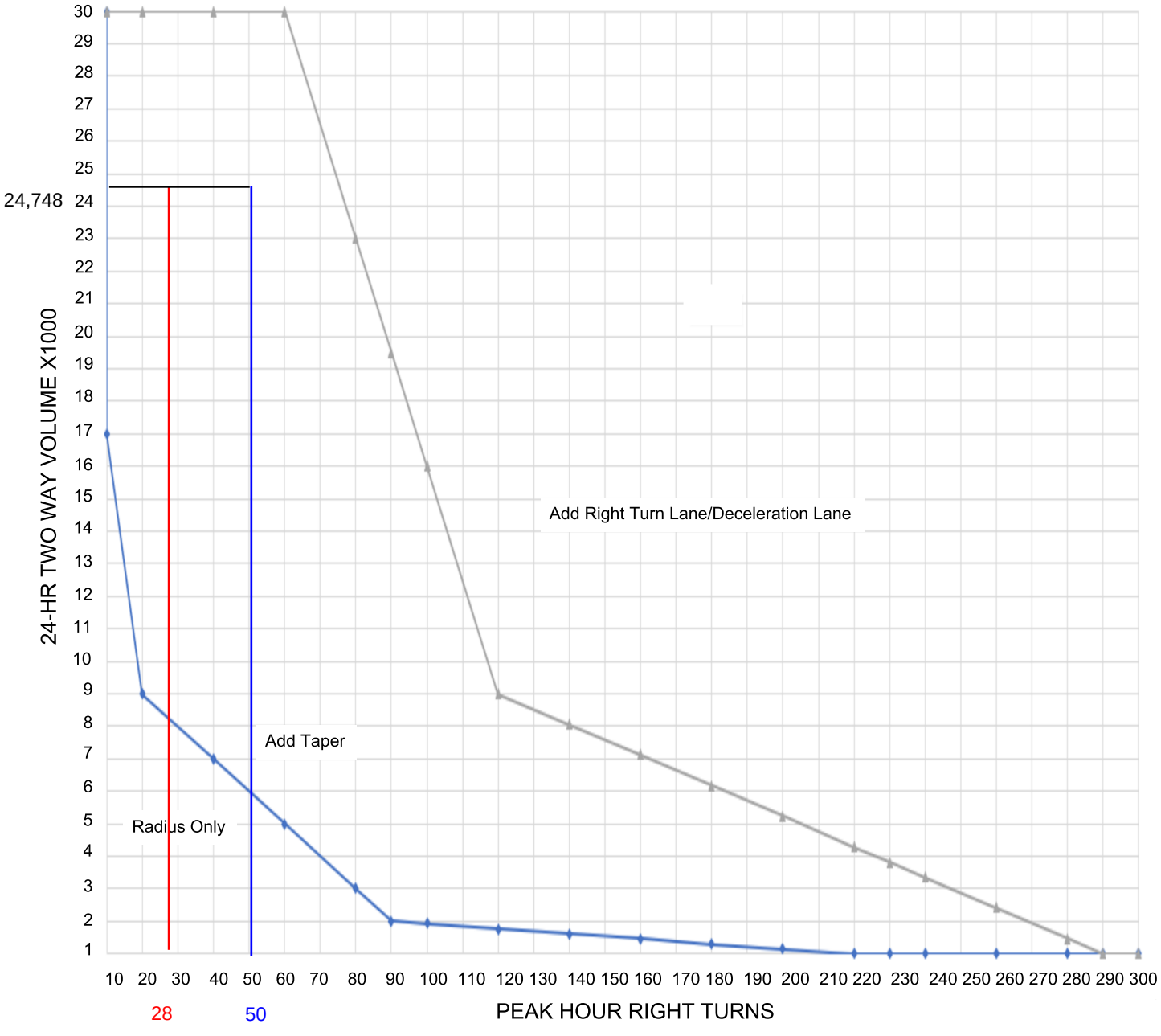
FIGURE 6-3

a.m. Peak Hour

p.m. Peak Hour

Dixie Highway and West Site Driveway

WARRANT FOR RIGHT TURN DECELERATION LANE OR TAPER



24-hour two way volume calculations:
Existing 24-hr volume (from MDOT TCDS) = 20,495, grown to 2027 = 20,804
newly generated daily traffic = 3,944
future 24-hour volume = 24,748

fishbeck

Appendix

Future LOS Output Reports

6

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	54	1066	542	45	71	40
Future Vol, veh/h	54	1066	542	45	71	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	91	91	60	60
Heavy Vehicles, %	6	6	5	5	14	14
Mvmt Flow	58	1146	596	49	118	67

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	645	0	-	0	1285	298
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	689	-
Critical Hdwy	4.22	-	-	-	7.08	7.18
Critical Hdwy Stg 1	-	-	-	-	6.08	-
Critical Hdwy Stg 2	-	-	-	-	6.08	-
Follow-up Hdwy	2.26	-	-	-	3.64	3.44
Pot Cap-1 Maneuver	909	-	-	-	141	664
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	429	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	909	-	-	-	132	664
Mov Cap-2 Maneuver	-	-	-	-	261	-
Stage 1	-	-	-	-	451	-
Stage 2	-	-	-	-	429	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.44	0	23.02
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	909	-	-	-	261	664
HCM Lane V/C Ratio	0.064	-	-	-	0.454	0.1
HCM Ctrl Dly (s/v)	9.2	-	-	-	29.8	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.2	0.3

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	80	1057	554	28	63	34
Future Vol, veh/h	80	1057	554	28	63	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	92	92
Heavy Vehicles, %	5	5	7	7	2	2
Mvmt Flow	84	1113	616	31	68	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	647	0	-	0	1356	323
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	725	-
Critical Hdwy	4.2	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.25	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	-	140	672
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	441	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	915	-	-	-	128	672
Mov Cap-2 Maneuver	-	-	-	-	261	-
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	441	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.66	0	19.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	261	672
HCM Lane V/C Ratio	0.092	-	-	-	0.263	0.055
HCM Ctrl Dly (s/v)	9.3	-	-	-	23.7	10.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1	0.2

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	99	95	4	12	0
Future Vol, veh/h	0	99	95	4	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	14	14
Mvmt Flow	0	108	103	4	20	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	231	10	20	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	211	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	747	1069	1595	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	699	1069	1595	-	-	-
Mov Cap-2 Maneuver	699	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.74	7.11	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1591	-	1069	-	-
HCM Lane V/C Ratio	0.065	-	0.101	-	-
HCM Ctrl Dly (s/v)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	4	12	0
Future Vol, veh/h	0	0	0	4	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	60	60
Heavy Vehicles, %	2	2	2	2	14	14
Mvmt Flow	0	0	0	4	20	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	24	20	20	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	992	1058	1596	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	992	1058	1596	-	-	-
Mov Cap-2 Maneuver	992	-	-	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1596	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 9001: Dixie Highway & Lavon Drive

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	61	4	113	75
Average Queue (ft)	20	0	55	23
95th Queue (ft)	50	3	111	54
Link Distance (ft)			105	105
Upstream Blk Time (%)			6	0
Queuing Penalty (veh)			4	0
Storage Bay Dist (ft)	50	110		
Storage Blk Time (%)	1			
Queuing Penalty (veh)	3			

Intersection: 9003: Dixie Highway & West Site Driveway

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	71	139	44
Average Queue (ft)	24	47	20
95th Queue (ft)	55	111	46
Link Distance (ft)		180	180
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	250		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9004: Lavon Drive & South Site Driveway

Movement	EB	NB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	74	12	20
Average Queue (ft)	38	0	1
95th Queue (ft)	60	6	11
Link Distance (ft)	106	105	109
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 9005: Lavon Drive & North Site Driveway

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 7

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	694	1344	84	35	67
Future Vol, veh/h	26	694	1344	84	35	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	110	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	95	95	68	68
Heavy Vehicles, %	2	2	2	2	4	4
Mvmt Flow	29	780	1415	88	51	99

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1503	0	-	0	1863	707
Stage 1	-	-	-	-	1415	-
Stage 2	-	-	-	-	448	-
Critical Hdwy	4.14	-	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	2.22	-	-	-	3.54	3.34
Pot Cap-1 Maneuver	442	-	-	-	63	373
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	605	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	442	-	-	-	59	373
Mov Cap-2 Maneuver	-	-	-	-	141	-
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	605	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.5	0	27.19
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	442	-	-	-	141	373
HCM Lane V/C Ratio	0.066	-	-	-	0.366	0.264
HCM Ctrl Dly (s/v)	13.7	-	-	-	44.6	18.1
HCM Lane LOS	B	-	-	-	E	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.5	1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	689	1361	50	31	61
Future Vol, veh/h	38	689	1361	50	31	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	250	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	95	95	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	774	1433	53	34	66

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1485	0	-	0	1931	743
Stage 1	-	-	-	-	1459	-
Stage 2	-	-	-	-	472	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	449	-	-	-	58	358
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	593	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	449	-	-	-	52	358
Mov Cap-2 Maneuver	-	-	-	-	132	-
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	593	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.72	0	25.48
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	449	-	-	-	132	358
HCM Lane V/C Ratio	0.095	-	-	-	0.256	0.185
HCM Ctrl Dly (s/v)	13.9	-	-	-	41.5	17.3
HCM Lane LOS	B	-	-	-	E	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1	0.7

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	95	100	10	7	0
Future Vol, veh/h	0	95	100	10	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	68	68
Heavy Vehicles, %	2	2	2	2	4	4
Mvmt Flow	0	103	109	11	10	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	239	5	10	0	-	0
Stage 1	10	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	739	1077	1608	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	689	1077	1608	-	-	-
Mov Cap-2 Maneuver	689	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	809	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.7	6.73	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1599	-	1077	-	-
HCM Lane V/C Ratio	0.068	-	0.096	-	-
HCM Ctrl Dly (s/v)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	10	7	0
Future Vol, veh/h	0	0	0	10	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	68	68
Heavy Vehicles, %	2	2	2	2	4	4
Mvmt Flow	0	0	0	11	10	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	21	10	10	0	-	0
Stage 1	10	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	996	1071	1609	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	996	1071	1609	-	-	-
Mov Cap-2 Maneuver	996	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1609	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 9001: Dixie Highway & Lavon Drive

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	55	111	88
Average Queue (ft)	18	39	29
95th Queue (ft)	44	91	61
Link Distance (ft)		105	105
Upstream Blk Time (%)		4	0
Queuing Penalty (veh)		2	0
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	1		
Queuing Penalty (veh)	3		

Intersection: 9003: Dixie Highway & West Site Driveway

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	60	6	9	86	63
Average Queue (ft)	21	0	1	32	32
95th Queue (ft)	50	6	6	75	57
Link Distance (ft)		255	255	180	180
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	250				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9004: Lavon Drive & South Site Driveway

Movement	EB	NB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	101	6	6
Average Queue (ft)	38	0	0
95th Queue (ft)	71	4	5
Link Distance (ft)	106	105	109
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9005: Lavon Drive & North Site Driveway

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 5

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

Date: July 21, 2026

Preliminary/Final Site Plan Review
For
Springfield Township, Michigan

Applicant:	Stonefield Engineering & Design
Project Name:	Sheetz- Springfield Township
Plan Date:	June 3, 2026
Location:	8500 Dixie Highway – North corner of Dixie Highway and Lavon Drive, north of I-75
Zoning:	C-2, General Business District Dixie Highway Overlay District
Action Requested:	Preliminary and Final Site Plan Approval
Required Information:	As Noted

PROJECT AND SITE DESCRIPTION

The applicant is requesting Preliminary and Final Site Plan approval for the demolition and redevelopment of a former gas station to construct a 6,139 square foot Sheetz gas station, convenience store and fast-food drive-through. The project will occupy two parcels, which combined total 3.10 acres and are zoned C-2, General Business zoning district and within the Dixie Highway Overlay District. A lot combination application has not been submitted as part of this application. In this review, parcel # 07-24-201-003 shall be referred to as parcel A and parcel # 07-24-201-019 shall be referred to as parcel B. The scope of the project is proposed to be a portion of parcel A and the entirety of parcel B.

The site currently consists of a former BP gas station, which is assumed to be demolished. Demolition plans have not been submitted.

Benjamin R. Carlisle, *President* John L. Enos, *Vice President*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* Craig Strong, *Principal* Douglas J. Lewan, *Principal*
Richard K. Carlisle, *Past President/Senior Principal* R. Donald Wortman, *Past Principal*

In the C-2 zoning district, automobile filling/convenience stations and fast-food drive-throughs are permitted principal uses. Automobile filling/convenience stations are subject to the standards set in Section 40-628 of the Zoning Ordinance. The Planning Commission reviews preliminary site plans, and approves, approves with minor revisions, tables or denies final site plans.

Figure 1 below depicts an aerial image of the subject parcels.

Figure 1. *– Subject Site Aerial Photograph*



Source: NearMap, April 7, 2026

Items to be Addressed: *None.*

AREA, WIDTH, HEIGHT, AND SETBACKS

The subject site and proposed building appear to conform to the dimensional requirements of the C-2 zoning district, as shown in Table 1, on the following page.

***Table 1.** – C-2 -Dimensional Requirements*

	REQUIRED	PARCEL A	PARCEL B	SITE TOTAL
Minimum Lot Size	20,000 sq. ft.	207,264.48 sq. ft.	74,075.51 sq. ft.	281,339.99 sq. ft
Minimum Lot Width	100 ft.	~169 ft.	~206 ft.	375 ft.
Min. Setbacks	REQUIRED	PROVIDED		COMPLIANCE
Front	35 ft.	208.3 ft.		Complies
Side (East)	40 ft.	118.6 ft.		Complies
Side (West)	40 ft.	151.8 ft.		Complies
Rear	50 ft.	90 ft.		Complies
Max. Lot Coverage	50%	8.10%		Complies
Max. Building Height	28 ft. 5 in. (2 stories)	27 ft. 5 in. (1 story)		Complies

The subject site meets the lot standards, as well as the setback, height, and lot coverage requirements for the C-2 zoning district.

Items to be Addressed: *None.*

NATURAL RESOURCES

Topography: The site is pre-graded and relatively flat from the previous use.

Trees: The site currently has existing landscaping trees. These trees are shown in the site plan and those within the greenbelt are proposed to remain.

Wetlands: There are no wetlands on the site. To the rear of parcel A, there is a drain that runs through the property.

Soils: Soils information has not been provided.

Items to be Addressed: *None.*

BUILDING LOCATION AND SITE ARRANGEMENT

As previously mentioned, the project spans across two parcels. The applicant has not submitted a lot combination application. Per Section 40-2, a Lot is defined as " a contiguous and defined tract of land, under single ownership or control, which is used or intended to be used for purposes as allowed by this chapter. A lot may consist of (a) a single lot of record; (b) a portion of a lot of record; or (c) a combination of one or more lots of record or portions thereof." Since the applicant has ownership of the two adjacent parcels, they may act as one. However, the Planning Commission may require that the applicant combine the two parcels as a condition of approval.

Parcel A is currently vacant with a drain running along the rear of the property. Parcel B currently consists of an existing BP gas station with 7 pumps and a convenience store.

The proposed Sheetz development will span across the majority of Parcel B and a portion of Parcel A that fronts Dixie Highway. There is a septic field proposed in the center of Parcel A and a new well at the rear of parcel B.

Items to be Addressed: *Planning Commission determine if a lot combination is needed.*

PARKING AND LOADING

Section 40-681 contains parking and loading requirements for automobile filling/convenience stations and fast-food restaurants. Parking calculations are provided in **Table 2** below.

Table 2. *– Off-Street Parking & Loading Requirements*

	Required	**Provided**
Automobile filling/ convenience stations		
1 space per fueling position. Each fueling position as designated on the approved site plan may be used to meet overall required parking.	16 pump spaces	16 pump spaces
Plus 1 space per each 75 sq. ft. of floor area devoted to retail sales and customer service.	44 spaces	33 spaces
Fast food restaurant 1 space per 75 sq. ft. of floor area	16 spaces	16 spaces
Total	**76 spaces**	**65 spaces**
1,401 to 20,000 square feet of gross floor area requires dedicated loading space	1 loading space	None
Fast food restaurants drive-through stacking spaces	6 spaces	6 spaces

The proposed parking does not meet the minimum requirements for the number of parking spaces in Section 40-681(1). The current plans show that 1 space is required for every 100 square feet of floor area devoted to retail sales and customer service, when the correct calculation is 1 space for every 75 square feet of floor area. The total number of spaces is deficient by 11 spaces. The Planning Commission may permit deviations from off-street parking requirements based upon a finding that such deviations are more likely to provide a sufficient number of parking spaces to accommodate the specific characteristics of the use in question. The Planning Commission may attach conditions to the approval of a deviation from the off-street parking requirements, such as conditions which ensure that adequate usable reserve area is set aside for future parking, if needed.

A loading space is required and not shown on the site plan. The required loading space must meet the standards set in Section 40-681(2). Section 40-681(2)c does permit the Planning Commission to permit deviations from the loading space requirements based upon a finding that such deviations are more likely to provide a sufficient number of off-site loading spaces and of adequate size to accommodate the specific characteristics of the use in question. The Commission may also condition this modification by requiring that space be reserved if needed.

Section 40-681(3) contains requirements for off-street drive-through and waiting spaces. The proposed configuration meets the requirements of 6 drive-through stacking spaces, each being 12 feet in width and 20 feet in length. Standards require an escape lane for drivers within the drive-through, the applicant appears to have met the requirements, but it should be labeled on the final site plan.

Items to be Addressed: *1. Applicant meets parking requirements or Planning Commission determination and deviation on parking requirements. 2. Applicant provides location of required loading space or Planning Commission determination and deviation on loading requirements. 3. For final site plan, applicant labels escape lane.*

SITE ACCESS AND CIRCULATION

The site is proposing two ingress/egress drives, one from southwest off Dixie Highway and the other from the southeast off Lavon Street.

A circulation plan was included that showed semi-truck circulation throughout the site. The applicant should include in the circulation plan turning radii for trash and fire trucks for final site plan.

Section 40-628 of the Zoning Ordinance restricts driveway widths to a maximum of 30 feet. The applicant is requesting a modification to allow for the driveway access from Dixie Highway to be 36 feet. The Planning Commission should determine if additional width within the driveway is needed to ensure appropriate site access for deliveries and other emergency vehicles.

Items to be Addressed: *1. Applicant provide fire and garbage truck turning radii for final site plan. 2. Planning Commission determines if additional driveway width is necessary.*

SAFETY PATHS AND SIDEWALKS

A safety path does not exist nor is it proposed along Dixie Highway. This section of Dixie Highway is designated a priority pathway per Section 40-851(b) of the Zoning Ordinance, which requires the developer to construct a pathway within an easement adjacent to the right-of-way.

Upon request of the developer, construction of the pathway on the subject property may be waived by the township if the Township determines, in its sole discretion, that a pathway, if constructed, would not connect to any other pathway and would not likely be connected for at least ten years. Approval to waive construction of a pathway is subject to the conditions in Section 40-851(b)(5).

Brick pavers are proposed around three sides of the principal structure. Paver widths have been included on the south and west side of the building, but not the east side. The paver width on the east side of the building should be included in final site plans. The proposed plans do not include crosswalks. We recommend that crosswalks should be included connecting the east and west parking facilities not directly

attached to the building, along with a connection from the trash enclosure to the main building to ensure pedestrian safety. The Planning Commission should give direction on the inclusion of crosswalks throughout the site.

Items to be Addressed: *1. Planning Commission determine if safety path is required or waiver should be granted. 2. Planning Commission direction on the inclusion of crosswalks throughout the site.*

ESSENTIAL FACILITIES

Existing well and septic can be seen on sheet C-4.0. The applicant has indicated that they will potentially install a new well and well house in the eastern corner of parcel B and a new septic field to the north, in parcel A.

A transformer is proposed in the eastern corner of parcel B.

We defer to the Township Engineer for additional comments regarding essential facilities and stormwater management.

Items to be Addressed: *Township Engineer review of essential facilities.*

LANDSCAPING

The applicant has submitted a landscape plan on sheet C-5.0. The following landscape standards from Section 40-721 apply to the site:

Greenbelt: The proposed greenbelts along Dixie Highway and Levon Street contain existing and new trees. Both comply with standards.

