



Carlisle | Wortman
ASSOCIATES, INC.

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

TO: Augusta Township Planning Commission

FROM: Laura K. Kreps, AICP, Township Planner

DATE: December 8, 2021

RE: Planning Commission Agenda Packet for December 15, 2021 Regular Meeting

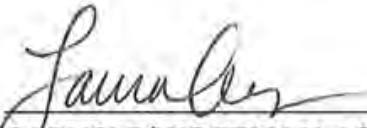
Please find a summary of the business item on this month's Planning Commission agenda below. ***Hard copies of this material will be provided via UPS.***

- a. **SP 21-01 – Dollar General, T-20-01-395-005, Final Site Plan Review** – Dollar General is seeking final site plan approval for the construction of a 9,100 square foot retail store and associated site improvements. Our review has been updated based on the revised plan submitted since the November Planning Commission meeting. All outstanding planning issues have been addressed.
- b. **SLU 21-01 Railsplitter #2 – Special Land Use - Multiple Properties.** An application has been received for a special land use for large-scale solar project north of Arkona, south of Talladay, east of Sanford and west of Gooding encompassing thirteen (13) parcels and 478 acres of land. A pre-application conference was conducted at the April 2021 Planning Commission meeting. A public hearing was conducted at the September 2021 Planning Commission meeting.

Since that time, a subcommittee has met with Ranger representatives and drafted two (2) resolutions for Planning Commission consideration. One resolution approves the special land use of the large-scale solar facility with conditions (outlined in the Resolution document). The other resolution outlines the findings of fact to deny the large-scale solar facility. These resolutions are meant to be examples for the Planning Commission to work from in your deliberation of the special land use.

- c. **SP21-03, Railsplitter #2 – Preliminary Site Plan - Multiple Properties.** In addition to special land use approval, the applicant is seeking simultaneous review of the preliminary site plan for the Railsplitter #2 project. Approval of the preliminary site plan is conditioned upon receiving special land use approval and is being conducted at the applicant's risk.

As always, please feel free to contact me directly with any questions prior to the meeting.


CARLISLE/WORTMAN ASSOC., INC.
Laura K. Kreps, AICP
Senior Associate

cc: Township Supervisor
Township Clerk
OHM, Township Engineer

AGENDA
Augusta Charter Township
Regular Planning Commission Meeting

Township Hall
December 15, 2021
6:30 PM

- 1. Call to Order**
- 2. Pledge of Allegiance**
- 3. Roll Call and Recognition of Visitors** –Yurk, Buxton, Woolf, Hall, Spence, Hurd, Rawlins
- 4. Approval of Agenda**
- 5. Approval of Minutes**
 - a. Planning Commission Meeting Minutes from November17, 2021 Regular Meeting
- 6. Public Hearings**
 - a. **None**
- 7. Business Items**
 - a. **SP 21-01, Dollar General, T-20-01-395-005**, Final Site Plan Review.
 - b. **SLU 21-01, Railsplitter #2, Special Land Use**, Large-Scale Solar Facility, north of Arkona, south of Talladay, east of Sanford, west of Gooding. T-20-19-400-001; T-20-19-400-002; 5655 Willow Road (T-20-30-100-002); 5760 Willow Road (T-20-30-100-003); T-20-30-100-004; 12439 McCrone Road (T-20-30-100-005); T-20-30-200-004; T-20-30-200-008; T-20-30-200-012; T-20-30-400-006; T-20-19-300-003; T-20-30-200-009; 12182 McCrone Road (T-20-30-200-010).
 - c. **SP 21-03, Railsplitter #2, Preliminary Site Plan** – Large-Scale Solar Facility
- 8. Public Comment**
- 9. Communications**
- 10. Adjournment**

Meeting Minutes
Augusta Charter Township
Regular Planning Commission Meeting
Township Hall
Wednesday, November 17, 2021
6:30 PM

1. Call to Order

The meeting was called to order by Vice Chair Woolf at 6:30 PM.

2. Pledge of Allegiance

Vice Chair Woolf led Pledge.

3. Roll Call and Recognition of Visitors.

In Attendance: Janet Buxton, David Hall, Linda Spence, Dan Woolf, Paul Rawlins. Absent: Shelly Hurd, Robert Yurk. Also attending were Planner Kreps and Engineer Bayley.

4. Approval of Agenda

Vice Chair Woolf requested two items be added to Agenda after #6 as #7. Introduction of new Commissioner Paul Rawlins and # 8. Election of a Secretary with remainder renumbered as 9-12. Vice Chair Woolf then made the motion to approve the amended Agenda, support by Spence. Motion carried unanimously.

5. Approval of Minutes

Hall made motion to approve minutes from October 20, 2021 Planning Commission Meeting, Support by Spence. Motion carried unanimously.

6. Public Hearings – None

7. Introduction to New Commissioner

Commissioner Paul Rawlins introduced himself.

8. Election of Secretary

Commissioner Spence volunteered for position of Secretary. Motion to elect Spence Secretary by Spence supported by Hall. Motion carried unanimously.

9. Business Items

- a. **PA 21-01 – Selter, T-20-10-400-010** – Recommendation on allowing applicant a 10-year abatement through the Michigan Department of Natural Resources Farmland and Open Space Preservation Program.

Motion to approve made by Hall, supported by Spence. Motion carried unanimously.

The Applicant was not present.

b. SP 21-01, Dollar General, T-20-01-395-005, Final Site Plan Review.

Commission discussed concerns about final site plan (screening, landscaping maintenance, fence, driveway). A motion to postpone by Spence supported by Hall, motion carried unanimously. The Petitioner was not present.

c. Master Plan Discussion

Planner Kreps informed commission that the sub-committee for updating the Master Plan had met and is moving forward with an expected completion by end of next year.

10. Public Comment

Some residents voiced concern and opposition to Dollar General.

Alisa Soos – Potterville Dr.

Mary Lula - Willis Rd.

Tammie Keen - Willis Rd.

Mike King - Willis Rd.

Dale-Lin Mallonen – Judd Rd.

Cath Howard – Willow Rd.

Billie-Jo Stears - Potterville Dr.

11. Communications

David Hall reported no communication.

12. Adjournment

Hall motioned to close the meeting and Buxton supported. Motion carried unanimously. Meeting was closed at 7:35 PM



TORGERSON
DESIGN PARTNERS
ARCHITECTURE / REAL ESTATE / DEVELOPMENT

To: Heather Rowland

Company: Augusta Charter Township
8021 Talladay Rd
Whittaker, MI 48191

Date: November 24th, 2021

PN: 20264 DGAM

Project: Dollar General - Augusta, MI (Willis)

Subject: **Site Plan Review Responses**

Comment Responses:

In addition to the 11/04 comment responses, below are the responses to the new 11/18 comments:

1. *Washtenaw County Road Commission approval is obtained. -*

Overland Engineering Response: Gary Streight will be contacting the Township soon and we will forward the WCRC permit when received.

2. *Maximum light pole height is indicated on your response to be 22.5-feet total height. This will need to be reduced to 20 feet which is the maximum light pole height allowed.*

Overland Engineering Response: See Revised Sheet E5 and new E7, E8, E9, E10 for Lighting Specs.

3. *The Planning Commission requested a vinyl fence along the east property line as opposed to the wood fence during preliminary site plan. Wood fencing still shown.*

Overland Engineering Response: Sheets C1, C4 and C5 have been revised to show the Vinyl fence as noted.

4. *There is an additional house bordering the site along the east property requiring extension of the fence and landscape screening further north along the east property line.*

Overland Engineering Response: Additional fence and landscape screening has been added to Sheet C1 and C5 as noted.

Jordan Ryan – Architectural Project Coordinator

Date: November 24, 2021



+1 (417) 581-8889



116 N. 2nd Avenue Ozark, MO
65721

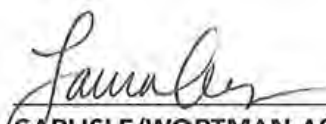


www.tdp-
arch.com

RECOMMENDATIONS

We recommend approval of the preliminary site plan with the following items to be addressed during final site plan review:

1. Provide Washtenaw County Road Commission approval.
-Gary Streight at WCRC is finalizing the permit and should be in contact soon.
2. Provide 18 additional general site landscaping trees.
-Revised as noted, see Sheet C5.
3. Provide height of pole-mounted fixtures.
-See revised Sheet E5, Total height is 22.5'
4. Provide detail of all proposed light fixtures.
-See revised Sheet E5 fixture schedule & Product Line catalog for detail.
5. Demonstrate location of freestanding sign in relation to Willis Road future right-of-way.
-Dimensions have added to Sheet C1
6. Reduce size of freestanding sign to 32 square feet.
-Dimensions have added to Sheet C1 and the signage plan has been revised.
7. Provide detail of sign base and overall sign height (maximum 6 feet).
-Please see sheet A7.1. Sign base details & overall sign height added.
8. Reduce size of wall sign to 60 square feet.
-Please see sheet A7.1. Wall sign revised to meet 60s.f. max requirement.
9. Sign permits must be submitted for review and approval by the Township Zoning Administrator. -Understood. All signage to be submitted for review/permitted by installer.
10. Verify material proposed as "21" – window/glazing and level of transparency.
-Note 21 was a holdover note regarding eyebolts for attachment of temporary signage).
It has now been deleted from Sheet A2.1.
11. Planning Commission to review/approve façade colors and systems during final site plan. -Understood. All facade colors and systems to be reviewed/approved during final site plan review.



