



## GODDARD SCHOOL ANNEX JSP22-59

### **JSP22-59 GODDARD SCHOOL ANNEX**

Consideration of Preliminary Site Plan and Stormwater Management Plan approval at the request of Doeting Education Co and the Goddard School of Novi for an addition to the existing Goddard School. The subject property is comprised of two parcels planned to be combined. The first parcel, which contains the existing Goddard School, is 2.04 acres in size. The second parcel is 2.29 acres in size. The subject property is located on the north side of Grand River Avenue and south side of 12 Mile Road, east of Wixom Road, and it is in the B-3 General Business District. The applicant is proposing to add on to the existing Goddard School to accommodate an anticipated increase in enrollment from 154 to 274.

### **Required Action**

Approve/Deny the Preliminary Site Plan and Stormwater Management Plan.

REVIEW	RESULT	DATE	COMMENTS
Planning	Approval recommended	9-5-23	<ul style="list-style-type: none"> <li>• <b>Outdoor Recreation Area modification from Section 4.12.2.i.a for having a deficiency in the required outdoor play area</b></li> <li>• <b>Zoning Board of Appeals Variance from Section 4.12.2.ii.a for having greater than 50% of the front yard or exterior side yard consisting of parking</b></li> <li>• <b>Zoning Board of Appeals Variance from Section 4.19.1 for constructing an accessory building in a front yard</b></li> <li>• Items to be addressed by the applicant prior to Final Site Plan approval</li> </ul>
Engineering	Approval recommended	4-19-23	<ul style="list-style-type: none"> <li>• <b>City Council variance from the Design and Construction Standards in Section 11-256 (b) for not installing a sidewalk all the way to the property line along Grand River Avenue or along 12 Mile Road and paying into the sidewalk fund in lieu of constructing the sidewalk</b></li> <li>• Items to be addressed by the applicant prior to Final Site Plan approval</li> </ul>

Landscaping	Approval recommended	8-30-23	<ul style="list-style-type: none"> <li>• Waiver for the deficiency in greenbelt berm provided along 12 Mile Road</li> <li>• Waiver for the deficiency in greenbelt berm height along Grand River Avenue</li> <li>• Waiver for deficiency in greenbelt plantings along Grand River Avenue due to wetland</li> <li>• Waiver for deficiency in street trees along Grand River Avenue</li> <li>• Waiver for lack of street trees along 12 Mile Road</li> <li>• Waiver for deficiency in foundation landscaping – <u>not supported by staff</u></li> </ul>
Wetland	Approval recommended	3-27-23	<ul style="list-style-type: none"> <li>• Items to be addressed by the applicant prior to Final Site Plan approval</li> </ul>
Traffic	Approval recommended	6-9-23	<ul style="list-style-type: none"> <li>• Items to be addressed by the applicant prior to Final Site Plan approval</li> </ul>
Façade	Approval recommended	6-5-23	<ul style="list-style-type: none"> <li>• Items to be addressed by the applicant prior to Final Site Plan approval</li> </ul>
Fire	Approval recommended	5-30-23	<ul style="list-style-type: none"> <li>• Items to be addressed by the applicant prior to Final Site Plan approval</li> </ul>

## **MOTION SHEET**

### **Approval – Preliminary Site Plan**

In the matter of Goddard School Annex, JSP22-59, motion to **approve** the Preliminary Site Plan based on and subject to the following:

- a. The Planning Commission modifying the requirement of Section 4.12.2.ii.a to allow for a deficiency in outdoor play area size compared to the requirements of the Zoning Ordinance. The Ordinance requires 150 square feet per person cared for, and the Goddard School is anticipated increased enrollment to 274, which would require 41,400 square feet of outdoor play area. The applicant is providing 16,030 square feet. The modification is hereby granted *because the applicant has provided justification by staggering the times that children are outside playing so that there are no more than 94 children playing outside at one time, providing a ratio of 170 square feet per student;*
- b. The Zoning Board of Appeals granting a variance from Section 4.12.2.ii.b of the Zoning Ordinance for having greater than 50% of the front yard and exterior side yard consist of parking *because the site is constrained by having two frontages, the operations in regard to care of the children is taking place in the rear yard between the building and 12 Mile Road, where there is no parking or pick-up/drop-off of children, and the surrounding B-3 uses have similar parking situations;*
- c. The Zoning Board of Appeals granting a variance from Section 4.19.1 for constructing an accessory building in a front yard *due to the site having two frontages;*
- d. The City Council granting a Design and Construction Standards variance from Section 11-256 (b) for not installing a sidewalk all the way to the property line along Grand River Avenue *because the applicant does not want to interfere with the existing wetland and will pay into the sidewalk fund in lieu of constructing the sidewalk/boardwalk;*
- e. The City Council granting a Design and Construction Standards variance from Section 11-256 (b) for not installing a sidewalk along 12 Mile Road *because the applicant does not want to interfere with the existing wetland and will pay into the sidewalk fund in lieu of constructing the sidewalk/boardwalk;*
- f. Landscape waiver for the deficiency in greenbelt berm provided along 12 Mile Road *to protect the existing wetland;*
- g. Landscape waiver for the deficiency in greenbelt berm height along Grand River Avenue *because a hedge is planted along the top of the berm;*
- h. Landscape waiver for the deficiency in greenbelt plantings along Grand River Avenue *in order to preserve the wetland;*
- i. Landscape waiver deficiency in street trees along Grand River *in order to preserve the wetland;*
- j. Landscape waiver for lack of street trees along 12 Mile Road *to protect the wetland – supported if a boardwalk is used as a sidewalk not supported if that section of wetland is filled to build a sidewalk;*

- k. Landscape waiver for deficiency in foundation landscaping – *not supported by staff; staff finds that some additional planting can be done and encourages the applicant to work with staff on addressing the deficiency with Final Site Plan submittal*
- l. The findings of compliance with Ordinance standards in the staff and consultant review letters and the conditions and the items listed in those letters being addressed on the Final Site Plan; and
- m. *(additional conditions here if any)*

*(This motion is made because the plan is otherwise in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)*

**– AND –**

**Approval – Stormwater Management Plan**

In the matter of Goddard School Annex JSP22-59, motion to **approve** the Stormwater Management Plan based on and subject to the following:

- a. The findings of compliance with Ordinance standards in the staff and consultant review letters, and the conditions and items listed in those letters being addressed on the Final Site Plan; and
- b. *(additional conditions here if any)*

*(This motion is made because the plan is otherwise in compliance with Chapter 11 of the Code of Ordinances and all other applicable provisions of the Ordinance.)*

**– OR –**

**Denial – Preliminary Site Plan**

In the matter of Goddard School Annex, JSP22-59, motion to **deny** the Preliminary Site Plan... *(because the plan is not in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)*

**– AND –**

**Denial – Stormwater Management Plan**

In the matter of Goddard School Annex, JSP22-59, motion to **deny** the Stormwater Management Plan... *(because the plan is not in compliance with Chapter 11 of the Code of Ordinances and all other applicable provisions of the Ordinance.)*

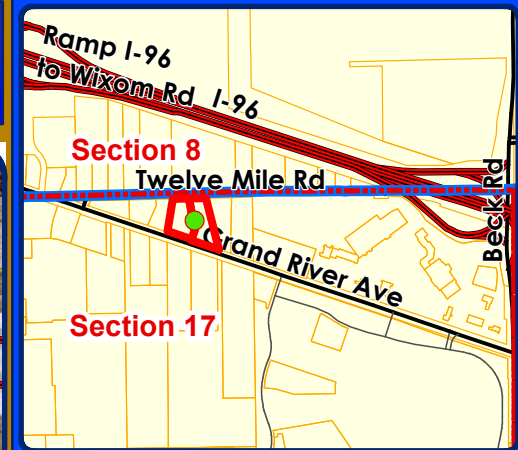


**MAPS**  
**Location**  
**Zoning**  
**Future Land Use**  
**Natural Features**



# GODDARD SCHOOL ANNEX

## LOCATION



### LEGEND

 Subject Property

## City of Novi

Dept. of Community Development  
City Hall / Civic Center  
45175 W Ten Mile Rd  
Novi, MI 48375  
[cityofnovi.org](http://cityofnovi.org)

Map Author: James Hill  
Date: 9/7/2023  
Project: GODDARD SCHOOL ANNEX  
Version #: 1



1 inch = 333 feet



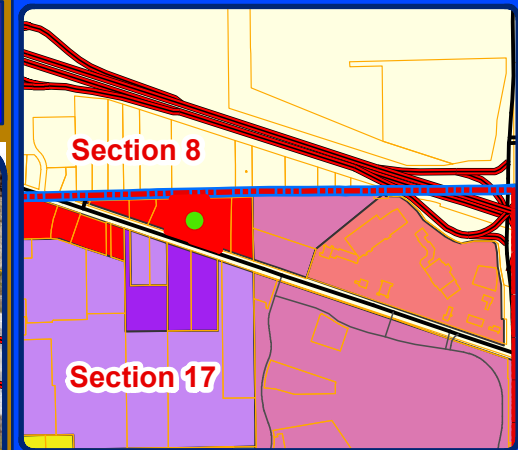
### MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.



# GODDARD SCHOOL ANNEX

## ZONING



### LEGEND

- R-A: Residential Acreage
- R-1: One-Family Residential District
- B-2: Community Business District
- B-3: General Business District
- I-1: Light Industrial District
- I-2: General Industrial District
- OS-1: Office Service District
- OSC: Office Service Commercial
- OST: Office Service Technology

**City of Novi**  
 Dept. of Community Development  
 City Hall / Civic Center  
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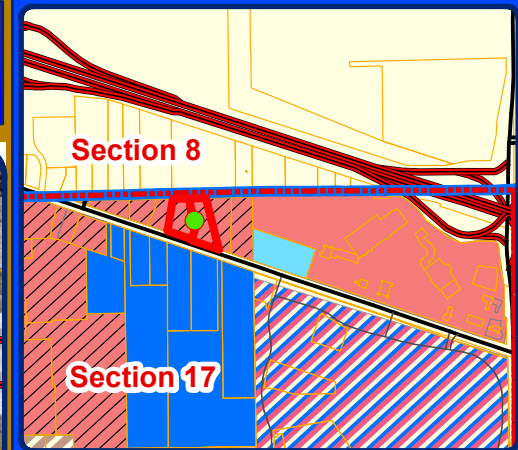
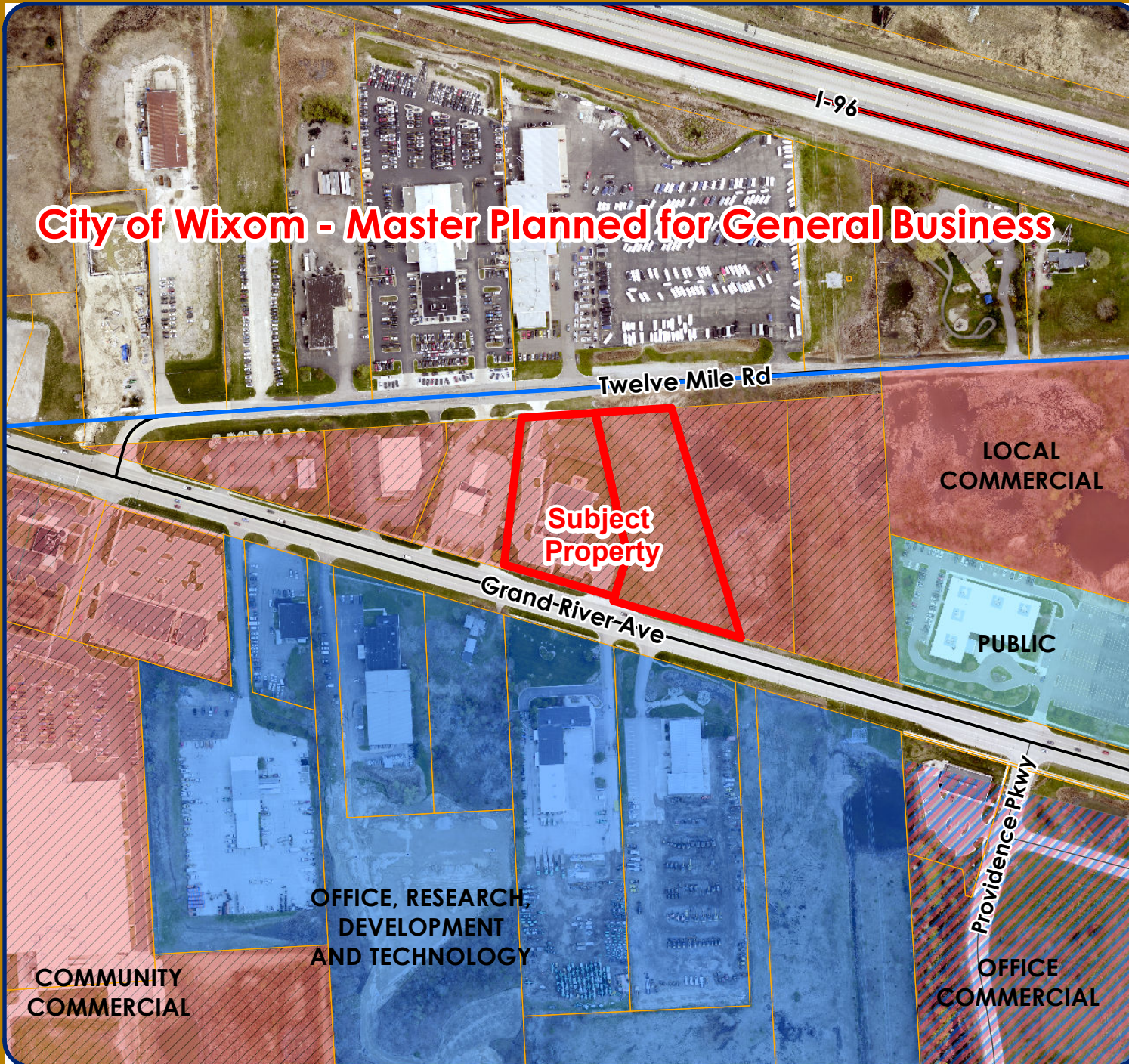
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# GODDARD SCHOOL ANNEX

FUTURE LAND USE

City of Wixom - Master Planned for General Business



### LEGEND

- Suburban Low-Rise
- Office, Research, Development and Technology
- Office Commercial
- Local Commercial
- Community Commercial
- City West
- Public
- Utility

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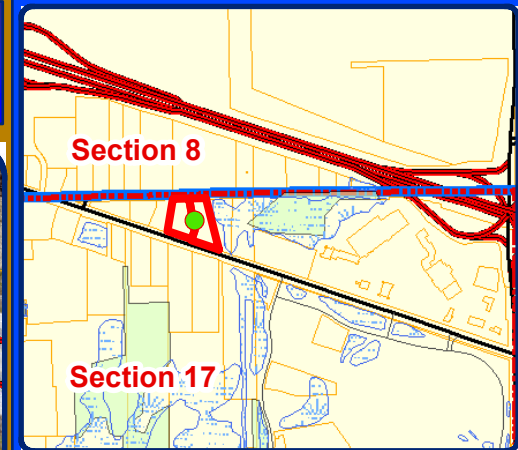
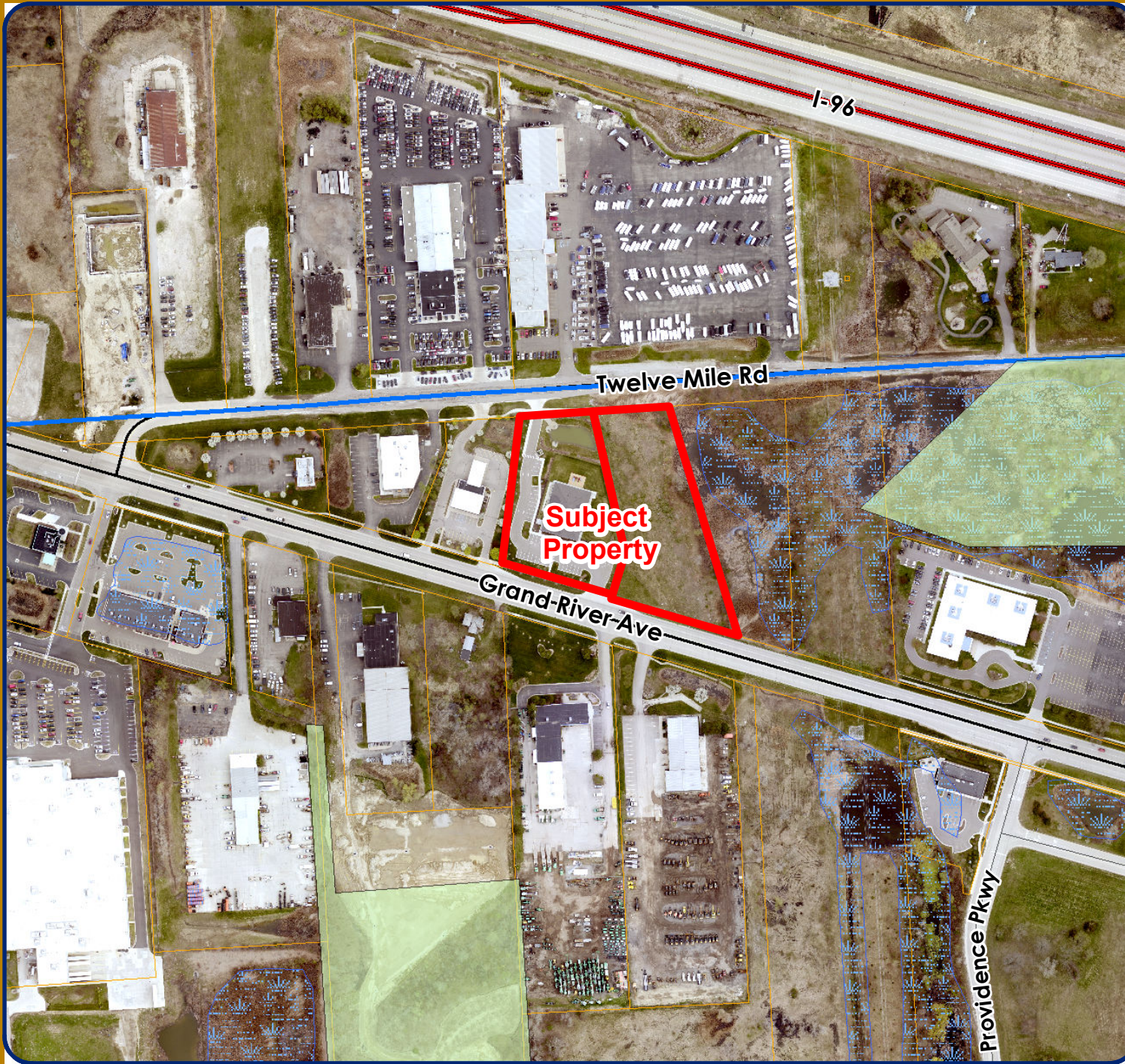


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

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# GODDARD SCHOOL ANNEX NATURAL FEATURES



## LEGEND

-  Wetlands
-  WOODLANDS

## City of Novi

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City Hall / Civic Center  
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**SITE PLAN**

**(Full plan set available for viewing at the Community Development Department)**

**LEGAL DESCRIPTION (AS PROVIDED)**

**(PARCEL "A")**  
 (PER FIRST AMERICAN TITLE INSURANCE COMPANY, TITLE COMMITMENT NO: 741758, COMMITMENT DATE: APRIL 13, 2016)  
 THE LAND REFERRED TO IN THIS COMMITMENT, SITUATED IN THE COUNTY OF OAKLAND, CITY OF NOVI, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:  
 PART OF THE NORTHWEST 1/4 OF SECTION 17, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN DESCRIBED AS BEGINNING AT A POINT DISTANT EAST 1878.14 FEET AND SOUTH 60 FEET FROM THE NORTHWEST SECTIONAL CORNER, THENCE EAST 168.75 FEET, THENCE SOUTH 09 DEGREES 04 MINUTES 39 SECONDS EAST, 334.61 FEET, THENCE SOUTH 20 DEGREES, 37 MINUTES 47 SECONDS WEST, 110.55 FEET, THENCE NORTH 70 DEGREES 04 MINUTES 59 SECONDS WEST, 263.30 FEET, THENCE NORTH 10 DEGREES 41 MINUTES 18 SECONDS EAST, 350.56 FEET TO THE POINT OF BEGINNING.

**(PARCEL "B")**  
 (PER FIRST AMERICAN TITLE INSURANCE COMPANY, TITLE COMMITMENT NO: 943901, EFFECTIVE DATE: AUGUST 19, 2021)

**SCHEDULE C DESCRIPTION:**  
 LAND IN THE CITY OF NOVI, OAKLAND COUNTY, MI, DESCRIBED AS FOLLOWS:  
 PART OF THE NORTHWEST 1/4 OF SECTION 17, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS: COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 17; THENCE DUE EAST, 1878.14 FEET ALONG THE NORTH LINE OF SAID SECTION 17 AND THE CENTERLINE OF TWELVE MILE ROAD (60.00 FEET 1/2 RIGHT-OF-WAY); THENCE DUE SOUTH, 60.00 FEET, TO THE SOUTHERLY RIGHT-OF-WAY OF SAID TWELVE MILE ROAD AND THE POINT OF BEGINNING; THENCE DUE EAST 594.33 FEET, ALONG THE SOUTHERLY RIGHT-OF-WAY OF SAID TWELVE MILE ROAD; THENCE SOUTH 00 DEGREES 29 MINUTES 31 SECONDS WEST, 581.28 FEET, TO A POINT ON THE NORTHERLY RIGHT-OF-WAY OF GRAND RIVER AVENUE (50.00 FEET 1/2 RIGHT-OF-WAY); THENCE NORTH 70 DEGREES 04 MINUTES 59 SECONDS WEST 695.93 FEET, ALONG THE NORTHERLY RIGHT-OF-WAY OF SAID GRAND RIVER AVENUE; THENCE NORTH 10 DEGREES 41 MINUTES 18 SECONDS EAST, 350.26 FEET TO THE POINT OF BEGINNING.  
 (PARENT PARCEL "B", TAX ID: 50-22-17-126-012)

EXCEPTING THEREFROM A PART OF THE NORTHWEST 1/4 OF SECTION 17, TOWN 1 NORTH, RANGE 8 EAST, ASSESSED ON THE TAX ROLLS AS: BEGINNING AT A POINT DISTANT EAST 1878.14 FEET AND SOUTH 60 FEET FROM THE NORTHWEST SECTION CORNER TO THE PLACE OF BEGINNING; THENCE EAST 168.75 FEET; THENCE SOUTH 09 DEGREES 04 MINUTES 39 SECONDS EAST, 334.61 FEET; THENCE SOUTH 20 DEGREES 37 MINUTES 47 SECONDS WEST, 110.55 FEET; THENCE NORTH 70 DEGREES 04 MINUTES 59 SECONDS WEST, 263.30 FEET; THENCE NORTH 10 DEGREES 41 MINUTES 18 SECONDS EAST, 350.26 FEET TO THE POINT OF BEGINNING.


ALSO EXCEPTING THEREFROM A PART OF THE NORTHWEST 1/4 OF SECTION 17, TOWN 1 NORTH, RANGE 8 EAST, ASSESSED ON THE TAX ROLLS AS: BEGINNING AT A POINT DISTANT EAST 1878.14 FEET AND SOUTH 60 FEET AND EAST 344.98 FEET FROM THE NORTHWEST SECTION CORNER TO THE PLACE OF BEGINNING; THENCE EAST 255.55 FEET; THENCE SOUTH 02 DEGREES 04 MINUTES 05 SECONDS WEST, 581.71 FEET; THENCE NORTH 70 DEGREES 04 MINUTES 59 SECONDS WEST, 127.82 FEET; THENCE NORTH 13 DEGREES 01 MINUTE 21 SECONDS WEST, 551.98 FEET TO THE POINT OF BEGINNING.  
 (TAX ID 50-22-17-126-014)

**BEARING REFERENCE**

BEARINGS ARE BASED ON PROJECT COORDINATE SYSTEM:  
 FIRST AMERICAN TITLE INSURANCE COMPANY, TITLE COMMITMENT NO: 741758, COMMITMENT DATE: APRIL 13, 2016 AND TITLE COMMITMENT NO: 943901, EFFECTIVE DATE: AUGUST 19, 2021.

**DESIGN ENGINEER/SURVEYOR**

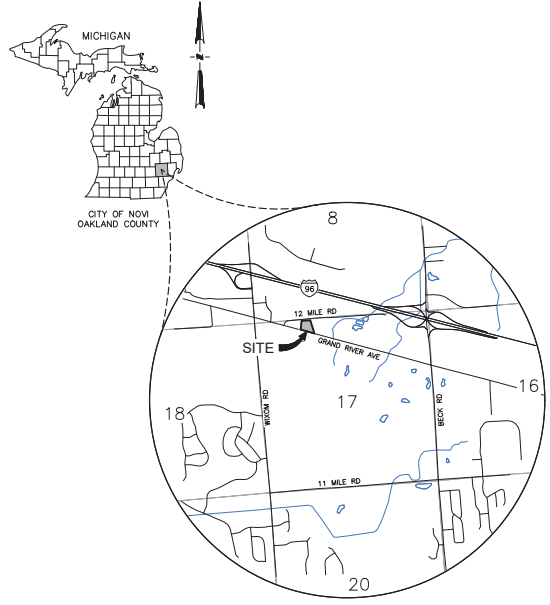
MONUMENT ENGINEERING GROUP ASSOCIATES, INC  
 INNOVATIVE GEOSPATIAL & ENGINEERING SOLUTIONS  
 298 VETERANS DRIVE, FOWLERVILLE, MI 48836  
 ALLAN W PRUSS, PE, PS  
 PHONE: 517-223-3512



**NOTES**

ALL WORK SHALL CONFORM TO THE CURRENT CITY OF NOVI STANDARDS AND SPECIFICATIONS.

PRELIMINARY SITE PLAN DRAWING FOR  
**GODDARD SCHOOL NOVI**



LOCATION MAP

**CLIENT**

DOETING EDUCATION COMPANY  
 48600 GRAND RIVER AVENUE  
 NOVI, MI 48374  
 POC: DERICK DOE  
 PHONE: 248-938-0400

**ARCHITECT**

KRAEMER DESIGN GROUP  
 1420 BROADWAY  
 DETROIT MI 48226  
 POC: JENNIFER ELMORE  
 PHONE: 313-965-3399

**LANDSCAPE ARCHITECT**

FELINO PASCUAL AND ASSOCIATES  
 24333 ORCHARD LAKE ROAD  
 FARMINGTON HILLS 48336  
 POC: FELINO PASCUAL (JOEL)  
 PHONE: 248-557-5588

**SHEET INDEX**

SHEET	DESCRIPTION	PLAN SUBMITTALS							
		12/07/2022	1/11/2023	1/23/2023	3/24/2023	3/29/2023	7/6/2023	8/1/2023	
INCLUDED SHEETS									
GENERAL									
SHEET G-1.0	COVER SURVEY								
SHEET V-1.0	TOPOGRAPHIC SURVEY								
CIVIL DEMOLITION									
SHEET CD-1.0	DEMOLITION PLAN								
SITE PLAN									
SHEET C-1.0	DIMENSION AND PAVING PLAN								
SHEET C-1.1	MECH AND STAIRS WITH RAMP AREAS								
SHEET C-1.2	PLAYGROUND PLAN								
CIRCULATION									
SHEET C-2.1	PLAYGROUND CIRCULATION								
SHEET C-2.2	EMERGENCY VEHICLE CIRCULATION								
SHEET C-2.3	REFUSE VEHICLE CIRCULATION								
UTILITY									
SHEET C-3.0	UTILITY PLAN								
SHEET C-3.1	UTILITY PROFILES								
GRADING									
SHEET C-7.0	GRADING PLAN								
SHEET C-7.1	GRADING PLAN								
SOIL EROSION & SEDIMENTATION CONTROL (SESC)									
SHEET C-8.0	SESC PLAN								
SHEET C-8.1	OAKLAND COUNTY SESC NOTES AND DETAILS								
STORM WATER MANAGEMENT									
SHEET C-9.0	DRAINAGE AREA PLAN								
SHEET C-9.1	RECORD DRAINAGE AREA PLAN								
SHEET C-9.2	STORM WATER CALCULATIONS								
SHEET C-9.3	DETENTION BASIN DETAILS								
DETAILS									
SHEET C-11.0	DETAILS								
SHEET C-11.1	DETAILS								
SPECIFICATIONS									
SHEET C-12.0	SPECIFICATIONS								
SHEET C-12.1	SPECIFICATIONS								
LANDSCAPE									
SHEET LS-1	LANDSCAPE PLANTING DETAIL								
SHEET LS-2	SOD, SEEDING, IRRIGATION AND AREA REFERENCE PLAN								
SHEET LS-3	PLANTING DETAILS AND LANDSCAPE NOTES								
LIGHTING									
SHEET PE1	SITE PHOTOMETRIC								
SHEET PE2	FRONT & GYM FACADE PHOTOMETRICS								
SHEET PE3	FRONT ENTRY FACADE AND CANOPY PHOTOMETRICS								
SHEET PE4	GYM CANOPY EAST PHOTOMETRICS								
SHEET PE5	SITE LIGHTING CUTSHEETS								
ELEVATIONS									
SHEET A201	ELEVATIONS								
SHEET A202	ELEVATIONS								
SHEET A404	ENLARGED GARAGE PLAN								
CITY OF NOVI, OAKLAND COUNTY STANDARD DETAILS									

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 Michigan's  
 One Call  
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 www.missdig.org

**CLIENT :**  
 DOETING EDUCATION CO.  
 DERICK DOE  
 48600 GRAND RIVER NOVI, MI 48374  
 248-938-0400  
 Novm1@goddardschool.com

**COVER**  
 TAX ID: 50-22-17-126-012 & -126-013  
 THE GODDARD SCHOOL NOVI  
 PART OF NW 1/4, SEC. 17, T1N-18E, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
07/17/2023	PRE-APP MEETING SUBMITTAL
03/24/2023	WETLAND DELINEATION SUBMITTAL
03/29/2023	PRELIMINARY SITE PLAN
07/29/2023	PERMIT SET
07/29/2023	BUILDING PERMIT SUBMITTAL
08/07/2023	SITE PLAN RESUBMITTAL

ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-284B

SCALE: N/A  
 1" = 1/2" = 1'

FIELD:  
 DRAWN BY: DAH  
 DESIGN BY: DOB  
 CHECK BY: MEW/PL

**G-10**

NOT FOR CONSTRUCTION

**BENCHMARKS**

DATUM: NAVD83  
 CITY OF NOVI BM #1714  
 BENCH TIE SET IN SOUTH FACE OF POWER POLE, 10'± WEST OF DRIVE 4854S & 20'± SOUTH OF BACK OF CURB GRAND RIVER.  
 ELEV: 968.88  
 BM D:  
 TOP HYDRANT 53'± NORTH OF CENTERLINE GRAND RIVER AVENUE AND 144'± EAST OF SOUTHWEST PROPERTY CORNER.  
 ELEV: 966.84  
 BM E:  
 500' NAIL ON EAST SIDE UTILITY POLE 30'± NORTH OF CENTERLINE WEST 12 MILE ROAD AND 7'± EAST OF NORTHWEST PROPERTY CORNER.  
 ELEV: 963.65

**WETLAND NOTE**

ACCORDING TO THE NATIONAL WETLAND INVENTORY WEBSITE (HTTP://WWW.FWS.GOV/WETLANDSDATAMAPPER.HTML), THERE ARE NOTED WETLANDS ON THE SUBJECT PARCEL. WETLAND FLAGGING WAS OBSERVED DURING THE FIELD SURVEY. AN OFFICIAL STUDY FOR THE PRESENCE OF WETLANDS WAS CONDUCTED BY BARR ENGINEERING IN 2021.

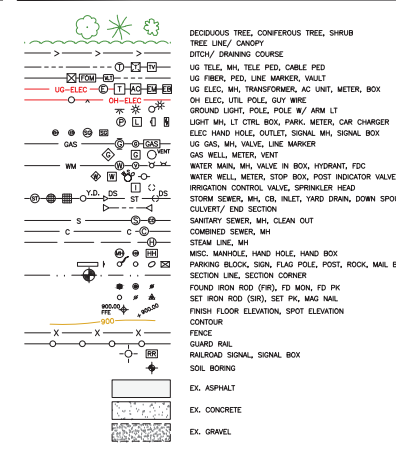
**EXISTING PARKING**

- 45 REGULAR SPACES
- 2 BARRIER FREE SPACES
- 47 TOTAL PARKING SPACES

**STRUCTURE SCHEDULE**

STRUCTURE	EX. STORM SEWER	EX. SANITARY SEWER
RIM ELEV.	PIPES	PIPES
(10044) STMH	973.81	
(50180) CBS	961.93 12" W IE= 957.03	
(50181) CBS	961.84 12" N IE= 957.00	
(50182) STMH	962.14 12" E IE= 955.77	
(50184) STMH	962.42 24" N IE= 954.99	
(50188) STMH	962.32 24" NE IE= 957.09	
(50196) CBS	965.60 12" N IE= 960.64	
(50197) STMH	965.87 24" W IE= 957.89	
(50211) CBR	967.52 12" N IE= 964.44	
(50212) STMH	968.85 18" S IE= 963.50	
(50227) CBR	970.51 18" W IE= 968.83	
(50229) STMH	972.08 18" E IE= 962.29	
(50236) CBS	965.57 12" S IE= 960.50	
(50321) CBR	970.45 12" SW IE= 966.66	
(50323) CBR	971.52 12" NE IE= 966.39	
(50334) CDS	968.38 8" NE IE= 964.20	
(50335) CBR	967.58 18" N IE= 961.61	
(50348) CBS	965.44 12" S IE= 961.19	
(50353) CBS	967.04 12" N IE= 964.49	
(50354) CBR	967.41 18" S IE= 964.07	
(50363) CBR	967.14 12" N IE= 960.90	
(50475) CBS	974.15 NOT NOTIFIED	
(50476) CBR	975.19 36" N IE= 967.20	
(50477) STMH	975.37 36" S IE= 966.04	
(50608) CBS	973.65 12" E IE= 963.33	
(50613) CBR	972.80 12" E IE= 965.64	
(50660) CBR	971.88 12" N IE= 965.47	
(50775) CBR	968.38 12" SE IE= 964.53	

**EXISTING LEGEND**



**FLOOD ZONE**

FEMA MAP SCALES DO NOT SUPPLY SUFFICIENT LEVEL OF DETAIL TO PLOT ACCURATELY. ZONES IF PLOTTED HEREIN ARE APPROXIMATE.  
 BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THE SUBJECT PROPERTY APPEARS TO LIE PARTIALLY IN ZONE (X) AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD PLAIN AND PARTIALLY IN ZONE (A) NO BASE FLOOD ELEVATIONS DETERMINED. THE 1% ANNUAL CHANCE FLOOD (100 YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALLED OR EXCEEDED IN ANY GIVEN YEAR. THE SPECIAL FLOOD HAZARD AREA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. AREAS OF SPECIAL FLOOD HAZARD INCLUDE ZONES A, AE, AH, AO, AR, A99, V AND VE. THE BASE FLOOD ELEVATION IS THE WATER SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD ACCORDING TO THE FLOOD INSURANCE RATE MAP FOR THE COUNTY OF OAKLAND, COMMUNITY PANEL NO. 126125C060071, EFFECTIVE DATE SEPTEMBER 29, 2006.

**UTILITY NOTES**

- ALL FRANCHISE UTILITIES (GAS, FIBER, CABLE, UG ELEC, TEL) SHOWN ARE BASED ON MISS DIG MARKINGS LOCATED AT TIME OF SURVEY UNLESS NOTED OTHERWISE.
- THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

**UTILITY REFERENCES**

WM:	CITY OF NOVI
RECEIVED:	9/14/22
SAN:	CITY OF NOVI
RECEIVED:	9/14/22
STORM:	CITY OF NOVI
RECEIVED:	9/14/22
GAS:	CONSUMERS ENERGY
RECEIVED:	9/13/22
ELEC:	DETROIT EDISON
RECEIVED:	9/27/22
PHONE/CABLE:	AT&T-COMCAST-CHARTER
RECEIVED:	9/23/22 - 9/13/22 - 9/20/22

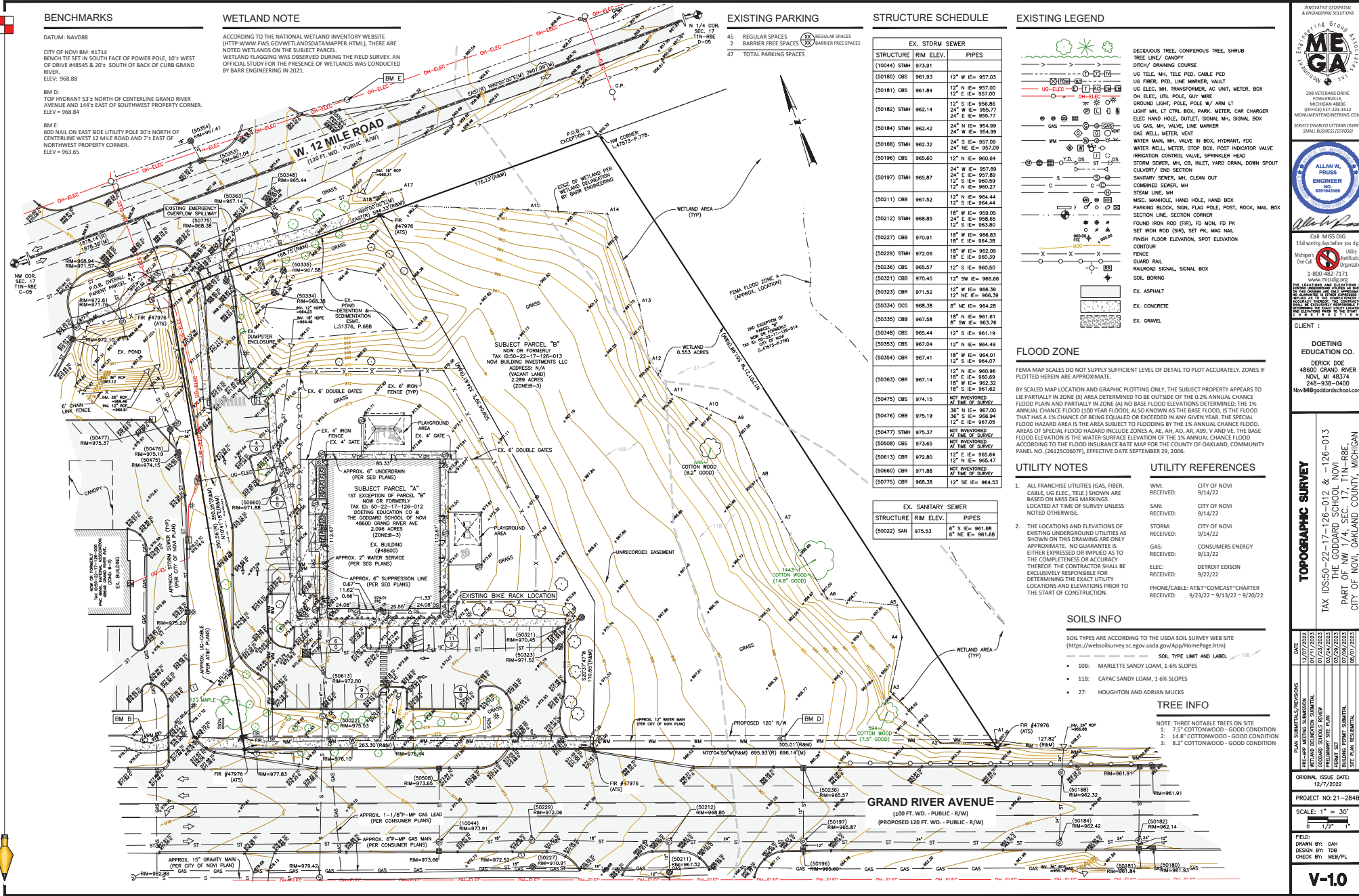
**SOILS INFO**

SOIL TYPES ARE ACCORDING TO THE USDA SOIL SURVEY WEBSITE (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm)  
 SOIL TYPE LIMIT AND LABEL 10B

- 10B: MARLETTE SANDY LOAM, 1-6% SLOPES
- 11B: CAPAC SANDY LOAM, 1-6% SLOPES
- 27: HOUGHTON AND ADRIAN MUCKS

**TREE INFO**

NOTE: THREE NOTABLE TREES ON SITE  
 1: 7.5" COTTONWOOD - GOOD CONDITION  
 2: 14.8" COTTONWOOD - GOOD CONDITION  
 3: 8.2" COTTONWOOD - GOOD CONDITION



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**TOPOGRAPHIC SURVEY**  
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 NOVI, MI 48374  
 PART OF NW 1/4, SEC. 17, T1N-18E,  
 CITY OF NOVI, OAKLAND COUNTY, MICHIGAN  
 TAX ID: 50-22-17-126-012 & 126-013  
 THE GODDARD SCHOOL NOVI

DATE: 12/07/2022  
 PREP: JEFFREY SIMONSON  
 WETLAND DETERMINATION SUBMITTAL: 07/17/2022  
 SURVEY: 07/17/2022  
 FIELD: 07/24/2022  
 POINT SET: 07/29/2022  
 BUILDING POINT SUBMITTAL: 07/29/2022  
 SITE PLAN REVISIONS: 08/07/2022

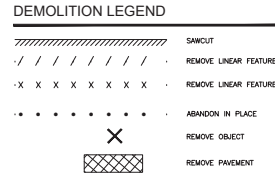
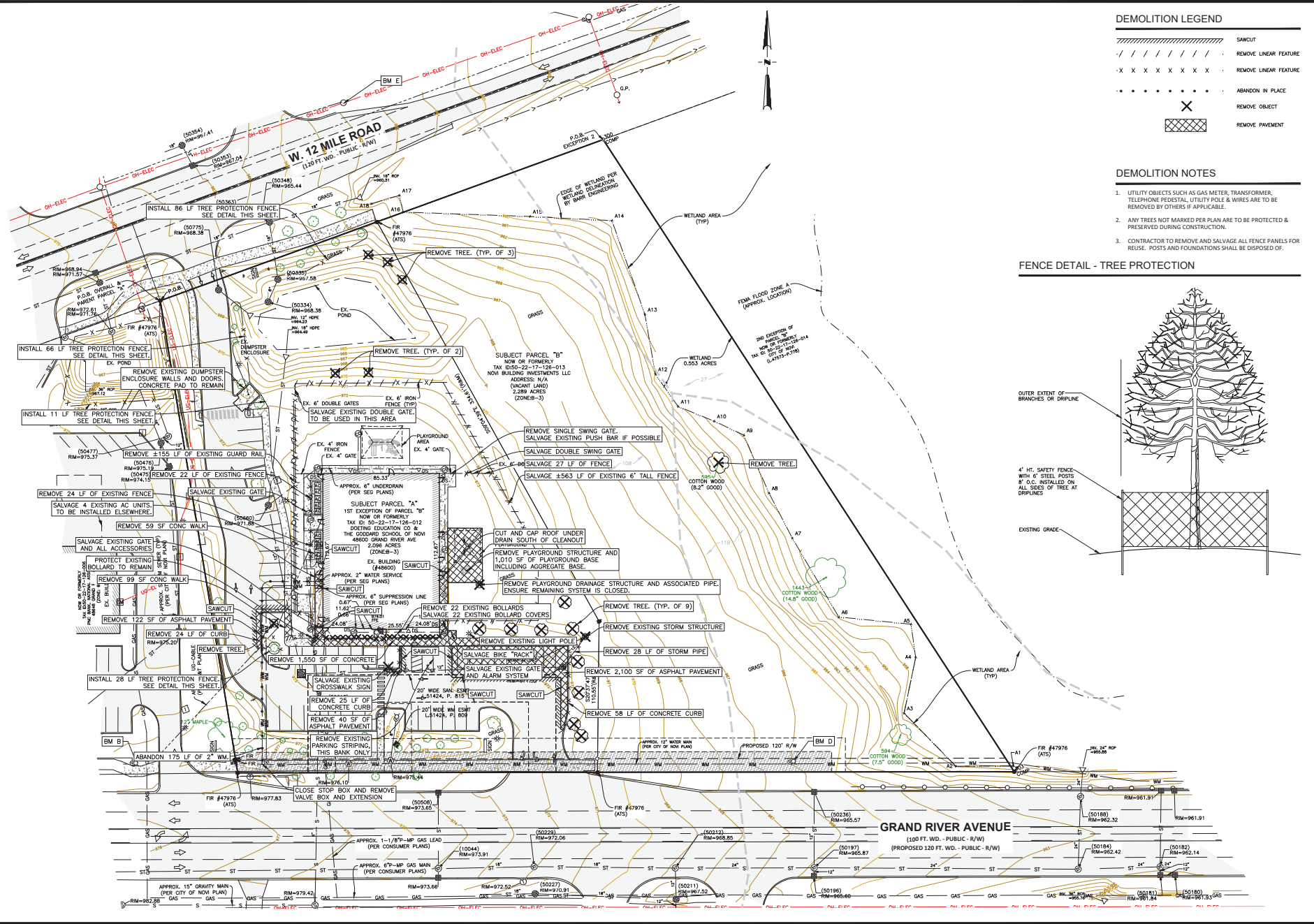
ORIGINAL ISSUE DATE: 12/7/2022  
 PROJECT NO: 21-284B  
 SCALE: 1" = 30'  
 1/2" = 15'

FIELD:  
 DRAWN BY: DAH  
 CHECK BY: TSB  
 CHECK BY: ME/PAL

**V-10**

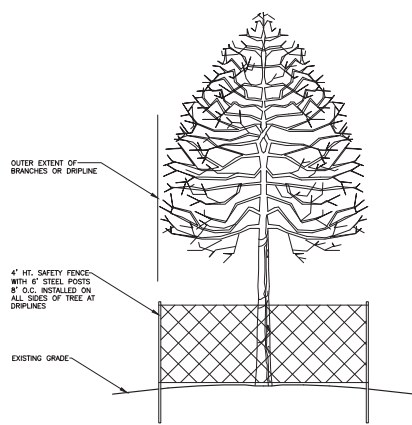
NOT FOR CONSTRUCTION





- ### DEMOLITION NOTES
- UTILITY OBJECTS SUCH AS GAS METER, TRANSFORMER, TELEPHONE PEDESTAL, UTILITY POLE & WIRES ARE TO BE REMOVED BY OTHERS IF APPLICABLE.
  - ANY TREES NOT MARKED PER PLAN ARE TO BE PROTECTED & PRESERVED DURING CONSTRUCTION.
  - CONTRACTOR TO REMOVE AND SALVAGE ALL FENCE PANELS FOR REUSE. POSTS AND FOUNDATIONS SHALL BE DISPOSED OF.