Screening: The residential screening to the northeast does not comply with standards for the required screen number three as shown in the table below:

Table 3. *– Screen No. 3 Requirements*

Type	Required	Provided	Compliance
Medium Evergreen Tree 1 per linear feet	206 feet/10 = 21 trees	21 trees	Complies
Large Evergreen Tree 1 per 30 linear feet	206 feet/30 = 7 trees	7 trees	Complies
Deciduous Tree 1 per 25 feet	206 feet/25 = 8 trees	3 proposed trees 4 preserved trees	1 tree deficient
Shrubs 7 per 25 linear feet	(206 feet/25) x 7 = 58 shrubs	34 shrubs	24 shrubs deficient

The Planning Commission may waive or modify screening requirements upon a finding that sufficient natural vegetation is present on the site that forms an effective screen, sufficient natural berming is present on the site to create a barrier in keeping with the specific type required, there is sufficient distance between the proposed use and the adjoining parcel boundary that renders any additional screening ineffective, and/or the topography is such that the planting of a screen required would be of no benefit because the adjoining parcel to be screened is at a higher elevation than the subject property or for any other similar reason.

Parking Lot: Section 40-721(b)(4) requires one tree per eight parking spaces. The applicant proposes 65 parking spaces, therefore requires eight trees. There are six parking lot trees proposed. The Planning Commission may approve alternative landscape plantings at the perimeter of parking lots where landscaping within parking lots would be impractical due to the size of the parking lot or detrimental to safe and efficient traffic flow.

Site Landscaping: Section 40-721(6) requires at least ten percent (10%) of the site area, excluding existing public rights-of-way, to be landscaped. A calculation of the landscaped area was provided and the applicant meets standards.

Trash Enclosure: A trash enclosure is proposed on the western side of the property. The enclosure meets the required standards.

Items to be Addressed: *1. Planning Commission to consider a reduction in number of screening trees and shrubs. 2. Planning Commission to consider a reduction in number of parking lot trees.*

LIGHTING

Sheet "RL-11279-S1_Full" provides a lighting and photometric plan. The plans provided meet the standards set in Section 40-888 of the Zoning Ordinance regarding exterior lighting.

Items to be Addressed: *None.*

SIGNAGE

A detailed sign plan has not been provided. The applicant is proposing a single monument sign at the corner of Dixie Highway and Lavon Street but they have not provided the necessary details other than the location. Signs must be approved as part of site plan review or by the Planning Commission at a later date.

Sheet 6139-A200-A201 shows three wall signs, two "Sheetz" signs each roughly 16.2 square feet and one "Made to Order, MTO" sign that is roughly 21.24 square feet, for a total of 71.03 square feet. The building is set back more than 100 feet from Dixie Highway and Lavon Street, allowing up to 100 square feet of sign area.

Items to be Addressed: *Applicant include detailed sign plan at final site plan.*

FLOOR PLANS AND ELEVATIONS

The building materials for the convenience store are brick veneer, cast stone sill, anchored case stone masonry, and standing stem metal roof. The plans provided meet the architectural standards in Section 40-821. Floor plans have not been provided and are required for final site plan review.

Outdoor seating is proposed on the northeastern side of the building. The proposed outdoor seating meets all standards set forth in Section 40-646.

Items to be Addressed: *Applicant includes floor plans with final site plan.*

REQUIREMENTS FOR AUTOMOBLIE FILLING/ CONVEINIENCE STATION

Per Section 40-628 Automobile repair facilities, minor, automobile filling/convenience stations, automobile filling/mixed use stations, and automobile filling/service stations are subject to the following:

1. The lot for the automobile service station shall have 150 feet of frontage on the principal street serving the station.

   CWA Comment: The proposed project has a roughly 375 feet of frontage along Dixie Highway and complies with standards.

2. The use at the proposed location will not create a traffic hazard or traffic nuisance because of its location or the location of its driveways:

   a. As compared to similar uses;

   b. Considering turning movements in relation to other lots, existing buildings, or proposed buildings on or near the site and the traffic pattern from such buildings;

   c. Considering its location near a vehicular or pedestrian entrance or crossing to a public or private school, park, playground or hospital, or other public use or place of public assembly; and/or;

   d. Considering its location and proximity to other surrounding uses.

   CWA Comment: The proposed project is taking the place of a similar use. The addition of a fast-food element to the proposed project may cause additional traffic. Due to Dixie Highway being a main corridor that services the Township, and the sites proximity to I-75, the Planning Commission may request that the applicant provides a traffic study or similar data, per Section 40-682.

3. Driveway tapers and acceleration and deceleration lanes shall be designed according to the provisions set forth in section 40-684—Driveway approaches. Driveway spacing shall be in conformance with section 40-683—Access management and may be no closer than 20 feet to the side property line, with the exception of combined driveways that may be located on or adjacent to a property line. The maximum width of each driveway at the right-of-way line shall be no more than 30 feet unless modified by the planning commission during the site plan review process to ensure adequate access of delivery and emergency vehicles. Whenever possible, a combined

driveway for both service station and an adjacent commercial property shall be designated and provided.

CWA Comment: The applicant is requesting the Planning Commission grant a modification from driveway width to allow a maximum of 36 feet instead of 30 feet. The plans proposed comply with other remaining standards.

4. If a separate automobile wash is proposed, it must maintain a minimum distance of 25 feet from any lot line, and shall not encroach on the required front, side or rear yards.

   CWA Comment: No automobile wash has been proposed.

5. Additional screening or noise buffering pursuant to section 40-721(b)(3). Screening between land uses, may be required at the discretion of the township taking into consideration adjacent land uses.

   CWA Comment: The current landscaping plan is deficient in number of screening and parking lot greenery. The Planning Commission should determine whether the plan as proposed provides sufficient screening for the neighboring residential uses.

6. All buildings must be oriented so that service bay and automobile wash doors face away from any abutting residentially zoned or used property.

   CWA Comment: No service bays or automobile washes have been proposed.

7. If a canopy is proposed over the gasoline pumps, the canopy design must relate to the facade design of the main building. The minimum clear distance to the canopy bottom shall be 16 feet with a maximum canopy height of 20 feet. Canopy height may be increased to 25 feet if a pitched roof is incorporated in the design. The location of the canopy must meet all minimum setback requirements for the district as enumerated in Section 40-572.

   CWA Comment: No elevations of the canopy have been submitted. The proposed canopy location shown on the site plan meets the required setback standards. The applicant has indicated on site plans that the proposed canopy will meet minimum and maximum height requirements. Canopy elevations are needed to verify height requirements.

8. Outside sales areas shall be located within five feet of the building. One display/sales rack may be permitted adjacent to each row of pump islands. Propane sales shall be located outside the principal building in an enclosure designed and approved for such purpose. All outside sales areas, displays, racks, and/or enclosures shall not obstruct pedestrian or vehicular access ways.

   CWA Comment: Applicant has not provided details regarding display/sales racks adjacent to pump islands. Site renderings indicate that outdoor sales will include wiper fluid, ice, and propane tanks. The applicant should include a detailed plan/memo that indicates outdoor sales will meet the requirements of this section.

9. Vehicles awaiting repair must be parked in a designated parking space. One such vehicle per service bay may be parked on-site for no more than 48 hours.

CWA Comment: The applicant has not indicated that vehicle services will be provided on site.

10. One tow-truck that is accessory to the subject principal use may be parked on-site within a designated parking space.

    CWA Comment: The site plan does not indicate that a tow truck will be regularly parked on-site nor is a car repair facility shown. Nevertheless, the applicant should indicate in a note on the final site plan whether a tow truck will be parked on-site and, if so, indicate the parking spot and limit the number of trucks to one.

Items to be Addressed: *1. Planning Commission determine if applicant should provide a traffic study. 2. Applicant submit canopy elevations with height specified. 3. Applicant include plan/memo that indicates outdoor sales will comply with standards of Section 40-628. 4. Planning Commission determine if proposed screening is sufficient for neighboring residential uses. 5. Planning Commission determine if additional driveway width is necessary. 6. Applicant clarify if a tow truck will be parked on-site.*

DIXIE HIGHWAY DESIGN GUIDELINES

The subject site is located within the Dixie Highway Overlay District. Per Section 40-596, the final site plan must be consistent with the Dixie Highway Design Guidelines. Please note that the Dixie Highway Design Guidelines document does allow for flexibility in application.

Streetscape

The proposed plans do not meet the streetscape requirements of the Dixie Overlay District. The overlay district is intended to promote lighting, fencing, greenbelts, entry landscaping, and signage that contribute life, color, texture, and a distinct sense of identity to the streetscape. While the proposed greenbelt and entry landscaping satisfy the general landscaping requirements, they do not incorporate the natural character and design elements the overlay district was established to preserve. In addition, the plans do not include the required decorative teardrop lighting or decorative fencing specified by the overlay district standards. Signage details have not yet been submitted for review. When provided, the signage plans should also comply with the applicable design requirements of the Dixie Overlay District.

Building Site Design

The proposed plans do not meet the building and site design requirements of the Dixie Overlay District. The overlay district encourages development that emphasizes natural elements and provides a balanced relationship between pedestrian and vehicular circulation throughout the site. The overlay district requires the primary building entrance to be located on the side of the building. While the proposed plans include entrances on both the front and side elevations, the plans should demonstrate compliance with this requirement. In addition, buildings are expected to incorporate natural or natural-looking materials, and Craftsman style and Prairie style architectural elements are strongly encouraged to reflect the character of the district. Although the proposed landscaping meets the minimum landscaping requirements, additional native plantings should be incorporated to better support the natural aesthetic and design intent of the Dixie Overlay District.

The overlay district also strongly encourages the inclusion of a community amenity. These community amenities are to be treated as gathering spaces and can include benches, pathways, bike racks, boardwalks, seasonal planters, nature viewing stations, etc. Outdoor seating is proposed on the northeastern side of the building and a flagpole near the driveway off of Lavon Street.

The Planning Commission should give direction to the applicant as to how they might better alter the site to fit within the regulations of the overlay district.

Items to be Addressed: *Planning Commission give direction how plans might better align with Dixie Highway Overlay District standards.*

OTHER

The applicant did not include current site conditions or demolition plans with the information submitted. We assume that the existing gas station is to be demolished instead of renovated. Site plans indicate the installation of new underground gasoline storage tanks. Existing site conditions were not included with the plans submitted, so the location of the former storage tanks is unknown. The applicant should include the location of existing storage tanks, their condition, and whether they are to be removed or reutilized.

Per Section 40-136(g)(2)(c), the site plan must include existing lot lines, property lines and all structures, parking areas, etc. within the site, and within 100 feet of the site for final site plan review.

Items to be Addressed: *Applicant include existing site conditions and demolition plan with the location and condition of existing gasoline storage tanks.*

SUMMARY

The submitted site plans are determined to be in compliance with the preliminary site plan review standards of the Springfield Township Zoning Ordinance. However, at this time, we do not find the plans to be in compliance with the final site plan review standards. The following items should be considered by the Planning Commission and addressed by the applicant to the satisfaction of the Planning Commission before final site plan approval is granted.

Planning Commission Considerations:

A. Building Location and Site Arrangement.
   a. Determine if a lot combination is needed.

B. Parking and Loading.
   a. Consider deviation on parking requirements.
   b. Consider deviation on loading requirements.

C. Site Access and Circulation.
   a. Determine if additional driveway width is necessary.

D. Safety Paths and Sidewalks.
   a. Determine if safety path is required or waiver should be granted.
   b. Discuss the inclusion of crosswalks throughout the site.

E. Landscaping.
   a. Consider a reduction in number of screening trees and shrubs.
   b. Consider a reduction in number of parking lot trees.

F. Automobile Filling/Convenience Stations.
   a. Determine if applicant should provide a traffic study.
   b. Determine if proposed screening is sufficient for neighboring residential uses.
   c. Determine if additional driveway width is necessary.

G. Dixie Highway Design Guidelines.
   a. Discuss how plans might better align with Dixie Highway Overlay District Standards.

Applicant to Address:

A. Parking and Loading.
   a. If deviation is not granted, provide required parking spaces.
   b. If deviation is not granted, provided location of required loading space.
   c. For final site plan, label escape lane.

B. Site Access and Circulation.
   a. Provide fire and garbage truck turning radii for final site plan.

C. Safety Paths and Sidewalks.
   a. Provide safety paths and crosswalks on final site plan per direction of the Planning Commission.

D. Signage.
   a. Include sign plan with final site plan.

E. Floor Plans and Elevations.
   a. Include floor plans with final site plan.

F. Automobile Filling/Convenience Stations.
   a. Submit canopy elevations with height specified.
   b. Include plan/memo that indicates outdoor sales will comply with standards of Section 40-628.
   c. Clarify if a tow truck will be parked on-site.

G. Dixie Highway Design Guidelines.
   a. Update final site plan per Planning Commission direction on Dixie Highway Overlay District Standards.

H. Other.
   a. Include existing site conditions and demolition plan.

Township Engineer or Other Agency Review: Township Engineer review of essential facilities.

Respectfully submitted,

CARLISLE/WORTMAN ASSOC., INC.
Megan Masson-Minock, AICP
Principal

CARLISLE/WORTMAN ASSOC., INC.
Benny Bono
Community Planner

cc: *Ric Davis, Supervisor*
Danielle Sink, Supervisor's Assistant
Brian Galley, Planning Commission Chair
Nancy McClain, P.E.(nmcclain@giffelswebster.com)
Jason Maye, P.E. (jmayer@giffelswebster.com)
Matthew J. Covey (mcovey@springfield-twp.us)

July 15, 2026

Springfield Township Planning Commission
Charter Township of Springfield
12000 Davisburg Road
Davisburg, Michigan 48350

RE: Preliminary & Final Site Plan Submittal
APPROVED AS NOTED

Project Name: Springfield Twp Sheetz
GW Project No.: 20829.00

Dear Planning Commission Members:

Giffels Webster has completed our engineering review of the Preliminary & Final Site Plan for the proposed Springfield Twp Sheetz project plans dated June 18, 2026. Our comments are summarized below:

General

The 3.00-acre site is located on the east side of Dixie Highway, directly west of Lavon Drive. It has been in use as a gas station for approximately 20 years.

Utilities

The site will be served by an existing well, assuming it is feasible, and a new septic field and lead. An existing storm conveyance system at the existing gas station site ultimately flows along the Dixie Highway frontage of the lot northeast to a detention area on parcel 07-24-201-003 which is owned by the Road Commission for Oakland County (RCOC).

Required for Preliminary Site Plan

1. Clarify whether existing septic field will be abandoned or re-used.

Required for Final Site Plan

1. Coordinate the need for a high capacity well for fire protection with the Fire Department.
2. Approval of the proposed outlet to the existing detention basin will be required from the RCOC.
3. Provide drainage area layout and hydraulic calculations to verify pipe capacity and velocity.
4. Provide profiles for all proposed storm piping.

Grading

The site currently slopes toward existing catch basins in the existing pavement. The green space around the perimeter of the parking area and on parcel 07-24-204-003 slopes toward the existing detention basin or the ditches along the road frontages. The proposed grading will utilize similar techniques. The existing grassy area on parcel 07-24-201-003 will be partially paved over, increasing the amount of storm water runoff.

Required for Preliminary Site Plan

1. Add the pedestrian pathway across the Dixie Highway frontage.

Required for Final Site Plan

2. Approval of the revised drive approaches will be required from the RCOC.

Other Plan Comments

Required for Preliminary Site Plan

1. None

Required for Final Site Plan

1. Provide a soil erosion and sedimentation control plan. A soil erosion permit will be required from the Oakland County Water Resources Commissioner (OCWRC) prior to the pre-construction meeting.
2. A Storm Water Maintenance Agreement will be required for the site.
3. Provide a demolition plan to clarify what all is being removed from existing property.
4. Provide a tabulated list of quantities for each applicable plan sheet.
5. Add standard details sheets to the plan set.

Permits

The applicant shall obtain all required permits before any work commences on site. The following is a list of permits that may be required for the project:

1. A Soil Erosion and Sedimentation Control permit from OCWRC.
2. An Onsite Sewage Disposal System (Septic) permit from Oakland County Health Department.
3. A Right-of-Way permit for approach work within the Dixie Highway and Lavon Drive ROWs from the RCOC.
4. A building permit from the Springfield Township Building Department.
5. All off-site easements and/or hold harmless agreements necessary to do the work for this project and recorded prior to construction (if required).

We appreciate the opportunity to assist the Planning Commission in this preliminary site plan review process. A detailed review of the construction plans will be required if the preliminary & final site plans are approved by the Planning Commission. It is the responsibility of the applicant to ensure that the construction plans meet all of the conditions of the site plan approval by the Planning Commission. Please contact us if you have any questions.

Respectfully,
GIFFELS WEBSTER

Jason Mayer, PE
Partner

Nancy McClain, PE
Project Manager

cc: Ric Davis, Springfield Township Supervisor
Sean Miller, Springfield Township Clerk
Danielle Sink, Springfield Township

Attachments: Marked-up Preliminary Site Plan set stamped Approved as Noted

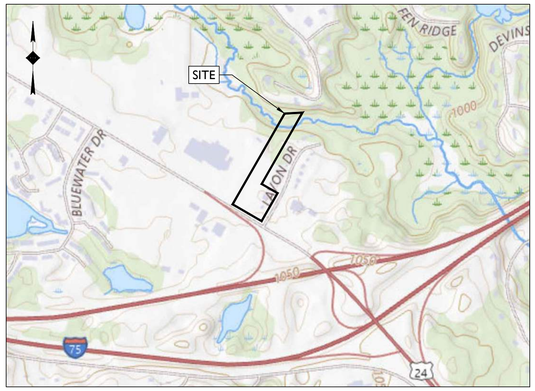
SITE DEVELOPMENT PLANS

FOR

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, & FAST FOOD RESTAURANT WITH PICKUP

PID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD, OAKLAND COUNTY, MI



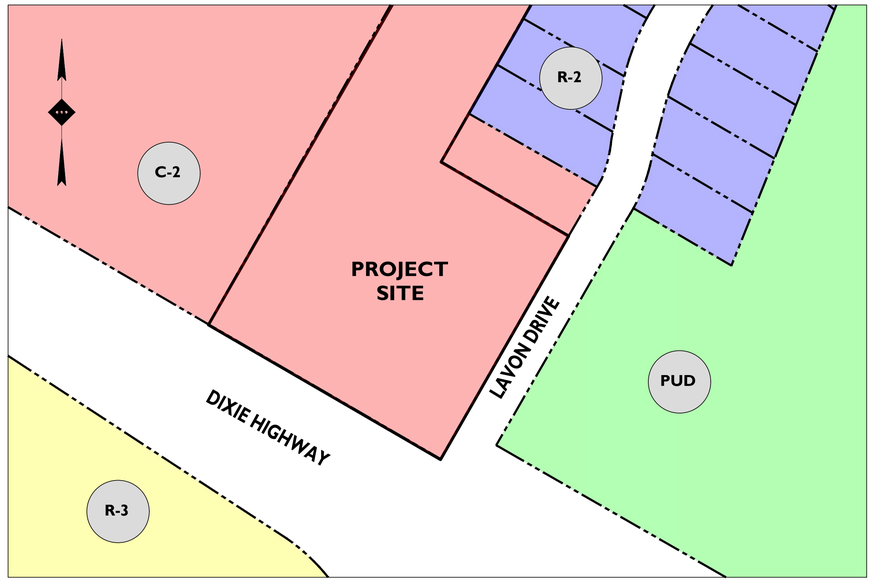
SOURCE: USGS TOPOGRAPHICAL MAPPER

LOCATION MAP
SCALE: 1" = 800'±



SOURCE: NEARMAPS ONLINE MAPPING SYSTEM

AERIAL MAP
SCALE: 1" = 100'±



SOURCE: SPRINGFIELD TOWNSHIP ZONING MAP

- C-2: GENERAL BUSINESS DISTRICT
- R-2: ONE-FAMILY RESIDENTIAL (1.0 AC.)
- PUD: PLANNED UNIT DEVELOPMENT
- R-3: ONE FAMILY RESIDENTIAL (0.5 AC.)