CARLISLE/WORTMAN ASSOC., INC.
Laura K. Kreps, AICP
Senior Associate

#144-2100

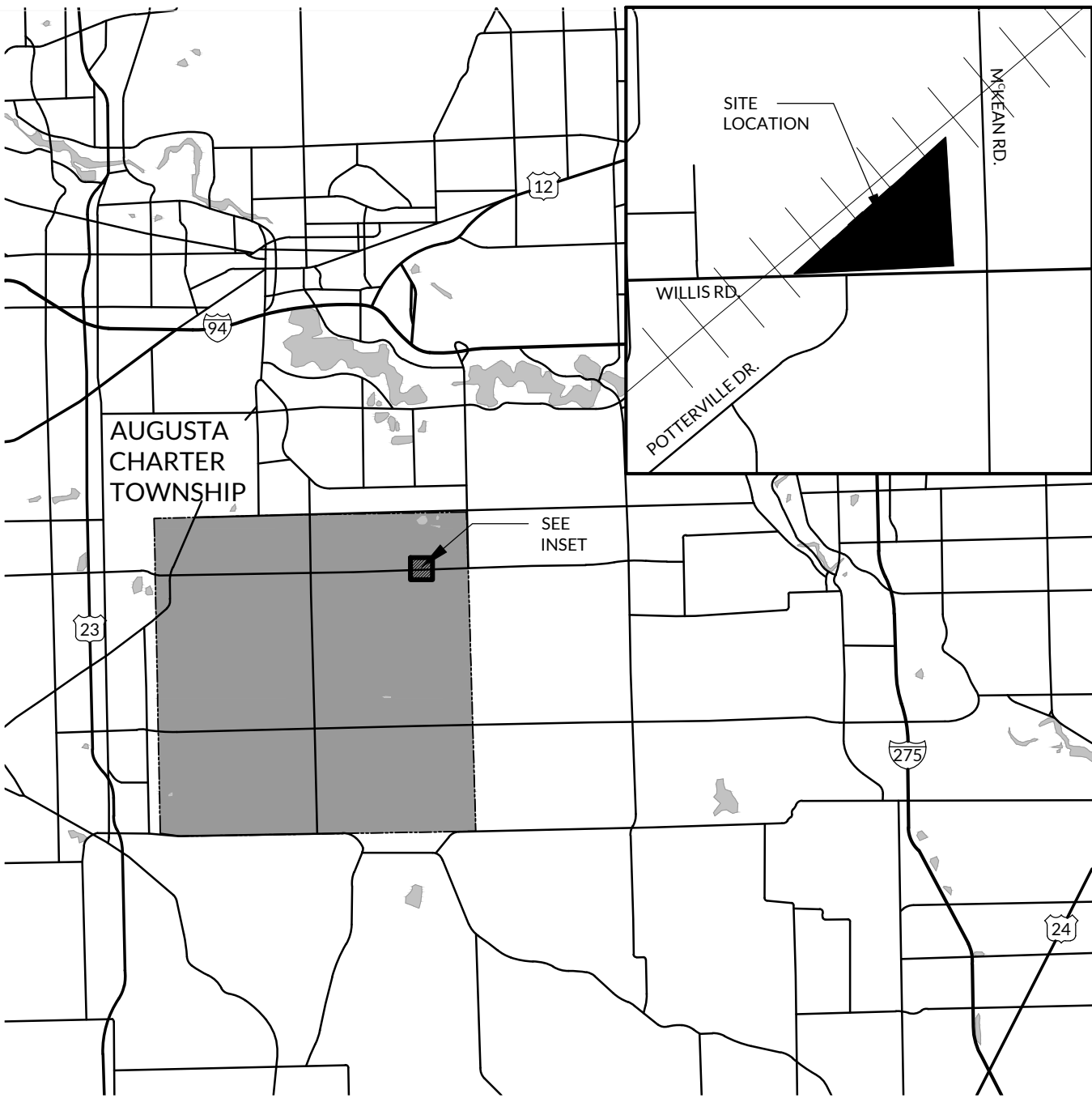
cc: Rodney Parrott via rodney@overlandeng.com

DOLLAR GENERAL STORE #22731
AUGUSTA, MICHIGAN
10467 WILLIS ROAD

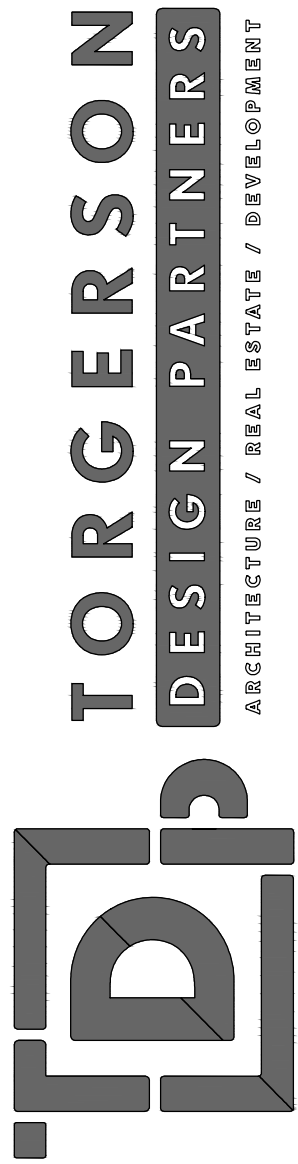
20264 • DGAM

APRIL 01, 2021

PERMIT SET



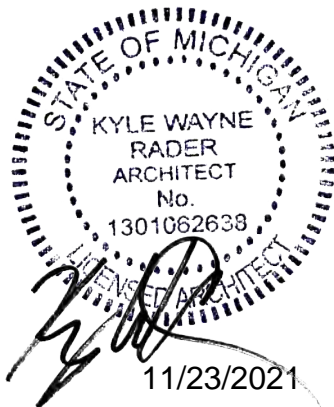
SITE LOCATOR



116 NORTH 2ND AVENUE • OZARK, MO 65721 • P (417) 581-8889 • F (417) 581-9002

DOLLAR GENERAL

STORE #22731 • PROTOTYPE "C"
AUGUSTA, MICHIGAN
WILLIS ROAD & POTTERVILLE DRIVE
AUGUSTA, WASHTENAW COUNTY, MICHIGAN 48191



ARCHITECT OF RECORD:
KYLE W. RADER
ARCHITECTURAL LICENSE #: 1301062638

PROJECT NUMBER:
20264 • DGAM

REVISION:
REV001 SEPTEMBER 23, 2021
REV002 OCTOBER 08, 2021
REV003 NOVEMBER 23, 2021

A0.0
COVER
SHEET

DATE: APRIL 01, 2020

COVER		M.E.P.	
A0.0 COVER SHEET		SU1 SITE UTILITY PLAN	
CIVIL		SU2 SITE UTILITY SPECIFICATIONS & DETAILS	
-- LAND TITLE SURVEY			
C1 SITE PLAN		M1 MECHANICAL PLAN	
C2 GRADING PLAN		M2 MECHANICAL SCHEDULES & DETAILS	
C2.1 ENTRANCE PLAN & PROFILE		M3 MECHANICAL SPECIFICATIONS	
C3 SEDIMENTATION & EROSION CONTROL PLAN			
C3.1 SEDIMENTATION & EROSION CONTROL DETAILS		E1 POWER PLAN	
C4 MISCELLANEOUS DETAILS		E2 LIGHTING PLAN	
C5 LANDSCAPE PLAN		E3 ELECTRICAL DETAILS	
C5.1 LANDSCAPE DETAILS		E4 ELECTRICAL SCHEDULES & DETAILS	
C6 LANDSCAPE EXTENSION PLAN		E5 SITE LIGHTING & POWER PLAN	
C6.1 WATER EXTENSION PLAN		E6 ELECTRICAL SPECIFICATIONS	
C6.2 WATER EXTENSION DETAILS		E7 EXTERIOR LIGHTING SPECIFICATIONS	
STRUCTURAL		E8 EXTERIOR LIGHTING SPECIFICATIONS	
S1.1 ROOF PLAN & NOTES		E9 EXTERIOR LIGHTING SPECIFICATIONS	
S1.2 GENERAL NOTES		E10 INTERIOR LIGHTING SPECIFICATIONS	
S1.3 PLANS & NOTES			
S1.4 FOUNDATION PLAN & DETAILS		EMS1 EMS-LOW VOLTAGE PLAN	
ARCHITECTURAL		EMS2 EMS DETAILS	
A0.1 LIFE SAFETY PLAN		EMS3 EMS DETAILS	
A1.0 GENERAL NOTES		EMS4 EMS DETAILS	
A1.1 FLOOR PLAN & DETAILS		EMS5 EMS DETAILS	
A2.1 EXTERIOR ELEVATIONS		EMS6 EMS DETAILS	
A3.1 SECTIONS & DETAILS		EMS7 EMS DETAILS	
A4.1 FINISH SCHEDULE & ELEVATIONS		EMS8 EMS DETAILS	
A5.1 DOOR SCHEDULE & DETAILS		EMS9 EMS DETAILS	
A6.1 ENLARGED FLOOR PLAN & DETAILS			
A7.1 SIGNAGE & SIGNAGE BRACING DETAILS		P1 WASTE PIPING PLAN	
A8.1 REFLECTED CEILING PLAN & DETAILS		P2 WATER & GAS PIPING PLAN	
		P3 PLUMBING SCHEDULES & DETAILS	
		P4 PLUMBING SPECIFICATIONS	

ADOPTED CODES:	2015 MICHIGAN BUILDING CODE (MBC) 2015 MICHIGAN FIRE CODE (MFC) 2015 MICHIGAN MECHANICAL CODE 2015 MICHIGAN PLUMBING CODE 2017 NFPA 70 NATIONAL ELECTRIC CODE (NEC) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN 2015 MICHIGAN ENERGY CODE
CURRENT ZONING:	GENERAL COMMERCIAL
USE GROUP:	NON-SEPARATED MIXED USE - "M" MERCANTILE & "S-1" MODERATE HAZARD STORAGE
BUILDING AREA:	TOTAL SQUARE FOOTAGE: 9,225 S.F. TOTAL LEASABLE AREA: 9,225 S.F. OVERALL BUILDING DIMENSIONS: 70'-2" x 130'-0" SALES FLOOR DIMENSIONS: 68'-0" MIN. (FROM FACE OF COLUMNS) x 107'-4" MIN.
ALLOWABLE AREA:	SALES AREA: 7,260 S.F. RECEIVING AREA: 984 S.F. OFFICE AREA: 72 S.F. BREAK ROOM: 72 S.F. MEN'S RESTROOM: 72 S.F. WOMEN'S RESTROOM: 72 S.F. HALLWAY: 99 S.F. VESTIBULE: 181 S.F. TOTAL NET AREA: 8,812 S.F.
BUILDING HEIGHT:	PER IBC TABLE 506.2: II-B (MERCANTILE "M") = 12,500 S.F. AREA OF BUILDING ON SITE = 9,225 S.F.
CONSTRUCTION TYPE:	PER IBC TABLE 504.3: II-B (MERCANTILE "M") = 55'-0" HEIGHT OF BUILDING ON SITE = 18'-6" TO TOP OF PARAPET
OCCUPANT LOAD:	TYPE II-B CALCULATED PER IBC TABLE 1004.5 = 130 OCCUPANTS (REFER TO SHEET A0.1)
EXITS:	REQUIRED PER IBC SECTION 1006: MINIMUM: 2 EXITS - ACTUAL: 3 EXITS
EXIT WIDTHS:	STAIRWAYS: N/A OTHER EGRESS COMPONENTS: 0.2' PER OCCUPANT
TRAVEL DISTANCES:	REQUIRED PER IBC TABLE 1017.2: MAXIMUM ALLOWED: 200'-0" - ACTUAL: 109'-0"

CIVIL ENGINEER:

