



Planning Commission
97 North Broad Street
Hillsdale, Michigan 49242-1695
(517) 437-6440 Fax: (517) 437-6450

Electronic & In-person
Planning Commission Agenda
March 16, 2021

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|--|---|
| <p>I. Call to Order 5:30</p> <ul style="list-style-type: none">A. Pledge of AllegianceB. Roll Call <p>II. Public Comment</p> <p>Any Commission related item – 3 min. limit</p> <p>III. Consent Items/Communications</p> <ul style="list-style-type: none">A. Approval of agenda – ActionB. Approval of Planning Commission 2-16-2021 minutes – ActionC. Communications <p>IV. Public Hearing</p> <p>Rezoning of 62 Park south to 23 W. College Ave. – Action</p> | <p>V. Site Plan Review</p> <p>3285 W. Carleton – Action</p> <p>VI. Old Business</p> <p>VII. New Business</p> <p>VIII. Zoning Administrator Report</p> <p>IX. Commissioners' Comments</p> <p>X. Adjournment</p> |
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Next meeting Wednesday, April 21, 2021 at 5:30 pm

Planning Commission Meeting Minutes
Hillsdale City Hall
Council Chambers
(In person and electronic)
February 16, 2021
5:30 pm

Call to Order

Meeting was opened at 5:30 pm with the Pledge of Allegiance by Chairman Eric Moore.

Members Present

Roll Call by Secretary Penny Swan.

Members present in person. Commissioner William Morrissey, Commissioner Karry Laycock, Commissioner Jacob Parker, Commissioner Elias McConnell, Secretary Penny Swan.

Members present via GoToMeeting. Chairman Eric Moore, Vice Chairman Ron Scholl.

Public Present. Dean Affholter, Matt Taylor, Jack McClain, Kelly Lopresto.

Public Comment

None.

Consent Agenda and Minutes

Approval of agenda, motioned by Commissioner Elias McConnell seconded by Commissioner William Morrissey, motion unanimously approved.

Approval of minutes, motioned by Vice Chairman Ron Scholl, seconded by Commissioner William Morrissey, motion unanimously approved.

Public Hearing

Rezoning of 450 Hidden Meadows Drive.

Public hearing opened at 5:33 pm.

Dean Affholter spoke that this was the recommendation of their realtor since there has been no interest in the property in the last 17 to 20 years as zoned business.

Public hearing closed at 5:46 pm.

Motion to approve the rezoning and recommend to Council for adoption made by Commissioner William Morrissey, seconded by Commissioner Elias McConnell, motion unanimously approved.

Old Business

Planning Commission Bylaws Amendment.

Motion made by Chairman Eric Moore, seconded by Commissioner Elias McConnell to amend the bylaws to state Commissioners shall meet monthly and every December a date and time will be set for the year ahead. Motion passed unanimously.

New Business

Rezoning from 62 Park south to 23 W. College.

Motion to approve a public hearing to rezone 62 Park south to 23 W. College made by Secretary Penny Swan, seconded by Commissioner Elias McConnell. Motion unanimously approved.

Master Plan Review

Update from Alan Beeker on the master plan review discussions the commission has had, and those things getting put in place, Alan hopes to have the final draft to us next month or at least by May for our review and approval to go to Council in June.

Zoning Administrator Report

Discussion on the Keefer House. Dairy Queen has purchased some property and are in the final stages of getting the plans to us for next month's meeting. Meijer has contacted the City and they have no plans for any capital projects, they are working on technology projects. Keefer is a go since they got their funding from the state. Alan gave an update on the progress with the Dawn.

Commissioner's Comments

Vice Chairman Ron Scholl gave an update on the friends of the Dawn, and there will be information on that and their projects coming out soon.

Adjournment

Motion to adjourn made by Secretary Penny Swan, seconded by Commissioner Jacob Parker, Motion passed unanimously. Meeting adjourned at 6:05 pm.

Minutes submitted by Secretary Penny Swan

Next meeting: March 16, 2021 at 5:30 pm.

Region 2 Planning Commission

Serving Hillsdale, Jackson and Lenawee Counties

**** Zoom Meeting Notice ****

Due to the ongoing concerns regarding the COVID-19 pandemic, the Region 2 Planning Commission (R2PC) will be holding this month's meeting, as well as the remainder of the 2021 meetings, via **Zoom** instead of teleconference meetings which we have been doing since April, 2020. You will be able to participate in the meeting using your **computer or telephone**.

Please follow the instructions below to participate in the Zoom meeting which will take place at **2:00 p.m. on Thursday, March 11, 2021.**

WHAT: Region 2 Planning Commission Full Commission

WHEN: Thursday, March 11, 2021 at 2:00 p.m.

Join Zoom Meeting

<https://zoom.us/j/91815637560?pwd=ajFEcjdBGUHdaSUMzNm0wL1k5SzdYQT09>

Meeting ID: 918 1563 7560

Passcode: 882954

One tap mobile

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+1 408 638 0968 US (San Jose)

+1 669 900 6833 US (San Jose)

Meeting ID: 918 1563 7560

Find your local number: <https://zoom.us/u/adx8GVnWPc>

*Please **do not** hesitate to contact Steve at (517) 768-6706 or Jill at (517) 768-6701 at any time with questions. We understand how difficult times are right now and will do our best to help make this as easy as possible.*

AGENDA

REGION 2 PLANNING COMMISSION

Full Commission

FOR FURTHER INFORMATION, CONTACT:

**Steven Duke, Executive Director
(517) 768-6706**

DATE: Thursday, March 11, 2021

TIME: 2:00 P.M.

WHERE:

**** ZOOM MEETING ****
(Please see instructions on cover of agenda packet)

Comments will be solicited on each item following discussion and prior to any final action.

PAGE #

1. Call to Order
2. Approval of the March 11, 2021 Agenda – **ACTION**
3. Public Comment
4. Approval of the Full Commission Meeting Minutes for February 11, 2021 (see enclosure) – **ACTION** 3
5. Receipt of Treasurer's Report of February 28, 2021 (see enclosure) – **ACTION** 7
6. Approval of March 11, 2021 Submitted Bills (see enclosure) – **ACTION** 11
7. Staff Progress Report for February, 2021 (see enclosure) – **DISCUSSION** 12
8. Election of 2021 R2PC Personnel and Finance Committee (see enclosure) – **ACTION** 17
9. I-94 Jackson Corridor Presentation, Kelby Wallace, MDOT (see enclosure) – **PRESENTATION** 18
10. Sign Regulation Mandates (see enclosure) – **DISCUSSION** 44
11. Public Comment / Commissioners' Comments
12. Adjournment

New Commissioner binders will be available upon request. If you would like one MAILED to you please email Jill at jliogghio@mijackson.org and provide your mailing address.

If you prefer to stop in the office to pick up a binder, email Jill at jliogghio@mijackson.org to schedule a day/time that someone can be in the office to meet you.

Region 2 Planning Commission

Serving Hillsdale, Jackson and Lenawee Counties

MEETING MINUTES

Region 2 Planning Commission - Full Commission

**** TELECONFERENCE MEETING ****

Thursday, February 11, 2021

I. **Call to Order** – Chair Terry called the meeting to order at 2:01p.m. A quorum was present.

Attendance:

Acker	✓ Drake	✓ Jancek (E)	Shaw
Adams	Driskill (E)	Jenkins	✓ Shotwell
✓ Bair	Duckham (E)	✓ Jennings	✓ Sigers (E)
Baker	Elwell	Karnaz	Snow
Bales	Frazier	Kastel	Southworth
Barnhart	Gaede (E)	Keller	Spencer
Beach	Gallagher, D.	Koehn	Sutherland
Beckner	Gallagher, F.	Kubish (E)	✓ Swartzlander
Beeker (E)	Gentner	Lammers	Teriaco
Blythe	Goetz	Lance	✓ Terry (E)
Boggs	Gould, J.	Linnabary	✓ Tillotson (E)
Bolton	✓ Gould, L. (E)	McClary	Votzke
Burruss	✓ Grabert (E)	Navarro	Wagner
Bush	Greene	Nickel	Wardius
✓ Camacho	Greenleaf	O'Dowd	Webb
Chamberlain	Griffin	✓ Overton (E)	Wiley
Collins	✓ Guetschow (E)	Pixley	Williams
Cornish	Hartsel	✓ Poleski	Wilson
Cousino	Hawkins	Richardson, C.	Winter
Cure	Hawley	Ries	Witt
David	Heath	Root	✓ Wittenbach (E)
DeBoe	✓ Herlein	Schlecte	
Dillon	Horwath	Sessions	

Key: ✓ = present (E) = Executive Committee member

Staff Present: Grant Bauman, Tanya DeOliveira, Steve Duke, Jacob Hurt, Jill Liogghio

Others Present: Mike Davis, MDOT; Adam East, City of Jackson; Angie Kline, JCDOT; Alex Masten, The Enterprise Group; Jason Pittman, MDOT

- II. **Approval of the February 11, 2021 Agenda** – The motion was made by Comm. Jancek, supported by Comm. Grabert, to approve the February 11, 2021 agenda as presented. The motion carried unanimously.
- III. **Public Comment** – Chair Terry requested public comment. No comments were received.
- IV. **Approval of the Full Commission Minutes for January 14, 2021** – The motion was made by Comm. Jancek, supported by Comm. Drake, to approve the January 14, 2021 Full Commission meeting minutes as submitted. The motion carried unanimously.
- V. **Receipt of Treasurer’s Report of January 31, 2021** – A motion was made by Comm. Grabert, and supported by Comm. Bair, to receive the January 31, 2021 Treasurer’s Report as presented. The motion carried unanimously.
- VI. **Approval of February 11, 2021 Submitted Bills** – A motion was made by Comm. Grabert, supported by Comm. Lucas, to approve payment of the February 11, 2021 submitted bills. The motion carried unanimously.
- VII. **Staff Progress Report for January, 2021** – Mr. Duke reported the staff report was included in the agenda packet for Commissioner review. He reported that staff is continuing to do a combination of working in the office and remoting from home. No comments were received.
- VIII. **Report of the Nominating Committee – Election of 2021 Executive Committee and Officers** – Mr. Duke reported that the R2PC Nominating (Committee Members Tillotson, Pete Jancek, Doug Terry, and Alan Beeker) met via Zoom on February 9, 2021. Mr. Duke reported that as of January 1, 2021, three (3) vacancies exist on the Executive Committee – one (1) representing Jackson County; one (1) representing Lenawee County; and one (1) at-large representative.

The motion was made by Comm. Jancek, supported by Comm. Grabert, nominating the following Commissioners to fill the current vacancies: Comm. Bair – representing Jackson County; Comm. Witt – representing Lenawee County; and Comm. Swartzlander – representing at-large; and, retaining the 2020 members as listed below. The motion carried unanimously.

The 2021 Executive Committee members are as follows:

Alan Beeker	representing City of Hillsdale
Bruce Grabert	representing Jackson County
Phil Duckham	representing Jackson County
Mike Overton	representing Jackson County
Jae Guetschow	representing Jackson County
Tony Bair	representing Jackson County
Jonathan Greene	representing City of Jackson
Jeanne Kubish	representing City of Jackson
Jim Driskill	representing Lenawee County
Ralph Tillotson	representing Lenawee County
Dale Witt	representing Lenawee County
VACANT	representing City of Adrian
Pete Jancek	representing at large
Larry Gould	representing at large
Doug Terry	representing at large
David Elwell	representing at large
Roger Gaede	representing at large

Rick Sigers	representing at large
Jerry Drake	representing at large
Chris Wittenbach	representing at large
Matt Swartzlander	representing at large

Mr. Duke reported that the current 2020 R2PC officers have all completed the first year of their two-year terms. All officers agreed to serve another term.

The motion was made by Comm. Shotwell, supported by Comm. Sigers, to retain the current slate of officers for 2021.

- Chair – Doug Terry (Hillsdale County)
- Vice-Chair – Pete Jancek (Jackson County)
- Treasurer – Alan Beeker (Hillsdale County)
- Secretary – Chris Wittenbach (Lenawee County)

The motion carried unanimously.

IX. Jackson County Economic Development Update – Ms. Alex Masten, Vice-President of Economic Development at the Enterprise Group, presented an overview of the development activities her office staff has been working on over the past several months.

X. Approval of Amendments to the JACTS FY 2020-2023 Transportation Improvement Program (TIP) – Chair Kline reported that JCDOT was requesting the following amendment to the JACTS FY 2020-2023 Transportation Improvement Program (TIP):

FY	JN	Project Name	Limits	Project Description	Funding	Action
2021	207171	McCain Rd and Robinson Rd	Robinson Rd to Spring Arbor Rd and Spring Arbor Rd to McCain Rd	Resurface	From: \$12,037 HIP \$591,963 STP \$151,000 JCDOT \$755,000 Total To: \$104,713 HIP \$591,963 STP \$151,000 JCDOT \$847,676 Total	Change

Mr. Davis reported that MDOT was requesting the following amendments to the JACTS FY 2020-2023 Transportation Improvement Program (TIP):

FY	Job number	Phase	Name	Limits	Length	Description	Funds & Source	Amendment Type
2021	212155	PE	I-94 BL	Michigan Ave from East Ave to Page Ave	0.14	Install mid-block crossing & rapid flashing beacon	Fed- \$45,000 (HSIP) State- \$4,562 Total- \$50,000	Phase Add
2021	212155	CON	I-94 BL	Michigan Ave from East Ave to Page Ave	0.14	Install mid-block crossing & rapid flashing beacon	Fed- \$77,726 (HSIP) State- \$7,881 Total- \$86,362	Phase Add

The motion was made by Comm. Jancek, and supported by Comm. Grabert, to approve the JCDOT and MDOT amendments to the JACTS FY 2020-2023 TIP as presented. The motion carried unanimously.

XI. US-127 and US-223 Rehabilitation Project (Lenawee County) – Mr. Jason Pittman, MDOT, reviewed for the Commissioners the materials included in the agenda packet regarding the upcoming reconstruction of the US-127 and US-223 intersection that includes the addition of a roundabout.

XII. Approval of the Resolution Supporting the MDOT State Targets – Mr. Davis reported that the MDOT State Targets for Bridge Conditions, that are required to be submitted to MDOT by March 31, 2021 need updating. Bridge condition is one of the national Federal Highway Administration’s (FHWA) program performance goals that were established by Congress. FHWA continues to require that MPOs establish targets in specific national performance areas. The goal is to maintain the highway bridges in a state of good repair. Staff is recommending to support the State Targets for Bridge Conditions as presented, as many of the other state MPOs have done.

A motion was made by Vice-Chair Jancek, supported by Mr. Acker, to approve the Resolution to Support the MDOT State Targets for Bridge Conditions. The motion carried unanimously.

XIII. JACTS FY 2020 Obligated List of Federally-funded Projects – Mr. Duke reported that the JACTS FY 2020 Obligation Report is available online. Each year the federal government requires the Jackson MPO to prepare a list of road construction projects from the Act 51 agencies and Jackson Area Transportation Authority transit projects that received federal funding.

XIV. Other Business

Mr. Duke reported that “New Commissioner” orientation binders will be sent out in a few weeks. If any of the Commissioners have any questions, he asked they either contact him by phone or email, or make an appointment to come into the office.

No other business was brought before the Commission.

XV. Public / Commissioners’ Comments – No additional public or Commissioner comments were received.

XVI. Adjournment – There being no further business, Chair Terry adjourned the meeting at 3:40 PM.

Chris Wittenbach
Secretary

REGION 2 PLANNING COMMISSION
Treasurer's Report - Monthly Summary
as of February 28, 2021

Checking Account Balance ending January 31, 2020		\$	567,599.74
Deposit Summary:			
<i>February 2021 EFT Deposits</i>		\$	-
<i>February 2021 Bank Deposits</i>			22,880.46
<i>February 2021 Adjustments</i>			(369.53)
Total Deposits plus Bank Balance		<u>\$</u>	<u>590,110.67</u>
Expenses:			
<i>Submitted Expenses - February 2021 **</i>	\$		(35,335.10)
<i>Interim Expenses</i>			(6,465.43)
<i>Payroll/Related Expenses</i>			(28,916.56)
Subtotal of Expenses	<u>\$</u>		<u>(70,717.09)</u>
Balance Checking Account ending February 28, 2021		<u>\$</u>	<u>519,393.58</u>
<i>Balance CD Investments ending February 28, 2021</i>		<u>\$</u>	<u>105,931.81</u>
Total Cash on Hand		<u>\$</u>	<u>625,325.39</u>

**Note that this amount can include cleared checks from prior months' submitted bills.

REGION 2 PLANNING COMMISSION
Deposits and Adjustments to Cash
as of February 28, 2021

2/28/2021	EFT Deposits:		
	None	\$	-
	Subtotal - EFT Deposits	\$	-
2/28/2021	Check Deposits:		
	FY 2021 Membership Dues		3,236.76
	Village of Brooklyn - Planning Services Thru September 30		1,499.33
	Raisin Township - Planning Services Thru September 30		5,156.87
	Somerset Township - Planning Services Thru September 30		12,987.50
	Subtotal - Check Deposits	\$	22,880.46
2/28/2021	Adjustments to cash:		
	<i>Bank fees - February</i>	\$	(139.81)
	<i>Paycor Fees -February</i>		(229.72)
	<i>Credit Card charges - Not available</i>		-
	Subtotal - Adjustments to Cash	\$	(369.53)
	Total Net Deposits	\$	22,510.93

**REGION 2 PLANNING COMMISSION
INTERIM BILLING and PAYROLL EXPENSES
as of February 28, 2021**

Interim Billing for February, 2021

<u>Vendor</u>	<u>Description</u>	<u>Amount</u>	<u>Check #</u>
<i>Bedford Adult Education</i>	RPI Oct. 2020	\$ 3,254.18	14892
<i>Fresh Start Coffeehouse</i>	RPI Dec. 2020-Feb. 2021	\$ 2,987.50	14905
<i>Mlive</i>	JACTS Advertising	\$ 212.55	14899
<i>The SBAM Plan</i>	Employee Life Insurance	\$ 11.20	14902
Total Interim Billing for February, 2021		\$ 6,465.43	

Payroll & Travel Related Expenses:

<i>Paid February 5, 2021</i>	<i>by Direct Deposit/EFT</i>	
Paycor	Payroll Disbursement	\$ 14,433.33
	Total	\$ 14,433.33

<i>Paid February 19, 2021</i>	<i>by Direct Deposit/EFT</i>	
Paycor	Payroll Disbursement	\$ 14,483.23
	Total	\$ 14,483.23

Total Payroll Expenses for February, 2021		\$ 28,916.56
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**Region 2 Planning Commission
 Outstanding Accounts Receivable
 as of February 28, 2021**

Municipality/Source	Date	Inv. No.	Amount
EDA - CARES Grant - Planning Services Thru September 30	12/31/2020	-	23,564.77
Spring Arbor Township - Planning Services Thru September 30	12/31/2020	9005	4,420.13
MDOT - Rural Task Force - Planning Services Thru December 2020	2/28/2021	1001	3,798.13
MDOT - Regional Trans - Planning Services Thru December 2020	2/28/2021	1002	17,108.00
MDOT - Asset Management - Planning Services Thru December 2020	2/28/2021	1003	2,065.00
MDOT - FHWA - Planning Services Thru December 2020	2/28/2021	1004	45,160.74

FY 2021 Balance as of February 28, 2021 **\$ 96,116.77**

REGION 2 PLANNING COMMISSION**Submitted Bills****March, 2021**

<u>Vendor</u>	<u>Description</u>	<u>Amount Due</u>
Allegra	R2PC Packet	\$ 204.40
Blue Cross/Blue Shield	Employee Health Ins. (Apr. 2021)	\$ 4,938.98
Blue Cross/Blue Shield	Supplement F (Apr. 2021)	\$ 195.71
Blue Cross/Blue Shield	Prescription Coverage (Apr. 2021)	\$ 109.30
County of Jackson	Rent Expense for March 2021	\$ 3,138.81
County of Jackson	Postage - Feb. 2021	\$ 14.04
County of Jackson	Phone & Accounting Services - Feb.	\$ 1,262.43
Hillsdale Daily News	Subscription Renewal	\$ 323.92
ICMA Retirement Trust	ICMA 401 Contribution	\$ 2,478.57
ICMA Retirement Trust	Quarterly Fee	\$ 250.00
Jackson Police Department	OHSP Impaired Driving (opt.) FY 2021 - Feb. 2021	\$ 663.95
Vantage Point Transfer Agents	ICMA RHS Contribution	\$ 291.53
Total Submitted Billing - March, 2021		\$ 13,871.64

Region 2 Planning Commission

Serving Hillsdale, Jackson and Lenawee Counties

Staff Progress Report *February, 2021*

Area-Wide Regional Planning Activities

Economic Development Activities

- **Economic Development Administration (EDA).** Staff was involved in the following activities on behalf of the R2PC Economic Development District (EDD):
 - Non-competitive EDD (Economic Development District) CARES (Coronavirus Aid, Relief, and Economic Security) Act supplemental grant award to address the economic consequences of the COVID-19 Pandemic. The \$351,183 award will fund the launching of an easy-to-use website that will serve as a resource for local businesses, the hiring of a disaster recovery coordinator, and the implementation of other CEDS goals.
 - Submitted CARES Act semi-annual GRPA report to EDA Chicago Regional Office (CRO) on February 19.
 - Participated in the Atlanta Federal Reserve Bank's COVID recovery webinar on February 25.
 - EDA grant award for R2PC EDD's FY 2021 Partnership Planning Assistance, which will be used to write the 2021-2025 edition of the Region 2 Economic Development District Comprehensive Economic Development Strategy (CEDS).
 - Participated in the EDA Chicago Regional Office (CRO) FY 2021 Partnership Planning kickoff meeting on February 9.
 - Participated in the Connecting Michigan broadband webinar in preparation for the 2021-2025 Comprehensive Economic Development Strategy (CEDS) on February 23.
 - Received confirmation on February 24 that the 2020 Partnership Planning grant (EDA Award No: ED20CHI3020008) was successfully completed.
 - Attended a February 25 Stats America webinar on its Innovation Index.
- **Downtown Development Authorities (DDAs).** Staff attended the monthly meetings of the City of Jackson and Leoni Downtown Development Authorities.
 - Began background research for the Downtown Master Plan for the Leoni Township Downtown Development Authority.

[February, 2021 Staff Progress Report]

R2PC Activities

- **R2PC Website.** Staff continued updating www.region2planning.com.
- Staff participated in a meeting to discuss future potential non-motorized facility development in Lenawee County, Monroe County and part of Ohio with SEMCOG, MDOT and the Toledo Metropolitan Area Council of Governments.

Regional Transportation Planning Hillsdale, Jackson, and Lenawee Counties

Program Management

- **Rural Task Force.** Staff submitted the Rural Task Force monthly progress report to MDOT and participated in the monthly conference call. An overview of the COVID Relief funds that have been distributed to the RTF program was provided. There will be a round of Spring RTF meetings to decide how the funds for each county will be distributed.
- **Small Urban.** A meeting for the Adrian/Tecumseh/Clinton Small Urban Task Force was scheduled for March 19 at 11:00 a.m. via Zoom. Please see the Region 2 Planning Commission website for meeting information.

Metropolitan Area Transportation Planning Jackson Area Comprehensive Transportation Study

Program Management

- Staff attended the monthly Michigan Transportation Planning Association meeting.
- Staff completed the MDOT quarterly invoices and project narratives for asset management, rural task force planning, regional planning, and JACTS activities.
- Staff attended the Local Transportation Advisory Council (LTAC) meeting.
- Staff updated the Highway System Performance Monitoring System information for Region 2 as requested by MDOT.
- Staff is working with local agencies to make plans for the PASER 2021 program.

Technical Assistance

- Staff is providing JCDOT assistance in reviewing the recommendations of the Jackson City + County Non-Motorized Plan as the department plans for future improvement projects across the county.
- Staff continues to provide administrative services for the Active Jackson Coalition. Staff attended the monthly meeting. As requested, staff is providing a 6-month long series on reviewing the recommendations of various communities in the Jackson City + County Non-Motorized Plan. Plan recommendations for the Village of Hanover and the Village of Parma were reviewed and discussed in February.

[February, 2021 Staff Progress Report]

- Staff continued providing assistance to the group discussing the possibility of a trail study for the Watkins Lake State Park/Brooklyn area. Local governments in the southeastern portion of the county and Jackson County have passed resolutions to financially support a feasibility study for the trail. The DNR has also contributed to the project. The Irish Hills Legacy Foundation is taking the lead on the project, and staff will continue to support the project as it moves along.
- Staff continues to participate in conversations exploring potential trail connections from the Village of Concord/Falling Waters Trail into Calhoun County. Discussions are scheduled to continue through the first months of 2021.
- Staff provided a letter of support for the City of Jackson Trust Fund grant to resurface part of the Martin Luther King Jr. Equality trail.
- Staff received a resolution formally adopting the Jackson City + County Non-Motorized Plan from Henrietta Township.

Transportation Improvement Program (TIP)

- Amendments were incorporated into FY 2020-2023 TIP, and posted to the Region 2 Planning Commission website.
- Staff monitored and updated JobNet as necessary.

Jackson Traffic Safety Program

- Staff processed Enforcement Reports from the optional Impaired enforcement period from February 7, 2021, and submitted to OHSP.
- Staff worked on officer daily reports and submitted to OHSP for their review.

Local Planning Assistance

The requests of member units of government within Hillsdale, Jackson, and Lenawee Counties are listed below. These activities were prepared at cost to the individual units of government requesting the service (unless alternative funding was available).

Hillsdale County

Somerset Township. Staff provided the following service(s):

- **Zoning Ordinance.** Staff discussed the proper procedure for amending the permit for an existing conditional use, including the submittal of a revised site plan.

Jackson County

Blackman Township. Staff provided the following service(s):

- **Zoning Ordinance.** Staff reviewed and commented upon proposed Zoning Ordinance text

[February, 2021 Staff Progress Report]

amendments the Township Planning Commission is considering. The amendments pertain to the regulation of medical marihuana primary caregivers as a type of home occupation.

Village of Brooklyn. Staff provided the following service(s):

- **Zoning Code.** Staff worked with the Village Manager to make final amendments to the text and map that comprise the Village Zoning Code (Chapter 62 of the Code of Ordinances). Prepared a memo summarizing the proposed substantive text and map amendments for the Planning Commission. Attended the February 24 public hearing held before the Planning Commission and facilitated the subsequent discussion regarding the proposed amendments. The Planning Commission subsequently recommended approval of the proposed amendments to the Village Council. A 'clean' copy of the Zoning Code was prepared and transmitted to the Village Manager for distribution to Council for its consideration.

Village of Cement City. Staff provided the following service(s):

- **Bridge Plans.** The Village contacted the R2PC about making oversized copies of existing bridge plans. Staff directed the Village to Jackson County GIS, which has the necessary equipment to scan and print oversized documents.

County of Jackson. Staff provided the following service(s):

- **County Planning Commission (JCPC).** Staff facilitated the February 11 meeting (held remotely via Zoom) and summarized staff advisements regarding a proposed rezoning in Leoni Township and text amendments regarding indoor and outdoor sport shooting ranges in Sandstone Township. Provided the townships with the JCPC recommendations. Prepared the 2020 JCPC Annual Report, which was approved by the Commission. Submitted the report to the Jackson County Board of Commissioners' Public Safety & Transportation Committee for its consideration.
- **Jackson County Hazard Mitigation Plan.** Staff continued to work on the next edition of the *Jackson County Hazard Mitigation*, concentrating on an implementation table for proposed mitigation strategies.

Leoni Township. Staff provided the following service(s):

- **Master Plan.** Staff prepared for a March 3 Township Planning Commission meeting during which work on the next edition of the Master Plan will resume.

Summit Township. Staff provided the following service(s):

- **Master Plan.** Staff received word from the Township Zoning Administrator that work can commence on the next edition of the Master Plan. Prepared the appendix of demographic information pertaining to the Township as well as Vandercook Lake. Also prepared many of the maps that will be discussed in Chapter 2 (Community Description and Issue Identification) of the document.

[February, 2021 Staff Progress Report]

Lenawee County

County of Lenawee. Staff provided the following service(s):

- **County Planning Commission (LCPC).** Staff facilitated the February 18 meeting (held remotely via Zoom) and summarized staff advisements regarding a proposed rezoning in Rollin Township and a PA 116 application in Macon Township. Prepared the 2020 LCPC Annual Report, which was approved by the Commission. Submitted the report to County Administrator for distribution to Lenawee County Board of Commissioners.

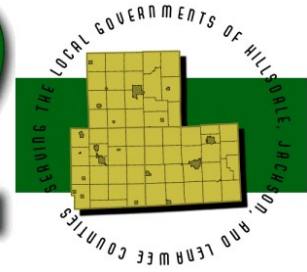
Raisin Charter Township. Staff provided the following service(s):

- **Master Plan.** Staff made a presentation on the proposed Master Plan to the Raisin Township Board on February 8. The Township Board approved the release of the document for public comment and also reserved its right to adopt the Master Plan (in addition to the Planning Commission).

Rollin Township. Staff provided the following service(s):

- **Zoning Ordinance.** Staff discussed setbacks from a county drain with a Planning Commissioner.

Region 2 Planning Commission



MEMORANDUM

TO: Region 2 Planning Commission

FROM: Steven M. Duke, Executive Director

SUBJECT: Appointment of the 2021 R2PC Personnel & Finance Committee

DATE: March 3, 2021

Per the R2PC Bylaws, the Chair of the Region 2 Planning Commission annually appoints a Personnel and Finance Committee at the March Full Commission meeting. The purpose of the Committee is to review personnel and financial concerns of the Commission and provide recommendations to the Executive Director, the R2PC Executive Committee, and/or the Full Commission.

The Committee is comprised of a minimum of five R2PC Commissioners and the Chair of the Commission. One of these members must be the Treasurer. The Committee has no regular meeting schedule. Meetings are held at the request of the Executive Director or at the call of one of the Committee members. The Committee is typically convened for the purpose of reviewing personnel and/or financial matters. On these occasions, the Committee is briefed by the Executive Director who may ask for a recommendation from the Committee. The Committee also meets on occasions when the Commission is considering a large capital purchase, or in the event a grievance is filed resulting from disciplinary action.

Members of the 2020 Personnel and Finance Committee include Ralph Tillotson, Tony Bair, Treasurer - Alan Beeker, Roger Gaede, Pete Jancek, and Chair - Doug Terry.

Nominations for the appointments will be taken from the floor.



I-94 Jackson Corridor Public Meeting
February 24, 2021 5:00 PM





Title VI of the Civil Rights Act

Title VI of the Civil Rights Act of 1964 requires MDOT to provide the opportunity for everyone to comment on transportation programs and activities that may affect their community. Please take this three-question survey:

Participants can vote by clicking the link in the Q & A.

You can help MDOT comply with Title VI and related statutes, which require the collection of statistical data to aid in assessing MDOT's outreach efforts among those who are affected or interested in this project.





Agenda

- Corridor Website
- Previous Projects Refresher
- Upcoming Project
 - Overview
 - Schedule
 - Detours
- Q & A





Project Comments

- Q & A Room
- www.Michigan.gov/I94Jackson
- MDOT-JacksonTSC@michigan.gov
- Jackson TSC: 517-780-7540



WWW.MICHIGAN.GOV/I94JACKSON

I-94 Road and Bridge Reconstruction, Jackson County

[View Other Major Projects](#)

Start: Summer 2018 End: Spring 2024
Investment: \$350 million

Local, national and international trade traffic on I-94 in Jackson has increased substantially since the freeway opened to traffic in 1980. The current corridor is, in part, functionally obsolete and is scheduled to be upgraded to current design standards in the next seven to 10 years. This Michigan Department of Transportation (MDOT) multi-year project will update this corridor, with the goal to balance safety, mobility, lifecycle costs, aesthetics, and environmental sustainability. All this work includes improvements identified in the I-94 Jackson Freeway Modernization Project study, which included a Record of Decision in March 2007.

[Public Comment Form](#)

What Is Being Done?

This project is broken down into three phases.

Phase 1 (2018 - 2020)

During this first phase, MDOT made the following improvements along I-94:

- Rebuilt 1.4 miles of freeway between Lansing Avenue and Elm Road.
- Resurfaced 3.5 miles between Lansing Avenue and M-60, and 4 miles between Elm Road and Sargent Road.
- Rebuilt the I-94/Cooper Street Interchange, built new roundabouts on each side of the new bridge, and rebuilt each of the ramps.
- Replaced the I-94 bridge over the Grand River.

As part of this phase, I-94 was shifted approximately 80 feet south of its current location.

Phase 2 (Spring 2021 - Summer 2023)

In this phase, MDOT will rebuild portions of I-94 between the Airport Road interchange and the US-127 south interchange. Other improvements include:

- Rebuilding the I-94/US-127/West Avenue Interchange to be a diverging diamond interchange.
- Rebuilding the Lansing Avenue bridge over I-94 to be higher and wider than the current bridge to accommodate the widening of I-94.
- Rebuilding the I-94/Elm Avenue interchange to include roundabouts at the eastbound ramp terminal, the westbound ramp terminal, and the Rosehill Road/Elm Avenue/Seymour Road intersection.
- Installing freeway lighting on I-94 from the Airport Road interchange to east of the Elm Road interchange to improve safety for motorists and first responders. This will include lighting on most ramps within the project limits.

How Traffic Will Be Affected:

- During work, two lanes will be open in each direction most of the time on I-94, with short-term single-lane closures possible at off-peak times.
- The Lansing Avenue bridge will be closed and detoured while it is being rebuilt.
- More information on specific traffic impacts will be provided in spring 2021 through a public meeting and this website.

Phase 3 (2022 - 2024)

Work in this phase will include:

- Rebuilding approximately 12.5 miles of freeway from the Jackson/Calhoun County line to M-60.
- Reconfiguring the Michigan Avenue interchange with the addition of roundabouts.
- Reconfiguring the Dearing Road interchange with the addition of roundabouts.
- Preventive maintenance on 10 bridges along the I-94 corridor.