ZONING MAP
SCALE: 1" = 100'±

PLANS PREPARED BY:

811
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Phone 248.247.1115

PLAN REFERENCE MATERIALS:

1. THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO:
   - ALTA / NSPS LAND TITLE SURVEY PREPARED BY STONEFIELD ENGINEERING & DESIGN, DATED 06/01/2026
   - WETLAND DELINEATION PREPARED BY BARR, DATED 05/27/2026
   - AERIAL MAP PROVIDED BY NEARMAPS ONLINE MAPPING SYSTEM, DATE RETRIEVED 05/29/2026
   - LOCATION MAP PROVIDED BY USGS TOPOGRAPHICAL MAPS, DATE RETRIEVED 05/29/2026
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 CONSTRUCTION.

SHEET INDEX

DRAWING TITLE	SHEET #
COVER SHEET	C-1.0
SITE PLAN	C-2.0 & C-2.1
TRUCK TURNING PLAN	C-2.2
GRADING & STORMWATER MANAGEMENT PLAN	C-3.0
UTILITY PLAN	C-4.0
LANDSCAPING PLAN	C-5.0
LANDSCAPING DETAILS	C-5.1
CONSTRUCTION DETAILS	C-6.0 - C-6.3

ADDITIONAL SHEETS

DRAWING TITLE	SHEET #
ALTA / NSPS LAND TITLE SURVEY	SHEETS 1, 2, 3 OF 3

APPLICANT

SKILKEN GOLD
4270 MORSE ROAD
COLUMBUS, OHIO 43230
248.752.3331
ARIBA@SKILKENGOLD.COM

APPROVED AS NOTED
Site Plan Submittal

GIFFELS WEBSTER
1025 E. MAPLE ROAD, SUITE 100
BIRMINGHAM, MI 48009

07/15/2026

COMMENTS:
- See Sheet 5 for comments on storm water requirements at engineering submission.

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

STONEFIELD engineering & design
Birmingham, MI · New York, NY · Salem, MA
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www.stonefieldeng.com
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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

JONATHAN FRED DOOLEY — STATE OF MICHIGAN — 6201058104 — LICENSED PROFESSIONAL ENGINEER

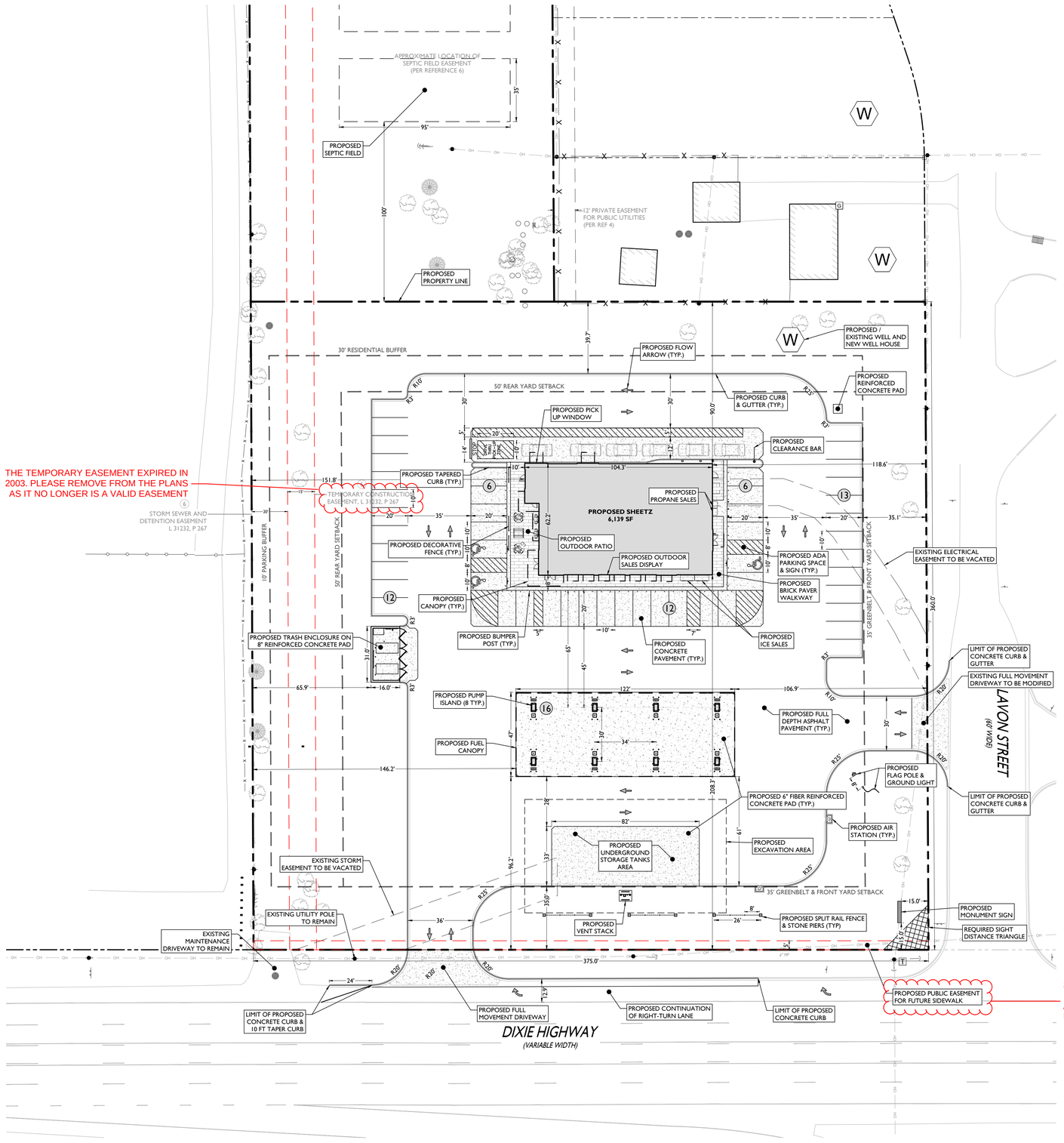
STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

TITLE: COVER SHEET

DRAWING: C-1.0

V:\DET\2025\DET-250399 SKILKEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI\CAD\PLOTS\P1-1 ACOVER.DWG



LAND USE AND ZONING

PARCEL ID: 07-24-201-019 & 07-24-201-003

GENERAL BUSINESS DISTRICT (C-2) W/ DIXIE HIGHWAY OVERLAY

PROPOSED USE		
GAS STATION / CONVENIENCE	PERMITTED USE	
FAST FOOD RESTAURANT	PERMITTED USE	
OUTDOOR SALES	PERMITTED USE	
ZONING REQUIREMENT	**REQUIRED**	**PROPOSED**
MINIMUM LOT AREA	20,000 SF	134,938 SF (3.10 AC)
MINIMUM LOT WIDTH	150 FT	375.0 FT
MAXIMUM BUILDING COVERAGE	50%	8.10% (10,927 SF)
MAXIMUM BUILDING HEIGHT	2 STORIES (28.5 FT)	< 2 STORIES (28.5 FT)
MINIMUM FRONT YARD SETBACK	35 FT	96.2 FT
MINIMUM REAR YARD SETBACK	50 FT	90.0 FT
MINIMUM GREENBELT	35 FT	35.0 FT
MINIMUM RESIDENTIAL BUFFER	30 FT	39.7 FT
MINIMUM PARKING BUFFER	10 FT	65.9 FT
MINIMUM DRIVEWAY WIDTH	30 FT	36 FT (W)
MAXIMUM NUMBER OF DRIVEWAYS	1 PER FRONTAGE	1 DRIVEWAY
MINIMUM HEIGHT TO BOTTOM OF CANOPY	16 FT	COMPLIES
MAXIMUM CANOPY HEIGHT	25 FT*	COMPLIES

(W) WAIVER

(*) § 40-628.7: CANOPY HEIGHT MAY BE INCREASED TO 25 FT IF PITCHED ROOF IS INCORPORATED

OFF-STREET PARKING REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
§ 40-681.(1).g	GAS STATION / CONVENIENCE PARKING: 1 SPACE PER PUMP (16 PUMPS)(1 / 1 PUMP) = 16 SPACES 1 SPACE PER 100 SF (3,264 SF)(1 / 100 SF) = 33 SPACES FAST FOOD RESTAURANT PARKING: 1 SPACE PER 75 SF (1,209 SF)(1 / 75 SF) = 16 SPACES TOTAL: 16 + 33 + 16 = **65 SPACES**	16 PUMP SPACES 49 REGULAR TOTAL: **65 SPACES**
§ 40-681.(1).h	90° PARKING DIMENSIONS: 9 FT X 18 FT W/ 22 FT AISLE	10 FT X 20 FT W/ 35 FT AISLE
§ 40-681.(3).a	STACKING: 6 SPACES 12 FT X 20 FT	6 SPACES 12 FT X 20 FT

SYMBOL	DESCRIPTION
	PROPERTY LINE
	SETBACK LINE
	PROPOSED CONCRETE CURB & GUTTER
	PROPOSED TAPERED CURB
	PROPOSED SIGNS / BOLLARDS
	PROPOSED BUILDING
	PROPOSED CONCRETE
	PROPOSED BUILDING DOORS

GENERAL NOTES

1. 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, LLC.
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.
11. 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.

30' 0' 30' 60'

GRAPHIC SCALE IN FEET

1" = 30'

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

STONEFIELD engineering & design

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

555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN — JONATHAN REED COOKSEY — ENGINEER — No. 6201061428 — PROFESSIONAL ENGINEER

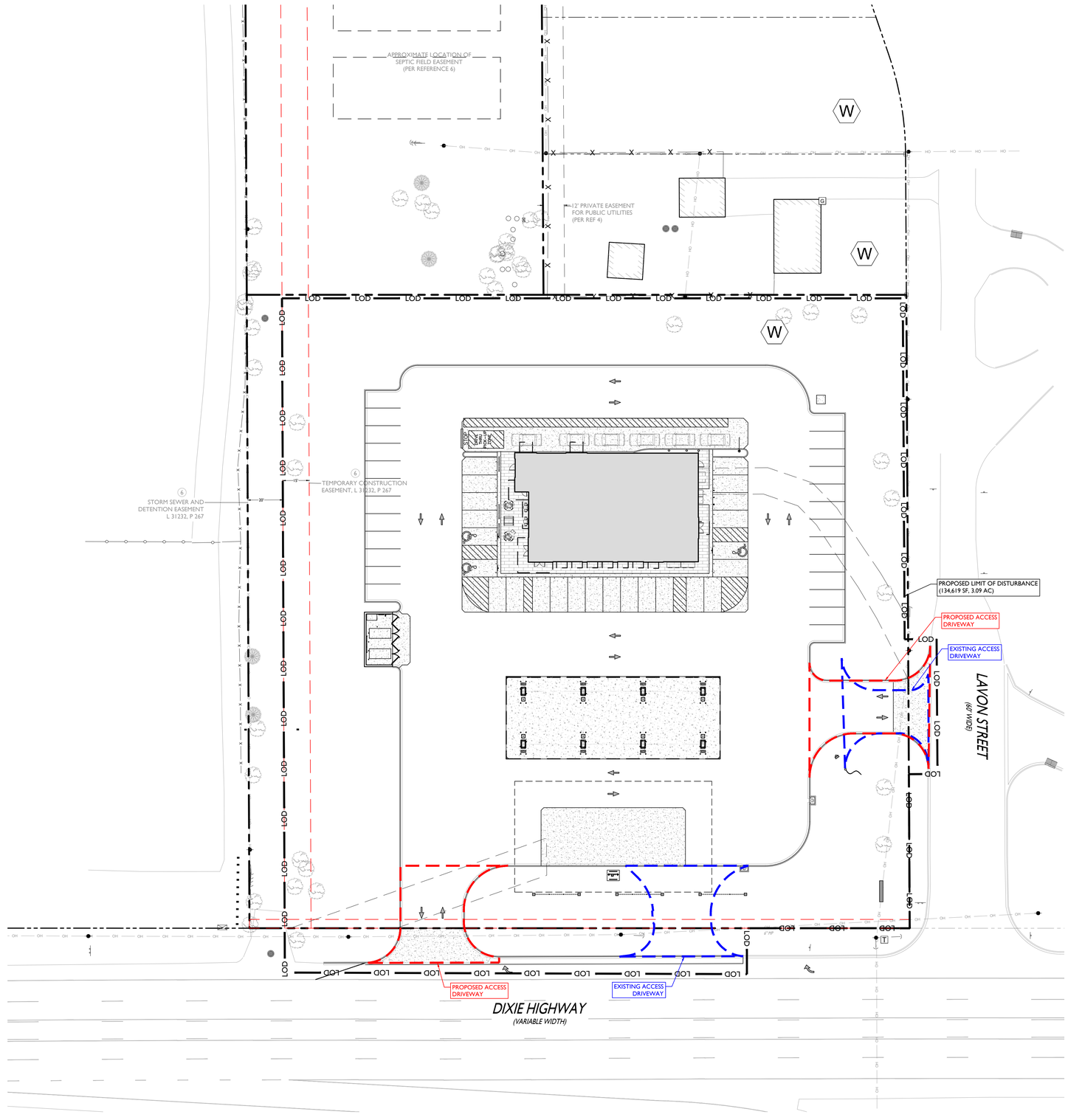
STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE: SITE PLAN

DRAWING: C-2.0

V:\DET\2025\DET-250399 (MUKLAN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP)\PLANS\CAD\PLOTS\DP-2.0-2.3 SITE.DWG



SYMBOL	DESCRIPTION
	PROPERTY LINE
LOD	PROPOSED LIMIT OF DISTURBANCE
	EXISTING ACCESS DRIVEWAY
	PROPOSED ACCESS DRIVEWAY

30' 0' 30' 60'

GRAPHIC SCALE IN FEET
1" = 30'

ISSUE	DATE	BY	DESCRIPTION
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SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION,
CONVENIENCE STORE, FAST FOOD
RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN



STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE: SITE PLAN

DRAWING: C-2.1

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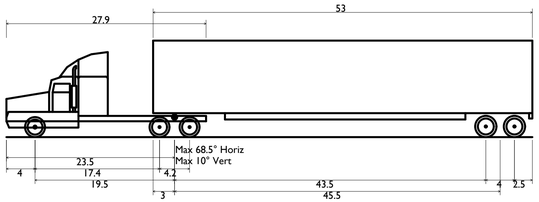
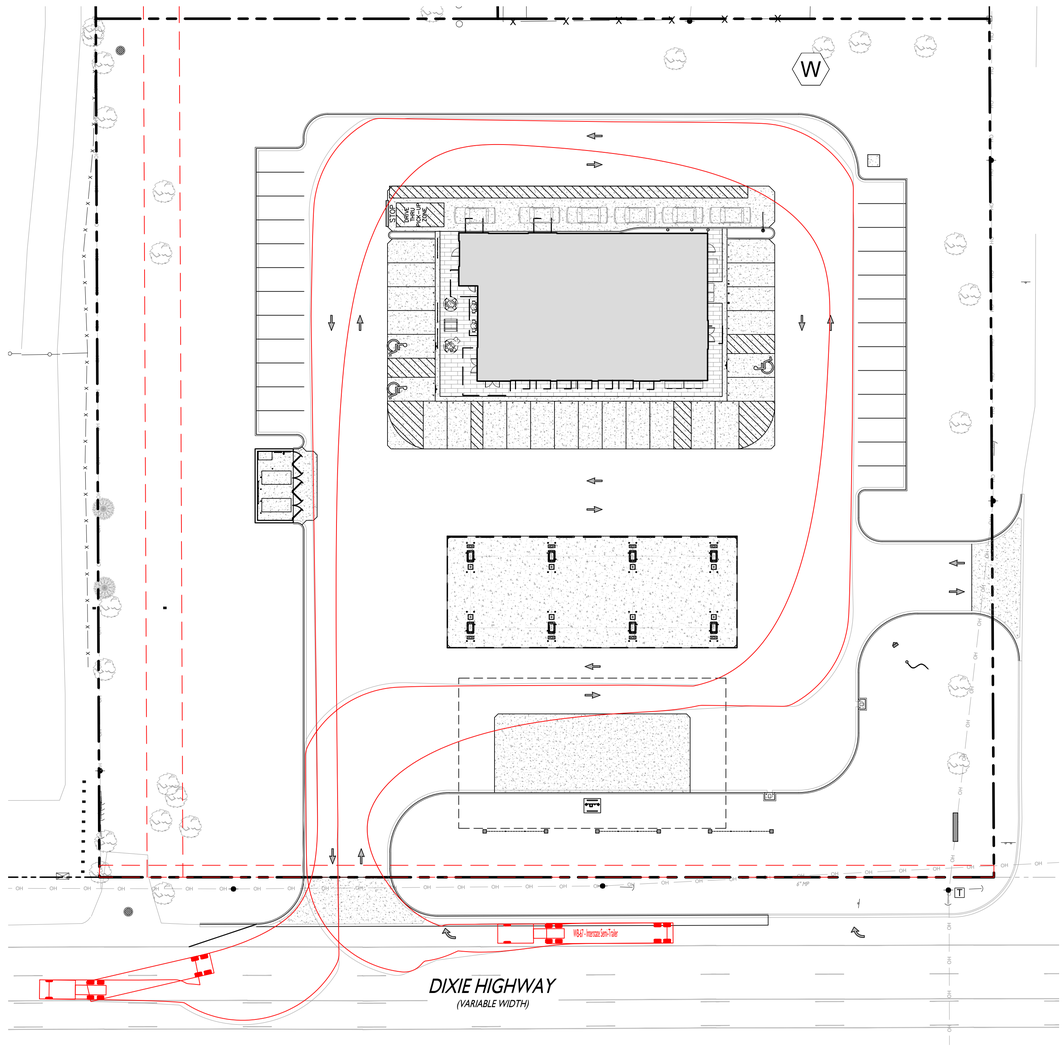
FUELING / LOADING TRUCK ROUTE

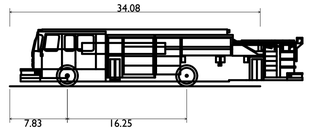


WB-67 - Interstate Semi-Trailer

Overall Length	73.501ft
Overall Width	8.500ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	28.40°

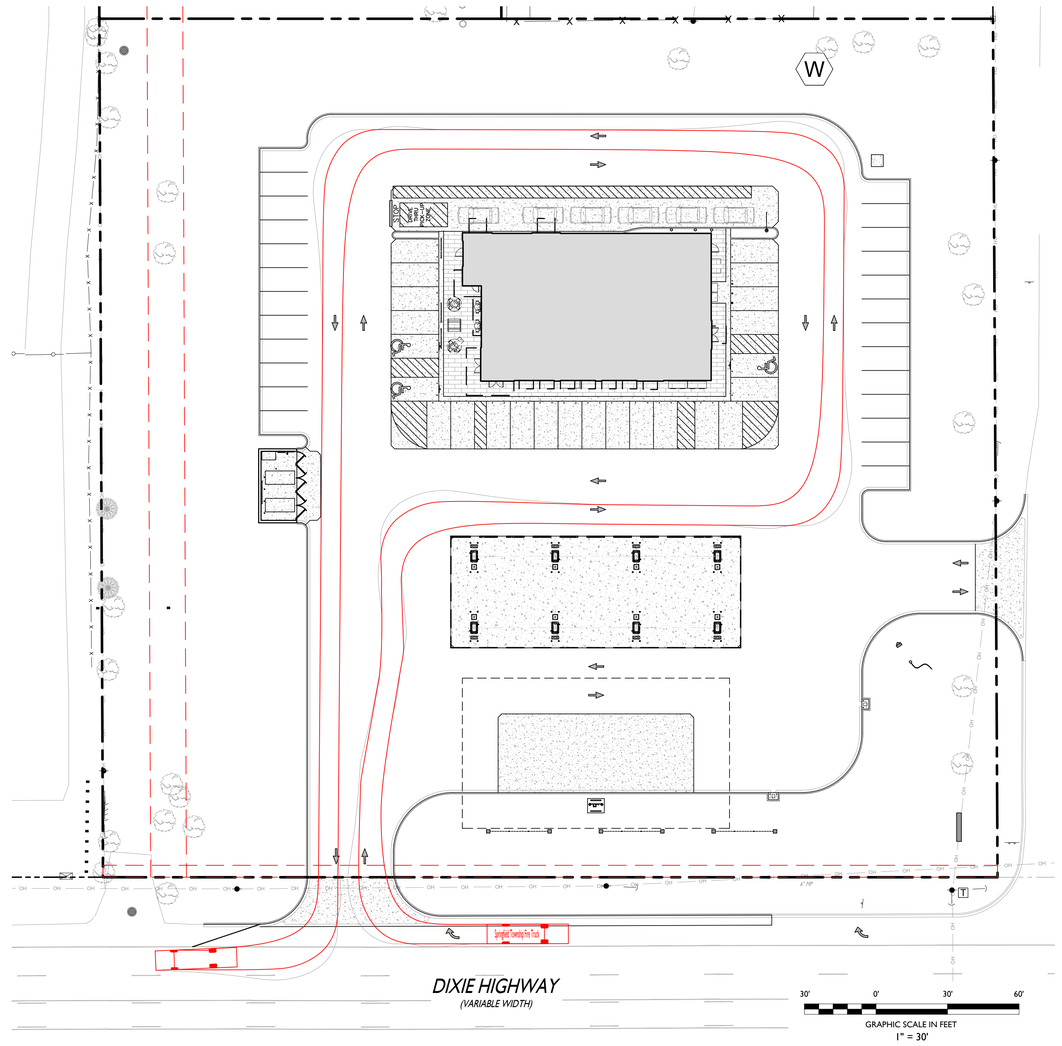


FIRE TRUCK ROUTE



Springfield Township Fire Truck (Sutphen 2011 Pumper)