### FENCE DETAIL - TREE PROTECTION



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---

DEMOLITION PLAN

TAX ID: 50-22-17-126-012 & -126-013  
THE GODDARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-88E,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

---

DATE	DESCRIPTION
12/07/2022	DATE
07/17/2022	PRE-APPROVAL SUBMITTAL
03/24/2022	WETLAND DETERMINATION SUBMITTAL
03/24/2022	PERMITS BY
03/24/2022	PERMITS BY
07/29/2022	PERMITS BY
07/29/2022	PERMITS BY
05/07/2022	PERMITS BY

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ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-284B

SCALE: 1" = 30'

FIELD: 1/2" = 1'

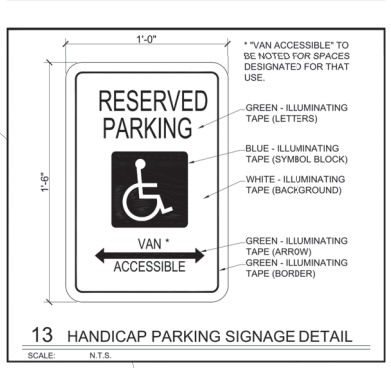
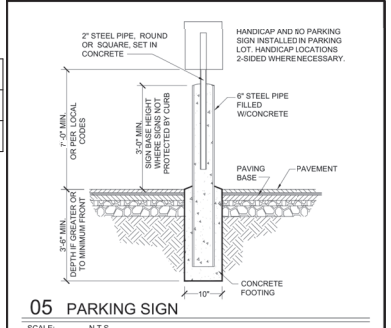
FIELD: DRAWN BY: DAH  
DESIGN BY: TSB  
CHECK BY: ME/PL

**CD-10**

NOT FOR CONSTRUCTION

PAVEMENT SCHEDULE	AREA(SF)
DUMPSTER	410
GENERATOR PAD	42
SIDEWALK	6,181
CONCRETE	1,375
ASPHALT	14,400

SIGN QUANTITY TABLE		
ADA PARKING (R7-B)	3	
VAN ACCESSIBLE ADA PARKING (R7-BP)	1	



**PAVEMENT LEGEND**

- EX. ASPHALT
- EX. CONCRETE
- EX. GRAVEL
- PR. STANDARD DUTY ASPHALT
- PR. HEAVY DUTY ASPHALT
- PR. CONCRETE
- PR. GRAVEL
- STANDARD CURB AND GUTTER
- REVERSE CURB AND GUTTER

**PROPOSED PARKING**

1,350 BUILDING SF + 1.1 MAX EMPLOYEE SHFT  
 15,300 SF / 350 SF + 45 ESTIMATED EMPLOYEES = 89 SPACES

TOTAL PARKING REQUIRED:	34	REGULAR SPACES
EXISTING ADA:	02	BARBER FREE SPACES
PARKING SPACES:	52	REGULAR SPACES
PROPOSED ADA:	03	BARBER FREE SPACES
TOTAL PARKING PROVIDED:	55	

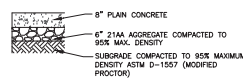
**ECONOMIC IMPACT INFORMATION**

TOTAL PROJECT COST = \$5,750,000  
 COST OF ADDITION = \$5,300,000  
 COST OF SITE IMPROVEMENTS = \$500,000  
 ANTICIPATED JOBS CREATED: 55 JOBS  
 DURING CONSTRUCTION: 40 JOBS  
 POST CONSTRUCTION, EMPLOYED AT SCHOOL ADDITION: 15 JOBS

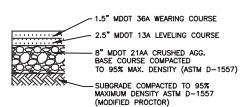
**NOTES**

1. NOISE GENERATED FROM THE SITE WILL NOT EXCEED THE MAXIMUM LEVELS ALLOWABLE.
2. ADA SPACES SHALL BE MARKED WITH R7-B SIGNS WITH R7-BP PLACARD FOR VAN ACCESSIBLE SPACES.
3. FHWA STANDARD ALPHABET SERIES MUST BE USED FOR ALL SIGN LANGUAGE.
4. HIGH-INTENSITY PRISMATIC (HIP) SHEETING MUST BE USED FOR ALL SIGNS.
5. FOR ADA SPACES THAT ARE ADJACENT TO REGULAR SPACES, STRIPE USING BOTH WHITE AND BLUE 4" WIDE STRIPES.
6. THE CONTENT OF THE GARAGE WILL INCLUDE: CANOPIES FOR THE PLAY STRUCTURES, CHILDREN'S PLAY WATER TABLE, AND LAWN MAINTENANCE EQUIPMENT.
7. LENGTH OF SALVAGED FENCE PANEL IS APPROXIMATE. CONTRACTOR TO ASSUME UP TO 20 FEET OF WASTE IN CUTTING AND INSTALLATION OF SALVAGED FENCE.

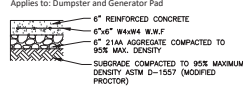
**STANDARD DUTY CONCRETE PAVEMENT SECTION**



**STANDARD DUTY HMA PAVEMENT SECTION**



**HEAVY DUTY CONCRETE SECTION**



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**DIMENSION AND PAVING PLAN**

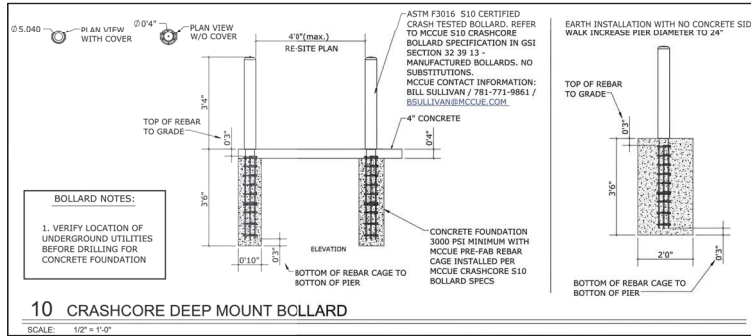
TAX ID: 50-22-17-126-012 & 126-013  
 THE GOODARD SCHOOL NOVI  
 PART OF NW 1/4, SEC. 17, T1N-18E,  
 CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	DATE
07/17/2023	DATE
03/24/2023	DATE
03/29/2023	DATE
07/29/2023	DATE
08/07/2023	DATE

PROJECT NO: 21-284B  
 SCALE: 1" = 30'  
 1/2" = 1'

FIELD:  
 DRAWN BY: DAH  
 DESIGN BY: DDB  
 CHECK BY: ME/PL

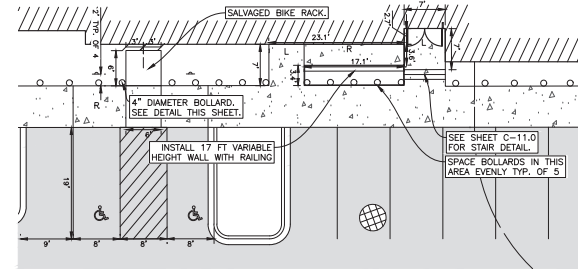
**C-10**



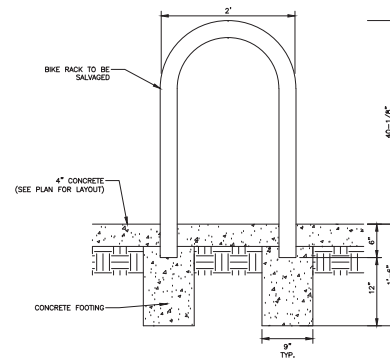
**BOLLARD NOTES**

1. ENSURE ALL BOLLARD COVERS ARE BLACK.

**PROPOSED RAMP AND WALK AREA - DETAILED VIEW**

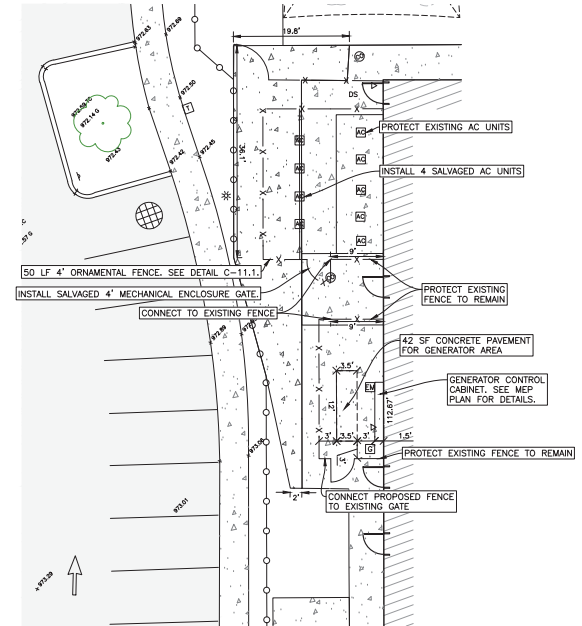


**SALVAGED BIKE RACK DETAIL - LOOP**



**MECHANICAL EQUIPMENT AREA - DETAILED VIEW**

NOTE: PROTECT ALL MECHANICAL EQUIPMENT TO REMAIN IN THIS AREA.



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THE OCCUPANCY AND ALTERATION OF THE BUILDING ACT requires that all construction projects be registered with the Michigan Department of Licensing and Regulatory Affairs (LARA) before any work begins. For more information, visit [www.michigan.gov/lara](http://www.michigan.gov/lara).

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**MECH AND STAIRS WITH RAMP AREAS**

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THE GODDARD SCHOOL NORV  
PART OF NW 1/4, SEC. 17, T1N-18E,  
CITY OF NORV, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PRE-DESIGN MEETING SUBMITTAL
01/17/2023	MECHANICAL EQUIPMENT AREA PLAN
03/24/2023	MECHANICAL EQUIPMENT AREA PLAN
03/29/2023	PERMIT SET
07/26/2023	BUILDING PERMIT SUBMITTAL
08/07/2023	SET PLAN REVISIONS

ORIGINAL ISSUE DATE:  
12/7/2022

PROJECT NO: 21-284B

SCALE: 1" = 10'  
1/2" = 1"

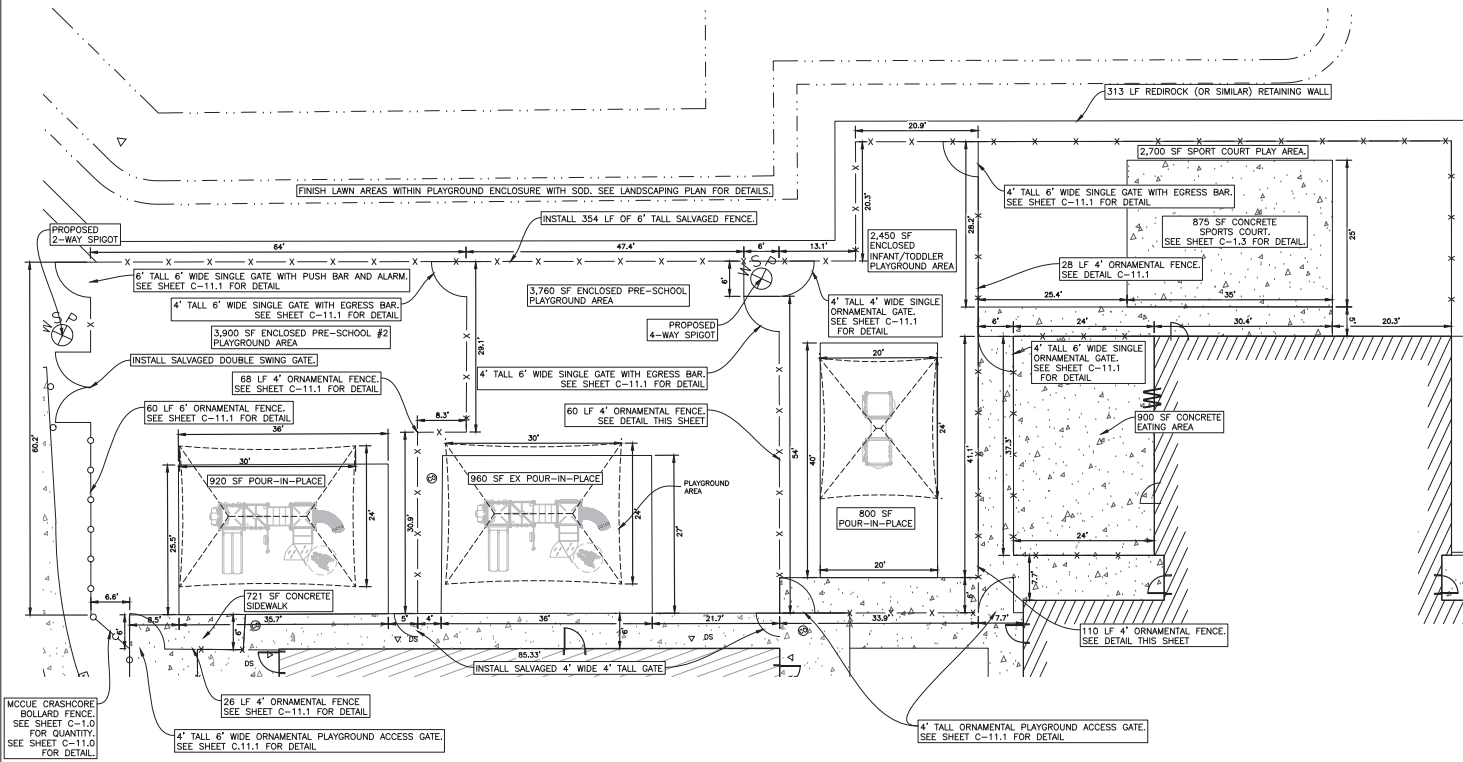
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DRAWN BY: DAH  
DESIGN BY: TOB  
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**C-11**

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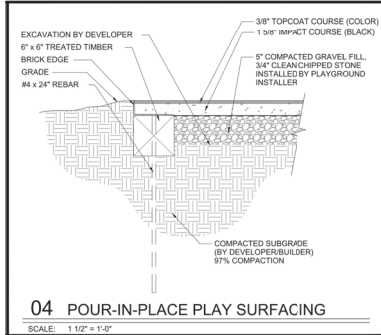
PLAYGROUND AREA - DETAILED VIEW



PROPOSED PLAYGROUND AREA CALCUALTIONS

- TODDLER PLAYGROUND CALCULATION:  
150 SF PER STUDENT X 10 STUDENTS = 2,400 SF PLAYGROUND ENCLOSURE
- PRE-SCHOOL PLAYGROUND CALCULATION:  
150 SF PER STUDENT X 24 STUDENTS = 3,600 SF PLAYGROUND ENCLOSURE
- DEVELOPER/GENERAL CONTRACTOR PLAYGROUND RESPONSIBILITIES
- PLAYGROUND STRUCTURE AND SHADE STRUCTURE APPROVALS OR PERMITS IF REQUIRED. APPROVALS AND PERMITTING MAY BE REQUIRED FOR COLOR SCHEME, HEIGHT, MANUFACTURER DESIGN METHODS, ETC.
  - UTILITIES CANNOT BE LOCATED UNDER OR OVER PLAYGROUND BOXES.
  - ELECTRIC AND WATER ARE NEEDED ON SITE, FOR THE PLAYGROUND INSTALLERS USE. IF NOT, OTHER PRIOR ARRANGEMENTS SHALL BE MADE.
  - SOILS WITHIN THE PLAYGROUND BOX DIMENSIONS SHOULD BE SUITABLE FOR SLAB AT GRADE INSTALLATIONS. SOILS SHOULD NOT CONTAIN DEBRIS AND COMPACTED TO 93% IN ACCEPTED INCREMENTS CONTAINING SUITABLE SOIL.
  - PROVIDE GOODARD SYSTEM INC.'S PROJECT MANAGER WITH A TIMELINE FOR PLAYGROUND INSTALLATION. ROUGH GRADE IS REQUIRED AND SIDEWALKS SHALL BE INSTALLED PRIOR TO PLAYGROUND INSTALLATION, SOD, FENCE AND PARKING LOT TOP COAT.
  - LOCATE PLAYGROUND BOXES PER SITE PLAN, EXCAVATED 3" DEEP. PLAYGROUND BOXES CANNOT EXCEED A MAXIMUM 2% GRADE. (DTL. 2/3.1)
  - SUB-GRADE BACKFILL MUST BE COMPACTED TO AT LEAST 93% AND SHOULD NOT CONTAIN MATERIALS SUCH AS LARGE ROCKS, SCRAP WOOD, CONCRETE SPILLS, ETC. PLAYGROUND INSTALLERS NEED TO DRILL ACCURATE HOLES FOR PLAYGROUND POLE INSTALLATION.
  - INSTALL DRAINAGE SYSTEM TO EXCAVATED PLAYGROUND BOXES PER SITE PLAN. (DTL. 13/3.1)
  - ENSURE ADEQUATE AREA FOR PLAYGROUND INSTALLERS. STAGING AREA NEEDED TO UNLOAD AND PRE-ASSEMBLE APPROX. 1,000 CUBIC FOOT SHIPMENT OF PLAYGROUND EQUIPMENT. HOLDING AREA NEEDED TO RECEIVE DELIVERY OF APPROXIMATELY 40-50 TONS OF CRUSHED STONE. PARKING AREA NEEDED FOR TWO TRUCKS AND ONE 30' TRAILER OF EXCAVATING EQUIPMENT.
  - IN ORDER TO AVOID POSSIBLE DAMAGE, PARKING LOTS SHOULD NOT HAVE TOPCOAT APPLIED AND FENCING SHOULD NOT BE INSTALLED UNTIL PLAYGROUND IS COMPLETE. IF FENCING IS INSTALLED, LEAVE OUT NECESSARY SECTIONS TO PROVIDE ACCESS TO PLAYGROUND AREA.
  - ONCE COMPACTED CRUSH STONE BASE, BORDER, AND EQUIPMENT ARE IN PLACE, THEY SHOULD NOT BE DRIVEN OR WALKED ON AND SHOULD NOT BE USED FOR STORAGE AREA. PLAYGROUND INSTALLATION DESCRIBED ABOVE SHOULD TAKE APPROXIMATELY ONE TO FIVE DAYS, DEPENDING ON SITE CONDITIONS, WEATHER, INSTALLER CREW SIZE, ETC.
  - INSTALLATION OF POUR-IN-PLACE SURFACING USUALLY TAKES PLACE ONE TO TWO WEEKS AFTER PLAYGROUND IS INSTALLED, DEPENDING MAINLY ON WEATHER CONDITIONS. GENERALLY ONLY THREE OR FOUR PARKING SPACES ARE NEEDED FOR SURFACING INSTALLERS. (ONE OR TWO VEHICLES AND A MIXER STAGING AREA)
  - TYPICALLY, TWO MEN MIX THE SURFACING PRODUCT IN THE PARKING LOT AND TRANSPORT BY WHEELBARROW TO PLAYGROUNDS WHERE IT IS Poured AND TROWELLED. THEREFORE, NO SPECIAL ALLOWANCES ARE NECESSARY (FENCING CAN BE INSTALLED AND FINISH LANDSCAPING CAN BE COMPLETED)
  - THIS IS USUALLY A TWO-DAY INSTALLATION, DEPENDING MAINLY ON WEATHER CONDITIONS. IMPACT COURSE APPLIED ON DAY ONE, AND TOPCOAT (COLOR) APPLIED ON DAY TWO.
  - ONCE THE TOPCOAT APPLICATION IS COMPLETE, THE BINDING AGENTS WILL TAKE A MINIMUM 24 HOURS TO CURE. DURING THAT TIME THERE IS TO BE ABSOLUTELY NO WALKING ON, PLACING OBJECTS ON, OR ALLOWING ANY DUST TO ACCUMULATE ON THE TOPCOAT SURFACE.
  - FINISH GRADING AND LANDSCAPING MUST BE THE SAME ELEVATION AT THE PLAYGROUND BORDERS.
  - ENSURE THAT THE SITE IS SECURE AND THAT OTHER CONTRACTORS WILL NOT BE STORING, WORKING, WALKING, ETC. ON FINISHED PLAYGROUNDS, SURFACES OR BORDERS.
  - ALL EXTERNAL FENCING WILL BE 6 FEET TALL. ALL INTERNAL FENCING WILL BE 4 FEET TALL.

PLAY AREAS (SF)	FENCE TABLE		
TODDLER PLAYGROUND	2,450 SF	4' FENCE SECTIONS	104
PRESCHOOL PLAYGROUND #1	3,760 SF	6' FENCE SECTIONS	8
PRESCHOOL PLAYGROUND #2	3,900 SF	SALVAGED 6' FENCE SECTIONS	125
SPORTS COURT	2,700 SF	4' WIDE SINGLE GATES	2
OUTDOOR CLASSROOM	3,240 SF	6' WIDE SINGLE GATES	8
TOTAL PLAYGROUND AREA	16,030 SF	DOUBLE GATE	1



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THE OPERATING AND MAINTENANCE OF THE PLAYGROUND ARE THE RESPONSIBILITIES OF THE USER. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PLAYGROUND EQUIPMENT FROM DAMAGE AND THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PLAYGROUND EQUIPMENT FROM THEFT. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PLAYGROUND EQUIPMENT FROM VANDALISM. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PLAYGROUND EQUIPMENT FROM WEATHER DAMAGE. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PLAYGROUND EQUIPMENT FROM COLLISION DAMAGE. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PLAYGROUND EQUIPMENT FROM FIRE DAMAGE. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PLAYGROUND EQUIPMENT FROM ANY OTHER DAMAGE.

CLIENT :  
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EDUCATION CO.  
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48600 GRAND RIVER  
NOVI, MI 48374  
248-438-0400  
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**PLAYGROUND PLAN**  
TAX: 105-50-22-17-126-012 & -126-013  
THE GOODARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-18E,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
07/17/2023	PRE-APPROVAL MEETING SUBMISSION
03/24/2023	REVISIONS BY DEVELOPER
03/24/2023	REVISIONS BY ME/PL
03/29/2023	PERMIT SET
07/26/2023	BUILDING PERMIT SUBMITTAL
08/07/2023	SITE PLAN RESUBMITTAL

ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-2848

SCALE: 1" = 10'  
1/2" = 1"

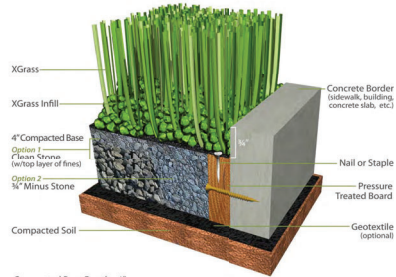
FIELD:  
DRAWN BY: DAH  
DESIGN BY: DBB  
CHECK BY: ME/PL

**C-12**

NOT FOR CONSTRUCTION

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and Nailer Board



Compacted Base Depth - 4"  
Infill Depth - 1/4"  
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Components are not drawn to scale.

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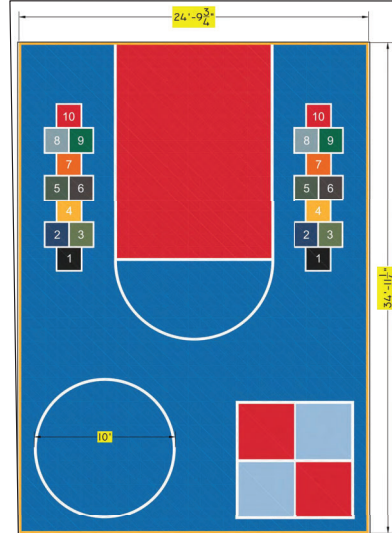
PRODUCT INFORMATION

Face Weight: 70 oz.  
Pile Height: 1.75"  
Color: Summer Blend  
Thatch: Tan  
Secondary Backing: Silverback™ Polyurethane, 20 oz/yd²

TECHNICAL INFORMATION

Fiber Type: Polyethylene  
Fiber Mass: 10800 Denier, 4600 Denier Thatch  
Tufting Gauge: 3/8"  
Primary Backings: 7 oz/yd² Stabilized Multi Layer Woven Polypropylene  
Total Weight: 97 oz/yd²

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SIGNATURE:

ZOHIO PROJECT:  
129527

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SALES ORDER:  
TI-####

ACCOUNT NAME:  
GODDARD SCHOOL #0827

TYPE OF DRAWING:  
CUSTOMER APPROVAL 2

FILE COLOR:  
MULTICOLOR



DRAWER BY:  
SAUL MALDONADO

SALES BY:  
STACY COLLIER

DATE:  
3/30/2023

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Allan W. Pruss  
ENGINEER  
NO. 620194388

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NOVI, MI 48374  
248-438-0400  
NovMI@goddardschool.com

**PLAYGROUND DETAILS**  
TAX: 05:50-22-17-126-012 & -126-013  
THE GODDARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-R8E,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
07/17/2023	PRE-APPROVAL MEETING SUBMITTALS
03/24/2023	MICHIGAN DESIGN SUBMITTALS
03/24/2023	PERMITS BY
03/24/2023	PERMITS BY
03/24/2023	PERMITS BY
03/24/2023	PERMITS BY
03/24/2023	PERMITS BY
03/24/2023	PERMITS BY
03/24/2023	PERMITS BY
03/24/2023	PERMITS BY
03/24/2023	PERMITS BY

ORIGINAL ISSUE DATE:  
12/7/2022

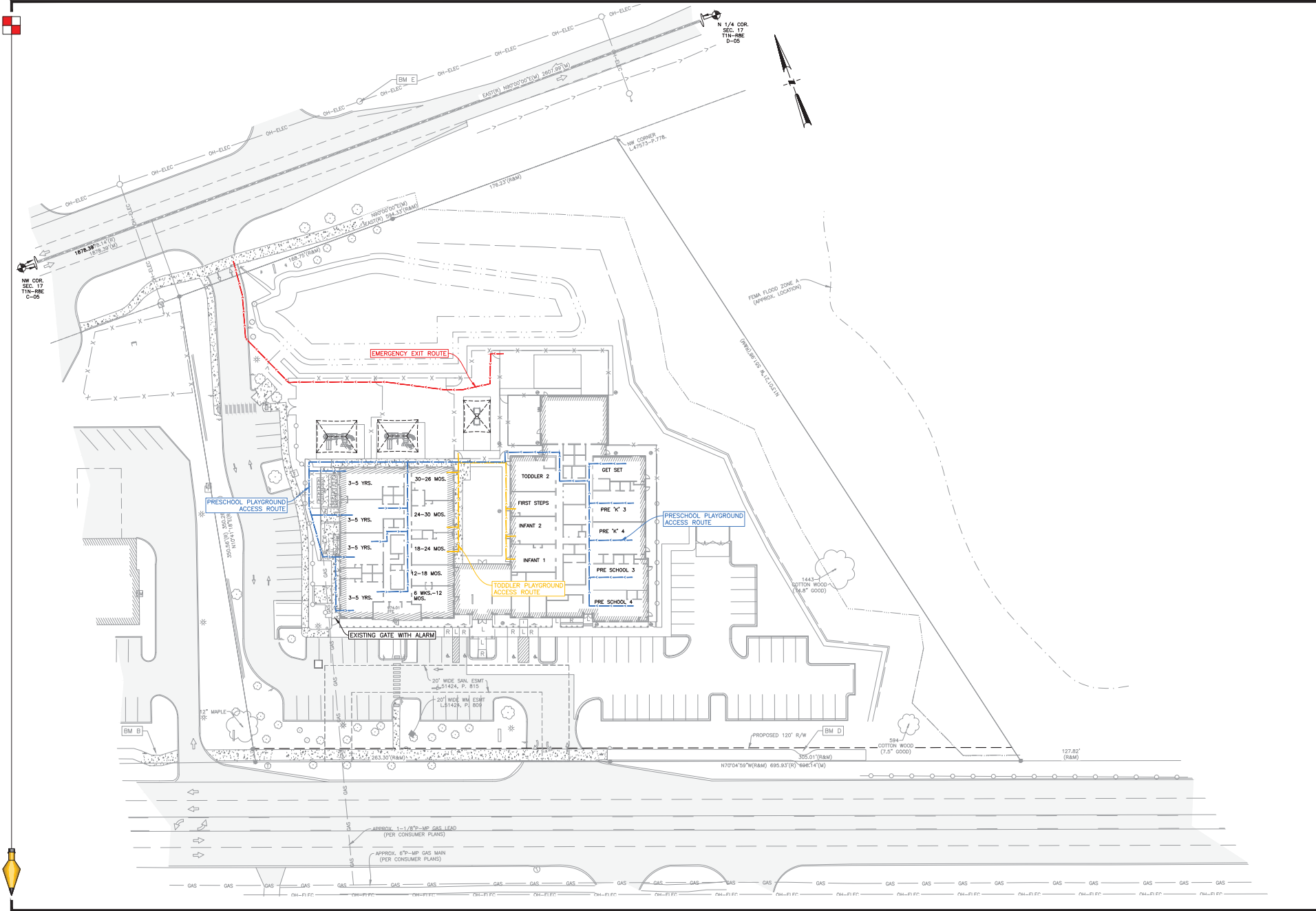
PROJECT NO: 21-284B

SCALE: 1" = 10'  
1/2" = 1'


FIELD:  
DRAWN BY: DAH  
DESIGN BY: DOB  
CHECK BY: MEB/PL

**C-13**

NOT FOR CONSTRUCTION



FILE: P:\Projects\2021\21-284 Goddard School Nov(Dwg)\Engineering\21-284B\_C-20\_Civ.dwg PLOT DATE: 1/2023 11:22 AM



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**PLAYGROUND CIRCULATION PLAN**  
TAX IDS: 50-22-17-126-012 & -126-013  
THE GODDARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-R8E,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITALS PROVISIONS
07/17/2023	PRE-APD MEETING SUBMITTAL
03/24/2023	MEETING DISCUSSION SUBMITTAL
03/24/2023	PRELIMINARY SITE PLAN
03/29/2023	PERMIT SET
07/26/2023	REVISION PERMIT SUBMITTAL
08/07/2023	SITE PLAN REVISIONS

ORIGINAL ISSUE DATE: 12/7/2022

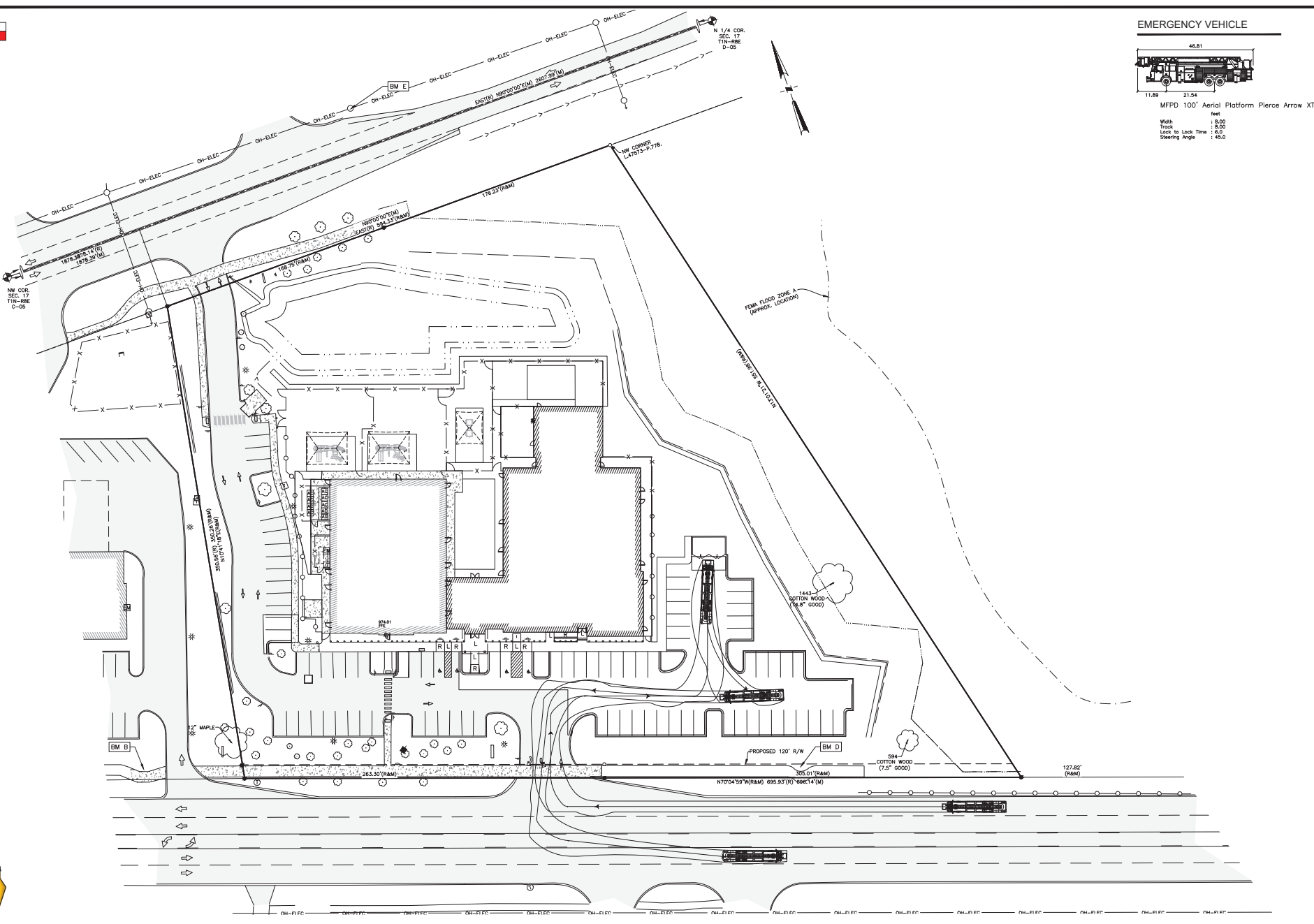
PROJECT NO: 21-284B

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1/2" = 1"

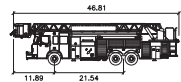
FIELD:  
DRAWN BY: DAH  
DESIGN BY: TSB  
CHECK BY: MEB/PL

**C-20**

NOT FOR CONSTRUCTION



### EMERGENCY VEHICLE



MFPD 100' Aerial Platform Pierce Arrow XT

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 14.0
Steering Angle	: 45.0

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NOVEMBER 2022

ALLAN W. PRUSS  
ENGINEER  
NO. 6201943188

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THE LOCATIONS AND ELEVATIONS SHOWN ON THIS DRAWING ARE BASED ON THE MICHIGAN STATE PLAT MAPS AND FIELD SURVEY DATA. THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE DATA AND THE SUITABILITY OF THE INFORMATION FOR THE INTENDED USE. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES.

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**EMERGENCY VEHICLE CIRCULATION**

TAX IDS: 50-22-17-126-012 & -126-013  
THE GODDARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-R8E,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
07/17/2023	PRE-APP MEETING SUBMISSION
03/24/2023	MEETING MINUTES SUBMITTED
03/24/2023	PRELIMINARY SET PLAN
03/29/2023	PERMIT SET
07/26/2023	BUILDING PERMIT SUBMITTAL
08/07/2023	SET PLAN REVISIONS

ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-284B

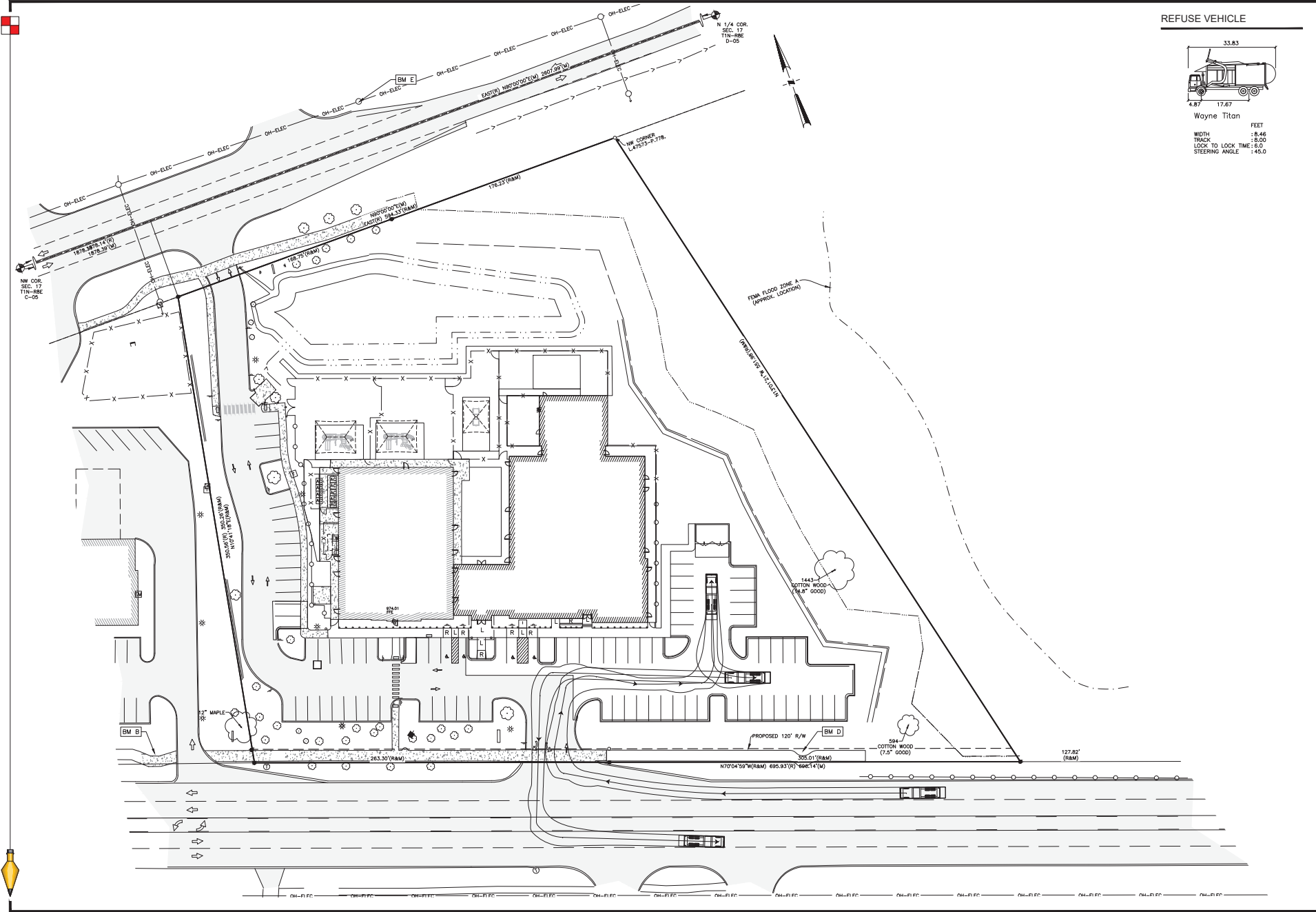
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1/2" = 1'

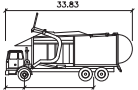
FIELD:  
DRAWN BY: DAH  
DESIGN BY: TSB  
CHECK BY: MEW/PL

**C-21**

NOT FOR CONSTRUCTION



**REFUSE VEHICLE**



Wayne Titan  
 FEET  
 WIDTH : 4.46  
 TRACK : 8.00  
 LOCK TO LOCK TIME : 6.0  
 STEERING ANGLE : 45.0

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ALLAN W. PRUSS  
 ENGINEER  
 NO. 629194188

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THE LOCATION AND DEPTH OF ALL UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND NOTICES FROM THE LOCAL UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.