Cooper Street Interchange





Cooper Street Interchange





I-94 over the Grand River





M-60 Bridge over I-94





I-94/West Ave/US-127 Diverging Diamond Interchange (DDI)





I-94/West Ave/US-127 Diverging Diamond Interchange (DDI)





I-94/West Ave/US-127 Diverging Diamond Interchange (DDI)





I-94/West Ave/US-127 Diverging Diamond Interchange (DDI)





I-94/West Ave/US-127 Pedestrian Path and Tunnel



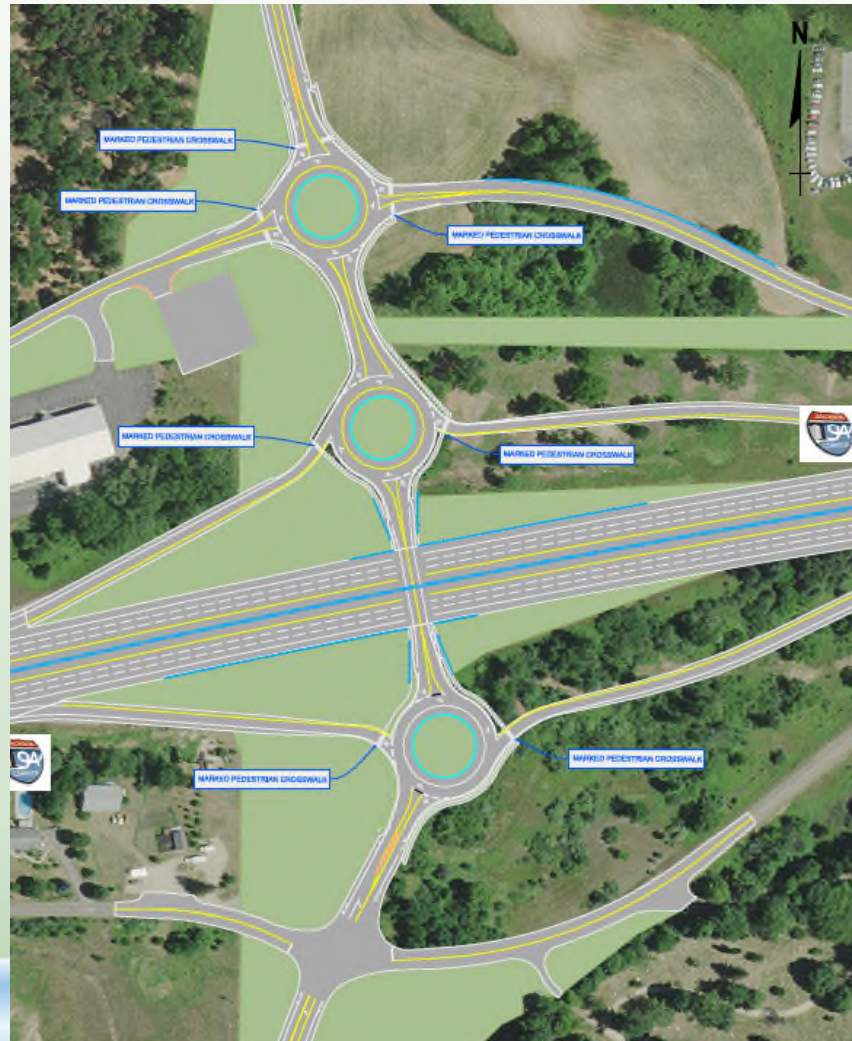


Lansing Avenue over I-94





Elm Road over I-94





Elm Road over I-94

fishbeck
Engineers | Architects | Scientists | Constructors





Anticipated 2021 Project Schedule

- I-94/US-127 Diverging Diamond Interchange
 - March 1, 2021 – November 15, 2021
- I-94 Reconstruct Airport Road to The Grand River
 - March 1, 2021 – November 15, 2021
- Lansing Avenue Road Closure
 - June 1, 2021 – November 2021
- Elm Road (Bridge Only)
 - June 2021 – November 2021



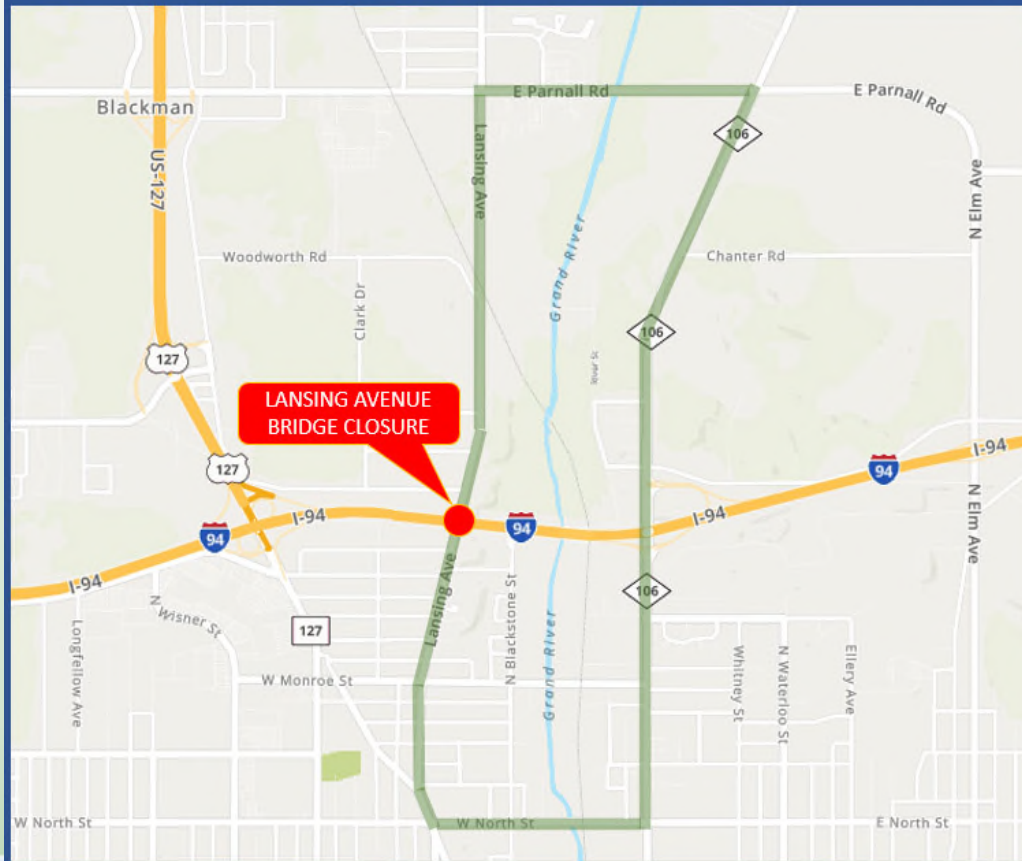
Anticipated 2022 Project Schedule

- Elm Road Road Work
 - March 2022 – August 2022
- I-94 Elm Road to US-127 (South)
 - May 2022 – November 14, 2022
- Project landscaping and punch list
 - Spring 2023



Lansing Avenue Detour

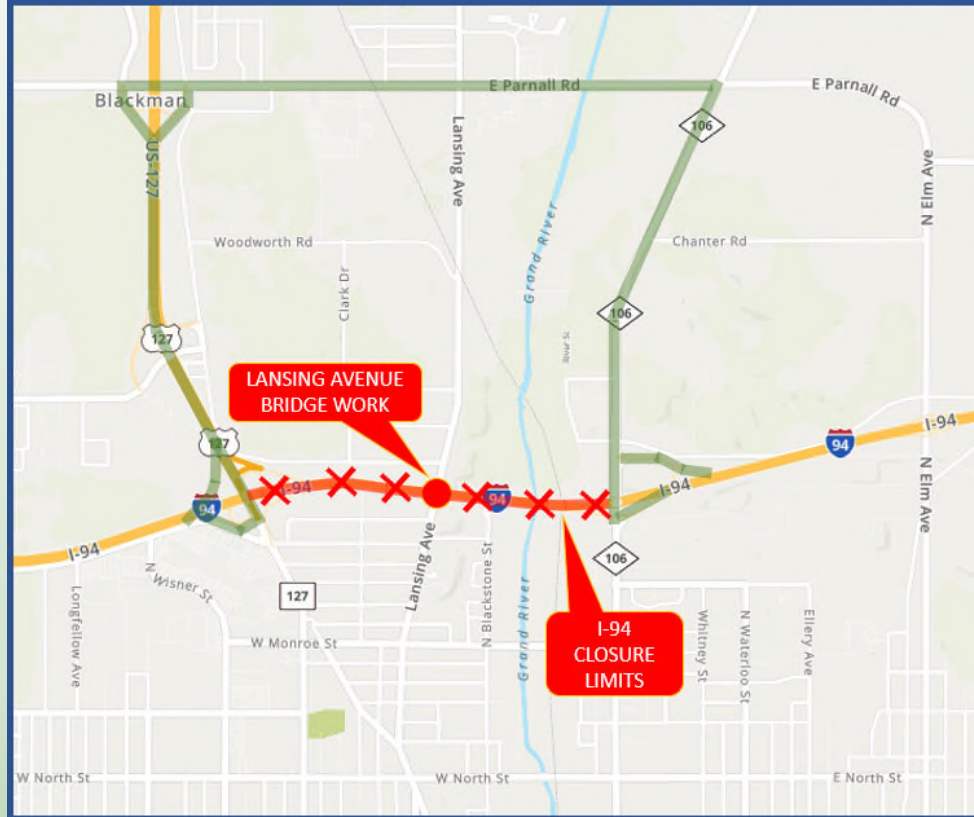
DETOUR ROUTE FOR CLOSURE OF LANSING AVE
DURING BRIDGE CONSTRUCTION
(STARTING JUNE 2021)





I-94 Detour for Lansing Ave Bridge Work

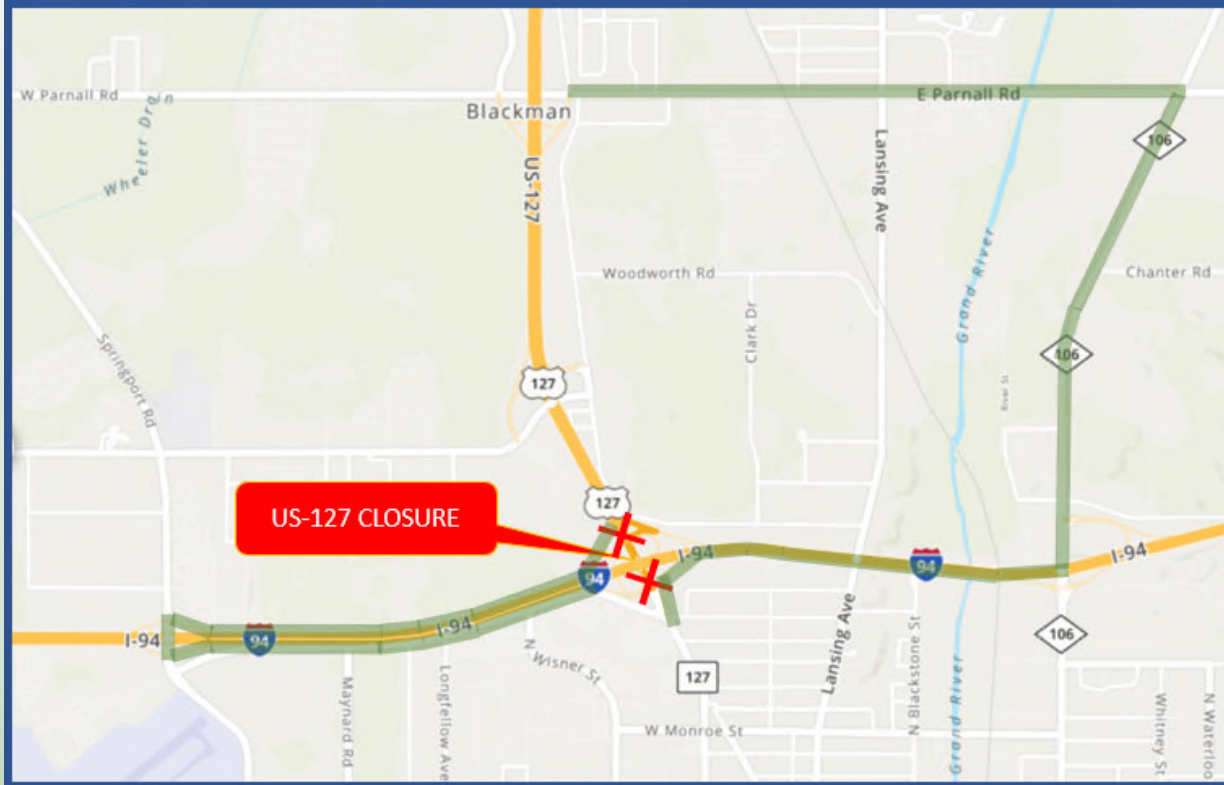
DETOUR ROUTE FOR CLOSURE OF I-94
FOR CONSTRUCTION OF LANSING AVENUE BRIDGE
(STARTING JUNE 2021 – 3 WEEKENDS ONLY)





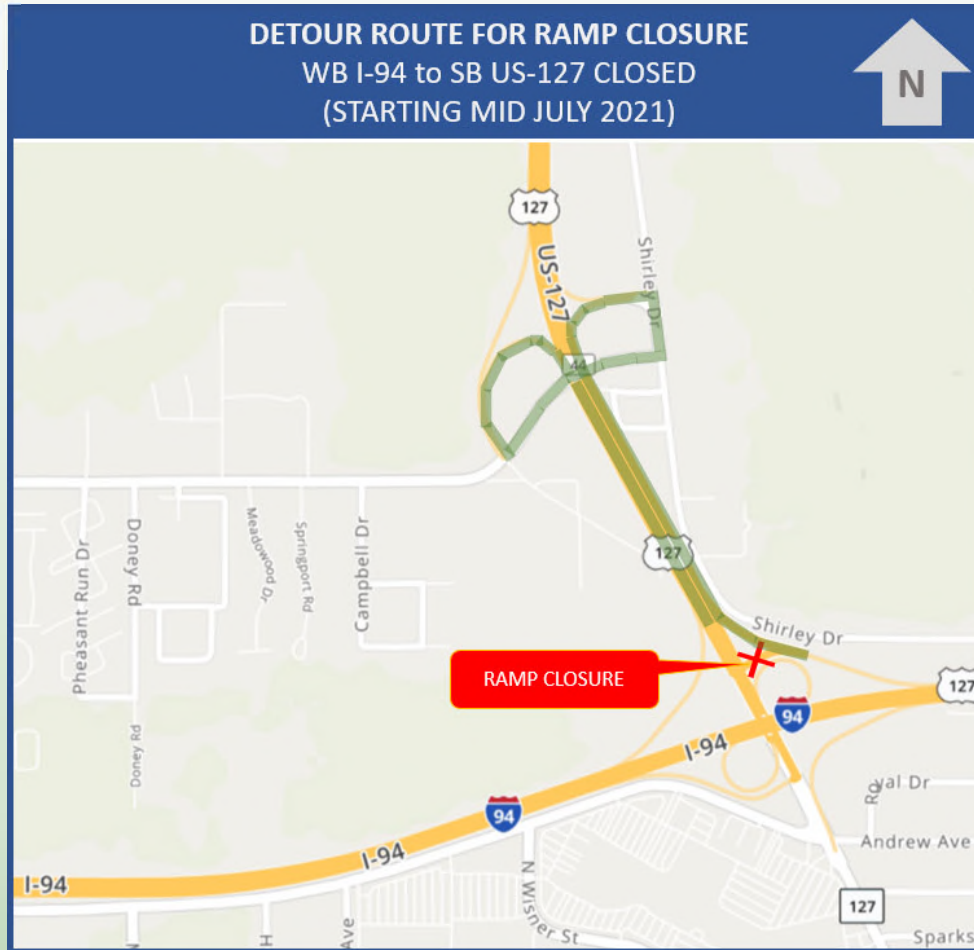
US-127 under I-94 Detour

DETOUR ROUTE FOR US-127 CLOSURE
(STARTING MID MAY 2021 – 4 TOTAL WEEKENDS)





WB I-94 to SB US-127 Detour





Elm Road Detour





www.Michigan.gov/MDOT

http://www.michigan.gov/mdot/ MDOT - Michigan Departm... x

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- Safety

News and Information

- U.S. Army TARDEC and MDOT continue partnering on advanced vehicle technology
- Four MDOT projects recognized with national awards
- MDOT carpool lot off I-75 at Adams Road closed for resurfacing Oct. 2
- Advisory: International Bridge closing to vehicle traffic during foot races
- Final Adopt-A-Highway cleanup of year starts Saturday

Stay Connected

Mi Drive
Construction & Traffic

f t y

Toward Zero Deaths
October 3, 2017

Report potholes on state roads such as: 23 75
Traffic Lane Management Project
FlexRoute23 planet
Toward Zero Deaths

Click Here!





Questions?

Send comments by 03.12.21

Use link in the Q & A room, or
email questions to:

mdot-jacksonTSC@michigan.gov

or call 517-780-7540

www.michigan.gov/i94jackson



Region 2 Planning Commission

Serving Hillsdale, Jackson and Lenawee Counties

To: Region 2 Planning Commissioners
From: Grant Bauman, Principal Planner
Date: February 25, 2021
Subject: **Sign Regulation Mandates**

U.S. Supreme Court Ruling

In *Reed v. Town of Gilbert*, the U.S. Supreme Court ruled that sign regulations must be content neutral. In other words, sign type (i.e., form) should be the basis for sign regulations rather than content. Many permanent sign regulations (e.g., free-standing/pole, monument, wall, etc.) were already based solely upon form. However, many types of temporary signs were regulated based upon content.

For example, prior to *Reed v. Gilbert*, it was permissible to regulate various types of temporary signs (e.g., political, real estate, yard/garage sale, etc.) separately. For example, time-periods were often established during which the different types of temporary signs were allowed (e.g., political signs were allowed x days prior to an election and had to be removed within y days after the election). The Supreme Court ruling, however, mandates that all signs must be based solely upon form (e.g., yard signs, sandwich boards, feather flags, etc.). Many local ordinances likely continue to regulate certain types of signs based upon content and those municipalities should amend them accordingly.

Recent 6th Circuit U.S. Court of Appeals Rulings

Most local ordinances make a distinction between on-premises and off-premises signs. An on-premises sign advertises goods and services available for sale on the property on which it is located. An off-premises sign advertises goods and services that are available for sale elsewhere. Billboards are a common type of off-premises sign.

However, in *Thomas v. Taylor*, the 6th Circuit U.S. Court of Appeals—which includes Michigan—recently ruled that the only way to determine if a sign is on-premises is to review its content, bringing the distinction in conflict with *Reed v. the Town of Gilbert*. Consequently, the January 2021 edition of *Planning & Zoning News* (Vol, 39, No.3) suggests the elimination of sign regulations that impose the on-premises/off-premises distinction. Rather, municipalities should use widely accepted regulations like height, size, and location (e.g., minimum distance between billboards).

International Outdoor, Inc., v City of Troy concerned a dispute over the erection of a billboard. The billboard regulations appear to be content neutral. However, the sign ordinance also exempted certain types of temporary signs (e.g., real estate, political, etc.). Consequently, the billboard company asserted that the entire ordinance was content-based. A three-judge panel of the U.S. Court of Appeals agreed and remanded the case back to the district court, which must apply a higher level of scrutiny to the billboard case as a result.

Conclusion

Municipalities should review their zoning/sign ordinance to determine if any sign regulations are content-based. If that proves to be true, the municipality should revise those regulations so that they are content-neutral (i.e., based on the form of the sign rather than content). Any regulations that deal separately among various types of temporary signs (e.g., political, real estate, yard/garage sale, etc.) need revision.

Municipalities should also review their zoning/sign ordinance to determine if a distinction is made between on-premises and off-premises signs. If so, billboard regulations should be limited to widely accepted regulations like height, size, and location (e.g., minimum distance between billboards), eliminating the need for a distinction between on-/off-premises.



TO: Planning Commission

FROM: Zoning Administrator

DATE: March 16, 2021

RE: 62 Park St. south to 23 W. College Rezoning Public Hearing

Background: Hillsdale College has purchased property on the west side of Park St. located at 50-52 Park St. They are proposing to construct a warehouse structure for archival storage. The existing zoning does not allow for the College's proposed use. They have requested that the property be re-zoned C-1, College District. It was propose at the February meeting that the rezoning of the properties to the north and south along the west side of Park St. also be rezoned to C-1 as they are now currently owned by the College or designated as student housing but zoned RD-1 One or Two Family Residential. The Commission voted to hold a Public Hearing at the March regular meeting.

PUBLIC NOTICE

PUBLIC HEARING

PLEASE TAKE NOTICE that the Hillsdale City Planning Commission has set a Public Hearing for March 16, 2021 at 5:30 p.m. in the Council Chambers, Hillsdale City Hall, 97 N. Broad St. to consider the proposed re-zoning of 62 Park St. south to 23 College Ave. You may view the proposed amendment in its entirety at www.city-ofhillsdale.org. Printed documents are available at the City Hall Clerk's Office upon request.

Section 36-143 of Division 1, of Article 3 of Chapter 36. The proposed rezoning of the properties at 62 Park St. south to 23 College Ave., parcels: 006-222-403-02, 006-222-403-04, 006-222-403-05, 006-222-403-06, 006-222-403-07, 006-222-403-08, 006-222-403-09.

February 24, 2021

To Whom It May Concern,

PLEASE TAKE NOTICE that the Hillsdale City Planning Commission has set a Public Hearing for March 16, 2021 at 5:30 p.m. in the Council Chambers, Hillsdale City Hall, 97 N. Broad St., Hillsdale, Michigan to consider the proposed re-zoning of west side of Park St. beginning at 62 Park St. and continuing south to 23 College Ave. The lots included are as follows:

006-222-403-02, 006-222-403-04, 006-222-403-05, 006-222-403-06, 006-222-403-07,
006-222-403-08, and 006-222-403-09.

Section 36-143 of Division 1, of Article 3 of Chapter 36. The proposed rezoning of the properties located at on the west side of Park St. beginning at 62 Park St. and continuing south to 23 College Ave. from the RD-1, One and Two Family Residential District to the C-1, College District.

The parcels are currently owned by Hillsdale College save the parcel located on the northwest corner of Park St. and College Ave. which is currently utilized as student housing. The properties to the east across Park St. and south across College Ave. are currently zoned C-1. Properties immediately adjacent to the west are zoned B-1 Local Business and RD-1.

If you have any questions or wish to discuss the rezoning, please contact the City Clerk at the City of Hillsdale or myself by phone, email or USPS.

Thank you.

Hillsdale City Clerk
97 N. Broad St.
Hillsdale, MI 49247
clerk@cityofhillsdale.org
517-437-6440

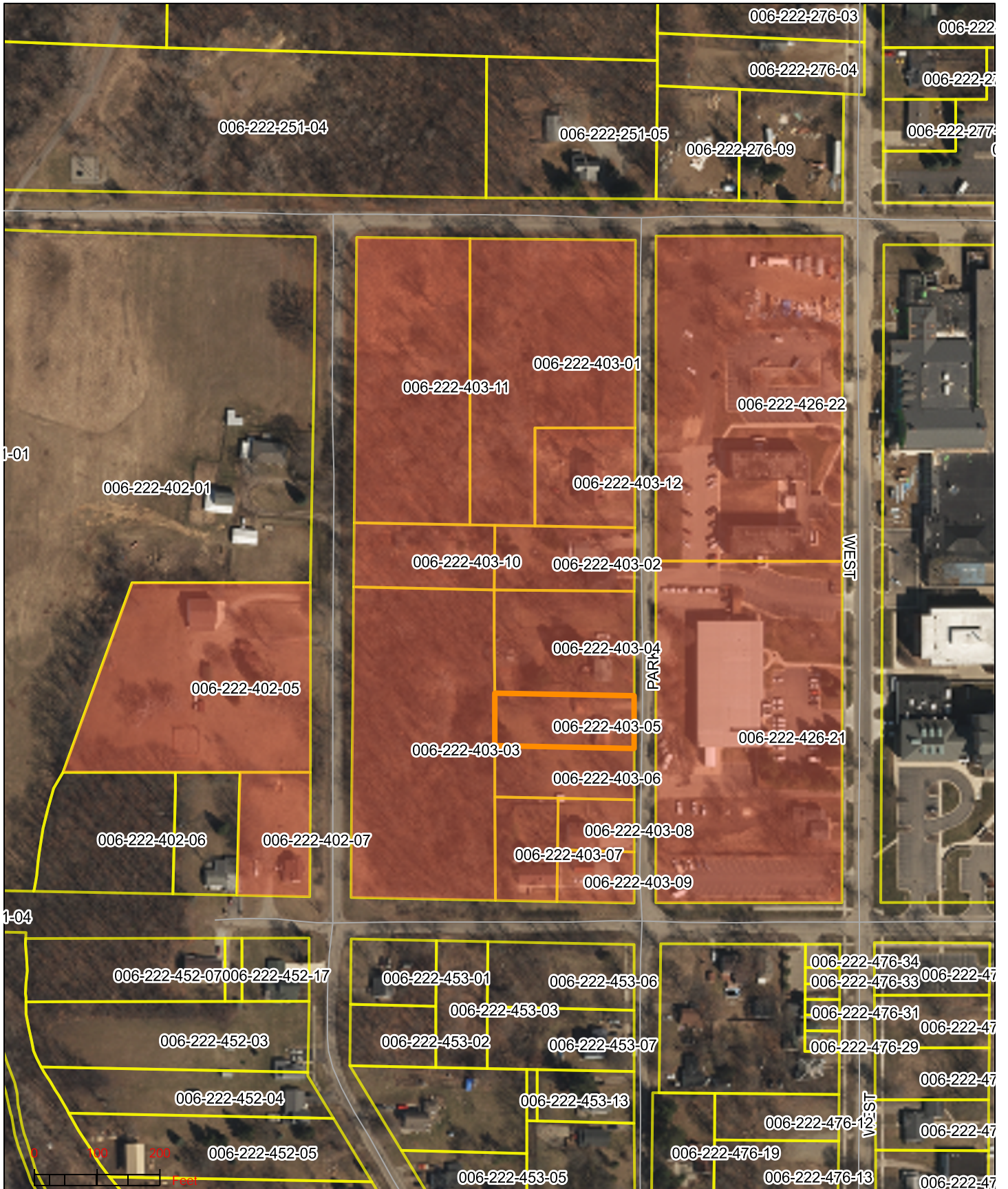
Hillsdale City Zoning Administrator
97 N. Broad St.
Hillsdale, MI 49247
planning@cityofhillsdale.org
517-437-6455

Sincerely,

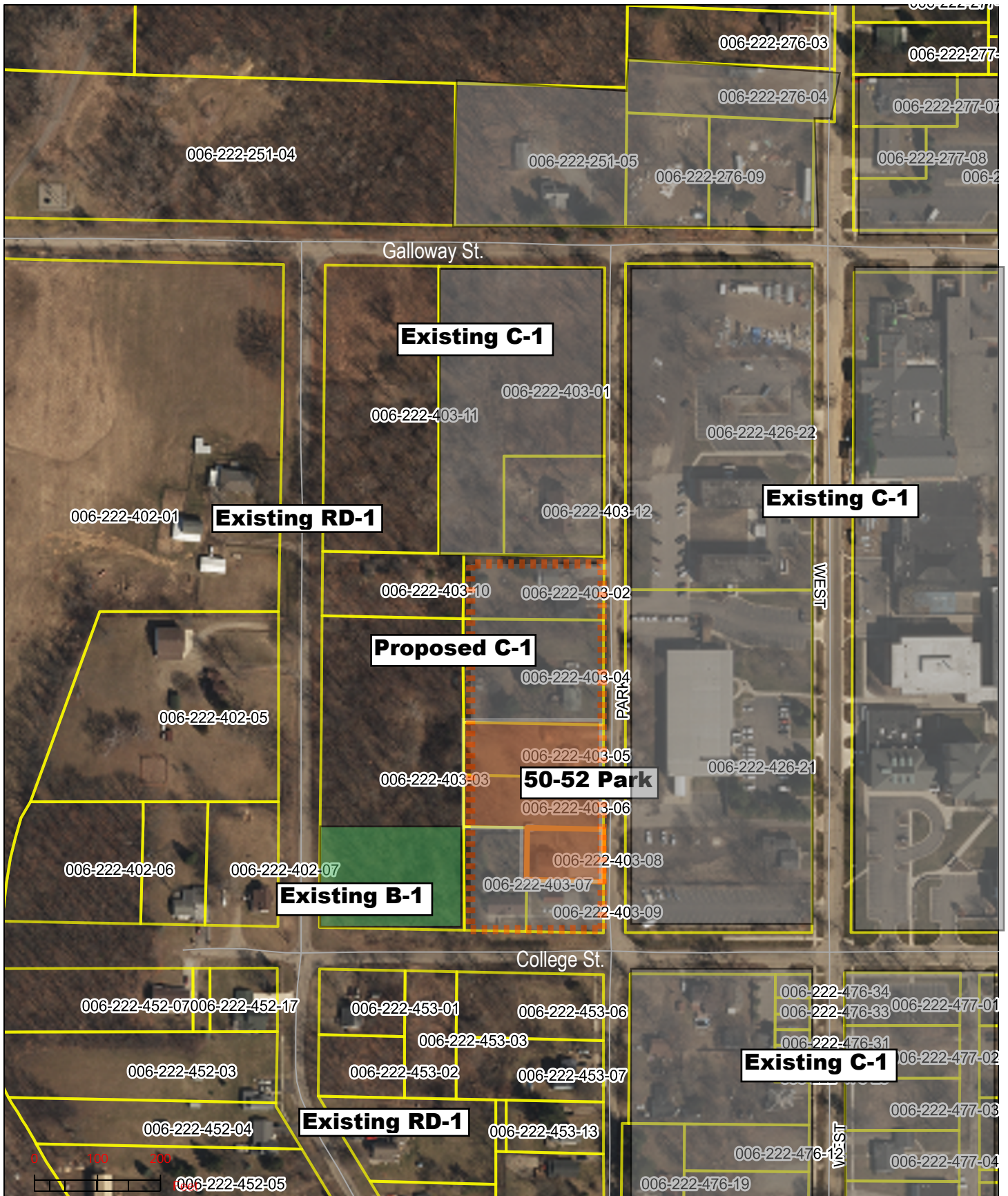


Alan C. Beeker
Planning & Zoning Administrator

NOTIFICATION EXTENTS MAP



ZONING MAP





TO: Planning Commission

FROM: Zoning Administrator

DATE: March 16, 2021

RE: 3285 W. Carleton Site Plan Review

Background: The owner of the property located at 3285 W. Carleton Rd. has submitted plans to develop a new Dairy Queen restaurant on the lot. The preliminary site drawings were submitted to the City on February 26, 2021. The preliminary site plan review with the City Departments was held on March 3, 2021. The final site plans are submitted for final approval.

March 4, 2021

Below is a list of the items cited during the meeting to review the plans of the proposed restaurant to be located at 3285 W. Carleton Road.

Present: Kristin Bauer (City Engineer), Chief Scott Hephner (Police Department), Deputy Chief Mark Hawkins (Fire Department), Jake Hammel (Dept. of Public Services), Scott Keiser (Board of Public Utilities), Alan Beeker (Planning & Zoning), Chad Culbert (Board of Public Utilities), Eric Sheffer (Board of Public Utilities), Will Morrissey (Planning Commission), Elias McConnell (Planning Commission), Scott Morrisson (Project Architect).

City Engineer

- Supply storm water calculations.
- Supply infiltration rates from perk tests
- Include note on site plan indicating that grease trap to be supplied and detailed on mechanical drawings.
- Supply Lighting and photometrics plan.
- Include plans for soil erosion control.
- Include note stating that contractor responsible for keeping M-99 free of mud and construction debris. If necessary, City will clean up roadway and charge contractor accordingly.

Public Services

- Detail and note the drive approach a MDOT “M” style.
- Call for MMUTC compliant traffic control during construction at M-99 and the bike path.
- Note that no underground irrigation is permitted in MDOT right-of-way.
- Contractor responsible for obtaining all MDOT permits
- Note bike path at approach to be 6” conc. paving.

Public Safety

- Concerned traffic entering and exiting M-99 at that location.

Board of Public Utilities

- Properly notate water line as 1 ½”
- Power to building shall be from front.

Planning/Zoning

- Items missing from plans:
 - Landscaping Plan
 - Dimensions locating building
 - Setback lines

The Planning Commission will review the drawings at the regular meeting which will be held on March 16, 2021 at 5:30 pm. The location will be at City Hall, 97 N. Broad St. in the 3rd Floor Council Chambers.



COMMERCIAL SITE PLAN REVIEW APPLICATION

Applicant Name MR. TODD HAIDOUS

Address 1200 NORTH HICKORY LANE
ANGOLA, IN. 46703

Daytime Phone (517) 617 1955
Evening Phone ()

Property Address if other than above 3285 W. CARLETON RD.

If acting as Owner Agent, notarized permission must be obtained from property owner

Agent Name SCOTT MORRISON S. ALLEN DESIGN

Address 49 A WEST CHICAGO ST.
COLDWATER, MI. 49036

Daytime Phone (517) 279-7787
Evening Phone ()

Zoning B-3

Project Estimate

\$ 590,000.00

Applicant Signature 

Date 2/25/21

Meeting Date 3/16/2021

All Site Plan Materials must be submitted along with a completed application minimum of 10 days prior to next scheduled Planning Commission meeting.