Overall Length	34.080ft
Overall Width	8.167ft
Overall Body Height	7.745ft
Min Body Ground Clearance	0.656ft
Track Width	8.167ft
Lock-to-lock time	5.00s
Max Wheel Angle	42.00°



ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

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SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION,
CONVENIENCE STORE, FAST FOOD
RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN
JONATHAN REID COCKSEY
ENGINEER
No. 6201060426
LICENSED PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE: TRUCK TURNING PLAN

DRAWING: C-2.2

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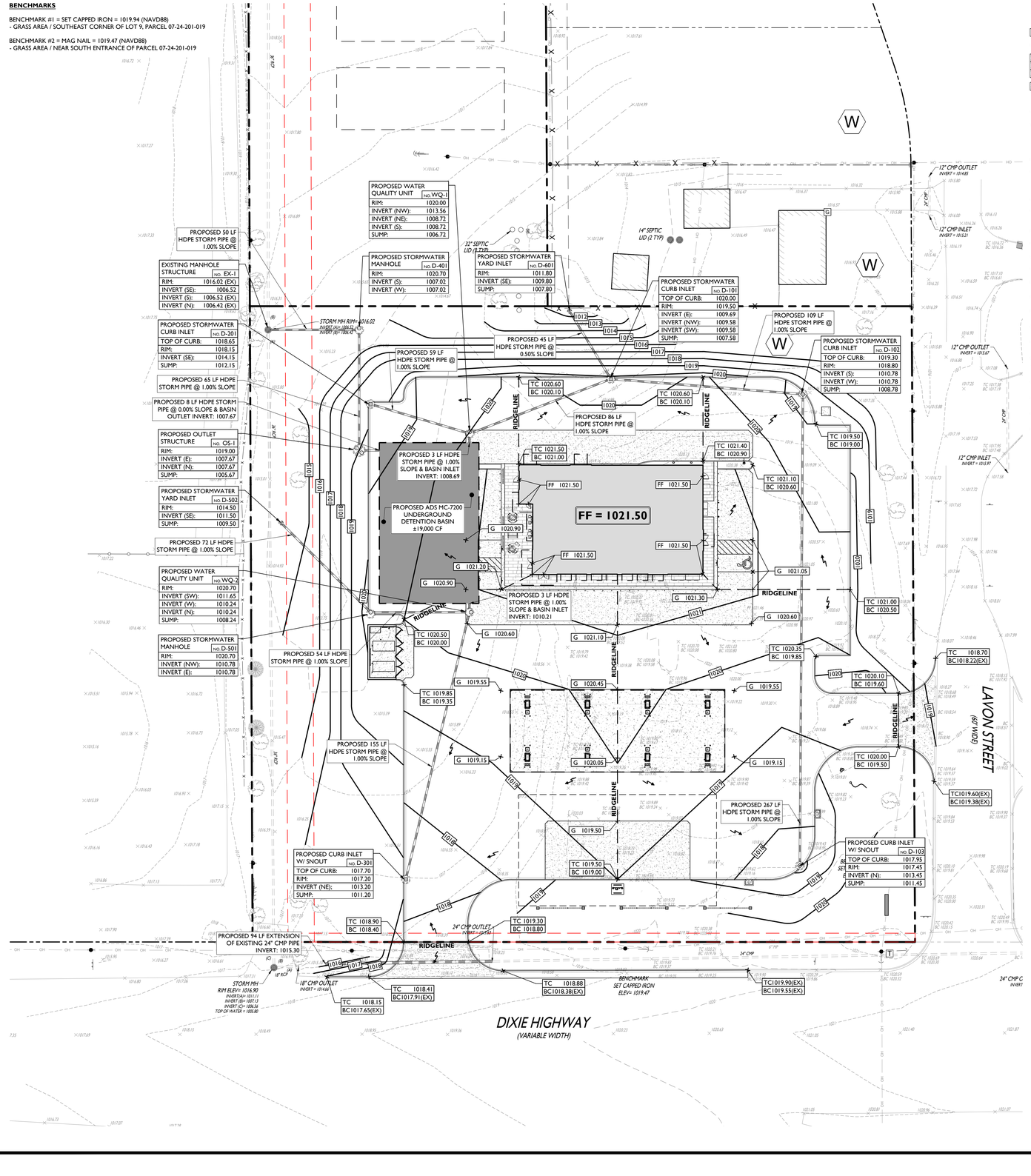
BENCHMARKS

BENCHMARK #1 = SET CAPPED IRON = 1019.94 (NAVD88)
- GRASS AREA / SOUTHEAST CORNER OF LOT 9, PARCEL 07-24-201-019

BENCHMARK #2 = MAG NAIL = 1019.47 (NAVD88)
- GRASS AREA / NEAR SOUTH ENTRANCE OF PARCEL 07-24-201-019



STORMWATER MANAGEMENT CALCULATIONS

Based on Oakland County Stormwater Management Regulations (Updated as of 04/07/2025)

Project:	SG - Springfield	Designer:	JD	Date:	06/03/26

Determination of Surface Runoff

Landcover		Area (AC)	Area (SF)		C-Value*		Weighted Value
Building / Pavement		1.71	74,492	x	0.90	=	67,043
Landscaped Areas	HSG 'C'	1.39	60,430	x	0.35	=	21,151
Subtotals		3.10	134,922				88,193

	Composite C Value, C:	0.65
$I = 30.209^{0.22} / (9.17+T)^{0.81}$	Average Rainfall Intensity, I:	2.76 IN/HR
T_c, Time of Concentration:	Design Storm Period, P:	1 YEARS
Residencial Developments over 5 acres - 20 min		
Commercial or Industrial Developments over 5 acres - 15 min	Time of Concenration, Tc:	10.0 MINS
Any Development under 5 acres - 10 min		

PART D: Channel Protection Volume Control

$V_{CPv} = 3.630 * 1.00 * C * A$	Required CPVC Volume, V_{CP-R}:	9,501 CF
	Provided CPVC Volume, V_{CP-P}:	0.00 CF
Is High Ground Water Present On-Site?	No	
Is Infiltration >0.24 in/hr Available On-Site?	No	Infiltration is Waived
		CPVC is not provided as site soils are not suitable for infiltration.

PART E: Water Quality Control

$V_{WQ} = 3.630 * C * A$	Water Quality Volume, V_{WQ}:	7,308 CF
$Q_{WQ} = C * A * (20.20 / (Tc + 9.17)^{0.81})$	Water Quality Rate, Q_{WQ}:	5.56 CFS
Is a Forebay Proposed On-Site?	No	Water Quality Unit provided
		See Specifications in Site Development Plans

PART F: Channel Protection Rate Control: Extended Detention

$V_{ED} = 6,897 * C * A$	Extended Detention Volume, V_{ED}:	13,886 CF

PART G: Detention & Flood Control Facilities

$Q_{100YR} = C * I_{100} * A$	100-yr Post-Development Peak Inflow Rate, Q_{100YR}:	15.33 CFS
$I_{100} = 82.3 / [(Tc + 9.17) ^ (0.81)]$	100-yr Rainfall Intensity, I_{100}	7.62 in/hr
$Q_{REL} = 1.1055 - 0.206*LN(A)$	Variable Release Rate, Q_{REL}:	0.87 CFS/ac
**Allowable Peak Release Rate Not to Exceed: 1) Restricted Rate for the Drain, or 2) The prorated Share of the Drain's Capacity, or 3) Q $_{100}$ (max 1.0 CFS/ac)*		
$Q_{100R} = Q_{REL} * A$	100-YR Release Rate, Q_{100R}:	2.70 CFS
$R = 0.206 - 0.15 * LN (Q_{100R} / Q_{100UN})$	Storage Curve Factor, R:	0.47 CFS
$V_{100R} = 18,985 * C * A$	Post Development 100-yr Runoff Volume, V_{100RO}:	38,222 CF
$V_{100D} = V_{100R} * R - V_{CPv}$	100-yr Detention Volume, V_{100D}:	17,829 CF

ENGINEERING SUBMISSION WILL NEED TO SHOW:
- EXISTING ANG PROPOSED DRAINAGE AREAS, INCLUDING OFF-SITE AREAS.
- OVERFLOW ROUTING
- CALCULATIONS FOR THE EXISTING BASIN THAT YOU ARE DISCHARGING TO.

SYMBOL / DESCRIPTION

- PROPERTY LINE
- 100 — PROPOSED GRADING CONTOUR
- RIDGELINE — PROPOSED GRADING RIDGELINE
- PROPOSED DIRECTION OF DRAINAGE FLOW
- G 100.00 — PROPOSED GRADE SPOT SHOT
- TC 100.50 / BC 100.00 — PROPOSED TOP OF CURB / BOTTOM OF CURB SPOT SHOT
- FF 100.00 — PROPOSED FINISH FLOOR SPOT SHOT
- PROPOSED STORMWATER STRUCTURES
- PROPOSED STORMWATER PIPING
- PROPOSED UNDERGROUND OUTLET STRUCTURE

GRADING NOTES

1. ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.
2. THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
4. THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.
5. MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:
   - CURB GUTTER: 0.50%
   - CONCRETE SURFACES: 1.00%
   - ASPHALT SURFACES: 1.00%
6. A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET.
7. FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

DRAINAGE AND UTILITY NOTES

1. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMENDED 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. THE 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

1. 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.
4. 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 DISPOSAL.

STORMWATER UNDERGROUND BMP CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL INSTALL AND BACKFILL THE UNDERGROUND BMP IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. UNDERGROUND BASINS SHALL UTILIZE A STONE BACKFILL WITH A MINIMUM VOID RATIO OF 40%.
3. NO CONSTRUCTION LOADING OVER UNDERGROUND BASINS IS PERMITTED UNTIL BACKFILL IS COMPLETE PER THE MANUFACTURER'S SPECIFICATIONS. NO VEHICLES SHALL BE STAGED OR OPERATE FROM A FIXED POSITION OVER THE BASIN.

ADA NOTES

1. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
2. THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
4. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
5. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
6. ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
7. A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.
8. THE CONTRACTOR SHALL ENSURE A MAXIMUM OF ¼ INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN ¼ INCHES AND ½ INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP ¼ INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1 UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
9. THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN ½ INCH.

30' 0' 30' 60'
GRAPHIC SCALE IN FEET
1" = 30'

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN — JONATHAN FRED GOOSBY — ENGINEER — No. 6201060429 — PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE: GRADING & STORMWATER MANAGEMENT PLAN

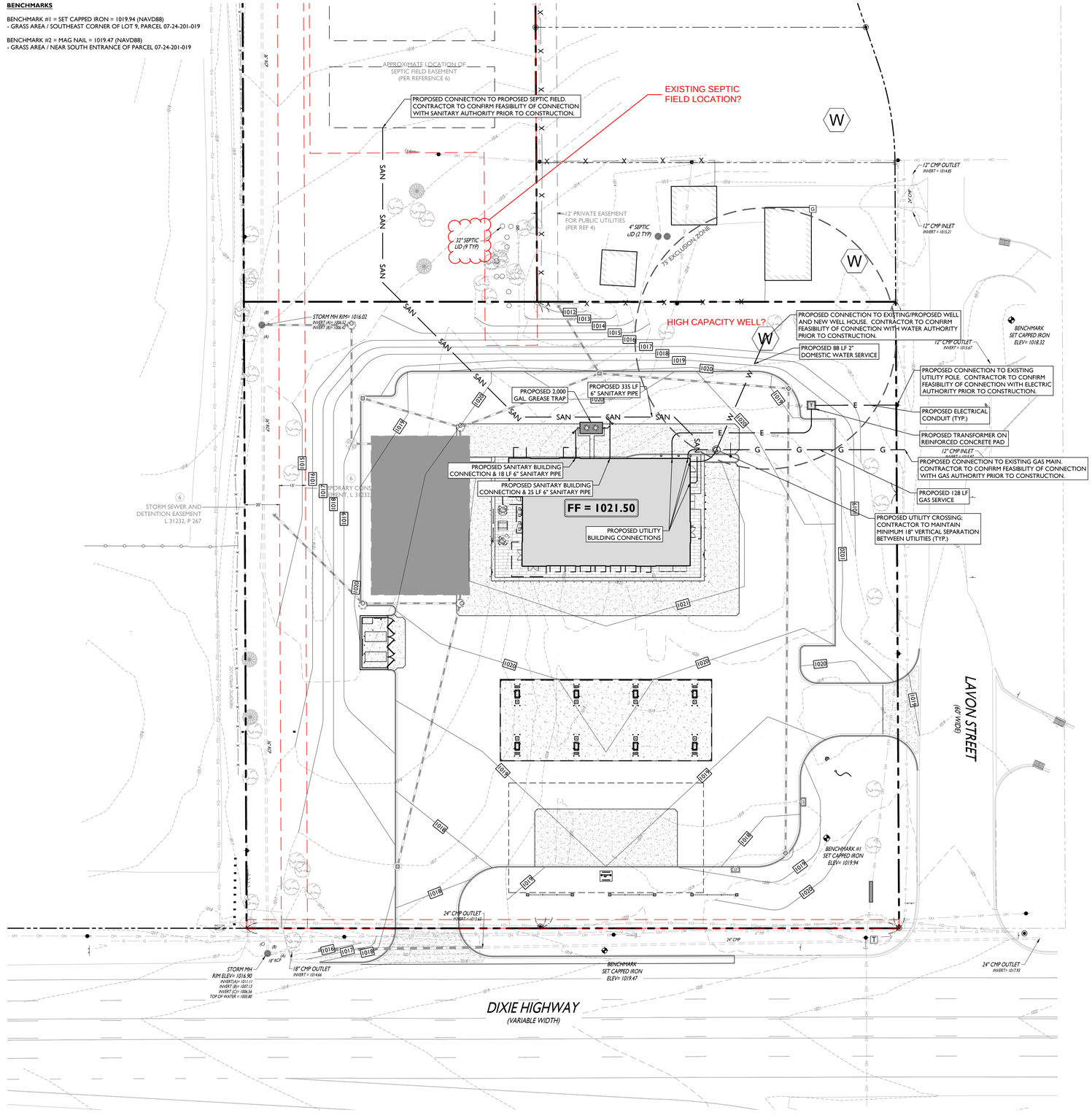
DRAWING: C-3.0

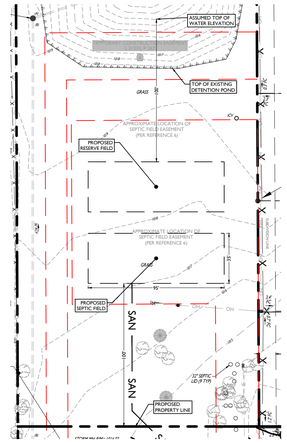
V:\DET\2025\DET-250399 (SHEETZ GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI)\CAD\PLOT\PLOT2D-3.0 GRADING

BENCHMARKS

BENCHMARK #1 = SET CAPPED IRON = 1019.94 (NAVD88)
- GRASS AREA / SOUTHEAST CORNER OF LOT 9, PARCEL 07-24-201-019

BENCHMARK #2 = MAG NAIL = 1019.47 (NAVD88)
- GRASS AREA / NEAR SOUTH ENTRANCE OF PARCEL 07-24-201-019





SEPTIC FIELD INSET

50' 0' 50' 100'

GRAPHIC SCALE IN FEET
1" = 50'

KNOX BOX TO BE PROVIDED. LOCATION TO BE APPROVED BY FIRE DEPARTMENT

SYMBOL	DESCRIPTION
	PROPERTY LINE
SAN	PROPOSED SANITARY LATERAL
W	PROPOSED DOMESTIC WATER SERVICE
E	PROPOSED ELECTRIC CONDUIT
G	PROPOSED GAS LINE
S	PROPOSED SANITARY MANHOLE / CLEANOUT
T	PROPOSED TRANSFORMER ON CONCRETE PAD

DRAINAGE AND UTILITY NOTES

1. 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.
2. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED.
3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF THE PROPOSED WORK DURING CONSTRUCTION.
4. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
5. ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18 INCHES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
6. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING.
7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRIC AND TELECOMMUNICATION CONNECTIONS WITH THE APPROPRIATE GOVERNING AUTHORITY.
8. CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY SEWER AT THE LOWEST INVERT AND WORK UP-GRADIENT.
9. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.
10. 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.