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**REFUSE VEHICLE CIRCULATION**

TAX ID: 50-22-17-126-012 & -126-013  
 THE GODDARD SCHOOL NOV  
 PART OF NW 1/4, SEC. 17, T1N-R8E,  
 CITY OF NOV, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
07/17/2022	PRE-APP MEETING SUBMITTALS
03/24/2022	MEETING SUBMITTALS BY
03/24/2022	PRELIMINARY SET PLAN
03/29/2022	PERMIT SET
07/29/2022	BUILDING PERMIT SUBMITTALS
05/07/2022	SET PLAN SUBMITTALS

ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-284B

SCALE: 1" = 30'  
 1/2" = 1"

FIELD:  
 DRAWN BY: DAH  
 DESIGN BY: TSB  
 CHECK BY: MEW/PL

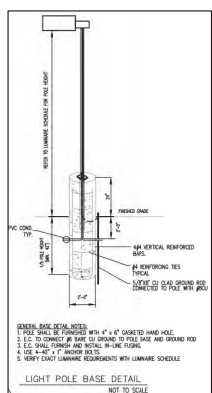
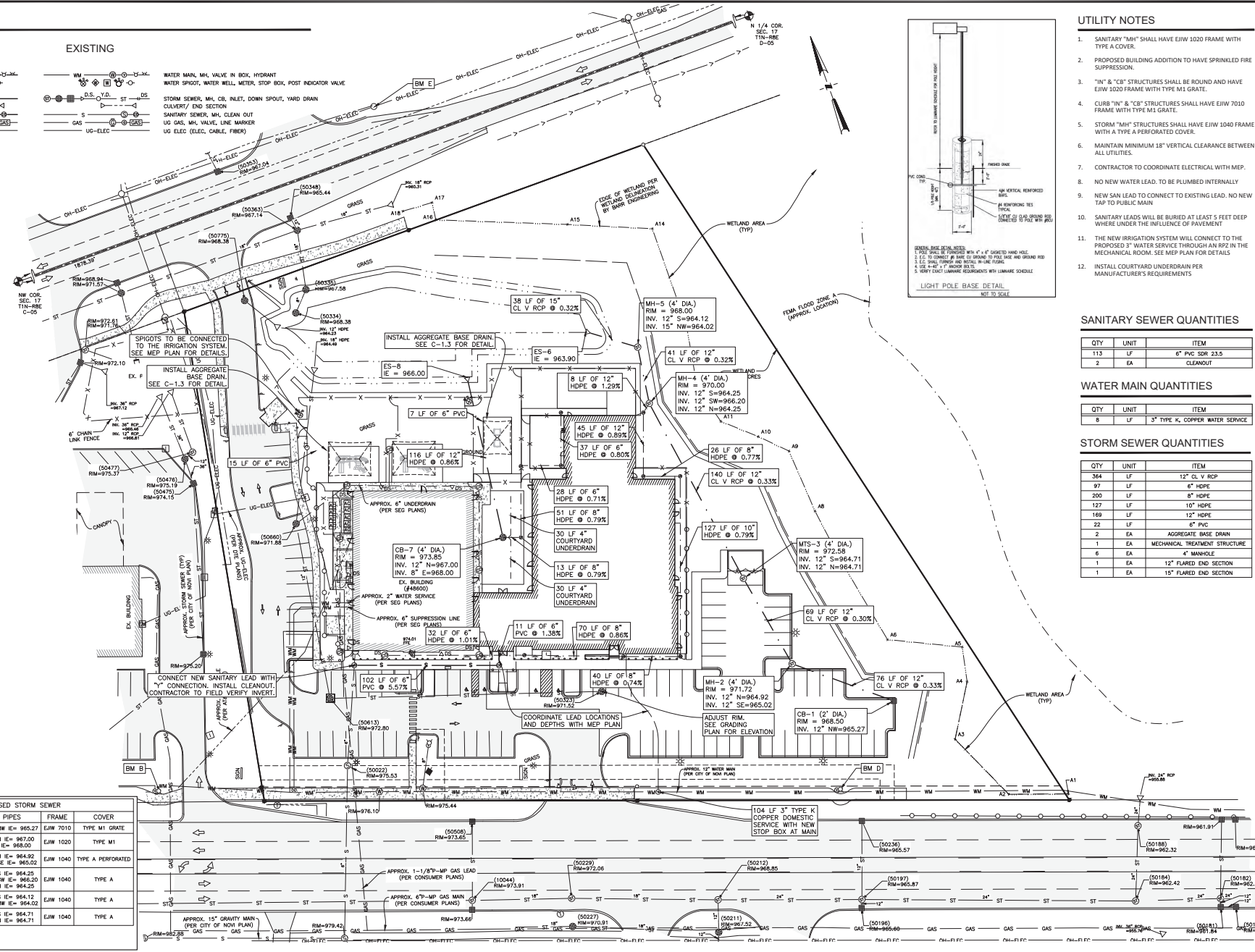
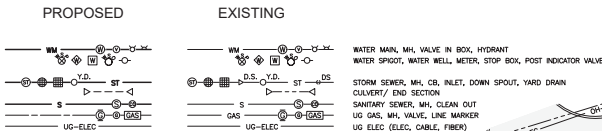
**C-22**

NOT FOR CONSTRUCTION





UTILITY LEGEND



UTILITY NOTES

- SANITARY "MH" SHALL HAVE EJW 1020 FRAME WITH TYPE A COVER.
- PROPOSED BUILDING ADDITION TO HAVE SPRINKLED FIRE SUPPRESSION.
- "IN" & "CB" STRUCTURES SHALL BE ROUND AND HAVE EJW 1020 FRAME WITH TYPE M1 GRATE.
- CURB "IN" & "CB" STRUCTURES SHALL HAVE EJW 7010 FRAME WITH TYPE M1 GRATE.
- STORM "MH" STRUCTURES SHALL HAVE EJW 1040 FRAME WITH TYPE A PERFORATED COVER.
- MAINTAIN MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.
- CONTRACTOR TO COORDINATE ELECTRICAL WITH MEP.
- NO NEW WATER LEAD. TO BE PLUMBED INTERNALLY.
- NEW SAN LEAD TO CONNECT TO EXISTING LEAD. NO NEW TAP TO PUBLIC MAIN.
- SANITARY LEADS WILL BE BURIED AT LEAST 5 FEET DEEP WHERE UNDER THE INFLUENCE OF PAVEMENT.
- THE NEW IRRIGATION SYSTEM WILL CONNECT TO THE PROPOSED 3" WATER SERVICE THROUGH AN RSP IN THE MECHANICAL ROOM. SEE MEP PLAN FOR DETAILS.
- INSTALL COURTYARD UNDERDRAIN PER MANUFACTURER'S REQUIREMENTS

SANITARY SEWER QUANTITIES

QTY	UNIT	ITEM
113	LF	6" PVC SRP 23.5
2	EA	CLEANOUT

WATER MAIN QUANTITIES

QTY	UNIT	ITEM
8	LF	3" TYPE K COPPER WATER SERVICE

STORM SEWER QUANTITIES

QTY	UNIT	ITEM
364	LF	12" CL V RCP
97	LF	6" HDPE
200	LF	8" HDPE
127	LF	10" HDPE
169	LF	12" HDPE
22	LF	6" PVC
2	EA	AGGREGATE BASE DRAIN
1	EA	MECHANICAL TREATMENT STRUCTURE
6	EA	4" MANHOLE
1	EA	12" FLARED END SECTION
1	EA	15" FLARED END SECTION

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 NOVI, MI 48374  
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 NovMI@doodschool.com

**UTILITY PLAN**  
 TAX ID: 50-50-22-17-126-012 & -126-013  
 THE GODDARD SCHOOL NOVI  
 PART OF NW 1/4, SEC. 17, T1N-18E,  
 CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

**DATE**  
 12/07/2022  
 07/17/2023  
 03/24/2023  
 03/24/2023  
 07/29/2023  
 07/29/2023  
 05/07/2023

**PLAN SUBMITTALS PROVISIONS**  
 PRE-AP MEETING SUBMISSION  
 WETLAND DETERMINATION SUBMITTAL  
 PERMITS BY  
 REGULATORY DIST. PLAN  
 BUILDING PERMIT SUBMITTAL  
 STATE PLAN RESUBMITTAL

**ORIGINAL ISSUE DATE:**  
 12/7/2022

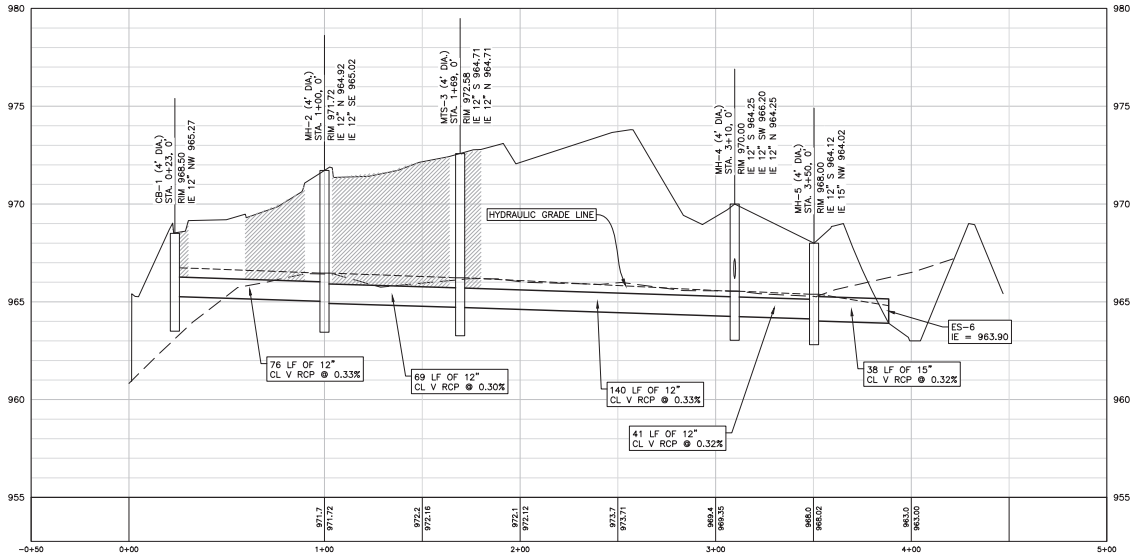
**PROJECT NO:** 21-2848

**SCALE:** 1" = 30'  
 1/2" = 15'

**FIELD:**  
 DRAWN BY: DAH  
 DESIGN BY: DDB  
 CHECK BY: ME/PL

**C-30**

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**CB1-ES6**

PROFILE SCALE  
HORIZ: 1"=30'  
VERT: 1"=3'

**SANITARY SEWER BASIS OF DESIGN**

Monument Engineering Group Associates, Inc.  
298 Veterans Drive, Fowlerville, MI 48835  
(517) 223-3512  
monumentengineering.com

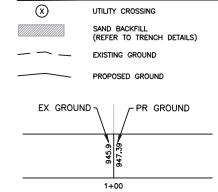
Date: 5/4/2023

PROJECT NAME: GODDARD  
PROJECT LOCATION: (NOVI), (OAKLAND), MICHIGAN  
MEGA PROJECT NO.: 21-284

THE FOLLOWING CALCULATIONS UTILIZE A MODIFIED OAKLAND COUNTY METHODOLOGY WHERE 1 UNIT EQUALS ONE MULTI-FAMILY RESIDENTIAL DWELLING WITH AN ASSUMED NUMBER OF PERSONS PER DWELLING OF 2.5.

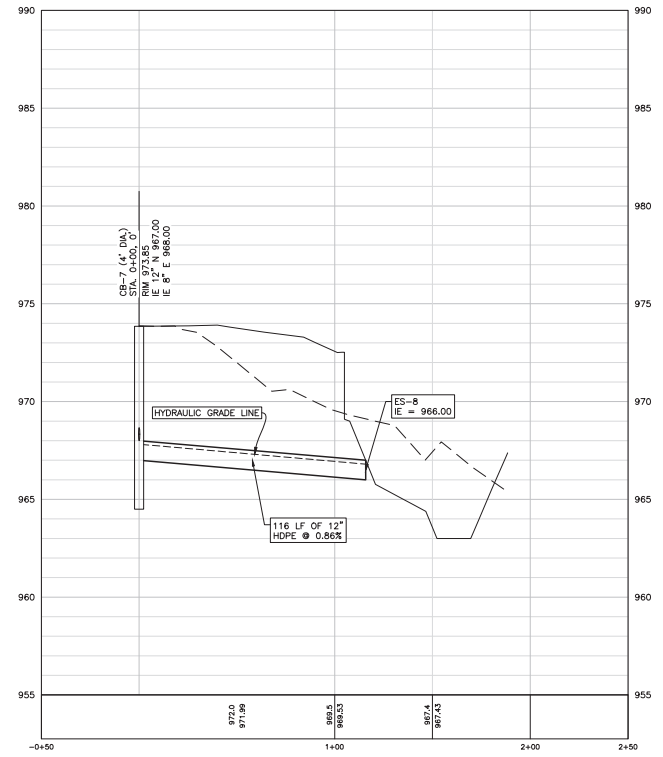
NUMBER OF UNITS = 340 students x 0.00 units/student = 6.86 UNITS  
 ASSUMED NUMBER OF PEOPLE PER UNIT = 3.2  
 EQUIVALENT POPULATION = UNITS x PEOPLE PER UNIT = 6.86 x 3.2 = 21.952 PEOPLE  
 AVERAGE DAILY FLOW = POPULATION x 100 GPD/PC = 21.952 x 100 = 2195.2 GPD  
 PEAKING FACTOR = 4  
 PEAK HOUR FLOW = PEAKING FACTOR x AVERAGE DAILY FLOW = 4 x 2195 = 8781 GPD  
 = 0.0136 CFS  
 = 6.1 GPM

**PROFILE LEGEND**



**NOTES**

- SAND BACKFILL AND BEDDING TO BE MDOT CL II.
- MAINTAIN MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.



**CB7-ES8**

PROFILE SCALE  
HORIZ: 1"=30'  
VERT: 1"=3'

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CLIENT :

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NovMI@goddardschools.com

**UTILITY PROFILES**  
 TAX IDS: 50-22-17-126-012 & -126-013  
 THE GODDARD SCHOOL NOVI  
 PART OF NW 1/4, SEC. 17, T1N-R8E,  
 CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PRE-DESIGN SUBMISSION
07/17/2023	MEETING DIRECTION SUBMITTAL
03/24/2023	PRELIMINARY SET PLAN
03/29/2023	PERMIT SET
07/26/2023	BUILDING PERMIT SUBMITTAL
05/07/2023	SET PLAN REVISIONS

ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-284B

SCALE: N/A  
 1/2" = 1'

FIELD:  
 DRAWN BY: DAH  
 DESIGN BY: TSB  
 CHECK BY: MEW/PL

**C-31**

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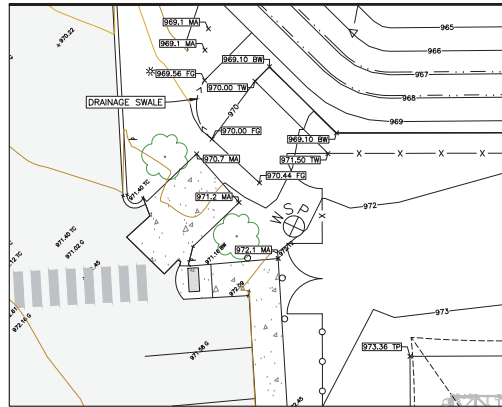


### GRADING LEGEND

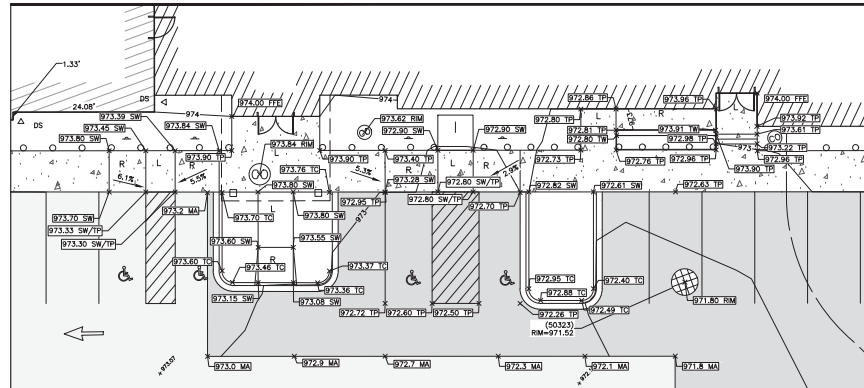
- X 940.00 TP PROPOSED TOP OF PAVEMENT GRADE
- X 940.00 SW PROPOSED SIDEWALK GRADE
- X 940.00 FG PROPOSED FINISH GRADE
- X 940.00 CG PROPOSED TOP OF CURB GRADE
- X 940.00 GP PROPOSED GUTTER PAN GRADE
- X 940.00 TW PROPOSED TOP OF WALL GRADE
- X 940.00 BW PROPOSED BOTTOM OF WALL GRADE
- X 940.00 FF PROPOSED FINISH FLOOR GRADE
- X 940.00 RM MATCH EXISTING GRADE
- X 940.00 FM PROPOSED FINISH GRADE
- X 940.00 ADJ-RM ADJUSTED RIM GRADE
- X 940.00 INV PROPOSED INVERT GRADE
- R ADA COMPLIANT SIDEWALK RAMP
- L ADA COMPLIANT SIDEWALK LANDING
- EXISTING ELEVATION
- EXISTING CONTOUR
- PROPOSED CONTOUR
- OVERFLOW ROUTE



#### GARAGE AREA VIEW - 10 SCALE



#### ENTRANCE AND ADA PARKING VIEW - 10 SCALE



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CLIENT :

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NOLI, MI 48374  
248-938-0400  
NovMI@goddardschool.com

### GRADING PLAN

TAX IDS: 50-22-17-126-012 & -126-013  
THE GODDARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-88E,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
07/17/2023	PRE-AP MEETING SUBMITTAL
07/17/2023	MEETING DISTRIBUTION SUBMITTAL
07/17/2023	PRELIMINARY SET PLAN
03/24/2023	PRELIMINARY SET PLAN
03/29/2023	PERMIT SET
07/09/2023	BUILDING PERMIT SUBMITTAL
05/07/2023	SET PLAN RESUBMITTAL

ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-284B

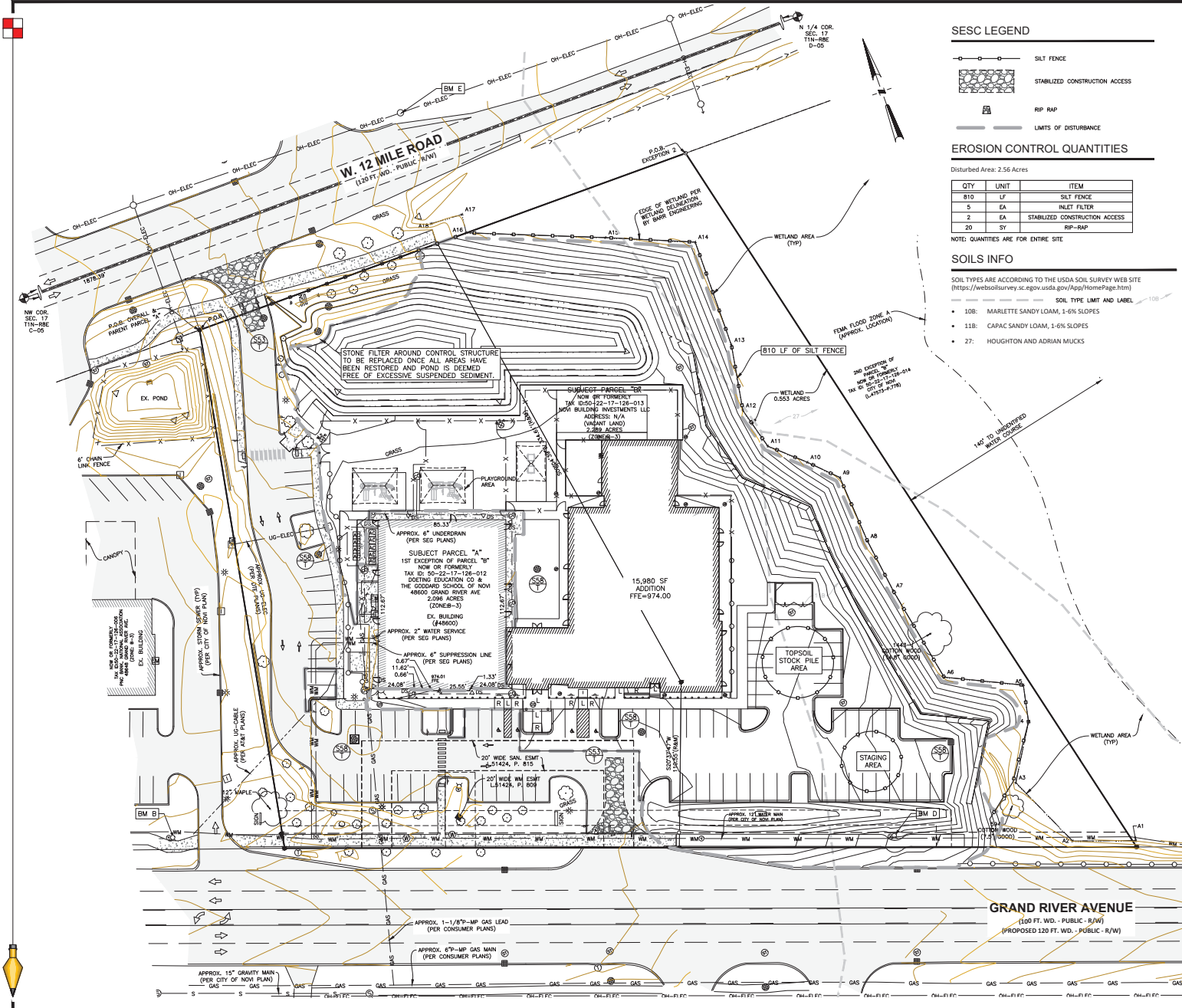
SCALE: 1" = 30'  
1/2" = 1"

FIELD:  
DRAWN BY: DAH  
DESIGN BY: DSB  
CHECK BY: MEB/PL

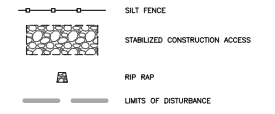
**C-7.1**

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**SESC LEGEND**



**EROSION CONTROL QUANTITIES**

Disturbed Area: 2.56 Acres

QTY	UNIT	ITEM
810	LF	SILT FENCE
5	EA	INLET FILTER
2	EA	STABILIZED CONSTRUCTION ACCESS
20	SY	RIP-RAP

NOTE: QUANTITIES ARE FOR ENTIRE SITE.

**SOILS INFO**

SOIL TYPES ARE ACCORDING TO THE USDA SOIL SURVEY WEBSITE (<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.html>)

SOIL TYPE LIMIT AND LABEL

- 10B: MARLETTE SANDY LOAM, 1-6% SLOPES
- 11B: CAPAC SANDY LOAM, 1-6% SLOPES
- 27: HOUGHTON AND ADRIAN MUCKS

**DTMB SOIL EROSION & SEDIMENTATION CONTROL MEASURES**

MORGAN DEPARTMENT OF TECHNOLOGY, MANAGEMENT, AND BUDGET (DTMB)

**EROSION CONTROLS**

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
E6	MULCH	[Symbol]	FOR USE IN AREAS SUBJECT TO EROSION TO PREVENT SEDIMENT LAYER SHEET FLOW FROM ENTERING THESE AREAS.
E8	PERMANENT SEEDING	[Symbol]	EVALUATION METHODS UTILIZED IN THIS PROJECT HAVE DETERMINED THAT THIS COMPLETE EROSION CONTROL MEASURE IS NECESSARY TO PREVENT EROSION.

**SEDIMENT CONTROLS**

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
S51	SILT FENCE	[Symbol]	USE ADJACENT TO CRITICAL AREAS, TO PREVENT POINT SOURCE FLOW FROM ENTERING THESE AREAS.
S53	STABILIZED CONSTRUCTION ACCESS	[Symbol]	USE AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE.
S55	SEDIMENT BASIN	[Symbol]	AT THE OUTLET OF DISTURBED AREAS AND AT THE LOCATION OF A PERMANENT SEDIMENT BASIN.
S58	INLET PROTECTION FABRIC DROP	[Symbol]	USE AT STORMWATER INLETS, ESPECIALLY AT CONSTRUCTION SITES.

**EROSION & SEDIMENT CONTROLS**

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
ESS1	CHECK DAM	[Symbol]	USED TO REDUCE SURFACE FLOW VELOCITY, PREVENT EROSION AND EXCESSIVE FLOW CONCENTRATION.

TEMPORARY PERMANENT

**EROSION CONTROL STANDARDS**

- ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE OAKLAND COUNTY WATER RESOURCE COMMISSIONER'S OFFICE.
- DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES, AND ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.
- EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
- CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. CONTRACTOR SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES AND OTHER CHANGES HAS BEEN ACCOMPLISHED.
- STAGING OF THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLACES AND AS REQUIRED TO INSURE PROGRESSIVE STABILIZATION OF DISTURBED AREAS.
- SOIL EROSION CONTROL PRACTICES WILL BE ESTABLISHED IN EARLY STAGES OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENTATION MEASURES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTING OF SILT OFF THE SITE.
- A CERTIFIED STORM WATER OPERATOR WILL BE NAMED ON THE MDEQ NOTICE OF COVERAGE FOR NPDES AS REQUIRED.
- ALL DISTURBED AREAS ARE TO BE TOP SOILED AND SEEDED WITH THE FOLLOWING MIN RATIO: TOP SOIL 3" IN DEPTH, GRASS SEED 218 LBS PER ACRE, FERTILIZER 150 LBS PER ACRE, STRAW MULCH 3" DEPTH 1.5 TO 2 TONS PER ACRE.
- HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%. ON SLOPES OVER 1% STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER, OR STRAW BLANKETS PEGGED IN PLACE.

**SOIL EROSION CONTROL MAINTENANCE SCHEDULE AND NOTES.**

- CONTRACTOR MUST OBTAIN A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT FROM THE OAKLAND COUNTY WATER RESOURCE COMMISSIONER'S OFFICE PRIOR TO COMMENCING WORK.
- EARTHWORK SHALL BE LIMITED TO THE PROPOSED SITE AS SHOWN ON THE PLAN.
- CONTRACTOR SHALL INSPECT THE SOIL EROSION/SEDIMENTATION CONTROL DEVICES ONCE A WEEK AND/OR WITHIN 24 HOURS OF A RAINFALL EVENT WHICH RESULTS IN A STORM WATER DISCHARGE FROM THE SITE. ANY DAMAGE TO EROSION CONTROL MEASURES MUST BE REPAIRED IMMEDIATELY.
- ALL MUD OR DEBRIS TRACKED ONTO EXISTING PUBLIC ROADS FROM THE SITE DUE TO CONSTRUCTION SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- SILT FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT-UP SEDIMENT WHEN THE SEDIMENT HEIGHT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE FENCE. THE CONTRACTOR IS RESPONSIBLE TO REMOVE, REPLACE, REFINISH OR RE-BACKFILL THE SITUATION FENCE SHOULD IT FAIL OR BE DAMAGED DURING CONSTRUCTION.
- PERMANENT STABILIZATION MUST BE COMPLETED WITHIN 30 DAYS OF FINAL GRADING.
- ACCESS ROADS MUST BE MAINTAINED AS NECESSARY, TO KEEP THEM EFFECTIVE, NEW LAYERS OF STONE MAY BE ADDED AS OLD LAYERS BECOME COMPACTED. STEPS SHOULD ALSO BE TAKEN TO REPAIR THE ACCESS ROADS IF RUTS OR PONDING WATER APPEARS.
- INLET FILTERS SHOULD BE INSPECTED FOR BUILDUP OF SILT AND OTHER DEBRIS. THIS IS EVIDENT IF GEOTEXTILE/SOD STRUCTURE IS CAUSING FLOODING. MAINTENANCE WOULD CONSIST OF REMOVING OF SEDIMENTS WITH A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL. IF INLET FILTER IS BEYOND THIS LEVEL OF REPAIR, IT MAY BE NECESSARY TO REPLACE BOTH THE SOD AND GEOTEXTILE FILTER.
- IF SOIL EROSION/SEDIMENT CONTROL MEASURES ARE INADEQUATE FOR THE SITE, THE PROPER EROSION CONTROL AUTHORITY MUST BE NOTIFIED.

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THE OAKLAND COUNTY WATER RESOURCE COMMISSIONER'S OFFICE HAS REVIEWED THIS PLAN AND FOUND IT TO BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE OAKLAND COUNTY WATER RESOURCE COMMISSIONER'S OFFICE.

CLIENT :  
**DOETING EDUCATION CO.**  
BENCK DOE  
48600 GRAND RIVER  
NOVI, MI 48374  
248-438-0400  
NovMI@doetingschool.com

**SESC PLAN**  
TAX ID: 50-22-17-126-012 & 126-013  
THE GODDARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-18E,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
12/07/2022	PRE-APP MEETING SUBMITTAL
07/17/2023	WETLAND DETERMINATION SUBMITTAL
03/24/2023	PERMIT APPLICATION
03/24/2023	PERMIT SET
03/29/2023	BUILDING PERMIT SUBMITTAL
07/26/2023	STATE PLAN RESUBMITTAL

ORIGINAL ISSUE DATE: 12/7/2022

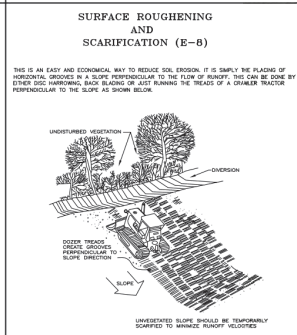
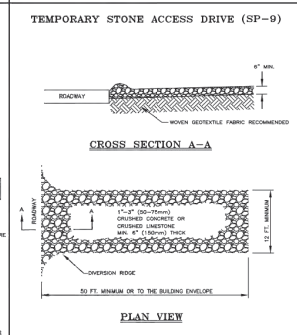
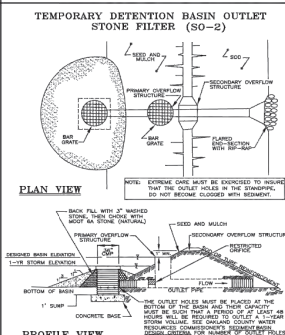
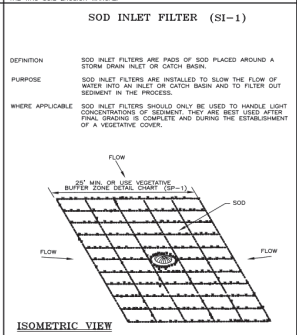
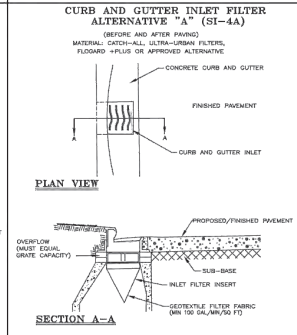
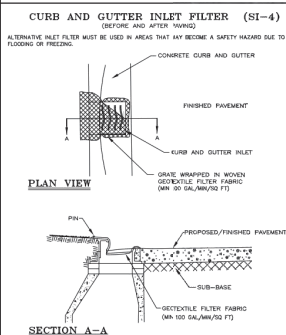
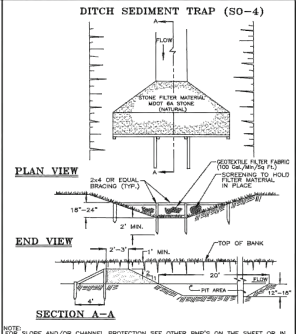
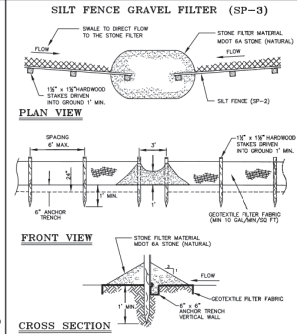
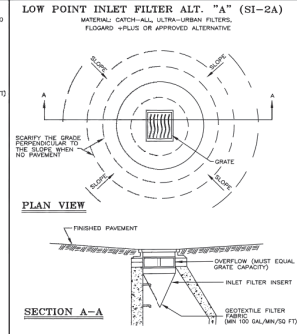
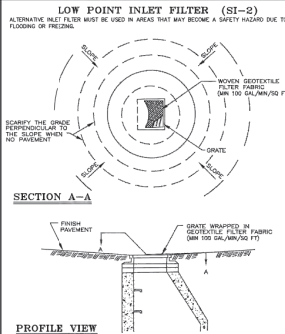
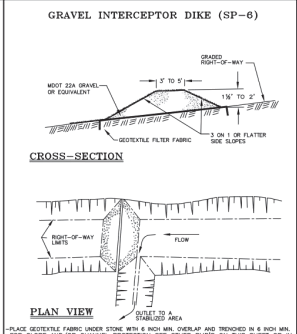
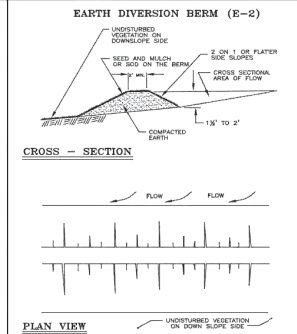
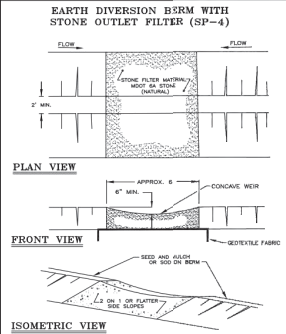
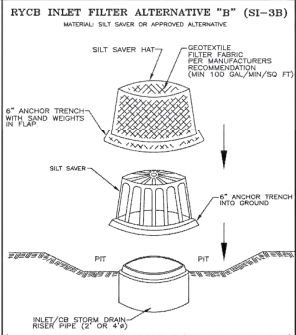
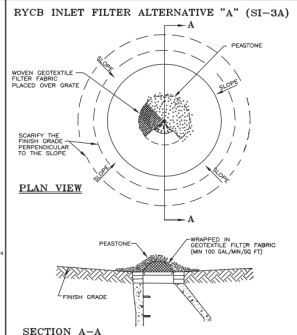
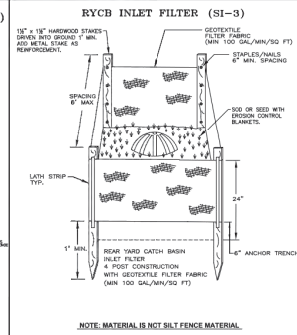
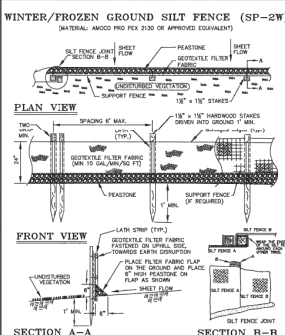
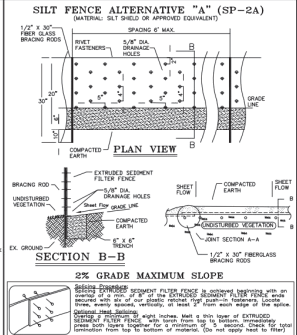
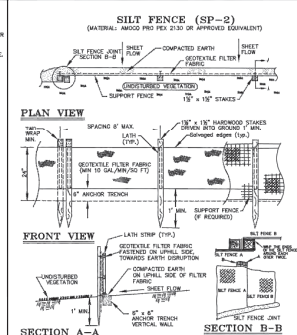
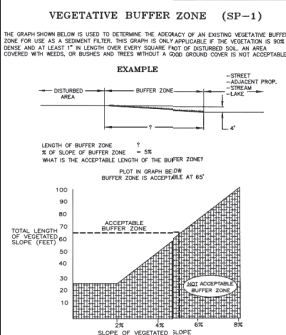
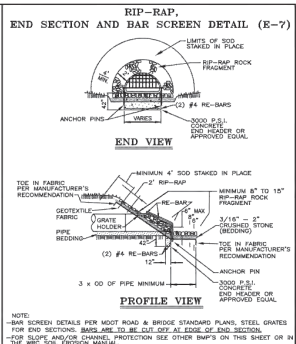
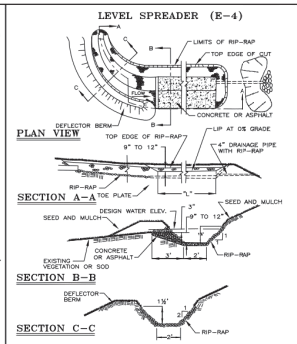
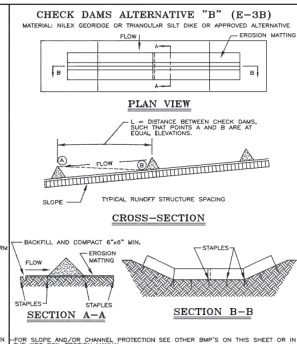
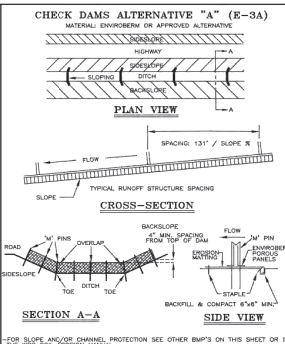
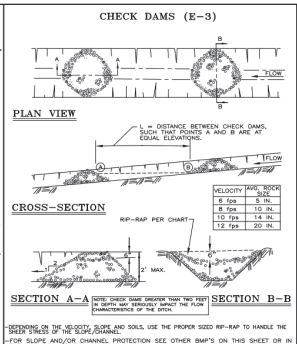
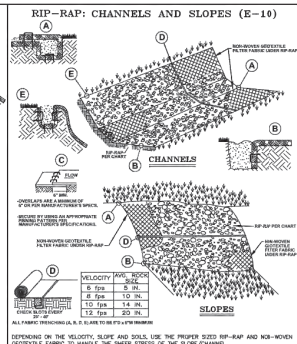
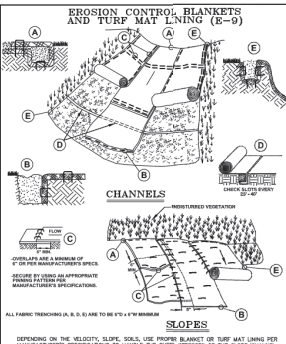
PROJECT NO: 21-284B

SCALE: 1" = 30'

FIELD:  
DRAWN BY: DAH  
DESIGN BY: TDB  
CHECK BY: ME/P

**C-8.0**

NOT FOR CONSTRUCTION



**NOTE:**

WHILE PERFORMING WORK INVOLVING GROUNDS MAINTENANCE AND/OR THE CONSTRUCTION/MAINTENANCE OF ANY INFRASTRUCTURE, INCLUDING ROADS, WATER MAINS, SANITARY SEWERS, STORM DRAINS AND STORM WATER BEST MANAGEMENT PRACTICES (BMPs), CONTRACTORS SHALL MINIMIZE POLLUTION FROM STORM WATER RUNOFF THAT CAN AFFECT WATER QUALITY RELATED TO WORK ACTIVITIES. POLLUTANTS THAT COULD IMPAIR WATER QUALITY MAY INCLUDE FUEL, GREASE AND OIL, NUTRIENTS, BACTERIA AND PATHOGENS, LITTER AND DEBRIS, AND SOIL EROSION AND SEDIMENTATION. APPLICABLE BMPs SHALL BE IMPLEMENTED BY THE CONTRACTOR TO THE MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY AND WILDLIFE HABITAT.