Please submit to: **City of Hillsdale**
Planning and Zoning Department
97 North Broad Street
Hillsdale, Michigan 49242
p. - 517.437.6449

Site Plan Review

Hillsdale Dairy Queen

3285 W. Carleton Rd.
 City of Hillsdale
 Hillsdale County, Michigan
 3/9/21

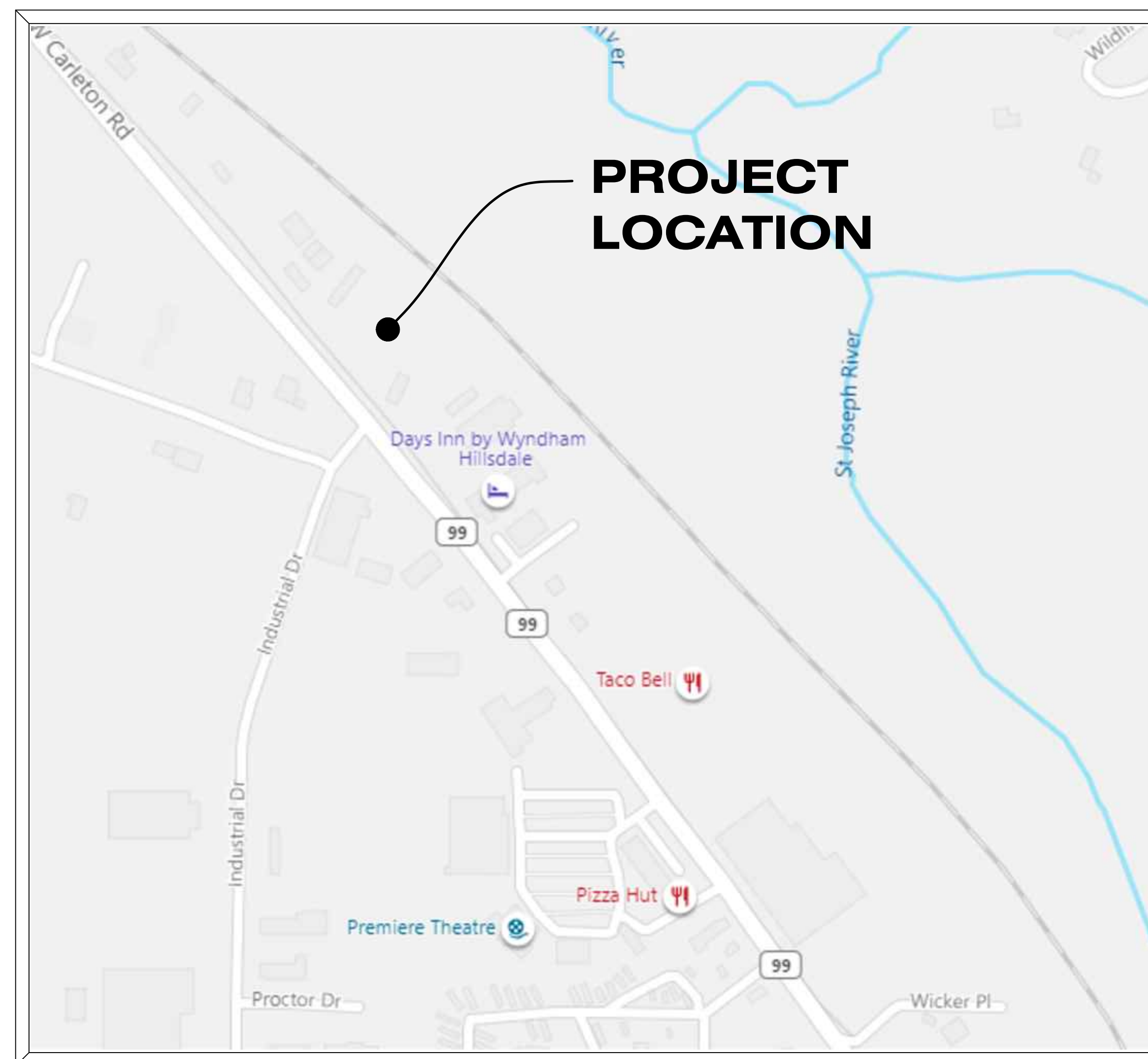
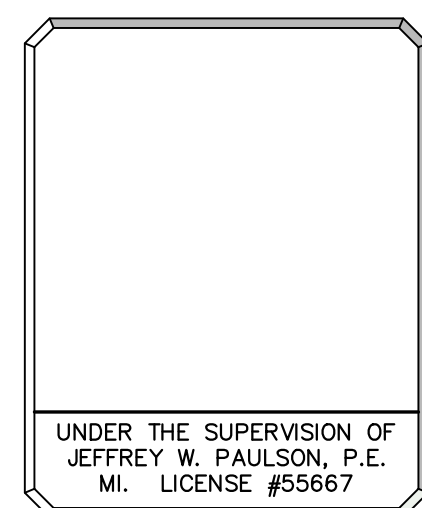
DRAWING LOCATION: H:\21-0025 (Hillsdale Dairy Queen) - FINAL EXAMINATIONS\21-0025 - Hillsdale Dairy Queen - LAST SAVE BY: PAULSON ON 3/9/21

HILLSDALE DAIRY QUEEN, ISSUED FOR SITE PLAN REVIEW, 3/8/21

PLANS PREPARED BY:

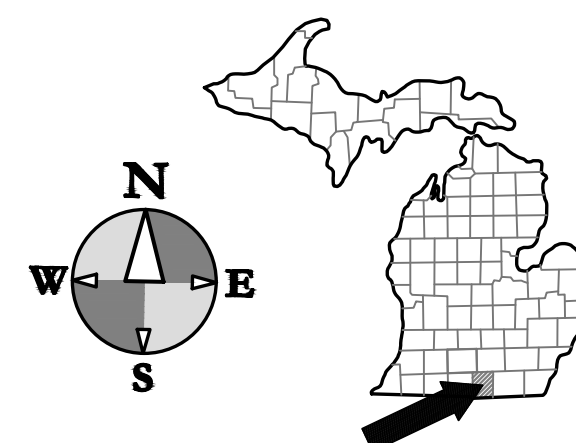


hurley & stewart, llc
 2800 s. 11th street
 kalamazoo, michigan 49009
 269.552.4960 fax 269.552.4961
 www.hurleystewart.com



SITE LOCATION MAP

SCALE: 1" = 500'



DRAWING INDEX

SHT # DESCRIPTION

- TITLE SHEET**
- C-1 - EXISTING CONDITIONS**
- C-2 - DEMOLITION PLAN**
- C-3 - SITE LAYOUT PLAN**
- C-4 - UTILITY PLAN**
- C-5 - GRADING - SESC PLAN**
- C-6 - SITE DETAILS**
- L-1 - LANDSCAPE PLAN**
- A3.1 - EXTERIOR ELEVATIONS**
- E3.2 - SITE PHOTOMETRIC**



EXISTING TOPOGRAPHY PROVIDED BY HURLEY & STEWART, LLC. ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.

PRELIMINARY
 NOT FOR CONSTRUCTION

ISSUED FOR:
 SITE PLAN REVIEW
 3/8/21

SURVEYOR'S NOTES

1. BASIS OF BEARINGS: MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83
2. CONTOUR INTERVAL = 1 FOOT
3. UTILITIES SHOWN ARE BASED ON FIELD LOCATION OF SURFACE EVIDENCE AND RECORDS PROVIDED BY OTHERS. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE. ADDITIONAL UTILITIES MAY BE ENCOUNTERED, PRIOR TO ANY EXCAVATION THE CONTRACTOR SHALL CALL MISS DIG AT 1-800-452-7171.
4. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THE LAND DEPICTED IN THIS SURVEY LIES IN ZONE X, MAP 26050150D, EFFECTIVE DATE 02/19/2014 PER ALTA SURVEY BY LODZINSKI & ASSOCIATES, LLC JOB #20s01493 DATED 10/05/2020.
5. NO WETLANDS ON SITE PER THE NATIONAL WETLANDS INVENTORY. A DELINEATION OF THE WETLANDS BY A QUALIFIED CONSULTANT WAS NOT PERFORMED AT THE TIME OF SURVEY.
6. LEGAL DESCRIPTION WAS PROVIDED PER ALTA SURVEY BY LODZINSKI & ASSOCIATES, LLC JOB #20s01493 DATED 10/05/2020.
7. EASEMENTS ARE SHOWN PER ALTA SURVEY BY LODZINSKI & ASSOCIATES, LLC JOB #20s01493 DATED 10/05/2020.
8. THIS IS NOT A BOUNDARY SURVEY.
9. PARCEL CONTAINS 1.82± ACRES (79,108± SQFT).
10. AT THE TIME OF SURVEY SNOW WAS COVERING THE GROUND. SNOW COVER AND PLOWED SNOW MAY HAVE OBSTRUCTED SOME SITE FEATURES.

LEGEND

<ul style="list-style-type: none"> BM (X) BENCH MARK SET MONUMENT FOUND MONUMENT SET CAPPED IRON LIC. # 57885 FOUND IRON SET CHISELED "X" FOUND CHISELED "X" CP # CONTROL POINT P= PLATTED D= DESCRIBED M= MEASURED R= RECORD C= CALCULATED CURB CATCH BASIN SQUARE CATCH BASIN ROUND CATCH BASIN MANHOLE STORM DOWN SPOUT YARD DRAIN FLARED END SECTION MANHOLE SANITARY SANITARY CLEANOUT FIRE HYDRANT FIRE DEPARTMENT CONNECTION WATER VALVE WATER METER WELL HEAD SPRINKLER CONTROL VALVE SPRINKLER HEAD MONITOR WELL POST INDICATOR VALVE SPIGOT TRANSFORMER YARD LIGHT HAND HOLE (ELECTRIC) LIGHT POLE (UTILITY, GUY, POWER) POLE GUY WIRE ELECTRIC MANHOLE ELECTRIC METER AIR CONDITIONER GAS METER GAS VALVE TELEPHONE MANHOLE COMMUNICATION MANHOLE 	<ul style="list-style-type: none"> RISER PIPE MARKER COMMUNICATIONS PIPE MARKER FIBEROPTICS PIPE MARKER ELECTRIC PIPE MARKER GAS SIGN (SINGLE/DOUBLE) MAILBOX PARKING METER (SINGLE/DOUBLE) POST SOIL BORING FLAG COLUMN BOLLARD CONTOUR HIGHLIGHTED CONTOUR NORMAL POWER LINE MISS DIG COMMUNICATION MISS DIG ELECTRIC MISS DIG FIBEROPTIC MISS DIG GAS MISS DIG SANITARY SEWER MISS DIG STORMWATER MISS DIG TELEPHONE MISS DIG WATER WETLAND MARKER MISS DIG UNKNOWN TREE LINE FENCE GUARD RAIL DECIDUOUS TREE CONIFEROUS TREE BUSH PAVEMENT CONCRETE SURFACE ADA RAMP BUMPS GRAVEL LANDSCAPING PAVERS
---	--

**SCHEDULE "A" LEGAL DESCRIPTION
PER ALTA SURVEY BY LODZINSKI & ASSOCIATES, LLC JOB #20s01493
DATED 10/05/2020.**

LEGAL DESCRIPTION PER METROPOLITAN TITLE OF INDIANA, LLC, COMMITMENT NO. 4041-166607, REVISION: 1ST AMENDED, EFFECTIVE DATE SEPTEMBER 22, 2020 AT 8:00 AM

THE LAND REFERRED TO IN THIS COMMITMENT, SITUATED IN THE COUNTY OF HILLSDALE, CITY OF HILLSDALE, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:

LEGAL DESCRIPTION PER DEED:

A PARCEL OF LAND BEING A PART OF THE SOUTHEAST 1/4 OF SECTION 16 AND PART OF THE SOUTHWEST 1/4 OF SECTION 15, TOWN 6 SOUTH, RANGE 3 WEST, MORE PARTICULARLY DESCRIBED AS:

COMMENCING AT THE SOUTHEAST CORNER OF SECTION 16, TOWN 6 SOUTH RANGE 3 WEST; THENCE NORTH ALONG THE EAST LINE OF SAID SECTION 16 A DISTANCE OF 861.76 FEET TO THE TANGENT OF THE CENTERLINE OF PAVEMENT CURVE, CONCAVE TO SOUTH OF HIGHWAY M-99; THENCE NORTH 69°37' WEST A DISTANCE OF 308.2 FEET TO THE POINT OF BEGINNING; THENCE NORTH 69°37' WEST ALONG THE CENTERLINE OF SAID PAVEMENT A DISTANCE OF 200.00 FEET; THENCE NORTH 29°49' EAST A DISTANCE OF 729.1 FEET TO THE SOUTHWESTERLY LINE OF THE EXISTING NEW YORK CENTRAL RAILROAD RIGHT OF WAY; THENCE SOUTH 48°35' EAST ALONG SAID RAILROAD RIGHT OF WAY LINE A DISTANCE OF 201.25 FEET; THENCE SOUTH 29°49' WEST A DISTANCE OF 655.8 FEET TO THE POINT OF BEGINNING

EXCEPTING THEREFROM LAND DEEDED TO THE STATE OF MICHIGAN AS SET FORTH IN LIBER 446 OF DEEDS, PAGE 627, HILLSDALE COUNTY RECORDS.

SUGGESTED DESCRIPTION FROM RINGENBERG 1987 SURVEY:

A PARCEL OF LAND BEING A PART OF THE SOUTHEAST 1/4 OF SECTION 16 AND PART OF THE SOUTHWEST 1/4 OF SECTION 15, TOWN 6 SOUTH, RANGE 3 WEST, CITY OF HILLSDALE, HILLSDALE COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS:

COMMENCING AT THE NORTHEAST CORNER OF LOT 1 JACOB BECK SUBDIVISION AS RECORDED IN LIBER 6, PAGE 8 OF PLATS, HILLSDALE COUNTY, MICHIGAN RECORDS; THENCE SOUTH 301°2'00" WEST ALONG THE EASTERLY LINE OF SAID LOT 1, 45.87 FEET TO THE NORTHEASTERLY RIGHT OF WAY OF STATE HIGHWAY M-99; THENCE SOUTH 391°7'26" EAST, ALONG THE NORTHERLY RIGHT OF WAY OF STATE HIGHWAY M-99, 157.86 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 391°7'26" EAST, ALONG SAID RIGHT OF WAY 217.89 FEET; THENCE NORTH 29°18'51" EAST 410.84 FEET TO THE SOUTHWESTERLY RIGHT OF WAY OF THE NEW YORK CENTRAL RAILROAD; THENCE ALONG THE ARC OF A CURVE BEARING TO THE LEFT (RADIUS 5950.00 FEET, CHORD BEARING NORTH 47°31'36" WEST, CHORD DISTANCE 202.35 FEET) AN ARC DISTANCE OF 202.36 FEET; THENCE SOUTH 301°2'00" WEST 377.47 FEET TO THE POINT OF BEGINNING.

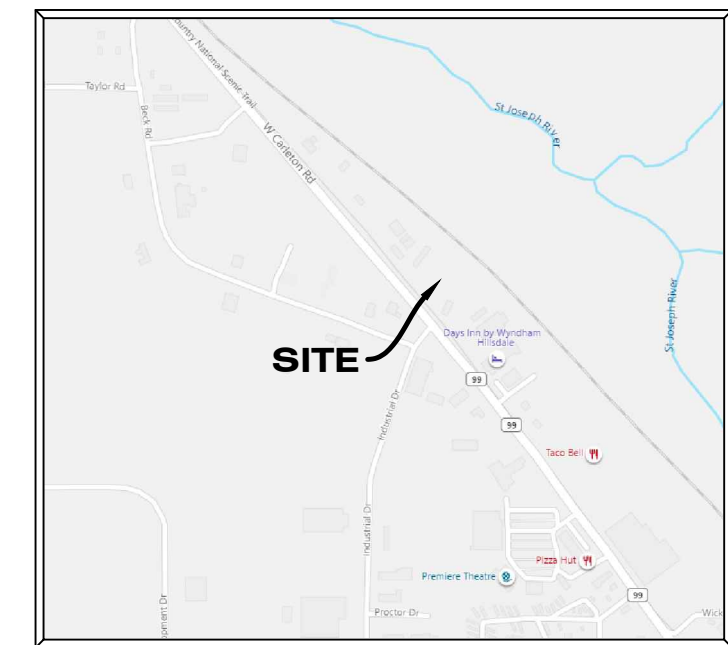
LEGAL DESCRIPTION NON-EXCLUSIVE ACCESS EASEMENT

AN ACCESS EASEMENT BEING A PART OF THE SOUTHEAST 1/4 OF SECTION 16, TOWN 6 SOUTH, RANGE 3 WEST, CITY OF HILLSDALE, HILLSDALE COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS:

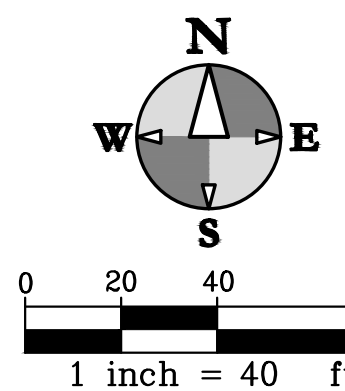
COMMENCING AT THE NORTHEAST CORNER OF LOT 1 JACOB BECK SUBDIVISION AS RECORDED IN LIBER 6 PAGE 8 OF PLATS, HILLSDALE COUNTY, MICHIGAN RECORDS; THENCE SOUTH 301°2'00" WEST ALONG THE EASTERLY LINE OF SAID LOT 1, 45.87 FEET TO THE NORTHEASTERLY RIGHT OF WAY OF STATE HIGHWAY M-99; THENCE SOUTH 391°7'26" EAST, ALONG THE NORTHERLY RIGHT OF WAY OF STATE HIGHWAY M-99, 157.86 FEET TO THE POINT OF BEGINNING; THENCE NORTH 301°2'00" EAST 377.47 FEET TO THE SOUTHWESTERLY RIGHT OF WAY OF THE NEW YORK CENTRAL RAILROAD; THENCE ALONG THE ARC OF A CURVE BEARING TO THE RIGHT (RADIUS 5950.00 FEET, CENTRAL ANGLE 0°08'40"; CHORD BEARING SOUTH 48°25'44" EAST, CHORD DISTANCE 15.00 FEET); THENCE SOUTH 301°7'56" WEST 379.76 FEET TO THE NORTHEASTERLY RIGHT OF WAY OF STATE HIGHWAY M-99; THENCE NORTH 391°7'26" WEST, ALONG SAID NORTHEASTERLY RIGHT OF WAY OF HIGHWAY M-99, 15.00 FEET TO THE POINT OF BEGINNING.

**SCHEDULE B SECTION II EXCEPTIONS
PER ALTA SURVEY BY LODZINSKI & ASSOCIATES, LLC JOB #20s01493
DATED 10/05/2020.**

7 SUBJECT TO A NON-EXCLUSIVE ACCESS EASEMENT AS DISCLOSED BY A SURVEY PREPARED BY LODZINSKI & ASSOCIATES, LLC., DATED 08/14/2020, JOB NO. 20s01493



**SECTION 15, TOWN 06 S, RANGE 03 W,
CITY OF HILLSDALE, HILLSDALE COUNTY,
MICHIGAN
3285 W CARLETON RD**



SURVEY CONTROL

CP 1 N = 5000.00	E = 5000.00	EL = 1098.66
CP 2 N = 4949.05	E = 4992.90	EL = 1099.09
CP 3 N = 5207.76	E = 5085.38	EL = 1086.76

BENCHMARKS

ELEVATIONS OF THIS SURVEY ARE BASED ON NAVD 88 AS DERIVED FROM GPS

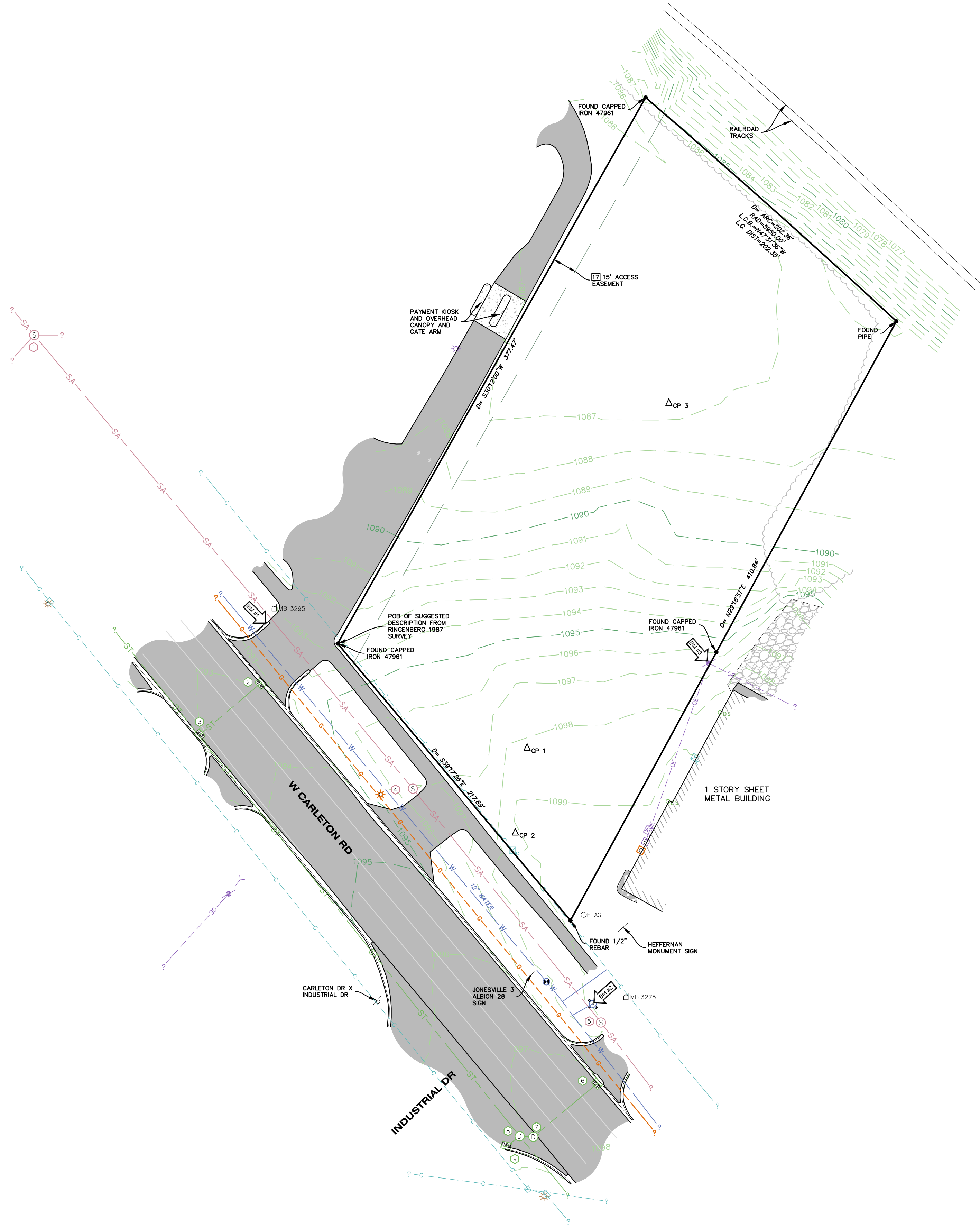
BM 1 EL = 1093.69
BOX CUT IN TOP OF CURB ON NORTHEAST SIDE OF CARLETON RD.

BM 2 EL = 1100.00
CHISELED X IN NORTHEAST BOLT OF HYDRANT ON NORTHEAST SIDE OF CARLETON RD.

BM 3 EL = 1098.00
SPIKE IN NORTH FACE OF UTILITY POLE 221± NORTHEAST OF CARLETON RD.

STRUCTURE DATA

- ① 4.0' CONCRETE SAN MH
RIM = 1088.14
DROP STRUCTURE
INV. NW 15" PVC = 1074.84
INV. SE 10" PVC = 1082.15±
INV. SW 10" PVC = 1074.84
INV. E PVC = 1074.79
INV. SE 10" PVC = 1075.14
- ② 2.0' CONCRETE STM CB
RIM = 1092.84
INV. SW 12" RCP = 1089.04
SEDIMENT = 1088.94
- ③ 4.0' CONCRETE STM CB
RIM = 1092.78
INV. NE 12" RCP = 1088.43
INV. W 4" PVC = 1091.48
INV. NW 12" RCP = 1088.38±
INV. E 6" IRON = 1089.13±
SEDIMENT = 1088.23
- ④ 4.0' CONCRETE SAN MH
RIM = 1097.06
INV. NW 10" PVC = 1082.77
INV. SE 10" PVC = 1082.67
- ⑤ 4.0' CONCRETE SAN MH
RIM = 1098.94
INV. NW 10" PVC = 1083.49
INV. SE 10" PVC = 1083.59
- ⑥ 2.0' CONCRETE STM CB
RIM = 1097.18
INV. SW 12" RCP = 1094.53±
SUMP = 1094.88
- ⑦ 4.0' CONCRETE STM MH
RIM = 1097.15
INV. W 12" RCP = 1092.55
INV. NE 12" RCP = 1092.65±
INV. E 6" IRON = 1092.6
SEDIMENT = 1092.6
- ⑧ 4.0' CONCRETE STM MH
RIM = 1096.91
INV. NW 24" RCP = 1088.91
INV. SE 24" RCP = 1088.81
INV. E 12" RCP = 1092.26±
INV. SW 12" RCP = 1092.61
SUMP = 1088.86
- ⑨ 2.0' CONCRETE STM CB
RIM = 1096.67
INV. NE 12" RCP = 1093.72
SUMP = 1093.67



MISS DIG DESIGN TICKET DATA

AT&T - C. ANIKA ESTES 248-454-2998 - MAPS PROVIDED - 01/26/21
CITY OF HILLSDALE - BRANDON R. JOHNS BJOHNS@HILLSDALEMI.COM - MAPS PROVIDED - 01/26/21
CONSUMERS ENERGY - KURT GOLDING 517-374-2002 - NO RESPONSE
COMCAST - CRAIG PUDAS 248-808-2715 - NO RESPONSE
MICHIGAN GAS UTILITIES - NATHAN LEE 517-278-3524 - NO RESPONSE



**EXISTING CONDITIONS
HILLSDALE DAIRY QUEEN
S. ALLEN DESIGN**

Sheet Title:
Project:
Client:

3/9/21
Sheet

C-1

hurley & stewart, llc
2800 s. 11th street
kalamazoo, michigan 49009
269.552.4960 fax 269.552.4961
www.hurleystewart.com

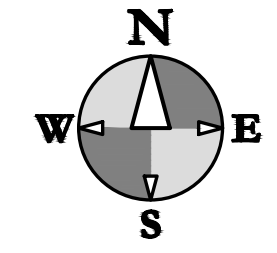
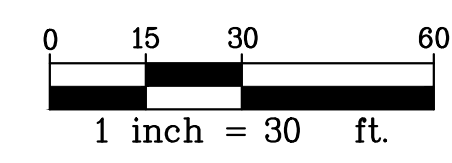
Job No. 21-010D	P.M. JWP	Draft Title	04/09/21
ISSUED FOR REVISIONS:			
1	PRELIMINARY LAYOUT FOR REVIEW	2/10/21	
2	PRELIMINARY DESIGN	2/25/21	
3	FINAL REVIEW	3/5/21	
4	SITE PLAN REVIEW	3/8/21	

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DRAWING LOCATION: H:\V1\0109 (Hillsdale Dairy Queen)\FINAL DRAWINGS\C-2 Demolition Plans.dwg LAST SAVE BY: MICHAELSON ON 2/25/21

REMOVAL NOTES

1. REVIEW ALL THE REMOVALS AND PROTECTION WITH OWNER PRIOR TO COMMENCING CONSTRUCTION. INSTALL TEMPORARY SNOW FENCE AROUND ALL TREES REQUIRING PROTECTION. SNOW FENCE SHALL BE PLACED AT EDGE OF DRIP LINE.
2. SAWCUT ALL CURB, SIDEWALK, AND PAVEMENTS PRIOR TO REMOVAL. ADDITIONAL SAWCUT MAY BE NECESSARY PRIOR TO REPLACEMENT TO ENSURE CLEAN EDGE.
3. ALL REMOVALS SHALL BE TAKEN OFF-SITE AND DISPOSED OF. NO STOCKPILE OR BURNING OF DEBRIS IS ALLOWED.
4. COMPLY WITH ALL ASPECTS OF THE SOIL EROSION CONTROL PERMIT AS ISSUED BY _____. ALL TEMPORARY CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION.
5. ALL REMOVALS SHALL BE TO THE LIMITS INDICATED ABOVE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. UNAUTHORIZED REMOVALS AND SUBSEQUENT REPLACEMENT SHALL BE AT THE CONTRACTOR'S EXPENSE.
6. REMOVE, STORE, AND RESET ANY EXISTING SIGNS AS DIRECTED BY THE ENGINEER/OWNER.
7. REMOVE ALL TREES TO THE CLEARING LIMITS AS SHOWN. REMOVE ALL EXISTING TREES, STUMPS AND BRUSH FROM THE SITE AS NECESSARY TO CONSTRUCT THE IMPROVEMENTS.
8. REVIEW CLEARING LIMITS WITH OWNER PRIOR TO COMMENCING WORK. PRESERVE TREES WHERE INDICATED.
9. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS BECOME APPARENT, THESE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION OF ANYTHING AFFECTED SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
10. FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL CALL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.



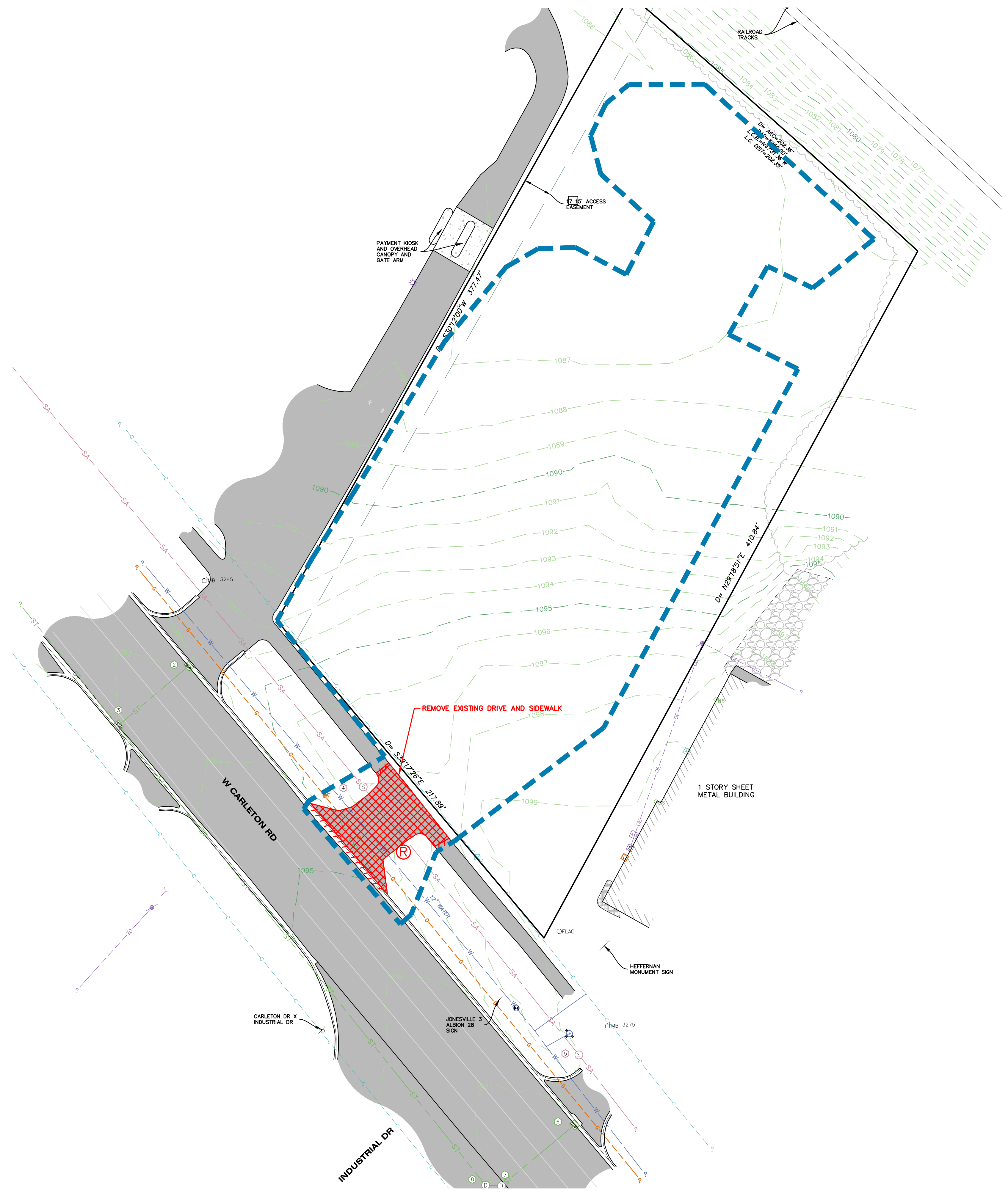
**SECTION 15, TOWN 06 S, RANGE 03 W,
CITY OF HILLSDALE, HILLSDALE COUNTY,
MICHIGAN
3285 W CARLETON RD**

LEGEND

- 720- EXISTING CONTOUR HIGHLIGHTED
- 719- EXISTING CONTOUR NORMAL
- SA- EXISTING SANITARY SEWER
- ST- EXISTING STORM SEWER
- C- EXISTING CATV
- OE- EXIST ELEC (OVERHEAD)
- UE- EXIST ELEC (UNDERGROUND)
- F- EXISTING FIBEROPTIC CABLE
- G- EXISTING GAS
- T- EXISTING TELEPHONE
- W- EXISTING WATER MAIN
- X- EXISTING TREE LINE
- X- EXISTING FENCE
- ⊕ GAS METER
- ⊕ TELEPHONE MANHOLE
- ⊕ TELEPHONE PEDESTAL SIGN
- ⊕ MAILBOX
- ⊕ CURB CATCH BASIN
- ⊕ SQUARE CATCH BASIN
- ⊕ ROUND CATCH BASIN
- ⊕ MANHOLE STORM
- ⊕ MANHOLE SANITARY
- ⊕ SANITARY CLEANOUT
- ⊕ FIRE HYDRANT
- ⊕ WATER VALVE
- ⊕ WATER VALVE IN VAULT
- ⊕ WATER METER
- ⊕ WATER REDUCER
- ⊕ LIGHT POLE
- ⊕ POWER POLE
- ⊕ GUY WIRE
- ⊕ ELECTRIC MANHOLE
- ⊕ ELECTRIC METER
- ⊕ BENCH MARK
- ⊕ POST/BOLLARD

REMOVALS LEGEND

- X-X-X-X-X- CURB REMOVAL
- /-/-/-/- SAWCUT
- X-X-X-X-X- PAVEMENT/SIDEWALK REMOVAL
- X-X-X-X-X- BUILDING DEMOLITION
- X-X-X-X-X- UTILITY LINE REMOVAL
- ⊕ TREE REMOVAL
- ⊕ REMOVE
- ⊕ SALVAGE
- - - - - LIMITS OF CONSTRUCTION



ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.
FIELD WORK PERFORMED BY:
LANDTECH PROFESSIONAL SURVEYING

hurley & stewart, llc
2800 s. 11th street
kalamazoo, michigan 49009
269.552.4960 fax 269.552.4961
www.hurleystewart.com

Job No.: 21-010D P.M./JWP - Drfl - 0A/OC: 3/9/21
ISSUED FOR REVISIONS:

1	PRELIMINARY LAYOUT FOR REVIEW	2/10/21
2	PRELIMINARY DESIGN	2/25/21
3	FINAL REVIEW	3/5/21
4	SITE PLAN REVIEW	3/8/21

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**DEMOLITION PLAN
HILLSDALE DAIRY QUEEN
S. ALLEN DESIGN**

Sheet Title:
Project:
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3/9/21
Sheet

C-2

ZONING REQUIREMENTS

ZONING
 THE SITE IS ZONED B-3 (GENERAL BUSINESS)
 SETBACKS: FRONT - BUILDING = 40'
 - PARKING = 20'
 - TRASH ENCLOSURE = 40'
 - ROAD SIGN = 5'
 SIDES - ROAD SIGN = 5'
 HEIGHT OF STRUCTURE = 35'