Overland
ENGINEERING, LLC
1598 IMPERIAL CTR., STE. 2009 WEST PLAINS, MO 65775
PHONE: (417) 256-8150 FAX: (417) 256-8152

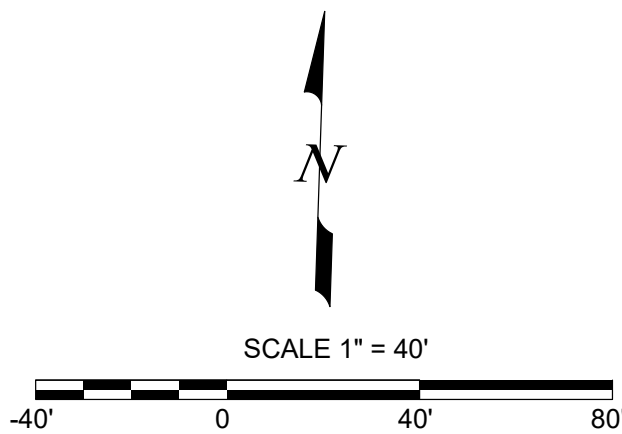
STRUCTURAL ENGINEER:

BENJAMIN C. JENNINGS, P.E.
3045 S. KANSAS EXPRESSWAY
SPRINGFIELD, MO 65807
(417) 798-9315

M.E.P. ENGINEER:

DANIEL L. MARTIN, P.E.
P.O. BOX 10252
SPRINGFIELD, MO 65808
(417) 883-4056

CONSTRUCTION PLANS FOR:
DOLLAR GENERAL STORE
10467 WILLIS RD.
WILLIS, MICHIGAN



DEVELOPMENT GROUP

OWNER/ DEVELOPER:
DGOGWILLISMI082820, LLC
1598 IMPERIAL CENTER, SUITE 2001
WEST PLAINS, MO 65775
417-256-4790

ARCHITECT:
TORGERSON DESIGN PARTNERS
116 N 2ND AVE
OZARK, MO 65721
417-581-8889

ENGINEER:
OVERLAND ENGINEERING, LLC
1598 IMPERIAL CENTER, SUITE 2009
WEST PLAINS, MO 65775
417-256-8150

PERMIT & UTILITY CONTACTS:

GOVERNING MUNICIPALITY
AUGUSTA CHARTER TOWNSHIP
PO BOX 100
8021 TALLADAY RD
WHITTAKER, MI 48191
734-461-6117

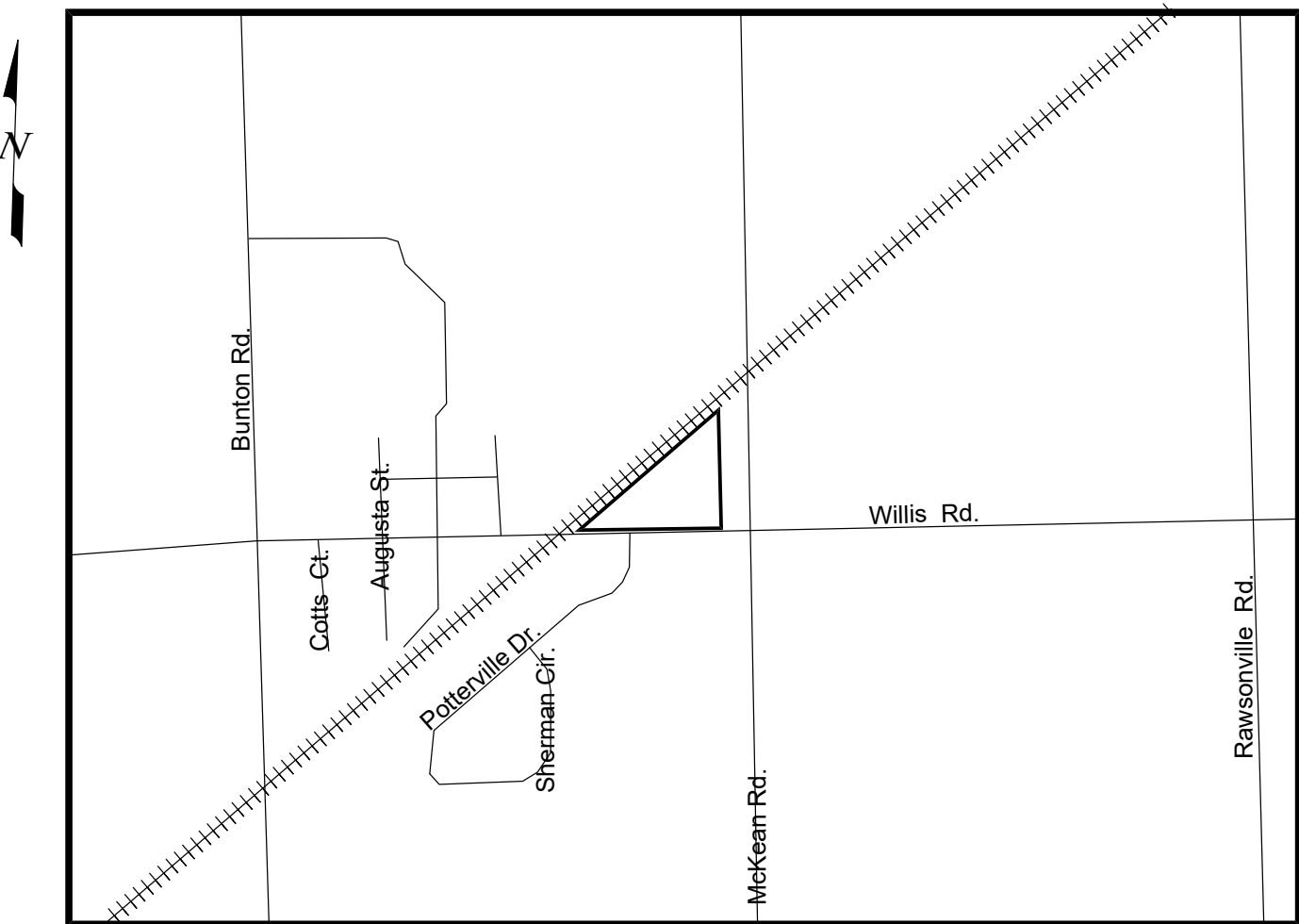
DRAINAGE & SOIL EROSION CONTROL
WASHTENAW COUNTY WATER RESOURCES
705 N. ZEEB RD.
PO BOX 8645
ANN ARBOR, MI 48107
734-222-6815

ROAD WORK & DRIVEWAY
WASHTENAW COUNTY ROAD COMMISSION
555 N. ZEEB ROAD
ANN ARBOR, MICHIGAN 48107
734-761-1500

TELEPHONE SERVICE
AT&T
54 N. MILL ST.
4TH FLOOR
PONTIAC, MI 48342
TEL 248-456-8256

GAS & ELECTRIC SERVICE
DTE ENERGY
ONE ENERGY PLAZA
DETROIT, MI 48226
TEL 313-235-5111

WATER AND SEWER SERVICES
AUGUSTA CHARTER TOWNSHIP
P.O. BOX 100
WHITTAKER, MI 48190
TEL 734-461-6117



VICINITY MAP
1:1000'

PPROJECT DESCRIPTION

THIS PROJECT IS A PROPOSED DOLLAR GENERAL RETAIL STORE AND ASSOCIATED PARKING LOT. THE PROPERTY IS CURRENTLY UNDEVELOPED AND IS THE ON THE NORTH SIDE OF WILLIS ROAD IN AUGUSTA TOWNSHIP.

PARCEL DESCRIPTION

CHICAGO TITLE INSURANCE COMPANY, COMMITMENT NO. 811120006NTS, DATED 06-29-20

Land situated in the Township of Augusta, County of Washtenaw, State of Michigan, described as follows:

Commencing at the South 1/4 post of Section; thence N.89°-43'W., 170.00 feet in the South line of Section for a place of beginning; thence North, 641.14 feet, parallel to the North and South 1/4 line, to the Southeasterly line of Wabash Railroad; thence Southwesterly in the Southeasterly line of Railroad to the South line of Section; thence S.89°-43'E., 754.00 feet in the South line of Section to the place of beginning; being part of the East 1/2 of the Southwest 1/4 of Section 1, T.4 S.-R.7 E., Augusta Township, Washtenaw County, Michigan.

AS SURVEYED METES AND BOUNDS LEGAL DESCRIPTION:

A parcel of land in the Southwest 1/4 of Fractional Section 1, T.4 S.-R.7 E., Augusta Township, Washtenaw County, Michigan, described as follows: Beginning at a point on the South line of said Section 1, which is 170.00 feet, S.88°-15'-03"W., of the South 1/4 Corner of said Section; thence N.02°-02'-42"W., parallel with the North and South 1/4 line of said Section, 641.02 feet to the Southeasterly right of way line of Wabash Railroad; thence S.49°-17'-39"W., on said Southeasterly right of way line, 1019.54 feet to said South line; thence N.88°-15'-03"E., on said South line, 796.12 feet to the point of beginning, containing 5.86 acres of land, subject to highway use of the South 33.00 feet thereof and subject to any other easements of record.

BENCHMARKS

BM-A - TOP OF NE FLANGE BOLT UNDER "W" IN EJIW FIRE HYDRANT LOCATED AT THE E. SIDE OF DRIVE INTO AUGUSTA COMMONS SUBDIVISION. NAVD88 EL. 687.91

BM-B - SET GEARSPIKE IN NW FACE OF POWER POLE, 3RD POWER POLE WEST OF MCKEAN & WILLIS INTERSECTION. NAVD88 EL. 685.88

CIVIL SHEET INDEX

- | | |
|---------|-----------------------------|
| C0 | COVER |
| C1 | SITE PLAN |
| C2 | GRADING PLAN |
| C2.1 | ENTRANCE PLAN AND PROFILE |
| C2.2 | STORMWATER CALCULATIONS |
| C3 | EROSION CONTROL |
| C3.1 | EROSION CONTROL DETAILS |
| C4 | MISC. DETAILS |
| C5 | LANDSCAPE PLAN |
| C5.1 | LANDSCAPE DETAILS AND NOTES |
| C6 | SEWER LINE EXTENSION |
| DW01-02 | WATER LINE EXTENSION |



UTILITY DISCLAIMER

EXISTING UNDERGROUND UTILITIES AND BURIED STRUCTURES IN THE VICINITY OF THE WORK TO BE PERFORMED HEREIN ARE INDICATED ON THE DRAWINGS ONLY TO THE EXTENT THAT SUCH INFORMATION HAS BEEN MADE AVAILABLE TO OR DISCOVERED BY THE ENGINEER IN THE PREPARATION OF THE DRAWINGS. THERE IS NO GUARANTEE AS TO THE ACCURACY OR THE COMPLETENESS OF SUCH INFORMATION AND ALL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS THEREOF IS EXPRESSLY DISCLAIMED