30' 0' 30' 60'

GRAPHIC SCALE IN FEET
1" = 30'

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

STONEFIELD engineering & design
Birmingham, MI · New York, NY · Salem, MA
Princeton, NJ · Tampa, FL · Rutherford, NJ
www.stonefieldeng.com
555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

JONATHAN FRED GOODSEY SWINNER — STATE OF MICHIGAN — 6201060426 — REGISTERED PROFESSIONAL ENGINEER

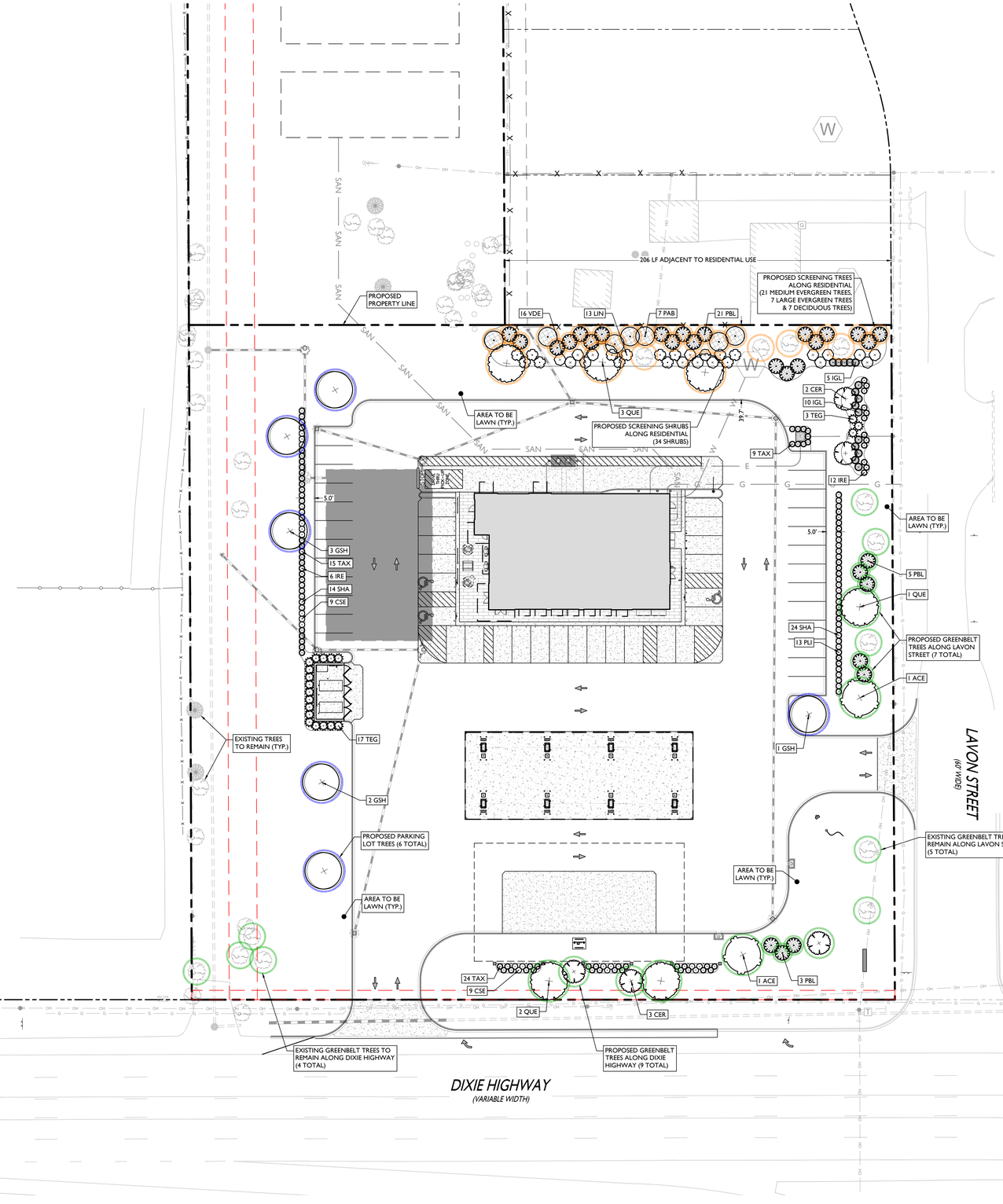
STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

TITLE: UTILITY PLAN

DRAWING: C-4.0

V:\DET\2025\DET-250399 (SOLKEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI)\ADD\PLOT\SP-4 SUTILITY.DWG



LANDSCAPING AND SCREENING REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
§ 40-721.(b)(3)b.5.(iii)	SCREENING NO. 3 REQUIREMENTS	
	MINIMUM WIDTH: 30 FT	39.7 FT
	1 MEDIUM EVERGREEN TREE PER 10 LF	
	1 LARGE EVERGREEN TREE, 1 DECIDUOUS TREE, AND 5 SHRUBS PER 30 LF	
	(206 FT) * (1 TREE / 10 FT) = 21 MEDIUM EVERGREEN TREES	21 TREES
	(206 FT) * (1 TREE / 30 FT) = 7 LARGE EVERGREEN TREES	7 TREES
	(206 FT) * (1 TREE / 30 FT) = 7 DECIDUOUS TREES	4 EXISTING TREES 2 PROPOSED TREES
	(206 FT) * (5 SHRUBS / 30 FT) = 34 SHRUBS	34 SHRUBS
§ 40-721.(b)(4)a.1.	PARKING LOT TREES	
	1 TREE FOR EVERY 8 PARKING SPACES	
	(49 SPACES) * (1 TREE / 8 SPACES) = 6 TREES	6 TREES
	MINIMUM AREA: 150 SF	COMPLIES
§ 40-721.(b)(4)b.1.	PERIMETER PARKING LOT LANDSCAPING	
	LANDSCAPING, BERMING, OR SOLID WALL REQUIRED TO SCREEN PARKING FROM PUBLIC ROADS	COMPLIES
§ 40-721.(b)(5)a.	GREENBELTS	
	MINIMUM WIDTH: FRONT YARD SETBACK	COMPLIES
	1 TREE PER 30 LF	
	DIXIE HIGHWAY: 375 FT	
	(375 FT) * (1 TREE / 30 FT) = 13 TREES	4 EXISTING TREES 9 PROPOSED TREES
	LAVON STREET: 360 FT	
	(360 FT) * (1 TREE / 30 FT) = 12 TREES	5 EXISTING TREES 7 PROPOSED TREES
§ 40-721.(b)(6)a.	SITE LANDSCAPING	
	MINIMUM SITE LANDSCAPING: 10%	
	(134,938 SF) * (0.10) = 13,494 SF	19,482 SF (14.4%)

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
DECIDUOUS TREES						
	GSH	6	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	2" - 2.5" CAL	B&B
	ACE	2	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2" - 2.5" CAL	B&B
	QUE	6	QUERCUS PALUSTRIS	PINK OAK	2" - 2.5" CAL	B&B
EVERGREEN TREES						
	TEG	20	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	6' - 8' HT	B&B
	PAB	7	PICEA ABIES	NORWAY SPRUCE	6' - 8' HT	B&B
	PBL	29	PICEA GLAUCA DENSATA	BLACK HILLS SPRUCE	6' - 8' HT	B&B
ORNAMENTAL TREES (SINGLE-STEM)						
	CER	5	CERCIS CANADENSIS	EASTERN REDBUD	1.5" - 2" CAL	B&B
SHRUBS						
	CSE	18	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED TWIG DOGWOOD	18" - 24" HT	POT
	IRE	18	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	18" - 24" HT	POT
	LIN	13	LINDERA BENZOIN	SPICEBUSH	24" - 30" HT	POT
	PLI	13	PHYSOCARPUS OPULIFOLIUS 'LITTLE DEVIL'	LITTLE DEVIL DWARF NINEBARK	18" - 24" HT	POT
	VDE	16	VIBURNUM DENTATUM	VIBURNUM	24" - 30" HT	POT
EVERGREEN SHRUBS						
	IGL	15	ILEX GLABRA	INKBERRY HOLLY	24" - 30" HT	POT
	SHA	38	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	18" - 24" HT	POT
	TAX	48	TAXUS X MEDIA 'DENSIFORMIS'	DENSE ANGLO-JAPANESE YEW	18" - 24" HT	POT

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE LANDSCAPE PLAN AND WITHIN THE PLANT LIST, THE PLAN SHALL DICTATE.

SYMBOL	DESCRIPTION
	PROPOSED SCREENING TREES
	PROPOSED PARKING LOT TREES
	PROPOSED GREENBELT TREES

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

LANDSCAPING NOTES

1. 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 AREAS.

30' 0' 30' 60'
GRAPHIC SCALE IN FEET
1" = 30'

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STATE OF MICHIGAN
JONATHAN FRED GOONSEY
ENGINEER
No. 6201060426
REGISTERED PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 30' | PROJECT ID: DET-250399

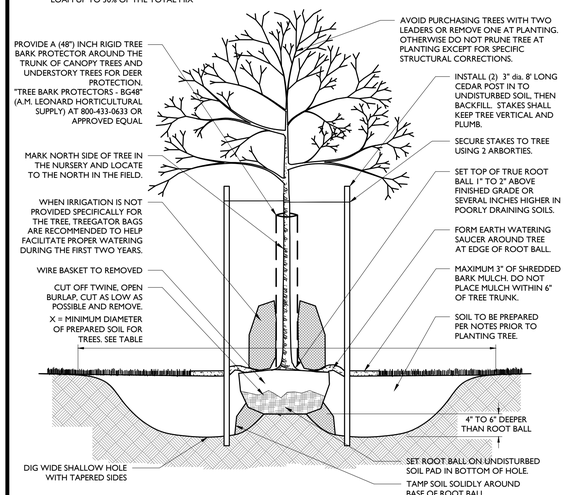
TITLE: LANDSCAPING PLAN

DRAWING: C-5.0

V:\DET\2025\DET-250399 SHEATZ GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP - MICHIGAN\LDP\SDP\C-5.0 LANDSCAPING.DWG

NOTES:

1. FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
2. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
3. SOIL AMENDMENTS:
   - 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 SOILDS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX



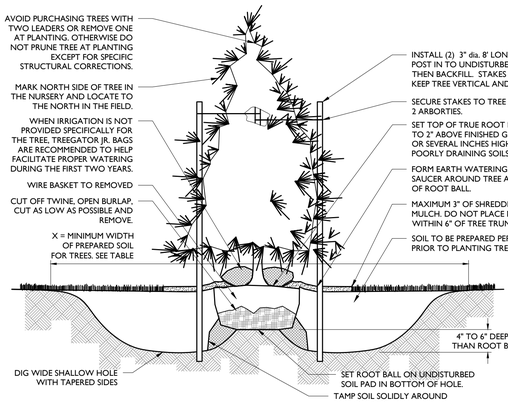
DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

1

NOTES:

1. FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
2. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
3. SOIL AMENDMENTS:
   - 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 SOILDS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX

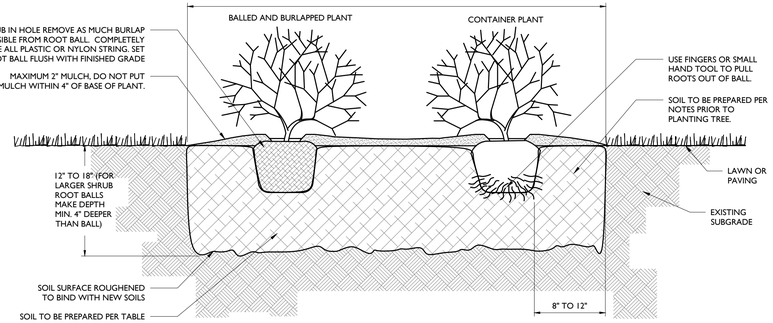


CONIFEROUS TREE PLANTING DETAIL

NOT TO SCALE

2

PREPARE SOIL IN THE ENTIRE BED USING PROCEDURES OUTLINED IN TABLE (X)



NOTES:

1. FOR CONTAINER-GROWN SHRUBS, USE FINGERS OR SMALL HAND TOOL TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
2. THOROUGHLY SOAK THE SHRUB ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
   - 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% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL

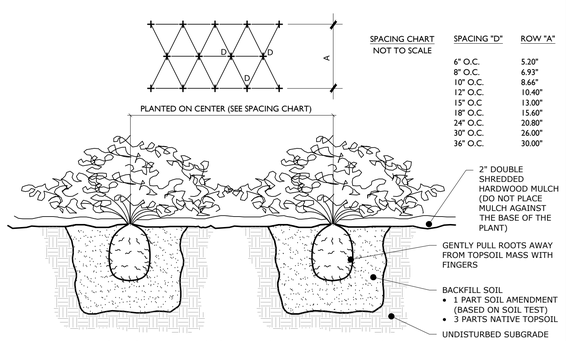
DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL

NOT TO SCALE

3

NOTES:

1. THOROUGHLY SOAK THE GROUND COVER ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
2. SOIL AMENDMENTS:
   - MODIFY HEAVY CLAY OR SILT SOILDS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
   - MODIFY EXTREMELY SANDY SOILDS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX
3. ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT PER MANUFACTURER'S SPECIFICATIONS



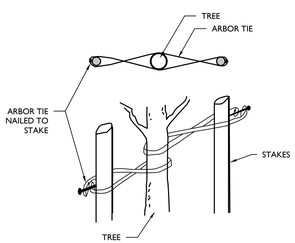
SPACING CHART
NOT TO SCALE

SPACING "D"	ROW "A"
6" O.C.	5.20"
8" O.C.	6.93"
10" O.C.	8.66"
12" O.C.	10.40"
15" O.C.	13.00"
18" O.C.	15.60"
24" O.C.	20.80"
30" O.C.	26.00"
36" O.C.	30.00"

GROUND COVER/PERENNIAL/ANNUAL PLANTING DETAIL

NOT TO SCALE

4



INSTALLATION GUIDELINES:

1. LOOP TIE AROUND TREE AND NAIL TO CEDAR STAKE.
2. REMOVE ALL STAKING AND TIES AT END OF FIRST GROWING SEASON.
3. FOLD ENDS OF ARBORTIE BACK. SECURE TO STAKES WITH 1" GALVANIZED ROOFING NAIL OR USE A KNOT.
4. CONSULT LANDSCAPE ARCHITECT FOR STAKING OF TREES LARGER THAN 6".
5. SOURCES INCLUDE:
   GEMPLERS 1-800-332-6744 or GEMPLERS.COM
   CSP OUTDOORS 1-800-592-6940 or CSPOUTDOORS.COM

ARBORTIE DETAIL

NOT TO SCALE

5

GENERAL LANDSCAPING NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH THESE 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.
2. 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 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:

1. 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. NO 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 ACTIVITIES HAVE BEEN COMPLETED.
2. 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 FIXTURES 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, THESE 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:

1. 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 FOLLOWS:
   - 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.
3. 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 WEIGHT.
5. OBTAIN TOPSOIL ONLY FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT THE PROJECT SITE.
6. 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.
7. 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.
8. LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE SUB-GRADE ELEVATION MEETS THE FINISHED GRADE ELEVATION (LESS THE REQUIRED 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 PROJECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL.
10. 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 WATER.
11. 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 CLODS OR 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.

HEALTHY START MACRO TABS 12-8-8

- 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 1 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

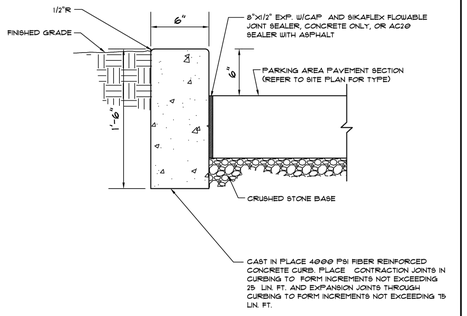
TABLE NOTES:
1. AT EACH IRRIGATION, APPLY TWO TO THREE GALLONS PER INCH TRUNK CALIPER TO THE ROOT BALL SURFACE. APPLY IT IN A MANNER SO ALL WATER SOAKS THE ENTIRE ROOT BALL. DO NOT WATER IF ROOT BALL IS WET/SATURATED ON THE IRRIGATION DAY.

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:

1. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004) OR LATEST 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 (1-1/4") WHICH HAVE NOT COMPLETELY CALLOUSED SHALL BE REJECTED.
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 INJURY TO THE PLANTS. CLOSED VEHICLES SHALL BE ADEQUATELY VENTILATED TO PREVENT OVERHEATING OF THE PLANTS. EVIDENCE OF INADEQUATE PROTECTION FOLLOWING DIGGING, CARELESSNESS WHILE IN TRANSIT 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.
9. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE CORRESPONDING LANDSCAPE PLAN AND PLANTING DETAILS.
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 TIMES 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 SHALL 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.
11. 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 INJURED 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 AGENCY.
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 T



SITE AND STORE PERIMETER CURBING
SCALE: NO SCALE

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	SITE AND STORE PERIMETER CURBING	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 03

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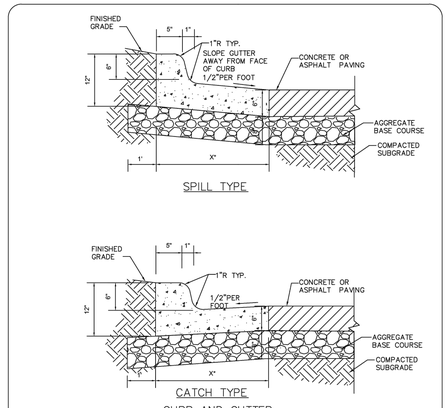

CURB AND GUTTER
SCALE: NO SCALE

NOTE:
- *ADJUST WIDTH PER LOCAL JURISDICTIONAL REQUIREMENTS (1.5' MIN).
- CONTRACTION JOINTS TO BE PLACED 10'O.C.
- EXPANSION JOINTS TO BE PLACED 75' O.C.
- 1/4" PRE-MOLDED BITUMINOUS EXPANSION JOINT WHEN ADJACENT TO CONCRETE PAVING
- CONCRETE SHALL BE 4,000 PSI FIBER MESH CONCRETE UNLESS OTHERWISE REQUIRED BY LOCAL JURISDICTION.
- AT CONTRACTOR OPTION, GUTTER THICKNESS MAY BE INCREASED AT END OF GUTTER TO MATCH THICKNESS OF ASPHALT/CONCRETE PAVING SECTION
- GUTTER PAN SLOPE TO BE ADJUSTED WITHIN ACCESSIBLE PARKING SPACES TO MATCH SLOPE BETWEEN SPOT ELEVATIONS.

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	CURB AND GUTTER DETAIL	SCALE: DATE: 03/15/2024 DRAWN BY: SS, DLK 15

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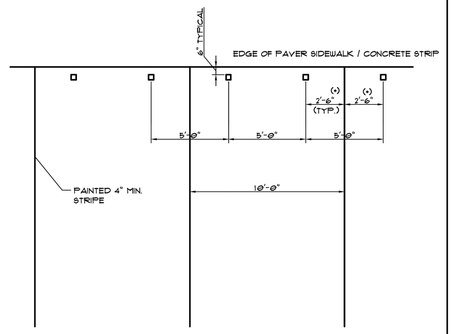

BUMPER POST DETAIL
SCALE: NO SCALE

• 2'-3" FOR 9.5' WIDE PARKING SPACE
2'-0" FOR 9.0' WIDE PARKING SPACE

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	BUMPERPOST LAYOUT DETAIL AT PAVER SIDEWALK	SCALE: DATE: 4/7/2026 DRAWN BY: DAH 08

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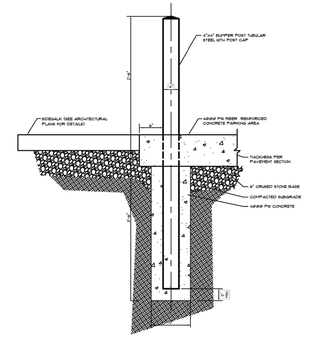

STOREFRONT BUMPER POST FLUSH SIDEWALK
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DATE | BY | DESCRIPTION REVISIONS	SHEETZ	STOREFRONT BUMPER POST DETAIL (MICHIGAN ONLY)	SCALE: DATE: 2/2/2024 DRAWN BY: DAH 51

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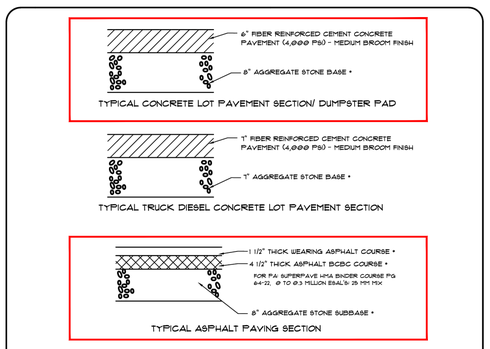

* PROPOSED MDOT 21AA STONE

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	SITE PAVEMENT DETAILS	SCALE: DATE: 12/12/2023 DRAWN BY: DAH 20

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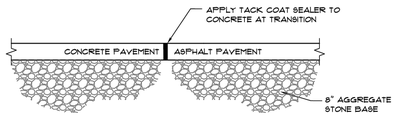

CONCRETE / ASPHALT PAVEMENT TRANSITION DETAIL
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DATE | BY | DESCRIPTION REVISIONS	SHEETZ	ASPHALT PAVING DETAILS	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 27

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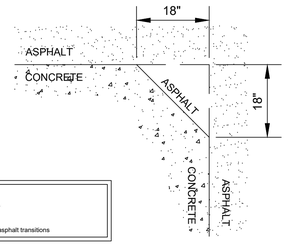

CONCRETE / ASPHALT chamfer
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DATE | BY | DESCRIPTION REVISIONS	SHEETZ	CONCRETE/ASPHALT CHAMFER DETAIL	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 28

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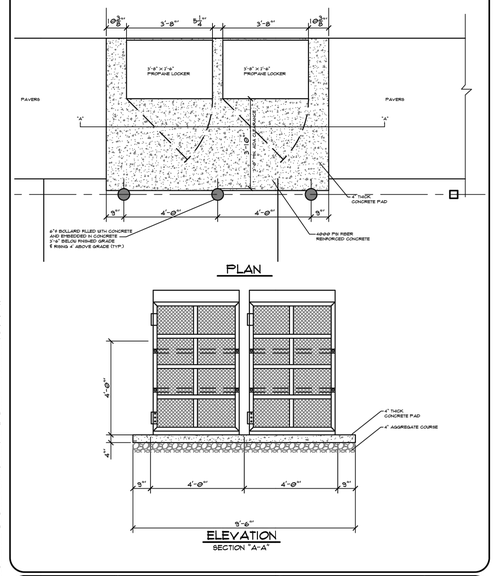

DATE | BY | DESCRIPTION REVISIONS	SHEETZ	PROPANE LOCKER (AT BUILDING) (MICHIGAN ONLY)	SCALE: DATE: 2/2/2024 DRAWN BY: DAH 54

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ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

NOT APPROVED FOR CONSTRUCTION

STONEFIELD engineering & design
Birmingham, MI • New York, NY - Salem, MA
Princeton, NJ - Tampa, FL - Rutherford, NJ
www.stonefieldeng.com
555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

JONATHAN REID COOKSEY — STATE OF MICHIGAN — 6201047426 — REGISTERED PROFESSIONAL ENGINEER

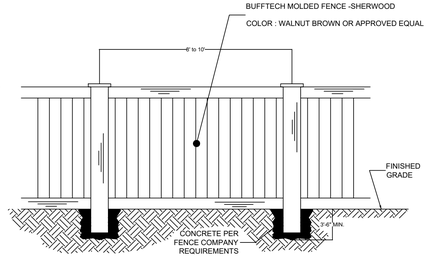
STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

TITLE: CONSTRUCTION DETAILS

DRAWING: C-6.0

V:\DET\2025\DET-250399 SOLIDEA GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP\PROPOSED\DP-A-6.0 DETAILS.DWG



VINYL BOARD ON BOARD FENCE
SCALE: N.T.S.