PROPOSED USE
 DINING ESTABLISHMENT

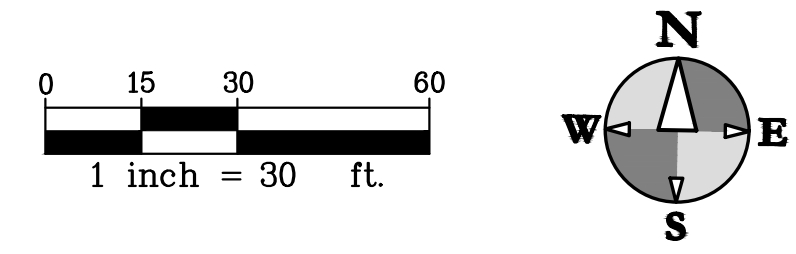
PARKING
 TOTAL PARKING SPACES REQUIRED:
 1 SPACES PER 100 USABLE FLOOR AREA
 2,800 SFT / 100 SFT = 28 SPACES

TOTAL PARKING PROVIDED = 34 SPACES
 BARRIER FREE SPACES REQUIRED = 2
 BARRIER FREE SPACES = 2 PROVIDED
 ALL BARRIER FREE SPACES DESIGNED PER ADA REQUIREMENTS

TYPICAL PARKING SPACE DIMENSION = 9'x20'

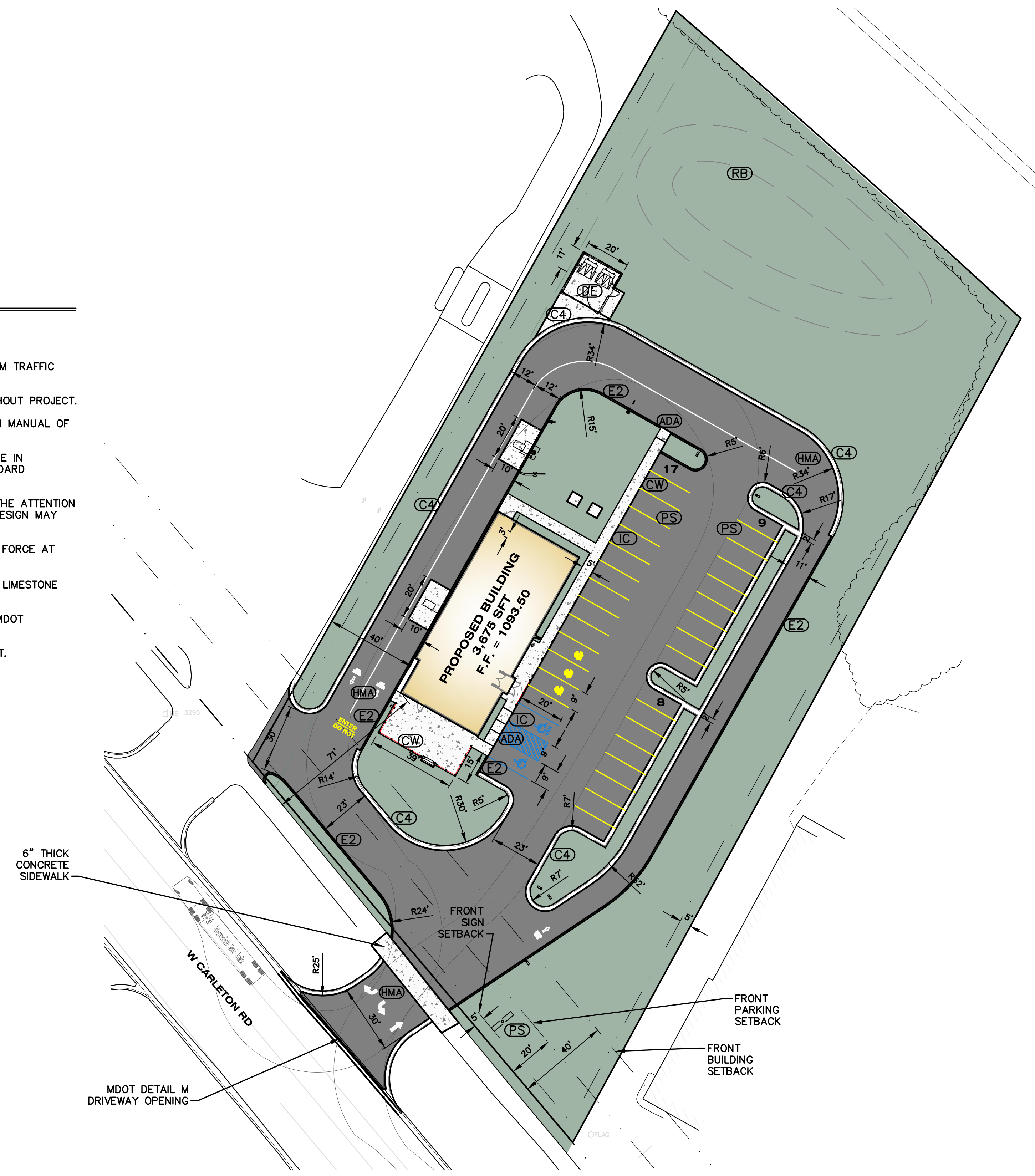
BUILDING INFORMATION
 THE PROPOSED BUILDING HAS A 3,675 SQ. FT. FIRST FLOOR
 SEE FLOOR PLAN AND ELEVATIONS FOR MORE DETAIL.

- NOTES**
1. ALL DIMENSIONS SHOWN ARE TO THE EDGE OF METAL.
 2. PROVIDE CURB CUTS/RAMPS AT ALL BARRIER FREE ACCESS POINTS.
 3. PAVEMENT MARKINGS AND SIGNAGE SHALL CONFORM TO THE CURRENT MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND MICHIGAN BARRIER FREE CODE.
 4. MATCH EXISTING CURB & GUTTER SECTIONS WHEN CONNECTING TO THEM. CONDITIONS VARY THROUGHOUT PROJECT.
 5. ALL SIGNAGE AND STRIPING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
 6. EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AND CITY OF HILLSDALE STANDARDS SPECIFICATIONS.
 7. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS BECOME APPARENT, THESE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION OF ANYTHING AFFECTED SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
 8. ALL WORK SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS IN FORCE AT THE TIME OF CONSTRUCTION.
 9. ALL EXTERIOR CONCRETE SHALL BE MDOT GRADE P1 (4,000PSI), DEEP COAL COLOR, AIR ENTRAINED, LIMESTONE AGGREGATE, BROOM FINISHED, CURING SEAL.
 10. ALL VEHICULAR AND PEDESTRIAN TEMPORARY TRAFFIC CONTROL SHALL COMPLY WITH MMUTCD AND MDOT STANDARDS.
 11. CONTRACTOR SHALL OBTAIN MDOT ROW PERMIT PRIOR TO APPLYING FOR HILLSDALE DRIVEWAY PERMIT.



- SITE LEGEND**
- (HMA) HMA PAVEMENT
 - (C4) B4 CURB AND GUTTER
 - (IC) INTEGRAL CURB WALK
 - (CW) CONCRETE WALK
 - (CS) CONCRETE SURFACE
 - (PS) PARKING STRIPING (9'x20')
 - (ADA) ADA RAMP (SEE DETAIL)
 - (RB) RETENTION BASIN
 - (PS) PROPOSED SIGN
 - (E2) E2 CURB (SEE DETAIL)
 - (DE) DUMPSTER ENCLOSURE (SEE DETAIL)

- LEGEND**
- [Light Gray Box] LIGHT DUTY HMA PAVEMENT
 - [Dark Gray Box] STANDARD DUTY HMA PAVEMENT
 - [Hatched Box] HEAVY DUTY HMA PAVEMENT
 - [White Box with Dashed Line] CONCRETE SIDEWALK
 - [Cross-hatched Box] HEAVY DUTY CONCRETE PAVEMENT
 - [Double Line] CONCRETE CURB AND GUTTER TYPE VARIES



hurley & stewart, llc
 2800 s. 11th street
 kalamazoo, michigan 49009
 269.652.4960 fax 269.552.4961
 www.hurleystewart.com

Job No.: 21-010D P.M.A.I.P.P. DRH:TR:QA/QC:3/9/21

ISSUED FOR/REVISIONS:

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2	PRELIMINARY DESIGN	2/25/21
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4	SITE PLAN REVIEW	3/8/21

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SITE LAYOUT PLAN
HILLSDALE DAIRY QUEEN
S. ALLEN DESIGN

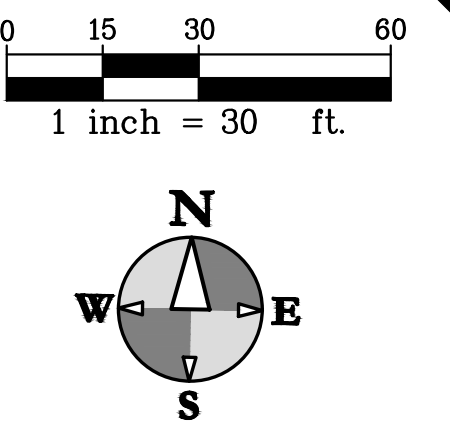


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 FIELD WORK PERFORMED BY:
 HURLEY & STEWART

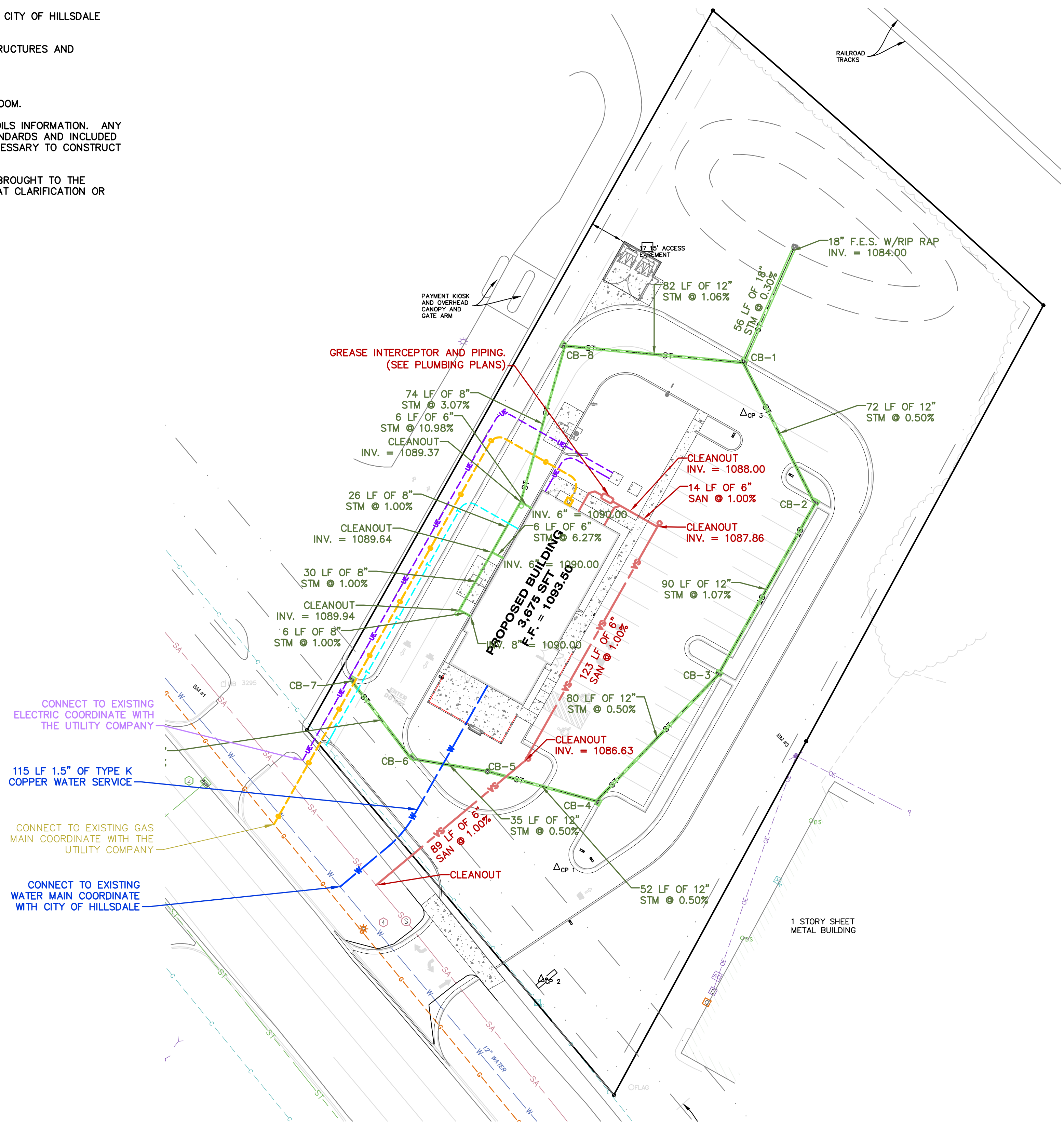
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 3/9/21
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C-3

UTILITY NOTES

1. PLACE SANITARY CLEANOUT EVERY 100' AND/OR AT BENDS ON ALL 6" SANITARY SEWER LEADS.
2. ALL STRUCTURE CASTINGS TO BE EAST JORDAN IRON WORKS OR APPROVED EQUAL. SEE STRUCTURE TABLE FOR SPECIFIC CASTING AT EACH STRUCTURE.
3. STORM SEWERS SHALL BE CONCRETE C76-III, SOLID WALL ADS N-12 RIGID PIPE MEETING AASHTO M-294, TYPE S, OR APPROVED EQUAL INSTALLED PER THE REQUIREMENTS OF MDOT. MANDREL TESTING SHALL BE PERFORMED PRIOR TO PAVING. USE CONCRETE PIPE WHERE INDICATED.
4. THE CONTRACTOR SHALL INSTALL PEDESTRIAN FENCE AROUND ALL EXCAVATIONS TO BE LEFT OPEN OVERNIGHT AS REQUIRED.
5. COORDINATE ALL UTILITY LOCATIONS AND ELEVATIONS WITH MECHANICAL DRAWINGS AND BUILDING CONTRACTOR PRIOR TO INSTALLATION.
6. REMOVE SEDIMENT FROM ALL STRUCTURES ONCE PAVING IS COMPLETE AND REMOVE SILT SACKS.
7. WATER MAIN AND SANITARY SEWER MATERIALS AND INSTALLATION SHALL COMPLY WITH CITY OF HILLSDALE REQUIREMENTS.
8. VERIFY LOCATION AND ELEVATION OF EXISTING SANITARY LEAD PRIOR TO ORDERING STRUCTURES AND CONSTRUCTION.
9. SEE SITE ELECTRICAL PLAN FOR LOCATION OF ALL ELECTRICAL SLEEVES AND CONDUIT.
10. WATER METER FOR PROPOSED BUILDING SHALL BE LOCATED INSIDE THE MECHANICAL ROOM.
11. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR GROUNDWATER AND SOILS INFORMATION. ANY UTILITIES REQUIRING DEWATERING SHALL BE INSTALLED TO THE CITY OF HILLSDALE STANDARDS AND INCLUDED IN THE INSTALLATION COSTS. CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING NECESSARY TO CONSTRUCT UTILITIES IN THE DRY.
12. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS BECOME APPARENT, THESE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION OF ANYTHING AFFECTED SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.



STORM SEWER STRUCTURE SCHEDULE					
STR. #	RIM EL.	DIAM.	CASTING	PIPES IN:	PIPES OUT
CB-1	1089.40	4'	7045 M1	12" W: 1085.90 12" SE: 1085.72	18" NE: 1084.17
CB-2	1089.58	4'	7045 M1	12" SW: 1086.08	12" NW: 1086.08
CB-3	1091.51	4'	7045 M1	12" SW: 1087.04	12" NE: 1087.04
CB-4	1092.56	4'	7045 M1	12" W: 1087.44	12" NE: 1087.44
CB-5	1091.80	4'	6508	12" W: 1087.70	12" E: 1087.70
CB-6	1093.70	4'	7045 M1	12" NW: 1087.88	12" E: 1087.88
CB-7	1091.60	4'	7045 M1		12" SE: 1088.10



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Job No.: 21-010D P.M.A./M.P. D.H.: SA/OC: 3/9/21

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2. PRELIMINARY DESIGN	2/25/21
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UTILITY PLAN
HILLSDALE DAIRY QUEEN
S. ALLEN DESIGN



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FIELD WORK PERFORMED BY:
 HURLEY & STEWART, LLC

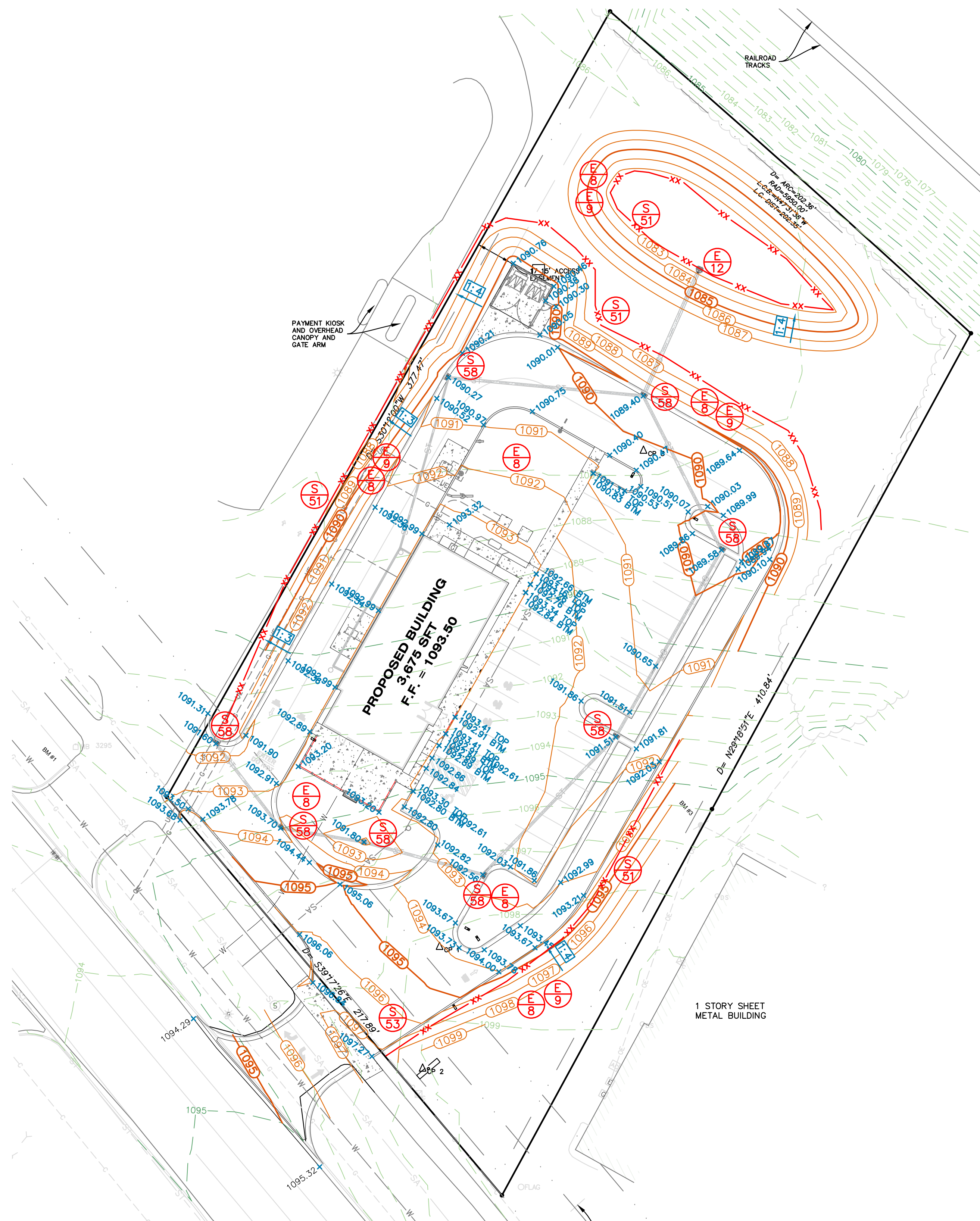
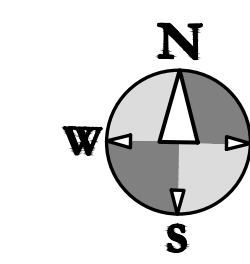
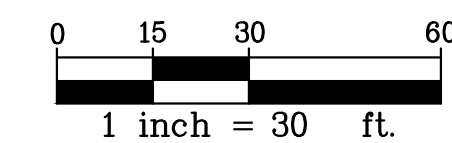
Sheet Title:
 Project:
 Client:

3/9/21
 Sheet
C-4

DRAWING LOCATION: HILLSDALE, MICHIGAN. DATE: 3/9/21. DRAWN BY: J. ALLEN. CHECKED BY: J. ALLEN. PLOTTED BY: J. ALLEN. LAST SAVED BY: J. ALLEN ON: 3/9/21.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).
E9	MULCH BLANKETS		On exposed slopes, newly seeded areas, new ditch bottoms, or areas subject to erosion.
E12	RIPRAP		Use along shorelines, waterways, or where concentrated flows occur. Slows velocity, reduces sediment load, and reduces erosion.
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.
S58	INLET PROTECTION FABRIC DROP		Use at stormwater inlets, especially at construction sites.



GRADING NOTES

- MATCH EXISTING GRADES AROUND PERIMETER WITH SLOPES AS SHOWN. MATCH AT 1 ON 6 IF NOT LABELED.
- THE CONTRACTOR SHALL INSTALL PEDESTRIAN FENCE AROUND ALL EXCAVATIONS TO BE LEFT OPEN OVERNIGHT AS REQUIRED.
- ALL SPOT ELEVATIONS ARE TOP OF PAVEMENT GRADES AT EDGE OF METAL (EOM) UNLESS OTHERWISE NOTED.
- ALL SOIL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO MASS GRADING.
- ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS AND GEOTECHNICAL REPORT.
- ALL EXISTING ELEVATIONS ARE TO BE VERIFIED AND ACCEPTED AS SHOWN PRIOR TO COMMENCEMENT OF WORK.
- REMOVE AND REPLACE WITH CONTROLLED FILL ANY AREAS THAT HAVE BEEN SOFTENED BY RAINS, FREEZING, CONSTRUCTION EQUIPMENT, ETC.
- ALL REQUIRED FILL FOR THIS PROJECT SHALL BE SELECTED EXCAVATED MATERIAL FROM THE SITE APPROVED BY THE ENGINEER OR CLASS II GRANULAR MATERIAL FROM BORROW AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- ALL GRANULAR FILL UNDER THE INFLUENCE OF THE ROADWAY AND PROCESSED ROAD GRAVEL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
- ALL COMPACTION SHALL BE ACCOMPLISHED BY PLACING THE FILL IN 12" LOOSE LIFTS AND MECHANICALLY COMPACTING EACH LIFT TO AT LEAST THE SPECIFIED MINIMUM DRY DENSITY. FIELD DENSITY TESTS SHOULD BE PERFORMED ON EACH LIFT AS NECESSARY TO ENSURE THAT ADEQUATE MOISTURE CONDITIONS AND COMPACTION ARE BEING ACHIEVED.
- SITE CONTRACTOR SHALL REMOVE AND STOCKPILE ALL TOPSOIL AND BLACK ORGANIC SOILS ON-SITE TO BE USED IN THE REGRADING OF LANDSCAPE AREAS. THIS MATERIAL IS NOT TO BE USED FOR FILL OR PAVEMENT SUBBASE. REMOVAL OF ANY EXCESS SOIL OFF-SITE SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- CONTRACTOR RESPONSIBLE FOR VERIFYING EARTHWORK CALCULATIONS PRIOR TO COMMENCING WORK. NO EXTRA EARTHWORK WILL BE PAID FOR ONCE EARTHWORK HAS BEGUN. ANY DISCREPANCIES WITH THE EARTHWORK CALCULATIONS SHALL BE REVIEWED WITH THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
- IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS BECOME APPARENT, THESE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION OF ANYTHING AFFECTED SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.

SESC NOTES

- ALL WORK WILL COMPLY WITH THE PROVISIONS OF THE SOIL EROSION AND SEDIMENTATION CONTROL ACT (PA 347 OF 1972 AS AMENDED) ADMINISTERED BY THE COUNTY DRAIN COMMISSIONER.
- SITES LARGER THAN 5 ACRES NEED TO FOLLOW THE SOIL EROSION AND SEDIMENTATION CONTROL GUIDEBOOK BY THE STATE OF MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET OFFICE OF FACILITIES, DESIGN AND CONSTRUCTION DIVISION.
- AVOID UNNECESSARY DISTURBING OR REMOVING EXISTING VEGETATED TOPSOIL OR EARTH COVER. THESE AREAS ACT AS SEDIMENT FILTERS.
- CONTRACTOR SHALL APPLY FOR AND COMPLY WITH THE SOIL EROSION CONTROL PERMIT, AS ISSUED BY HILLSDALE COUNTY BUILDING DEPARTMENT, AT ALL TIMES.
- ALL TEMPORARY SOIL EROSION PROTECTION SHALL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEANUP AND APPROVAL.
- CONTRACTOR TO PROVIDE STRAW BALE DAMS OR SILT FENCES ACROSS ALL DITCHES, SWALES, AND ROUGH CUT ROADS WHICH EXIST FROM THE SITE TO ELIMINATE SEDIMENT RUNOFF. PROVIDE STRAW BALE DAMS, SILT FENCES OR INSTALL FILTER FABRIC UNDER INLETS AT ALL STORM SEWER STRUCTURES DURING CONSTRUCTION.
- NO SITE WORK SHALL BEGIN UNTIL THE SILT FENCE AND ACCESS ROAD ARE INSTALLED.
- ALL SOIL PILES SHALL BE SURROUNDED BY SILT FENCE IF ALLOWED TO REMAIN IN PLACE FOR MORE THAN 7 DAYS. TOPSOIL PILES SHALL BE SEEDED IF ALLOWED TO REMAIN IN PLACE FOR MORE THAN 20 DAYS. SPOIL PILES SHALL NOT BE PLACED WITHIN 50' FROM ANY TEMPORARY OR PERMANENT WATERCOURSE.
- THE CONTRACTOR SHALL COMPLY WITH THE WEEKLY RECOMMENDATIONS OF THE CERTIFIED STORM WATER OPERATOR.
- ALL INLETS IN PAVED AREAS SHALL HAVE SILT SAVER SEDIMENTATION REDUCERS DURING CONSTRUCTION.
- COORDINATE TOPSOIL STOCKPILE WITH OWNER.
- PLACE TRACK MATS AT THE ENTRANCE OF SITE TO REDUCE MATERIAL TRACKED OFF SITE.
- COORDINATE THE CLEARING LIMITS WITH THE OWNER PRIOR TO COMMENCING WORK.
- IT IS THE INTENT FOR THE EARTHWORK TO BALANCE AND THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THE EARTHWORK SHOWN BALANCES PRIOR TO BEGINNING WORK.
- PLACE "DO NOT ENTER CONSTRUCTION ZONE" SIGNS AT ALL ENTRY POINTS TO PROJECT.
- PROVIDE SILT SACKS IN EACH CATCH BASIN UNTIL SITE IS STABILIZED.
- ALL SOIL EROSION MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING WORK.
- PLACE SILT FENCES ALONG THE TOE OF TOPSOIL STOCKPILES AND OTHER FILL AREAS. SEED TOPSOIL STOCKPILE AND MAINTAIN SILT FENCES UNTIL SITE IS STABILIZED.
- MAINTAIN A VEGETATIVE BUFFER WHEREVER POSSIBLE.
- SEE LANDSCAPING PLAN FOR FINAL SLOPE TREATMENTS.
- PLACE TOPSOIL AND SEED ACCORDING TO THE LANDSCAPE PLANS AS SOON AS AREAS ARE BROUGHT TO GRADE.
- CLEAN ADJACENT ROADWAYS WHEN NECESSARY. POSSIBLE BACK CHARGE IF VIOLATIONS OCCUR AND THE CITY OF HILLSDALE IS FORCED TO CLEAN.
- WATER SITE WHEN NECESSARY TO PREVENT AIR BORNE SEDIMENT TRANSFER.
- PLACE MULCH BLANKET AN ALL SLOPES 1 ON 3 OR STEEPER.

GRADING PLAN LEGEND

- PROPOSED CONTOUR 5-FT
- PROPOSED CONTOUR NORMAL
- EXISTING CONTOUR 5-FT
- EXISTING CONTOUR NORMAL
- PROPOSED SPOT GRADE
- PROPOSED SPOT GRADES: TOP AND BOTTOM OF CURB/WALL
- EXISTING SPOT GRADE
- PROPOSED SURFACE SLOPE
- PROPOSED SILT FENCE
- PROPOSED GRADED SWALE
- SOIL BORING
- BENCH MARK
- SOIL EROSION MEASURE
- SEDIMENT CONTROL MEASURE



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FIELD WORK PERFORMED BY:
HURLEY & STEWART, LLC

hurley & stewart, llc
2800 s. 11th street
kalamazoo, michigan 49009
269.552.4960 fax 269.552.4961
www.hurleystewart.com

hurley & stewart

Job No.: 21-010D P.M.A.W.P. D.R.H. - Q.A./Q.C. 3/9/21

ISSUED FOR/REVISIONS:	DATE
1. PRELIMINARY LAYOUT FOR REVIEW	2/10/21
2. PRELIMINARY DESIGN	2/25/21
3. FINAL REVIEW	3/5/21
4. SITE PLAN REVIEW	3/8/21

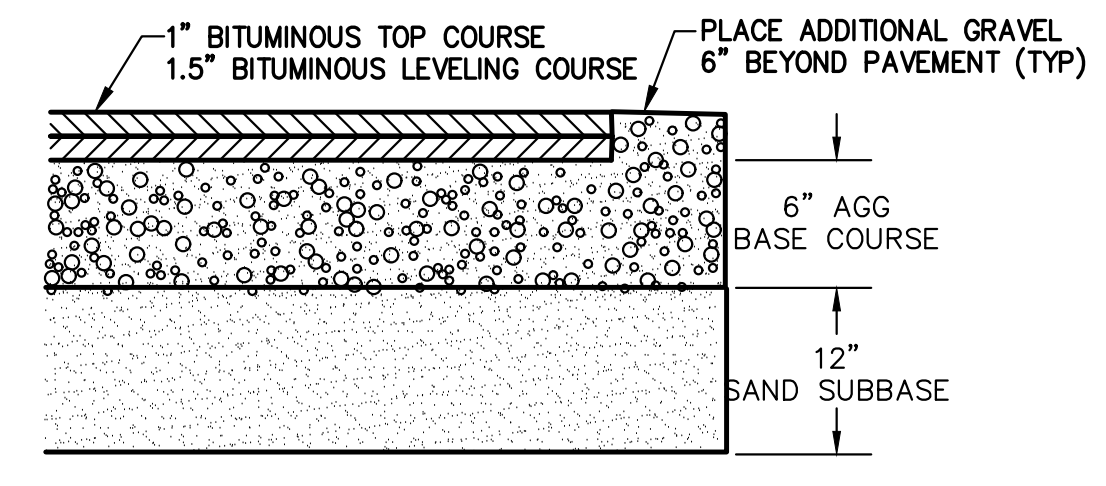
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GRADING - SESC PLAN HILLSDALE DAIRY QUEEN S. ALLEN DESIGN

Sheet Title:
Project:
Client:

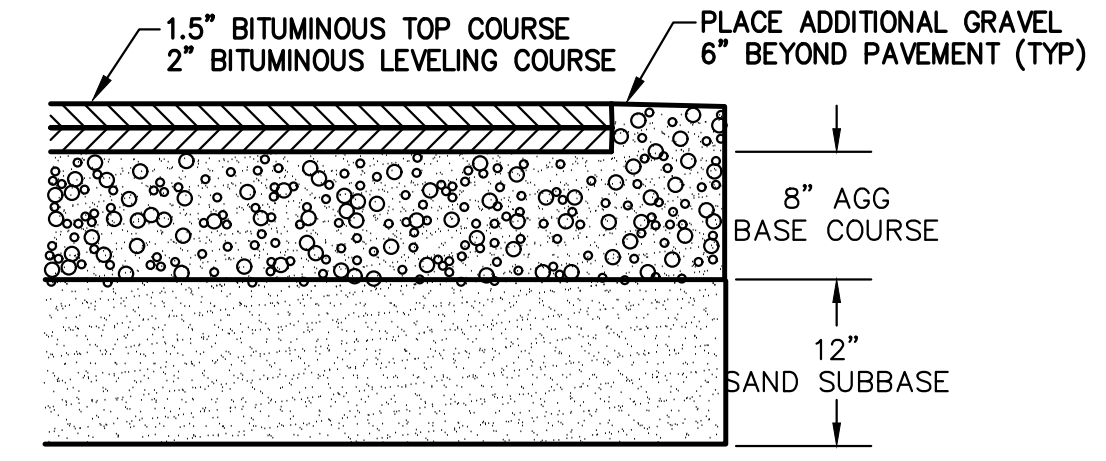
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Sheet
C-5

DRAWING LOCATION: H:\31-0100 (Outside Dairy Queen)\FINAL DRAWINGS\C-6 Site Details.dwg LAST SAVED BY: PAULSON ON: 2/25/2021



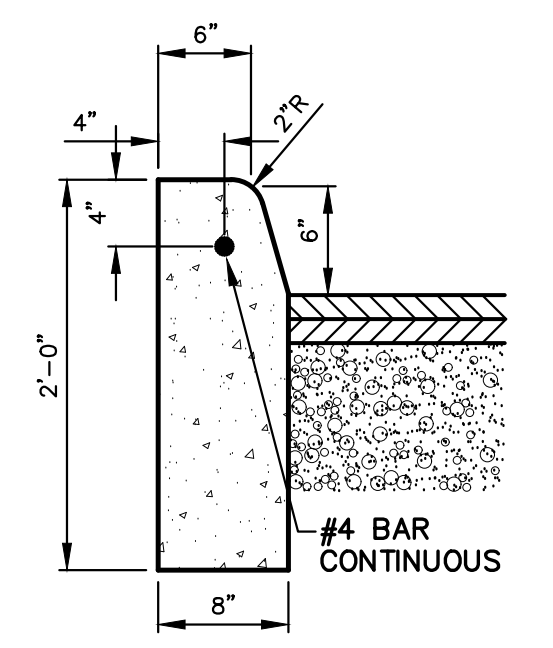
ALL MATERIALS COMPACTED IN PLACE ON PREPARED SUBGRADE