DOLLAR GENERAL®

WILLIS RD., WILLIS, MI 48191
overlandengineering.com



overland
ENGINEERING, LLC
1598 IMPERIAL CIR., STE. 2009 WEST PLAINS, MO 65775
PHONE: (417) 256-8150 FAX: (417) 256-8152
rusky@overlandeng.com

DOLLAR GENERAL

WILLIS, MI

COVER SHEET

SHEET

C0

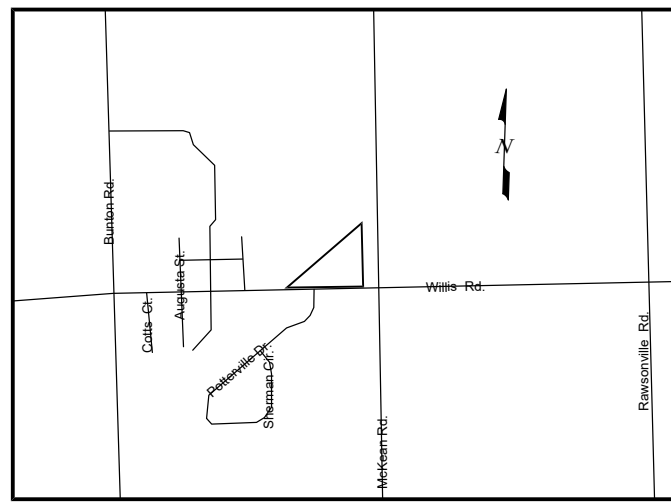
DATE: 11-18-21

Land situated in the Township of Augusta, County of Washtenaw, State of Michigan, described as follows:

Commencing at the South 1/4 post of Section; thence N.89°-43'W., 170.00 feet in the South line of Section for a place of beginning; thence North, 641.14 feet, parallel to the North and South 1/4 line, to the Southeasterly line of Wabash Railroad; thence Southwesterly in the Southeasterly line of Railroad to the South line of Section; thence S.89°-43'E., 754.00 feet in the South line of Section to the place of beginning; being part of the East 1/2 of the Southwest 1/4 of Section 1, T.4 S.-R.7 E., Augusta Township, Washtenaw County, Michigan.

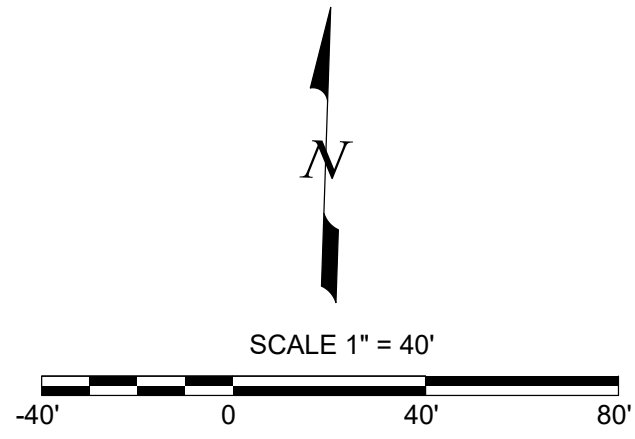
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VICINITY MAP
1"=2000'

DOLLAR GENERAL STORE
10467 WILLIS RD.
WILLIS, MICHIGAN



PARKING SPACES/REQD: 46 / 46
BLDG/SALES SF: 9,100 / 7,302
ENGINEER: OVERLAND ENGINEERING, LLC
SITE AREA = 4.23 ACRES
PROPOSED IMPERVIOUS AREA=0.943 ACRES
OPEN AREA = 3.29 ACRES
LOT COVERAGE = 22%
BUILDING HEIGHT = 18'-6"
ZONING = GC GENERAL COMMERCIAL

OWNER:
HAITHAM SHRETEH
4715 CRESTVIEW AVE.
YPSILANTI, MI 48197

APPLICANT:
DGOG WILLIS MI082820, LLC
1598 IMPERIAL CENTER, SUITE 2001
WEST PLAINS, MO 65775
417-256-4790

ENGINEER:
OVERLAND ENGINEERING, LLC
1598 IMPERIAL CENTER, SUITE 2009
WEST PLAINS, MO 65775
417-256-8150

GENERAL NOTES

1. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO ALL CURRENT APPLICABLE STANDARDS AND SPECIFICATIONS OF THE WASHTENAW COUNTY ROAD COMMISSION, MICHIGAN, UNLESS OTHERWISE NOTED.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE PLANNING AND DEVELOPMENT DEPARTMENT OF WASHTENAW COUNTY, MICHIGAN.
3. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
4. THE CONTRACTOR MAY UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER: 1-(800)-482-7171. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MICHIGAN.
5. ALL DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED BY AND AT THE EXPENSE OF THE CONTRACTOR.
6. THE CONTRACTOR SHALL UNDER NO CIRCUMSTANCES CLEAR OR DAMAGE ANY TREES OUTSIDE THE CLEARING LIMIT LINE SET BY THE COUNTY WITHOUT THE WRITTEN PERMISSION OF THE COUNTY ENGINEER OR PROPERTY OWNER.
7. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
8. THE CONTRACTOR SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
9. THE CONTRACTOR SHALL PLACE MIN. 4" TOPSOIL AND SEED & MULCH ALL DISTURBED AREAS AT THE DIRECTION OF THE TOWNSHIP ENGINEER.
10. DOWNSPOUTS SHALL NOT BE ALLOWED TO DISCHARGE ACROSS SIDEWALKS. ROUTE DOWNSPOUTS UNDER SIDEWALK AT ALL SIDEWALK LOCATIONS. SEE DETAIL ON SHEET 4.

* BUILDING DIMENSION NOTE:
CONTRACTOR SHALL VERIFY BUILDING DIMENSIONS WITH FOUNDATION AND METAL BLDG. PLANS PRIOR TO CONSTRUCTION.

FLOOD NOTE:
THE SUBJECT PROPERTY LIES WITHIN ZONE X, AREAS OF MINIMAL FLOOD HAZARD. COMMUNITY PANEL #26161C0445E, EFFECTIVE DATS OF APRIL 3, 2012

EOL, THRUST BLK, & FLUSH VALVE



UTILITY DISCLAIMER

EXISTING UNDERGROUND UTILITIES AND BURIED STRUCTURES IN THE VICINITY OF THE WORK TO BE PERFORMED HEREIN ARE INDICATED ON THE DRAWINGS ONLY TO THE EXTENT THAT SUCH INFORMATION HAS BEEN MADE AVAILABLE TO OR DISCOVERED BY THE ENGINEER IN THE PREPARATION OF THE DRAWINGS. THERE IS NO GUARANTEE AS TO THE ACCURACY OR THE COMPLETENESS OF SUCH INFORMATION AND ALL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS THEREOF IS EXPRESSLY DISCLAIMED

DATE: 11-18-21

DOLLAR GENERAL®

WILLIS RD., WILLIS, MI 48191
overlandeng.com

NO.	DATE	DESCRIPTION	BY
5	11/18/21	REV. FENCE PER COMMENTS	RP
4	11/04/21	REVISED PER COMMENTS	EO
3	9/22/21	LABELLED ROOF DRAIN	RP
2	8/02/21	REVISED PER COMMENTS	EO
1	7/14/21	REVISED PER WORK	RP

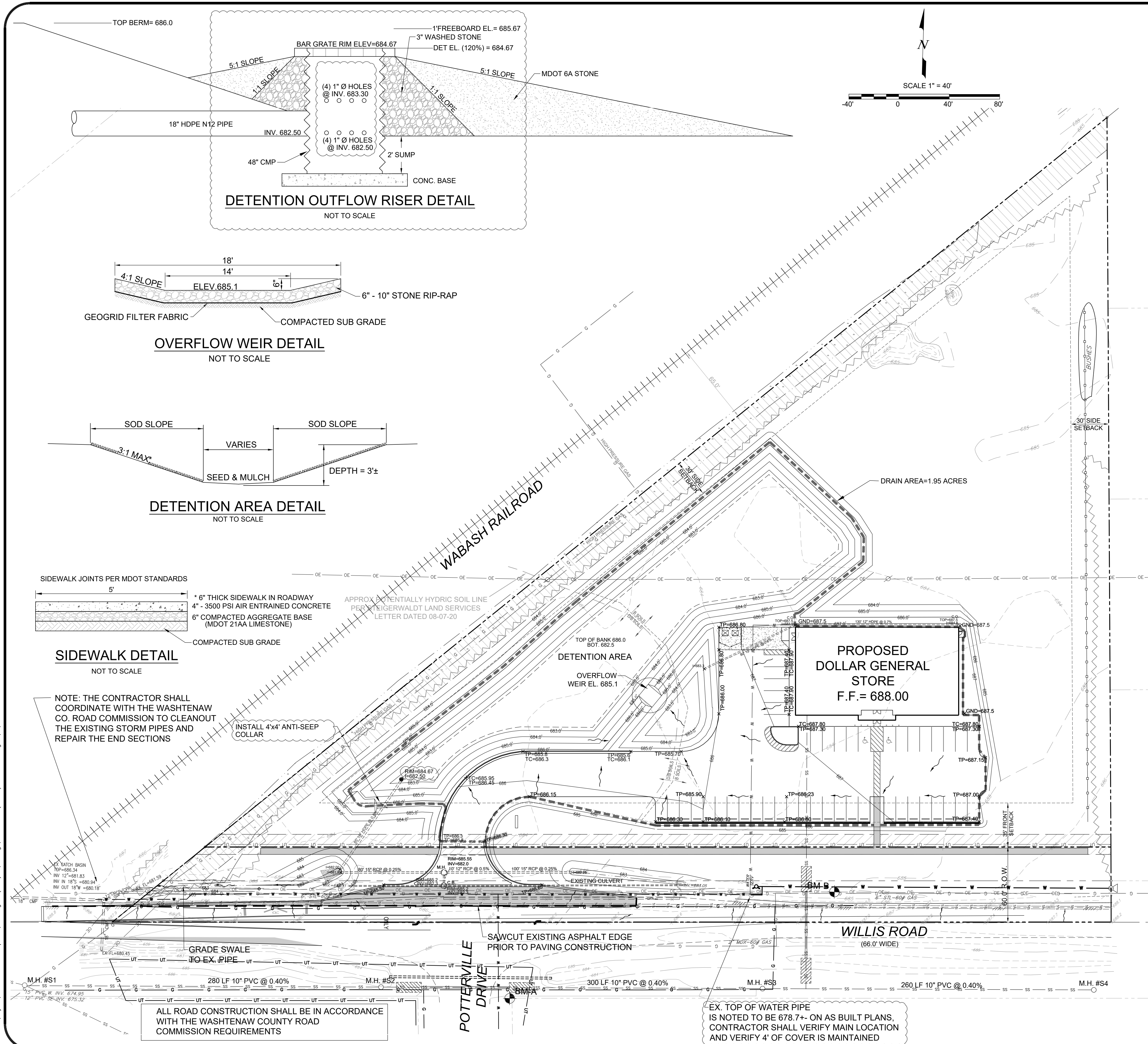


overland
ENGINEERING, LLC
1598 IMPERIAL CIR., STE. 2009 WEST PLAINS, MO 65775
PHONE: (417) 256-8150 FAX: (417) 256-8152
rus@overlandeng.com