**SOIL EROSION AND SEDIMENTATION CONTROL DETAILS**

DATE: 01/01/14

SCALE: NONE

DESIGNED BY: MANSOUR

DRAWN BY: MANSOUR

PROJECT: WRC

WATER RESEARCH CORPORATION

3000 W. 10TH AVENUE, SUITE 100, DENVER, CO 80202

PHONE: 303.733.8800

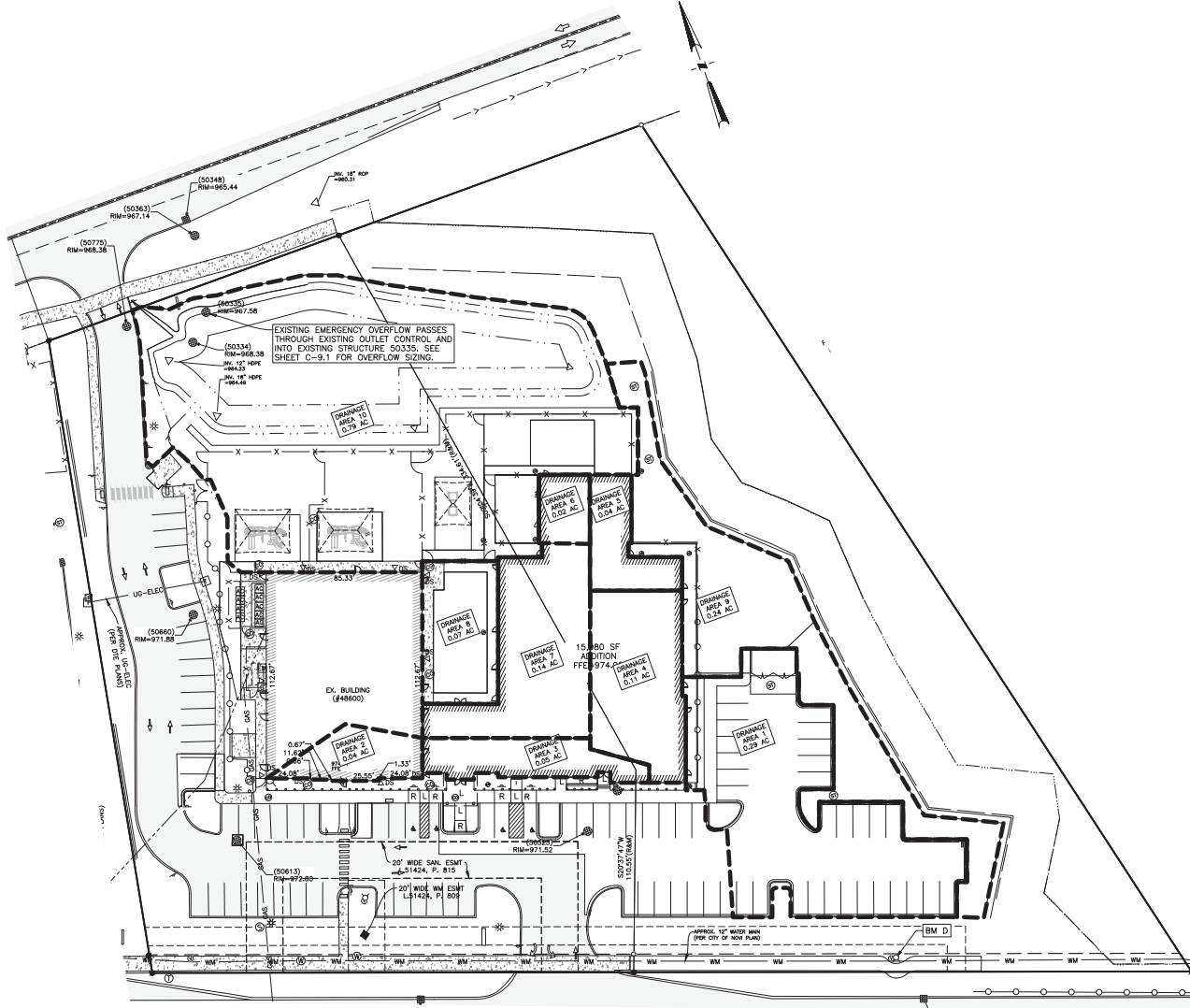
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SHEET NO: C-81





1878.30'



### DRAINAGE AREA C-VALUE CALCULATIONS

COMPOUND RUNOFF COEFFICIENT FOR AREA 1					COMPOUND RUNOFF COEFFICIENT FOR AREA 6				
OVERALL	AREA (SF)	AREA (AC)	C	CO1-C02	OVERALL	AREA (SF)	AREA (AC)	C	CO7-C08
CONTRIBUTING	12776	0.29			CONTRIBUTING	1046	0.02		
FLOWING OFF	0	0.00			FLOWING OFF	0	0.00		
A x C					A x C				
EX BUILDING	0	0.95	0		EX BUILDING	0	0.95	0	
EX PAVEMENT	0	0.95	0		EX PAVEMENT	0	0.95	0	
PR BUILDING	0	0.95	0		PR BUILDING	1046	0.95	993.7	
PR PAVEMENT	12747	0.95	12109.7		PR PAVEMENT	0	0.95	0	
NATURAL AREAS	29	0.30	8.7		NATURAL AREAS	0	0.30	0	
TOTALS	12776		12118.4		TOTALS	1046		993.7	
COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{12118.4}{12776} = 0.95$					COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{993.7}{1046} = 0.95$				

COMPOUND RUNOFF COEFFICIENT FOR AREA 2					COMPOUND RUNOFF COEFFICIENT FOR AREA 7				
OVERALL	AREA (SF)	AREA (AC)	C	EXCO1-E3	OVERALL	AREA (SF)	AREA (AC)	C	CO9-CO10
CONTRIBUTING	1771	0.04			CONTRIBUTING	5945	0.14		
FLOWING OFF	0	0.00			FLOWING OFF	0	0.00		
A x C					A x C				
EX BUILDING	0	0.95	0		EX BUILDING	0	0.95	0	
EX PAVEMENT	0	0.95	0		EX PAVEMENT	0	0.95	0	
PR BUILDING	1771	0.95	1682.45		PR BUILDING	5945	0.95	5647.75	
PR PAVEMENT	0	0.95	0		PR PAVEMENT	0	0.95	0	
NATURAL AREAS	0	0.30	0		NATURAL AREAS	0	0.30	0	
TOTALS	1771		1682.45		TOTALS	5945		5647.75	
COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{1682.45}{1771} = 0.95$					COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{5647.75}{5945} = 0.95$				

COMPOUND RUNOFF COEFFICIENT FOR AREA 3					COMPOUND RUNOFF COEFFICIENT FOR AREA 8				
OVERALL	AREA (SF)	AREA (AC)	C	CO1-CO2	OVERALL	AREA (SF)	AREA (AC)	C	OUTDOOR CLASSROOM CO10-CB7
CONTRIBUTING	2323	0.05			CONTRIBUTING	3240	0.07		
FLOWING OFF	0	0.00			FLOWING OFF	0	0.00		
A x C					A x C				
EX BUILDING	0	0.95	0		EX BUILDING	0	0.95	0	
EX PAVEMENT	0	0.95	0		EX PAVEMENT	569	0.95	540.55	
PR BUILDING	2323	0.95	2206.85		PR BUILDING	0	0.95	0	
PR PAVEMENT	0	0.95	0		PR PAVEMENT	787	0.95	747.65	
NATURAL AREAS	0	0.30	0		ARTIFICIAL TURF	1883	0.95	1747.65	
TOTALS	2323		2206.85		TOTALS	3240		1288.5	
COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{2206.85}{2323} = 0.95$					COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{1288.5}{3240} = 0.40$				

COMPOUND RUNOFF COEFFICIENT FOR AREA 4					COMPOUND RUNOFF COEFFICIENT FOR AREA 9				
OVERALL	AREA (SF)	AREA (AC)	C	CO3-CO4	OVERALL	AREA (SF)	AREA (AC)	C	GRASS SLOPE ABOVE WALL CO10-CB7
CONTRIBUTING	4926	0.11			CONTRIBUTING	10648	0.24		
FLOWING OFF	0	0.00			FLOWING OFF	0	0.00		
A x C					A x C				
EX BUILDING	0	0.95	0		EX BUILDING	0	0.95	0	
EX PAVEMENT	0	0.95	0		EX PAVEMENT	0	0.95	0	
PR BUILDING	4926	0.95	4679.7		PR BUILDING	0	0.95	0	
PR PAVEMENT	0	0.95	0		PR PAVEMENT	0	0.95	0	
NATURAL AREAS	0	0.30	0		ARTIFICIAL TURF	0	0.95	0	
TOTALS	4926		4679.7		TOTALS	0		0	
COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{4679.7}{4926} = 0.95$					COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{0}{10648} = 0$ #DIV/0!				

COMPOUND RUNOFF COEFFICIENT FOR AREA 5					COMPOUND RUNOFF COEFFICIENT FOR AREA 10				
OVERALL	AREA (SF)	AREA (AC)	C	CO5-CO6	OVERALL	AREA (SF)	AREA (AC)	C	PLAYGROUND AND BASIN CO10-CB7
CONTRIBUTING	1934	0.04			CONTRIBUTING	34242	0.79		
FLOWING OFF	0	0.00			FLOWING OFF	0	0.00		
A x C					A x C				
EX BUILDING	0	0.95	0		EX BUILDING	0	0.95	0	
EX PAVEMENT	0	0.95	0		EX PAVEMENT	0	0.95	0	
PR BUILDING	1934	0.95	1837.3		PR BUILDING	0	0.95	0	
PR PAVEMENT	0	0.95	0		PR PAVEMENT	6492	0.95	6167.4	
NATURAL AREAS	0	0.30	0		ARTIFICIAL TURF	0	0.95	0	
TOTALS	1934		1837.3		TOTALS	27550		8325	
COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{1837.3}{1934} = 0.95$					COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}} = \frac{14492.4}{34242} = 0.42$				

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THE LOCATIONS AND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON THE INFORMATION PROVIDED BY THE UTILITY COMPANIES AND ARE NOT TO BE USED FOR CONSTRUCTION WITHOUT THE UTILITY COMPANIES' PERMISSION.

CLIENT :

DOETING EDUCATION CO.  
BENCK DOE  
48600 GRAND RIVER  
NOVI, MI 48374  
248-438-0400  
NovMI@goddardschool.com

**DRAINAGE AREA PLAN**

TAX ID: 50-22-17-126-012 & -126-013  
THE GODDARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-8RE,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PRE-APP PERMITS SUBMITTAL
07/17/2023	FINAL PERMITS SUBMITTAL
03/24/2023	PERMITS SET
03/29/2023	BUILDING PERMIT SUBMITTAL
07/26/2023	SET FOR RECORDING
05/07/2023	

ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-284B

SCALE: 1" = 30'

1/2" = 1"

FIELD:  
DRAWN BY: DAH  
DESIGN BY: DDB  
CHECK BY: ME/PL

**C-9.0**

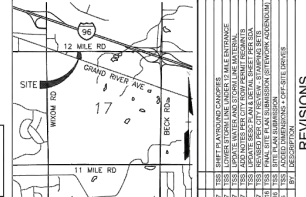
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LEGAL DESCRIPTION (AS SURVEYED)

TRACT 100-31-17-120-010 (PART OF THE NORTHWEST 1/4 OF SECTION 17, TOWN 1 NORTH, RANGE 8 EAST, COUNTY OF NOVI, OAKLAND COUNTY, MICHIGAN DESCRIBED AS: BEGINNING AT A POINT DISTANT EAST 107.14 FEET AND SOUTH 40 FEET FROM THE NORTHWEST CORNER...

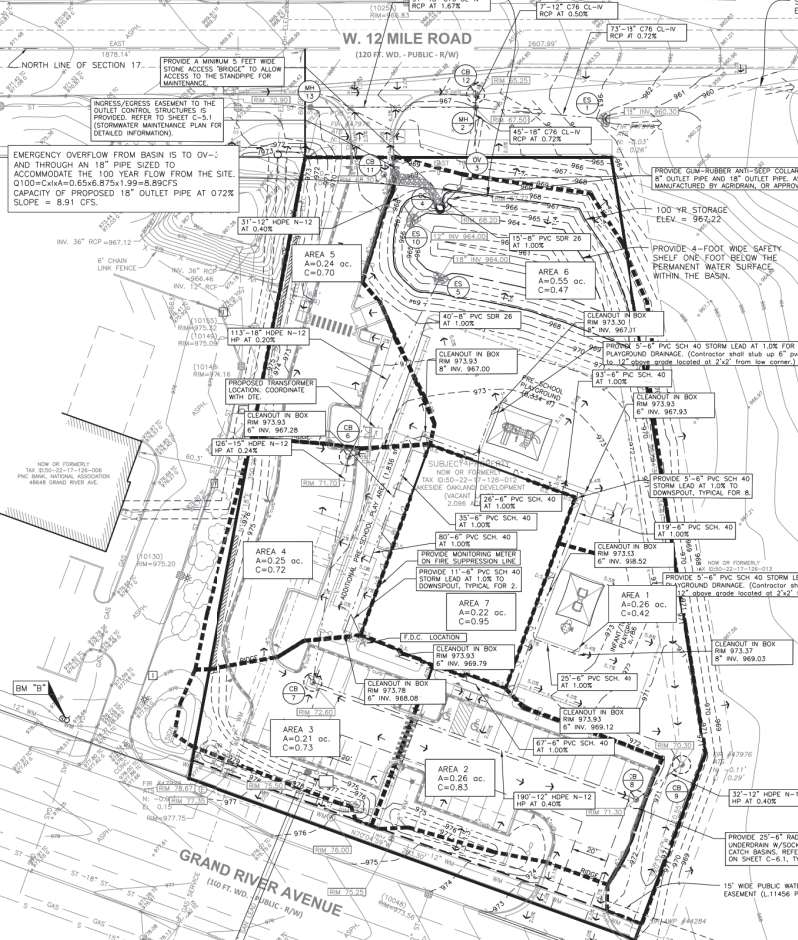
PROPOSED STORMWATER DETENTION BASIN W/PERMANENT POOL FOR WATER QUALITY. THE BASIN DISCHARGES TO A PROPOSED STORM SEWER SYSTEM WITHIN THE 12 MILE ROAD RIGHT OF WAY...

GRAPHIC SCALE



ACCORDING TO THE USDA SOIL SURVEY, SITE SOILS ARE CLASSIFIED AS MARLETTE SANDY LOAM. ACCORDING TO MDCO SOIL CLASSIFICATION REFERENCE MARLETTE SANDY LOAM IS CLASSIFIED AS HYDROLOGIC SOIL GROUP B. SLOPES IN GREENBELT AREAS VARY FROM 1% TO 25% WITH AN AVERAGE OF 11%...

Outlet Cuts table with columns for Tributary Area, Runoff Coef., First Flush Volume, First Flush ORFICE, Area of 12" Holes, Bank Full Volume, Flow rate through FF Holes, Time to discharge BF, 40 hrs + 24 hrs + 18 hrs, Calculate Release Rate as Differential Volume (DF) over 18 hours, Bank Full ORFICE, Area of 1" Holes, 100 Yr Outlet Calculations, Area of 2" Holes, Add Additional Holes at BF Elevation to allow 100% Detention release, 100 Yr ORFICE, Area of 2" Holes.



WEIGHTED 'C' VALUE CALCS table with columns for Area Designation, Landscape (sf), Impervious (sf), Open Water (sf), Total Area (sf), Total Area (ac), C-value.

Drainage Calculations table with columns for Catchment Area, Coefficient (C), Peak Discharge (Qp), Peak Time (Tp), Time of Concentration (Tc).

Detention Basin Volume table with columns for Contour, Area (sf), Volume (cu ft), Cumulative Volume (cu ft), Permanent Pool, Permanent Pool Depth, Vp=181.5/Areas, Vp=C-value, Vp=C-value.

NOTE: REFER TO SHEET C-5.1 FOR THE EXHIBITS TO THE STORM DRAINAGE FACILITY MAINTENANCE EASEMENT AGREEMENT TO BE EXECUTED BY THE DEVELOPER...

PROPOSED STORM STRUCTURE TABLE with columns for ID, Description, Elevation, Material, Notes.

STORM SEWER SYSTEM DESIGN table with columns for Station, Date, Project, Sheet, Flow, Pipe, Slope, Length, Velocity, Time.

REVISIONS table listing changes to the drawing.



CAUTION: THIS DRAWING IS THE PROPERTY OF STOREY ENGINEERING GROUP, LLC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON...

3 FULL WORKING DAYS BEFORE YOU DIG CALL 811. Know what's below. Call before you dig.



STOREY ENGINEERING GROUP, LLC. 4824 MANCHESTER MACOMB, MI 48844 (586) 216-1043. STORM WATER MANAGEMENT PLAN THE GORDARD SCHOOL - NOVI. ORIGINAL ISSUE DATE: 12/7/2022. SCALE: 1" = 30'.



Call MISS DIG. 1-800-452-7171. www.missdig.net

CLIENT: DOETING EDUCATION CO. BECKY DOE 48600 GRAND RIVER NOVI, MI 48374 248-938-0400 NovM@goddardschool.com

RECORD DRAINAGE AREA PLAN. TAX ID: 50-22-17-126-012 & 126-013 THE GORDARD SCHOOL - NOVI PART OF NW 1/4, SEC. 17, T1N-18E, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN.

PROJECT INFORMATION table with columns for DATE, PROJECT, SHEET, ORIGINAL ISSUE DATE, SCALE, FIELD, DRAWN BY, CHECK BY.

C-9.1 NOT FOR CONSTRUCTION



### STORAGE REQUIREMENT CALCULATIONS

#### COMPOUND RUNOFF COEFFICIENT (REDEVELOPMENT AREA)

OVERALL CONTRIBUTING FLOWING OFF	AREA (SF)	AREA (AC)	C	A x C
EX BUILDING	68,203	1.57	0.95	0
PR BUILDING	68,203	1.57	0.95	15,181
PR PAVEMENT	22,302	0.95	0.95	21,272
WATER	13,666	1.00	1.00	13,666
GRASS	16,165	0.20	0.20	3,233
TOTALS	68,203	3.23	0.30	53,352

$$COMPOUND C = \frac{TOTAL A \times C}{CONTRIBUTING AREA} = \frac{53,352}{68,203} = 0.78$$

#### SITE INFO

OVERALL AREA	=	1.57 AC
CONTRIBUTING AREA (A)	=	1.57 AC
ALLOWABLE DISCHARGE (Qd)	=	0.15 CFS/AC
COMPOUND C	=	0.78

#### REQUIRED WATER QUALITY VOLUME

$$V_{wq} = \frac{1}{12} \times 43560 \times A \times C = 4,446 \text{ CF}$$

#### REQUIRED CHANNEL PROTECTION VOLUME

$$V_{cp} = \frac{1.3}{12} \times 43560 \times A \times C = 5,780 \text{ CF}$$

#### REQUIRED FOREBAY VOLUME

$$V_{fb} = \frac{0.15}{12} \times 43560 \times A \times C = 4,446 \text{ CF}$$

#### REQUIRED EXTENDED DETENTION VOLUME

$$V_{ed} = \frac{1.9}{12} \times 43560 \times A \times C = 8,447 \text{ CF}$$

#### EXTENDED DETENTION DISCHARGE RATE

$$Q_{ed} = \frac{V_{ed}}{172800} = 0.049 \text{ CFS}$$

#### 100 YR STORM INLET RATE

$$Q_{inlet} = C \times A \times \frac{30.2033 \times 100^{0.2201}}{(T_c + 9.1747)^{0.3854}} = 7.32 \text{ CFS}$$

#### 100 YR STORM ALLOWABLE OUTLET RATE

$$Q_{outlet} = A \times Q_d = 0.235 \text{ CFS}$$

#### STORAGE CURVE FACTOR

$$R = 0.206 - 0.15 \times \ln\left(\frac{Q_{inlet}}{Q_{outlet}}\right) = 0.722$$

#### 100 YR STORM VOLUME IN

$$V_{inlet} = 18985 \times C \times A = 23,253 \text{ CF}$$

#### 100 YR STORM STORAGE VOLUME

$$V_{storage} = V_{inlet} \times R - V_{cp} = 11,008 \text{ CF}$$

#### REQUIRED DETENTION VOLUME

$$100 \text{ YR STORM STORAGE VOLUME CONTROLS} = 11,008 \text{ CF}$$

### STORAGE ELEVATIONS

#### STORAGE ELEVATIONS

USE MECHANICAL SEPARATOR TO TREAT THE WATER QUALITY VOLUME

FIRST FLUSH (FROM EXISTING SITE CALCULATIONS)	ELEVATION	=	964.00	VOLUME 1	0
	ELEVATION	=	965.00	VOLUME 2	7,578
FF ELEVATION (Z <sub>ff</sub> )	=	964.31	V <sub>ff</sub>	2,348	

#### EXTENDED DETENTION (COMBINED ED AND FF VOLUMES)

ELEVATION	=	965.00	VOLUME 1	7,578
ELEVATION	=	965.00	VOLUME 2	17,170
ED ELEVATION (Z <sub>ed</sub> )	=	965.79	V <sub>ed</sub>	15,121

#### 100 YEAR STORAGE

ELEVATION	=	968.00	VOLUME 1	17,170
ELEVATION	=	967.00	VOLUME 2	28,694
100 YR ELEVATION (Z <sub>100</sub> )	=	966.89	V <sub>100</sub>	27,659

### DETENTION BASIN

#### PROPOSED BASIN

ELEVATION	AREA (FT)	AVG AREA (FT)	INC VOLUME (CF)	TTL VOLUME (CF)
964	6,503	7,578		
965	8,563	9,592	7,578	
966	10,621	11,714	9,592	17,170
967	12,807	13,237	11,714	28,884
967.38	13,666	5,030	5,030	33,914

### PERMANENT POOL

#### PERMANENT POOL

ELEVATION	AREA (FT)	AVG AREA (FT)	INC VOLUME (CF)	TTL VOLUME (CF)
960	269	903		
961	1,536	2,004	903	903
962	2,472	3,625	2,004	2,907
963	4,777	5,885	3,625	6,531
964	6,593	5,885	5,885	12,216

### STORM WATER MTS

#### MANUFACTURED STORM WATER TREATMENT SYSTEM

1-YR STORM USED TO SIZE THE MTS

T <sub>c</sub>	=	17.25 min
P	=	1 year
f (prev. by city eng.)	=	1.60 in/hr
Q = C x I x A	=	2.02 CFS

### VOLUMES

#### VOLUME SUMMARY

##### EXISTING POND STORMWATER VOLUMES

EXISTING FIRST FLUSH VOLUME	V <sub>fff</sub>	=	2,348 CF
EXISTING BANK FULL VOLUME	V <sub>bf</sub>	=	6674 CF
EXISTING 100 YEAR VOLUME	V <sub>100</sub>	=	18,601 CF

##### PROPOSED POND STORMWATER VOLUMES

CHANNEL PROTECTION VOLUME	V <sub>cp</sub>	=	5,780 CF
PROPOSED EXTENDED DETENTION VOLUME	V <sub>ed</sub>	=	8447 CF
PROPOSED ADDITIONAL 100 YEAR DETENTION VOLUME	V <sub>p100</sub>	=	11,008 CF

##### COMBINED POND STORMWATER VOLUMES

FIRST FLUSH VOLUME	V <sub>ff</sub>	=	2,348 CF
PROPOSED EXTENDED DETENTION / BANK FULL VOLUME	V <sub>edbf</sub>	=	15121 CF
PROPOSED ADDITIONAL 100 YEAR DETENTION VOLUME	V <sub>100</sub>	=	27,689 CF

### STORM WATER MTS TREATMENT CONTRIBUTING AREA

#### COMPOUND RUNOFF COEFFICIENT INCLUDE BETWEEN WALL AND DEVELOPMENT

OVERALL CONTRIBUTING FLOWING OFF	AREA (SF)	AREA (AC)	C	A x C
EX BUILDING	76,338	1.75	0.95	0
PR BUILDING	76,338	1.75	0.95	15,181
PR PAVEMENT	22,302	0.95	0.95	21,272
WATER	13,666	1.00	1.00	13,666
GRASS	24,300	0.20	0.20	4,860
TOTALS	76,338	3.65	0.30	54,979

$$COMPOUND C = \frac{TOTAL A \times C}{CONTRIBUTING AREA} = \frac{54,979}{76,338} = 0.72$$

### OUTLET CONTROL STRUCTURE ORIFICE CALCULATIONS

#### DETENTIN BASIN OUTLET CONTROL CALCULATIONS

$$COMPOUND C = \frac{TC}{CONTR}$$

##### FIRST FLUSH OUTLET CONTROL (TO TREAT FIRST FLUSH FROM EXISTING BASIN)

FIRST FLUSH OUTLET IS DESIGNED TO PASS THE EXTENDED DETENTION FLOW PER THE NEW OCWC STANDARDS. NEW BASIN WILL NOT INCLUDE SEPARATE FF ORIFICES.

##### EXTENDED DETENTION OUTLET CONTROL

$$Q_{ed} = \frac{V_{ed}}{172800} = 0.064 \text{ CFS} \quad \text{RATE TO DEWATER IN 48 HRS}$$

##### ASSUME 1" ORIFICES

$$d = 1" = 0.083 \text{ FT}$$

$$A = \pi \times \left(\frac{d}{2}\right)^2 = 0.005 \text{ SF}$$

$$h_{wp} = 5(Z_{ed} - ZBOT)^{1.5} = 0.89$$

$$H_{ed} = \frac{V_{ed}}{A(h_{wp}(h_{wp}^{1.5}))} = 3.43 - 1" \text{ ORIFICES NEEDED}$$

##### USE THREE (3) 1.0" HOLES(S) @ 964.00 FT

##### TIME TO DEWATER ED VOLUME

$$T_{ed} = \frac{V_{ed}}{Q_{ed,ACTUAL} \times 3600} = 54.86 \text{ HOURS}$$

##### 100 YEAR DETENTION OUTLET CONTROL

##### VOLUME THROUGH EXTENDED DETENTION CONTROLS

$$H_{100} = 5(Z_{100} - ZBOT) = 1.45 \text{ FT}$$

$$Q_{ed,ACTUAL} = 0.62 \times A_{ed} \sqrt{2 \times g \times H_{100}} = 0.098 \text{ CFS}$$

$$Q_{100,REQ} = Q_{100,INLET} - Q_{ed} = 0.137 \text{ CFS}$$

##### ASSUME 1" ORIFICES @ EXTENDED DETENTION ELEVATION

$$d = 1" = 0.083 \text{ FT}$$

$$A = \pi \times \left(\frac{d}{2}\right)^2 = 0.005 \text{ SF}$$

$$h_{wp,100} = 5 \times (Z_{100} - Z_{ed})^{1.5} = 0.55$$

$$Q = 0.62 \times A \sqrt{2 \times g \times h_{wp,100}} = 0.020 \text{ CFS PER 1" ORIFICE}$$

$$H_{100} = Q_{100,REQ} / Q = 6.79 - 1" \text{ ORIFICES NEEDED}$$

##### USE SIX (6) 1.0" HOLES(S) @ 965.79 FT

##### ACTUAL 100 YEAR FLOW

$$Q_{100,ACTUAL} = Q_{ed,ACTUAL} + Q \times \text{NUMBER OF HOLES} = 0.219 \text{ CFS} < 0.228 \text{ CFS}$$

### STORAGE ELEVATIONS

#### STORAGE ELEVATIONS

USE MECHANICAL SEPARATOR TO TREAT THE WATER QUALITY VOLUME

FIRST FLUSH (FROM EXISTING SITE CALCULATIONS)	ELEVATION	=	964.00	VOLUME 1	0
	ELEVATION	=	965.00	VOLUME 2	7,578
FF ELEVATION (Z <sub>ff</sub> )	=	964.31	V <sub>ff</sub>	2,348	

#### EXTENDED DETENTION (COMBINED ED AND FF VOLUMES)

ELEVATION	=	965.00	VOLUME 1	7,578
ELEVATION	=	965.00	VOLUME 2	17,170
ED ELEVATION (Z <sub>ed</sub> )	=	965.79	V <sub>ed</sub>	15,121

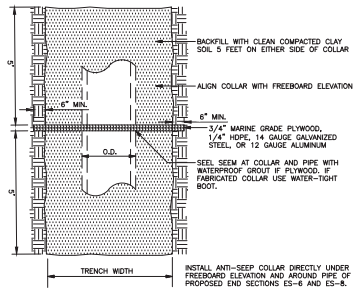
#### 100 YEAR STORAGE

ELEVATION	=	968.00	VOLUME 1	17,170
ELEVATION	=	967.00	VOLUME 2	28,694
100 YR ELEVATION (Z <sub>100</sub> )	=	966.89	V <sub>100</sub>	27,659

### STORM PIPE CALCULATIONS

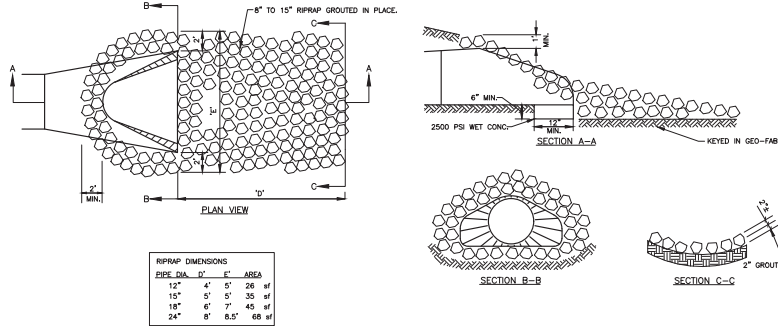
	FROM STR TO STR	AREA A	COEFF C	A x C	AREA TOTAL AT	TIME T	LAST LINE?	INT	FLOW Q	PIPE CAP. cfs	PIPE AREA sq ft	PIPE LENGTH ft	PIPE DIA in	PIPE SLOPE %	MIN PIPE SLOPE %	H.G. SLOPE %	VEL FTL ft/sec	TIME FLOW STREAM min	H.G. ELEV		INVERT ELEV		RIM ELEV		RIM ELEV	
																			UP	DOWN	UP	DOWN	UP	DOWN	UP	DOWN
MAIN RUN	CB1-MH2	0.30	0.94	0.280	0.280	15.00			4.38	1.22	2.42	0.79	76	12	0.33	0.22	0.33	3.04	0.41	965.97	965.72	965.17	964.92	968.50	972.15	
	NH2-MTS3			0.000	0.280	15.41			4.33	1.21	2.30	0.79	69	12	0.30	0.22	0.30	2.99	0.65	965.72	965.51	964.92	964.71	972.15	973.06	
	MTS3-MH4			0.000	0.280	15.90			4.29	1.20	2.42	0.79	140	12	0.33	0.22	0.33	3.08	0.76	965.51	965.05	964.71	964.25	973.06	970.00	
	MH4-MH5			0.000	0.280	16.56			4.21	1.18	2.38	0.79	41	12	0.32	0.22	0.32	3.03	0.23	965.05	964.92	964.12	964.12	970.00	966.00	
	MH5-E56			0.000	0.550	0.519	16.79	Y	4.19	2.17	2.38	0.79	38	12	0.32	0.22	0.32	3.03	0.21	964.92	964.80	964.12	964.00	966.00	965.00	
LATERAL ROOF	EXCO1-EXCO2	0.04	0.95	0.039	0.041	0.039	15.00		4.36	0.17	0.56	0.20	67	6	1.00	0.77	1.00	2.86	0.39	970.60	969.93	970.20	969.53	974.00	973.90	
	EXCO2-CO1			0.000	0.041	0.039	15.59		4.33	0.17	0.56	0.20	32	6	1.01	0.77	1.01	2.87	0.19	969.38	969.01	969.53	969.21	973.90	973.90	
	CO1-CO2	0.05	0.95	0.051	0.094	0.069	15.56		4.31	0.39	0.52	0.20	70	6	0.96	0.77	0.86	2.65	0.44	969.01	969.00	969.21	968.60	973.90	973.90	
	CO2-CO3			0.000	0.094	0.069	16.02		4.27	0.38	1.04	0.35	40	8	0.74	0.52	0.74	2.98	0.22	969.00	968.71	968.47	968.17	973.90	973.90	
	CO3-CO4	0.11	0.95	0.107	0.207	0.197	16.24		4.24	0.83	1.07	0.35	127	8	0.79	0.52	0.79	3.08	0.69	968.71	967.70	968.17	967.17	973.90	973.90	
	CO4-CO5			0.000	0.207	0.197	16.93		4.17	0.82	1.06	0.35	25	8	0.77	0.52	0.77	3.04	0.14	967.70	967.80	967.17	966.97	973.90	974.00	
MAIN	CO5-CO6	0.04	0.95	0.042	0.251	0.239	17.07		4.16	0.99	3.36	0.79	45	12	0.69	0.30	0.69	4.28	0.18	967.50	967.10	966.70	966.30	974.00	970.00	
	CO6-MH5			0.000	0.251	0.239	17.25	Y	4.14	0.99	4.04	0.79	8	12	1.20	0.30	1.29	5.15	0.03	967.10	967.00	966.30				

ANTI-SEEP COLLAR - 1' DIA.



INSTALL ANTI-SEEP COLLAR DIRECTLY UNDER FREEBOARD ELEVATION AND AROUND PIPE OF PROPOSED END SECTIONS ES-6 AND ES-8.

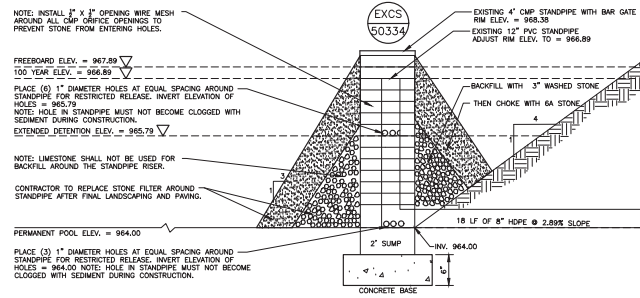
END SECTION DETAIL - WITH GROUDED RIPRAP



PIPE DIA.	D'	C'	AREA
12"	4'	5'	26 sf
15"	5'	5'	35 sf
18"	6'	7'	45 sf
24"	8'	8.5'	68 sf

NOTE: LENGTH OF CHANNEL PROTECT "D" FOR AND OUTLET END SECTION SHALL EQUAL 4X PIPE DIAMETER, OR EXTEND 4' BEYOND TOE OF SLOPE, WHICHEVER IS LONGER.

DETENTION BASIN OUTLET CONTROL STRUCTURE DETAIL



NOTE: INSTALL 3" X 3" OPENING WIRE MESH AROUND ALL CMP OFFICE OPENINGS TO PREVENT STONE FROM ENTERING HOLES.

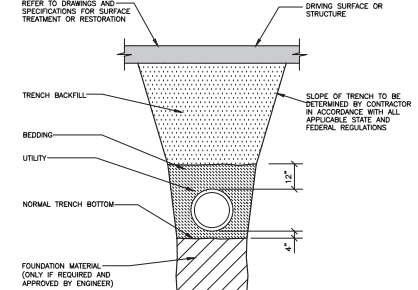
FREEBOARD ELEV. = 967.89  
 150' VENT. ELEV. = 966.89  
 PLACE (6) 1" DIAMETER HOLES AT EQUAL SPACING AROUND STANDPIPE FOR RESTRICTED RELEASE. INVERT ELEVATION OF HOLES = 965.79  
 NOTE: HOLE IN STANDPIPE MUST NOT BECOME CLOGGED WITH SEDIMENT DURING CONSTRUCTION.  
 EXTENDED DETENTION ELEV. = 965.79

NOTE: LIMESTONE SHALL NOT BE USED FOR BACKFILL AROUND THE STANDPIPE RISER.

CONTRACTOR TO REPLACE STONE FILTER AROUND STANDPIPE AFTER FINAL LANDSCAPING AND PAVING.

PERMANENT POOL ELEV. = 964.00  
 PLACE (3) 1" DIAMETER HOLES AT EQUAL SPACING AROUND STANDPIPE FOR RESTRICTED RELEASE. INVERT ELEVATION OF HOLES = 964.00 NOTE: HOLE IN STANDPIPE MUST NOT BECOME CLOGGED WITH SEDIMENT DURING CONSTRUCTION.

TRENCH DETAIL - BELOW DRIVING SURFACE OR STRUCTURE



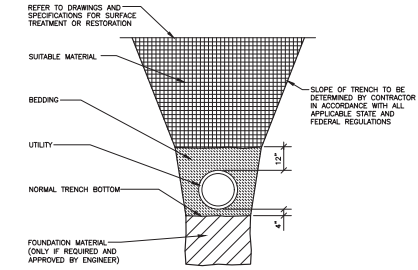
REFER TO DRAWINGS AND SPECIFICATIONS FOR SURFACE TREATMENT OR RESTORATION

DRIVING SURFACE OR STRUCTURE

SLOPE OF TRENCH TO BE DETERMINED BY CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE STATE AND FEDERAL REGULATIONS

FOUNDATION MATERIAL (ONLY IF REQUIRED AND APPROVED BY ENGINEER)

TRENCH DETAIL - NOT ADJACENT TO DRIVING SURFACE OR STRUCTURE



REFER TO DRAWINGS AND SPECIFICATIONS FOR SURFACE TREATMENT OR RESTORATION

SLOPE OF TRENCH TO BE DETERMINED BY CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE STATE AND FEDERAL REGULATIONS

FOUNDATION MATERIAL (ONLY IF REQUIRED AND APPROVED BY ENGINEER)



CLIENT :  
 DOETING EDUCATION CO.  
 BENOCK DOE  
 48600 GRAND RIVER  
 NOVI, MI 48374  
 248-935-0400  
 NovMI@goddardschools.com

**DETENTION BASIN DETAILS**  
 TAX IDS: 50-22-17-126-012 & -126-013  
 THE GODDARD SCHOOL NOVI  
 PART OF NW 1/4, SEC. 17, T1N-R8E,  
 CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
07/17/2022	PRE-AND MEETING SUBMITTAL
03/24/2022	MEETING SUBMITTAL BY
03/24/2022	PRELIMINARY SET PLAN
03/29/2022	PERMIT SET
07/26/2022	BUILDING PERMIT SUBMITTAL
05/07/2022	SET PLAN SUBMITTAL

ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-284B

SCALE: N/A

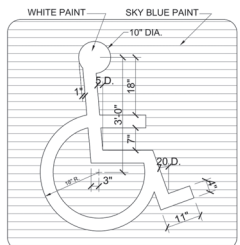
1/2" = 1'

FIELD:  
 DRAWN BY: DAH  
 DESIGN BY: TOB  
 CHECK BY: MEW/PL

**C-9.3**

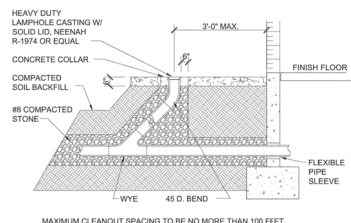


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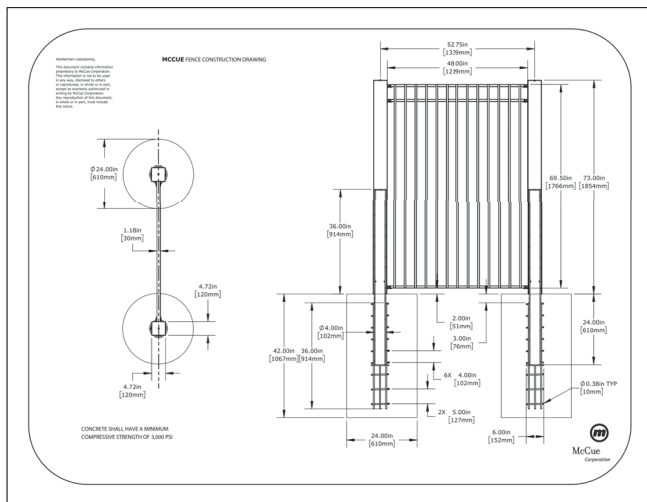
17 PAINTED HANDICAP SYMBOL DETAIL

SCALE: N.T.S.

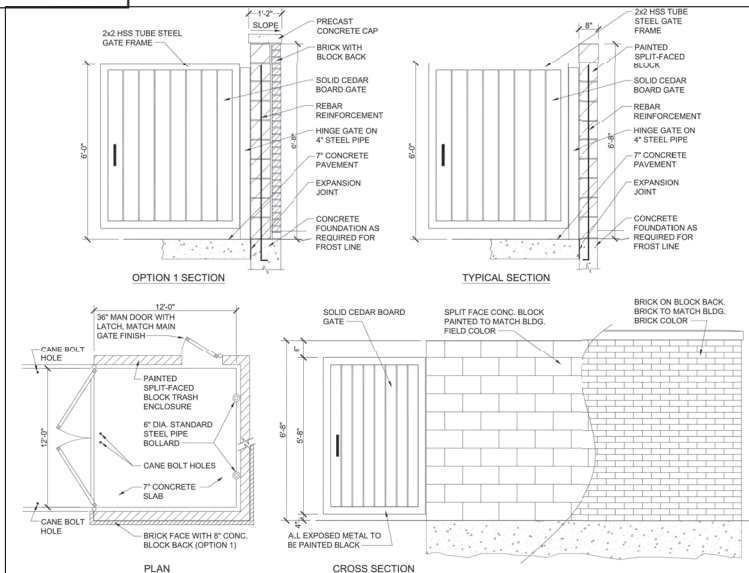
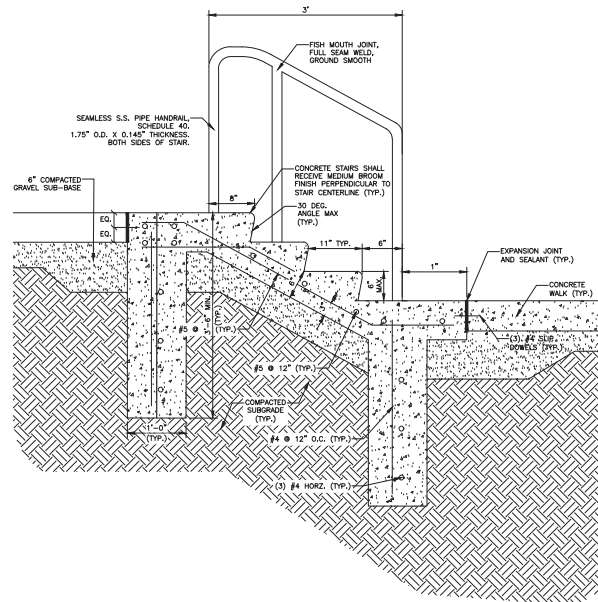


18 TYP. CLEANOUT DETAIL

SCALE: N.T.S.