LIGHT DUTY PAVEMENT SECTION
NOT TO SCALE

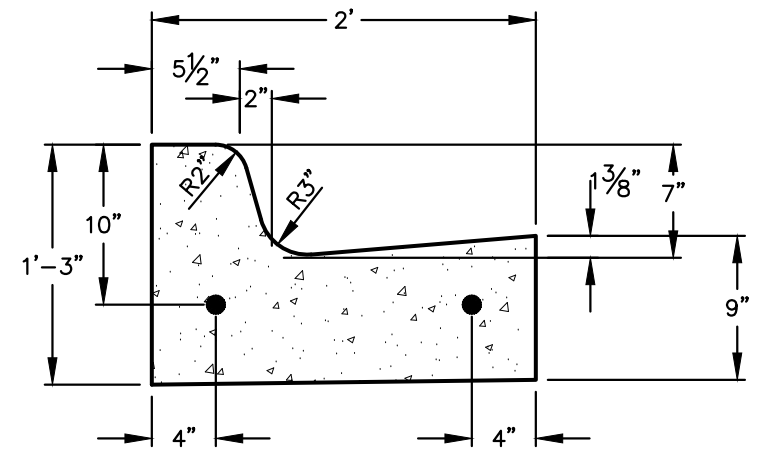


ALL MATERIALS COMPACTED IN PLACE ON PREPARED SUBGRADE

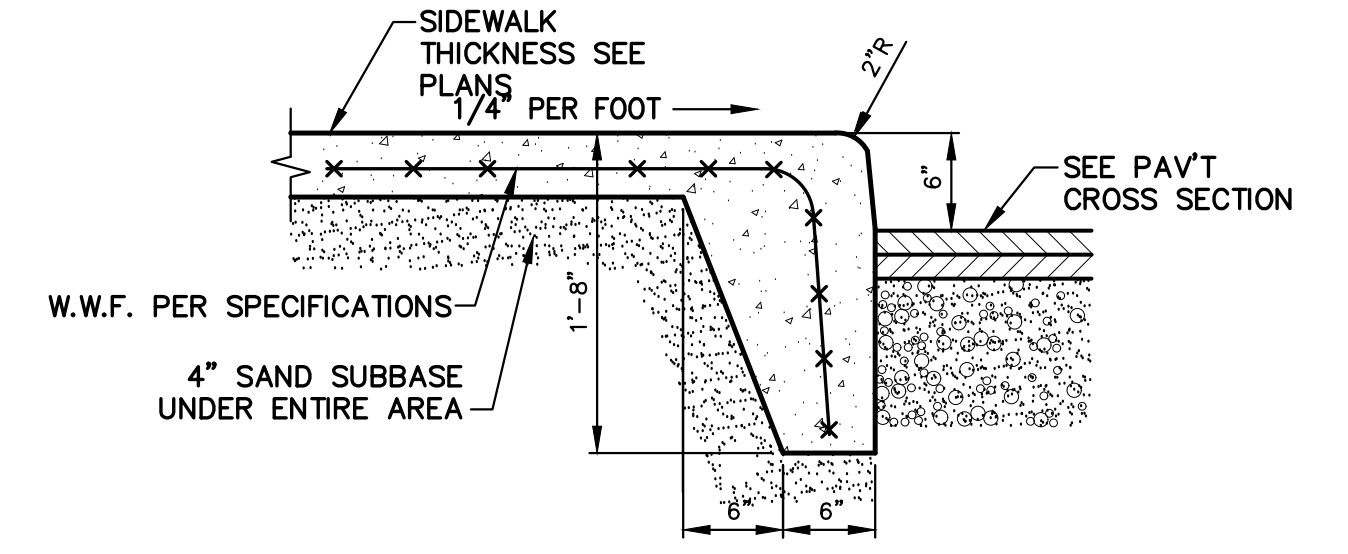
HEAVY DUTY PAVEMENT SECTION
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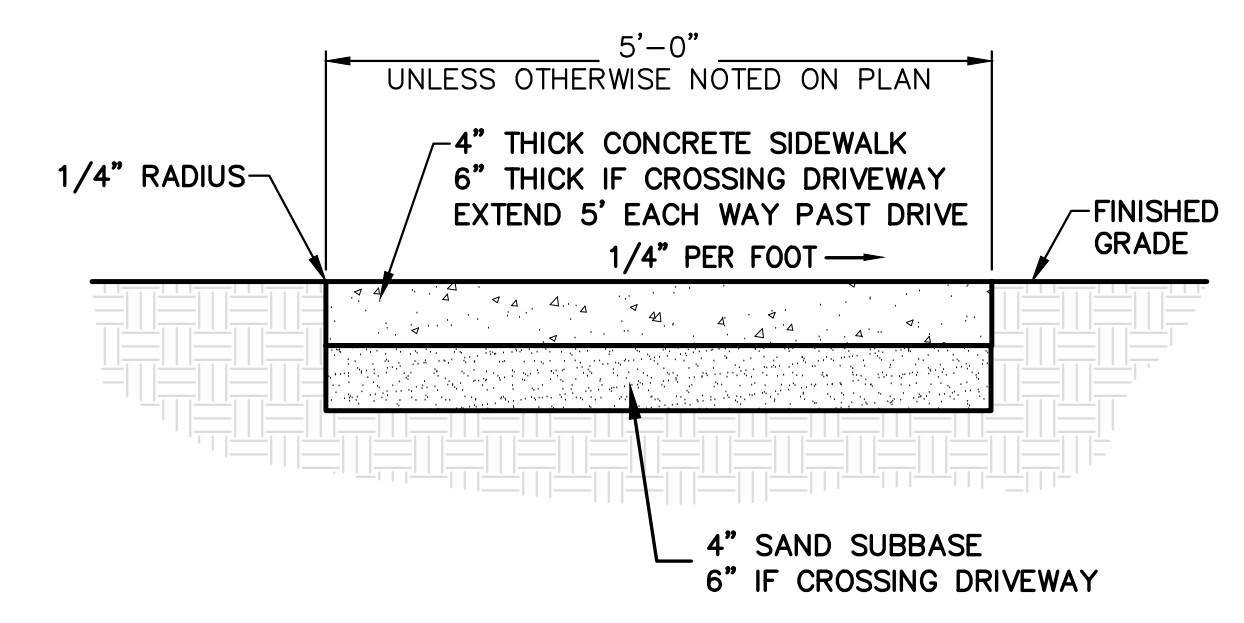
"E2" CURB DETAIL
NOT TO SCALE



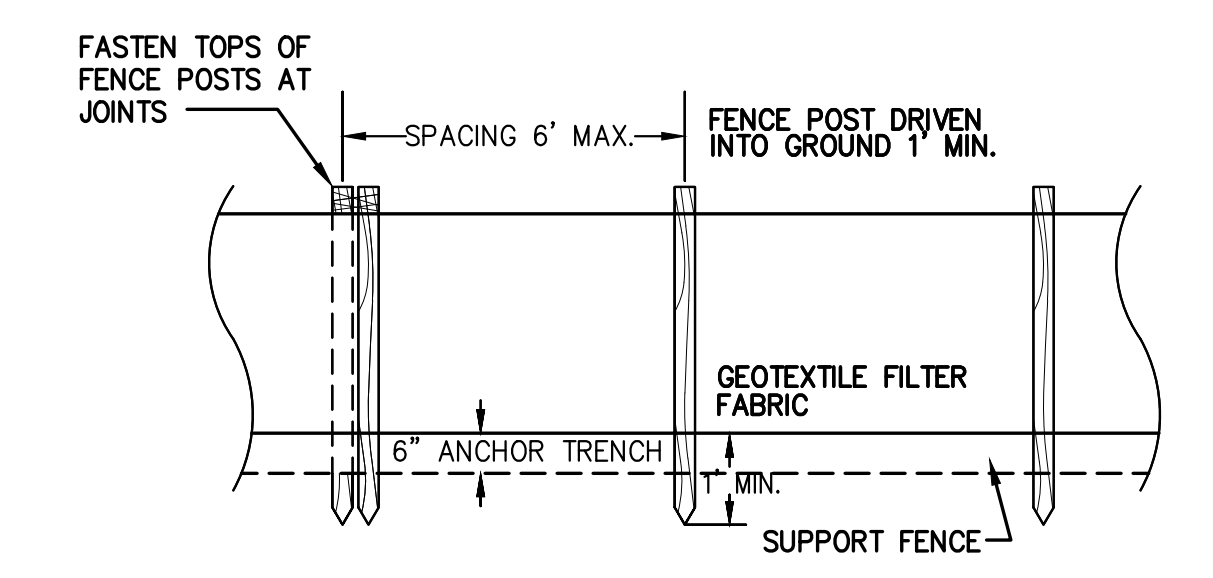
"C4" CURB DETAIL
NOT TO SCALE



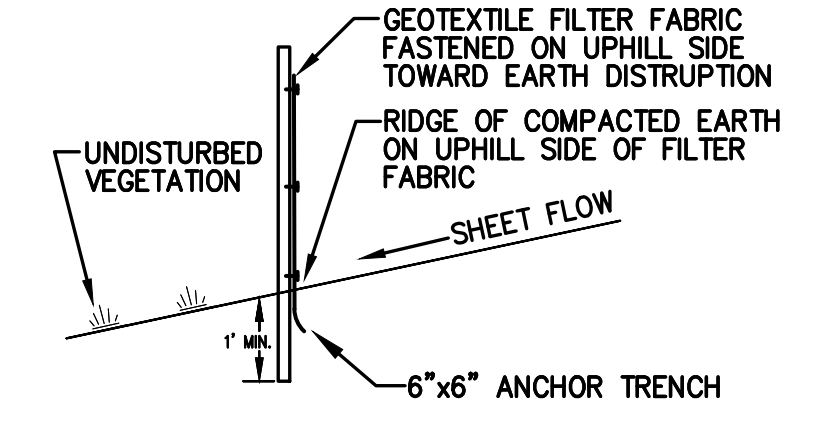
INTEGRAL SIDEWALK/CURB
NOT TO SCALE



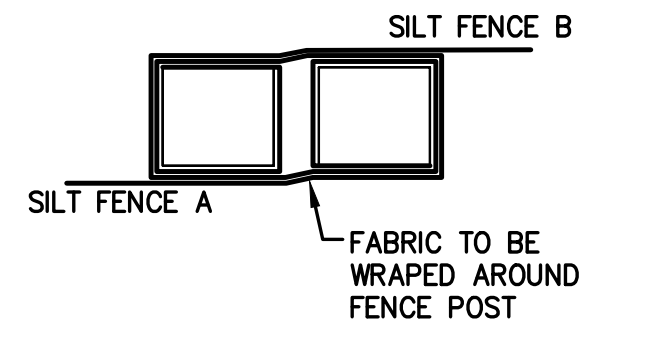
SIDEWALK SECTION



FRONT VIEW
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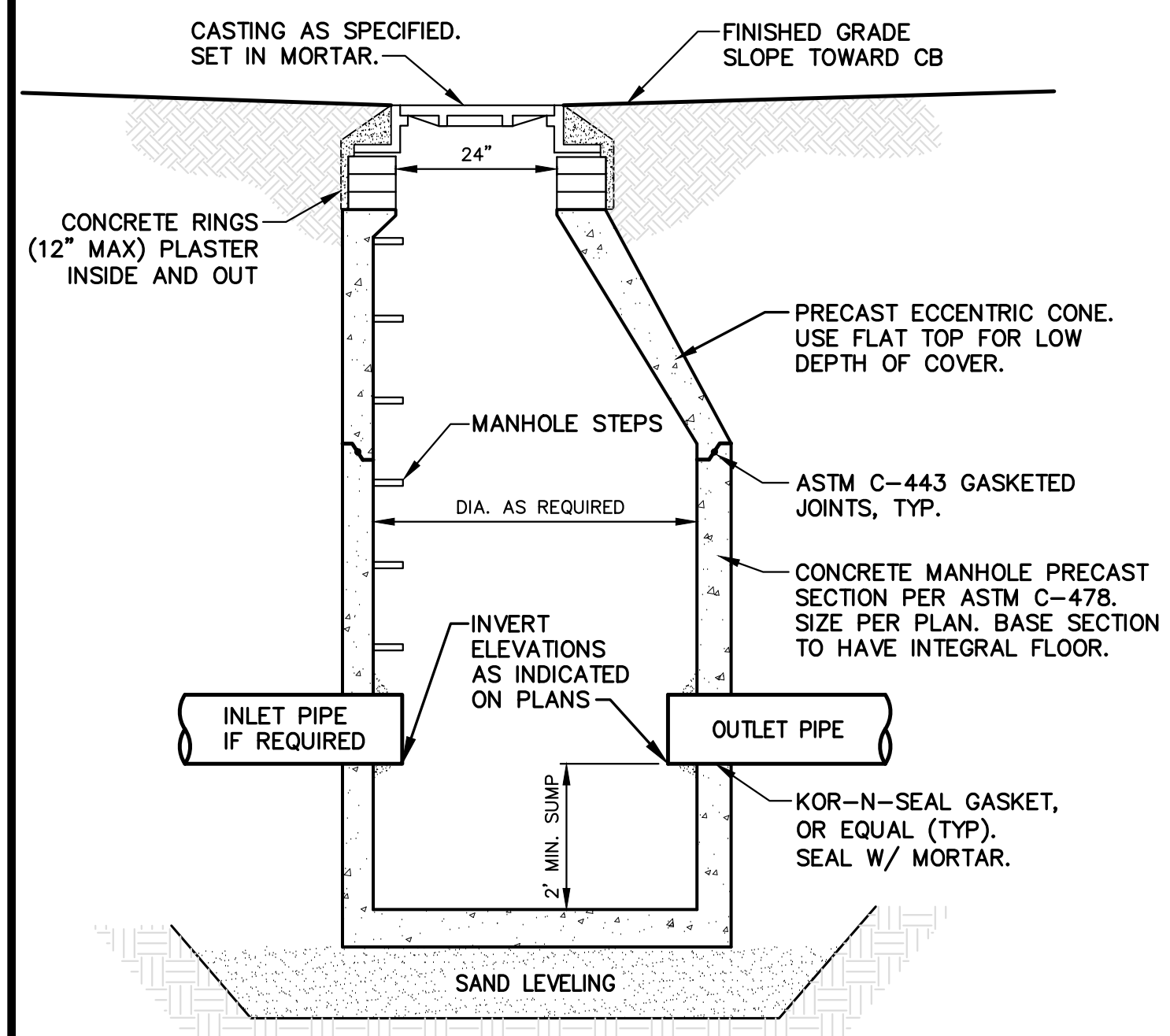


SECTION
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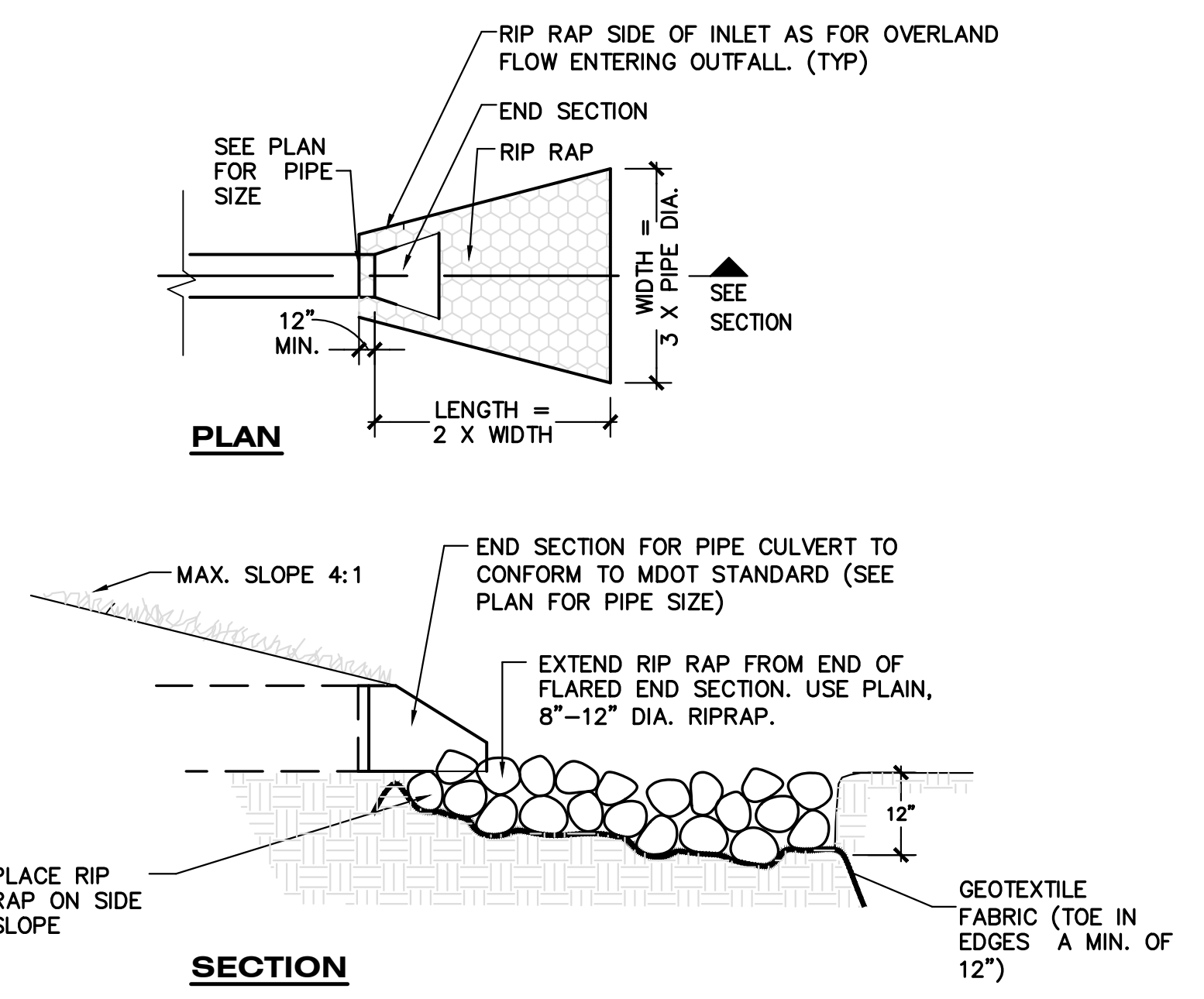


JOINT DETAIL
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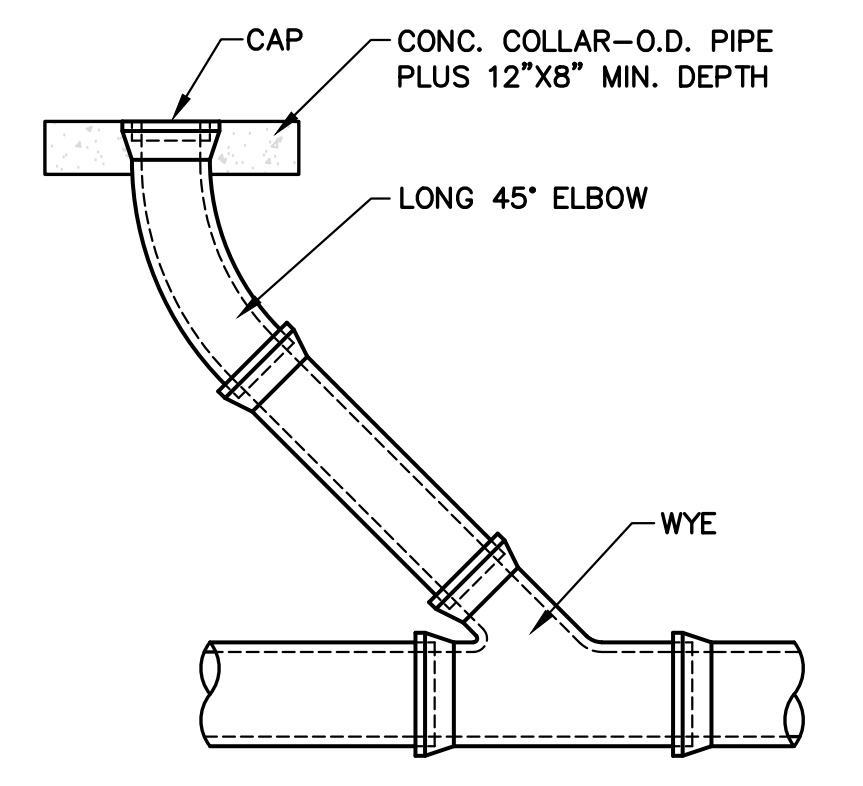
SILT FENCE DETAILS



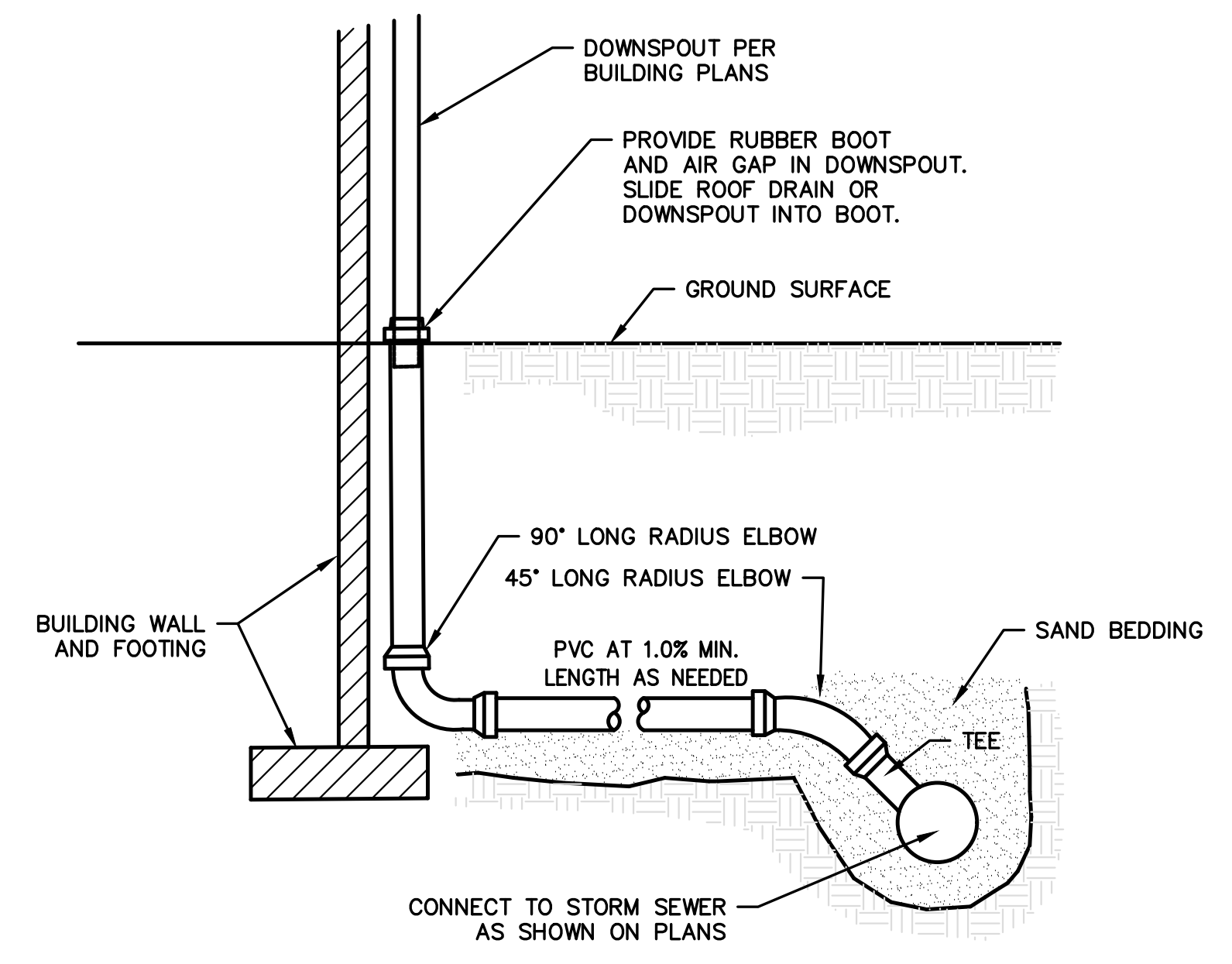
CATCH BASIN DETAIL
NO SCALE



PIPE CULVERT WITH FLARED END SECTION DETAIL
NOT TO SCALE



SANITARY CLEANOUT DETAIL
NO SCALE



ROOF LEAD/ DOWNSPOUT DETAIL
NO SCALE

hurley & Stewart, LLC
2800 s. 11th street
kalamazoo, michigan 49009
269.552.4960 fax 269.552.4961
www.hurleyandstewart.com

Job No.: 21-0100	P.M.: JWP	Draft: GA/OC	3/9/21
ISSUED FOR REVISIONS:			
1	PRELIMINARY LAYOUT FOR REVIEW	2/10/21	
2	PRELIMINARY DESIGN	2/25/21	
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4	SITE PLAN REVIEW	3/8/21	
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SITE DETAILS
HILLSDALE DAIRY QUEEN
S. ALLEN DESIGN

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C-6

HILLSDALE PLANTING REQUIREMENTS

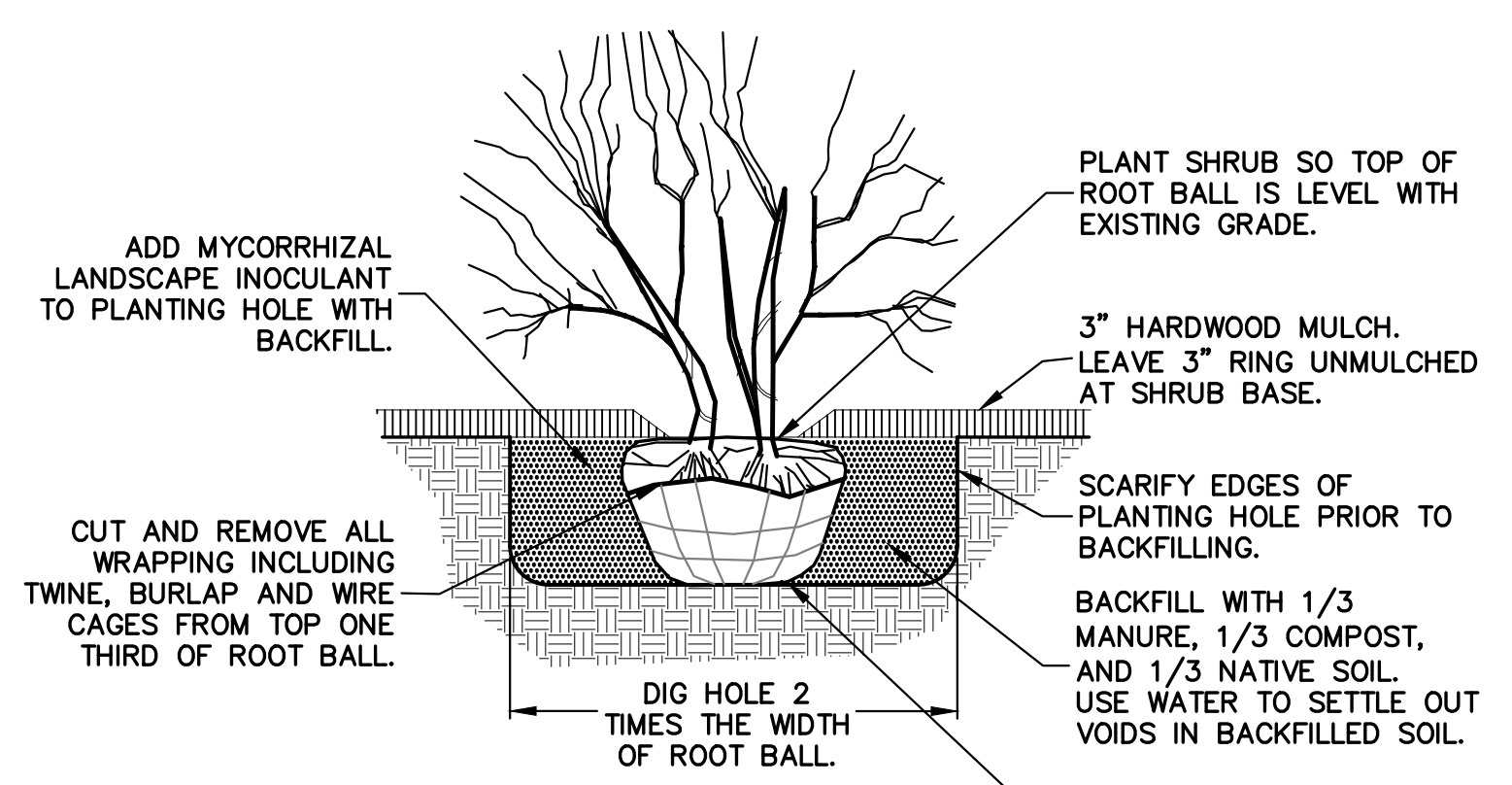
- 15% OF SITE SHALL BE IN OPEN SPACE
11,872 SF REQUIRED = 43,435 SF PROVIDED
- 1 EVERGREEN SHRUB OR TREE IS REQUIRED / 1,000 SF OF REQUIRED OPEN SPACE
12 EVERGREENS REQUIRED
- 1 DECIDUOUS TREE IS REQUIRED / 2,000 SF OF OPEN SPACE
6 TREES REQUIRED
- 30% OF REQUIRED OPEN SPACE SHALL BE BETWEEN THE BUILDING AND THE ROW
3,562 SF REQUIRED = 9,519 SF PROVIDED
- 1 DECIDUOUS TREE REQUIRED PER 10 PARKING SPACES
4 TREES REQUIRED

IRRIGATION NOTES:

1. LANDSCAPE CONTRACTOR TO PROVIDE LAYOUT AND DETAILS FOR FULL IRRIGATION SYSTEM PRIOR TO INSTALLATION.
2. ALL LANDSCAPE AREAS AND LAWNS ADJACENT TO PAVED AREAS AND/OR STREETS ARE TO BE FULLY IRRIGATED.
3. IRRIGATION SYSTEM TO INCLUDE ALL SPRAY HEADS, VALVES AND CONTROLLERS.
4. A SEPARATE METER AND BACKFLOW PREVENTER WILL BE REQUIRED.
5. LOCATE HEADS A MINIMUM OF 2'-0" FROM EDGE OF PAVEMENT/ CURB.
6. NO IRRIGATION SHALL BE INSTALLED IN THE RIGHT OF WAY.

LANDSCAPE NOTES:

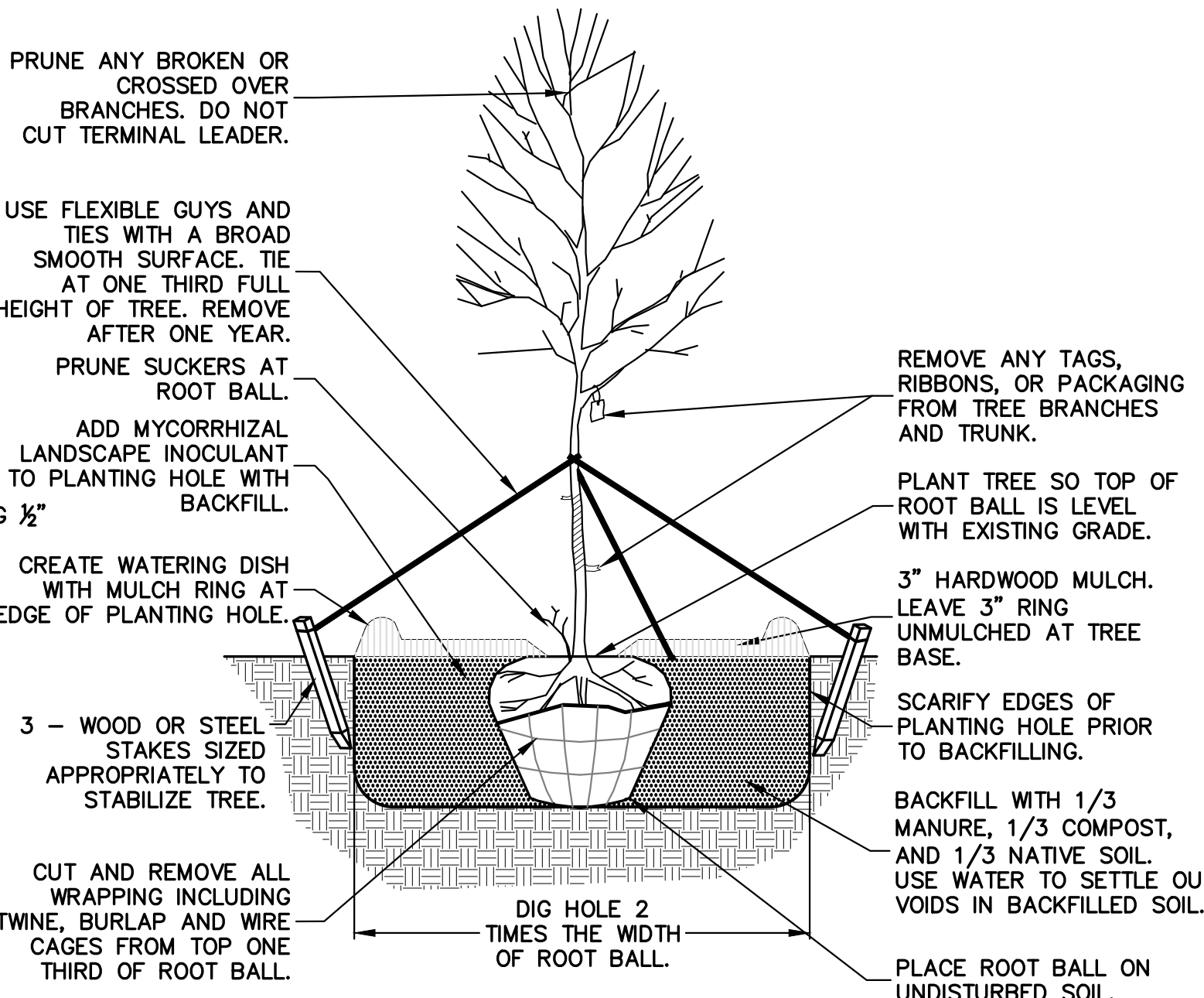
1. ALL LAWN AREAS SHALL BE SEEDED AND MULCHED WITH THE FOLLOWING MIXTURE: 20% IMPROVED PERENNIAL RYEGRASS, 40% FINE FESCUE, AND 40% KENTUCKY BLUEGRASS AT A RATE OF 8-10 LBS/ 1000 SFT. PROVIDE 19-19-19 STARTER FERTILIZER AT A RATE OF 5-7 LBS/1000 SFT.
2. ALL EDGING SHALL BE STANDARD COMMERCIAL-STEEL EDGING 3/8" x 4", ROLLED EDGE, FABRICATED IN SECTIONS OF STANDARD LENGTHS, WITH LOOPS STAMPED FROM OR WELDED TO FACE OF SECTIONS TO RECEIVE STAKES IN STANDARD FINISH OF GREEN PAINT.
3. PROVIDE QUALITY SIZE, GENUS, SPECIES, AND VARIETY OF EXTERIOR PLANTS INDICATED, COMPLYING WITH APPLICABLE REQUIREMENTS IN ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK." MEASURE ACCORDING TO ANSI Z60.1 STANDARDS.
4. WARRANT TREES, SHRUBS AND PERENNIALS FOR ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM INCIDENTS THAT ARE BEYOND CONTRACTOR'S CONTROL.
5. REMOVE AND REPLACE DEAD PLANTS IMMEDIATELY. REPLACE PLANTS THAT ARE MORE THAN 25% DEAD OR IN AN UNHEALTHY CONDITION AT END OF WARRANTY PERIOD. A LIMIT OF ONE REPLACEMENT OF EACH PLANT WILL BE REQUIRED, EXCEPT FOR LOSSES OR REPLACEMENTS DUE TO FAILURE TO COMPLY WITH REQUIREMENTS.
6. MAINTAIN TREES, SHRUBS, AND PERENNIALS FOR ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION BY PRUNING, CULTIVATING, WATERING, WEEDING, FERTILIZING, RESTORING PLANTING SAUCERS, TIGHTENING AND REPAIRING STAKES AND GUY SUPPORTS, AND RESETTling TO PROPER GRADES OR VERTICAL POSITION, AS REQUIRED TO ESTABLISH HEALTHY VIABLE PLANTINGS. SPRAY AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE.
7. BEGIN LAWN MAINTENANCE IMMEDIATELY AFTER EACH AREA IS PLANTED AND CONTINUE UNTIL ACCEPTABLE LAWN IS ESTABLISHED: A MINIMUM OF 60 DAYS AFTER SUBSTANTIAL COMPLETION.
8. MAINTAIN AND ESTABLISH LAWN BY WATERING, FERTILIZING, WEEDING, USING CHEMICAL TREATMENT TO ELIMINATE BROADLEAF AND NOXIOUS WEEDS, MOWING, TRIMMING, REPLANTING, AND OTHER OPERATIONS. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH LAWN.
9. PROTECT ADJACENT AND ADJOINING STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND PLANTINGS FROM HYDROSEEDING OVER-SPRAY AND DAMAGE CAUSED BY PLANTING OPERATIONS.
10. REMOVE STONES LARGER THAN 1" IN ANY DIMENSION AND REMOVE STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER FROM SITE.
11. MAINTAIN LAWN UNTIL A HEALTHY, UNIFORM, CLOSE STAND OF GRASS HAS BEEN ESTABLISHED, FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING 90% OVER ANY 10 SQFT AND BARE SPOTS DO NOT EXCEED 5 BY 5 INCHES.
12. DO NOT PLACE STONE COBBLE DURING WET WEATHER. DO NOT PLACE DIRTY OR MUDDY COBBLE ON BARRIER FABRIC.
13. APPLY PRE-EMERGENT HERBICIDE TO ALL PLANTING BEDS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS REAPPLY AS RECOMMENDED BY PRODUCT DURING ONE YEAR WARRANTY PERIOD.
14. NO IRRIGATION SHALL BE INSTALLED WITHIN THE RIGHT OF WAY.