DOLLAR GENERAL
WILLIS, MI
SITE PLAN

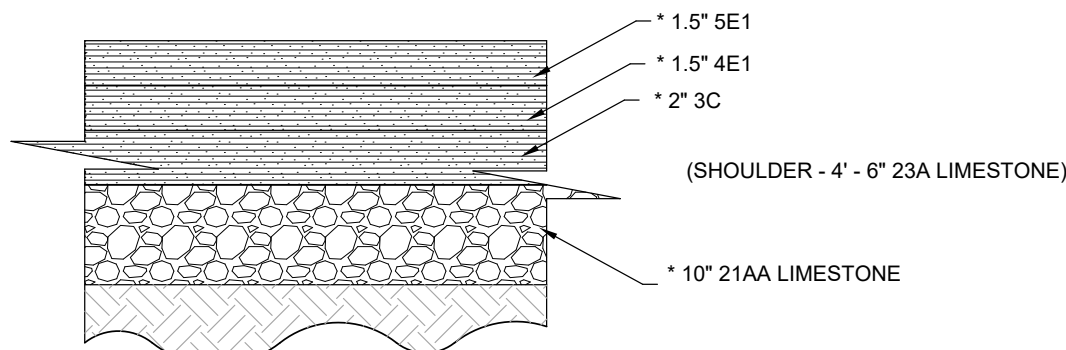
SHEET
C1

P:\Projects\11-1001 Overland Properties\1006 Augusta (Willis) MI Drawings\DG AUGUSTA (WILLIS) MI 11-18-21.dwg 11/18/2021 12:53 PM



DG STANDARD GRADING NOTES:

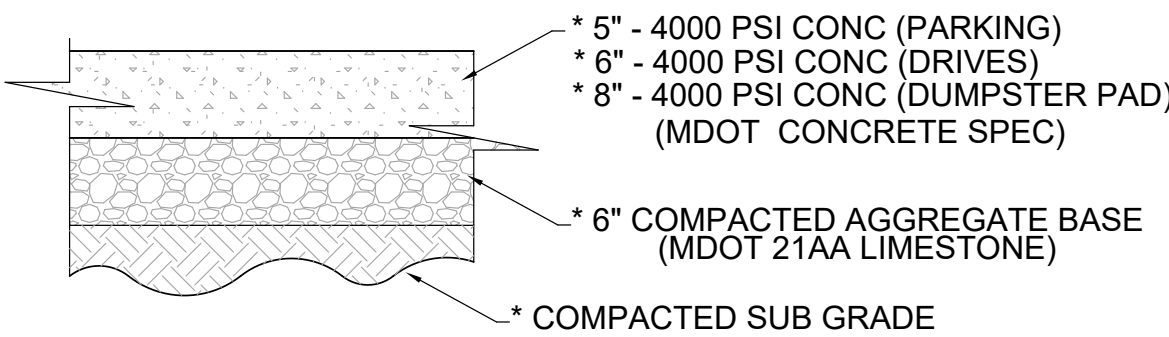
- CONTRACTOR TO GRADE ALL AREAS SHOWN IN THE PLANS.
- TOP SOIL SHALL BE STRIPPED FROM ALL CUT AND FILL AREAS, STOCKPILED AND REDISTRIBUTED OVER GRADED AREAS. PROVIDE EROSION AND SEDIMENTATION CONTROLS AROUND STOCKPILES DURING CONSTRUCTION.
- TILL SOIL TO A DEPTH OF 4" MINIMUM.
- REMOVE ALL ROCKS LARGER THAN 1" MEASURED IN LARGEST DIRECTION.
- GRADE ALL AREAS TO MAINTAIN POSITIVE SLOPE AWAY FROM BUILDING.
- ALL GRADED AREAS TO RECEIVE SEED OR SOD, TOP SOIL, STRAW AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.



* SEE GEOTECHNICAL REPORT FOR SPECIFIC RECOMMENDATIONS

ASPHALTIC CONCRETE PAVEMENT SECTION
WITHIN MDOT R.O.W.

NOT TO SCALE



* SEE GEOTECHNICAL REPORT FOR SPECIFIC RECOMMENDATIONS

CONCRETE PAVEMENT SECTION

NOT TO SCALE

STORMWATER NARRATIVE
THE ON SITE STORMWATER DESIGN CONSISTS OF A DETENTION BASIN AND FOREBAY TO TREAT AND DETAIN THE PROPOSED IMPERVIOUS IMPROVEMENTS. THE BASIN AND OUTLET HAVE BEEN SIZED IN ACCORDANCE WITH WASHTENAW COUNTY WATER RESOURCES COMMISSION GUIDELINES. GROUNDWATER IS SHALLOW IN THIS AREA AND THE DETENTION BASED HAS BEEN OVERSIZED 20% PER THE REQUIREMENTS. DETENTION CALCULATIONS ARE INCLUDED WITH THIS PLAN SET.

BENCHMARKS:
BM-A: TOP OF NE FLANGE BOLT UNDER "W" IN E.I.W FIRE HYDRANT, LOCATED AT THE E. SIDE OF DRIVE INTO AUGUSTA COMMONS SUBDIVISION. NAVD88 EL. 687.91

BM-B: SET GEARSPIKE IN NW FACE OF POWER POLE, 3RD POWER POLE WEST OF MCKEAN & WILLIS INTERSECTION. NAVD88 EL. 685.88



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DOLLAR GENERAL

WILLIS, MI 48191

NO.	DATE	DESCRIPTION	BY
4	9/22/21	ADDED WATER MAIN NOTES	RP
3	8/10/21	REVISED OUTLET PER COMMENTS	RP
2	8/02/21	REVISED PER COMMENTS	EO
1	7/14/21	REVISED PER WORK	RP



overland
ENGINEERING, LLC

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DOLLAR GENERAL
WILLIS, MI

GRADING PLAN

SHEET

C2

STORMWATER DETENTION
DOLLAR GENERAL AUGUSTA WILLIS RD
BY: Overland Engineering LLC
Date: 6/10/2021

Based on the WCDRC Stormwater policy
Worksheet 1

Rational Method	Cover Type	Soil Type	Area(ft ²)	Area (ac) (A)	Runoff coef c	Cx A
	Slldg	B	3220	0.212	0.95	0.201
	Pavement	B	31234	0.717	0.95	0.681
	Open, good	B	10557	0.242	0.45	0.109
	Open, good	D	11398	0.262	0.45	0.118
	Bankfull Imperv	B & D	22373	0.514	1	0.514
			Total Area =	1.946	Total Cx A =	1.623
					Weighted c =	0.834

NRCS Method	Cover Type	Soil Type	Area(ft ²)	Area (ac) (A)	Curve No.(CN)	CNxA
	Open, good	B	10557	0.242	61	14.8
	Open, good	D	11398	0.262	80	20.9
		B		0.000		
		B		0.000		
		B		0.000		
			Total Area =	0.504	Total CNxA =	35.7
					Weighted CN =	70.9

NRCS Method	Cover Type	Soil Type	Area(ft ²)	Area (ac) (A)	Curve No.(CN)	CNxA
	Impervious	B	3220	0.212	98	20.7
	Pavement	B	31234	0.717	98	70.3
	Bankfull Imperv	B & D	22373	0.514	98	50.3
				0		
			Total Area =	1.442	Total CNxA =	141.3
					Weighted CN =	98

Worksheet 2 First Flush Calculations

$$V_{ff} = (1 - \left(\frac{1}{12}\right)^2) \left(\frac{43560 f c}{1 ac}\right) AC$$

A (acre)=	1.946
C =	0.834
Vff (ft ³)=	5990

Worksheet 3

Pre-development Bankfull Runoff Calculations (Vbf-pre)

A 2 yr 24 hr storm event	P (in)=	2.35
B Pre Dev. (Good Cover Meadow)	A(ft ²)	C
	56045	58
	28932	78
	CN ₂ =	64.8

C	S =	1000
	CN	-10
D	Q =	(P-0.25) ²
	(P+0.85)	
	Q (in) =	0.24

E Total Site Area excluding Self-Cred.BMP	Area (sf) =	84782
---	-------------	-------

F	V _{bf-pre} =	Q(1/12)Area
	V _{bf-pre} =	1686

Worksheet 4 Pervious cover post development bankfull Runoff Calculations (Vbf-post)

A 2 yr 24 hr storm event	P (in)=	2.35
B Pervious Cover CN from W1	CN =	70.9

C	S =	1000
	CN	-10
D	Q =	(P-0.25) ²
	(P+0.85)	
	Q (in) =	0.41

E Pervious Cover Area from W1	Area (sf) =	21955
-------------------------------	-------------	-------

F	V _{bf-post} =	Q(1/12)Area
	V _{bf-post} =	757

Worksheet 5 Impervious cover post development bankfull Runoff Calculations (Vbf-imp-post)

A 2 yr 24 hr storm event	P (in)=	2.35
B Impervious Cover CN from W1	CN =	98

C	S =	1000
	CN	-10
D	Q =	(P-0.25) ²
	(P+0.85)	
	Q (in) =	2.12

E Impervious Cover Area from W1	Area (sf) =	62827
---------------------------------	-------------	-------

F	V _{bf-imp-post} =	Q(1/12)Area
	V _{bf-imp-post} =	11106

Worksheet 6 Pervious Cover Post-Development 100-year Storm Runoff Calculations (V100-per-post)

A 100-year storm event	P (in)=	5.11
B Pervious Cover CN from W1	CN =	70.86390344

C	S =	1000
	CN	-10
D	Q =	(P-0.25) ²
	(P+0.85)	
	Q (in) =	2.19

E Pervious Cover Area from W1	Area (sf) =	21955
-------------------------------	-------------	-------

F	V _{100-per-post} =	Q(1/12)Area
	V _{100-per-post} =	4005

Worksheet 7 Impervious Cover Post-Development 100-year Storm Runoff Calculations (V100-imp-post)