DATE BY DESCRIPTION REVISIONS	SHEETZ	PRIVACY FENCE DETAIL (MICHIGAN ONLY)	SCALE: DATE: 2/2/2024 DRAWN BY: DAH 57

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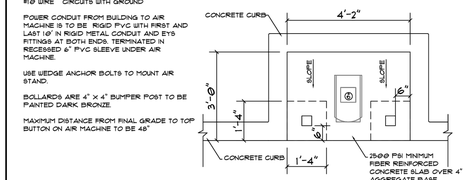
AIR MACHINE PAD NOTES:
ELECTRICAL NEEDS ARE A 120-VAC 30-AMP #10 WIRE CIRCUITS WITH GROUND

POWER CONDUIT FROM BUILDING TO AIR MACHINE IS TO BE RIGID PVC WITH FIRST AND LAST 10' IN RIGID METAL CONDUIT AND EYS FITTINGS AT BOTH ENDS. TERMINATED IN RECESSED 6" PVC SLEEVE UNDER AIR MACHINE.

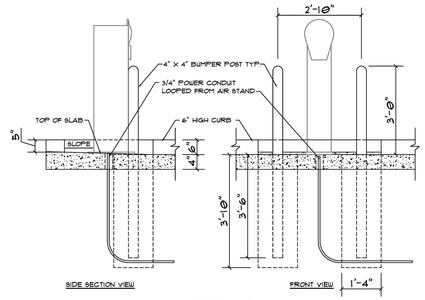
USE WEDGE ANCHOR BOLTS TO MOUNT AIR STAND.

BOLLARDS ARE 4" X 4" BUMPER POST TO BE PAINTED DARK BRONZE.

MAXIMUM DISTANCE FROM FINAL GRADE TO TOP BUTTON ON AIR MACHINE TO BE 48"



PLAN VIEW



SIDE SECTION VIEW FRONT VIEW

AIR MACHINE PAD
SCALE: NO SCALE

DATE BY DESCRIPTION REVISIONS	SHEETZ	AIR MACHINE PAD DETAILS (MICHIGAN ONLY)	SCALE: DATE: 2/2/2024 DRAWN BY: DAH 52

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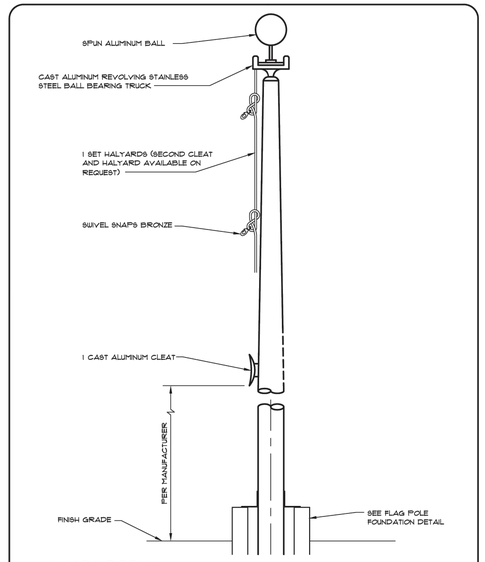

FLAGPOLE DETAIL
SCALE: NO SCALE

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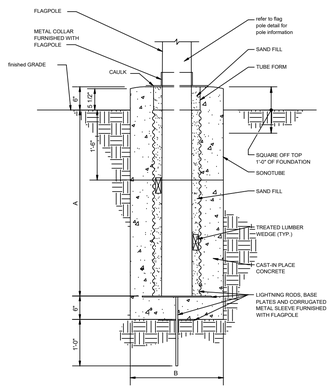
3

LEGEND				
POLE HEIGHT	SLEEVE SIZE	A	B	COLLAR BASE SIZE
40'	12" DIA.	48"	24" DIA.	16" DIA.
35'	10" DIA.	42"	22" DIA.	12" DIA.



FLAGPOLE FOUNDATION
SCALE: NO SCALE

DATE BY DESCRIPTION REVISIONS	SHEETZ	FLAGPOLE FOUNDATION	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 12

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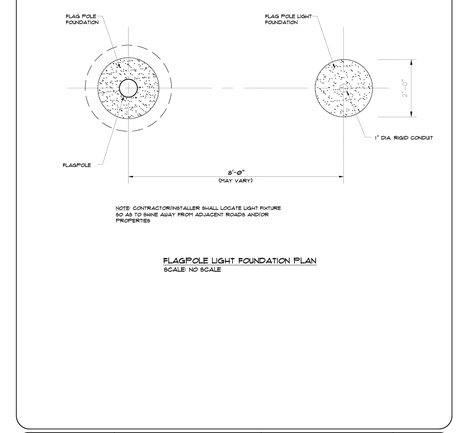
4



NOTE: CONTRACTOR/INSTALLER SHALL LOCATE LIGHT FIXTURE SO AS TO SHINE AWAY FROM ADJACENT ROADS AND/OR PROPERTIES

FLAGPOLE LIGHT FOUNDATION PLAN
SCALE: NO SCALE

DATE BY DESCRIPTION REVISIONS	SHEETZ	FLAGPOLE AND LIGHT FOUNDATION LAYOUT PLAN	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 14

V:\CBT\2022\CBT-22-009\ SOLIDUS GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP\PLAN REVISIONS\PLAN OPTION\P-6.0-LIGHTS.DWG
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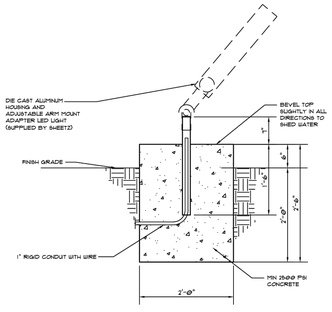
5



FLAGPOLE LIGHT FOUNDATION
SCALE: NO SCALE

DATE BY DESCRIPTION REVISIONS	SHEETZ	FLAGPOLE LIGHT FOUNDATION	SCALE: DATE: 11/10/2023 DRAWN BY: DAH 13

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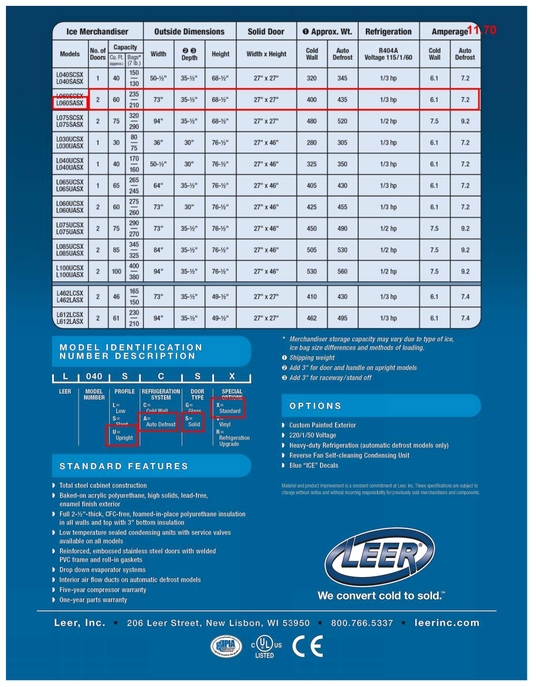
6





ICE BOX DETAIL
NOT TO SCALE

7

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

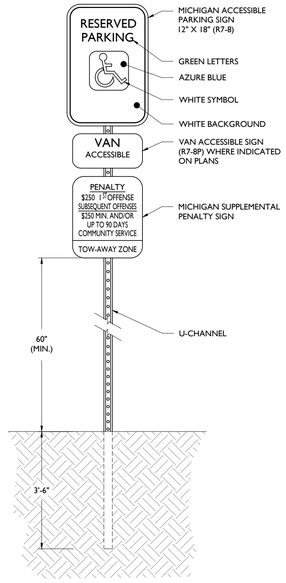
JONATHAN REID COOMSEY 66942 LICENSED PROFESSIONAL ENGINEER STATE OF MICHIGAN

STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

TITLE: CONSTRUCTION DETAILS

DRAWING: C-6.1

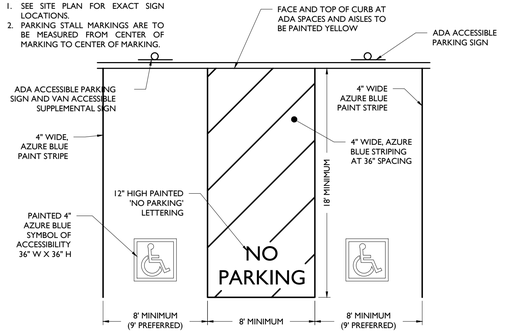


ACCESSIBLE PARKING SIGN DETAIL

NOT TO SCALE

1

NOTES:
1. SEE SITE PLAN FOR EXACT SIGN LOCATIONS.
2. PARKING STALL MARKINGS ARE TO BE MEASURED FROM CENTER OF MARKING TO CENTER OF MARKING.



ACCESSIBLE PARKING STALL MARKINGS

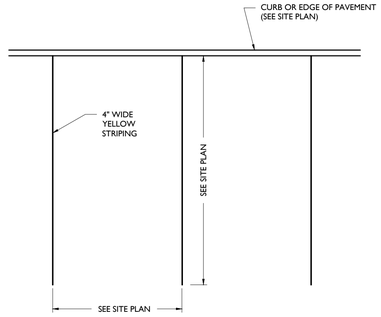
NOT TO SCALE

2

PAVEMENT STRIPING & MARKINGS NOTES:

1. ALL SIGNING AND STRIPING IN EXISTING CONDITION IN CONFLICT WITH THE PROPOSED DESIGN PLAN SHALL BE REMOVED.
2. ALL PROPOSED SIGNING AND STRIPING SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
3. PAVEMENT STRIPING AND MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS.
4. UNLESS OTHERWISE SPECIFIED, ALL STRIPING AND MARKINGS IN THE PUBLIC RIGHT-OF-WAY SHALL BE OF THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.
5. UNLESS OTHERWISE SPECIFIED, ON SITE PARKING STALL STRIPING, FIRE LANE STRIPING AND DIRECTIONAL ARROWS SHALL BE EPOXY PAINT. ON SITE STOP BARS, "DO NOT ENTER" BARS, AND ASSOCIATED LETTERING SHALL BE THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.

3



PARKING STALL MARKINGS

NOT TO SCALE

4

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION,
CONVENIENCE STORE, FAST FOOD
RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN



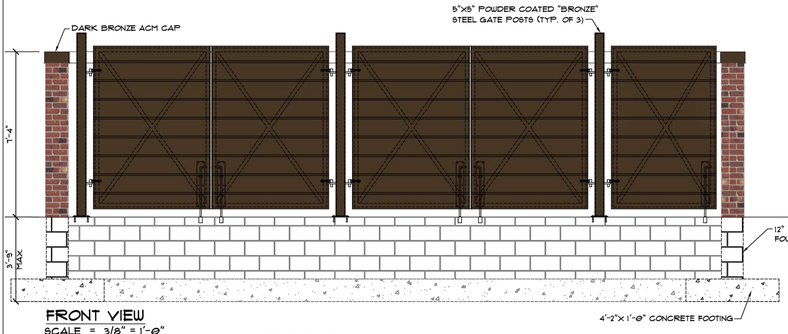
STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

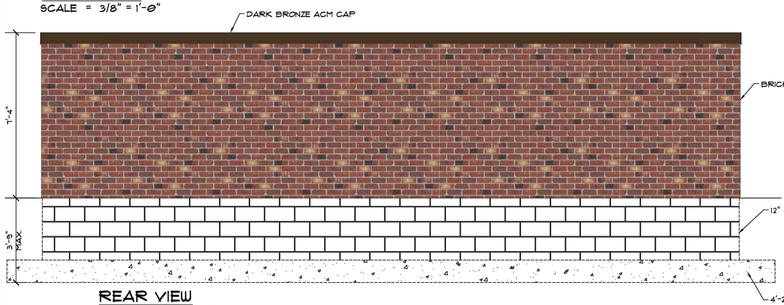
TITLE: CONSTRUCTION DETAILS

DRAWING: C-6.2

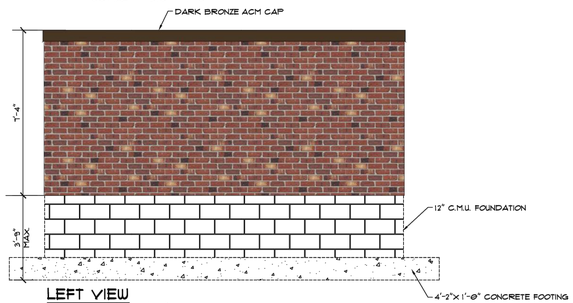
V:\DET\2025\DET-250399 SHEETZ SOLUSEN (GOLD - #569 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI)\CAD\PLOT\SUP # 6.4.3 DETS.DWG



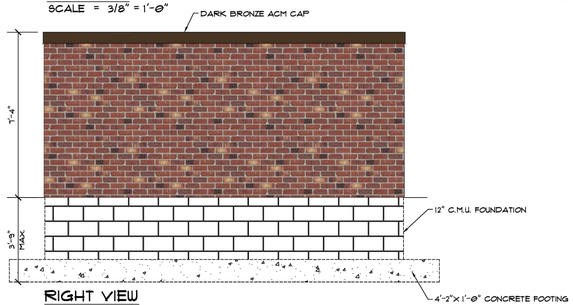
FRONT VIEW
SCALE = 3/8" = 1'-0"



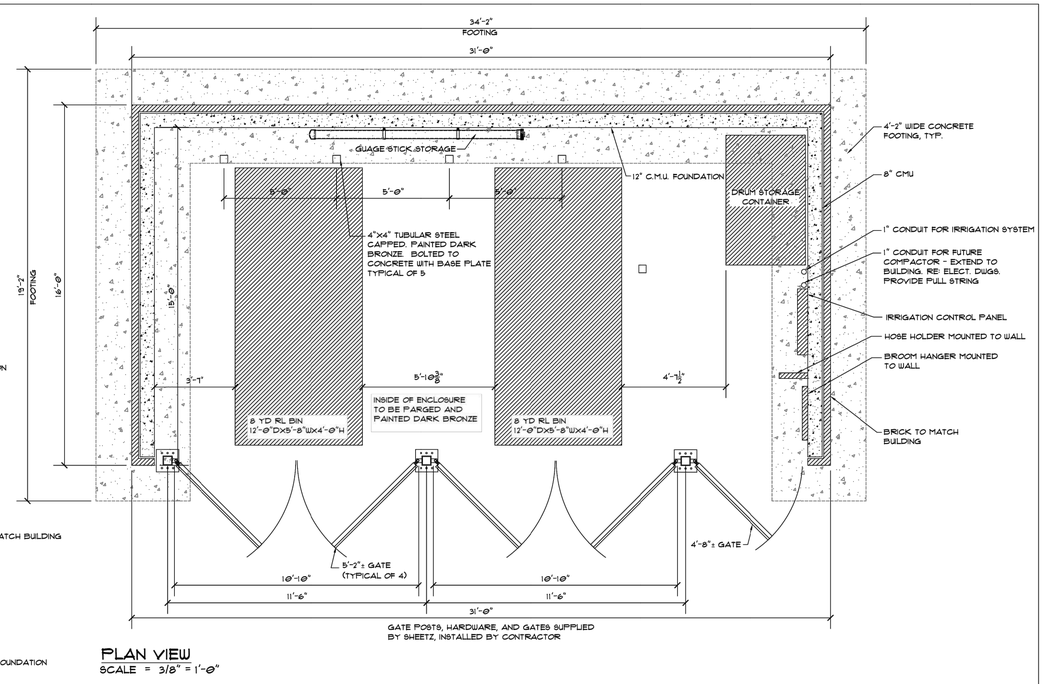
REAR VIEW
SCALE = 3/8" = 1'-0"



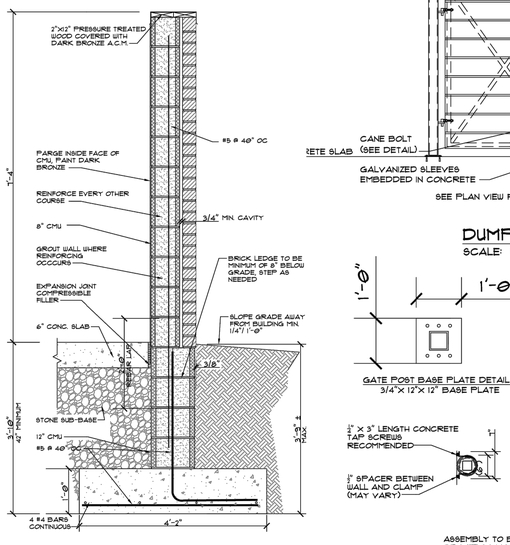
LEFT VIEW
SCALE = 3/8" = 1'-0"



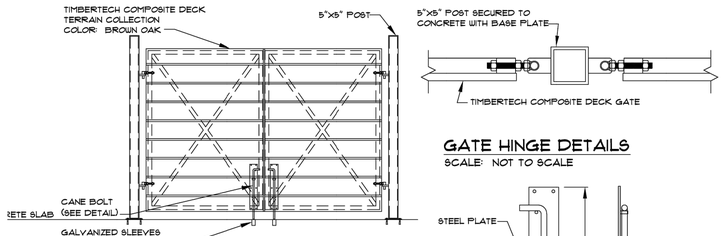
RIGHT VIEW
SCALE = 3/8" = 1'-0"



PLAN VIEW
SCALE = 3/8" = 1'-0"



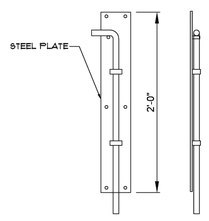
WALL SECTION
SCALE: 3/4" = 1'-0"



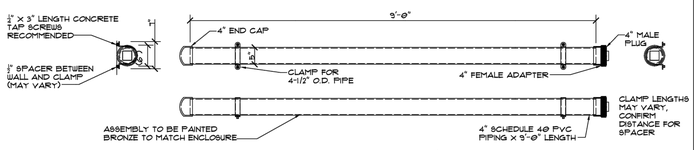
GATE HINGE DETAILS
SCALE: NOT TO SCALE

DUMPSTER GATE DETAILS
SCALE: NOT TO SCALE

GATE POST BASE PLATE DETAIL
3/4"x 12"x 12" BASE PLATE



CANE BOLT DETAIL
ONE TO BE MOUNTED ON INSIDE OF ONE GATE AND ONE MOUNTED ON OUTSIDE OF OPPOSITE GATE



GUAGE STICK DETAILS
SCALE: 3/4" = 1'-0"

Convenience Architecture and Design P.C.
351 Sheetz Way, Claysburg, PA 16625
phone (814) 239-6013
email tcolumbu@sheetz.com
web site www.sheetz.com

PROJECT NAME:

OWNER:

MARK	DESCRIPTION	DATE

ISSUE: 07-29-25
PROJECT NO:
AUTHOR BY: NMI
REVIEW BY:
SHEET TITLE

TRASH ENCLOSURE

1

ISSUE	DATE	BY	DESCRIPTION
3	06/18/2026	JD	FOR FINAL SITE PLAN REVIEW
2	05/07/2026	KH	PRELIMINARY SITE
1	11/26/2025	NB	PRELIMINARY SITE, GRADING, UTILITIES

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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SHEETZ