TYPICAL SHRUB

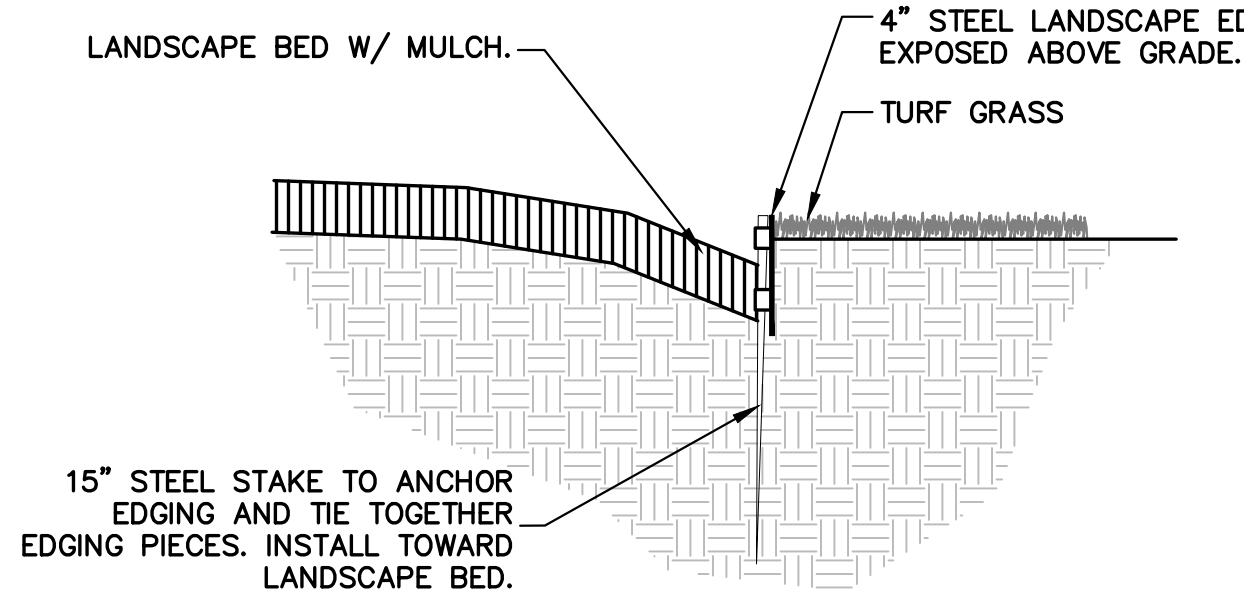
NOT TO SCALE

NOTE: STAKING OF BALL AND BURLAP TREES REQUIRED AT THE DISCRETION OF THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL STAKING AT END OF ONE YEAR WARRANTY PERIOD.



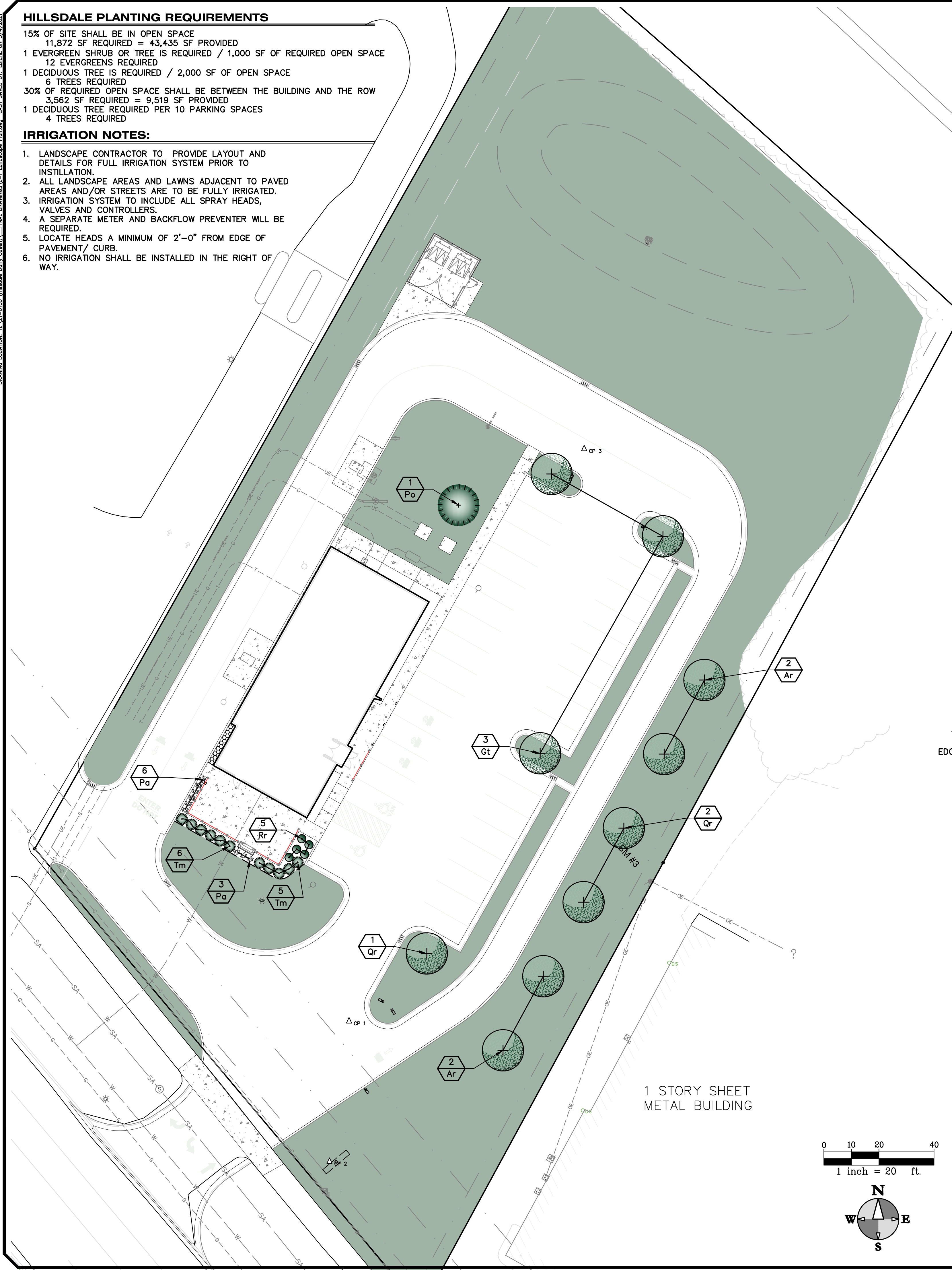
DECIDUOUS TREE

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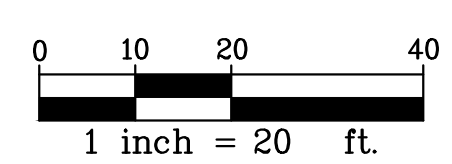


STEEL LANDSCAPE EDGING DETAIL

NOT TO SCALE



1 STORY SHEET METAL BUILDING



Planting Schedule Trees					
Symbol	Latin Name	Common Name	Size	Container Type	Comments
Ar	Acer rubrum 'Franksred'	Red Sunset Maple	2 1/2" Cal.	B&B	
Gt	Gleditsia triacanthos inermis 'Suncole'	Sunburst Honeylocust	2 1/2" Cal.	B&B	
Po	Picea omarika	Serbian Spruce	6' Ht.	B&B	
Qr	Quercus rubra	Red Oak	2 1/2" Cal.	B&B	

Planting Schedule Shrubs					
Symbol	Latin Name	Common Name	Size	Container Type	Comments
Rr	Rosa 'Radcon'	The Pink Knockout Rose	24" spread	#3 Cont.	
Tm	Taxus x media 'Densiformis'	Dense Spreading Yew	24" spread	B&B or Cont.	

Planting Schedule Perennials					
Symbol	Latin Name	Common Name	Size	Container Type	Comments
Pa	Pennisetum alopecuroides 'Hamel'	Fountain Grass 'Hamel'	#2	Cont.	24" o.c.

LEGEND

- 13 Ca NUMBER AND TYPE OF PLANTS TO BE PROVIDED AND INSTALLED.
- SEEDED LAWN.
- STONE COBBLE MULCH 3-4" DIA. NATURAL STONE COBBLE WASHED OVER FILTER FABRIC.
- PROPOSED DECIDUOUS TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUBS, EVERGREEN AND DECIDUOUS
- PROPOSED ORNAMENTAL GRASS
- STEEL LANDSCAPE EDGING.



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FIELD WORK PERFORMED BY:
LANDTECH PROFESSIONAL SURVEYING

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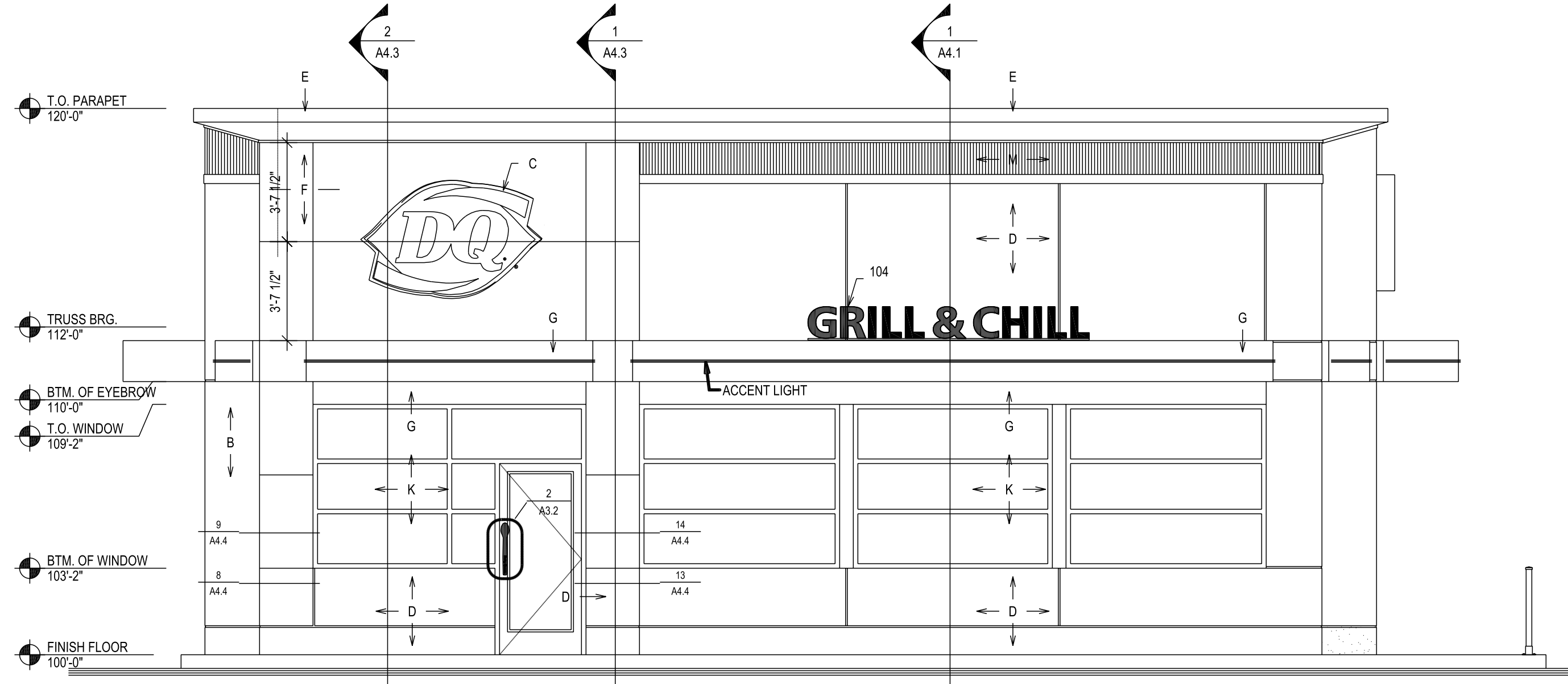
Job No.: 21-010D P.M.A./M.P. Dr.H. TR. QA/QC: 3/9/21

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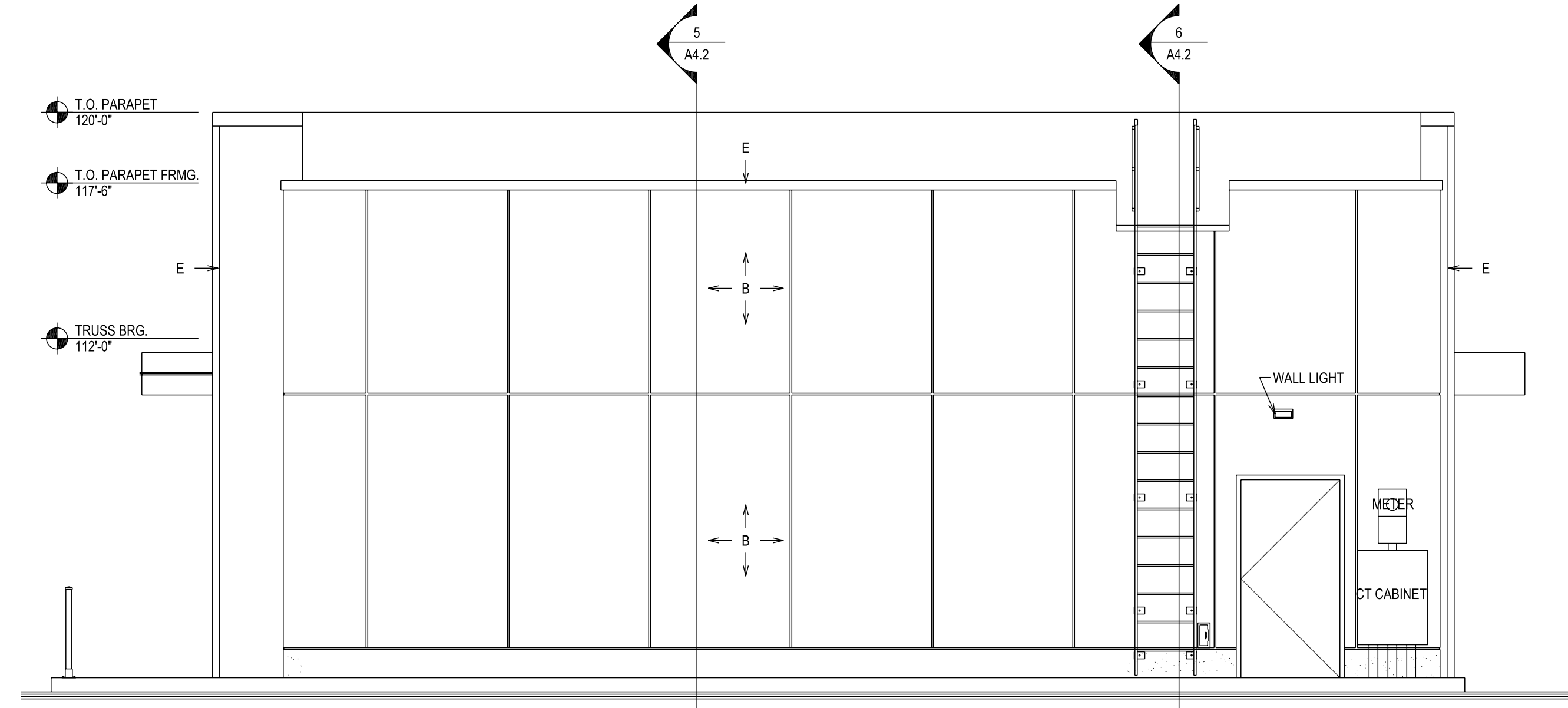
LANDSCAPE PLAN
HILLSDALE DAIRY QUEEN
S. ALLEN DESIGN

Sheet Title:
Project:
Client:
3/9/21
Sheet
L-1



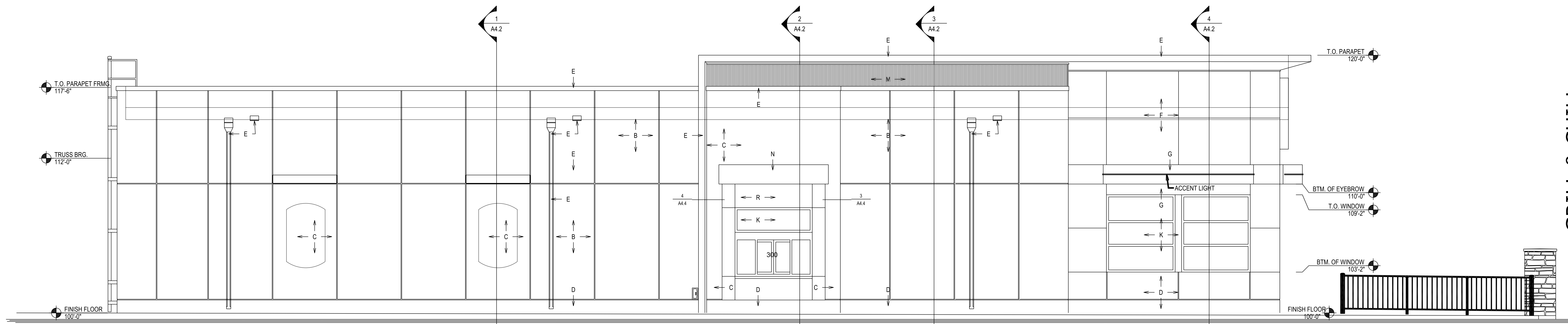
1 FRONT ELEVATION

A3.1 SCALE: 1/4" = 1'-0"



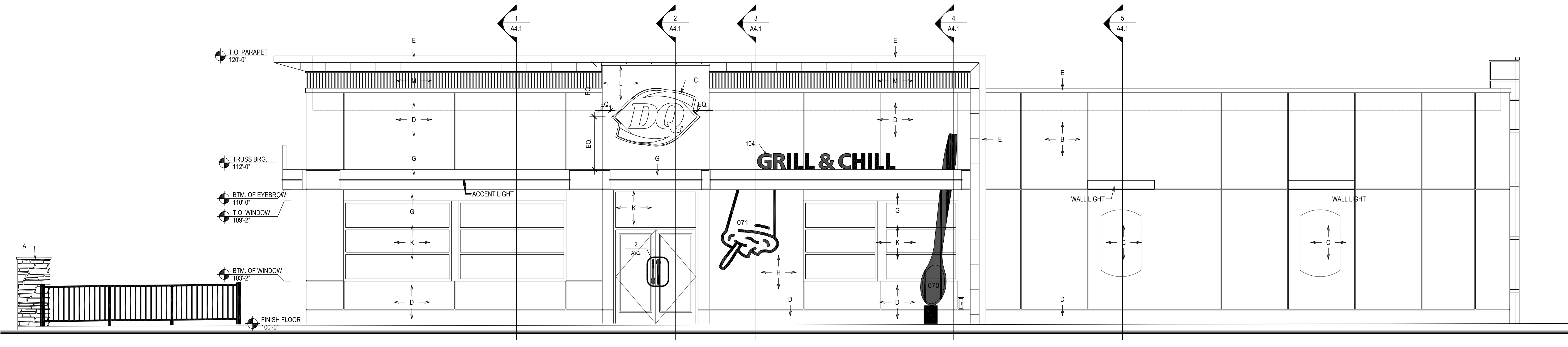
2 REAR ELEVATION

A3.1 SCALE: 1/4" = 1'-0"



4 DRIVE-THRU ELEVATION

A3.1 SCALE: 1/4" = 1'-0"



3 ENTRANCE ELEVATION

A3.1 SCALE: 1/4" = 1'-0"

e. allen design
ARCHITECTURE
48A WEST CHICAGO STREET
COLDWATER, MICHIGAN 49036
TEL: 811-278-1181
ealendesign@aigmail.com

GRILL & CHILL
AMERICAN DAIRY QUEEN
3285 W. CARLETON ROAD
HILLSDALE, MICHIGAN

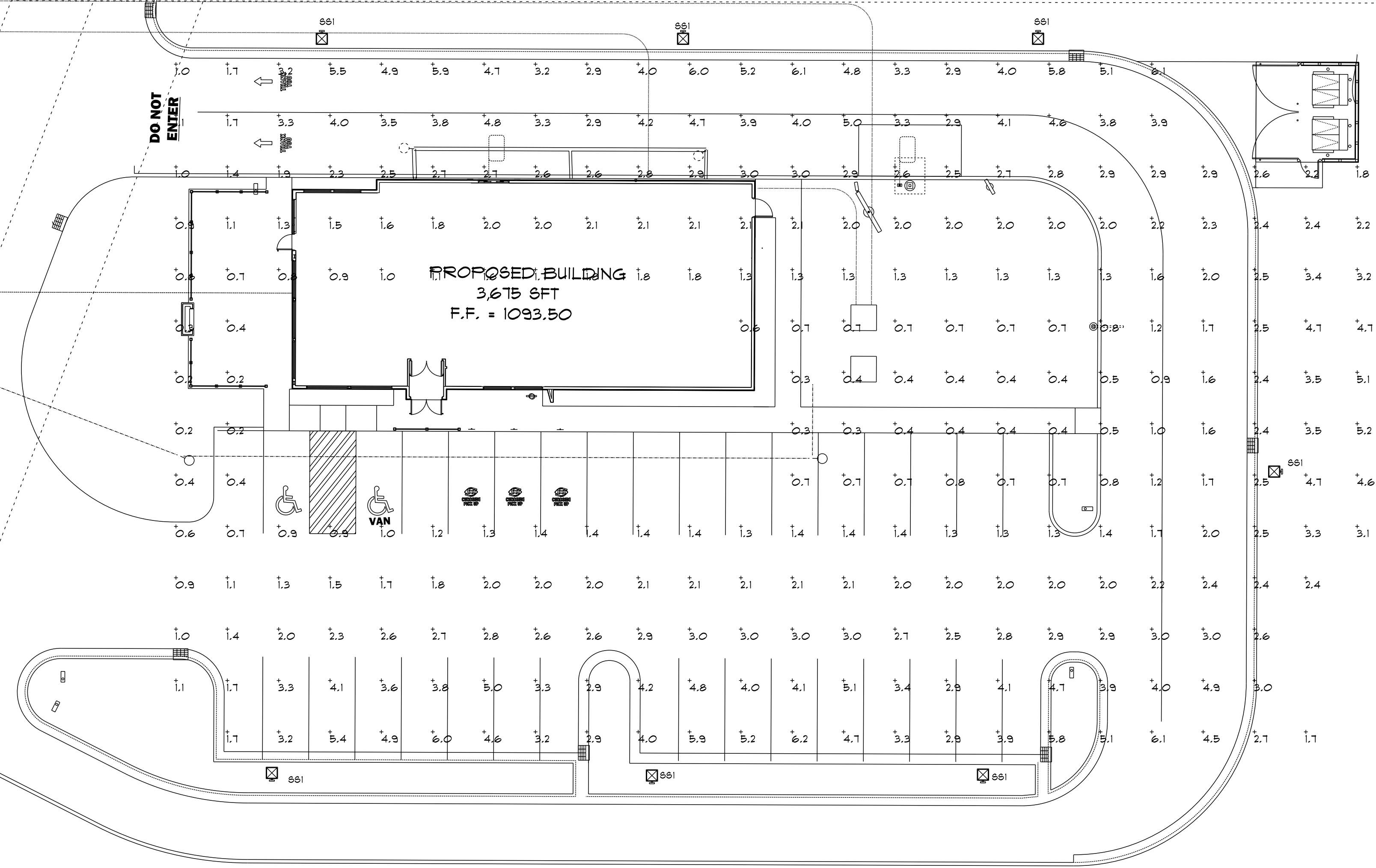
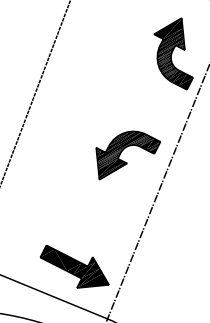
3-9-21	REVIEW
DATE	ISSUE
PROFESSIONAL SEAL	

DRAWING TITLE
ELEVATIONS

DRAWING NUMBER

A3.1

W CARLETON RD



1 SITE PHOTOMETRICS PLAN
SCALE: 1" = 16'-0"

LIGHTING SCHEDULE:							
PLAN SYM.	QTY.	LOCATION	FIXTURE MFGR.	FIXTURE CATALOG NUMBER	LUMENS	LIGHT LOSS	WATTAGE
NV	1	OUTDOOR SECURITY	KEENE	LFP-1	-	-	-
SB1	7	PARKING LOT	VISIONARE LIGHTING	1000-1-T24ALC17-9K (90) 40W BZ POLE, ENTS-45-11-25-128C-136-51-BZ	15582	0.95	140.1
TT	3	PATIO	-	-	-	-	-

GRILL & CHILL
AMERICAN DAIRY QUEEN
3285 W. CARLETON ROAD
HILLSDALE, MICHIGAN

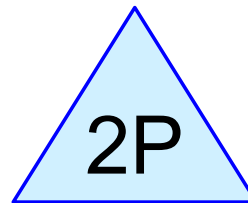
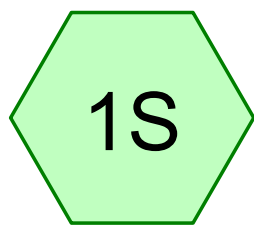
3-9-21	REVIEW
DATE	ISSUE

PROFESSIONAL SEAL

DRAWING TITLE
SITE
PHOTOMETRIC
PLAN

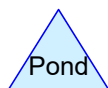
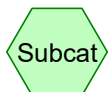
DRAWING NUMBER

E3.2



Proposed Watershed

Retention Basin



Hillsdale DQ HydroCAD

Prepared by Hurley & Stewart, LLC

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.313	92	Urban commercial, 85% imp, HSG B (1S)
1.313	92	TOTAL AREA

Hillsdale DQ HydroCAD

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.313	HSG B	1S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.313		TOTAL AREA

Hillsdale DQ HydroCAD

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.313	0.000	0.000	0.000	1.313	Urban commercial, 85% imp	1S
0.000	1.313	0.000	0.000	0.000	1.313	TOTAL AREA	

Hillsdale DQ HydroCAD

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Type II 24-hr 10-Year Rainfall=3.58"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Proposed Watershed

Runoff Area=57,200 sf 85.00% Impervious Runoff Depth>2.71"
Tc=15.0 min CN=92 Runoff=4.42 cfs 0.296 af

Pond 2P: Retention Basin

Peak Elev=1,084.86' Storage=6,484 cf Inflow=4.42 cfs 0.296 af
Outflow=0.26 cfs 0.263 af

Total Runoff Area = 1.313 ac Runoff Volume = 0.296 af Average Runoff Depth = 2.71"
15.00% Pervious = 0.197 ac 85.00% Impervious = 1.116 ac

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Type II 24-hr 10-Year Rainfall=3.58"

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Summary for Subcatchment 1S: Proposed Watershed

Runoff = 4.42 cfs @ 12.06 hrs, Volume= 0.296 af, Depth> 2.71"

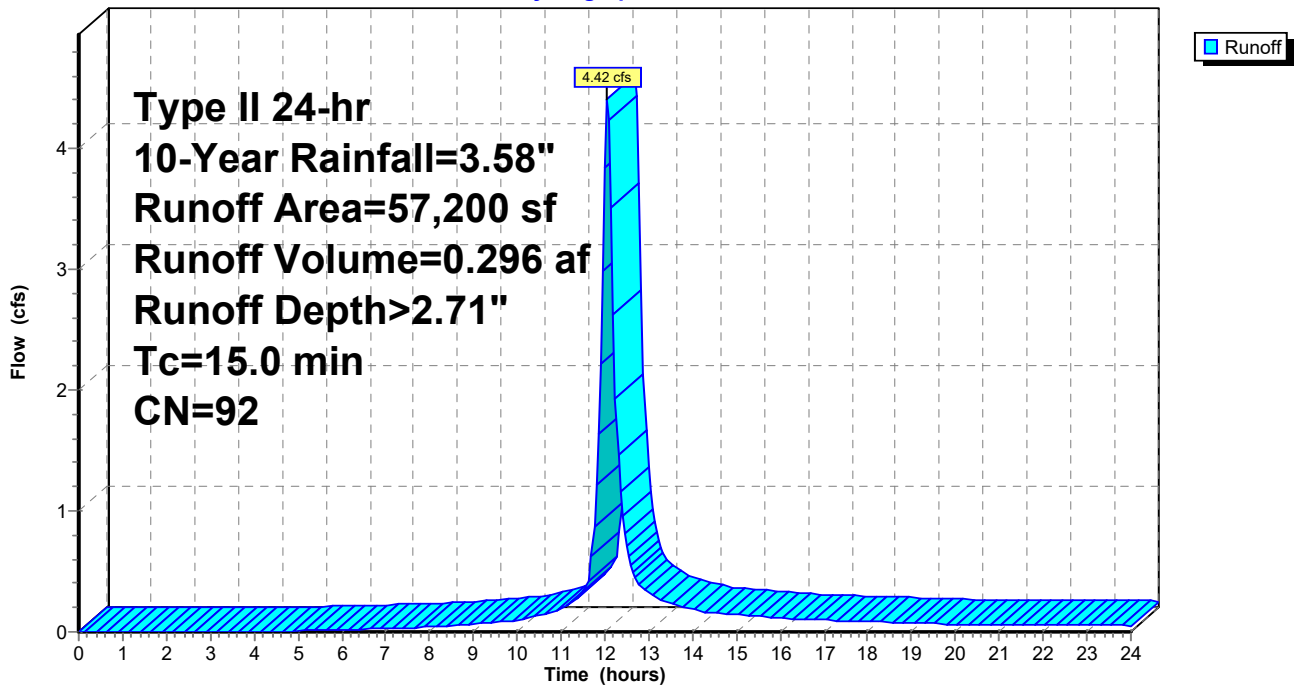
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.58"

Area (sf)	CN	Description
57,200	92	Urban commercial, 85% imp, HSG B
8,580		15.00% Pervious Area
48,620		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 1S: Proposed Watershed

Hydrograph



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Type II 24-hr 10-Year Rainfall=3.58"

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Summary for Pond 2P: Retention Basin

Inflow Area = 1.313 ac, 85.00% Impervious, Inflow Depth > 2.71" for 10-Year event
 Inflow = 4.42 cfs @ 12.06 hrs, Volume= 0.296 af
 Outflow = 0.26 cfs @ 13.33 hrs, Volume= 0.263 af, Atten= 94%, Lag= 76.1 min
 Primary = 0.26 cfs @ 13.33 hrs, Volume= 0.263 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,084.86' @ 13.33 hrs Surf.Area= 4,489 sf Storage= 6,484 cf

Plug-Flow detention time= 250.1 min calculated for 0.263 af (89% of inflow)
 Center-of-Mass det. time= 195.0 min (992.1 - 797.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,083.00'	18,880 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,083.00	2,530	0	0
1,084.00	3,535	3,033	3,033
1,085.00	4,644	4,090	7,122
1,086.00	5,854	5,249	12,371
1,087.00	7,164	6,509	18,880