CONCRETE STAIR DETAIL - WITH HAND RAIL



08 TRASH ENCLOSURE DETAILS

SCALE: N.T.S.

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NOVI, MI 48374  
248-438-0400  
NoviM@goddardschool.com

**DETAILS**

TAX: 05-50-22-17-126-012 & -126-013  
THE GODDARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-R8E,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
07/17/2023	PRE-APD MEETING SUBMITTALS
03/24/2023	MEETING DIRECTION SUBMITTALS
03/24/2023	PERFORMANCE PLAN
03/29/2023	PERMIT SET
07/26/2023	BUILDING PERMIT SUBMITTALS
08/07/2023	SET PLAN RESUBMITTALS

ORIGINAL ISSUE DATE: 12/7/2022

PROJECT NO: 21-284B

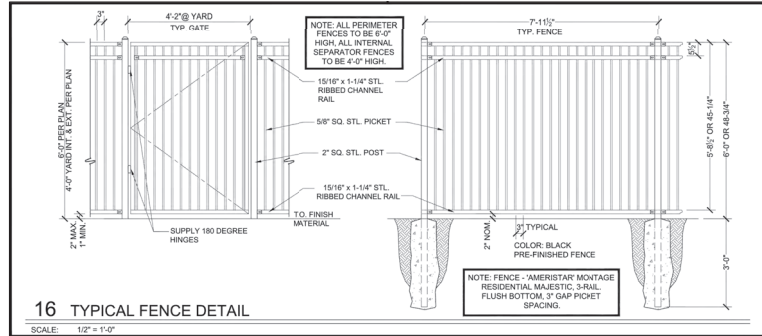
SCALE: N/A

FIELD: 1/2" = 1'

DRAWN BY: DAH  
DESIGN BY: TSB  
CHECK BY: MEB/PL

**C-11.0**

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NovMI@goddardschools.com

**DETAILS**

TAX IDS: 50-22-17-126-012 & -126-013  
THE GODDARD SCHOOL NOVI  
PART OF NW 1/4, SEC. 17, T1N-R8E,  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

DATE	DESCRIPTION
12/07/2022	PLAN SUBMITTALS PROVISIONS
07/11/2023	PRE-AP MEETING SUBMITTAL
03/24/2023	WETLAND DETERMINATION SUBMITTAL
03/24/2023	PERMITS BY REGULATORY AGENCIES
03/29/2023	PERMIT SET
07/26/2023	BUILDING PERMIT SUBMITTAL
08/07/2023	SIT. PLAN RESUBMITTAL

ORIGINAL ISSUE DATE:  
12/7/2022

PROJECT NO: 21-284B

SCALE: N/A

FIELD:  
DRAWN BY: DAH  
DESIGN BY: TOB  
CHECK BY: MEB/PL

**C-111**

NOT FOR CONSTRUCTION





GENERAL NOTES

- 1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE LOCAL MUNICIPALITY, THE LOCAL WATER AND/OR SEWER AUTHORITY, THE COUNTY D.P.W., THE COUNTY DRAIN COMMISSIONERS, MICHIGAN DEPARTMENT OF TRANSPORTATION, THE DEPARTMENT OF ENVIRONMENTAL CONTROL, LOCAL ORDINANCES, ORDINANCES OF MICHIGAN, AND THE CODES AND STANDARDS APPLICABLE TO THE PROJECT.

EROSION CONTROL STANDARDS

- 1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF THE JURISDICTIONAL AGENCY UNDER PART 111 OF ACT 451 OF 1994, AS AMENDED.

EROSION CONTROL STANDARDS

- 1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF THE JURISDICTIONAL AGENCY UNDER PART 111 OF ACT 451 OF 1994, AS AMENDED.

EROSION CONTROL STANDARDS

- 1. STAFFING THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS AND AS REQUIRED TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED AREAS.

STORM SEWER SPECIFICATIONS

- 1. THESE SPECIFICATIONS SHALL BE USED IN CONJUNCTION WITH THE GENERAL SPECIFICATIONS AND THE SPECIFICATIONS AND DETAIL SHEETS OF THE GOVERNING AGENCIES. IF ANY CONFLICT IS FOUND BETWEEN THE SPECIFICATIONS, THE STRICTER SPECIFICATIONS SHALL PREVAIL.

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CLIENT :

THE GODDARD SCHOOL NOV, MICHIGAN

SPECIFICATIONS

TAX ID: 50-50-22-17-126-012 & -126-013
PART OF NW 1/4, SEC. 17, T1N-18E, R9E,
CITY OF NOVI, OKLAHOMA COUNTY, MICHIGAN

DATE

Table with columns for DATE and rows for various project milestones like PERMITS, EXCAVATION, etc.

ORIGINAL ISSUE DATE:

12/7/2002

PROJECT NO:

201-2848

SCALE:

N/A

FIELD:

DRAWN BY: DAH

CHECKED BY: ME/PL

C-12.0

NOT FOR CONSTRUCTION



GRADING AND EARTHWORK SPECIFICATIONS

- 1. ALTHOUGH A SURFACE INVESTIGATION MAY HAVE BEEN MADE BY THE OWNER... 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING DETERMINED TO HIS SATISFACTION... 3. PRIOR TO COMMENCING THE EXCAVATION THE CONTRACTOR SHALL SUBMIT A PLAN... 4. THE CONTRACTOR SHALL CONSIDER, AND HIS PLAN FOR EXCAVATION SHALL... 5. THE CONTRACTOR SHALL BE KEPT INFORMED AND THE OWNER'S REPRESENTATIVE... 6. MATERIALS FOR FILL OR BACKFILL REQUIRED TO GRADE A SITE AND ACHIEVE... 7. NO FILL MAY BE PLACED UNTIL THE EXPOSED SURFACES HAVE BEEN... 8. IF ANY UNKNOWN SUBSURFACE STRUCTURES ARE ENCOUNTERED DURING... 9. ALL FILL MATERIALS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER... 10. NO FROZEN MATERIAL SHALL BE USED AS FILL NOR WILL ANY FILL BE PLACED... 11. NO ROCK OR SIMILAR MATERIAL GREATER THAN 8" DIAMETER SHALL BE PLACED... 12. CONTACT FILL MATERIAL TO AT LEAST THE FOLLOWING PERCENTAGE OF MAXIMUM... 13. CONTACT FILL MATERIAL TO AT LEAST THE FOLLOWING PERCENTAGE OF MAXIMUM... 14. ALL FILL MATERIAL SHALL BE PLACED AND COMPACTED IN LIFTS, THAT WILL NOT... 15. ALL AREAS WHERE FILL HAS BEEN PLACED OR THE EXISTING SOILS HAVE BEEN... 16. FILL MATERIAL UNDER PAVEMENTS OR STRUCTURES SHALL BE FREE OF ORGANIC... 17. FILL MATERIAL IN STRIPES AND LANDSCAPE AREAS SHALL BE SUITABLE TO... 18. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF, IN A... 19. THE CONTRACTOR SHALL STOCKPILE EXCAVATED MATERIAL ONLY IN DESIGNATED... 20. DURING THE PERFORMANCE OF SITE GRADING OPERATIONS, THE SURGRADE SHALL... 21. THE OWNER'S REPRESENTATIVE, GEOTECHNICAL ENGINEER, AND SOFT AND... 22. THE CONTRACTOR SHALL BE KEPT ADVISED OF ANY CHANGES TO THE... 23. NEWLY GRADED AREAS SHALL BE PROTECTED FROM THE ACTION OF THE... 24. THE FINISHED SURGRADE SURFACE SHALL BE SHAPED TO INDICATED PROFILES... 25. THE GRADING CONTRACTOR SHALL BACKFILL ALL PAVING LOT CURBS AND... 26. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PAVING, DETAILING, HOLE PUNCH... 27. THE CONTRACTOR SHALL BE KEPT ADVISED OF ANY CHANGES TO THE... 28. THE CONTRACTOR SHALL BE KEPT ADVISED OF ANY CHANGES TO THE... 29. ANY MATERIALS NOT ACCESSIBLE TO THE ROLLER, THE BITUMINOUS CONCRETE SHALL... 30. THE CONTRACTOR SHALL PROVIDE AT LEAST TWO ROLLERS FOR EACH PAVEMENT...

BITUMINOUS PAVING SPECIFICATIONS

- 1. REFERENCE SPECIFICATIONS WHERE APPLICABLE TO WORK UNDER THIS SECTION... A. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION... B. OFFICIAL AUSTRIAN (ASHTO). C. MICHIGAN DEPARTMENT OF TRANSPORTATION / CURRENT STANDARD... D. AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM) 2. AGGREGATE BASE COURSE SHALL MEET THE REQUIREMENTS OF SECTION 902... 3. TACK COAT SHALL BE EMULSIFIED ASPHALT MEETING REQUIREMENTS OF MDOT... 4. AGGREGATE SHALL CONSIST OF CRUSHED STONE, CRUSHED GRAVEL, A MIXTURE... 5. FINE AGGREGATE SHALL BE SIEVED FROM COARSE TO FINE AND... 6. ASPHALT CEMENT SHALL COMPLY WITH THE REQUIREMENTS OF MDOT SECTION... 7. HOT MIXED ASPHALT (HMA) SHALL COMPLY WITH MDOT SECTION 501 OF... 8. BITUMINOUS LEVELING COURSE SHALL BE MOOT 1MA, 13A, UNLESS OTHERWISE... 9. THE CONTRACTOR SHALL SUBMIT, TO THE OWNER, TWO COPIES OF MATERIALS... 10. THE CONTRACTOR SHALL SUBMIT TO THE GEOTECHNICAL ENGINEER, JOB-MIX... 11. THE CONTRACTOR SHALL SUBMIT, TO THE OWNER, TWO COPIES OF MATERIALS... 12. THE FINE AGGREGATE SHALL MEET ALL REQUIREMENTS OF SECTION 902 OF... 13. THE CONTRACTOR SHALL SUBMIT, TO THE OWNER, TWO COPIES OF MATERIALS... 14. THE CONTRACTOR SHALL SUBMIT, TO THE GEOTECHNICAL ENGINEER, JOB-MIX... 15. BITUMINOUS CONCRETE PAVEMENT CONSTRUCTION METHODS SHALL CONFORM... 16. THE CONTRACTOR SHALL NOT PLACE THE AGGREGATE BASE COURSE OR THE... 17. EACH LIFT AND COURSE OF BITUMINOUS CONCRETE SHALL BE APPROVED BY... 18. ALL WEATHER-LEVELLED CONCRETE SUPPLIES MUST BE APPROVED BY THE OWNER... 19. UPON ARRIVAL, THE BITUMINOUS CONCRETE SHALL BE SPREAD TO A THICKNESS... 20. THE BITUMINOUS CONCRETE SHALL BE PLACED AT A TEMPERATURE OF NOT LESS... 21. THE BITUMINOUS CONCRETE SHALL BE THOROUGHLY AND UNIFORMLY... 22. THE BITUMINOUS CONCRETE SHALL BE PLACED TO A THICKNESS... 23. THE SPEED OF THE ROLLER SHALL, AT ALL TIMES, BE SUFFICIENTLY SLOW... 24. SUFFICIENT ROLLERS SHALL BE FURNISHED TO HANDLE THE OUTPUT OF THE... 25. TACK COAT SHALL BE APPLIED TO THE SURFACE OF PREVIOUS LIFTS OR... 26. IMMEDIATELY BEFORE PLACING A SUCCEEDING LIFT OF COURSE OF BITUMINOUS... 27. TO PREVENT AGGREGATE OF THE BITUMINOUS CONCRETE TO THE ROLLER... 28. IN AREAS NOT ACCESSIBLE TO THE ROLLER, THE BITUMINOUS CONCRETE SHALL... 29. ANY BITUMINOUS CONCRETE THAT BECOMES LOOSE AND BROKEN MIXED WITH... 30. THE CONTRACTOR SHALL PROVIDE AT LEAST TWO ROLLERS FOR EACH PAVEMENT...

BITUMINOUS PAVING SPECIFICATIONS, CONTINUED

- 31. THE CONTRACTOR SHALL CAREFULLY MAKE JOINTS BETWEEN OLD AND NEW... 32. THE CONTRACTOR SHALL TEST THE FINISHED SURFACE OF EACH BITUMINOUS... 33. A. LEVELING COURSE SURFACE: 1/4 INCH PLUS OR MINUS 1/4 INCH. B. SURFACE COURSE: 1/4 INCH. 34. AFTER FINAL ROLLING, THE CONTRACTOR SHALL NOT PERMIT VEHICULAR TRAFFIC... 35. THE AGGREGATE BASE MUST EXTEND A MINIMUM OF 1" BEHIND THE... 36. ASPHALT CEMENT SHALL COMPLY WITH THE REQUIREMENTS OF MDOT SECTION... 37. HOT MIXED ASPHALT (HMA) SHALL COMPLY WITH MDOT SECTION 501 OF... 38. BITUMINOUS LEVELING COURSE SHALL BE MOOT 1MA, 13A, UNLESS OTHERWISE... 39. THE CONTRACTOR SHALL SUBMIT, TO THE OWNER, TWO COPIES OF MATERIALS... 40. THE CONTRACTOR SHALL SUBMIT TO THE GEOTECHNICAL ENGINEER, JOB-MIX... 41. THE CONTRACTOR SHALL SUBMIT, TO THE OWNER, TWO COPIES OF MATERIALS... 42. THE FINE AGGREGATE SHALL MEET ALL REQUIREMENTS OF SECTION 902 OF... 43. THE CONTRACTOR SHALL SUBMIT, TO THE OWNER, TWO COPIES OF MATERIALS... 44. THE CONTRACTOR SHALL SUBMIT, TO THE GEOTECHNICAL ENGINEER, JOB-MIX... 45. BITUMINOUS CONCRETE PAVEMENT CONSTRUCTION METHODS SHALL CONFORM... 46. THE CONTRACTOR SHALL NOT PLACE THE AGGREGATE BASE COURSE OR THE... 47. EACH LIFT AND COURSE OF BITUMINOUS CONCRETE SHALL BE APPROVED BY... 48. ALL WEATHER-LEVELLED CONCRETE SUPPLIES MUST BE APPROVED BY THE OWNER... 49. UPON ARRIVAL, THE BITUMINOUS CONCRETE SHALL BE SPREAD TO A THICKNESS... 50. THE BITUMINOUS CONCRETE SHALL BE PLACED AT A TEMPERATURE OF NOT LESS... 51. THE BITUMINOUS CONCRETE SHALL BE THOROUGHLY AND UNIFORMLY... 52. THE BITUMINOUS CONCRETE SHALL BE PLACED TO A THICKNESS... 53. THE SPEED OF THE ROLLER SHALL, AT ALL TIMES, BE SUFFICIENTLY SLOW... 54. SUFFICIENT ROLLERS SHALL BE FURNISHED TO HANDLE THE OUTPUT OF THE... 55. TACK COAT SHALL BE APPLIED TO THE SURFACE OF PREVIOUS LIFTS OR... 56. IMMEDIATELY BEFORE PLACING A SUCCEEDING LIFT OF COURSE OF BITUMINOUS... 57. TO PREVENT AGGREGATE OF THE BITUMINOUS CONCRETE TO THE ROLLER... 58. IN AREAS NOT ACCESSIBLE TO THE ROLLER, THE BITUMINOUS CONCRETE SHALL... 59. ANY BITUMINOUS CONCRETE THAT BECOMES LOOSE AND BROKEN MIXED WITH... 60. THE CONTRACTOR SHALL PROVIDE AT LEAST TWO ROLLERS FOR EACH PAVEMENT...

CONCRETE CURB, SIDEWALK AND PAVEMENT SPECIFICATIONS, CONTINUED

- 61. BARS SUPPORTS SHALL CONFORM TO THE BAR SUPPORT SPECIFICATIONS... 62. WHEN FORMS ARE USED AND THE CURB RADIUS IS LESS THAN 200 FEET, THE... 63. ALL NEW CURB SHALL BE PLACED ONLY ON A PREPARED SUBGRADE, SMOOTH... 64. COMPACT AND CUT-TO-GRADE SUBGRADE UNDER FORMS SO THAT FORMS WHEN... 65. COAT SURFACES OF FORMS TO BE IN CONCRETE WITH A LIGHT CLEAR PARAFFIN... 66. THE INTERIOR SURFACES OF CONCRETE CURVING EQUIPMENT SHALL BE... 67. CURBING MAY BE CONSTRUCTED EITHER BY USE OF FORMS OR BY A MECHANICAL... 68. REINFORCEMENT FOR CONCRETE CURB AS SHOWN ON THE DRAWINGS... 69. THE CONCRETE CURB SURFACE SHALL BE STRUCK OFF THE REQUIRED... 70. THE CONCRETE CURB SHALL BE PLACED IN CURBS AT TANGENT POINTS IN CURB... 71. ISOLATION JOINTS SHALL BE PLACED IN CURBS AT THE END OF EACH DAYS FOUR AND WHEN... 72. THE CURING COMPOUND SHALL BE A WHITE PARAFFIN BASE COMPOUND... 73. SLURRY UNDERLIFT JOINT GROOVE WITH JOINT SEALER TO PREVENT EXHAUSTION... 74. FRESHLY PLACED CONCRETE SHALL BE PROTECTED AS REQUIRED TO MAINTAIN... 75. COLD WEATHER PROTECTION: WHEN THE TEMPERATURE OF THE ATMOSPHERE IS... 76. HOT WEATHER PROTECTION: WHEN THE TEMPERATURE OF THE ATMOSPHERE IS... 77. WATER USED IN CONCRETE SHALL MEET THE REQUIREMENTS OF MDOT SECTION... 78. AIR ENTRAINMENT ADMIXTURE SHALL BE SELECTED FROM THE MDOT QUALIFIED... 79. READY-MIXED CONCRETE SUPPLIES MUST BE APPROVED BY THE OWNER... 80. THE CONTRACTOR SHALL SUBMIT A STATEMENT OF PROPOSAL FOR READY-MIXED... 81. ALL FORMS, RADES AND STATES SHALL BE REMOVED WITHIN 24 HOURS AFTER... 82. AFTER COMPLETION OF CONCRETE CURBING IN AN AREA, REMOVE ALL WEATHER... 83. ALL CEMENT USED IN SIDEWALK CONSTRUCTION SHALL BE PORTLAND CEMENT... 84. ALL NEW WALKS AND CONCRETE PAVEMENTS SHALL BE PLACED ONLY ON A... 85. CONSTRUCT CONCRETE SURFACE COURSE ONLY WHEN GROUND TEMPERATURE IS... 86. SIDEWALKS SHALL PITCH TOWARD THE STREET OR AWAY FROM BUILDINGS WITH A... 87. CROSS SLOPE OF 1/8"=1" HIGH PER FOOT OF WIDTH AND A MINIMUM... 88. PRIOR TO PLACING THE CONCRETE, ALL DEBRIS, STONES, ETC., SHALL BE... 89. NO WATER FROM THE TRUCK WATER SYSTEM OR ELSEWHERE SHALL BE ADDED... 90. FORMS SHALL BE METAL OR WOOD AND OF AN APPROVED SECTION, THEY SHALL... 91. THE CONCRETE SHALL BE DEPOSITED CONTINUOUSLY IN THE FORMS IN SUCH... 92. THE CONCRETE SURFACE SHALL BE STRUCK OFF TO A PLANE SURFACE WITH... 93. IN NO CASE SHALL THE WALKER OR TRUCK BE PULSED OUT TOWARD THE STREET... 94. CONSTRUCTION JOINTS IN SIDEWALKS SHALL BE SPACED AT A MINIMUM OF EVERY... 95. THE WIRE SHALL BE BLACK, ANNEALED STEEL, WIRE, NOT LESS THAN 16 GAUGE...

CONCRETE CURB, SIDEWALK AND PAVEMENT SPECIFICATIONS, CONTINUED

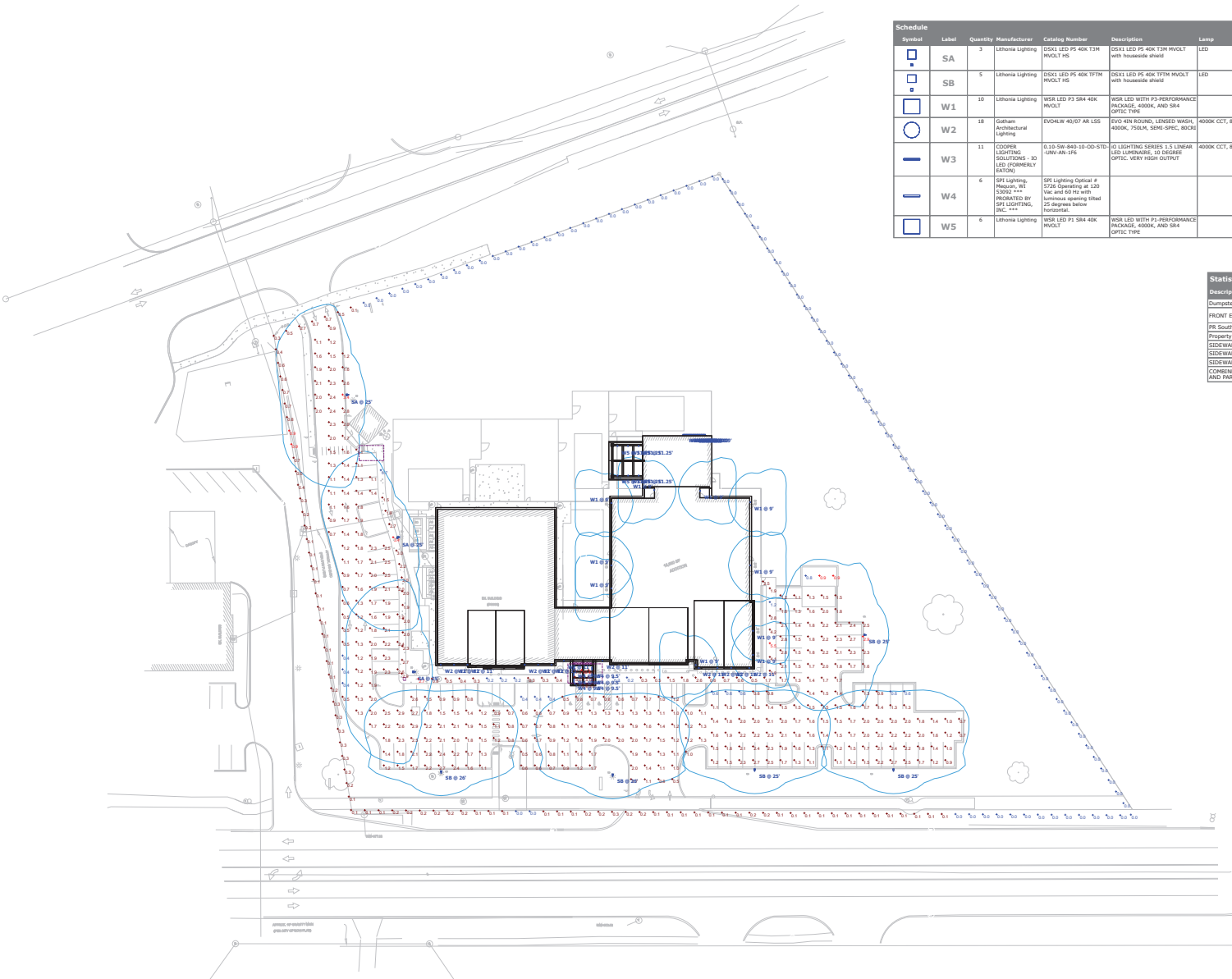
- 96. ISOLATION PAPERS SHALL BE OF THE MOLDED, NON-EXTENDING, ASPHALT... 97. ISOLATION JOINTS SHALL BE PLACED AT THE FOLLOWING LOCATION FOR... 98. AT THE BACK OF THE CURB AND FRONT EDGE OF THE SIDEWALKS AND... 99. AT INTERVALS NOT TO EXCEED 50-FEET IN ALL PUBLIC SIDEWALKS. 100. AT THE BACK OF THE CURB WHERE THE RAMPS EXTEND FROM THE KEY... 101. BETWEEN THE KEY FLAG AND THE RAMP IN ALL CASES, EXCEPT WHERE... 102. AT ANY PLACE WHERE A SIDEWALK OR CONCRETE PAVEMENT ABUTS A... 103. AT ANY OTHER LOCATIONS INDICATED ON THE PLAN. 104. CURBING JOINTS IN THE CONCRETE PAVEMENT WILL BE AS FOLLOWS: 105. TRANSVERSE JOINTS SHALL BE AT MAXIMUM 10-FOOT INTERVALS OR AS... 106. LONGITUDINAL JOINTS SHALL BE AT MAXIMUM 12-FOOT INTERVALS OR AS... 107. PRIOR TO APPLYING JOINT SEALER, CLEAN JOINT GROOVE OF FOREIGN MATTER... 108. TRAFFIC MARKING AND PARKING LOT MARKING 109. PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, AND SERVICES NECESSARY TO... 110. WORK INCLUDES, BUT NOT LIMITED TO PAINTING OF LETTERS, MARKINGS, STRIPES... 111. SPECIFIC MARKING PAINT SHALL MEET THE REQUIREMENTS OF FEDERAL... 112. COLOR SHALL BE AS SPECIFIED ON THE PLANS OR AS FOLLOWS: 113. TRAFFIC LANE STRIPING SHALL BE WHITE OR YELLOW REFLECTORIZED, AS... 114. TRAFFIC MARKING AND CURB FACES SHALL BE WHITE UNLESS NOTED... 115. HANDICAP SALT STRIPING MEETING CURRENT ADA REQUIREMENTS SHALL BE... 116. THE PAINTING SHALL BE PERFORMED ONLY WHEN THE EXISTING SURFACE IS DRY... 117. ALL EQUIPMENT FOR THE WORK SHALL BE APPROVED BY THE CONTRACTOR AND... 118. THE MECHANICAL MARKER SHALL BE AN APPROVED ATOMIZED SPRAY-TYPE... 119. SUITABLE ADJUSTMENTS SHALL BE PROVIDED ON THE SPRAYERS/SPRINKERS OF A... 120. IMMEDIATELY BEFORE APPLICATION OF THE PAINT, THE EXISTING SURFACE SHALL... 121. THE CONTRACTOR SHALL PROVIDE AN EXPERIENCED TECHNICIAN TO SUPERVISE... 122. THE CONTRACTOR IS RESPONSIBLE FOR LAYING OUT A SAMPLE SECTION OF... 123. ON THOSE SECTIONS OF PAVEMENTS WHERE NO PREVIOUSLY APPLIED LETTERS... 124. THE CONTRACTOR SHALL APPLY AN EXPERIENCED TECHNICIAN TO SUPERVISE... 125. THE PAINT SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S... 126. EXCEEDING 1/2-INCH IN 50-FOOT SHALL BE OBTAINED AND THE MARKING... 127. THE CONTRACTOR SHALL BE KEPT ADVISED OF ANY CHANGES TO THE... 128. PAINT SHALL BE APPLIED UNIFORMLY BY SUITABLE EQUIPMENT AT A RATE... 129. AFTER APPLICATIONS OF THE PAINT, ALL MARKINGS SHALL BE PROTECTED WHILE... 130. PROTECTIVE SCREENS OR COVERINGS AS REQUIRED, ALL SURFACES SHALL BE... 131. NOT FOR CONSTRUCTION

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Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Footcandle	Lumens Per Lamp	Light Loss Factor	Wattage
SA	SA	3	Ultrama Lighting	DSX1 LED P5 40K 13M MVOLT H5	DSX1 LED P5 40K 13M MVOLT with housings ahead	LED	1	12460	0.9	0.9	138
SB	SB	5	Ultrama Lighting	DSX1 LED P5 40K 17FM MVOLT H5	DSX1 LED P5 40K 17FM MVOLT with housings ahead	LED	1	12359	0.9	0.9	138
W1	W1	10	Ultrama Lighting	WSR LED P3 SR4 40K MVOLT	WSR LED WITH P3 PERFORMANCE PACKAGE, 4000K, AND SR4 OPTIC TYPE		1	4668	0.9	0.9	30.31
W2	W2	18	Gotham Architectural Lighting	EVOLVW 40/07 AR L55 10W AR L55	EVO 4IN ROUND, LENSED WASH, 4000K, TROUS. SP85-0PIC, BODI	4000K CCT, 80 CRI LEDS	1	570	0.9	0.9	7.0
W3	W3	11	COOPER LIGHTING SOLUTIONS - IO	0.10-SW-840-10-00-STD-10W-AR-L55	IG LIGHTING SERIES 1.0 LINEAR LED LUMINAIRE, 10 DISCREE OPTIC, VERY HIGH OUTPUT	4000K CCT, 80 CRI LEDS	1	475	0.9	0.9	11.5
W4	W4	6	SPI Lighting, Meador, WI 53002 ***		SPI Lighting Optical # 5726 Operating at 120 Vol. and 60 Hz with luminous opening tilted 25 degrees below horizontal.		168		4	0.0	8
W5	W5	6	Ultrama Lighting	WSR LED P1 SR4 40K MVOLT	WSR LED WITH P1 PERFORMANCE PACKAGE, 4000K, AND SR4 OPTIC TYPE		1	2190	0.9	0.9	19.56

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Dumpster	+	0.0 fc	0.9 fc	0.8 fc	1.1:1	1.1:1
FRONT ENTRANCE	+	5.8 fc	19.4 fc	1.9 fc	5.5:1	3.1:1
DR SIDEWALK PARKING	+	1.7 fc	2.9 fc	0.8 fc	4.8:1	2.8:1
Property Line	+	0.1 fc	0.9 fc	0.0 fc	N/A	N/A
SIDEWALKS - EAST	+	3.1 fc	5.5 fc	1.2 fc	4.6:1	2.6:1
SIDEWALKS - FRONT	+	0.8 fc	2.7 fc	0.2 fc	13.5:1	4.8:1
SIDEWALKS - WEST	+	2.2 fc	3.4 fc	0.7 fc	4.9:1	3.1:1
COMBINED EXISTING DRIVES AND PARKING	+	1.5 fc	3.4 fc	0.4 fc	8.5:1	3.8:1

Plan View  
Scale: 1" = 30'

*David M. Saylor*  
  
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 STATE OF NEW MEXICO  
 PROFESSIONAL ENGINEER

Primary Site Plan Revisions: 01/01/23  
 Designer: Saylor  
 Date: 01/01/23  
 Scale: Not to Scale  
 Drawing No.:  
 Summary:

GODDARD SCHOOL - Nov, 01, 2023  
SITE PHOTOMETRIC

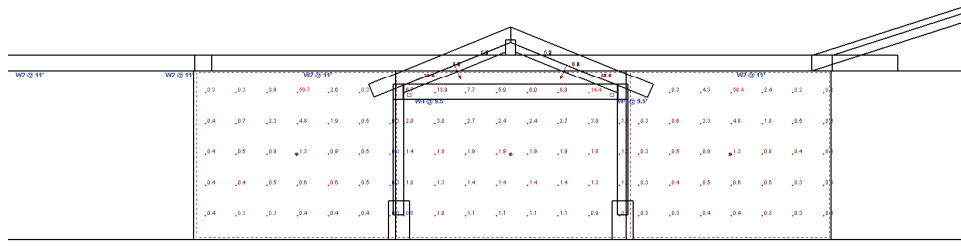




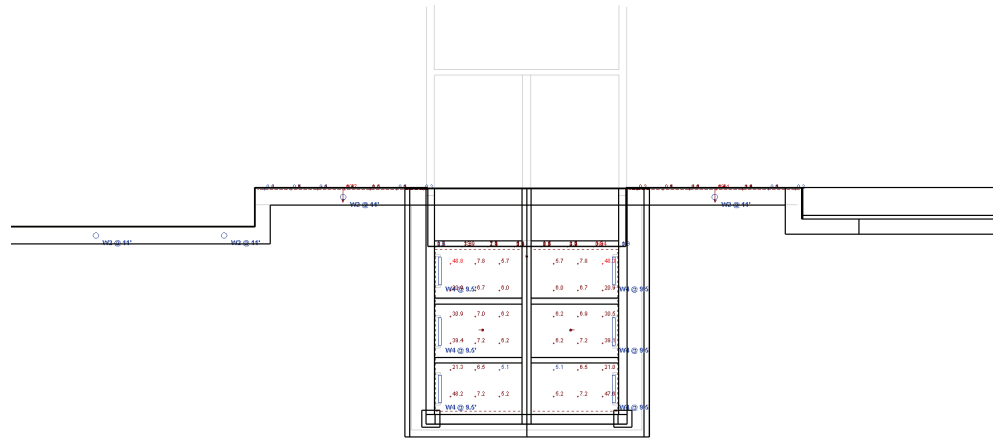


ETS ENGINEERING, INC.  
ENERGY TECHNOLOGY SOLUTIONS  
418 1/2 S. WASHINGTON  
P.O. Box 1116  
ROYAL OAK, MI 48068-1116  
OFF: 248/744-0360  
FAX: 248/744-0367  
WWW.ETSENGINEERING.NET

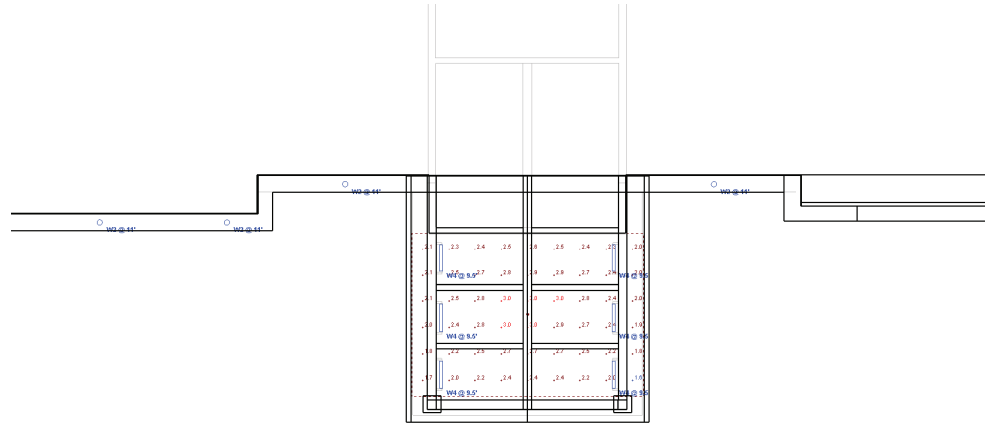
GODDARD SCHOOL  
FRONT ENTRY FACADE & CANOPY PHOTOMETRICS



Front Entry Facades



Underside of Canopy



Under Canopy @ Ground

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
W4		12	SPT Lighting, Madison, WI S3002-*** ROBATED BY SPT LIGHTING, INC. ***	SPT Lighting Output @ 172K Operating at 120 Vac and 60 Hz with luminous operating filed @ 2k. Beamtype below horizontal.		168	EE011899-20-140-100-3-3-160-100-100	4	0.9	8	

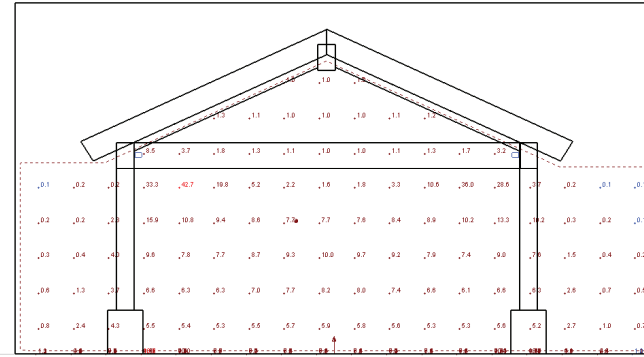
Description	Symbol	Avg	Min	Max	Min/Max	Avg/Min
Front Entry Facade	+	2.9 f.c.	14.4 f.c.	0.8 f.c.	18.0 f.c.	3.6 f.c.
Front Left of Entry Facade	+	2.6 f.c.	59.7 f.c.	0.3 f.c.	199.8 f.c.	8.7 f.c.
Front Right of Entry Facade	+	2.5 f.c.	58.4 f.c.	0.2 f.c.	192.8 f.c.	12.5 f.c.
Under Canopy @ Ground	+	24.9 f.c.	3.0 f.c.	1.6 f.c.	1.9 f.c.	1.5 f.c.
Underside of Canopy Left	+	15.9 f.c.	48.8 f.c.	5.1 f.c.	0.6 f.c.	3.1 f.c.
Underside of Canopy Right	+	15.8 f.c.	48.1 f.c.	5.1 f.c.	0.5 f.c.	3.1 f.c.

*Ray M. Scales*  
RAY M. SCALES  
LICENSED PROFESSIONAL ENGINEER  
License No. 620103668

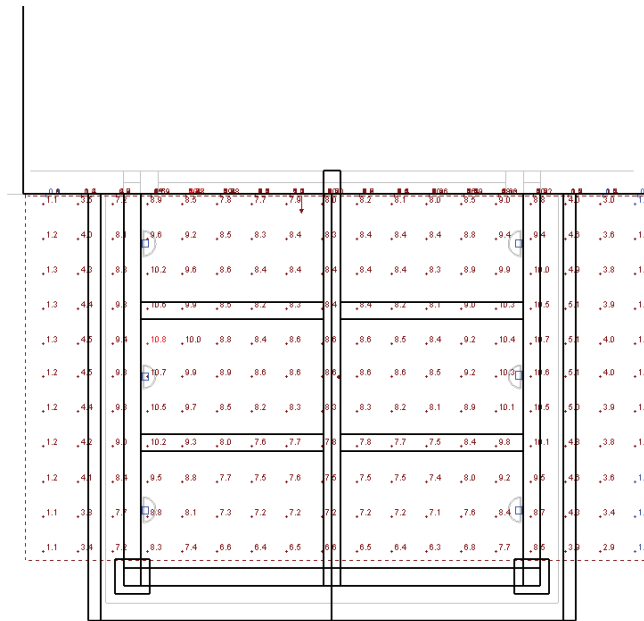
Revision	07/23
Designer	
Checker	
Date	07/23
Scale	
Plot to Scale	
Drawing No.	
Summary	



ETS ENGINEERING, INC.  
ENERGY / TECHNOLOGY SOLUTIONS  
418-125 S. MAIN ST.  
P.O. BOX 1116  
ROYAL OAK, MI 48067-1116  
DR: 248/744-0360  
FAX: 248/744-0367  
WWW.ETSENGINEERING.NET



Gym Canopy East Facade



Underside of Gym Canopy

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens per Lamp	LLF	Wattage
□	WS	6	Lithonia Lighting	WSR LED P1 S84 600-MULT	WSR LED WITH P1-FACEDRANGE PACKAGE-6000K AND S84 OPTIC TYPE		1	WSR LED P1 S84 600-MULT.cad	2190	0.9	19.56

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Gym Facade	+	5.7 fc	42.7 fc	0.1 fc	427.0:1	57.0:1
Under Gym Canopy @ Ground	+	2.9 fc	10.8 fc	1.0 fc	10.8:1	7.0:1

GODDARD SCHOOLE  
GYM CANOPY EAST PHOTOMETRICS

Designer: Michael J. Sayles  
 Date: 07-20-20  
 Scale: Not to Scale  
 Drawing No.:  
 Summary:

Primary File	07-20-20
Designer	
Date	
Scale	
Not to Scale	
Drawing No.	
Summary	

# Echo Round 3.5 Exterior

EEW11899 34 in

JOB NAME:  
TYPE:  
NOTES:

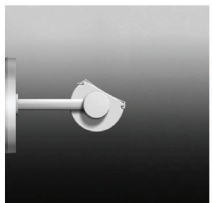


## DESCRIPTION

Echo Round 3.5 LED features a compact housing, integral power supply, and efficient optical design. This transformative lighting solution with various beam output levels is perfect for exterior applications that need a soft wash on a facade, or something to brightly light up a sign. Multiple mounting options allow for individual fixtures or continuous runs. For a complimentary lighting layout, contact our applications team at [SPIteam@spilighting.com](mailto:SPIteam@spilighting.com).