PROPOSED GASOLINE SERVICE STATION, CONVENIENCE STORE, FAST FOOD RESTAURANT WITH PICKUP

PARCEL ID: 07-24-201-019 & 07-24-201-003
8500 DIXIE HIGHWAY
TOWNSHIP OF SPRINGFIELD
OAKLAND COUNTY, MICHIGAN

MARK	DESCRIPTION	DATE

STATE OF MICHIGAN · JONATHAN FRED COOKSEY · ENGINEER · No. 6201060428 · LICENSED PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250399

TITLE:
CONSTRUCTION DETAILS

DRAWING:
C-6.3

V:\DET\2025\DET-250399 (KALEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP MI)\CAD\PLOTS\DP-6.6-A3-2-DETL.DWG
G:\Sheetz_Site Standards\Trash Layouts\2026-Trash Enclosure new.dwg, 5/14/2026 9:38:46 PM, DWG To PDF.pc3

SYMBOL DESCRIPTION

SYMBOL	DESCRIPTION
	BUILDING
	CONCRETE SIDEWALK / MAT
	ASPHALT / CONCRETE CURB
D.C	DEPRESSED CURB
	PROPERTY LINE
	VACATED / INTERIOR LOT LINE
	ADJACENT PROPERTY LINE
	SECTION LINE
	RIGHT OF WAY LINE
	SUBDIVISION LINE
	EASEMENT
x x	CHAIN LINK FENCE
o o	BOARD-ON-BOARD FENCE
	UTILITY POLE
	GUY WIRE
	LIGHT POLE
	SIGNS
WV	WATER VALVE
GV	GAS VALVE
	DRAIN
	INLET
	MAN HOLE
	BOLLARDS
	4"x6" FRAME POST
	BOX (ELEC, GAS, ETC.)
E.P.	EDGE OF PAVEMENT
OH	OVERHEAD WIRE
G	UNDERGROUND GAS LINE
FO	UNDERGROUND FIBER OPTIC LINE
E	UNDERGROUND ELEC. LINE
T	UNDERGROUND COMMUNICATIONS LINE
SAN	SANITARY SEWER LINE
	STORM PIPE
100	MAJOR CONTOUR
101	MINOR CONTOUR
TC 100.50	TOP OF CURB SHOT
100.00	GRADE SPOT SHOT

SYMBOL DESCRIPTION

SYMBOL	DESCRIPTION
BC 100.00	BOTTOM OF CURB SHOT
TW 102.00	TOP OF WALL SHOT
BW 100.00	BOTTOM OF WALL SHOT
	WALL
	PAVEMENT STRIPING
	DELINEATOR
	VEGETATION LINE
	ROOF OVERHANG
	TOP OF BANK
	GAS MARKER
	TELE-COMMUNICATIONS MARKER
W	WATER WELL
E	ELEC METER
G	GAS METER
	TELEPHONE PEDESTAL
ICV	IRRIGATION CONTROL VALVE
C/O	CLEAN OUT
M.W.	MONITORING WELL
	VENT / STAND PIPE
	ROOF LEADER
	MAILBOX
	IRON ROD
	SURVEY MONUMENT
	SECTION CORNER
	BENCH MARK
	DECIDUOUS TREE
	PINE TREE
	SHRUB
ELEV	ELEVATION
FF	FINISH FLOOR
MH	MANHOLE
(M)	MEASURED
(R)	RECORD
BL	BLUE LINES
WL	WHITE LINES
YL	YELLOW LINES
TDO	TURN DOWN OUTLET

SURVEY NOTES:

1. THIS SURVEY AND THE BOUNDARIES SHOWN HEREON ARE THE RESULT OF AN ACTUAL FIELD SURVEY PERFORMED ON SEPTEMBER 5, 2025 BASED ON AVAILABLE MAPS AND DEEDS OF RECORD, AND PHYSICAL EVIDENCE. THIS SURVEY IS SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND AGREEMENTS OF RECORD THAT A TITLE SEARCH MAY DISCLOSE.
2. THIS SURVEY IS VALID ONLY WHEN A DIGITAL SEAL IS AFFIXED HERETO.
3. THE SURVEYOR IS NOT QUALIFIED TO IDENTIFY ENVIRONMENTAL CONDITIONS OR THE PRESENCE OR ABSENCE OF WETLANDS.
4. THE CERTIFICATION SHOWN HEREON IS NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.
5. ANY SUBSURFACE UTILITIES SHOWN HAVE BEEN LOCATED FROM MARKOUTS OBSERVED ON SITE DURING THE FIELD SURVEY, AND SURFACE FEATURES SUCH AS VALVES, MANHOLES AND GRATES. STORM DRAINAGE AND OR SANITARY INVERTS ARE DEPICTED BASED ON OBSERVATIONS MADE IN THE FIELD. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION USED. THE SURVEY HAS NOT PHYSICALLY LOCATED THE UTILITIES. BEFORE ANY EXCAVATIONS ARE BEGUN, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
6. BEARINGS ARE REFERENCED TO THE MICHIGAN STATE PLANE COORDINATE SYSTEM (NAD83) SOUTH ZONE. ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), ESTABLISHED VIA RTK GPS OBSERVATIONS UTILIZING MICHIGAN DEPARTMENT OF TRANSPORTATION CONTINUOUSLY OPERATING REFERENCE SYSTEM (MDOT CORS).
7. BASEMENT OR BELOW GRADE STRUCTURES (IF ANY) ARE UNKNOWN.
8. THE OUTLET INVERTS FOR THE STORM SEWER STRUCTURES LOCATED ON PARCEL 2 ARE TURN DOWN OUTLETS TO PROVIDE LIQUID SEPARATION, MAKING THESE INVERT MEASUREMENTS UNOBTAINABLE.
9. BENCHMARK #1 = SET CAPPED IRON = 1019.94 (NAVD88)
   - GRASS AREA / SOUTHEAST CORNER OF LOT 9, PARCEL 07-24-201-019
   BENCHMARK #2 = MAG NAIL = 1019.47 (NAVD88)
   - GRASS AREA / NEAR SOUTH ENTRANCE OF PARCEL 07-24-201-019

PARCEL DESCRIPTION:

LAND SITUATED IN THE STATE OF MICHIGAN, COUNTY OF OAKLAND, TOWNSHIP OF SPRINGFIELD

PARCEL 1:
LOT 7 OF SUPERVISORS PLAT OF SPRINGFIELD ESTATES, ACCORDING TO THE RECORDED PLAT THEREOF, AS RECORDED IN LIBER 60 OF PLATS, PAGE 35, OAKLAND COUNTY RECORDS.

PARCEL 2:
PART OF LOTS 8 AND 9, OF SUPERVISORS PLAT OF SPRINGFIELD ESTATES, AS RECORDED IN LIBER 60 OF PLATS, PAGE 35, OAKLAND COUNTY RECORDS, MORE PARTICULARLY DESCRIBED AS: BEGINNING AT A POINT NORTH 33 DEGREES 17 MINUTES 20 SECONDS EAST 250 FEET FROM THE MOST WESTERLY CORNER OF LOT 8; THENCE NORTH 33 DEGREES 17 MINUTES 20 SECONDS EAST 110 FEET; THENCE SOUTH 56 DEGREES 24 MINUTES 10 SECONDS EAST 206 FEET; THENCE SOUTH 33 DEGREES 17 MINUTES 20 SECONDS WEST 110 FEET; THENCE NORTH 56 DEGREES 24 MINUTES 10 SECONDS WEST 206 FEET TO THE POINT OF BEGINNING

AND

PART OF LOTS 8 AND 9 OF SUPERVISORS PLAT OF SPRINGFIELD ESTATES, A SUBDIVISION OF PART OF THE NORTH 1/2 OF SECTION 24, TOWN 4 NORTH, RANGE 8 EAST ACCORDING TO THE PLAT THEREOF, AS RECORDED IN LIBER 60 OF PLATS, PAGE 35, OAKLAND COUNTY RECORDS, MORE PARTICULARLY DESCRIBED AS: BEGINNING AT THE MOST WESTERLY CORNER OF LOT 8, THENCE NORTH 33 DEGREES, 17 MINUTES 20 SECONDS EAST 250 FEET, THENCE SOUTH 56 DEGREES 24 MINUTES 10 SECONDS EAST 206 FEET, THENCE SOUTH 33 DEGREES 17 MINUTES 20 SECONDS WEST 250 FEET, THENCE NORTH 56 DEGREES 24 MINUTES 10 SECONDS WEST 206 FEET TO THE POINT OF BEGINNING, EXCEPTING ANY PART TAKEN FOR I-75 INTERCHANGE.

BEING THE SAME PROPERTY AS DESCRIBED IN A TITLE COMMITMENT PREPARED BY CHICAGO TITLE INSURANCE COMPANY, ISSUING OFFICE COMMITMENT NUMBER 631263147NTS, COMMITMENT DATE AUGUST 26, 2025 AT 08:00 AM.

SURVEY REFERENCES:

1. DEED BETWEEN AUTO CITY SERVICE, INC AND HILLTOP CAMP BC LLC, DATED DECEMBER 23, 2019 AND RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, OAKLAND COUNTY, MICHIGAN, IN LIBER 53638 PAGE 599.
2. DEED BETWEEN AUTO CITY SERVICE, INC AND 8500 DIXIE HIGHWAY, LLC, DATED JULY 2, 2019 AND RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, OAKLAND COUNTY, MICHIGAN, IN LIBER 52983 PAGE 878.
3. "SUPERVISORS PLAT OF SPRINGFIELD ESTATES" A SUBDIVISION OF PART OF THE NORTH 1/2 OF SECTION 24, TOWN 4 NORTH, RANGE 8 EAST, SPRINGFIELD TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DATED JANUARY 26, 1950 AND RECORDED IN THE OAKLAND COUNTY REGISTER OF DEEDS OFFICE IN LIBER 60 OF PLATS ON PAGE 35.
4. "SPRINGFIELD ESTATES NO 1" A SUBDIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 24, TOWN 4 NORTH, RANGE 8 EAST, SPRINGFIELD TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DATED FEBRUARY 9, 1966 AND RECORDED IN THE OAKLAND COUNTY REGISTER OF DEEDS OFFICE IN LIBER 117 OF PLATS ON PAGE 17.
5. "GRADING PLAN" PROPOSED NEW GAS STATION C-STORE FOR AUTO CITY SERVICE, SPRINGFIELD TOWNSHIP SITE 8496 AND 8500 DIXIE HIGHWAY, PREPARED BY ASSELIN ASSOCIATES ARCHITECTS, DATED MARCH 08, 2001.
6. "OVERALL SITE PLAN" PROPOSED NEW GAS STATION C-STORE FOR AUTO CITY SERVICE, TO BE SPRINGFIELD TOWNSHIP SITE 8496 & 8500 DIXIE HIGHWAY, SHEET C1.1 OF 6, PREPARED BY ASSELIN ASSOCIATES ARCHITECTS, DATED JUNE 02, 2003.
7. A TITLE COMMITMENT PREPARED BY CHICAGO TITLE INSURANCE COMPANY, ISSUING OFFICE COMMITMENT NUMBER 631263147NTS, COMMITMENT DATE AUGUST 26, 2025 AT 08:00 AM.

FLOOD NOTE:

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE (AREA OF MINIMAL FLOOD HAZARD) (UNSHADED) OF THE FLOOD INSURANCE RATE MAP, COMMUNITY NO. 260478, MAP NUMBER 26125C0327F WHICH BEARS AN EFFECTIVE DATE OF SEPTEMBER 29, 2006.

AREA NOTES

TOTAL LAND AREA

PARCEL 2 (PART OF LOTS 8 & 9) AREA=
74,176 SQUARE FEET± OR 1.703 ACRES±
PARCEL 1 (LOT 7) AREA=
205,979 SQUARE FEET± OR 4.729 ACRES±

EXISTING STRIPED PARKING

REGULAR = 7 SPACES
HANDICAP = 2 SPACES

TOTAL = 9 SPACES

SCHEDULE B - PART II EXCEPTIONS:

CHICAGO TITLE INSURANCE COMPANY, ISSUING OFFICE COMMITMENT NUMBER 631263147NTS, COMMITMENT DATE AUGUST 26, 2025 AT 08:00 AM.

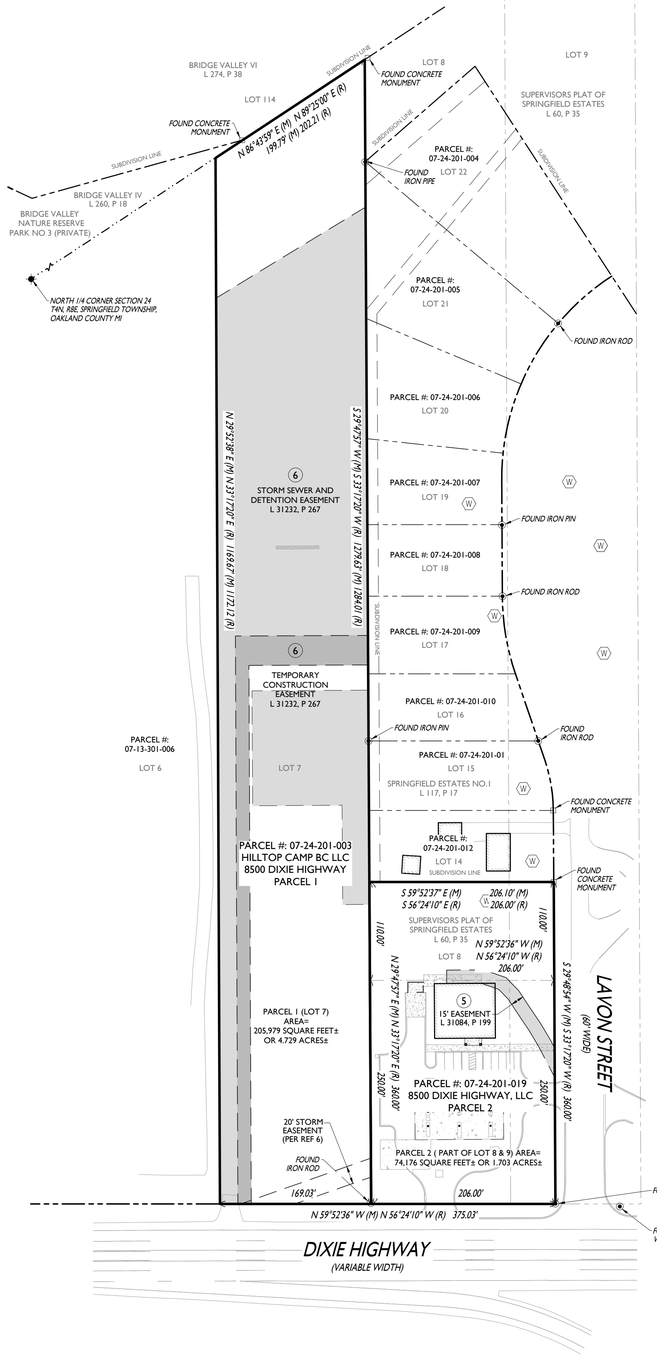
EXCEPTIONS 1 THROUGH 3, INCLUSIVE, AND 9 THROUGH 11, INCLUSIVE, ARE NOT SURVEY RELATED.

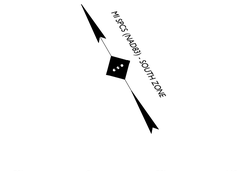
4. COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH IN THE DOCUMENT RECORDING NO: LIBER 1874, PAGE 162; LIBER 2589, PAGE 350 AND LIBER 13518, PAGE 285. **(LIBER 1874, PAGE 162 - BUILDING AND USE RESTRICTIONS AFFECT PARCEL 1 AND PARCEL 2; LIBER 2589, PAGE 350: BUILDING AND USE RESTRICTIONS AFFECT PARCEL 2; NOTHING TO SHOW) (LIBER 13518, PAGE 285 - AFFECTS PARCEL 2; GAS STATION RESTRICTION APPEARS TO HAVE EXPIRED (20 YEAR RESTRICTION; DOCUMENT RECORDED IN 1993)**

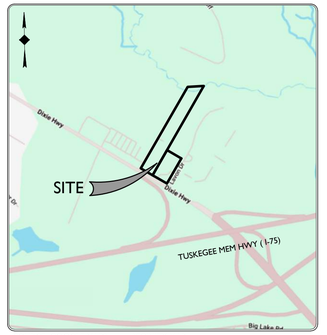
(5.) RIGHT(S) OF WAY AND/OR EASEMENT(S) AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT: GRANTED TO: DETROIT EDISON COMPANY RECORDING NO: LIBER 31084, PAGE 199. **(AFFECTS PARCEL 2; APPROXIMATE LOCATION IS SHOWN PER UTILITY MARKINGS)**

(6.) RIGHT(S) OF WAY AND/OR EASEMENT(S) AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT: GRANTED TO: BOARD OF COUNTY ROAD COMMISSIONER FOR OAKLAND COUNTY (A PUBLIC BODY CORPORATE) RECORDING NO: LIBER 31232, PAGE 267. **(AFFECTS PARCEL 1; SHOWN)**

7. TERMS, COVENANTS, AND CONDITIONS OF AGREEMENT FOR RIGHT OF FIRST REFUSAL (ASSETS AND PREMISES) AS SET FORTH BELOW: RECORDING NO: LIBER 52984, PAGE 24. **(AFFECTS PARCEL 2; RIGHT OF FIRST REFUSAL UNTIL 2035; NOTHING TO SHOW)**







SOURCE: GOOGLE MAPS VICINITY MAP
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811
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Phone 248.247.1115

ALTA / NSPS LAND TITLE SURVEY

MAP OF SURVEY OF:

PARCEL #: 07-24-201-019 AND PARCEL 07-24-201-003
PART OF NORTH 1/4 OF SECTION 24, TOWN 4 NORTH, RANGE 8 EAST
8500 DIXIE HIGHWAY AND VACANT DIXIE HIGHWAY
SPRINGFIELD TOWNSHIP
OAKLAND COUNTY, MICHIGAN

ISSUE	DATE	DRAFT BY	CHECK BY	FIELD DATE	FIELD CREW	DESCRIPTION
2	06/01/26	AG	AG	-	-	ADD WETLANDS
1	09/15/25	DJS	AG	09/05/25	JU	FOR ISSUE

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THE FIELDWORK WAS COMPLETED ON SEPTEMBER 5, 2025

ANTHONY D. GIGLIO JR, PS
MICHIGAN PROFESSIONAL SURVEYOR No. 4001071395

SCALE: 1"=80'	PROJECT ID: DET-250399	SHEET: 1 OF 3

Z:\ALTA\PERSONAL\TYRONNGILKEY\PROJ\GAS\DET\2025\DET-250399 SIGLEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI_GAS\TYRONNGILKEY\DET-250399 - V3.DWG

MATCHLINE

SEE SHEET 3

PARCEL #: 07-24-201-010

LOT 16

LOT 9

FOUND IRON PIN

FOUND IRON ROD

S 29°45'57" W (M) S 31°17'20" W (R) 1278.63' (M) 1280.10' (R)

N 29°52'38" E (M) N 31°17'20" E (R) 1189.67' (M) 1172.12' (R)

APPROXIMATE LOCATION OF SEPTIC FIELD EASEMENT (PER REFERENCE 6)

GRASS

PARCEL #: 07-24-201-01

LOT 15

SPRINGFIELD ESTATES NO.1
L 117, P 17

FOUND CONCRETE MONUMENT

12' PRIVATE EASEMENT FOR PUBLIC UTILITIES (PER REF 4)

4" SEPTIC LID (2 TYP)

32" SEPTIC LID (9 TYP)

FRAME GARAGE

ASPHALT DRIVE

SINGLE STORY FRAME DWELLING

PARCEL #: 07-24-201-012

LOT 14

FRAME SHED

GATE

SUBDIVISION LINE

S 59°52'37" E (M) 206.10' (M)
S 56°24'10" E (R) 206.00' (R)

12" CMP OUTLET
INVERT = 1013.80

12" CMP INLET
INVERT = 1013.21

INLET GRT.= 1016.35

CONC CURB

ASPHALT

12" CMP OUTLET
INVERT = 1013.67

BENCHMARK
SET CAPPED IRON
ELEV= 1018.32

ASPHALT

CONC CURB

12" CMP INLET
INVERT = 1013.97

SIGN: "STOP"

INLET GRT.= 1017.91

INLET GRT.= 1018.52

LAYON STREET (60' WIDE)