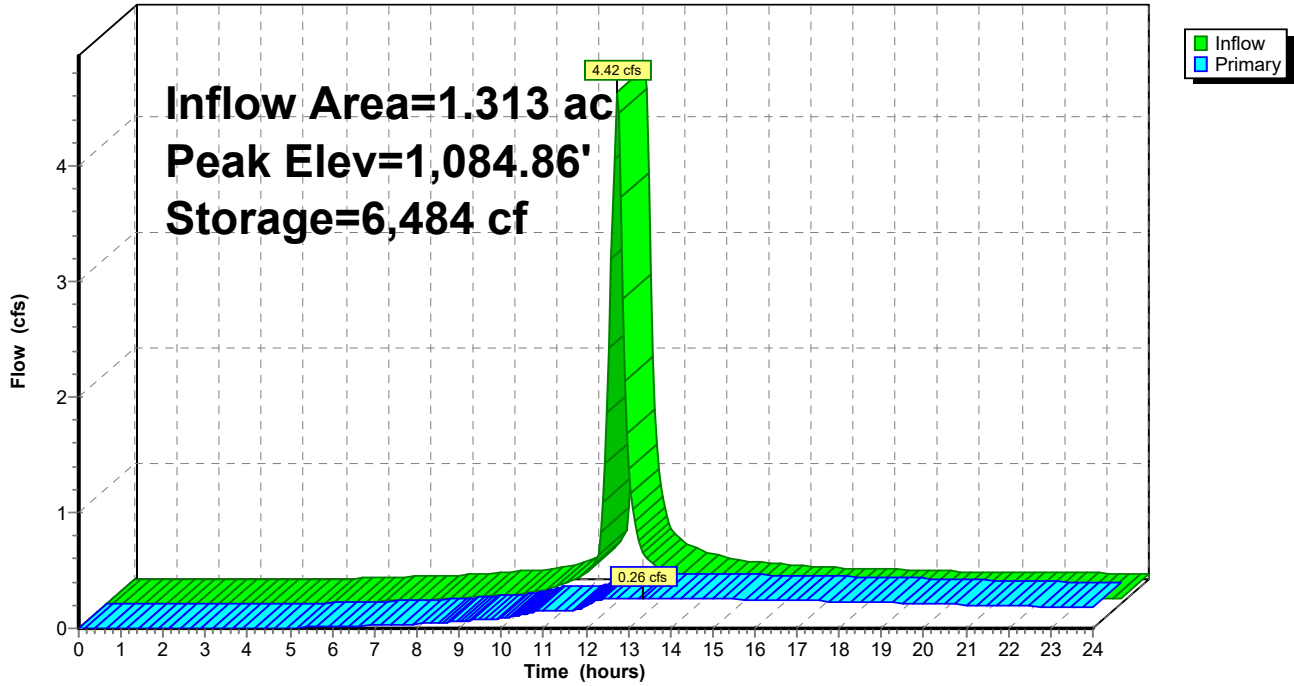
Device	Routing	Invert	Outlet Devices
#1	Primary	1,083.00'	2.500 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'

Primary OutFlow Max=0.26 cfs @ 13.33 hrs HW=1,084.86' (Free Discharge)

↑**1=Exfiltration** (Controls 0.26 cfs)

Pond 2P: Retention Basin

Hydrograph



Hillsdale DQ HydroCAD

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Type II 24-hr 25-Year Rainfall=4.30"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Proposed Watershed

Runoff Area=57,200 sf 85.00% Impervious Runoff Depth>3.40"
Tc=15.0 min CN=92 Runoff=5.49 cfs 0.372 af

Pond 2P: Retention Basin

Peak Elev=1,085.28' Storage=8,460 cf Inflow=5.49 cfs 0.372 af
Outflow=0.29 cfs 0.302 af

Total Runoff Area = 1.313 ac Runoff Volume = 0.372 af Average Runoff Depth = 3.40"
15.00% Pervious = 0.197 ac 85.00% Impervious = 1.116 ac

Hillsdale DQ HydroCAD

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Type II 24-hr 25-Year Rainfall=4.30"

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Summary for Subcatchment 1S: Proposed Watershed

Runoff = 5.49 cfs @ 12.06 hrs, Volume= 0.372 af, Depth> 3.40"

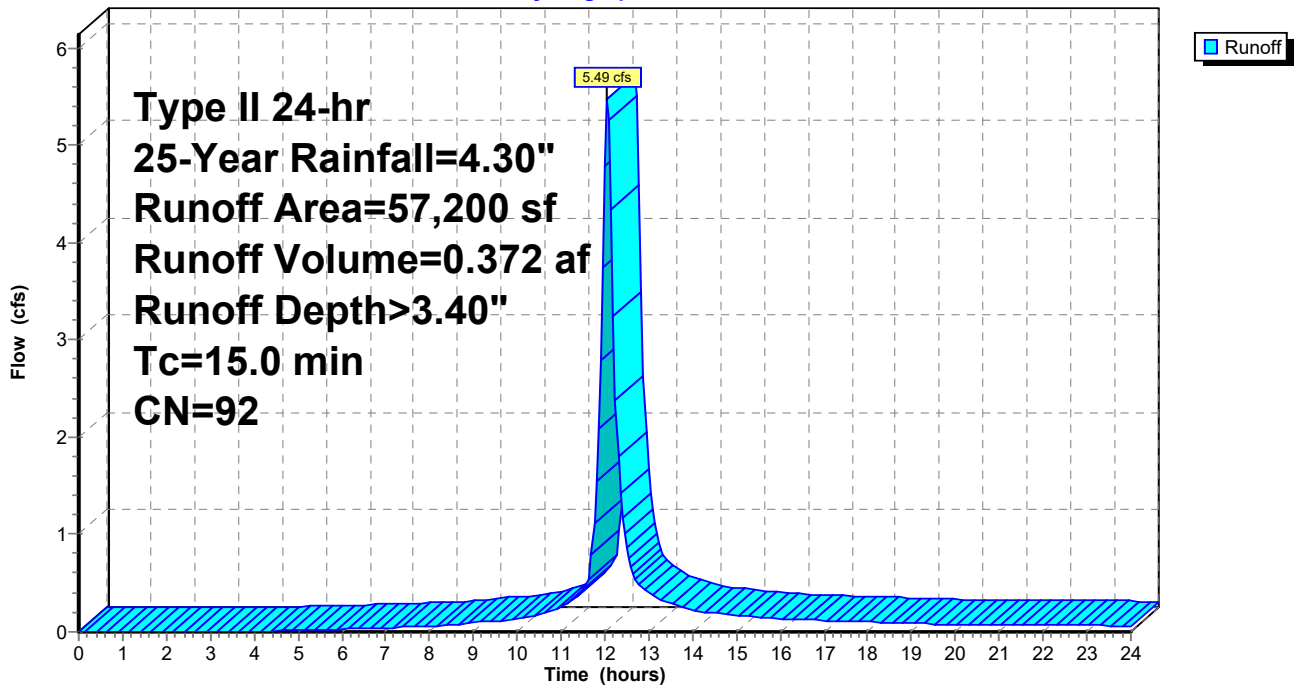
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-Year Rainfall=4.30"

Area (sf)	CN	Description
57,200	92	Urban commercial, 85% imp, HSG B
8,580		15.00% Pervious Area
48,620		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 1S: Proposed Watershed

Hydrograph



Hillsdale DQ HydroCAD

Prepared by Hurley & Stewart, LLC

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Type II 24-hr 25-Year Rainfall=4.30"

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Summary for Pond 2P: Retention Basin

Inflow Area = 1.313 ac, 85.00% Impervious, Inflow Depth > 3.40" for 25-Year event
Inflow = 5.49 cfs @ 12.06 hrs, Volume= 0.372 af
Outflow = 0.29 cfs @ 13.52 hrs, Volume= 0.302 af, Atten= 95%, Lag= 87.1 min
Primary = 0.29 cfs @ 13.52 hrs, Volume= 0.302 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1,085.28' @ 13.52 hrs Surf.Area= 4,980 sf Storage= 8,460 cf

Plug-Flow detention time= 270.1 min calculated for 0.301 af (81% of inflow)
Center-of-Mass det. time= 194.3 min (985.1 - 790.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,083.00'	18,880 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,083.00	2,530	0	0
1,084.00	3,535	3,033	3,033
1,085.00	4,644	4,090	7,122
1,086.00	5,854	5,249	12,371
1,087.00	7,164	6,509	18,880

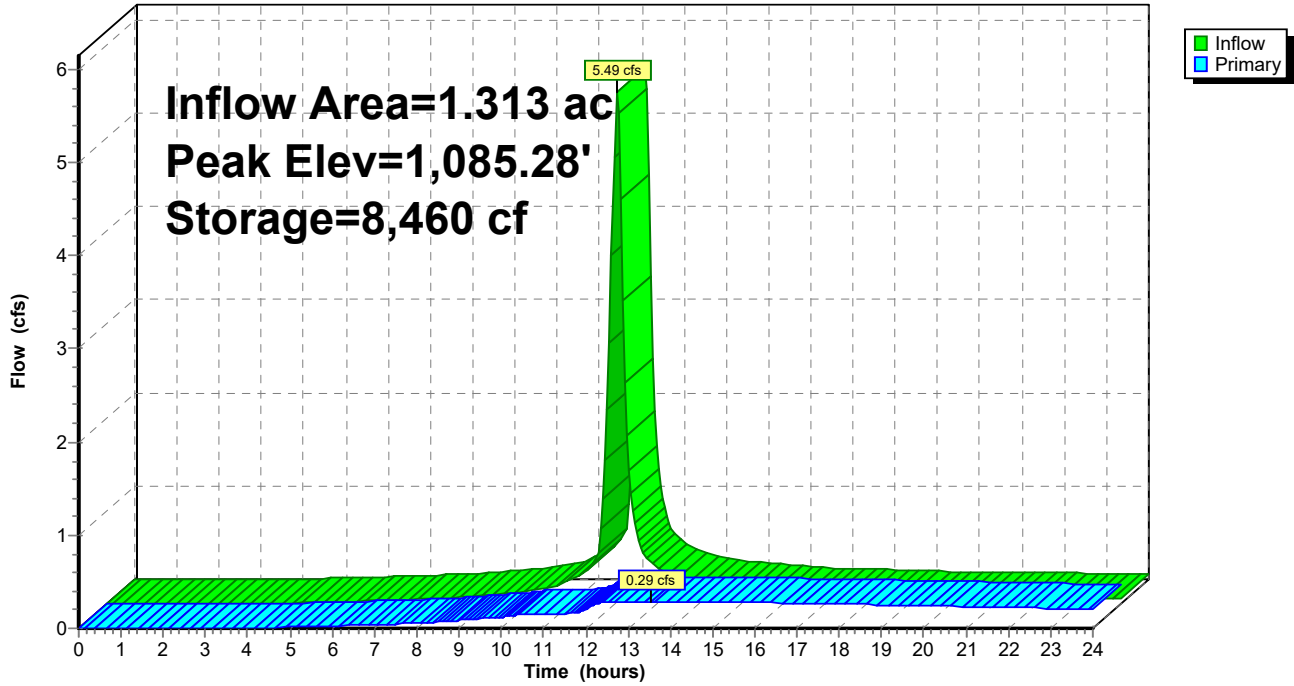
Device	Routing	Invert	Outlet Devices
#1	Primary	1,083.00'	2.500 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'

Primary OutFlow Max=0.29 cfs @ 13.52 hrs HW=1,085.28' (Free Discharge)

↑**1=Exfiltration** (Controls 0.29 cfs)

Pond 2P: Retention Basin

Hydrograph



Hillsdale DQ HydroCAD

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Type II 24-hr 50-Year Rainfall=4.90"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Proposed Watershed

Runoff Area=57,200 sf 85.00% Impervious Runoff Depth>3.98"
Tc=15.0 min CN=92 Runoff=6.37 cfs 0.436 af

Pond 2P: Retention Basin

Peak Elev=1,085.61' Storage=10,158 cf Inflow=6.37 cfs 0.436 af
Outflow=0.31 cfs 0.333 af

Total Runoff Area = 1.313 ac Runoff Volume = 0.436 af Average Runoff Depth = 3.98"
15.00% Pervious = 0.197 ac 85.00% Impervious = 1.116 ac

Hillsdale DQ HydroCAD

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Type II 24-hr 50-Year Rainfall=4.90"

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Summary for Subcatchment 1S: Proposed Watershed

Runoff = 6.37 cfs @ 12.06 hrs, Volume= 0.436 af, Depth> 3.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

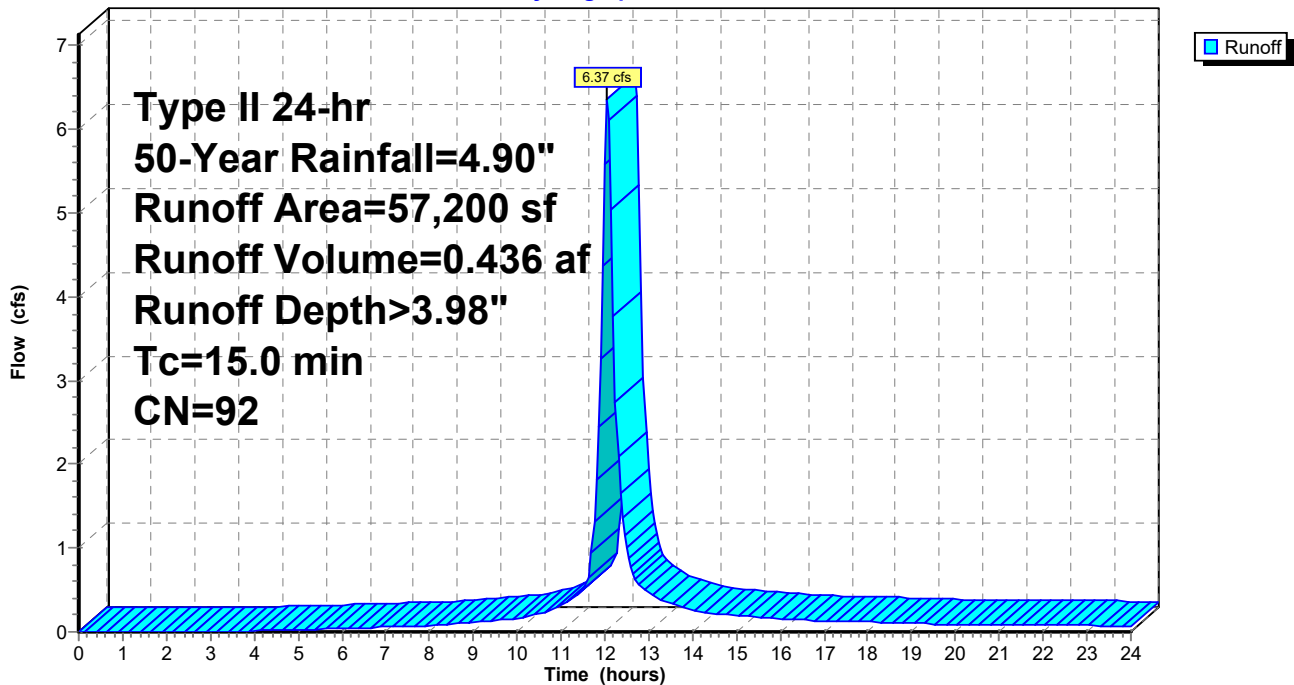
Type II 24-hr 50-Year Rainfall=4.90"

Area (sf)	CN	Description
57,200	92	Urban commercial, 85% imp, HSG B
8,580		15.00% Pervious Area
48,620		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 1S: Proposed Watershed

Hydrograph



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Type II 24-hr 50-Year Rainfall=4.90"

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Summary for Pond 2P: Retention Basin

Inflow Area = 1.313 ac, 85.00% Impervious, Inflow Depth > 3.98" for 50-Year event
 Inflow = 6.37 cfs @ 12.06 hrs, Volume= 0.436 af
 Outflow = 0.31 cfs @ 13.63 hrs, Volume= 0.333 af, Atten= 95%, Lag= 94.2 min
 Primary = 0.31 cfs @ 13.63 hrs, Volume= 0.333 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,085.61' @ 13.63 hrs Surf.Area= 5,377 sf Storage= 10,158 cf

Plug-Flow detention time= 277.9 min calculated for 0.332 af (76% of inflow)
 Center-of-Mass det. time= 193.5 min (980.1 - 786.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,083.00'	18,880 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,083.00	2,530	0	0
1,084.00	3,535	3,033	3,033
1,085.00	4,644	4,090	7,122
1,086.00	5,854	5,249	12,371
1,087.00	7,164	6,509	18,880

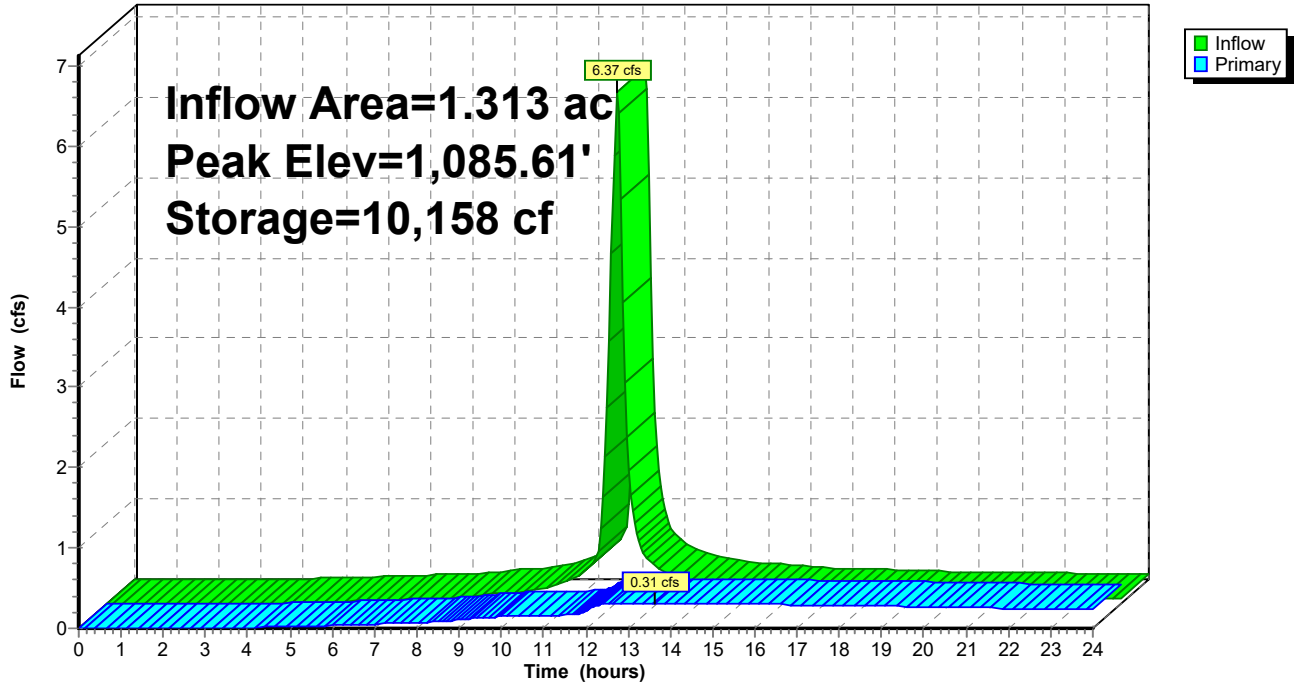
Device	Routing	Invert	Outlet Devices
#1	Primary	1,083.00'	2.500 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'

Primary OutFlow Max=0.31 cfs @ 13.63 hrs HW=1,085.61' (Free Discharge)

↑1=Exfiltration (Controls 0.31 cfs)

Pond 2P: Retention Basin

Hydrograph



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Type II 24-hr 100-Year Rainfall=5.54"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Proposed Watershed

Runoff Area=57,200 sf 85.00% Impervious Runoff Depth>4.61"

Tc=15.0 min CN=92 Runoff=7.31 cfs 0.504 af

Pond 2P: Retention Basin

Peak Elev=1,085.94' Storage=12,025 cf Inflow=7.31 cfs 0.504 af

Outflow=0.34 cfs 0.365 af

Total Runoff Area = 1.313 ac Runoff Volume = 0.504 af Average Runoff Depth = 4.61"
15.00% Pervious = 0.197 ac 85.00% Impervious = 1.116 ac

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Type II 24-hr 100-Year Rainfall=5.54"

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Summary for Subcatchment 1S: Proposed Watershed

Runoff = 7.31 cfs @ 12.06 hrs, Volume= 0.504 af, Depth> 4.61"

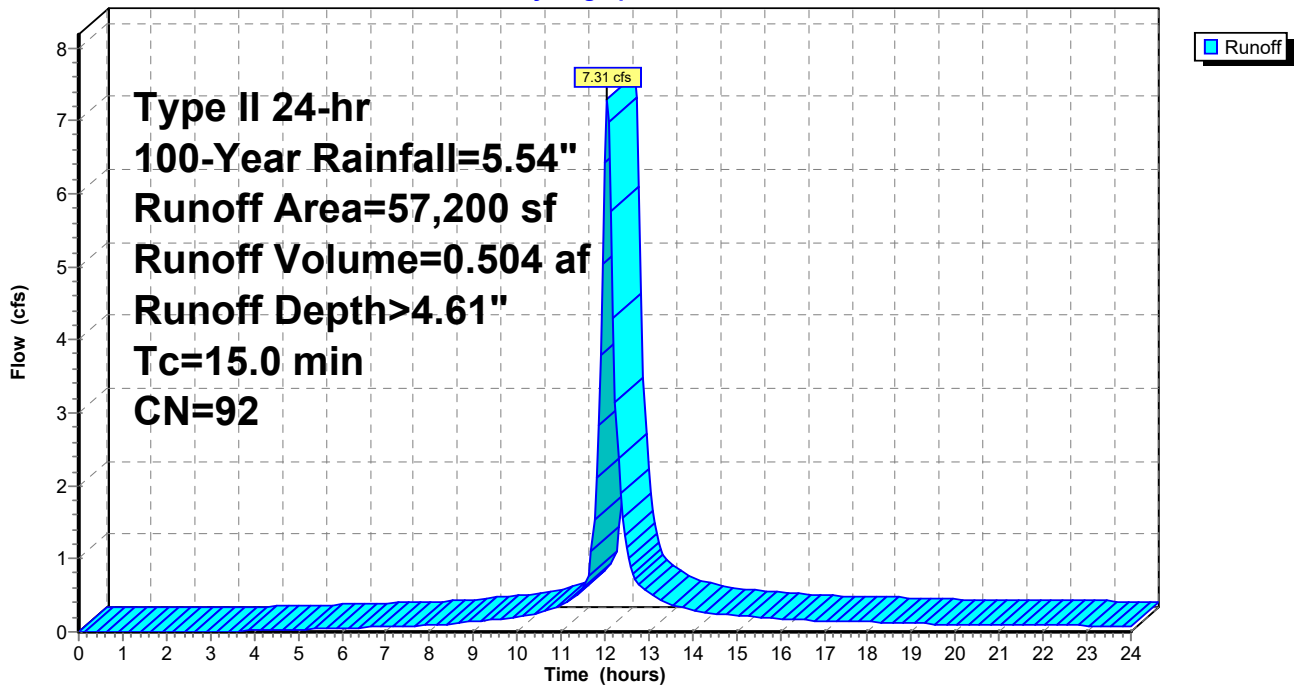
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=5.54"

Area (sf)	CN	Description
57,200	92	Urban commercial, 85% imp, HSG B
8,580		15.00% Pervious Area
48,620		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 1S: Proposed Watershed

Hydrograph



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Type II 24-hr 100-Year Rainfall=5.54"

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Summary for Pond 2P: Retention Basin

Inflow Area = 1.313 ac, 85.00% Impervious, Inflow Depth > 4.61" for 100-Year event
Inflow = 7.31 cfs @ 12.06 hrs, Volume= 0.504 af
Outflow = 0.34 cfs @ 13.74 hrs, Volume= 0.365 af, Atten= 95%, Lag= 100.9 min
Primary = 0.34 cfs @ 13.74 hrs, Volume= 0.365 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1,085.94' @ 13.74 hrs Surf.Area= 5,782 sf Storage= 12,025 cf

Plug-Flow detention time= 282.9 min calculated for 0.365 af (72% of inflow)
Center-of-Mass det. time= 193.0 min (975.7 - 782.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,083.00'	18,880 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,083.00	2,530	0	0
1,084.00	3,535	3,033	3,033
1,085.00	4,644	4,090	7,122
1,086.00	5,854	5,249	12,371
1,087.00	7,164	6,509	18,880

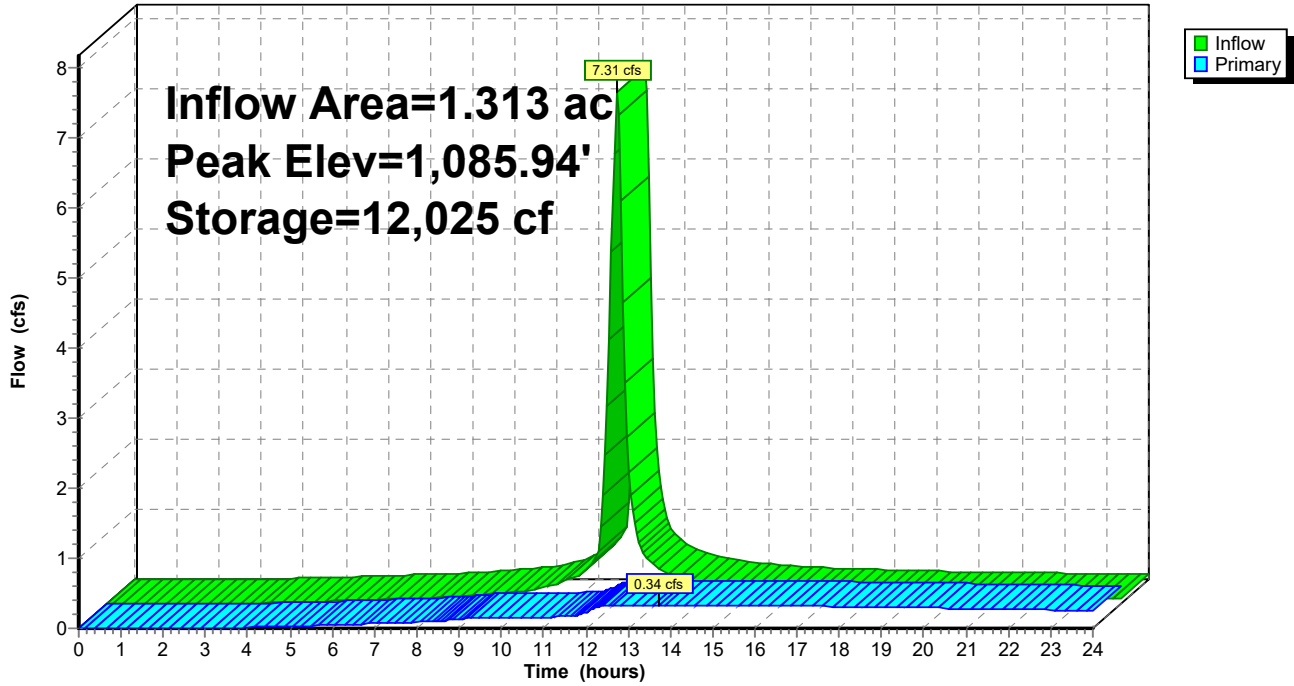
Device	Routing	Invert	Outlet Devices
#1	Primary	1,083.00'	2.500 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'

Primary OutFlow Max=0.34 cfs @ 13.74 hrs HW=1,085.94' (Free Discharge)

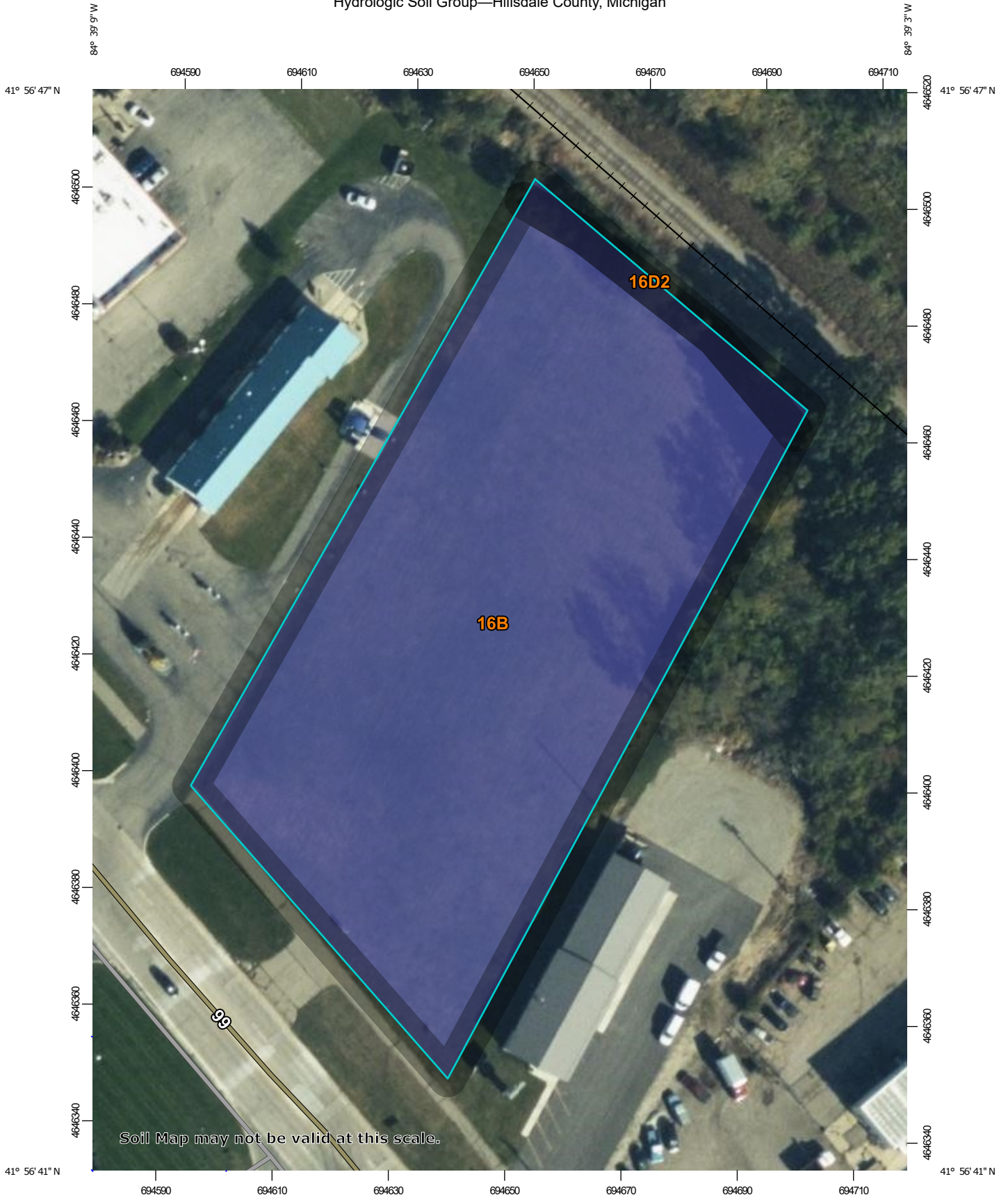
↑**1=Exfiltration** (Controls 0.34 cfs)

Pond 2P: Retention Basin

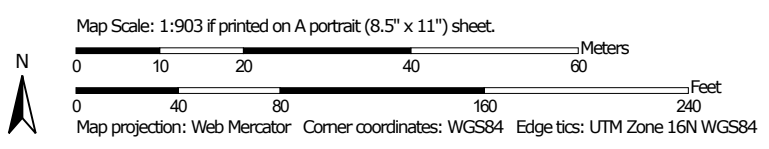
Hydrograph



Hydrologic Soil Group—Hillsdale County, Michigan



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hillsdale County, Michigan
 Survey Area Data: Version 18, Jun 1, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 8, 2019—Oct 15, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
16B	Fox sandy loam, till plain, 2 to 6 percent slopes	B	1.9	98.3%
16D2	Fox gravelly sandy loam, 12 to 18 percent slopes, eroded	B	0.0	1.7%
Totals for Area of Interest			1.9	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Professional Service Industries, Inc.
3120 Sovereign Drive, Suite C
Lansing, Michigan 48911
Phone: (517)-394-5700

February 26, 2021

Mr. Tony Szafranski, General Manager
EV Construction
285 Division Street
Coldwater, Michigan 49036

RE: Report Proposal for Geotechnical Service and Engineering
New Dairy Queen - Permeability Testing
3285 West Carleton Drive
Hillsdale, Michigan
PSI Project Number: 0406647

Dear Mr. Szafranski,

This engineering report presents the results of our geotechnical engineering exploration performed to determine the coefficient of permeability of soil for the proposed New Dairy Queen located at 3285 West Carleton Drive, in Hillsdale, Michigan. This service was performed for EV Construction in accordance with the PSI Proposal No. 334850 dated February 15, 2021. The proposal included a proposed scope of services, estimated cost, unit rates, and time schedule. Authorization to perform this exploration and analysis was in the form of an acceptance of PSI's proposal by Mr. Tony Szafranski, General Manager of EV Construction, on February 18, 2021.

The purpose of this service was to obtain a general overview of the surface conditions and coefficient of permeability of soil at a depth of six (6) feet that can be anticipated at the project location. The scope of the field exploration included completion of one (1) soil boring to a depth of 10 feet. The soil boring location was established by EV Construction and located in the field by PSI. The approximate soil boring locations are indicated on the attached soil boring Location Diagram. Prior to final design and construction, an actual field measurement at the soil boring location should be made by a professional land surveyor registered in the State of Michigan.

Constant head permeability tests were performed on soil samples collected from depths of approx. 6 to 10 feet below the existing ground surface. The samples were enclosed in rubber membranes and placed in conventional triaxial chambers with chamber pressure then applied. Back pressure, slightly less than the chamber pressure, was applied at one end of the specimen while the other end was open to atmosphere. Water was flushed through the specimen from the high pressure end to the low pressure (atmosphere) end until a stabilized flow was achieved. The coefficients of permeability so determined are listed below:

Sample Depth. (feet)	Coefficient of Permeability (cm/sec)
6.0 – 10.0	5.18×10^{-2}



The scope of services did not include an engineering analysis and evaluation of the subsurface materials encountered, nor did it include an environmental assessment for determining the presence or absence of wetlands or hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air, on or below or around this site. Any statement in this report or on the hand auger logs regarding odors, colors or unusual or suspicious items or conditions is strictly for the information of EV Construction. According to the EV Construction requested scope of services, this report is limited and does not include any engineering analysis.