A 100-year storm event	P (in)=	5.11
B Impervious Cover CN from W1	CN =	98

C	S =	1000
	CN	-10
D	Q =	(P-0.25) ²
	(P+0.85)	
	Q (in) =	4.87

E Impervious Cover Area from W1	Area (sf) =	62827
---------------------------------	-------------	-------

F	V _{100-imp-post} =	Q(1/12)Area
	V _{100-imp-post} =	25513

Worksheet 8 Time of Concentration for Applicable Flow Types (Tc-trs)
Assumed at 30 min for conservative design Tc (Hrs)= 0.5

Worksheet 9 A. Runoff Summary from Previous Worksheets

(V _{bf})	5990
(V _{bf-pre})	1686
(V _{bf-imp-post})	757
(V _{bf-imp-pre})	11106

Total BF Volume (V _{bf})	11865
(V _{bf-pre})	4005
(V _{bf-imp-post})	25513

Total 100 year Volume (V ₁₀₀)	29518
---	-------

B. Determine Onsite Infiltration Requirement		
(V_{bf-pre})	11865	ft ³
$(V_{bf-post})$	1686	ft ³
Bankfull Volume Difference	10179	ft ³
Onsite Infiltration Requirement (V_{in})	10179	ft ³

Worksheet 10

A Q ₁₀₀ =238.6Tc ^{-0.48}	Q ₁₀₀ =	421.23
B Total Site Area	Area =	1.946
C Q ₁₀₀ =Q _{100-pre} +Q _{100-imp}	Q ₁₀₀ =	7.06
D PF=Q ₁₀₀ *Area/640	PF=	9.05
E Delta=PF*0.15*Area	Delta=	8.73
F V _{det} =(Delta/PF)*V ₁₀₀	V _{det} =	26565

Infiltration Detention Summary	
Total Infiltration Required (V _{in})	10179
Infiltration provided =	0
Shortage =	10179
Infil w/ 20% Detention Penalty =	12215
V _{det} w 20% penalty =	38278
Det Required = (V _{det} + Infil w/ 20% penalty)	48453

Detention Volume Provided				
DET VOLUME 1				
Water Surface Elevation	Corresponding Contour Area square feet (input)	Volume above Datum acre-ft (output)	Volume above Datum Cubic Feet (output)	
682.5	0	0.000	0	
683.0	20.469	0.118	5.122	
684.0	25.190	0.642	27.952	
685.0	30.129	1.277	55.621	
686.0	35.257	2.027	88.314	
		Total Det. Vol =	88.314	
		Xbf = Vbf Elev =	683.03	
		Xbf = Vbf Elev =	683.30	
		Xdet = Vdet Elev =	684.67	(Elev at Penalty Volume)
		Final Forebay Elev =	685.93	

The proposed detention volume meets the design criteria.

Forebay Calculations

$$V'_{in} = 0.05 * V'_{det, imp}$$

V _{det}	38278
V _{in}	2123

Forebay Volume Provided				
Water Surface Elevation	Corresponding Contour Area square feet (input)	Volume above Datum acre-ft (output)	Volume above Datum Cubic Feet (output)	
683.0	1.076	0.000	0	
684.0	1.980	0.035	1.528	
685.0	3.159	0.094	4.097	

The proposed forebay meets the design criteria.

DETENTION OUTLET DESIGN

1 First Flush Discharge Min 24 hours

Vff=	5.890
Qffmin=Vff/24hrs/3600s =	0.068
Xff=	683.30
Xout=	682.50
Hff(Ave)=2/3*(Xff-Xout)=	0.36
Affmin = Qffmin/(0.62*(64.4*(Hff(Ave) ^{1.48}))	0.0230
Design Orifice Diam =	1.000
A act orifice=	0.005
Act # of Orifices =	4
Qactff=0.62*(orff)/(Aact orff)/((64.4*(Hff(Ave) ^{1.48}))	0.0647
Discharge Time = Vff/3600*Qff	25.27

The proposed orifice row provides the required first flush outflow time.

2 Bankfull Volume must be detained for min of 36 and max of 48 hours

Check First Flush Orifices only	
Vbf=	11865
Xbf=	683.30
Xout=	682.50
Hbfave=2/3*(Xbf-Xout)=	0.53
Release from first flush orifices	
Design Orifice Diam =	1.00
# Orifices =	4
Aact orifice=	0.0055
Obff= 0.62*(orff)/(Aact orff)/((64.4*(Hbfave) ^{1.48}))	0.079
Tbf = Vbf/Obff =	0.277
Qff Total Flow=	11.895
Discharge Time = Vbf/3600*Qbf	41.70

The first flush orifices are adequate for the bankfull release period requirement.

3 100 yr storm volume, max 72 hours, max outflow=0.15 cfs/acre

Area =	1.946
Max flow per acre =	0.150
Qmax allow =	0.292

Check First Flush Orifice flows	
VDet=	46493
XDet=	684.67
Xout=	682.50
HDetave=2/3*(XDet-Xout)=	1.45
Release from first flush orifices	
Design Orifice Diam =	1.00
# Orifices =	4
Aact orifice=	0.0055
QDet= 0.62*(orff)/(Aact orff)/((64.4*(XDet-Xout) ^{1.48}))	0.150
Tbf = VDet/Qbf =	0.926
Qff Total Flow=	13.946
Discharge Time = Vbf/3600*Qbf	80.77

The first flush orifice rows will hold the volume for more than 72 hours and additional orifices are needed

Overflow Weir

Area =	1.946
C =	0.834
Tc =	30
L =	5.00
Design Flow =	8.11
Invert of Weir=	685.1
Height of Weir	0.333
Min Weir Width =	14.07

Outlet pipe capacity check

Mannings Formula

Q=(1.486/n)AR^{2/3}S^{1/2}

R=A/P

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient

INPUT

D(n)= 18

d(n)= 18

n= 0.012

Q= 0.0

S/(ft/ft)= 0.008

V=(1.49/n)R^{2/3}S^{1/2}

Q=V x A

Area,ft ²	Wetted Perimeter, ft	Hypotenuse Radius, ft	velocity, ft/s	flow, cfs
1.77	4.71	0.38	5.76	10.18

The proposed outlet pipe has sufficient capacity

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1.77	4.71	0.38	5.76	10.18

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The proposed outlet pipe has sufficient

NRCS SOILS MAP FOR THIS AREA:
WaA - WASEPI SANDY LOAM
Gf - GILFORD SANDY LOAM
THE GEOTECH REPORT INDICATES
TOPSOIL OVER WELL GRADED SAND



CONTRACTOR (ON-SITE CONTACT):
JASON WEITZEL
BJ BAAS BUILDERS
380 S GARFIELD ST
CAMBRIDGE, MN
763-691-0444

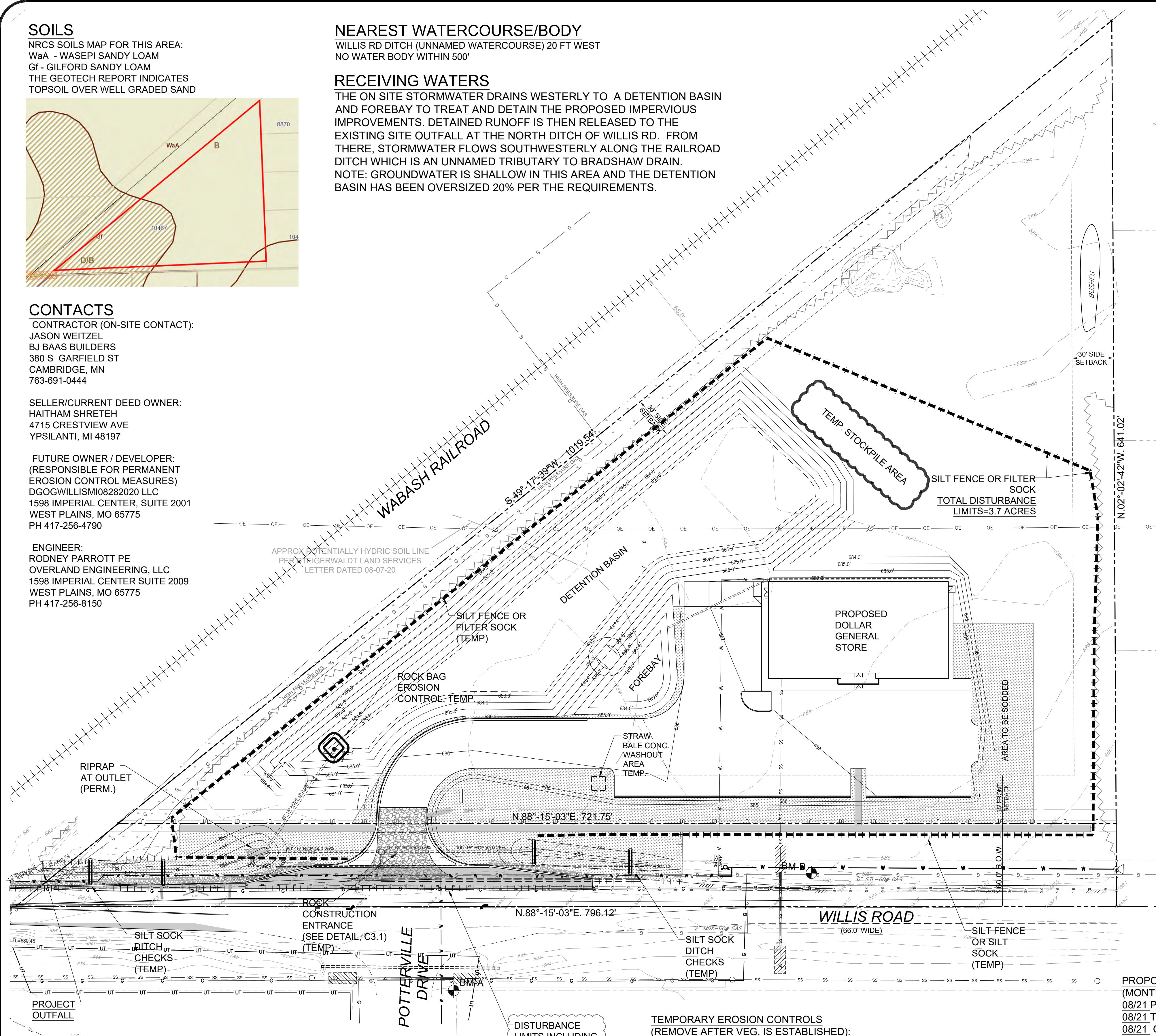
SELLER/CURRENT DEED OWNER:
HAITHAM SHRETEH
4715 CRESTVIEW AVE
YPSILANTI, MI 48197

FUTURE OWNER / DEVELOPER:
(RESPONSIBLE FOR PERMANENT
EROSION CONTROL MEASURES)
DGOGWILLISMI08282020 LLC
1598 IMPERIAL CENTER, SUITE 2001
WEST PLAINS, MO 65775
PH 417-256-4790

ENGINEER:
RODNEY PARROTT PE
OVERLAND ENGINEERING, LLC
1598 IMPERIAL CENTER SUITE 2009
WEST PLAINS, MO 65775
PH 417-256-8150

WILLIS RD DITCH (UNNAMED WATERCOURSE) 20 FT WEST
NO WATER BODY WITHIN 500'

THE ON SITE STORMWATER DRAINS WESTERLY TO A DETENTION BASIN AND FOREBAY TO TREAT AND DETAIN THE PROPOSED IMPERVIOUS IMPROVEMENTS. DETAINED RUNOFF IS THEN RELEASED TO THE EXISTING SITE OUTFALL AT THE NORTH DITCH OF WILLIS RD. FROM THERE, STORMWATER FLOWS SOUTHWESTERLY ALONG THE RAILROAD DITCH WHICH IS AN UNNAMED TRIBUTARY TO BRADSHAW DRAIN. NOTE: GROUNDWATER IS SHALLOW IN THIS AREA AND THE DETENTION BASIN HAS BEEN OVERSIZED 20% PER THE REQUIREMENTS.