## FEATURES & BENEFITS

- Stainless steel external fasteners will not rust or corrode
- Field adjustable housing locks into position, enabling precise fixture alignment for high-quality design performance
- Dust cover lens standard
- Handcrafted in USA



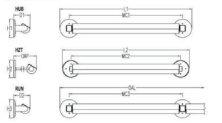
## SPECIFICATIONS

- LIGHT SOURCE: Warm LED light engine
- CRI: 90 (Contact factory for 95+)
- LUMEN MAINTENANCE: L70 >=50,000 hrs.
- CCT: 3000K, 3000K, or 4000K
- VOLTAGE: 120-277V standard
- DRIVER: Integral Class 2 power supply standard
- DIMMING: 0-10V controls standard to 1% on LED light engines; Lumen control options available
- CONSTRUCTION: Extruded aluminum construction provides durable protection from internal components and is recyclable; cast aluminum end caps protect internal components and are recyclable
- FINISH: Housing and mounting components finished to match. To specify separately, contact factory. Choose from 26 standard, most popular polyester powder coat paint colors:RAL9, Pantone®, or custom finishes available upon request.
- MODIFICATIONS: Consult factory for all modification requests, including finish and static color options
- APPROVALS: ETL listed to UL standards (US and Canada) for use in wet locations

SPI LIGHTING

P:202.242.1426 | [SPIteam@spilighting.com](mailto:SPIteam@spilighting.com) | Last Revised: 3/20/2021 | Design Rights Reserved | EEW11899 | 1 of 4

## DIMENSIONS



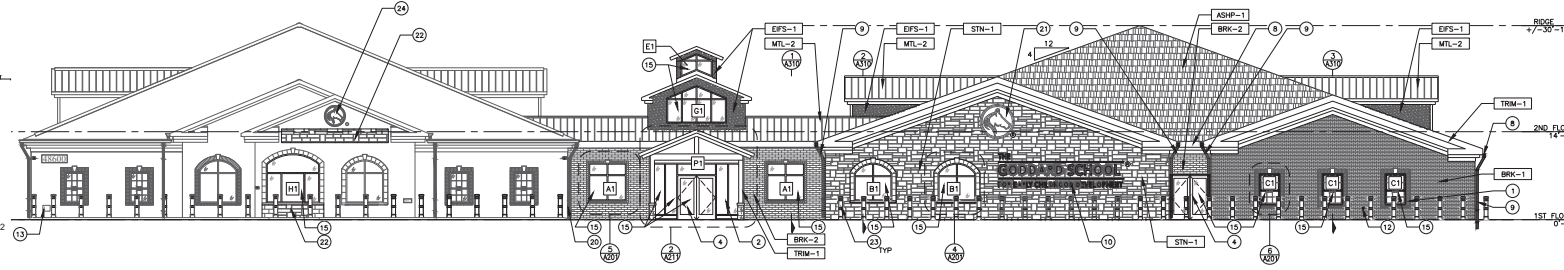
E D C B A

**GENERAL NOTES**

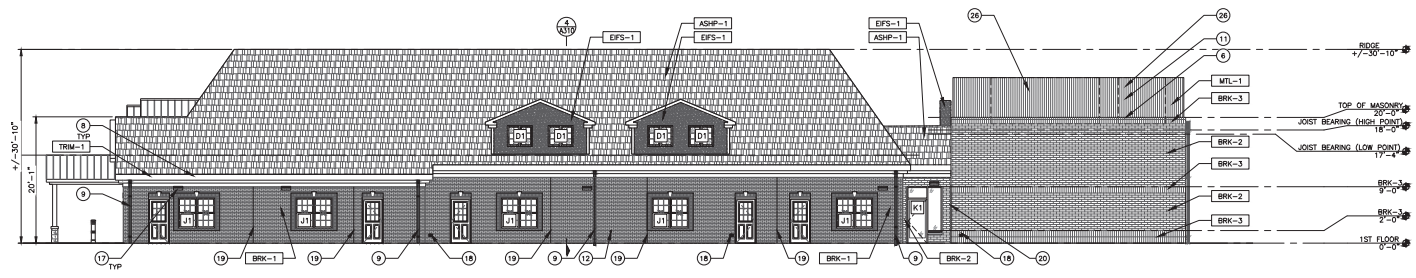
- A. REFER TO A600 SERIES FOR WINDOW AND DOOR SCHEDULE AND DETAILS.
- B. REFER TO REFLECTED CEILING PLANS FOR EXTERIOR SOFFIT INFORMATION.
- C. REFER TO ROOF PLAN FOR PARAPET AND OVERHANG INFORMATION.
- D. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL LIGHTING REQUIREMENTS AND FIXTURE TYPES.
- E. SEE ELEVATIONS AND STRUCTURAL DRAWINGS FOR LOCATIONS OF EXPANSION AND CONTROL JOINTS. CONTRACTOR SHALL PROVIDE ADDITIONAL INTERIOR CONTROL JOINTS AS REQUIRED TO COMPLY WITH MAXIMUM SPACING REQUIREMENTS IN SPECIFICATIONS AND NATIONAL MASONRY INSTITUTE. PROVIDE CONTROL JOINTS AT ALL MASONRY RETAINING CORNERS.
- F. PROVIDE BACKING AND/OR STRUCTURAL SUPPORT AS REQUIRED FOR SIGNAGE AND LIGHTING.
- G. EXPOSED STRUCTURAL STEEL SHALL BE GALVANIZED AND PAINTED UNLESS NOTE OTHERWISE.
- H. APPLY SEALANT WHENEVER DISSIMILAR MATERIALS MEET.

**CONSTRUCTION KEYNOTES**

- NOTE: NOT ALL NOTES ARE APPLICABLE TO THIS SHEET.
- 1 WINDOW
  - 2 STOREFRONT
  - 3 NOT USED
  - 4 DOOR
  - 5 ALUMINUM FOLDING GLASS WALL SYSTEM
  - 6 COPING - SEE ROOF PLAN
  - 7 CANOPY
  - 8 GUTTER - SEE ROOF PLAN
  - 9 DOWNSPOUT
  - 10 SIGNAGE - SURFACE MOUNTED LETTERING OF/CI
  - 11 EQUIPMENT SCREEN - SEE SPECIFICATIONS
  - 12 FROST FREE HOSE BIB - SEE PLUMBING. CONFIRM EXACT LOCATION IN FIELD
  - 13 SIMSEI FIRE HOSE CONNECTOR - SEE PLUMBING
  - 14 LOUVER - SEE MECHANICAL
  - 15 SOLAR CONTROL WINDOW COATING - SEE SPECIFICATIONS
  - 16 NOT USED
  - 17 WALL PACK LIGHTS
  - 18 EXTERIOR POWER RECEPTACLE - SEE ELECTRICAL PLAN
  - 19 CONSTRUCTION JOINT
  - 20 EXPANSION JOINT
  - 21 ILLUMINATED BUILDING SIGNAGE PROVIDED BY OWNER. COORDINATE POWER LOCATIONS WITH ELECTRICAL
  - 22 INFILL WALL WITH STONE TO MATCH ADJACENT
  - 23 BOLLARD
  - 24 EXISTING TO REMAIN
  - 25 RELOCATE SIGNAGE FROM FRONT FACADE
  - 26 ROOFTOP HVAC UNIT
  - 27 EXTERIOR SIGNAGE LIGHT FIXTURE - SEE ELECTRICAL



**1 SOUTH ELEVATION**  
 SCALE: 1/8" = 1'-0"  
 REFERENCE LOCATIONS: A10



**2 EAST ELEVATION**  
 SCALE: 1/8" = 1'-0"  
 REFERENCE LOCATIONS: A10

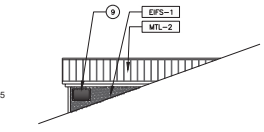
**EXTERIOR ELEVATION MATERIAL LEGEND**

- STN-1 FIELD STONE - NEW TO MATCH EXISTING (COBBLEFIELD CHARDONNAU)
- BRK-1 MODULAR BRICK - NEW TO MATCH EXISTING - RED (ADRIAN)
- BRK-2 UTILITY BRICK - TAUPE (DUTCH GREY SMOOTH)
- BRK-3 UTILITY BRICK - GLAZED - TAUPE (SALT CREEK)
- EPS-1 EXTERIOR INSULATION & FINISH SYSTEM- GREY
- TRIM-1 CORNICE, TRIM AND COLUMN SURROUNDS- WHITE
- MTL-1 METAL PANEL - MECHANICAL SCREENING- TAUPE
- MTL-2 STANDING SEAM METAL ROOF
- ASPH-1 ASPHALT SHINGLE ROOF
- CSTN-1 CAST STONE SIGNAGE

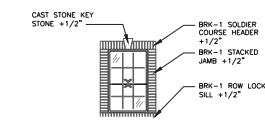
TABLE: FACADE CALCULATIONS

SIDE	BRICK NATURAL CLAY	FIELD STONE	CAST STONE	ES	TRIM	ASPHALT SHINGLES	METAL ROOF	METAL PANEL	GLAZED BRICK	TOTALS
NORTH	982 SF (40%)	0 SF (0%)	37 SF (1%)	89 SF (4%)	126 SF (5%)	216 SF (9%)	465 SF (19%)	317 SF (13%)	226 SF (9%)	2458 SF (100%)
EAST	1561 SF (35%)	0 SF (0%)	0 SF (0%)	157 SF (4%)	300 SF (7%)	1952 SF (43%)	69 SF (2%)	233 SF (4%)	173 SF (4%)	4445 SF (100%)
SOUTH	770 SF (28%)	686 SF (24%)	51 SF (1%)	105 SF (4%)	401 SF (14%)	498 SF (18%)	295 SF (11%)	0 SF (0%)	0 SF (0%)	2,806 SF (100%)
WEST	1005 SF (27%)	20 SF (1%)	0 SF (0%)	236 SF (6%)	347 SF (10%)	1571 SF (42%)	164 SF (4%)	233 SF (6%)	132 SF (4%)	3710 SF (100%)

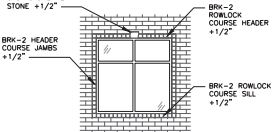
\* ASPHALT SHINGLES: UP TO FIFTY (50) PERCENT ALLOWED WITH RESIDENTIAL STYLE ARCHITECTURE OR IN R DISTRICTS.



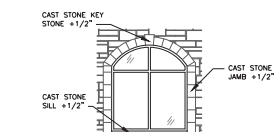
**7 DORMER ELEVATION**  
 SCALE: 1/8" = 1'-0"  
 REFERENCE LOCATIONS: A10



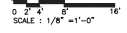
**6 TYPICAL C1 WINDOW MASONRY DETAIL**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE LOCATIONS: A20



**5 TYPICAL A1 ENTRY MASONRY DETAIL**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE LOCATIONS: A20



**4 TYPICAL B1 WINDOW MASONRY DETAIL**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE LOCATIONS: A20



**Kenneth Design Group**  
 Architect

**NOVI BUILDING INVESTMENT LLC.**  
 4800 GRAND RIVER AVE.  
 NOVI, MI 48374  
 Owner

**GODDARD SCHOOL ANNEX**  
 4800 GRAND RIVER AVE.  
 NOVI, MI 48374  
 Project

Seal

PRELIMINARY SITE PLAN RESUBMITTAL 07-07-23  
 100% CD 06-30-23  
 PERMIT SET 03-29-23  
 50% OWNER REVIEW 03-02-23  
 50% CD 02-10-23  
 DD 11-11-22  
 Revision Date

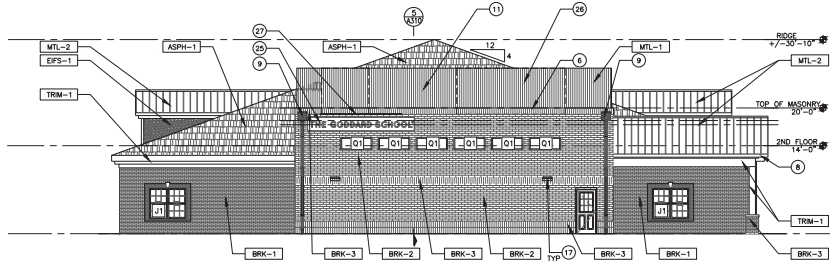
Date 03-29-2023

Project Number 2021040

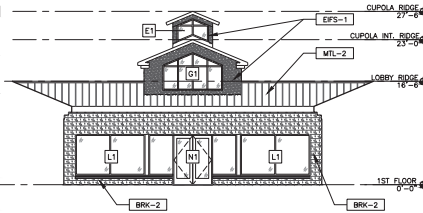
Sheet Title ELEVATIONS

Sheet Number

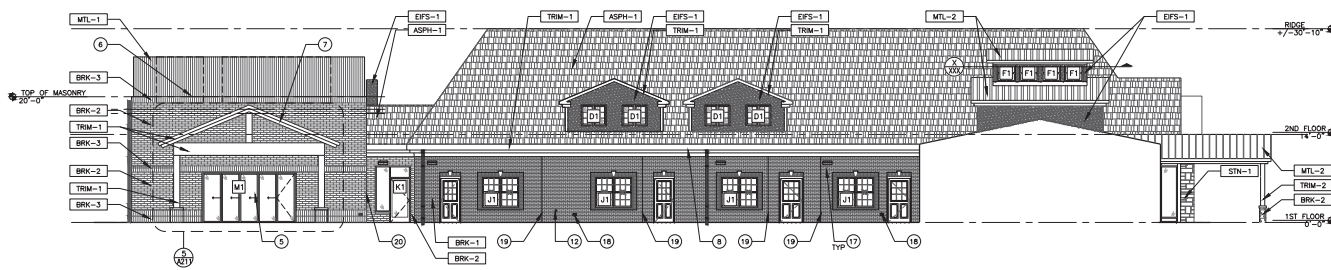
**A201**



2 NORTH ELEVATION  
SCALE: 1/8" = 1'-0"  
REFERENCE LOCATIONS:



1 NORTH ELEVATION  
SCALE: 1/8" = 1'-0"  
REFERENCE LOCATIONS:



3 WEST ELEVATION  
SCALE: 1/8" = 1'-0"  
REFERENCE LOCATIONS:

**GENERAL NOTES**

- A. REFER TO A600 SERIES FOR WINDOW AND DOOR SCHEDULE AND DETAILS.
- B. REFER TO REFLECTED CEILING PLANS FOR EXTERIOR SOFFIT INFORMATION.
- C. REFER TO ROOF PLAN FOR PARAPET AND OVERHANG INFORMATION.
- D. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL LIGHTING REQUIREMENTS AND FIXTURE TYPES.
- E. SEE ELEVATIONS AND STRUCTURAL DRAWINGS FOR LOCATIONS OF EXPANSION AND CONTROL JOINTS. CONTRACTOR SHALL PROVIDE ADDITIONAL INTERIOR CONTROL JOINTS AS REQUIRED TO COMPLY WITH MAXIMUM SPACING REQUIREMENTS IN SPECIFICATIONS AND NATIONAL MASONRY INSTITUTE. PROVIDE CONTROL JOINTS AT ALL MASONRY RETAINING CORNERS.
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- H. APPLY SEALANT WHENEVER DISSIMILAR MATERIALS MEET.

**CONSTRUCTION KEYNOTES**

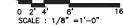
- NOTE: NOT ALL NOTES ARE APPLICABLE TO THIS SHEET.
- 1 WINDOW
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  - 6 COPING - SEE ROOF PLAN
  - 7 CANOPY
  - 8 GUTTER - SEE ROOF PLAN
  - 9 DOWNSPOUT
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  - 11 EQUIPMENT SCREEN - SEE SPECIFICATIONS
  - 12 FROST FREE HOSE BIB - SEE PLUMBING. CONFIRM EXACT LOCATION IN FIELD
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  - 14 LOUVER - SEE MECHANICAL
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**EXTERIOR ELEVATION MATERIAL LEGEND**

- STN-1 FIELD STONE - NEW TO MATCH EXISTING (COBBLEFIELD CHARDONNAY)
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- BRK-2 UTILITY BRICK - TAUPE (DUTCH GREY SMOOTH)
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- MTL-2 STANDING SEAM METAL ROOF
- ASPH-1 ASPHALT SHINGLE ROOF
- CSTN-1 CAST STONE SIGNAGE

FACADE CALCULATIONS										
SIDE	BRICK NATURAL CLAY	FIELD STONE	CAST STONE	EPS	TRIM	ASPHALT SHINGLES	METAL ROOF	METAL PANEL	GLAZED BRICK	TOTALS
NORTH	982 SF (40%)	0 SF (0%)	37 SF (1%)	89 SF (4%)	126 SF (5%)	216 SF (9%)	465 SF (19%)	317 SF (13%)	226 SF (9%)	2458 SF (100%)
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\* ASPHALT SHINGLES: UP TO FIFTY (50) PERCENT ALLOWED WITH RESIDENTIAL STYLE ARCHITECTURE OR IN R DISTRICTS.



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 Architect

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 50% CD 02-10-23  
 DD 11-11-22  
 Revision Date  
 Date 03-29-2023

Project Number 2021040  
 Sheet Title ELEVATIONS  
 Sheet Number

**A202**



**GENERAL NOTES – GARAGE**

- A. REFER TO A600 SERIES FOR WINDOW AND DOOR SCHEDULE AND DETAILS.
- B. REFER TO REFLECTED CEILING PLANS FOR EXTERIOR SOFFIT INFORMATION.
- C. REFER TO ROOF PLAN FOR PARAPET AND OVERHANG INFORMATION.
- D. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL LIGHTING REQUIREMENTS AND FIXTURE TYPES.
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- H. APPLY SEALANT WHENEVER DISSIMILAR MATERIALS MEET.

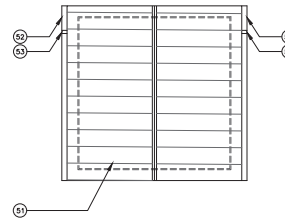
**CONSTRUCTION KEYNOTES – GARAGE**

NOTE: NOT ALL NOTES ARE APPLICABLE TO THIS SHEET.

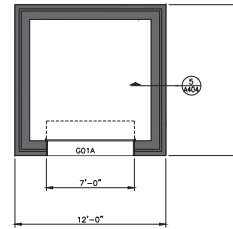
- (1) STANDING SEAM METAL ROOF –
- (2) GUTTER – SEE ROOF PLAN
- (3) DOWNSPOUT AND SPLASH BLOCK

**EXTERIOR ELEVATION MATERIAL LEGEND**

- STN-1 FIELD STONE – NEW TO MATCH EXISTING (COBBLEFIELD CHARDONWAY)
- BRK-1 MODULAR BRICK – NEW TO MATCH EXISTING – RED (ADRIAN)
- BRK-2 UTILITY BRICK – TAUPE (DUTCH GREY SMOOTH)
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- EFS-1 EXTERIOR INSULATION & FINISH SYSTEM – GREY
- TRM-1 CORNICE, TRIM AND COLUMN SURROUNDS – WHITE
- MTL-1 METAL PANEL – MECHANICAL SCREENING – TAUPE
- MTL-2 STANDING SEAM METAL ROOF
- ASPH-1 ASPHALT SHINGLE ROOF
- CSTN-1 CAST STONE SIGNAGE



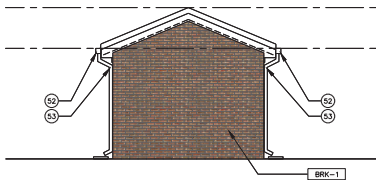
**2 GARAGE ROOF PLAN**  
A404 SCALE: 1/4"=1'-0"  
REFERENCE LOCATIONS:



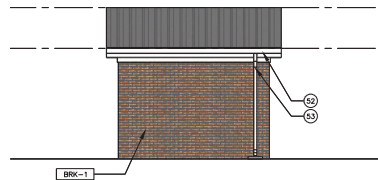
**3 GARAGE PLAN**  
A404 SCALE: 1/4"=1'-0"  
REFERENCE LOCATIONS:

FACADE CALCULATIONS										
SIDE	BRICK, NATURAL CLAY	FIELD STONE	CAST STONE	EFS	TRIM	ASPHALT SHINGLES	METAL ROOF	METAL PANEL	GLAZED BRICK	TOTALS
NORTH	982 SF (40%)	0 SF (0%)	37 SF (1%)	89 SF (4%)	126 SF (5%)	216 SF (9%)	465 SF (19%)	317 SF (13%)	226 SF (9%)	2458 SF (100%)
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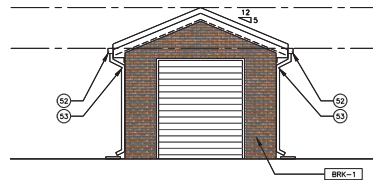
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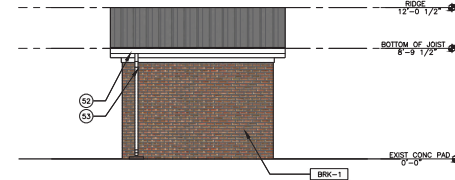
**7 NORTH ELEVATION**  
A404 SCALE: 1/4"=1'-0"  
REFERENCE LOCATIONS:



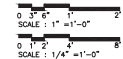
**6 EAST ELEVATION**  
A404 SCALE: 1/4"=1'-0"  
REFERENCE LOCATIONS:



**4 SOUTH ELEVATION**  
A404 SCALE: 1/4"=1'-0"  
REFERENCE LOCATIONS:



**1 WEST ELEVATION**  
A404 SCALE: 1/4"=1'-0"  
REFERENCE LOCATIONS:



**Kenneth Design Group**  
Architect

Consultant  
**NOVI BUILDING INVESTMENT LLC.**  
4800 GRAND RIVER AVE.  
NOVI, MI 48374  
Owner

**GODDARD SCHOOL ANNEX**  
4800 GRAND RIVER AVE.  
NOVI, MI 48374  
Project

PRELIMINARY NOT FOR CONSTRUCTION

Seal  
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PRELIMINARY SITE PLAN RESUBMITTAL 07-07-23  
90% OWNER REVIEW 03-09-23  
50% CD 02-10-23  
Revision Date  
Date  
Project Number 2021040  
Sheet Title ENLARGED GARAGE PLAN  
Sheet Number

**A404**

PLOTTED ON 3/10/2023 4:46 PM | PLOTTED BY BLAKE DRULLMANN

## PLANNING REVIEW



# PLAN REVIEW CENTER REPORT

## Planning Review

### GODDARD SCHOOL ANNEX

JSP 22-59

August 28, 2023

#### PETITIONER

Monument Engineering

#### REVIEW TYPE

Revised Preliminary Site Plan

#### PROPERTY CHARACTERISTICS

Section	17	
Site Location	48600 Grand River Ave; 22-17-126-012 & -013	
Site School	Novi Community School District	
Site Zoning	B-3 General Business District	
Adjoining Zoning	North	N/A (City of Wixom)
	East	B-3 General Business District
	West	B-3 General Business District
	South	I-2 General Industrial
Current Site Use	The Goddard School of Novi	
Adjoining Uses	North	Wilson Marine (Wixom)
	East	Vacant
	West	Former PNC Bank (building currently vacant)
	South	Sunbelt Rentals & Southeastern Equipment Company
Site Size	Parcel -012: 2.04 acres Parcel -013: 2.29 acres Total: 4.33 acres	
Plan Date	March 24, 2023	

#### PROJECT SUMMARY

The applicant is proposing to build an addition to the existing Goddard School to accommodate an anticipated increase in enrollment (estimated that licensed capacity will increase from 154 to 274).

#### RECOMMENDATION

**Approval of the revised Preliminary Site Plan is recommended by Planning staff contingent on the applicant providing changes to remove one unsupported landscape waiver and providing a calculation of the front yard setback area as described in the Ordinance Requirements on the following page.** All reviewers are recommending approval of the revised Preliminary Site Plan (most with conditions).

## ORDINANCE REQUIREMENTS

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This project was reviewed for compliance with the City of Novi Zoning Ordinance and any other applicable provisions of the ordinance, as noted. The plans show general compliance with ordinance requirements. Please address any items in **bold** with the next review.

1. Outdoor Recreation Area(s) (Sec. 4.12.2.i.a): This site has an existing variance from Section 28-5(3) to allow 113.04 square feet of recreation space/child received from ZBA on December 13, 2016. *Page 5 of 19 of Ordinance Amendment 18.301 revises Section 4.12.2 subsection A to provide greater flexibility in the Ordinance when it comes to the outdoor recreation area requirement. Planning Commission may now modify the requirement in size if they find it justified by the applicant.* **Please provide justification for the deficiency in play area size compared to the Ordinance requirements, and the requirement may be modified by Planning Commission instead of going to the Zoning Board of Appeals.**
2. Parking and Landscaping Balance in Front and Exterior Side Yards (Sec. 4.12.2.ii.a) Not more than fifty (50) percent of front yard or exterior side yard setback between the minimum required parking setbacks of thirty-five (35) feet and building façade line may be used for parking. The balance of this area shall be maintained in lawn and landscaping. **Parking in the front yard setback area appears to exceed 50% of the area. Please provide the calculation for this area and the percentage of the area that consists of parking (including drive aisles). If plans cannot be changed to comply with this requirement, a variance would be needed.**
3. Accessory Buildings (Sec. 4.19.1): Please address the following items regarding the proposed garage to be constructed on the existing concrete dumpster pad:
  - a. Accessory buildings shall not be erected in any required front yard or in any required exterior side yard. The proposed garage is located in a front yard since the yard is abutting 12 Mile Road. **A ZBA variance will be required to construct an accessory building in a front yard.**
4. Sidewalks (Sec. 7.4.2 of the Engineering Design Manual): 5-foot-wide sidewalks are required along local streets, and 6-foot-wide sidewalks are required along collector or arterial streets. **ZBA variances will be required if a sidewalk cannot be installed along Grand River Road to the property line and along 12 Mile Road.** *Variance requests have been submitted.*
5. General layout and dimension of proposed physical improvements: **Please provide a detail of the wetland retaining wall proposed on the eastern portion of the property.**
6. Signage: For sign permit information please contact Maureen Underhill at 248-347-0438 or [munderhill@cityofnovi.org](mailto:munderhill@cityofnovi.org) in the Code Compliance Division for more information.
7. Planning Chart: Please refer to the attached Planning Chart for additional comments to address in the next submittal.

## OTHER REVIEWS

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- a. Engineering Review (April 18, 2023): Engineering is recommending **approval** of the Preliminary Site Plan **with conditions** (See Engineering Review Letter).
- b. Landscape Review (August 30, 2023): Landscape is recommending **approval** of the Preliminary Site Plan *contingent on the applicant making changes to the plans to remove one unsupported waiver relating to foundation landscaping* (See Landscape Review Letter & Chart).
- c. Wetland Review (April 17, 2023): Wetlands is recommending **approval** of the Preliminary Site Plan (See Wetland Review Letter).
- d. Traffic Review (April 17, 2023): Traffic is recommending **approval** of the Preliminary Site Plan **with conditions** (See Traffic Review Letter).

- e.  Façade Review (April 16, 2023): Façade is recommending **approval** of the Preliminary Site Plan (See Façade Review Letter).
- f.  Fire Review (April 14, 2023): Fire is recommending **approval** of the Preliminary Site Plan **with conditions** (See Fire Review Letter).

### **NEXT STEP: PLANNING COMMISSION AND RESPONSE LETTER**

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The Preliminary Site Plan and Stormwater Management Plan will need approval from the Planning Commission. Once a revised Preliminary Site Plan is submitted, and all outstanding comments have been addressed, staff will be able to determine a tentative date for this project to go before the Planning Commission. Please provide the following via email one week prior to the meeting once this stage is reached:

1. Site Plan submittal in PDF format (maximum of 10MB). **NO CHANGES MADE.**
2. A response letter addressing ALL the comments from ALL the review letters and a request for waivers/variances as you see fit.
3. A color rendering of the Site Plan (to be used for Planning Commission presentation).

### **ZONING BOARD OF APPEALS**

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A date for a Zoning Board of Appeals hearing for any variances, if necessary, will be determined by staff after a revised Preliminary Site Plan is submitted and all outstanding comments have been addressed.

### **FINAL SITE PLAN SUBMITTAL**

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After receiving Planning Commission's approval of the Preliminary Site Plan, please submit the following for review:

1. **Seven** copies of Final Site Plan sets (24" x 36", folded) addressing ALL comments from Preliminary Site Plan Review.
2. Response letter addressing ALL comments from ALL review letters and **refer to sheet numbers where the change is reflected.**
3. Final Site Plan Application
4. Final Site Plan Checklist
5. No Revision Façade Affidavit (only if no façade changes have been made)
6. An itemized engineering cost estimate including sanitary sewer, watermain, storm sewer, paving and grading costs, size 8.5" x 11" (The cost estimate should not include soil erosion or demolition costs.)
7. An itemized landscaping cost estimate including greenbelt and greenbelt ornamental trees, perennials, pond plantings, shrubs, edging, mulch, seed mix and seeded lawn, size 8.5" x 11" (The cost estimate should not include woodland trees, replacement trees or mitigation.)
8. An Other Agencies Checklist

### **ELECTRONIC STAMPING SET SUBMITTAL AND RESPONSE LETTER**

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After receiving Final Site Plan approval, plans addressing the comments in all the staff and consultant review letters should be submitted electronically for informal review and approval prior to printing Stamping Sets. A letter from either the applicant or the applicant's representative addressing comments in this and other review letters and associated charts is to be submitted with the electronic stamping set. This letter should address all comments in ALL letters and ALL charts and **refer to sheet numbers where the change is reflected.**

*If required, drafts for all legal documents with a legal transmittal are to be submitted along with stamping sets.*

### **STAMPING SET APPROVAL**

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Stamping sets will be required for this project. After having received all the review letters from City staff the applicant should make the appropriate changes on the plans and submit **12 size 24" x 36" copies,**



**folded, with signature and seal (may be electronic)** to the Community Development Department for final Stamping Set approval.

### PRE-CONSTRUCTION MEETING

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At this time, **a Pre-Construction meeting is required for this project.** Prior to the start of any work on the site, Pre-Construction (Pre-Con) meetings must be held with the applicant's contractor and the City's consulting engineer. Pre-Con meetings are generally held after Stamping Sets have been issued and prior to the start of any work on the site. There are a variety of requirements, fees and permits that must be issued before a Pre-Con can be scheduled, so it is suggested you contact Sarah Marchioni (248-347-0430 or [smarchioni@cityofnovi.org](mailto:smarchioni@cityofnovi.org)) once the Final Site Plan has been approved to begin the Pre-Con checklist. If you have questions regarding the checklist or the Pre-Con itself, please contact Sarah.

### CHAPTER 26.5

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Chapter 26.5 of the City of Novi Code of Ordinances generally requires all projects be completed within two years of the issuance of any starting permit. Please contact Sarah Marchioni at 248-347-0430 for additional information on starting permits. The applicant should review and be aware of the requirements of Chapter 26.5 before starting construction. If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248-347-0547 or [jhill@cityofnovi.org](mailto:jhill@cityofnovi.org).



James Hill – Planner



## PLANNING REVIEW CHART: B-3 General Business District

**Review Date:** August 28, 2023  
**Review Type:** Preliminary Site Plan  
**Project Name:** **JSP22-59 Goddard School Annex**  
**Plan Date:** August 1, 2023  
**Prepared by:** James Hill  
**Contact:** **E-mail:** jhill@cityofnovi.org **Phone:** (248) 347-0547

Items in **Bold** need to be addressed prior to the approval of the Preliminary Site Plan.

Item	Required Code	Proposed	Meets Code	Comments
<b>Zoning and Use Requirements</b>				
<b>Master Plan</b>	Community Commercial	Building addition to existing day care center	Yes	
<b>Zoning</b> <i>(Effective Dec. 25, 2013)</i>	B-3: General Business District	B-3: General Business District	Yes	
<b>Uses Permitted</b> <i>(Sec 3.1.11.B &amp; C)</i>	Sec 3.1.12.B Principal Uses Permitted.	Day Care Center	Yes	
<b>B-3 Business District Required Conditions (Sec. 3.10)</b>				
<b>Truck Well (Sec. 3.10.1.A)</b>	No truck well, loading dock, overhead door or other type of service bay door shall face a major thoroughfare, nor an abutting residential district	None	N/A	Existing variance for lack of loading space received from ZBA on December 13, 2016.
<b>Height, bulk, density, and area limitations (Sec 3.1.12)</b>				
<b>Frontage on a Public Street.</b> <i>(Sec. 5.12)</i>	Frontage on a Public Street is required	Frontage on Grand River and Twelve Mile	Yes	
<b>Access to Major Thoroughfare</b> <i>(Sec. 5.13)</i>	Direct access to Major Thoroughfare is required unless noted in Section 5.13	Access to Grand River	Yes	
<b>Building Height</b> <i>(Sec. 3.1.12.D)</i>	30 ft  For slanted roofs, height is measured at half the distance from eave to pitch	30 ft., 10 in. to the top of the roof ridge  Approx. 25 feet halfway between pitch and eave	Yes	

Item	Required Code	Proposed	Meets Code	Comments
<b>Building Setbacks</b> (Sec. 3.1.12.D)				
<b>Front (Grand River)</b>	30 ft.	30 ft.	Yes	Rear yards with street frontage must comply with front yard setback standards.
<b>Side (east)</b>	15 ft.	15 ft.	Yes	
<b>Side (west)</b>	15 ft.	15 ft.	Yes	
<b>Rear (north)</b>	30 ft.	30 ft.	Yes	
<b>Parking Setback</b> (Sec. 3.1.12.D)				
<b>Front (Grand River)</b>	20 ft.	20 ft.	Yes	Rear yards with street frontage must comply with front yard setback standards.
<b>Side (east)</b>	10 ft.	10 ft.	Yes	
<b>Side (west)</b>	10 ft.	10 ft.	Yes	
<b>Rear (north)</b>	20 ft.	20 ft.	Yes	
<b>Day Care Center Use Standards</b> (Sec. 4.12.2)				
<p><i>Recently Corrected Ordinance: page 6 of 12 of Ordinance Amendment 18.282 (General Corrections to Articles 3, 4 and 5) revises Sections 4.12.2 subsections A and B to include the B-3 zoning district per the original intent of the ordinance. This amendment can be viewed on the City's website.</i></p> <p><i>Page 5 of 19 of Ordinance Amendment 18.301 revises Section 4.12.2 subsection A to provide greater flexibility in the Ordinance when it comes to the outdoor recreation area requirement. Planning Commission may now modify the requirement in size if they find it justified by the applicant.</i></p>				
<b>Outdoor Recreation Area(s)</b> (Sec. 4.12.2.i.a)	Outdoor recreation areas shall be provided, consisting of at least one hundred fifty (150) square feet for each person cared for, with a minimum total area of three thousand five hundred (3,500) square feet. All such outdoor recreation areas shall be fenced with self-closing gates. The recreation area may extend into an exterior side yard up to twenty-five (25) percent of the distance between the building facade and the property line.	<p>The anticipated increase in licensed capacity will move from 154 to 274, with the possibility of increasing to full licensed capacity of 304 from mid-June through the end of August.</p> <p>16,030 square feet of total recreation space proposed.</p>	<b>No</b>	<p><b>A new variance <u>may</u> be required since the enrollment at the school is expected to increase.</b></p> <p>Existing variance from Section 28-5(3) to allow 113.04 square feet of recreation space/child received from ZBA on December 13, 2016.</p> <p><b>With Ordinance Amendment 18.301, Planning Commission may now modify the play area size requirement. Please provide justification for the deficiency in play area size compared to the Ordinance requirements.</b></p>
<b>Hours of Operation</b> (Sec. 4.12.2.i.b)	The hours of operation shall be limited to the period between 6 a.m. and 7 p.m. for those facilities abutting residential zoning districts.	Not Listed	N/A	Does not abut residential



Item	Required Code	Proposed	Meets Code	Comments
<b>Facilities must be Located within Structure</b> (Sec. 4.12.2.i.c)	Facilities shall be located either within a permitted office, or commercial structure, or in a freestanding building on a site coordinated with surrounding development (i.e., traffic flow, parking access, drop off areas, architecture and relationship to other buildings)	Facilities located primarily within a structure, with exception of outdoor recreation areas and outdoor classroom area.	Yes	
<b>Outdoor Recreation Area(s) Screening</b> (Sec. 4.12.2.i.d)	Screening and landscaping of outdoor recreation areas, recreation area fences and parking lots shall comply with Section 5.5.		Yes	
<b>Off-Street Parking</b> (Sec. 4.12.2.i.e)	Off-street parking shall comply with Section 5.2.12. and Section 5.3.	9' x 19' parking spaces  Extension of existing 24' maneuvering lane  Addition of 25.3' maneuvering lane	Yes	
<b>Parking &amp; Landscaping Balance in Front and Exterior Side Yards</b> (Sec. 4.12.2.ii.a)	Not more than fifty (50) percent of front yard or exterior side yard setback between the minimum required parking setbacks of thirty-five (35) feet and building façade line may be used for parking. The balance of this area shall be maintained in lawn and landscaping.	Parking in the front yard setback area appears to exceed 50% of the area.	<b>Does not appear to comply</b>	<b>Please provide this calculation. The area of the front yards and exterior side yards that is between the façade of the building and the required parking setbacks of 35 feet may not consist of more than 50% parking. If plans cannot be changed to comply with this requirement, a variance would be needed.</b>
<b>Day Care Centers Abutting Residential</b> (Sec. 4.12.2.ii.c)	Facilities abutting residential zoning districts shall be reviewed under the facade standards provided in Section 4.12.1.B.vii.	Not Proposed	N/A	Does not abut residential

**Note To District Standards (Sec 3.6.2)**

Item	Required Code	Proposed	Meets Code	Comments
<b>Exterior Side Yard Abutting a Street</b> (Sec 3.6.2.C)	All exterior side yards and rear yards abutting a street shall be provided with a setback equal to the front yard setback requirement of the district in which located.	Proposed 20 ft. building and parking setback in rear yard adjacent to Twelve Mile Road.	Yes	
<b>Minimum Lot Area</b> (Sec. 3.6.2.D)	The minimum lot area and width, and the maximum percent of lot coverage shall be determined on the basis of off-street parking, loading, greenbelt screening, yard setback or usable open space requirements	-	Yes	
<b>Off-Street Parking in Front Yard</b> (Sec 3.6.2.E)	Off-street parking shall be permitted in the front yard, except that said parking shall observe the minimum off-street parking setback requirements in Sec. 3.1 and 5.5.3	Parking proposed in front yard.	Yes	
<b>Wetland/ Watercourse Setback</b> (Sec 3.6.2.M)	Refer to Sec 3.6.2 for more details.		N/A	See review letter from Wetland Consultant for further detail.
<b>Parking setback screening</b> (Sec 3.6.2.P)	Required parking setback area shall be landscaped per sec 5.5.3.	Landscape plan is provided	Yes	See landscape letter for additional details
<b>Modification of parking setback requirements</b> (Sec 3.6.2.Q)	Refer to Sec 3.6.2 for more details	-	N/A	
<b>Parking, Loading, and Dumpster Requirements</b>				
<b>Nursery schools, day nurseries or child care centers</b> (5.2.12.B.)	One (1) for each three hundred fifty (350) square feet of usable floor area plus one (1) space for each employee.	15,300 sq. ft. usable floor area / 350 sq. ft. + 1 space per employee @ max shift (45 employees) = 89 required parking spaces; 90 spaces proposed)	Yes	

Item	Required Code	Proposed	Meets Code	Comments
<b>Parking Space Dimensions and Maneuvering Lanes</b> (Sec. 5.3.2)	<ul style="list-style-type: none"> <li>- 90° Parking: 9 ft. x 19 ft.</li> <li>- 24 ft. two-way drives</li> <li>- 9 ft. x 17 ft. parking spaces allowed along 7 ft. wide interior sidewalks as long as detail indicates a 4" curb at these locations and along landscaping</li> </ul>	9' x 19' parking spaces  Extension of existing 24' maneuvering lane  Addition of 25.3' maneuvering lane	Yes	
<b>Posted Fire Lanes</b> (D.C.S Sec. 158-99(a))	The minimum width of a posted fire lane is 20 feet. The minimum height of a posted fire lane is 14 feet.	Existing Fire Lane	Yes	
<b>Parking stall located adjacent to a parking lot entrance</b> (public or private) (Sec. 5.3.13)	Shall not be located closer than twenty-five (25) feet from the street right-of-way (ROW) line, street easement or sidewalk, whichever is closer	None proposed	N/A	
<b>End Islands</b> (Sec. 5.3.12)	<ul style="list-style-type: none"> <li>- End Islands with landscaping and raised curbs are required at the end of all parking bays that abut traffic circulation aisles.</li> <li>- The end islands shall generally be at least 8 feet wide, have an outside radius of 15 feet, and be constructed 3' shorter than the adjacent parking stall as illustrated in the Zoning Ordinance</li> </ul>	End islands adjacent to a travel way: 15' and 10' radii proposed	Yes	
<b>Barrier Free Spaces</b> Barrier Free Code (2012 Michigan Building Code)	<ul style="list-style-type: none"> <li>- Every 6 or fraction of six accessible parking spaces, at least one shall be van-accessible</li> </ul>	2 ADA spaces existing; 2 ADA spaces proposed  8' van space included	Yes	
<b>Barrier Free Space Dimensions</b> Barrier Free Code (2012 Michigan Building Code)	<ul style="list-style-type: none"> <li>- 8' wide with an 8' wide access aisle for van accessible spaces</li> <li>- 5' wide with a 5' wide access aisle for regular accessible spaces</li> </ul>	2 new ADA spaces proposed with one van-accessible access aisle	Yes	



Item	Required Code	Proposed	Meets Code	Comments
<b>Barrier Free Signs</b> <i>Barrier Free Code</i>	One sign for each accessible parking space.	Signs indicated	Yes	
<b>Minimum number of Bicycle Parking</b> <i>(Sec. 5.16.1)</i>	Minimum 2 spaces	2 existing spaces proposed to be relocated	Yes	
<b>Bicycle Parking General requirements</b> <i>(Sec. 5.16)</i>	<ul style="list-style-type: none"> <li>- No farther than 120 ft. from the entrance being served</li> <li>- When 4 or more spaces are required for a building with multiple entrances, the spaces shall be provided in multiple locations</li> <li>- Spaces to be paved and the bike rack shall be inverted "U" design</li> <li>- Shall be accessible via 6 ft. paved sidewalk</li> </ul>	Bike parking will be relocated close to the main entrance  A 6-foot landing to the ADA aisle is proposed	Yes	
<b>Bicycle Parking Lot layout</b> <i>(Sec 5.16.6)</i>	Parking space width: 6 ft. One tier width: 10 ft. Two tier width: 16 ft. Maneuvering lane width: 4 ft. Parking space depth: 2 ft. single, 2 ½ ft. double	Provided	Yes	
<b>Loading Spaces</b> <i>(Sec. 5.4.2)</i>	<ul style="list-style-type: none"> <li>- Loading, unloading space shall be provided in the rear yard at a ratio of 10 sq. ft. for each front foot of building</li> <li>- Except in the case of a double frontage lot, loading &amp; unloading, as well as trash receptacles may be located in an interior side yard beyond the minimum side yard setback requirement of the district; location subject to approval by the City.</li> </ul>	No change to existing.	No	Existing variance received from ZBA on December 13, 2016.
<b>Dumpster</b> <i>(Sec 4.19.2.F)</i>	<ul style="list-style-type: none"> <li>- Located in rear yard or interior side yard in case of double frontage</li> <li>- Attached to the building OR</li> <li>- No closer than 10 ft. from building if not attached</li> </ul>	New dumpster location located in the eastern Interior side yard.	Yes	