SIGN: "LAYON ST"

FOUND IRON PIN WITH CAP "RED"

24" CMP OUTLET
INVERT= 1017.93

STORM MH RIM= 1016.02
INVERT (A)= 1006.52
INVERT (B)= 1006.42

LOT 6

PARCEL #: 07-13-301-006

ASPHALT DRIVE

PARCEL #: 07-24-201-003
HILLTOP CAMP BC LLC
8500 DIXIE HIGHWAY
PARCEL 1

LOT 8

SUPERVISORS PLAT OF SPRINGFIELD ESTATES
L 60, P 35

LOT 9

100.00'

133.1'

12" RCP INLET
INVERT = 1010.31

CONC BLOCK TRASH ENCLOSURE

GENERATOR

N 59°52'36" W (M)
N 56°24'10" W (R)
206.00'

BENCHMARK
SET CAPPED IRON
ELEV= 1019.47

BENCHMARK #1
SET CAPPED IRON
ELEV= 1019.94

COMMERCIAL SIGN: "BP"

STANDING VENT PIPE (6 TYP)

FOUND IRON ROD

206.00'

6 TEMPORARY CONSTRUCTION EASEMENT, L 31232, P 267

STORM SEWER AND DETENTION EASEMENT
L 31232, P 267

PARCEL 1 (LOT 7)
AREA=
205,979 SQUARE FEET±
OR 4.729 ACRES±

PARCEL #: 07-24-201-019
8500 DIXIE HIGHWAY, LLC
PARCEL 2
SINGLE STORY
FRAME BUILDING
FOOTPRINT= 4,176 SQ FT

PARCEL 2 (PART OF LOT 8 & 9) AREA=
74,176 SQUARE FEET± OR 1.703 ACRES±

15' EASEMENT
L 31084 P 199

67.9'

66.2'

66.1'

67.9'

61.4'

COLUMN (2 TYP)

N 59°52'36" E (M) N 53°17'20" E (R) 360.00'

S 59°52'36" W (M) S 53°17'20" W (R) 360.00'

250.00'

CATCH BASIN
GRT= 1020.06
INVERT (A)= 1015.66
INVERT (B)= 1015.66
INVERT (C)= TOO
TOP OF WATER= 1009.46

CATCH BASIN
GRT= 1018.76
INVERT (A)= 1016.06
INVERT (B)= 1009.06
INVERT (C)= TOO
TOP OF WATER= 1008.86

CATCH BASIN
GRT= 1018.29
INVERT (A)= 1012.39
INVERT (B)= TOO
TOP OF WATER= 1012.39

INLET GRT= 1018.57
INVERT (A)= 1008.47
INVERT (B)= TOO
TOP OF WATER= 1008.27

CATCH BASIN
GRT= 1018.31
INVERT (A)= 1015.01
INVERT (B)= 1015.01
INVERT (C)= 1012.21
INVERT (D)= TOO
TOP OF WATER = 1011.81

CATCH BASIN
GRT= 1018.29
INVERT (A)= 1011.39
INVERT (B)= TOO
TOP OF WATER= 1010.99

RAISED CONC PAD & FUEL PUMP (TYP)

METAL LID (TYP)

CANOPY

CANOPY COLUMN (6 TYP)

AIR COMPRESSOR

ASPHALT

CONC CURB & GUTTER

RUINOUS ASPHALT

4"x6" SQUARE POST (TYP)

STORM MH RIM= 1019.17
INVERT (A)= 1010.07
INVERT (B)= 1007.47
INVERT (C)= 1007.17

20' STORM EASEMENT (PER REF 6)

169.03'

24" CMP OUTLET
INVERT = 1015.63

FOUND IRON ROD

SIGN: "NO U TURN"

STORM MH
RIM ELEV= 1016.90
INVERT (A)= 1011.11
INVERT (B)= 1007.13
INVERT (C)= 1006.96
TOP OF WATER = 1005.80

18" CMP OUTLET
INVERT = 1014.66

18" RCP

SIGN: SCHOOL X-ING AHEAD

N 59°52'36" W (M) N 56°24'10" W (R) 375.03'

DIXIE HIGHWAY
(VARIABLE WIDTH)

SIGN: "NO PARKING..."

SIGN: "NO PARKING..."

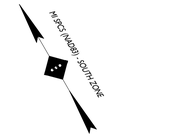
SIGN: "DEAD END"

SIGN: "NO PARKING..."

SIGN: "STOP"

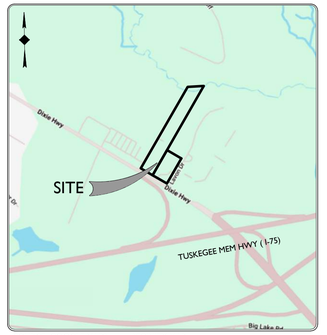
SIGN: "NO PARKING..."

SIGN:





GRAPHIC SCALE IN FEET
1" = 30'



SOURCE: GOOGLE MAPS VICINITY MAP
NOT TO SCALE

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OAKLAND COUNTY, MICHIGAN

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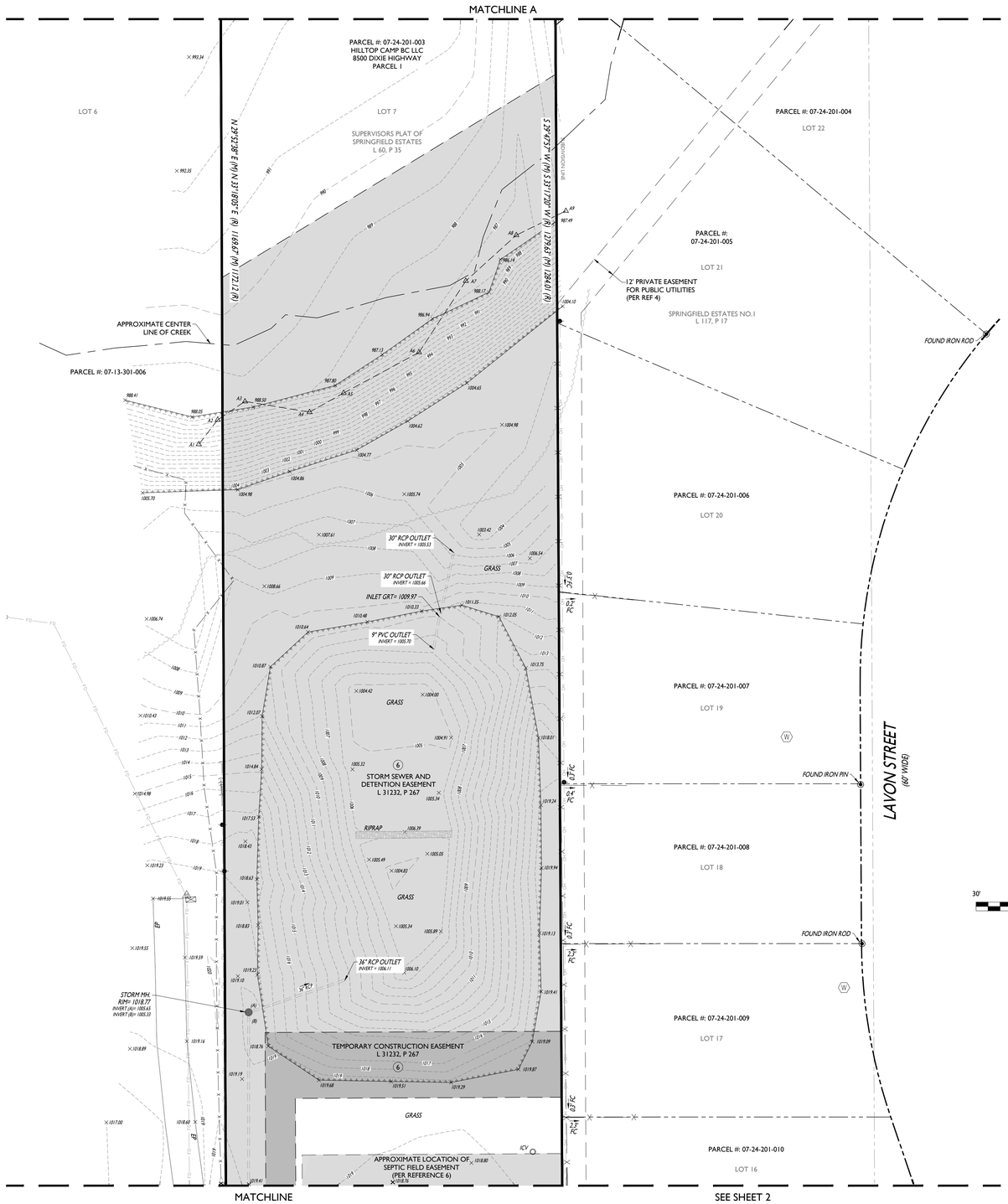
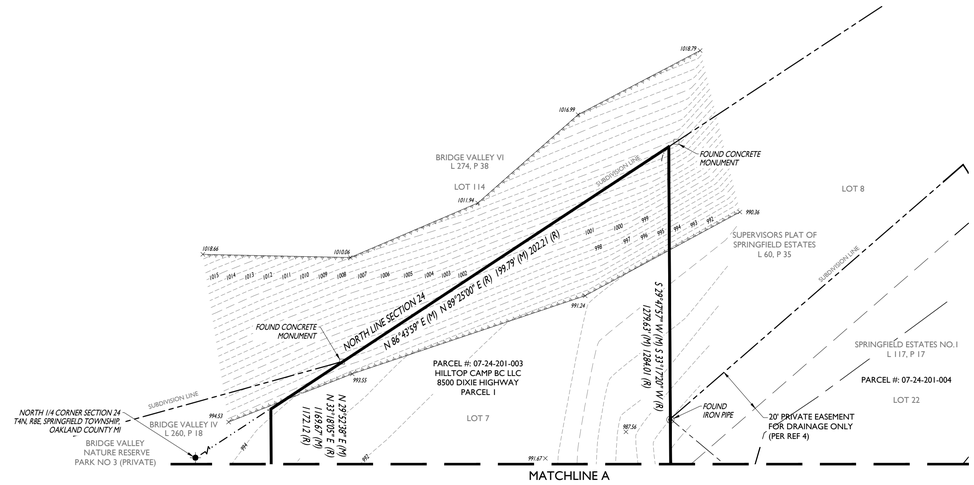
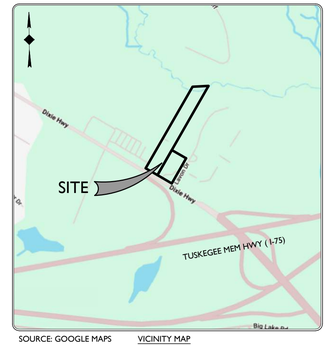
ANTHONY D. GIGLIO JR, PS
MICHIGAN PROFESSIONAL SURVEYOR No. 4001071395

SCALE: 1"=30'	PROJECT ID: DET-250399	SHEET: 2 OF 3

Z:\AUTHEROON\AUTHORING\DRAWINGS\ALTA\PHOENIX\DET\250399\SHEETS\250399 SIGLIEN GOLD - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI_SURVEYING\DAD\DET-250399 - V2.DWG







SOURCE: GOOGLE MAPS VICINITY MAP
NOT TO SCALE



30' 0' 30' 60'
GRAPHIC SCALE IN FEET
1" = 30'

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ANTHONY D. GIGLIO JR, PS
MICHIGAN PROFESSIONAL SURVEYOR No. 4001071395

SCALE: 1"=30'	PROJECT ID: DET-250399	SHEET: 3 OF 3

Z:\AUTHEPROJ\AUTHWORKS\SURVEY\PROJ\ALTA\DET250399 ISOLIEN, CO.D - 8500 DIXIE HIGHWAY, SPRINGFIELD TOWNSHIP, MI_SURVEY\WG\ALTADET250399 - 1 DWG

SPRINGFIELD TOWNSHIP FIRE DEPARTMENT

10280 Rattalee Lake Road • Davisburg, MI 48350
Phone: 248.625.6699 Fax: 248.605.4090
Email: stfd@springfield-twp.us

Matthew J. Covey, *Fire Chief* • Matthew S. Strickland, *Assistant Chief*

Site Plan Review – Proposed Sheetz Gas Station, Convenience Store and Fast-Food Restaurant
8500 Dixie Highway, Davisburg, MI 48350
Date: June 15, 2026

The Springfield Township Fire Department has reviewed the submitted site plan for the proposed Sheetz gas station, convenience store, and fast-food restaurant located at 8500 Dixie Highway. The proposed building is approximately 6,139 square feet with two public entrances.

Currently, the Fire Department does not have any significant concerns with the proposed site plan. The following items should be addressed as the project moves forward:

Fire Department Access

The site plan should provide adequate access for fire apparatus throughout the development. Confirmation should be provided that fire lanes, access drives, and turning radii are sufficient to allow fire apparatus to safely maneuver around the site. Any portion of the site intended for fire apparatus travel shall maintain a minimum unobstructed vertical clearance of 13 feet 6 inches. This includes fuel canopies, overhangs, signs, or other structures that may impact emergency vehicle access.

Utility and Propane Protection

Protective bollards should be installed around exterior utilities, equipment, and any propane storage cages to protect them from vehicle damage.

Knox Box

A Knox Box will be required at a location approved by the Fire Department. While the store is proposed to operate 24 hours per day, emergency access may still be needed during maintenance closures, power outages, security incidents, or other situations where the building is not accessible.

Fire Protection Systems

Final requirements for fire alarm systems, fire suppression systems, hood suppression systems, occupant load calculations, and other life safety features will be determined during the building permit review process based on the final building plans.

Water Supply

Due to the limited fire protection water supply available in this area of the township, the Fire Department recommends consideration of a high-capacity fire protection well on the property. While not a requirement at this stage, a dedicated water source would improve firefighting capabilities and provide an additional level of protection for the facility and surrounding properties.

Based on the information provided, the Springfield Township Fire Department has no objection to the project moving forward through the site plan review process. Final approval of fire protection features will be based on the plans submitted for permit review and compliance with applicable codes.

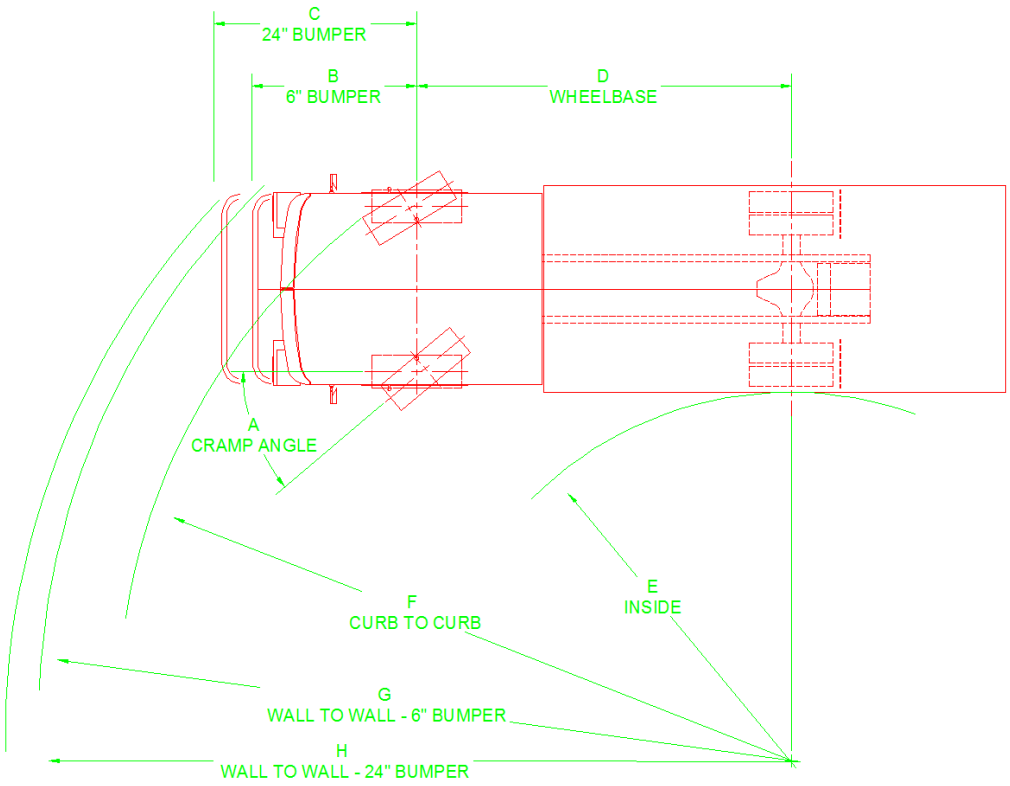
Respectfully,

Matthew J. Covey
Fire Chief

Pumper -195” Wheel Base

Components

Chassis Sutphen 2011 PUMPER



Parameters

A	Cramp Angle (maximum)	42 deg.
B	Front Overhang 6” Bumper	76”
C	Front Overhang 24” Bumper	94”
D	Wheelbase	195”

Calculated Results

E	Inside Turning Radius	17’-3”
F	Curb to Curb	30’-4”
G	Wall to Wall 6” Bumper	34’-2”
H	Wall to Wall 24” Bumper	35’-2”

Cramp Angle may vary due to vehicle configuration.
Curb to Curb based on a 9” curb

SPRINGFIELD TOWNSHIP FIRE DEPARTMENT

10280 Rattalee Lake Road • Davisburg, MI 48350
Phone: 248.625.6699 Fax: 248.605.4090
Email: stfd@springfield-twp.us

Matthew J. Covey, *Fire Chief* • Matthew S. Strickland, *Assistant Chief*

SPRINGFIELD TOWNSHIP FIRE DEPARTMENT

Updated Site Plan Review – Proposed Sheetz Gas Station, Convenience Store and Fast-Food Restaurant
8500 Dixie Highway
Davisburg, MI 48350

Date: June 25, 2026

The Springfield Township Fire Department has reviewed the revised site plans for the proposed Sheetz gas station, convenience store, and fast food restaurant located at 8500 Dixie Highway.

The revised plans have addressed the comments from the Fire Department's original site plan review. Based on the plans submitted, the Fire Department has no further comments and has no objection to the project moving forward through the Township's site plan review process.

Final review of fire protection systems, fire department access, Knox Box location, hood suppression, and any other applicable fire code requirements will be completed during the building permit review process.

Respectfully,

Matthew J. Covey

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

July 17, 2026

Springfield Township Planning Commission

Re: 8500 Dixie HWY BLDG Department Comments

Planning Commissioners:

I have completed a preliminary review of the drawings provided for your review. The information provided is not enough to complete full building code compliance review, but that is not required for where the applicant is in the process. Based on the information provided I have no comments at this time.

Sincerely,



Carlisle | Wortman
ASSOCIATES, INC.

Brent Strong
Director/Building Official
Phone: 734-662-2200 | Mobile: 734-323-5613
117 N. 1st Street, Suite 70, Ann Arbor, MI 48104

Benjamin R. Carlisle, *President* John L. Enos, *Vice President* Douglas J. Lewan, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* R. Donald Wortman, *Principal* Jeff Shafer, *Principal*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
Richard K. Carlisle, *Past President/Senior Principal*

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

TO: Springfield Charter Township Planning Commission

FROM: Megan A. Masson-Minock, AICP

DATE: July 21, 2026

RE: Levy/Burroughs Materials Corporation Application Update

The purpose of this memo is to update the Planning Commission on the Levy/Burroughs Materials Corporation Application.

Recent Meetings:

No meetings between Township officials or consultants with the applicant have occurred since the last update.

Expected Activity:

Per Mr. Maxbauer, the following activity is expected to occur on the subject site or Ormond Road in the next month:

- August: Discovery well installation

Mr. Maxbauer has indicated the schedule may be subject to change. He does not have resubmission timeline to share at this time.

My colleagues, Dave Scurto and Beneditto Bono, will be in attendance at the July 28, 2026 Planning Commission meeting. Please let us know if you have any questions and how this monthly update can be improved.

Respectfully submitted,

Megan A. Masson-Minock

CARLISLE/WORTMAN ASSOC.,INC
Megan Masson-Minock, AICP
Principal

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Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal* Brent Strong, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* Craig Strong, *Principal* Douglas J. Lewan, *Principal*
Richard K. Carlisle, *Past President/Senior Principal* R. Donald Wortman, *Past Principal*