DISTURBANCE
LIMITS INCLUDING
R/W = 3.9 ACRES

TEMPORARY EROSION CONTROLS
(REMOVE AFTER VEG. IS ESTABLISHED):
SILT FENCE
SILT SOCK DITCH CHECKS
ROCK BAG EROSION CONTROL
CONCRETE WASHOUT AREA

PERMANENT EROSION CONTROLS
RIPRAP AT PIPE OUTLETS
SODDING AND GRASS - SEE SHEET C5

1. THIS PLAN SHOWS THE LOCATION AND DETAILS FOR PRIMARY SEDIMENT CONTROLS TO BE CONSTRUCTED. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING EROSION AND DISCHARGE OF SEDIMENT FROM THE SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE NECESSARY MEASURES DURING ALL PHASES OF HIS OPERATIONS REGARDLESS OF WHETHER THEY ARE SPECIFICALLY NOTED ON THIS PLAN AND SHALL MAINTAIN AND REPLACE CONTROLS AS NECESSARY DURING THE COURSE OF HIS OPERATIONS.

2. SILT FENCES, OR OTHER INITIAL SEDIMENT CONTROLS SHOWN ON THIS PLAN MUST BE INSTALLED PRIOR TO ANY OTHER WORK.

3. THE CONTRACTOR SHALL CLEAN STREETS BOTH INTERIOR AND ADJACENT TO THE SITE, AS NEEDED AFTER EACH RAINFALL, AND AT THE END OF CONSTRUCTION.

4. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST DURING CONSTRUCTION AND SHALL WATER CONSTRUCTION AREAS WHENEVER CONDITIONS WARRANT.

5. ALL DISTURBED AREAS NOT RECEIVING OTHER PERMANENT STABILIZATION SUCH AS PAVEMENT, ROOFS, SOD, ETC., SHALL BE SEEDED AND MULCHED, AS SPECIFIED BELOW BEFORE TEMPORARY SEDIMENT CONTROLS CAN BE REMOVED AND PRIOR TO FINAL APPROVAL OF CONSTRUCTION.

GENERAL SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION RELATIVE TO LAND DISTURBING ACTIVITIES:

- 1) INSTALL CONSTRUCTION ENTRANCE FOR SITE ACCESS.
- 2) INSTALL SILT BARRIERS AT PERIMETER.
- 3) ITEMS 1&2 MUST BE FULLY COMPLETED BEFORE GOING TO ITEM 3.
- 4) STOCKPILE TOPSOIL PRIOR TO GRADING.
- 5) GRADE SWALES & DETENTION BASIN., & IMMEDIATELY STABILIZE WITH TOPSOIL SEED & MULCH, OR DITCH CHECKS.
- 6) INSTALL DRAINAGE PIPES WITH INLET/ OUTLET PROTECTION.
- 7) COMPLETE REMAINING SITE GRADING WITH CUT & FILL PLACEMENT.
- 8) CONSTRUCTION OF THE STRUCTURE, CURB AND PAVEMENT.
- 9) INSTALL GRASS AND SOD AS SOON AS FEASIBLE FOR EACH DISTURBED AREA.
- 10) REMOVED ANY EXCESS SEDIMENT IN DETENTION AREAS AND REDRESS WITH PERMANENT VEGETATION.
- 11) FINAL CLEAN UP.
- 12) AFTER VEGETATION IS WIDELY ESTABLISH, REMOVE TEMPORARY EROSION CONTROL MEASURES.

TOTAL ESTIMATED SCHEDULE FOR SITE CONSTRUCTION IS 3 MONTHS, WITH ESTABLISHED VEGETATION BEING 2-4 WEEKS LATER.

LEGAL DESCRIPTION

LAND SITUATED IN THE TOWNSHIP OF AUGUSTA, COUNTY OF WASHTENAW, STATE OF MICHIGAN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH 1/4 POST OF SECTION; THENCE N.89°-43'W., 170.0 FEET IN THE SOUTH LINE OF SECTION FOR A PLACE OF BEGINNING; THENCE NORTH, 641.14 FEET, PARALLEL TO THE NORTH AND SOUTH 1/4 LINE, TO THE SOUTHEASTERLY LINE OF WABASH RAILROAD; THENCE NORTHERLY, INTERESTED IN THE SOUTHERLY LINE OF RAILROAD TO THE SOUTH LINE OF SECTION; THENCE S.89°-43'W., 754.0 FEET IN THE SOUTH LINE OF SECTION TO THE PLACE OF BEGINNING; BEING PART OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SECTION 1, T.4 S., R.7 E., AUGUSTA TOWNSHIP, WASHTENAW COUNTY, MICHIGAN.

AS SURVEYED METES AND BOUNDS LEGAL DESCRIPTION:
A PARCEL OF LAND IN THE SOUTHWEST 1/4 OF FRACTIONAL SECTION 1, T.4 S.-R.7 E., AUGUSTA
TOWNSHIP, WASHTENAW COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS; BEGINNING AT A POINT ON
THE SOUTH LINE OF SAID SECTION 1, WHICH IS 170.00 FEET, S.88°15'-03"W, OF THE SOUTH 1/4
CORNER OF SAID SECTION; THENCE N.02°-02'-42"W, PARALLEL WITH THE NORTH AND SOUTH 1/4 LINE
OF SAID SECTION, 641.02 FEET TO THE SOUTHEASTERLY RIGHT OF WAY LINE OF WABASH RAILROAD;
THENCE S.49°-17'-39"W, ON SAID SOUTHEASTERLY RIGHT OF WAY LINE, 1019.54 FEET TO SAID SOUTH
LINE, THENCE N.88°15'-03"E, ON SAID SOUTH LINE, 796.12 FEET TO THE POINT OF BEGINNING,
CONTAINING 5.86 ACRES OF LAND, SUBJECT TO HIGHWAY USE OF THE SOUTH 33.00 FEET THEREOF
AND SUBJECT TO ANY OTHER EASEMENTS OF RECORD.

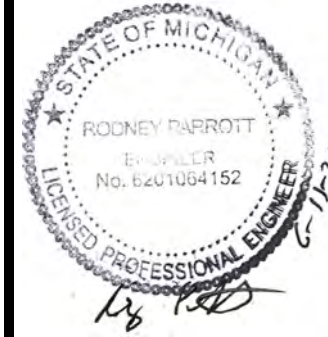
PROPOSED CONSTRUCTION SEQUENCE

(MONTH/YEAR)
08/21 Project Start Date
08/21 Temporary Erosion Control Measures Installed
08/21 Gravel Drive/ Entrance Installed
08/21 Land Cleared or Excavation Started
08/21 Detention/Retention/Sediment Ponds
09/21 Road Constructed
09/21 Utilities Installed
10/21 Final Grading/Seeding
10/21 Catch Basins/Ponds Cleared
10/21 Permanent Erosion Control Measures in Place
11/21 Temporary Erosion Control Measures Removed
11-12/21 Project End Date



UTILITY DISCLAIMER

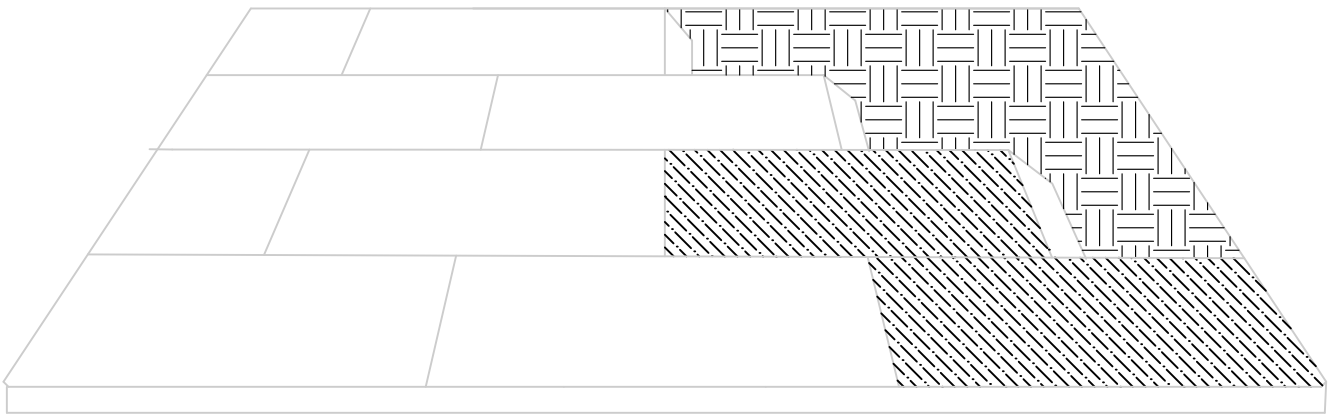
EXISTING UNDERGROUND UTILITIES AND BURIED STRUCTURES IN THE VICINITY OF THE WORK TO BE PERFORMED HEREIN ARE INDICATED ON THE DRAWINGS ONLY TO THE EXTENT THAT SUCH INFORMATION HAS BEEN MADE AVAILABLE TO OR DISCOVERED BY THE ENGINEER IN THE PREPARATION OF THE DRAWINGS. THERE IS NO GUARANTEE AS TO THE ACCURACY OR THE COMPLETENESS OF SUCH INFORMATION AND ALL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS THEREOF IS EXPRESSLY DISCLAIMED.