PSI warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed. PSI appreciates the opportunity to have been of service to you. Pursuant to your instructions, no conclusions or analyses have been made, but if we can be of further service, please feel free to contact this office at your convenience.

Respectfully submitted,
Professional Service Industries, Inc.

Taha Khalaff, P.E.
Senior Geotechnical
taha.khalaff@intertek.com

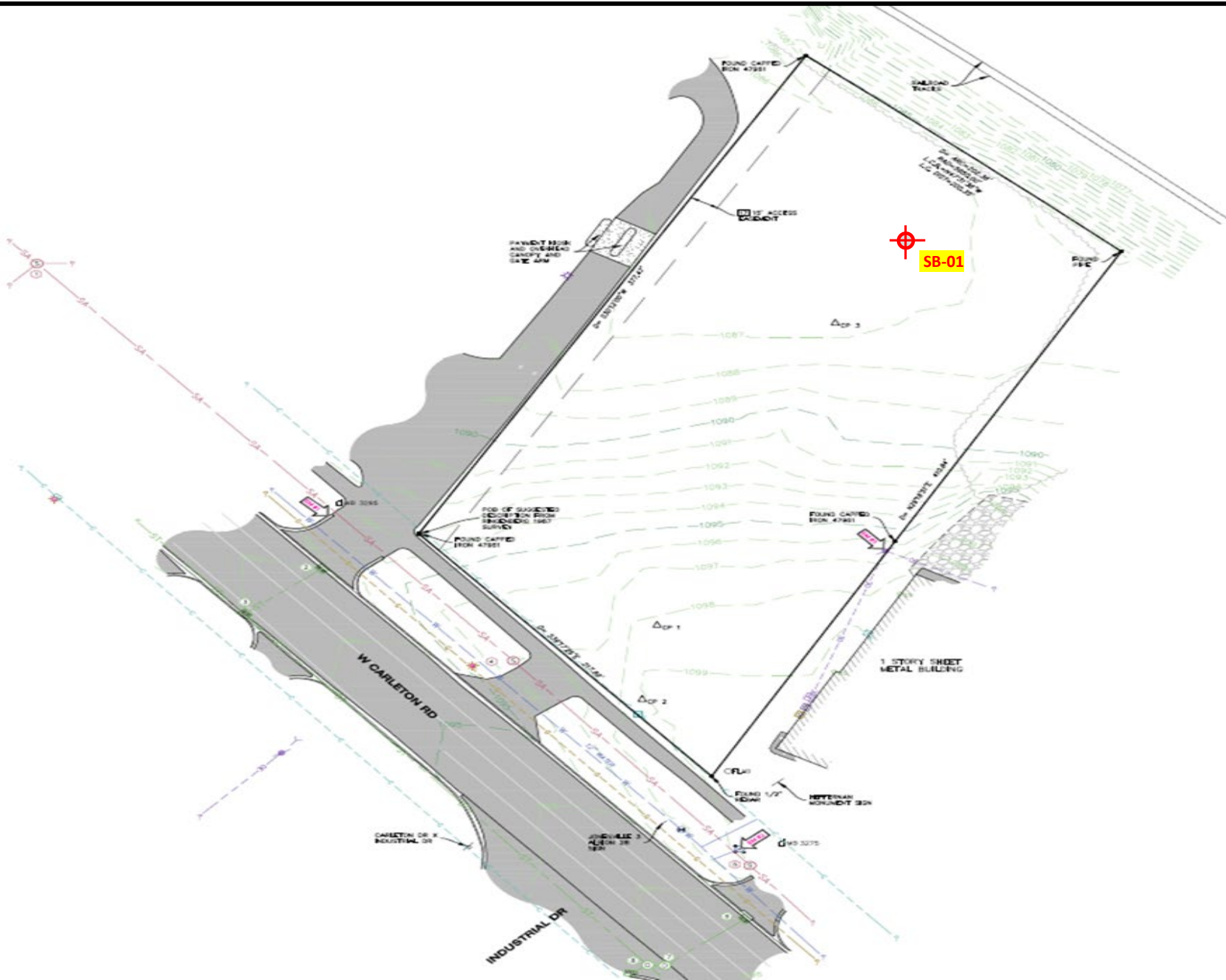
Mahmoud E. El-Gamal, Ph.D., P.E., D.GE
Principal Consultant
mahmoud.el-gamal@intertek.com

Attachments: Figure 1 – Site Location Diagram
Figures 2 – Soil Boring Location Diagram
Soil Boring Log (SB-01)
Lab Results
PSI General Notes
ASFE – Important Information About Your Geotechnical Engineering Report



SITE LOCATION DIAGRAM
 New Dairy Queen Location
 3285 West Carleton Drive
 Hillsdale, Michigan

FIGURE NO. 1
 PSI Project No. 0406647
 Prepared By: E.N.
 Prepared On: 2/22/2021



BORING LOCATIONS DIAGRAM

New Dairy Queen Location
3285 West Carleton Drive
Hillsdale, Michigan

FIGURE NO. 2

PSI Project No. 0406647
Prepared By: E.N.
Prepared On: 2/22/2021

DATE STARTED: 2/23/21
DATE COMPLETED: 2/23/21
COMPLETION DEPTH: 10.0 ft
BENCHMARK: N/A
ELEVATION: 1086.75 ft
LATITUDE:
LONGITUDE:
STATION: N/A **OFFSET:** N/A
REMARKS:

DRILL COMPANY: PSI
DRILLER: A. Alhowshabi **LOGGED BY:** A. Alhowshabi
DRILL RIG:
DRILLING METHOD: Hand Auger
SAMPLING METHOD: Grab Samples
HAMMER TYPE:
EFFICIENCY: N/A
REVIEWED BY: T. Khalaff

BORING SB-01

Water	▽ While Drilling	N/A
	▼ Upon Completion	N/A
	▽ Cave Depth	N/A

BORING LOCATION:
See Boring Location Diagram

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	Moisture, %	STRENGTH, tsf	Additional Remarks
0	0					5" TOPSOIL				
1085	14					Brown fine to coarse SILTY SAND with Clay, moist	SM	14	X	
1080	16					Brown fine to coarse SAND, trace Gravel, moist		16	X	
	6						SP	6	X	
	6							6	X	
	6							6	X	
	6							6	X	
	10					Hand auger terminated at approximately 10 feet below existing pavement surface.				
						DCP TEST RESULTS: At 5": 20 blows per 2" At 2': 13 blows per 2" At 4': 18 blows per 2" At 6": 19 blows per 2" At 7': 21 blows per 2" At 8": 20 blows per 2" At 10': 28 blows per 2"				



Professional Service Industries, Inc.
 3120 Sovereign Drive, Suite C
 Lansing, MI 48911
 Telephone: (517) 394-5700

PROJECT NO.: 0406-647
PROJECT: New Dairy Queen Location
LOCATION: 3285 West Carleton Drive
 Hillsdale, Michigan



Permeability - Constant Head

ASTM D2434

Project Name: New Dairy Queen	Project #: 0406647
Date Sampled: 2/23/2021	Date Tested: 2/25/2021
Tested by:	Source: SB-01
Reviewed by: TK	Depth: 6.0'-10.0'
Soil Description: SAND(SP), fine to coarse, trace silt and gravel, brown	

<i>Length L (cm)</i>	<i>Diameter D (cm)</i>	<i>Area A (cm²)</i>	<i>Temperature T (° C)</i>	<i>Temperature Correction Factor</i>	<i>Time t (sec)</i>	<i>Flow Q (cm³)</i>	<i>Head h (cm)</i>	<i>Perm. Coeff. k (cm/sec)</i>	<i>Perm. Coeff. k_{corr} (cm/sec)</i>
13.34	6.27	30.86	17.87	1.076	28	50	16.38	4.71E-02	5.07E-02
					54	100	16.38	4.85E-02	5.22E-02
					81	150	16.38	4.89E-02	5.26E-02

k_{aver} = 5.18E-02

GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System (USCS), AASHTO 1988 and ASTM designations D2487 and D-2488 are used to identify the encountered materials unless otherwise noted. Coarse-grained soils are defined as having more than 50% of their dry weight retained on a #200 sieve (0.075mm); they are described as: boulders, cobbles, gravel or sand. Fine-grained soils have less than 50% of their dry weight retained on a #200 sieve; they are defined as silts or clay depending on their Atterberg Limit attributes. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size.

DRILLING AND SAMPLING SYMBOLS

SFA: Solid Flight Auger - typically 4" diameter flights, except where noted.	☒ SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
HSA: Hollow Stem Auger - typically 3 1/4" or 4 1/4" I.D. openings, except where noted.	■ ST: Shelby Tube - 3" O.D., except where noted.
M.R.: Mud Rotary - Uses a rotary head with Bentonite or Polymer Slurry	▮ RC: Rock Core
R.C.: Diamond Bit Core Sampler	⬇ TC: Texas Cone
H.A.: Hand Auger	☞ BS: Bulk Sample
P.A.: Power Auger - Handheld motorized auger	☑ PM: Pressuremeter
	CPT-U: Cone Penetrometer Testing with Pore-Pressure Readings

SOIL PROPERTY SYMBOLS

N: Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch O.D. Split-Spoon.
N ₆₀ : A "N" penetration value corrected to an equivalent 60% hammer energy transfer efficiency (ETR)
Q _u : Unconfined compressive strength, TSF
Q _p : Pocket penetrometer value, unconfined compressive strength, TSF
w%: Moisture/water content, %
LL: Liquid Limit, %
PL: Plastic Limit, %
PI: Plasticity Index = (LL-PL), %
DD: Dry unit weight, pcf
▼, ▼, ▼ Apparent groundwater level at time noted

RELATIVE DENSITY OF COARSE-GRAINED SOILS

<u>Relative Density</u>	<u>N - Blows/foot</u>
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	50 - 80
Extremely Dense	80+

ANGULARITY OF COARSE-GRAINED PARTICLES

<u>Description</u>	<u>Criteria</u>
Angular:	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular:	Particles are similar to angular description, but have rounded edges
Subrounded:	Particles have nearly plane sides, but have well-rounded corners and edges
Rounded:	Particles have smoothly curved sides and no edges

GRAIN-SIZE TERMINOLOGY

<u>Component</u>	<u>Size Range</u>
Boulders:	Over 300 mm (>12 in.)
Cobbles:	75 mm to 300 mm (3 in. to 12 in.)
Coarse-Grained Gravel:	19 mm to 75 mm (¾ in. to 3 in.)
Fine-Grained Gravel:	4.75 mm to 19 mm (No.4 to ¾ in.)
Coarse-Grained Sand:	2 mm to 4.75 mm (No.10 to No.4)
Medium-Grained Sand:	0.42 mm to 2 mm (No.40 to No.10)
Fine-Grained Sand:	0.075 mm to 0.42 mm (No. 200 to No.40)
Silt:	0.005 mm to 0.075 mm
Clay:	<0.005 mm

PARTICLE SHAPE

<u>Description</u>	<u>Criteria</u>
Flat:	Particles with width/thickness ratio > 3
Elongated:	Particles with length/width ratio > 3
Flat & Elongated:	Particles meet criteria for both flat and elongated

RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term</u>	<u>% Dry Weight</u>
Trace:	< 5%
With:	5% to 12%
Modifier:	>12%

GENERAL NOTES

(Continued)

CONSISTENCY OF FINE-GRAINED SOILS

<u>Q_u - TSF</u>	<u>N - Blows/foot</u>	<u>Consistency</u>
0 - 0.25	0 - 2	Very Soft
0.25 - 0.50	2 - 4	Soft
0.50 - 1.00	4 - 8	Firm (Medium Stiff)
1.00 - 2.00	8 - 15	Stiff
2.00 - 4.00	15 - 30	Very Stiff
4.00 - 8.00	30 - 50	Hard
8.00+	50+	Very Hard

MOISTURE CONDITION DESCRIPTION

<u>Description</u>	<u>Criteria</u>
Dry:	Absence of moisture, dusty, dry to the touch
Moist:	Damp but no visible water
Wet:	Visible free water, usually soil is below water table

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term</u>	<u>% Dry Weight</u>
Trace:	< 15%
With:	15% to 30%
Modifier:	>30%

STRUCTURE DESCRIPTION

<u>Description</u>	<u>Criteria</u>	<u>Description</u>	<u>Criteria</u>
Stratified:	Alternating layers of varying material or color with layers at least ¼-inch (6 mm) thick	Blocky:	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Laminated:	Alternating layers of varying material or color with layers less than ¼-inch (6 mm) thick	Lensed:	Inclusion of small pockets of different soils
Fissured:	Breaks along definite planes of fracture with little resistance to fracturing	Layer:	Inclusion greater than 3 inches thick (75 mm)
Slickensided:	Fracture planes appear polished or glossy, sometimes striated	Seam:	Inclusion 1/8-inch to 3 inches (3 to 75 mm) thick extending through the sample
		Parting:	Inclusion less than 1/8-inch (3 mm) thick

SCALE OF RELATIVE ROCK HARDNESS

<u>Q_u - TSF</u>	<u>Consistency</u>
2.5 - 10	Extremely Soft
10 - 50	Very Soft
50 - 250	Soft
250 - 525	Medium Hard
525 - 1,050	Moderately Hard
1,050 - 2,600	Hard
>2,600	Very Hard

ROCK BEDDING THICKNESSES

<u>Description</u>	<u>Criteria</u>
Very Thick Bedded	Greater than 3-foot (>1.0 m)
Thick Bedded	1-foot to 3-foot (0.3 m to 1.0 m)
Medium Bedded	4-inch to 1-foot (0.1 m to 0.3 m)
Thin Bedded	1¼-inch to 4-inch (30 mm to 100 mm)
Very Thin Bedded	½-inch to 1¼-inch (10 mm to 30 mm)
Thickly Laminated	1/8-inch to ½-inch (3 mm to 10 mm)
Thinly Laminated	1/8-inch or less "paper thin" (<3 mm)

ROCK VOIDS

<u>Voids</u>	<u>Void Diameter</u>
Pit	<6 mm (<0.25 in)
Vug	6 mm to 50 mm (0.25 in to 2 in)
Cavity	50 mm to 600 mm (2 in to 24 in)
Cave	>600 mm (>24 in)

GRAIN-SIZED TERMINOLOGY

(Typically Sedimentary Rock)

<u>Component</u>	<u>Size Range</u>
Very Coarse Grained	>4.76 mm
Coarse Grained	2.0 mm - 4.76 mm
Medium Grained	0.42 mm - 2.0 mm
Fine Grained	0.075 mm - 0.42 mm
Very Fine Grained	<0.075 mm

ROCK QUALITY DESCRIPTION



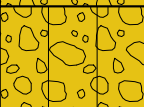
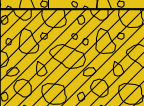
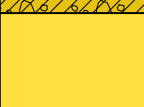

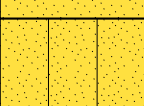
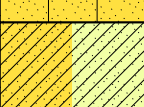

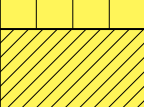



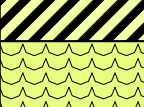
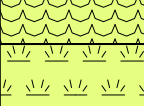
<u>Rock Mass Description</u>	<u>RQD Value</u>
Excellent	90 - 100
Good	75 - 90
Fair	50 - 75
Poor	25 - 50
Very Poor	Less than 25

DEGREE OF WEATHERING

Slightly Weathered:	Rock generally fresh, joints stained and discoloration extends into rock up to 25 mm (1 in), open joints may contain clay, core rings under hammer impact.
Weathered:	Rock mass is decomposed 50% or less, significant portions of the rock show discoloration and weathering effects, cores cannot be broken by hand or scraped by knife.
Highly Weathered:	Rock mass is more than 50% decomposed, complete discoloration of rock fabric, core may be extremely broken and gives clunk sound when struck by hammer, may be shaved with a knife.

SOIL CLASSIFICATION CHART

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS			
			GRAPH	LETTER				
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS CLEAN GRAVELS (LITTLE OR NO FINES)			GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES			
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES			
				GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES			
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)			GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES		
				SAND AND SANDY SOILS CLEAN SANDS (LITTLE OR NO FINES)			SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
							SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)			SM	SILTY SANDS, SAND - SILT MIXTURES		
					SC	CLAYEY SANDS, SAND - CLAY MIXTURES		
				FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50			ML
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS					
	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY						
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS			
				CH	INORGANIC CLAYS OF HIGH PLASTICITY			
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS			
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS			

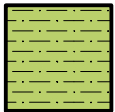
Graphic Symbols for Materials and Rock Deposits



CONCRETE
Portland Cement Concrete



BITUMINOUS CONCRETE



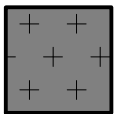
CLAYSTONE



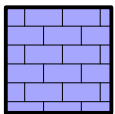
COAL
Coal, Anthracite Coal



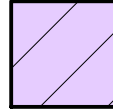
CONGLOMERATE/BRECCIA
Conglomerate, Breccia



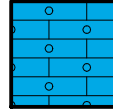
IGNEOUS ROCK
Anorthosite, Basalt, Metabasalt, Diabase (Gabbro), Gabbro, Granite/Granodionite, Homfels, Pegmatite, Rhyolite/Metarhyolite



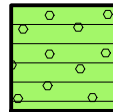
LIMESTONE
Limestone, Dolomite



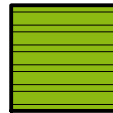
METAMORPHIC ROCK
Amphibolite, Gneiss, Marble, Phyllite, Quartzite, Schist, Serpentinite, Slate



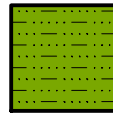
CHERT



SANDSTONE
Sandstone, Orthoquartzite (Sandstone)



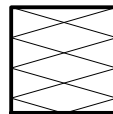
SHALE



SILTSTONE



NO RECOVERY



VOID

Important Information About Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply the report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely, on Your ASFE-Member Geotechnical Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you ASFE-member geotechnical engineer for more information.



8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@asfe.org www.asfe.org

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Intertek

For more than 135 years, companies around the world have depended on Intertek to help ensure the quality and safety of their products, processes and systems.

We go beyond testing, inspecting and certifying products; we are a Total Quality Assurance provider to industries worldwide. Through our global network of state-of-the-art facilities and industry-leading technical expertise we provide innovative and bespoke Assurance, Testing, Inspection and Certification services to customers. We provide a systemic approach to supporting our customers' Quality Assurance efforts in each of the areas of their operations including R&D, raw materials sourcing, components suppliers, manufacturing, transportation, distribution and retail channels, and consumer management.

Intertek is an industry leader with more than 42,000 employees in 1,000 locations in over 100 countries. We deliver Quality Assurance expertise 24 hours a day, 7 days a week with our industry-winning processes and customer-centric culture. Whether your business is local or global, we can help to ensure that your products meet quality, health, environmental, safety, and social accountability standards for virtually any market around the world. We hold extensive global accreditations, recognitions, and agreements, and our knowledge of and expertise in overcoming regulatory, market, and supply chain hurdles is unrivaled.

Our Mission
To exceed our customers' expectations with innovative and bespoke Assurance, Testing, Inspection and Certification services for their operations and supply chain. Globally. 24/7.

Intertek can sharpen your competitive edge

- With reliable testing and certification for faster regulatory approval
- Through rapid, efficient entry to virtually any market in the world
- With Total Quality Assurance across your supply chain
- Through innovative leadership in meeting social accountability standards
- By reducing cost and minimizing health, safety, and security risks
- By becoming a TRUSTED BRAND



PSI

Professional Service Industries, Inc. (PSI), an Intertek company, nationally recognized consulting engineering and testing firm providing integrated services in several disciplines, including environmental consulting, building envelope consulting and testing, geotechnical engineering, construction materials testing and engineering, asbestos management and facilities engineering and consulting. We are recognized as one of the largest engineering design consulting companies in the US. We have been providing engineering consulting services to Fortune 500 clients and governmental agencies for over 100 years. However, our proudest accomplishment is the large number of clients that we have serviced for many years that keep coming back because of our responsiveness, commitment to listening to our clients, and consistent quality of service.

PSI has been providing business and industry with objective, accurate and useful information for more than 100 years. Today, we employ approximately 2,300 skilled personnel in 100 offices nationwide.

Distinguished as both a local and a national leader in engineering and environmental services, PSI is recognized in several disciplines including the following:

- Geotechnical Engineering
- Construction Materials Testing and Special Inspection
- Environmental Consulting
- Industrial Hygiene
- Nondestructive Examination
- Pavement Evaluation Services
- Building Science Solutions
 - Building Envelope
 - Curtainwall
 - Acoustic
 - Fire/Life Safety
 - Technology
 - Roof Consulting

PSI can provide outstanding consulting engineering and testing services; however, most of all we desire to demonstrate our commitment to excellence.

PSI provides its clients with ***Information To Build On*** in making knowledgeable, cost-effective business decisions that help their clients reduce expenses, improve quality and decrease liabilities.

A Commitment To Excellence

PSI maintains the highest professional and ethical standards, which include an economic awareness to provide the highest quality of personnel and service at a reasonable cost to our clients. Our unique combination of local, independent offices and nationwide resources means our project managers have the full responsibility for managing your local projects, and also have the national resources to handle the most challenging and complex projects, regardless of size.

While PSI's growth has been notable, even more impressive has been our ability to grow without sacrificing our technical knowledge or personalized attention to our clients. Recognition of the importance of our clients and repeat business has been a key factor in PSI's success. PSI will not sacrifice quality, value, or service to our clients.

A Commitment To Excellence (continued)

Our staff of professionals consists of the following:

- Professional Engineers (PE/PEng)
- Registered Roof Consultants (RRC)
- Registered Architects (AIA)
- Certified Industrial Hygienists (CIH)
- Registered Soil Scientists
- Engineers-In-Training (EIT)
- Registered Geologists

Our field and laboratory technicians are trained in-house and at special schools and seminars. Our project managers and technicians are certified by associations such as the following and also work with other specialized organizations within each discipline.

- Roofing Industry Educational Institute (RIEI)
- Roof Consultants Institute (RCI)
- American Concrete Institute (ACI)
- National Institute for the Certification of Engineering Technicians (NICET)
- American Welding Society (AWS)
- International Code Council (ICC)
- International Fire Council (IFC)

Since our founding, we have dedicated ourselves to excellence both in our technical expertise and in customer service. It is this principal upon which we have based our organization and established a national reputation as a leader in the field of professional engineering, testing and consulting services.

PSI's Vision... is to be the most trusted, integrated provider of "Information To Build On" for clients that buy, sell, design, construct, develop, finance and manage properties and infrastructure. By being safe 24/7/365, hiring and retaining the best employees, efficiently managing projects, and building close client relationships, we will be successful in growing PSI and in balancing the needs of our employees, clients and investors.



NOAA Atlas 14, Volume 8, Version 2
Location name: Hillsdale, Michigan, USA*
Latitude: 41.9258°, Longitude: -84.6398°
Elevation: 1090.95 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

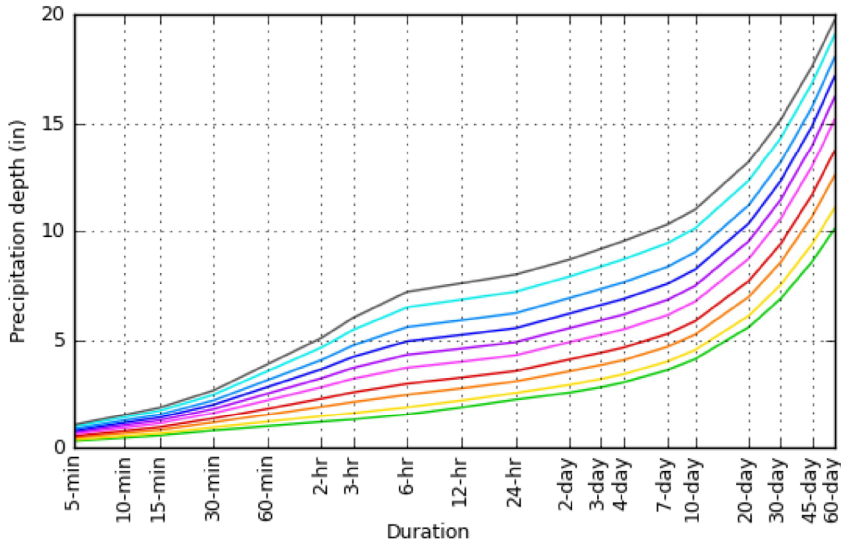
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.320 (0.262-0.409)	0.374 (0.305-0.478)	0.462 (0.375-0.591)	0.535 (0.433-0.686)	0.636 (0.497-0.830)	0.714 (0.546-0.939)	0.792 (0.587-1.06)	0.871 (0.621-1.18)	0.976 (0.670-1.35)	1.06 (0.708-1.47)
10-min	0.469 (0.383-0.599)	0.548 (0.447-0.700)	0.677 (0.550-0.866)	0.784 (0.633-1.00)	0.931 (0.728-1.22)	1.05 (0.800-1.38)	1.16 (0.859-1.55)	1.27 (0.909-1.73)	1.43 (0.981-1.97)	1.55 (1.04-2.15)
15-min	0.572 (0.467-0.731)	0.668 (0.545-0.853)	0.825 (0.670-1.06)	0.956 (0.772-1.23)	1.14 (0.888-1.48)	1.27 (0.975-1.68)	1.41 (1.05-1.89)	1.56 (1.11-2.11)	1.74 (1.20-2.40)	1.89 (1.26-2.63)
30-min	0.804 (0.656-1.03)	0.947 (0.772-1.21)	1.18 (0.957-1.51)	1.37 (1.11-1.75)	1.63 (1.27-2.12)	1.83 (1.40-2.40)	2.02 (1.50-2.70)	2.22 (1.58-3.01)	2.48 (1.70-3.42)	2.68 (1.80-3.73)
60-min	1.00 (0.820-1.28)	1.21 (0.988-1.55)	1.55 (1.26-1.99)	1.84 (1.48-2.36)	2.23 (1.74-2.92)	2.54 (1.94-3.34)	2.84 (2.11-3.80)	3.15 (2.25-4.28)	3.57 (2.45-4.93)	3.89 (2.61-5.42)
2-hr	1.21 (0.996-1.52)	1.48 (1.22-1.86)	1.93 (1.59-2.43)	2.31 (1.89-2.91)	2.83 (2.24-3.66)	3.24 (2.51-4.22)	3.66 (2.75-4.84)	4.09 (2.95-5.49)	4.66 (3.24-6.37)	5.09 (3.46-7.03)
3-hr	1.32 (1.10-1.64)	1.63 (1.35-2.03)	2.15 (1.78-2.69)	2.59 (2.14-3.25)	3.22 (2.58-4.14)	3.72 (2.91-4.81)	4.22 (3.20-5.56)	4.75 (3.46-6.36)	5.47 (3.83-7.44)	6.02 (4.12-8.26)
6-hr	1.57 (1.32-1.92)	1.91 (1.61-2.34)	2.49 (2.09-3.06)	2.99 (2.50-3.69)	3.73 (3.03-4.74)	4.32 (3.43-5.54)	4.94 (3.79-6.44)	5.60 (4.13-7.42)	6.50 (4.62-8.78)	7.21 (4.99-9.81)
12-hr	1.90 (1.62-2.29)	2.22 (1.89-2.68)	2.78 (2.36-3.36)	3.27 (2.77-3.98)	4.00 (3.30-5.03)	4.60 (3.71-5.82)	5.23 (4.08-6.74)	5.91 (4.42-7.75)	6.85 (4.94-9.17)	7.60 (5.33-10.2)
24-hr	2.26 (1.96-2.69)	2.56 (2.22-3.05)	3.10 (2.67-3.69)	3.58 (3.07-4.28)	4.30 (3.60-5.32)	4.90 (4.00-6.12)	5.54 (4.38-7.05)	6.23 (4.73-8.09)	7.21 (5.27-9.56)	8.00 (5.68-10.7)
2-day	2.58 (2.27-3.02)	2.94 (2.58-3.44)	3.56 (3.12-4.18)	4.11 (3.57-4.84)	4.90 (4.14-5.96)	5.54 (4.58-6.80)	6.21 (4.97-7.78)	6.93 (5.32-8.86)	7.91 (5.85-10.3)	8.69 (6.25-11.5)
3-day	2.83 (2.51-3.28)	3.21 (2.83-3.72)	3.85 (3.39-4.47)	4.42 (3.87-5.15)	5.24 (4.47-6.31)	5.91 (4.92-7.19)	6.61 (5.32-8.20)	7.35 (5.68-9.33)	8.37 (6.24-10.9)	9.19 (6.65-12.1)
4-day	3.05 (2.72-3.51)	3.43 (3.05-3.95)	4.08 (3.62-4.71)	4.65 (4.10-5.39)	5.49 (4.71-6.57)	6.17 (5.17-7.46)	6.88 (5.58-8.50)	7.64 (5.95-9.66)	8.70 (6.52-11.3)	9.54 (6.95-12.5)
7-day	3.62 (3.26-4.11)	4.01 (3.61-4.55)	4.68 (4.20-5.33)	5.27 (4.70-6.02)	6.13 (5.32-7.24)	6.84 (5.79-8.17)	7.57 (6.20-9.24)	8.35 (6.57-10.4)	9.44 (7.15-12.1)	10.3 (7.58-13.3)
10-day	4.12 (3.74-4.64)	4.54 (4.11-5.11)	5.25 (4.74-5.92)	5.86 (5.26-6.64)	6.76 (5.90-7.90)	7.48 (6.38-8.86)	8.23 (6.79-9.97)	9.03 (7.15-11.2)	10.1 (7.71-12.9)	11.0 (8.14-14.2)
20-day	5.60 (5.15-6.19)	6.12 (5.62-6.77)	6.99 (6.40-7.75)	7.72 (7.03-8.60)	8.74 (7.72-10.0)	9.55 (8.24-11.1)	10.4 (8.65-12.3)	11.2 (8.98-13.7)	12.3 (9.51-15.5)	13.2 (9.92-16.8)
30-day	6.89 (6.39-7.54)	7.53 (6.97-8.24)	8.56 (7.90-9.40)	9.41 (8.64-10.4)	10.6 (9.38-11.9)	11.4 (9.93-13.1)	12.3 (10.3-14.5)	13.2 (10.6-15.9)	14.3 (11.1-17.8)	15.1 (11.5-19.2)
45-day	8.60 (8.04-9.32)	9.41 (8.79-10.2)	10.7 (9.94-11.6)	11.7 (10.8-12.8)	13.0 (11.6-14.5)	14.0 (12.2-15.8)	14.9 (12.6-17.3)	15.8 (12.8-18.9)	16.9 (13.2-20.8)	17.6 (13.4-22.2)
60-day	10.1 (9.51-10.9)	11.1 (10.4-11.9)	12.6 (11.8-13.6)	13.7 (12.8-14.9)	15.2 (13.6-16.8)	16.2 (14.2-18.2)	17.2 (14.6-19.8)	18.0 (14.7-21.4)	19.1 (15.0-23.3)	19.7 (15.1-24.8)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

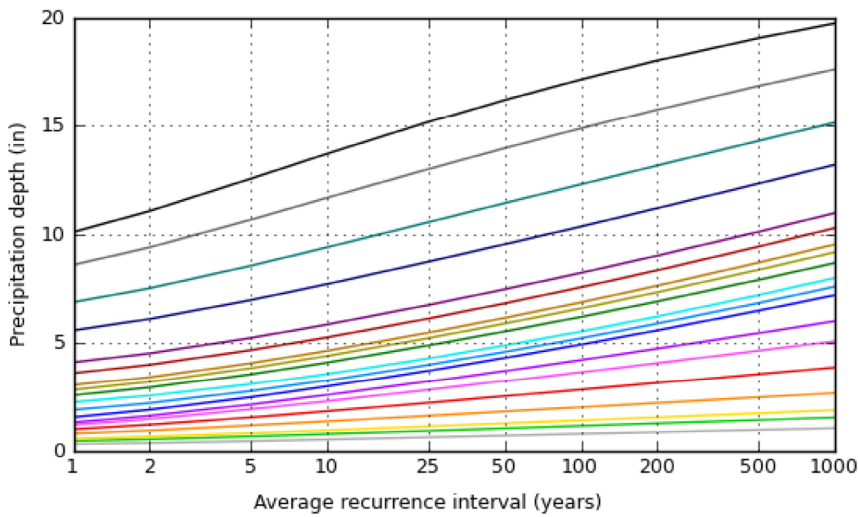
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PF graphical

PDS-based depth-duration-frequency (DDF) curves
 Latitude: 41.9258°, Longitude: -84.6398°



Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

Maps & aerials

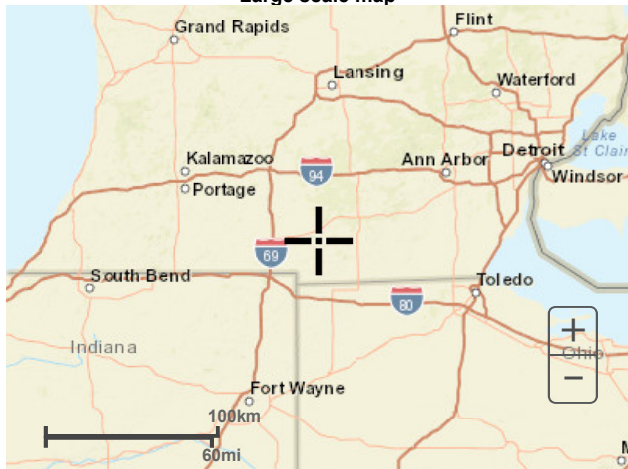
Small scale terrain

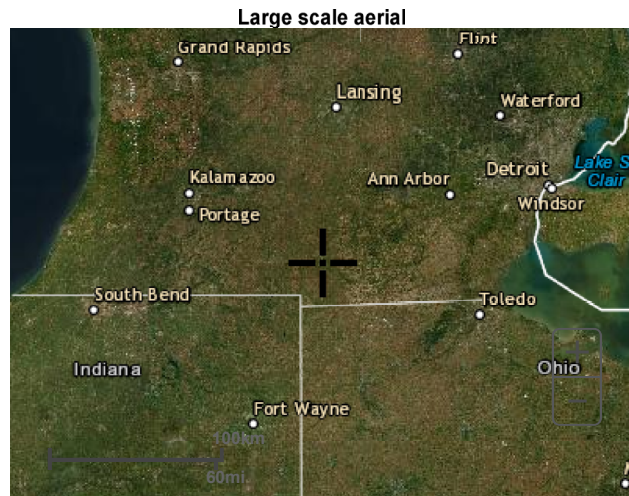


Large scale terrain



Large scale map





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1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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