Item	Required Code	Proposed	Meets Code	Comments
	<ul style="list-style-type: none"> <li>- Not located in parking setback</li> <li>- If no setback, then it cannot be any closer than 10 ft, from property line.</li> <li>- Away from Barrier free Spaces</li> </ul>			
<b>Dumpster Enclosure</b> <i>(Sec. 21-145. (c))</i>	<ul style="list-style-type: none"> <li>- Screened from public view</li> <li>- A wall or fence 1 ft. higher than height of refuse bin</li> <li>- And no less than 5 ft. on three sides</li> <li>- Posts or bumpers to protect the screening</li> <li>- Hard surface pad.</li> <li>- Screening Materials: Masonry, wood or evergreen shrubbery</li> </ul>	Provided	Yes	Elevations, dimensions, and materials for the dumpster enclosure should be provided in the next submittal.
<b>Accessory Uses</b> (Sec. 4.19)				
<b>Accessory Buildings</b> <i>(Sec. 4.19.1)</i>	Where the accessory building is structurally attached to a main building, it shall be subject to, and must conform to, all regulations of this Ordinance applicable to the main building.	Proposed garage detached from main building	N/A	
	Accessory buildings shall not be erected in any required front yard or in any required exterior side yard.	Located in north yard (front yard?)	<b>No</b>	<b>Needs a ZBA variance for an accessory building in a front yard (adjacent to 12 Mile Road)</b>
	The total floor area of all accessory buildings shall not occupy more than twenty-five (25) percent of any required rear yard.	Garage proposed to be 144 sq ft and does comply	Yes	
<b>Accessory Building Setbacks</b> <i>(Sec. 4.19.1.D)</i>	Each accessory building shall meet all setback requirements for the zoning district in which the property is situated, and all requirements of the City Code regarding woodlands and wetlands.			
<b>Accessory Building Height in the B-3 District</b> <i>(Sec. 4.19.1.I)</i>	May be built to a height equal to the maximum permitted height of the	Proposed garage height 12 ft. and ½ in.	Yes	

Item	Required Code	Proposed	Meets Code	Comments
	district; provided, if the accessory building exceeds one (1) story or fourteen (14) feet in height, the building shall be set back one (1) foot for each foot the building exceeds fourteen (14) feet in height.			
<b>Number of Accessory Buildings for Sites &lt; 21,780 sq. ft.</b> <i>(Sec. 4.19.1.J)</i>	Not more than one (1) detached accessory building shall be permitted on any lot having less than twenty-one thousand seven-hundred eighty (21,780) square feet of area.	One accessory building proposed (garage)	Yes	
<b>Accessory Building Use</b> <i>(Sec. 4.19.1.K)</i>	Use of any detached accessory building in any Residential, Business or Office district for a use other than the parking and storage of private motor vehicles, tools, recreation equipment or dog houses shall require review and approval by the Zoning Board of Appeals.	Content to include canopies, play water table, and lawn maintenance equipment	Yes	
<b>Accessory Building Façade</b> <i>(Sec. 4.19.1.L)</i>	All attached and detached accessory buildings in excess of two hundred (200) square feet shall be designed and constructed of materials and architecture compatible with the principal structure, and shall have a minimum roof pitch of 3/12 and overhangs of no less than six (6) inches.	Proposed garage is 144 square feet	N/A	Under 200 square feet
<b>Lighting and Other Equipment Requirements</b>				
<b>Exterior lighting</b> <i>(Sec. 5.7)</i>	Photometric plan and exterior lighting details needed at time of Final Site Plan submittal	Photometric plan provided	Yes	
<b>Roof top equipment and wall mounted utility equipment</b>	- All roof top equipment must be screened, and all wall mounted utility equipment must be enclosed and	Elevation plans show HVAC equipment properly screened	Yes	



Item	Required Code	Proposed	Meets Code	Comments
(Sec. 4.19.2.E.ii)	integrated into the design and color of the building			
<b>Roof top appurtenances screening</b>	Roof top appurtenances shall be screened in accordance with applicable facade regulations, and shall not be visible from any street, road, or adjacent property	Elevation plans show HVAC equipment properly screened	Yes	
<b>Noise Specifications</b> (Sec. 5.14.10.A)	Site proposals must comply with the standards of the noise ordinance.  For the B-3 district: - Nighttime Hours: 70 decibels - Day Time Hours: 75 decibels	Noted that noise will not exceed the maximum levels allowable	Yes	
<b>Sidewalk Requirements</b>				
<b>Sidewalks</b> (Sec. 7.4.2 of the Engineering Design Manual)	- 5-foot sidewalk required along 12 Mile (local street); 6-foot sidewalk required along Grand River (collector or arterial street)	Extension of sidewalk along Grand River Ave. No sidewalk proposed along 12 Mile Road. Applicant indicated there is not room to extend the sidewalk along 12 Mile Rd due to the wetland buffer and will be applying for variances for both sidewalks	<b>No</b>	<b>A ZBA variance will be required if a sidewalk cannot be installed along 12 Mile Road or along Grand River Avenue to the property line. Refer to Landscape &amp; Traffic reviews for further details.</b>
<b>Pedestrian Connectivity</b>	Whether the traffic circulation features within the site and location of automobile parking areas are designed to assure safety and convenience of both vehicular and pedestrian traffic both within the site and in relation to access streets		<b>No</b>	<b>See above comment.</b>
<b>Building Code and Other Design Standard Requirements</b>				

Item	Required Code	Proposed	Meets Code	Comments
<b>Design and Construction Standards Manual</b>	Land description, Sidwell number (metes and bounds for acreage parcel, lot number(s), Liber, and page for subdivisions).	Provided	Yes	
<b>General layout and dimension of proposed physical improvements</b>	Location of all existing & proposed buildings, proposed building heights, building layouts, (floor area in sq. ft.), location of proposed parking & parking layout, streets, & drives, and indicate sq. ft. of pavement area (indicate public/private)	Provided; applicant indicated a design will be included with the final site plan submittal	<b>Mostly</b>	<b>Please provide a detail of the wetland retaining wall proposed on the eastern portion of the property.</b>
<b>Economic Impact</b>	<ul style="list-style-type: none"> <li>- Total cost of the proposed building &amp; site improvements</li> <li>- Number of anticipated jobs created (during construction &amp; after building is occupied)</li> </ul>	Provided on sheet C-1.0	Yes	
<b>Other Permits and Approvals</b>				
<b>Development/ Business Sign</b>	Signage if proposed requires a permit.	Response letter indicates no signs are proposed	N/A	For sign permit information contact Maureen Underhill at 248-347-0438.
<b>Development and Street Names</b>	Development and street names must be approved by the Street Naming Committee before Preliminary Site Plan approval	Project name and street name approval not needed	N/A	
<b>Property Split</b>	The proposed property split must be submitted to the Assessing Department for approval.	A split or combination is not proposed.	N/A	
<b>Lighting and Photometric Plan (Sec. 5.7)</b>				
<b>Intent (Sec. 5.7.1)</b>	Establish appropriate minimum levels, prevent unnecessary glare, reduce spillover onto adjacent properties & reduce unnecessary transmission of light into the night sky	Provided	Yes	

Item	Required Code	Proposed	Meets Code	Comments
<b>Lighting Plan</b> (Sec. 5.7.A.1)	Site plan showing location of all existing & proposed buildings, landscaping, streets, drives, parking areas & exterior lighting fixtures	Provided	Yes	
<b>Building Lighting</b> (Sec. 5.7.2.A.iii)	Relevant building elevation drawings showing all fixtures, the portions of the walls to be illuminated, illuminance levels of walls and the aiming points of any remote fixtures.	Provided	Yes	
<b>Lighting Plan</b> (Sec.5.7.2A.ii)	Specifications for all proposed & existing lighting fixtures	Provided	Yes	
	Photometric data	Provided	Yes	
	Fixture height	Provided	Yes	
	Mounting & design	Provided	Yes	
	Glare control devices	Not Applicable	N/A	
	Type & color rendition of lamps	LED	Yes	
	Hours of operation	Provided; 6:30 am – 6:00 pm	Yes	
	Photometric plan illustrating all light sources that impact the subject site, including spill-over information from neighboring properties	Provided	Yes	
<b>Maximum height when abutting residential districts</b> (Sec. 5.7.3.A)	Height not to exceed maximum height of zoning district (or 25 ft. where adjacent to residential districts or uses)	Not Applicable	N/A	
<b>Standard Notes</b> (Sec. 5.7.3.B)	<ul style="list-style-type: none"> <li>- Electrical service to light fixtures shall be placed underground</li> <li>- Flashing light shall not be permitted</li> <li>- Only necessary lighting for security purposes &amp; limited operations shall be permitted after a site's hours of operation</li> </ul>	Complies	Yes	
<b>Security Lighting</b> (Sec. 5.7.3.H)	- All fixtures shall be located, shielded, and aimed at the areas to be secured.	Provided	Yes	

Item	Required Code	Proposed	Meets Code	Comments
	- Fixtures mounted on the building and designed to illuminate the facade are preferred			
<b>Average light levels</b> (Sec.5.7.3.E)	Average light level of the surface being lit to the lowest light of the surface being lit; not exceed 4:1	Proposed front sidewalk lighting ratio is 4.0:1.	Yes	
<b>Type of Fixtures</b> (Sec. 5.7.3.F)	Use of true color rendering lamps such as metal halide is preferred over high & low pressure sodium lamps	LED	Yes	
<b>Min. Illumination</b> (Sec. 5.7.3.k)	Parking areas: 0.4 min	Proposed Drive and Existing South Parking lighting ratio is 3.8:1.	Yes	<b>Please also provide foot-candle measurements for infrequent building entrances.</b>
	Loading & unloading areas: 0.4 min	No loading areas are proposed	N/A	
	Walkways: 0.2 min	east – 2.6:1 front – 4.0:1 west – 3.1:1	Yes	
	Building entrances, frequent use: 1.0 min	3.1:1	Yes	
	Building entrances, infrequent use: 0.2 min	Unclear – seems to comply	<b>Yes?</b>	
<b>Max. Illumination adjacent to Non-Residential</b> (Sec. 5.7.3.K)	When site abuts a non-residential district, maximum illumination at the property line shall not exceed 1 foot candle	Maximum illumination at property line is 0.9-foot candles (at western property line)	Yes	
<b>Max. Illumination adjacent to Residential</b> (Sec. 5.7.3.L)	When adjacent to residential districts: - All cut off angles of fixtures must be 90° - maximum illumination at the property line shall not exceed 0.5-foot candle	Not applicable	N/A	

**NOTES:**

1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards.
2. The section of the applicable ordinance or standard is indicated in parenthesis. Please refer to those sections in Article 3, 4, and 5 of the zoning ordinance for further details
3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.



## ENGINEERING REVIEW



## PLAN REVIEW CENTER REPORT

4/19/2023

### Engineering Review

Goddard School Addition

JSP22-0059

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#### **Applicant**

Doeting Education Company

#### **Review Type**

Preliminary Site Plan

#### **Property Characteristics**

- Site Location: North of Grand Rive and East of Wixom Road.
- Site Size: approximately 4.33 acres, parcel numbers (22-17-126-012 and 22-17-126-013)
- Plan Date: 3/24/2023
- Design Engineer: Monument Engineering Group Associates.

#### **Project Summary**

- Construction of an approximately 16,000 square foot addition to the existing building, 12,000 square feet of associated parking and paved playground area.
- No changes proposed to existing sanitary sewer or water main.
- Storm water would be collected by a single storm sewer collection system and discharged to the on-site basin, which will be expanded to accommodate the additional development.

#### **Recommendation**

**Approval of the Preliminary Site Plan and the Preliminary Storm Water Management Plan is recommended.**

#### **Comments:**

The Preliminary Site Plan meets the general requirements of the design and construction standards as set forth in Chapter 11 of the City of Novi Codified Ordinance, the Storm Water Management Ordinance and the Engineering Design Manual with the following items that must be addressed at the time of Final Site Plan submittal (further engineering detail will be required at the time of the final site plan submittal):

**General**

1. A full engineering review was not performed due to the limited information provided in this submittal. Further information related to the utilities, easements, etc. will be required to provide a more detailed review.
2. **Only at the time of the printed Stamping Set submittal**, provide the City's standard detail sheets for water main (5 sheets), sanitary sewer (3 sheets), storm sewer (2 sheets), paving (2 sheets) and Boardwalks/Pathways (1 sheet). The most updated details can be found on the City's website at this location: <https://cityofnovi.org/services/public-works/engineering-division/engineering-standards-and-construction-details>
3. A right-of-way permit will be required from the City of Novi and Road Commission for Oakland County for any work done in Twelve Mile Road, and Grand River Avenue Right-of-Way.
4. A letter from either the applicant or the applicant's engineer must be submitted with the Final Site Plan submittal highlighting the changes made to the plans and addressing each of the comments in this review.
5. The proposed pedestrian pathway along Grand River shall extend along the entire frontage to the eastern property line.
6. A pedestrian pathway is required along the 12 Mile Road frontage. The ordinance allows for an administrative variance when there are no existing pathways within 300-feet of the property if the applicant provides payment to the City equal to the cost of the pathway (as approved by the City Engineer) for City use to construct pathways elsewhere in the City. The applicant should provide a letter making this request or construct the sidewalk along the frontage as required.
7. Make sure you apply for a Variance for lack of sidewalk along 12 Mile Road.
8. If applicable, show the locations of all light poles on the plan and indicate the typical foundation depth for the pole to verify that no conflicts with utilities will occur. Light poles in a utility easement will require a License Agreement.
9. Irrigation plans were reviewed separately by the water and sewer division. See the attached review letter.
10. Generally, all proposed trees shall remain outside utility easements. Where proposed trees are required within a utility easement, the trees shall maintain a minimum 5-foot horizontal separation distance from any existing or proposed utility. All utilities shall be shown on the landscape plan, or other appropriate sheet, to confirm the separation distance.

**Water main**

11. Individual shutoff valves for interior fire protection shall be by post indicator valve (P.I.V.) or by valve in well and shall be provided within a public water main easement.

### **Sanitary Sewer**

12. Provide a sanitary sewer basis of design for the development on the utility plan sheet. (Calculations should use peaking factor of 4.0 and 3.2 REU).
13. Provide a note on the Utility Plan stating the sanitary leads will be buried at least 5 feet deep where under the influence of pavement.

### **Storm Sewer**

14. A minimum cover depth of 3 feet shall be maintained over all proposed storm sewer. In situations where the minimum cover cannot be achieved, Class V pipe must be used with an absolute minimum cover depth of 2 feet. An explanation shall be provided where the cover depth cannot be provided.
15. The length of the 12-inch pipe and the slopes on the profile do not match the numbers in the storm pipe calculation table. For example, the 12-inch pipe between structures **CB-1** and **MH-2** does not meet the minimum slope of 0.32%.
16. Provide a 0.1-foot drop in the downstream invert of all storm structures where a change in direction of 30 degrees or greater occurs.
17. Manhole structures should not have a sump.
18. Label the 10-year HGL on the storm sewer profiles and ensure the HGL remains at least 1-foot below the rim of each structure.
19. Provide a schedule listing the casting type, rim elevation, diameter, and invert sizes/elevations for each proposed, adjusted, or modified storm structure on the utility plan. Round castings shall be provided on all catch basins except curb inlet structures.

### **Storm Water Management Plan**

20. Provide drainage area and runoff coefficient calculations specific to the area tributary to each structure (also include the area between the retaining wall and the proposed development. The treated flow rate should be based on the 1-year storm event intensity (~1.6 In/Hr.), resulting in a flow rate of approximately TBD CFS. Higher flows shall be bypassed.
21. Provide an updated Storm Drainage Facility Maintenance Easement Agreement to include the proposed site expansion.
22. A 4-foot-wide safety shelf is required one foot below the permanent water surface elevation within the basin.
23. A 25-foot vegetated buffer shall be provided around the perimeter of the storm water basin where impervious area is directed to the basin via surface flow.
24. One foot of freeboard shall be provided above the proposed high water level.



25. Provide the cross-section of the detention basin, and include all elevations for the standpipe, the free board elevation...etc. (revise the outlet control structure details on sheet **C-9.3** to reflect the proposed items)

**Paving & Grading**

26. All non-conforming standard details should be removed and replaced with City of Novi standard details.
27. Provide a construction materials table on the Paving Plan listing the quantity and material type for each pavement cross-section being proposed.
28. Permits for the construction of each retaining wall exceeding 48 inches in height (measured from bottom of the footing to top of the wall) must be obtained from the Community Development Department (248-347-0415).

**Flood Plain**

29. Flood plain does not appear to be impacted.

**Soil Erosion and Sediment Control**

30. A SESC permit is required. A full review has not been completed at this time. The review checklist detailing all SESC requirements is attached to this letter. Please address the comments below and submit a SESC permit application under separate cover. The application can be found on the City's website at <http://cityofnovi.org/Reference/Forms-and-Permits.aspx>.

**Prior to preparing stamping sets**, the Applicant is advised to provide any revised sheets directly to the Engineering Division for an informal review and approval.

To the extent this review letter addresses items and requirements that require the approval of or a permit from an agency or entity other than the City, this review shall not be considered an indication or statement that such approvals or permits will be issued.

Please contact Adam Yako at 248-735-5695 with any questions.



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Adam Yako  
Project Engineer

cc: Ben Peacock, Community Development  
Ben Croy, City Engineer  
Humna Anjum, Project Engineer  
Adam Chludzinski, Engineering

## LANDSCAPE REVIEW



# PLAN REVIEW CENTER REPORT

August 30, 2023  
**Goddard School Expansion**  
**Revised Preliminary Site Plan - Landscaping**

## Review Type

Revised Preliminary Site Plan Landscape Review

## Job #

JSP22-0059

## Property Characteristics

- Site Location: 48600 Grand River Ave.
- Site Acreage: 4.39 ac.
- Site Zoning: B-3
- Adjacent Zoning: North: Wixom Commercial; East, West: B-3, East, South: I-2
- Plan Date: 7/17/2023

## Ordinance Considerations

This project was reviewed for conformance with Chapter 37: Woodland Protection, Zoning Article 5.5 Landscape Standards, the Landscape Design Manual and any other applicable provisions of the Zoning Ordinance. Items in **bold** below must be addressed and incorporated as part of the revised Final Site Plan submittal. Please follow guidelines of the Zoning Ordinance and Landscape Design Guidelines. This review and the accompanying landscape chart are summaries and are not intended to substitute for any Ordinance.

## **Recommendation:**

This project is **recommended for approval, contingent on the correction of the plan to remove one unsupported waiver**. There are also several supported waivers for greenbelt and street landscaping, but those are supported by staff. The remaining fixes can be done on the Final Site Plans.

## **LANDSCAPE WAIVERS THAT ARE REQUIRED BY THE PROPOSED PLAN:**

- Deficiency in greenbelt berm provided along 12 Mile Road – *supported by staff to protect the existing wetland*
- Deficiency in greenbelt berm height along Grand River – *supported by staff as a hedge is planted along the top of the berm.*
- Deficiency in greenbelt plantings along Grand River due to wetland – *supported by staff*
- Deficiency in street trees along Grand River – *supported to protect the wetland*
- Lack of street trees along 12 Mile Road – *supported by staff if a boardwalk is used as sidewalk, not supported if that section of wetland is filled to build the sidewalk.*
- Deficiency in foundation landscaping – *not supported by staff*

## Ordinance Considerations

Existing Trees (Sec 37 Woodland Protection, Preliminary Site Plan checklist #17 and LDM 2.3 (2))

1. Provided
2. Please show tree fencing for the trees to be saved.

Adjacent to Residential - Buffer (Zoning Sec. 5.5.3.B.ii and iii)

The project is not adjacent to residentially-zoned property so no buffering is required.

Adjacent to Public Rights-of-Way – Berm/Wall, Buffer and Street Trees (Zoning Sec. 5.5.3.B.ii, iii)

GRAND RIVER AVE:

1. The required berm and most of the required landscaping and street trees are proposed.
2. A landscape waiver is requested to not provide the full required greenbelt berm height, some canopy and subcanopy trees, and a street tree within the wetland frontage.  
*Those waivers are supported by staff.*

12 MILE ROAD:

1. Lack of greenbelt berm - *supported by staff to protect the wetland.*
2. No street trees are proposed for the eastern 153lf of frontage due to the wetland.
3. *If the sidewalk is not required, or a boardwalk is proposed as a sidewalk, the waiver for a lack of street trees would be supported by staff to protect the wetland. **If the applicant fills the wetland to build the sidewalk, then the waiver would not be supported and the required street trees must be installed.***

Parking Lot Landscaping (Zoning Sec. 5.5.3.C.)

1. All of the required interior landscape area, interior trees and perimeter trees are proposed.
2. Please replace the evergreen tree at the north end of the new lot with a deciduous canopy tree.

Building foundation Landscaping (Zoning Sec 5.5.3.D)

1. A landscape waiver is requested for the apparent deficiency in foundation landscaping. *That waiver is not supported by staff as there is sufficient area to provide the required landscaping around the outside of the play area fences, as has been done by other day care centers in the city.*
2. **Please add additional landscaping and label the areas provided (for the new addition).**

Storm Basin Landscape (Zoning Sec 5.5.3.E.iv and LDM 3)

1. All required detention basin landscaping is provided.
2. Please survey the site for any occurrences of Phragmites australis or Japanese knotweed. If any are found, please show the populations on the topographical survey, landscape plan or Demolition plan, and add notes regarding their removal.

Plant List (LDM 4, 10)

1. 15 of 23 species used (65%) are native to Michigan.
2. The tree diversity meets the standards of LDM 4.

Planting Notations and Details (LDM 10)

Provided

Irrigation (LDM 10)

1. An automatic irrigation system is not required but any new plantings need to be provided with sufficient water for their establishment and long-term survival.
2. Either an irrigation system plan, or detailed information on how the plants will get sufficient water for establishment and survival will need to be provided in the Final Site Plans.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5621 or [rmeader@cityofnovi.org](mailto:rmeader@cityofnovi.org).





## LANDSCAPE REVIEW SUMMARY CHART – Revised Preliminary Site Plan

**Review Date:** August 30, 2023  
**Project Name:** JSP22-0059: Goddard School Expansion  
**Plan Date:** July 17, 2023  
**Prepared by:** Rick Meader, Landscape Architect E-mail: [rmeader@cityofnovi.org](mailto:rmeader@cityofnovi.org);  
 Phone: (248) 735-5621

Items in **Bold** need to be addressed by the applicant before approval of the Preliminary Site Plan. Underlined items need to be addressed for Final Site Plan.

### LANDSCAPE WAIVERS THAT ARE REQUIRED BY THE PROPOSED PLAN:

- Deficiency in greenbelt berm provided along 12 Mile Road – *supported by staff to protect the existing wetland*
- Deficiency in greenbelt berm height along Grand River – *supported by staff as a hedge is planted along the top of the berm.*
- Deficiency in greenbelt plantings along Grand River due to wetland – *supported by staff*
- Deficiency in foundation landscaping – *not supported by staff*
- Deficiency in street trees along Grand River – *supported to protect the wetland*
- Lack of street trees along 12 Mile Road – *supported by staff if a boardwalk is used as sidewalk, not supported if that section of wetland is filled to build the sidewalk.*

Item	Required	Proposed	Meets Code	Comments
<b>Landscape Plan Requirements (LDM (2))</b>				
<b>Landscape Plan</b> (Zoning Sec 5.5.2, LDM 2.e.)	<ul style="list-style-type: none"> <li>• New commercial or residential developments</li> <li>• Addition to existing building greater than 25% increase in overall footage or 400 SF whichever is less.</li> <li>• 1"=20' minimum with proper North. Variations from this scale can be approved by LA</li> <li>• Consistent with plans throughout set</li> </ul>	The site plan is shown at 1"=30'	Yes	
<b>Project Information</b> (LDM 2.d.)	Name and Address	Business name and address are shown in title block	Yes	
<b>Owner/Developer Contact Information</b> (LDM 2.a.)	Name, address and telephone number of the owner and developer or association	Business name and area are on the title block	Yes	
<b>Landscape Architect contact information</b> (LDM 2.b.)	Name, Address and telephone number of RLA/PLA/LLA who created the plan	Felino Pascual	Yes	
<b>Sealed by LA.</b> (LDM 2.g.)	Requires original signature	Yes		<u>Live signature of the LA will be required on the</u>

Item	Required	Proposed	Meets Code	Comments
				<u>stamping sets.</u>
<b>Miss Dig Note</b> (800) 482-7171 (LDM.3.a.(8))	Show on all plan sheets	On title block	Yes	
<b>Zoning</b> (LDM 2.f.)	Include all adjacent zoning	<b>Site: B-3</b> East, West: B-3 South: I-2 North: City of Wixom commercial	Yes	
<b>Survey information</b> (LDM 2.c.)	<ul style="list-style-type: none"> <li>• Legal description or boundary line survey</li> <li>• Existing topography</li> </ul>	<ul style="list-style-type: none"> <li>• Topo survey on Sheet V-1.0</li> <li>• Legal description on cover sheet</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• Yes</li> </ul>	
<b>Existing plant material</b> <b>Existing woodlands or wetlands</b> (LDM 2.e.(2))	<ul style="list-style-type: none"> <li>• Show location type and size. Label to be saved or removed.</li> <li>• Plan shall state if none exists.</li> </ul>	<ul style="list-style-type: none"> <li>• All trees are shown on the topographic sheet.</li> <li>• Removals are indicated on CD-1.0 (none are regulated trees)</li> <li>• Wetland delineation is shown all the way to boundaries</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• Yes</li> <li>• Yes</li> </ul>	<u>Please clearly show on the demolition plan which trees are proposed for transplanting to the Grand River right-of-way.</u>
<b>Soil types</b> (LDM.2.r.)	<ul style="list-style-type: none"> <li>▪ As determined by Soils survey of Oakland county</li> <li>▪ Show types, boundaries</li> </ul>	Sheet V-1.0	Yes	
<b>Existing and proposed improvements</b> (LDM 2.e.(4))	Existing and proposed buildings, easements, parking spaces, vehicular use areas, and R.O.W	<ul style="list-style-type: none"> <li>• Sheet C-1.0</li> <li>• All improvements are included on the landscape plan.</li> </ul>	Yes	
<b>Existing and proposed utilities</b> (LDM 2.e.(4))	<ul style="list-style-type: none"> <li>• Overhead and underground utilities, including hydrants</li> <li>• Proposed light posts</li> </ul> <p>Trees should be at least 10 feet from hydrants, catch basins and manholes and 5 feet from underground lines.</p>	<ul style="list-style-type: none"> <li>• Proposed storm line and structures are shown on landscape plan</li> <li>• Existing utilities along Grand River are shown</li> <li>• Light posts are shown on the landscape plan</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• Yes</li> <li>• Yes</li> </ul>	
<b>Proposed grading. 2' contour minimum</b> (LDM 2.e.(1))	Provide proposed contours at 2' interval	Sheet C-7.0	Yes	
<b>Snow deposit</b> (LDM.2.q.)	Show snow deposit areas on plan	Yes	Yes	
<b>LANDSCAPING REQUIREMENTS</b>				

Item	Required	Proposed	Meets Code	Comments
<b>Berms, Walls and ROW Planting Requirements</b>				
<b>Berms</b>				
<ul style="list-style-type: none"> <li>All berms shall have a maximum slope of 33%. Gradual slopes are encouraged. Show 1ft. contours</li> <li>Berm should be located on lot line except in conflict with utilities.</li> <li>Berms should be constructed of loam with 6" top layer of topsoil.</li> </ul>				
<b>Residential Adjacent to Non-residential (Sec 5.5.3.A) &amp; (LDM 1.a)</b>				
<b>Berm requirements (Zoning Sec 5.5.A)</b>	The site is not adjacent to residential property so this screening berm is not required.	No berm is proposed.	Yes	
<b>Planting requirements (LDM 1.a.)</b>	LDM Novi Street Tree List	NA		
<b>Walls (LDM 2.k &amp; Zoning Sec 5.5.3.vi)</b>				
<b>Material, height and type of construction footing</b>	Freestanding walls should have brick or stone exterior with masonry or concrete interior	Retaining walls are proposed along the east side of the property	Yes	<u>Please make the lineweight of the retaining wall on the landscape plan heavier.</u>
<b>Walls greater than 3 ½ ft. should be designed and sealed by an Engineer</b>		Sections are the wall are taller than 3.5 feet	TBD	<u>The wall must be designed and sealed by an engineer, and reviewed with building plans.</u>
<b>ROW Landscape Screening Requirements (Sec 5.5.3.B. ii) and (LDM 1.b)</b>				
<b>Clear Zones (LDM 2.3.(5))</b>	The Road Commission for Oakland County (RCOC) clear vision zone is required for Grand River Avenue as it is their jurisdiction.	The City clear vision zone is shown for both entries	No	<ol style="list-style-type: none"> <li><b>Please indicate the RCOC clear vision zone for the Grand River entry.</b></li> <li><u>Keep all trees and shrubs taller than 30" out of zones.</u></li> </ol>
<b>Greenbelt width (2)(3) (5)</b>	<ul style="list-style-type: none"> <li>Adjacent to pkg: 20 feet</li> <li>Not adjacent to pkg: 25 feet</li> </ul>	<ul style="list-style-type: none"> <li>Grand River: 20 ft</li> <li>12 Mile Road: 160 ft</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> </ul>	
<b>Berm requirements (Zoning Sec 5.5.3.A.(5))</b>				
Min. berm crest width	<ul style="list-style-type: none"> <li>Adjacent to parking: 2 feet</li> <li>Not adjacent to parking: Not required</li> <li>Parking between ROW and building: 2 feet</li> </ul>	<ul style="list-style-type: none"> <li>Grand River: 2-3'</li> <li>12 Mile Road: 0'</li> </ul>	Yes	
Minimum berm height (9)	<ul style="list-style-type: none"> <li>Adjacent to parking: 3 feet</li> <li>Not adjacent to parking: Not required</li> <li>Parking between ROW and building: 2 feet</li> </ul>	<ul style="list-style-type: none"> <li>Grand River: 2-3'</li> <li>12 Mile Road: 0'</li> </ul> <p><b>A landscape waiver is requested to provide a 30" tall berm with an</b></p>	<ul style="list-style-type: none"> <li>No</li> <li>Yes</li> </ul>	<i>The waiver request is supported by staff.</i>

Item	Required	Proposed	Meets Code	Comments
		<p><b>evergreen hedge on top in place of a minimum 3' tall berm.</b></p>		
<p>3' wall</p>	<ul style="list-style-type: none"> <li>• (4)(7)</li> </ul>	<p>None in greenbelt</p>		
<p><b>Canopy deciduous or large evergreen trees</b>                      Notes (1) (10)</p>	<ul style="list-style-type: none"> <li>• Adjacent to pkg: 1 tree per 35lf frontage (net of access drives)</li> <li>• Not adjacent to pkg: 1 tree per 60 lf</li> </ul> <p>GRAND RIVER AVE:</p> <ul style="list-style-type: none"> <li>• Adj to pkg: (296-37)/35= 7 trees</li> <li>• Not adjacent to pkg: 122/60 = 2 trees</li> <li>• Total: 9 trees</li> </ul> <ul style="list-style-type: none"> <li>• 40 ft frontage in wetland</li> </ul> <p>12 MILE ROAD:</p> <ul style="list-style-type: none"> <li>• 176/60 = 3 trees</li> </ul> <p>155 ft frontage in wetland</p>	<p>GRAND RIVER AVE.</p> <ul style="list-style-type: none"> <li>• 1 existing tree</li> <li>• 7 new trees</li> <li>• 1 parking lot interior tree</li> </ul> <p>12 MILE ROAD:</p> <ul style="list-style-type: none"> <li>• 5 trees</li> </ul>	<ul style="list-style-type: none"> <li>• No</li> <li>• Yes</li> </ul>	<ol style="list-style-type: none"> <li>1. The waiver request is supported by staff to preserve the wetland.</li> <li>2. Greenbelt trees can generally not be north of the front parking lot edge but will be allowed east of the lower section of the parking lot.</li> <li>3. <b>Please reword the request to note that it is requested due to the section of greenbelt in the wetland.</b></li> <li>4. <b>Greenbelt trees cannot be used in parking lot interior locations but a parking lot perimeter tree can be.</b></li> </ol>
<p><b>Sub-canopy deciduous trees</b>                      Notes (2)(10)</p>	<ul style="list-style-type: none"> <li>• Adjacent to pkg: 1 tree per 20lf frontage (net of access drives)</li> <li>• Not adjacent to pkg: 1 tree per 40 lf</li> </ul> <p>GRAND RIVER:</p> <ul style="list-style-type: none"> <li>• Adj to pkg: (296-37)/20= 13 trees</li> <li>• Not adjacent to pkg: 122/40 = 3 trees</li> <li>• Total: 16 trees</li> </ul> <ul style="list-style-type: none"> <li>• 40 ft frontage in wetland</li> </ul> <p>12 MILE ROAD:</p> <ul style="list-style-type: none"> <li>• 176/40 = 4 trees</li> </ul> <p>155 ft frontage in wetland</p>	<p>GRAND RIVER AVE.</p> <ul style="list-style-type: none"> <li>• 15 trees</li> </ul> <p>12 MILE ROAD:</p> <ul style="list-style-type: none"> <li>• 4 trees</li> </ul> <p><b>A landscape waiver is requested to not plant 1 canopy tree due to the wetland frontage along Grand River.</b></p>	<ul style="list-style-type: none"> <li>• No</li> <li>• Yes</li> </ul>	<ol style="list-style-type: none"> <li>1. The waiver request is supported by staff to preserve the wetland.</li> <li>2. <b>Please reword the request to note that it is requested due to the section of greenbelt in the wetland.</b></li> </ol>
<p><b>Canopy deciduous trees in area between</b></p>	<ul style="list-style-type: none"> <li>• 1 tree per 35lf frontage (net of sight vision)</li> </ul>	<p>GRAND RIVER AVE:                      8 Trees</p>	<ul style="list-style-type: none"> <li>• TBD</li> <li>• TBD</li> </ul>	<ol style="list-style-type: none"> <li>1. The waiver request is supported by staff for</li> </ol>



Item	Required	Proposed	Meets Code	Comments
<b>sidewalk and curb</b> (Novi Street Tree List)	<p>zones)</p> <p>GRAND RIVER AVE:</p> <ul style="list-style-type: none"> <li>• (412-clear vision zones/35</li> </ul> <p>12 MILE ROAD:</p> <ul style="list-style-type: none"> <li>• 176/35 = 5 trees</li> </ul>	<p>12 MILE ROAD:</p> <p>0 Trees</p> <p><b>A landscape waiver is requested for 1 tree deficiency along Grand River and 5 trees along 12 Mile Road due to wetlands along both those frontages.</b></p>		<p>Grand River Avenue.</p> <p>2. The waiver request would be supported by staff for 12 Mile Road if a boardwalk is installed as the sidewalk but not if the area is filled to build the sidewalk.</p> <p>3. <b>Please show the Road Commission for Oakland County clear vision ones for the east side of the Grand River entry.</b></p> <p>4. <b>The width of the clear vision zone may be deducted from the requirement.</b></p> <p>5. <b>Any street trees along Grand River not allowed by RCOC do not have to be planted but documentation of the RCOC decision must be provided.</b></p>
<b>Cross-Section of Berms (LDM 2.j)</b>				
Slope, height and width	<ul style="list-style-type: none"> <li>• Label contour lines</li> <li>• Maximum 33%</li> <li>• Constructed of loam</li> <li>• 6" top layer of topsoil</li> </ul>	Cross section is provided on Sheet LS-3	Yes	
Type of Ground Cover		Spreading junipers and sod	Yes	
Setbacks from Utilities	Overhead utility lines and 15 ft. setback from edge of utility or 20 ft. setback from closest pole	Storm lines are shown on the plan	Yes	
<b>Parking Area Landscape Requirements LDM 1.c. &amp; Calculations (LDM 2.o.)</b>				
<b>General requirements</b> (LDM 1.c)	<ul style="list-style-type: none"> <li>• Clear sight distance within parking islands</li> <li>• No evergreen trees</li> </ul>	No plantings obscure vision within the parking lot	Yes	
<b>Name, type and number of ground cover</b> (LDM 1.c.(5))	As proposed on planting islands	Sod is proposed in islands	Yes	
<b>General (Zoning Sec 5.5.3.C.ii)</b>				
<b>Parking lot Islands</b>	<ul style="list-style-type: none"> <li>• A minimum of 200 SF</li> </ul>	All islands are sized	Yes	

Item	Required	Proposed	Meets Code	Comments
(a, b, i)	to qualify <ul style="list-style-type: none"> <li>• Minimum 200 SF per tree planted in island</li> <li>• 6" curbs</li> <li>• Islands minimum width 10' BOC to BOC</li> </ul>	satisfactorily		
<b>Curbs and Parking stall reduction (c)</b>	Parking stall can be reduced to 17' and the curb to 4" adjacent to a sidewalk of minimum 7 ft.	Spaces are 19 feet long	Yes	19-foot spaces could be shortened to 17 feet if spaces have 2 feet of overhang available.
<b>Contiguous space limit (i)</b>	<ul style="list-style-type: none"> <li>• Maximum of 15 contiguous spaced</li> <li>• All endcap islands should also be at least 200sf with 1 tree planted in it.</li> </ul>	The longest bay without a tree in an interior island is 10 spaces	Yes	
<b>Plantings around Fire Hydrant (d)</b>	<ul style="list-style-type: none"> <li>• No plantings with matured height greater than 12' within 10 ft. of fire hydrants of utility structures (manholes, catch basins).</li> <li>• Trees also need to have at least 5 feet between the trunk and underground utility lines.</li> </ul>	<ul style="list-style-type: none"> <li>• No new hydrants are proposed.</li> <li>• The existing hydrant has sufficient clearance</li> </ul>	Yes	
<b>Landscaped area (g)</b>	Areas not dedicated to parking use or driveways exceeding 100 sq. ft. shall be landscaped	Yes	Yes	
<b>Category 1: For OS-1, OS-2, OSC, OST, B-1, B-2, B-3, C, NCC, EXPO, FS, TC, TC-1, RC, Special Land Use or non-residential use in any R district (Zoning Sec 5.5.3.C.iii)</b>				
A = Total square footage of vehicular use area up to 50,000 sf x 7.5%	$A = x \text{ SF} \times 7.5\% = A \text{ sf}$ $A = 14,407 \times 7.5\% = 1080 \text{ sf}$		Yes	
B = Total square footage of additional paved vehicular use areas over 50,000 SF) x 1 %	$B = x \text{ SF} \times 1\% = B \text{ sf}$	NA		
<b>Category 2: For: I-1 and I-2 (Zoning Sec 5.5.3.C.iii)</b>				
A = Total square footage of vehicular use area up to 50,000 sf x 5%	$A = x \text{ SF} \times 6\% = A \text{ sf}$	NA		
B = Total square footage of additional	$B = (x \text{ SF} - 50000) \times 0.5\% = B \text{ SF}$	NA		

Item	Required	Proposed	Meets Code	Comments
paved vehicular use areas over 50,000 SF x 0.5 %				
<b>All Categories</b>				
C = A+B Total square footage of landscaped islands required	A + B = C SF C = 1080 + 0 = 1080 sf	1205 sf	Yes	
D = D/200 Number of canopy trees required	D=C/200 = xx Trees D = 1080/200 = 5 trees	5 trees	Yes	<u>Please change the spruce at the upper corner of the parking lot to a deciduous canopy tree.</u>
<b>Parking Lot Perimeter Trees</b> (Sec 5.5.3.C.iv)	<ul style="list-style-type: none"> <li>1 Canopy tree per 35 lf</li> <li>Perimeter within 20 feet of the building does not need to be included</li> <li>Canopy trees must be used, within 15 feet of the parking lot edge to count toward the requirement</li> <li>Perimeter = 415lf/35 = 12 trees</li> </ul>	<ul style="list-style-type: none"> <li>13 trees</li> <li>4 of the greenbelt trees between Grand River and the parking lot are double-counted as perimeter trees.</li> </ul>	Yes	
<b>Parking land banked</b>	NA	None		
<b>Other Landscaping</b>				
<b>Other Screening</b>				
<b>Screening of outdoor storage, loading/unloading</b> (Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)		No new loading area is proposed	NA	
<b>Transformers/Utility boxes</b> (LDM 1.e from 1 through 5)	<ul style="list-style-type: none"> <li>A minimum of 2ft. separation between box and the plants</li> <li>Ground cover below 4" is allowed up to pad.</li> <li>No plant materials within 8 ft. from the doors</li> </ul>	No new utility box is shown	NA	<u>If a new box is added, it must be screened per the detail on LS-3.</u>
<b>Building Foundation Landscape Requirements (Sec 5.5.3.D)</b>				
<b>Interior site landscaping SF</b>	<ul style="list-style-type: none"> <li>Equal to entire perimeter of the building (less paved access areas) x 8 with a minimum width of 4</li> </ul>	It's not clear what perimeter is included in the calculation	No	<ol style="list-style-type: none"> <li><b>Please label the square footage of the foundation areas provided.</b></li> <li><i>The waiver request is</i></li> </ol>

Item	Required	Proposed	Meets Code	Comments
	ft. • A minimum of 75% of the building should have foundation landscaping. • Only doors may be deducted, not walks along the building • <b>(460-67) If x 8ft = 3144 SF</b>	A landscape waiver is requested for the deficiency in the foundation landscaping.		<i>not supported by staff because there is sufficient room on the site to provide all of the required landscape area.</i>
Zoning Sec 5.5.3.D.ii. All items from (b) to (e)	If visible from public street a minimum of 60% of the exterior building perimeter should be covered in green space	116/143 = 81%	Yes	
<b>Detention/Retention Basin Requirements (Sec. 5.5.3.E.iv)</b>				
<b>Planting requirements</b> (Sec. 5.5.3.E.iv)	<ul style="list-style-type: none"> <li>• Clusters of large native shrubs shall cover 70-75% of the basin rim area located at 10 feet above the permanent water level or pond bottom if it's a dry pond.</li> <li>• Canopy trees at 1/35lf of the east, south and west sides of the pond, located at about 10 feet away from the permanent water level</li> <li>• 10" to 14" tall grass along sides of basin</li> <li>• Refer to wetland for basin mix</li> <li>• New pond perimeter = 220lf/35 = 6 trees</li> </ul>	All required shrubs and trees are proposed	Yes	If desired, three of the blackgums can be removed from the north side of the basin as trees are only required along the east, south and west sides of the pond.
<b>Phragmites and Japanese Knotweed Control</b> (Sec 5.5.6.C)	<ul style="list-style-type: none"> <li>• Any and all populations of Phragmites australis and/or Japanese knotweed on the site shall be included on tree survey.</li> <li>• Treat populations per MDEQ guidelines and requirements to eradicate the weed from the site.</li> </ul>	None indicated	TBD	<ol style="list-style-type: none"> <li>1. Please survey the site for any populations of <i>Phragmites australis</i> and/or Japanese knotweed and show it on the topographical survey if any is found.</li> <li>2. If any is found, add plans for its complete removal to the plans.</li> <li>3. If none is found, please indicate that on the survey or landscape plan.</li> </ol>

Item	Required	Proposed	Meets Code	Comments
<b>LANDSCAPING NOTES, DETAILS AND GENERAL REQUIREMENTS</b>				
<b>Landscape Notes – Utilize City of Novi Standard Notes</b>				
<b>Installation date</b> (LDM 2.l. & Zoning Sec 5.5.5.B)	<ul style="list-style-type: none"> <li>• Provide intended dates</li> <li>• Should be between March 15 and November 15.</li> </ul>	Between Mar 15- Nov 15	Yes	
<b>Maintenance &amp; Statement of intent</b> (LDM 2.m & Zoning Sec 5.5.6)	<ul style="list-style-type: none"> <li>• Include statement of intent to install and guarantee all materials for 2 years.</li> <li>• Include a minimum one cultivation in June, July and August for the 2-year warranty period.</li> </ul>	Yes	Yes	
<b>Plant source</b> (LDM 2.n & LDM 3.a.(2))	Shall be northern nursery grown, No.1 grade.	Yes	Yes	
<b>Irrigation plan</b> (LDM 2.s.)	A method for providing the water required for plant establishment and long-term survival must be provided.	No		<ol style="list-style-type: none"> <li>1. <u>Need for final site plan</u></li> <li>2. <u>Please provide either an irrigation system plan or information regarding the alternative method that will be used to water the plants</u></li> <li>3. <u>If an irrigation system will be used, it should meet the requirements listed at the end of the chart.</u></li> <li>4. <u>If the existing system will be extended to cover the new plantings, with no new connections to the water system proposed, please add a note to this effect to the plans instead of adding an irrigation plan.</u></li> </ol>
<b>Other information</b> (LDM 2.u)	Required by Planning Commission			<u>Please change both maintenance notes to say that failing plant material shall be replaced within 3 months (not 6 months or one year)</u>



Item	Required	Proposed	Meets Code	Comments
<b>Establishment period</b> <i>(Zoning Sec 5.5.6.B)</i>	<b>2 yr. Guarantee</b>	Yes	Yes	
<b>Approval of substitutions.</b> <i>(Zoning Sec 5.5.5.E)</i>	City must approve any substitutions <u>in writing</u> prior to installation.	Yes	Yes	
<b>Plant List (LDM 4, 11) – Include all cost estimates</b>				
Quantities and sizes	<ul style="list-style-type: none"> <li>A minimum of 50% of species used on the site, not including any woodland replacements, must be native to Michigan.</li> <li>No single tree species shall comprise more than 15% of the new trees planted.</li> <li>No single tree genus shall comprise more than 25% of the new trees planted.</li> <li>No Prohibited Species listed on Table 11.b.(2)b may be used.</li> </ul>	Yes	Yes	
Root type		Yes	Yes	
Botanical and common names		<ul style="list-style-type: none"> <li>15 of 23 species used (65%) are native to Michigan</li> <li>The tree diversity meets the requirements of LDM Section 4</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> </ul>	
Type and amount of lawn		Seed and sod are proposed	Yes	
Cost estimate <i>(LDM 2.t)</i>	For all new plantings, mulch and sod as listed on the plan	No	No	<u>Please add a cost estimate on the Final Site Plans.</u>
<b>Planting Details/Info (LDM 2.i) – Utilize City of Novi Standard Details</b>				
Canopy Deciduous Tree	Refer to LDM for detail drawings	Yes	Yes	
Evergreen Tree		Yes	Yes	
Multi-stem Tree		Yes	Yes	
Shrub		Yes	Yes	
Perennial/ Ground Cover		Yes	Yes	
Tree stakes and guys. (Wood stakes, fabric guys)		No	No	<u>Please add a detail showing three fabric straps per tree.</u>
Tree protection fencing	Located at Critical Root Zone (1' outside of dripline)	No	No	<ol style="list-style-type: none"> <li><u>Please include detail showing fence one foot outside of dripline on the demolition plan</u></li> <li><u>Show tree protection fence lines for all trees to be saved on SESC plan.</u></li> </ol>
<b>Other Plant Material Requirements (LDM 3)</b>				
<b>General Conditions</b>	Plant materials shall not	No plantings are	Yes	

Item	Required	Proposed	Meets Code	Comments
(LDM 3.a)	be planted within 4 ft. of property line	near the property line		
<b>Plant Materials &amp; Existing Plant Material</b> (LDM 3.b)	Clearly show trees to be removed and trees to be saved.	Yes	Yes	
<b>Landscape tree credit</b> (LDM3.b.(d))	<ul style="list-style-type: none"> <li>Substitutions to landscape standards for preserved canopy trees outside woodlands/ wetlands should be approved by LA.</li> <li>Refer to Landscape tree Credit Chart in LDM</li> </ul>	No		
<b>Plant Sizes for ROW, Woodland replacement and others</b> (LDM 3.c)	Refer to Landscape Design Manual for requirements	Correct sizes on the plant list	Yes	
<b>Plant size credit</b> (LDM3.c.(2))	NA	No		
<b>Prohibited Plants</b> (LDM 3.d)	No plants on City Invasive Species List	None are used	Yes	
<b>Recommended trees for planting under overhead utilities</b> (LDM 3.e)	Label the distance from the overhead utilities	No utility lines are shown on the property	NA	
<b>Collected or Transplanted trees</b> (LDM 3.f)		Transplants are shown as Grand River Street trees	TBD	1. <u>Please indicate on the Demolition Plan which trees will be transplanted.</u> 2. <u>Please show a stockpile location for the trees on the Demolition Plan.</u>
<b>Nonliving Durable Material: Mulch</b> (LDM 4)	<ul style="list-style-type: none"> <li>Trees shall be mulched to 3" depth and shrubs, groundcovers to 2" depth</li> <li>Specify natural color, finely shredded hardwood bark mulch. Include in cost estimate.</li> </ul>	Yes	Yes	
<b>NOTES:</b> 1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards. 2. The section of the applicable ordinance or standard is indicated in parenthesis. For the landscape requirements, please see the Zoning Ordinance landscape section 5.5 and the Landscape Design Manual for the appropriate items under the applicable zoning classification. 3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.				

### **Irrigation System Requirements**

- Any booster pump installed to connect the project's irrigation system to an existing irrigation system must be downstream of the RPZ.
- The RPZ must be installed in accordance with the 2015 Michigan Plumbing Code.
- The RPZ must be installed in accordance with the manufacture installation instructions for winterization that includes drain ports and blowout ports.
- The RPZ must be installed a minimum of 12-inches above FINISHED grade.
- Attached is a handout that addresses winterization installation requirements to assist with this.
- A plumbing permit is required.
- The assembly must be tested after installation with results recorded on the City of Novi test report form.

**TRAFFIC REVIEW**



AECOM  
 27777 Franklin Road  
 Southfield  
 MI, 48034  
 USA  
 aecom.com

**Project name:**  
 JSP22-59 – Goddard School Addition  
 Preliminary Site Plan Traffic Review

**To:**  
 Barbara McBeth, AICP  
 City of Novi  
 45175 10 Mile Road  
 Novi, Michigan 48375

**From:**  
 AECOM

**Date:**  
 April 17, 2023

**CC:**  
 Lindsay Bell, Christian Carroll, Humna Anjum, Ben Peacock, Diana Shanahan

# Memo

**Subject:** JSP22-59 – Goddard School Addition Preliminary Site Plan Traffic Review

The preliminary site plan was reviewed to the level of detail provided and AECOM recommends **approval with condition for variance or waivers approved** for the applicant to move forward as long as the comments below are addressed to the satisfaction of the City.

## GENERAL COMMENTS

1. The applicant, Goddard School, is proposing a 16,000 SF building addition along with 12,000 SF of asphalt pavement, 8,400 SF of playground area, and 2,100 SF of concrete sports court.
2. The development is located between 12 Mile Road and Grand River Avenue. 12 Mile Road and Grand River Avenue are under the jurisdiction of Oakland County.
3. The site is B-3 (General Business).
4. The following traffic related deviations may be required if changes are not made:
  - a. Variance for lack of sidewalk along 12 Mile Rd due to wetlands.
  - b. Variance for loading zone to maintain existing configuration.

## TRAFFIC IMPACTS

1. AECOM performed trip generation based on the ITE Trip Generation Manual, 11<sup>th</sup> Edition for additional capacity.

ITE Code: 565 – Day Care Center

Development-specific Quantity: **Increase to the full licensed capacity of 304 from the current 142 enrolled Students** (162 net increase)

Zoning Change: None

Trip Generation Summary	Estimated Trips	Estimated Peak-Direction Trips	City of Novi Threshold	Above Threshold?
<b>AM Peak-Hour Trips</b>	126	67	100	No
<b>PM Peak-Hour Trips</b>	128	68	100	No
<b>Daily (One-Directional) Trips</b>	+663	N/A	750	No

2. The City of Novi generally requires a traffic impact study/statement if the number of trips generated by the proposed development exceeds the City's threshold of more than 750 trips per day or 100 trips per either the AM or PM peak hour, or if the project meets other specified criteria.



Trip Impact Study Recommendation	
Type of Study:	Justification
-	-

## TRAFFIC REVIEW

The following table identifies the aspects of the plan that were reviewed. Items marked O are listed in the City’s Code of Ordinances. Items marked with ZO are listed in the City’s Zoning Ordinance. Items marked with ADA are listed in the Americans with Disabilities Act. Items marked with MMUTCD are listed in the Michigan Manual on Uniform Traffic Control Devices.

The values in the ‘Compliance’ column read as ‘met’ for plan provision meeting the standard it refers to, ‘not met’ stands for provision not meeting the standard and ‘inconclusive’ indicates applicant to provide data or information for review and ‘NA’ stands for not applicable for subject Project. The ‘remarks’ column covers any comments reviewer has and/or ‘requested/required variance’ and ‘potential variance’. A potential variance indicates a variance that will be required if modifications are not made or further information provided to show compliance with the standards and ordinances. The applicant should put effort into complying with the standards; the variances should be the last resort after all avenues for complying have been exhausted. Indication of a potential variance does not imply support unless explicitly stated.

EXTERNAL SITE ACCESS AND OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
1	Driveway Radii   O <a href="#">Figure IX.3</a>	-	N/A	No changes proposed.
2	Driveway Width   O <a href="#">Figure IX.3</a>	-	N/A	No changes proposed.
3	Driveway Taper   O <a href="#">Figure IX.11</a>	-	N/A	No changes proposed.
3a	Taper length	-	N/A	No changes proposed.
3b	Tangent	-	N/A	No changes proposed.
4	Emergency Access   O <a href="#">11-194.a.19</a>	-	N/A	No changes proposed.
5	Driveway sight distance   O <a href="#">Figure VIII-E</a>	-	N/A	No changes proposed.
6	Driveway spacing			
6a	Same-side   O <a href="#">11.216.d.1.d</a>	-	N/A	No changes proposed.
6b	Opposite side   O <a href="#">11.216.d.1.e</a>	-	N/A	No changes proposed.
7	External coordination (Road agency)	-	N/A	No changes proposed.
8	External Sidewalk   <a href="#">Master Plan &amp; EDM</a>	Extension along Grand River Ave, none along 12 Mile Rd	<b>Not Met</b>	Applicant indicated there is not room to extend the sidewalk along 12 Mile Rd due to the wetland buffer, a variance will be required.
9	Sidewalk Ramps   <a href="#">EDM 7.4</a> & <a href="#">R-28-J</a>	-	N/A	No changes proposed.
10	Any Other Comments:			

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
11	Loading zone   <a href="#">ZO 5.4</a>	-	N/A	No changes proposed. Applicant has indicated they are requesting a variance to maintain existing setup.

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
12	Trash receptacle   <a href="#">ZO 5.4.4</a>	Located in side yard on double frontage parcel	Met	Truck turning movements provided. Use will disrupt parking spaces, pickup should be scheduled outside of business hours or those spaces limited to employee use only.
13	Emergency Vehicle Access	Turning movements of new parking area provided	Met	
14	Maneuvering Lane   <a href="#">ZO 5.3.2</a>	24' and 25.3'	Met	Wider aisle could be narrowed to 24'.
15	End islands   <a href="#">ZO 5.3.12</a>			
15a	Adjacent to a travel way	15' and 10'	<b>Not Met</b>	<b>Increase radii for islands bracketing aisle to refuse pickup to 15'.</b>
15b	Internal to parking bays	Indicated	Met	
16	Parking spaces   <a href="#">ZO 5.2.12</a>			
17	Adjacent parking spaces   <a href="#">ZO 5.5.3.C.ii.i</a>	12 or less	Met	
18	Parking space length   <a href="#">ZO 5.3.2</a>	19'	Met	
19	Parking space Width   <a href="#">ZO 5.3.2</a>	9'	Met	
20	Parking space front curb height   <a href="#">ZO 5.3.2</a>	6"	Met	6" at 19' spaces
21	Accessible parking – number   <a href="#">ADA</a>	4	Met	
22	Accessible parking – size   <a href="#">ADA</a>	8' with 5' aisle	Met	
23	Number of Van-accessible space   <a href="#">ADA</a>	0	<b>Not Met</b>	<b>Existing van space appears to be removed, widen one of the aisles to 8'.</b>
24	Bicycle parking			
24a	Requirement   <a href="#">ZO 5.16.1</a>	2 spaces	Met	
24b	Location   <a href="#">ZO 5.16.1</a>	Near front door	Met	
24c	Clear path from Street   <a href="#">ZO 5.16.1</a>	5' landing to ADA aisle	<b>Not Met</b>	<b>6' path required</b>
24d	Height of rack   <a href="#">ZO 5.16.5.B</a>	Salvaged indicated	<b>Inconclusive</b>	Indicate detail of salvaged rack including height (depending on mounting)
24e	Other (Covered / Layout)   <a href="#">ZO 5.16.1</a>	None indicated	<b>Inconclusive</b>	Provide layout for reinstalling salvaged rack.
25	Sidewalk – min 5' wide   <a href="#">Master Plan</a>	7'	Met	
26	Sidewalk ramps   <a href="#">EDM 7.4</a> & <a href="#">R-28-J</a>	Ramps and landings indicated	Met	Include MDOT detail for ramps.
27	Sidewalk – distance back of curb   <a href="#">EDM 7.4</a>	No Offset	Met	All sidewalk adjacent to parking spaces, so no offset is required.
28	Cul-De-Sac   O <a href="#">Figure VIII-F</a>	N/A	-	-
29	EyeBrow   O <a href="#">Figure VIII-G</a>	N/A	-	-
30	Turnaround   <a href="#">ZO 5.10</a>	N/A	-	-

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
31	Any Other Comments:			

SIGNING AND STRIPING				
No.	Item	Proposed	Compliance	Remarks
32	Signing: Sizes   <a href="#">MMUTCD</a>	included	Met	
33	Signing table: quantities and sizes	Not included	<b>Not Met</b>	Include quantities and MMUTCD codes. ADA spaces should be marked with R7-8 signs with R7-8P placard for van accessible spaces.
34	Signs 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post   <a href="#">MMUTCD</a>	Not included	<b>Not Met</b>	
35	Signs greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post   <a href="#">MMUTCD</a>	Not included	<b>Not Met</b>	
36	Sign bottom height of 7' from final grade   <a href="#">MMUTCD</a>	6' indicated	<b>Not Met</b>	Indicated in detail.
37	Signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign   <a href="#">MMUTCD</a>	Not included	<b>Not Met</b>	
38	FHWA Standard Alphabet series used for all sign language   <a href="#">MMUTCD</a>	Not included	<b>Not Met</b>	
39	High-Intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity   <a href="#">MMUTCD</a>	Not included	<b>Not Met</b>	
40	Parking space striping notes	Partially included	<b>Partially Met</b>	Indicate that a white parking space line should be placed abutting a blue ADA parking space line.
41	The international symbol for accessibility pavement markings   ADA	Included	Met	
42	Crosswalk pavement marking detail	-	N/A	No changes proposed.
43	Any Other Comments:			

Note: Hyperlinks to the standards and Ordinances are for reference purposes only, the applicant and City of Novi to ensure referring to the latest standards and Ordinances in its entirety.

Should the City or applicant have questions regarding this review, they should contact AECOM for further clarification.

Sincerely,  
AECOM



Patricia Thompson, PE  
Traffic Engineer



Paula K. Johnson, PE  
Senior Transportation Engineer



Saumil Shah, PMP  
Project Manager

## FIRE REVIEW



April 14, 2023

TO: Barbara McBeth - City Planner  
Lindsay Bell - Plan Review Center  
Christian Carroll - Plan Review Center  
Ben Peacock – Plan Review Center  
Diana Shanahan – Planning Assistant

**CITY COUNCIL**

**Mayor**  
Bob Gatt

**Mayor Pro Tem**  
Dave Staudt

Laura Marie Casey

Hugh Crawford

Justin Fischer

Brian Smith

Ericka Thomas

**Interim City Manager**  
Victor Cardenas

**Director of Public Safety  
Chief of Police**  
Erick W. Zinser

**Fire Chief**  
Jeffery R. Johnson

**Assistant Chief of Police**  
Scott R. Baetens

**Assistant Fire Chief**  
John B. Martin

RE: Goddard School Addition

**PSP# 23-0012**

PSP# 22-(Pre-App)

**Project Description:**

Build new addition to existing building and property.

**Comments:**

- **All** fire hydrants **MUST** be installed and operational prior to any combustible material is brought on site. **IFC 2015 3312.1**
- For new buildings and existing buildings, you **MUST** comply with the International Fire Code Section 510 for Emergency Radio Coverage. This shall be completed by the time the final inspection of the fire alarm and fire suppression permits.
- A hazardous chemical survey is required to be submitted to the Planning & Community Development Department for distribution to the Fire Department at the time any Preliminary Site Plan is submitted for review and approval. Definitions of chemical types can be obtained from the Fire Department at (248) 735-5674.

**Recommendation:**

Approved

Sincerely,

Kevin S. Pierce-Fire Marshal  
City of Novi – Fire Dept.

cc: file

**Novi Public Safety Administration**  
45125 Ten Mile Road  
Novi, Michigan 48375  
248.348.7100  
248.347.0590 fax

cityofnovi.org



## FAÇADE REVIEW



April 17, 2023

City of Novi Planning Department  
 45175 W. 10 Mile Rd.  
 Novi, MI 48375-3024

**Review Status Summary:** Approved,  
Full Compliance

Re: **FACADE ORDINANCE - Facade Review**  
**Goddard School Addition, JSP22-59**  
 Façade Region: 1, Zoning District: B-3

Dear Ms. McBeth;

The following is the Façade Review for Final Site Plan Approval of the above referenced project based on the drawings prepared by Kraemer Design Group, dated 3/9/23. The percentages of materials proposed for each façade are as shown below. Materials that are in violation of the Ordinance, if any, are shown on bold.

	South (Front)	East	West	North	Façade Ordinance Section 2520 Maximum (Minimum)
Brick	30%	35%	30%	40%	30% <b>Minimum</b>
Glazed Brick	0%	4%	4%	9%	25%
Cultured Stone	22%	0%	1%	0%	50%
Cast Stone	1%	0%	0%	1%	50%
EIFS	4%	4%	6%	4%	25%
Trim	14%	7%	8%	5%	15%
Standing Seam Metal Roof	11%	2%	4%	19%	25%
Flat Metal Panels (RTU Screen)	0%	5%	5%	13%	50%
Asphalt Shingles	18%	<b>43%</b>	<b>42%</b>	9%	25%

As shown above the proposed percentage of Asphalt Shingles exceeds the maximum amount allowed by the Façade Ordinance on the east and west elevations. In this case the Asphalt Shingles are a continuation of the existing material which is specifically allowed by Section 5.15.7 of the Ordinance. Additionally, a Section 9 Waiver was granted for this deviation by the Planning Commission on 11/16/2016. Therefore, it is our recommendation that this application is in full compliance with the Façade Ordinance.

**Notes to the Applicant:**

1. Inspections – The Façade Ordinance requires inspection(s) for all projects. It is the applicant’s responsibility to request the inspection of each façade material at the appropriate time (before installation). In this case the materials should match the adjacent existing materials with respect to color and texture. Inspections may be requested using the Novi Building Department’s Online Inspection Portal with the following link. Please click on “Click here to Request an Inspection” under “Contractors”, then click “Façade”.

<http://www.cityofnovi.org/Services/CommDev/OnlineInspectionPortal.asp>.

2. It should be noted that all roof top equipment must be screened from view from all vantage points both on-site and off-site using materials in compliance with the Façade Ordinance.

If you have any questions regarding this project please do not hesitate to call.

Sincerely,  
DRN & Associates, Architects PC

A handwritten signature in black ink, appearing to read "Douglas R. Necci". The signature is fluid and cursive, with the first name being the most prominent.

Douglas R. Necci, AIA

**APPLICANT'S RESPONSE LETTER**



# Monument Engineering Group Associates, Inc.

Developing Lifelong Relationships

[monumentengineering.com](http://monumentengineering.com)

298 Veterans Drive, Fowlerville, MI 48836 (HQ)  
(517) 223-3512



• Fowlerville • Northern Michigan • Portage

September 7, 2023

**James Hill**  
**Planner**  
**City of Novi**  
**45175 W 10 Mile Rd**  
**Novi, MI 48375**

**RE: Goddard School Annex**  
**MEGA Project No. 21-284**  
**PSP Submittal Review Response Letter**

Dear Mr. Hill,

We submitted plans for Preliminary Site Plan approval on August 01, 2023. Subsequently, the a review package was received on September 5, 2023.

Please see below for a complete disposition of the comments provided. Only comments that required a response have been answered.

### **Planning – Review Letter dated 08/28/2023**

1. Outdoor Recreation Area(s) (Sec. 4.12.2.i.a): This site has an existing variance from Section 28-5(3) to allow 113.04 square feet of recreation space/child received from ZBA on December 13, 2016. Page 5 of 19 of Ordinance Amendment 18.301 revises Section 4.12.2 subsection A to provide greater flexibility in the Ordinance when it comes to the outdoor recreation area requirement. Planning Commission may now modify the requirement in size if they find it justified by the applicant. **Please provide justification for the deficiency in play area size compared to the Ordinance requirements, and the requirement may be modified by Planning Commission instead of going to the Zoning Board of Appeals.**

**The ordinance (4.12.2.i.a) requires 150 square feet (sf) of outdoor recreation area per student (number of persons cared for). The previous site plan had an approved variance for 113 sf per student.**

**The proposed site will have 16,030 sf of outdoor recreation space. The Goddard School has staggered outdoor recreation for the students and there are no more than 94 children playing outside at one time (16 toddler/infant, 48 Preschool-Pre-K, 30 Sportcourt) giving an active student to outdoor recreation ratio of 170 sf per student.**

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MEGA Project #21-284  
Goddard School Novi  
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**The total maximum number of students at the facility is 274. The request for the expanded building and site is to allow 58.5 sf of outdoor recreation per child (16,030 sf / 274 students).**

2. Parking and Landscaping Balance in Front and Exterior Side Yards (Sec. 4.12.2.ii.a) Not more than fifty (50) percent of front yard or exterior side yard setback between the minimum required parking setbacks of thirty-five (35) feet and building façade line may be used for parking. The balance of this area shall be maintained in lawn and landscaping. **Parking in the front yard setback area appears to exceed 50% of the area. Please provide the calculation for this area and the percentage of the area that consists of parking (including drive aisles). If plans cannot be changed to comply with this requirement, a variance would be needed.**

**The current area of parking in the front yard between the required setback and the building façade is 61.5% (24,741 sf parking area / 40,211 sf total area as described). We would like to request a variance for this based on the surrounding uses within the local B-3 zoning area being similarly parked, and due to not having a rear area to use for parking (with 2 frontages). The site has major constraints due to having frontage on two streets. The proposed site adheres to the characteristics of the surrounding properties.**

**In addition, the zoning section is in regards to the use of Day Care Centers, not specifically B-3 zoning which is more 'urban' than B-2 zoning from the previous language.**

**The front yard area for this facility is not intended to be utilized for any operations pertaining to the Goddard School, except for parking and for drop-off/pick-up of students. All of the operations in regards to care of the students will be to the rear (12 Mile Road side) of the building. There is no parking proposed between the 12 Mile Road façade and the parking setback. If we were to average the Front and Interior Side Yard areas for the entire site, we would be WELL below the 50% required ratio.**

3. Accessory Buildings (Sec. 4.19.1): Please address the following items regarding the proposed garage to be constructed on the existing concrete dumpster pad:
  - a. Accessory buildings shall not be erected in any required front yard or in any required exterior side yard. The proposed garage is located in a front yard since the yard is abutting 12 Mile Road. **A ZBA variance will be required to construct an accessory building in a front yard.**

**A variance request will be submitted to ZBA after planning commission approval. Due to the two frontages opposite each other on this site, the zoning ordinance does not provide for ANY location where an accessory building could be placed (not allowed in front yards or interior side yards). The proposed location is along the**

MEGA Project #21-284  
Goddard School Novi  
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**frontage with the least amount of traffic and is considered the ‘rear’ area for this facility.**

4. Sidewalks (Sec. 7.4.2 of the Engineering Design Manual): 5-foot-wide sidewalks are required along local streets, and 6-foot-wide sidewalks are required along collector or arterial streets. **ZBA variances will be required if a sidewalk cannot be installed along Grand River Road to the property line and along 12 Mile Road.** Variance requests have been submitted.

**We are extending sidewalks as far as possible without having to construct within the wetlands on Grand River and the previous Goddard construction provided sidewalk as far as could be reasonably constructed without wetland impacts on 12 Mile Road.**

**There is no connecting walk to the east (along either frontage) for hundreds of feet beyond the property line on either street. It was our understanding that these would be engineering department waivers, not ZBA variances. As stated above, the waiver requests have already been submitted to City Engineering.**

5. General layout and dimension of proposed physical improvements: **Please provide a detail of the wetland retaining wall proposed on the eastern portion of the property.**

**The wall is intended to be design-build with the General Contractor obtaining building permits. Contractor is proposing modular block to match the wall used on the west side of the site. We have attached the detail that was on the previously approved site plan in 2016 for Goddard School.**

6. Signage: For sign permit information please contact Maureen Underhill at 248-347-0438 or [munderhill@cityofnovi.org](mailto:munderhill@cityofnovi.org) in the Code Compliance Division for more information.

**There are no proposed business signing changes.**

7. Planning Chart: Please refer to the attached Planning Chart for additional comments to address in the next submittal. **(It appears that only one comment in the table other than what is provided above required a response)**

Min. Illumination (sec 5.7.3.k): Please provide foot-candle measurements for infrequent building entrances.

**Foot candle measurements will be added to the photometrics plan for all building entrances. If required, light levels will be adjusted to meet the 0.2 fc minimum.**

**Landscaping – Review Letter dated 08/30/2023**

**General**

- Lack of street trees along 12 Mile Road – supported by staff if a boardwalk is used as sidewalk, not supported if that section of wetland is filled to build the sidewalk.

**No new sidewalk or boardwalk is being proposed along 12 Mile Road (waiver request has been submitted to City Engineering). There is currently no sidewalk along the south side of 12 Mile Road from the Goddard School property all the way to the end at the cul-de-sac behind Home Depot. Constructing sidewalk would require significant wetland fill, and constructing a boardwalk would result in a dead end boardwalk with very little likelihood of being extended. Waiver request has been submitted to City Engineering.**

- Deficiency in foundation landscaping – *not supported by staff.*

**We propose to widen the landscape area in front of the building by 2’ by narrowing the front parking bay from 19’ to 17’, which is allowed by City ordinance along the 4” curbed walk which is being proposed. This will provide sufficient landscape area along the front of the building. Foundation landscaping areas will be labeled on the final Landscaping plan.**

**Having to provide an 8’ wide Foundation Landscaping strip along the east side of the building would significantly impact the height of the retaining wall along the wetland. If we were to push the sidewalk adjacent to the building out to provide an average of 8’ of landscaping along the building, that would cause the wall to raise an average of 2 feet along the entire length, as we would still need to provide an accessible route to that sidewalk.**

**We have are currently providing a 4’ landscaping strip along the east edge of the sidewalk adjacent to the east side of the building. Also, there is a significant lawn area with trees proposed east of that. The parcel immediately east of the Goddard School property is a wetland so the east side of the building is not visible to the east, and the required front landscaping buffer will screen this side of the building from Grand River.**

- Parking Lot Landscaping  
Please replace the evergreen tree at the north end of the new lot with a deciduous canopy tree.

**The evergreen tree will be replaced with a canopy tree as requested.**

- Building foundation Landscaping (Zoning Sec 5.5.3.D)

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1. A landscape waiver is requested for the apparent deficiency in foundation landscaping. That waiver is not supported by staff as there is sufficient area to provide the required landscaping around the outside of the play area fences, as has been done by other day care centers in the city.
2. **Please add additional landscaping and label the areas provided (for the new addition).**

**See above for the modification of our waiver request.**

- Irrigation (LDM 10)

**All permanent landscaping and lawn areas will be fully irrigated, with the expansion of the existing automatic lawn sprinkler system.**

**The proposed natural buffer area between the retaining wall and the wetland will not be permanently irrigated, but the contractor will provide temporary irrigation attached to the buildings exterior hose bib until the vegetation in the buffer area is established. This vegetation is proposed to be native species that will be hardy without the need for irrigation.**

**City of Novi Engineering – Review Letter dated 04/19/2023**

**Note: This is the same letter provided in the prior review. Our responses to that letter in our prior resubmittal have been included below.**

The Preliminary Site Plan meets the general requirements of the design and construction standards as set forth in Chapter 11 of the City of Novi Codified Ordinance, the Storm Water Management Ordinance and the Engineering Design Manual with the following items that must be addressed at the time of Final Site Plan submittal (further engineering detail will be required at the time of the final site plan submittal):

**General**

1. A full engineering review was not performed due to the limited information provided in this submittal. Further information related to the utilities, easements, etc. will be required to provide a more detailed review.

**Acknowledged.**

2. Only at the time of the printed Stamping Set submittal, provide the City's standard detail sheets for water main (5 sheets), sanitary sewer (3 sheets), storm sewer (2 sheets), paving (2 sheets) and Boardwalks/Pathways (1 sheet). The most updated details can be found on the City's website at this location: <https://cityofnovi.org/services/public-works/engineering-division/engineering-standards> and-construction-details

**The City standard detail sheets will be added to the stamping sets.**

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3. A right-of-way permit will be required from the City of Novi and Road Commission for Oakland County for any work done in Twelve Mile Road, and Grand River Avenue Right-of-Way.

**Noted. A right-of-way way permit will be submitted to the City and RCOC for the grading east of the drive.**

4. A letter from either the applicant or the applicant's engineer must be submitted with the Final Site Plan submittal highlighting the changes made to the plans and addressing each of the comments in this review.

**Acknowledged.**

5. The proposed pedestrian pathway along Grand River shall extend along the entire frontage to the eastern property line.

**A variance has been submitted for the additional sidewalk length not proposed.**

6. A pedestrian pathway is required along the 12 Mile Road frontage. The ordinance allows for an administrative variance when there are no existing pathways within 300-feet of the property if the applicant provides payment to the City equal to the cost of the pathway (as approved by the City Engineer) for City use to construct pathways elsewhere in the City. The applicant should provide a letter making this request or construct the sidewalk along the frontage as required.

**An administrative variance is being requested.**

7. Make sure you apply for a Variance for lack of sidewalk along 12 Mile Road.

**An administrative variance is being requested.**

8. If applicable, show the locations of all light poles on the plan and indicate the typical foundation depth for the pole to verify that no conflicts with utilities will occur. Light poles in a utility easement will require a License Agreement.

**The proposed light pole locations and foundation detail have been added to C-3.0, the utility plan, the existing light pole locations are already shown on sheet C-3.0. No light poles are proposed within utility easements or above existing or proposed utilities.**

9. Irrigation plans were reviewed separately by the water and sewer division. See the attached review letter.



**Noted.**

10. Generally, all proposed trees shall remain outside utility easements. Where proposed trees are required within a utility easement, the trees shall maintain a minimum 5-foot horizontal separation distance from any existing or proposed utility. All utilities shall be shown on the landscape plan, or other appropriate sheet, to confirm the separation distance.

**The utility plan has been coordinated with the Landscape Architect to ensure all proposed trees are outside of utility easements.**

**Water Main**

1. Individual shutoff valves for interior fire protection shall be by post indicator valve (P.I.V.) or by valve in well and shall be provided within a public water main easement.

**The proposed addition will be served for fire protection through the existing lead. The existing lead already has a shut off valve at the water main.**

**Sanitary Sewer**

1. Provide a sanitary sewer basis of design for the development on the utility plan sheet. (Calculations should use peaking factor of 4.0 and 3.2 REU).

**Sanitary sewer basis of design calculations have been added to sheet C-3.1.**

2. Provide a note on the Utility Plan stating the sanitary leads will be buried at least 5 feet deep where under the influence of pavement.

**The Following Note has been added to sheet C-3.0, "Sanitary leads will be buried at least 5 feet deep where under the influence of pavement."**

**Storm Sewer**

1. A minimum cover depth of 3 feet shall be maintained over all proposed storm sewer. In situations where the minimum cover cannot be achieved, Class V pipe must be used with an absolute minimum cover depth of 2 feet. An explanation shall be provided where the cover depth cannot be provided.

**Cover depth of 3 ft cannot be provided at CB-1. Class V pipe is now proposed and a cover depth of 2ft is achieved. 3ft cover cannot be achieved due to the elevation at the location of CB-1 and the elevation of the permanent pool.**

2. The length of the 12-inch pipe and the slopes on the profile do not match the numbers in the storm pipe calculation table. For example, the 12-inch pipe between structures CB-1 and MH-2 does not meet the minimum slope of 0.32%.

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**All pipes meet the minimum slope requirement, and the plan information matches the storm pipe calculation table.**

3. Provide a 0.1-foot drop in the downstream invert of all storm structures where a change in direction of 30 degrees or greater occurs.

**A 0.1-foot drop has been added to the pipes downstream of MH-2 and MH-5.**

4. Manhole structures should not have a sump.

**The sump has been removed from all manhole structures.**

5. Label the 10-year HGL on the storm sewer profiles and ensure the HGL remains at least 1-foot below the rim of each structure.

**The 10-year HGL has been added to the storm profiles on sheet C-3.1.**

6. Provide a schedule listing the casting type, rim elevation, diameter, and invert sizes/elevations for each proposed, adjusted, or modified storm structure on the utility plan. Round castings shall be provided on all catch basins except curb inlet structures.

**A schedule for storm structures has been added to Sheet C-3.0.**

#### **Storm Water Management Plan**

1. Provide drainage area and runoff coefficient calculations specific to the area tributary to each structure (also include the area between the retaining wall and the proposed development. The treated flow rate should be based on the 1-year storm event intensity (~1.6 In/Hr.), resulting in a flow rate of approximately TBD CFS. Higher flows shall be bypassed.

**The Intensity has been modified to be 1.6 in/hr. The drainage area between the development and the retaining wall is now shown on sheet C-9.1 as a drainage area.**

2. Provide an updated Storm Drainage Facility Maintenance Easement Agreement to include the proposed site expansion.

**A SWM Maintenance Agreement has been drafted and will be submitted to the City prior to SESC permit application submission.**

3. A 4-foot-wide safety shelf is required one foot below the permanent water surface elevation within the basin.

**A 6ft Permanent shelf is already included in the basin design. On the east (proposed) side of the detention pond, the shelf has been added.**

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4. A 25-foot vegetated buffer shall be provided around the perimeter of the storm water basin where impervious area is directed to the basin via surface flow.

**The playground areas runoff into the basin and currently only have a 10.5' buffer. We will not be able to get the required storage volume if we widen the buffer along the north edge of the site to 25 feet. We contacted Adam Yako and he confirmed that a 25-ft buffer is unnecessary in this case.**

5. One foot of freeboard shall be provided above the proposed high-water level.

**The Freeboard elevation is 967.89. A polygon has been added to sheet C-9.1 to depict the elevation.**

6. Provide the cross-section of the detention basin, and include all elevations for the standpipe, the free board elevation...etc. (revise the outlet control structure details on sheet C-9.3 to reflect the proposed items)

**The detail on sheet C-9.2 has been updated to show the freeboard elevation.**

#### **Paving and Grading**

1. All non-conforming standard details should be removed and replaced with City of Novi standard details.

**City of Novi standard paving details will be added after sheets C-11.0. The dumpster pad cross section and the sidewalk have been removed from sheet C-1.0.**

2. Provide a construction materials table on the Paving Plan listing the quantity and material type for each pavement cross-section being proposed.

**A pavement Schedule has been added to sheet C-1.0.**

3. Permits for the construction of each retaining wall exceeding 48 inches in height (measured from bottom of the footing to top of the wall) must be obtained from the Community Development Department (248-347-0415).

**The Building Permit will be submitted by either the Architect or the retaining wall design engineer.**

#### **Soil Erosion and Sedimentation Control**

4. A SESC permit is required. A full review has not been completed at this time. The review checklist detailing all SESC requirements is attached to this letter. Please address the comments below and submit a SESC permit application under separate cover. The

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Review Response Letter

application can be found on the City's website at <http://cityofnovi.org/Reference/Forms-and-Permits.aspx>.

**A SESC Permit has been drafted and will be submitted before construction.**

**AECOM—Review Letter dated 04/17/2023**

**Note: This is the same letter provided in the prior review. Our responses to that letter in our prior resubmittal have been included below.**

1. Applicant indicated there is not room to extend the sidewalk along 12 Mile Rd due to the wetland buffer, a variance will be required.

**Variance application form has been submitted.**

2. Increase radii for islands bracketing aisle to refuse pickup to 15'.

**The Radii for these islands have been increased see sheet C-1.0.**

3. Existing van space appears to be removed, widen one of the aisles to 8'.

**Aisle to the east of the main entrance has been widened to 8' see sheet C-1.0 for dimension.**

4. 6' path to bike rack required

**Path to bike rack is now 6' wide see sheet C-1.0 for dimension.**

5. Include detail of salvaged rack including height.

**A detail has been added to sheet C-1.1.**

6. Provide layout for reinstalling salvaged rack.

**The closest Land Use for this facility is a day care center. Minimum spaces listed in table 5.16.1 is two (2) spaces. The existing (salvaged and reinstalled) "U" shaped bicycle rack satisfies this requirement.**

**Signage**

1. Include quantities and MMUTCD codes. ADA spaces should be marked with R7-8 signs with R7-8P placard for van accessible spaces.

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**Added Notes on C-1.0 indicating ADA space signs shall be R-7-8 and R7-8P for van accessible spaces.**

2. Signs 12' x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post.

**MMUTCD standards do not apply to signs outside of the ROW. The proposed square or circular steel post proposed is stronger than a U-channel post.**

3. Signs 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post.

**MMUTCD standards do not apply to signs outside of the ROW. The proposed square or circular steel post is equivalent to or stronger than a U-channel post.**

4. Sign bottom Height of 7' from final grade.

**ADA states that parking signs shall be 60 inches minimum above grade, measured to the bottom of the sign. The ADA signs are not in a pedestrian area (setback from the sidewalk) and the 6' mounting height is closer to eye level providing greater visibility.**

5. Signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign.

**Signs have been adjusted to be 2' away from the back of walk. A Dimension has been added to sheet C-1.0.**

6. FHWA Standard Alphabet series used for all sign language.

**Added Note, "FHWA standard alphabet series must be used for all sign language." To sheet C-1.0.**

7. High-intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity.

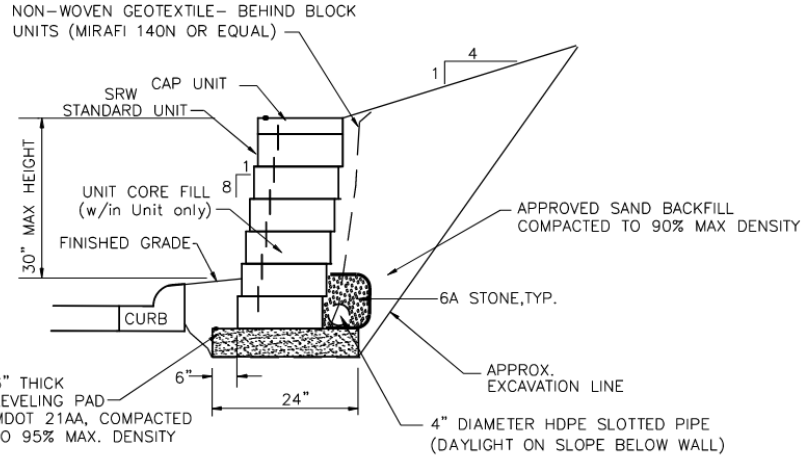
**Added Note, "High-intensity prismatic (hip) sheeting must be used for all signs." To sheet C-1.0**

8. Indicate that a white parking space line should be placed abutting a blue ADA parking space line.

**Added note to sheet C-1.0, "For ADA spaces that are adjacent to regular spaces stripe using both white and blue 4" wide stripes."**



NOTE: EXACT COLOR TO BE CHOSEN BY OWNER. CONTRACTOR TO PROVIDE MASONRY SAMPLES.



**SEGMENTAL BLOCK RETAINING WALL DETAIL**

NOT TO SCALE

DETAIL FROM PAGE C-6.2 OF PREVIOUSLY APPROVED AND CONSTRUCTED PLANS FOR GODDARD SCHOOL, DATED 06/29/2016