[illegible]DOLLAR GENERAL
WILLIS, MI

SEDIMENTATION & EROSION CONTROL PLAN

SHEET

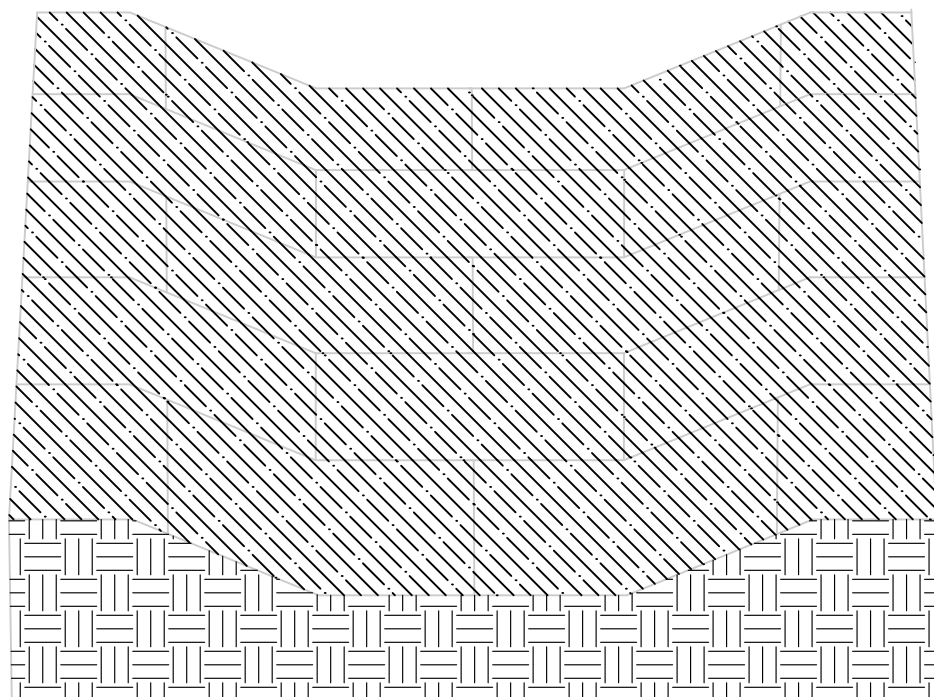
C3



LAY SOD IN A STAGGERED PATTERN WITH STRIPS BUTTED TIGHTLY AGAINST EACH OTHER

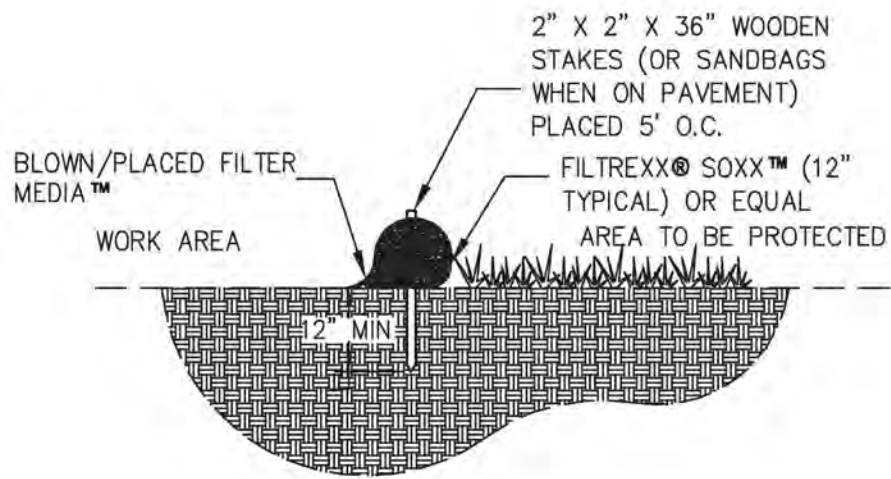
ON SLOPE > 3:1 USE PEGS OR STAPLES TO FASTEN SOD FIRMLY AT THE CORNERS AND CENTERS.

INSTALLATION OF GRASS SOD

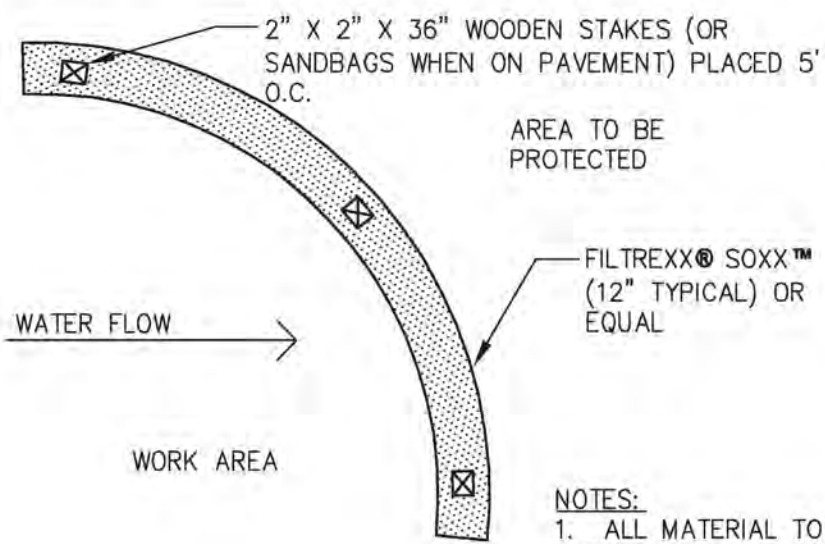


LAY SOD PERPENDICULAR TO THE DIRECTION OF FLOW. USE PEGS OR STAPLES TO FASTEN SOD FIRMLY AT THE CORNERS AND CENTERS

INSTALLATION OF SOD IN WATERWAYS



SECTION

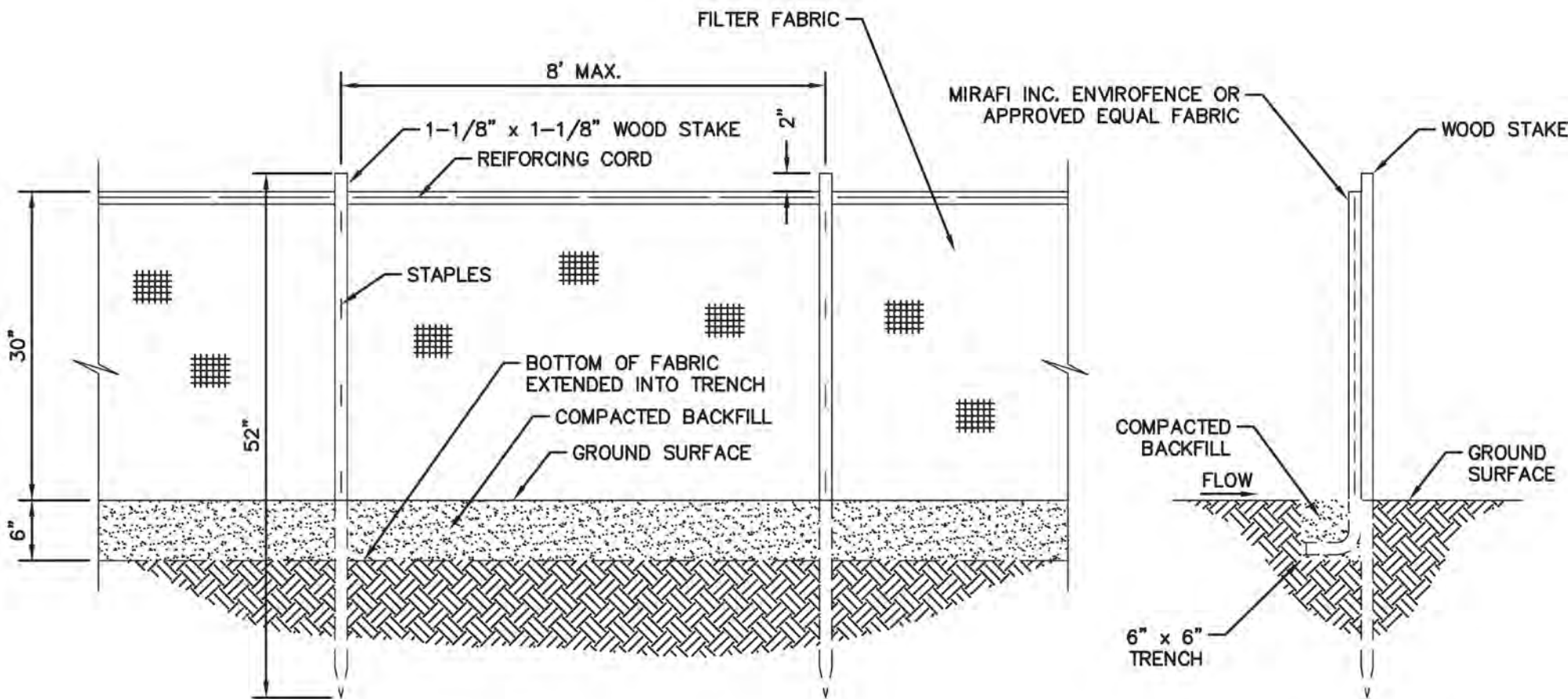


PLAN

FILTER SOCK SEDIMENT CONTROL

N.T.S.

NOTES:
1. ALL MATERIAL TO MEET FILTERREX SPECIFICATIONS.
2. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.



FRONT VIEW

SIDE VIEW

SEDIMENTATION/SILT FENCE

N.T.S.

SODDING SPECIFICATIONS

1. GENERAL

The sodding and related operations may be performed at any time of the year except frozen sod shall not be placed nor shall sod be placed on frozen soil.

2. LIME

Limestone, where required, shall be standard agricultural ground limestone with a moisture content not in excess of 10 percent. The rate of application shall be as necessary to raise pH to a minimum of 6.0..

3. FERTILIZER

The fertilizer shall be a regular commercial fertilizer (including liquid form) meeting the requirements of the applicable state laws, and shall be in such physical condition to insure uniform application over the area to be fertilized. Rates of application shall be as specified by MDOT.

4. SOD

The sod shall consist of strips or blocks of a vigorous growing dense perennial grass turf. The minimum thickness for cultured sod is one inch. The minimum thickness for other grass sod is two inches. The sod shall be sufficiently dense so that when a square 12 x 12 inches is cut to the required thickness and suspended by one corner, it will not tear apart. Sod shall be taken from soils similar to that upon which it is to be placed, except sod from light sand will not be accepted. The sod shall be indigenous to the general locality where it is to be used and shall be reasonably free from weeds. The sod shall be cut in strips of a uniform width, not less than 10 inches, and in lengths of not less than 18 inches. Lay sod within 48 hours of harvest.

5. PREPARING THE SOD BED

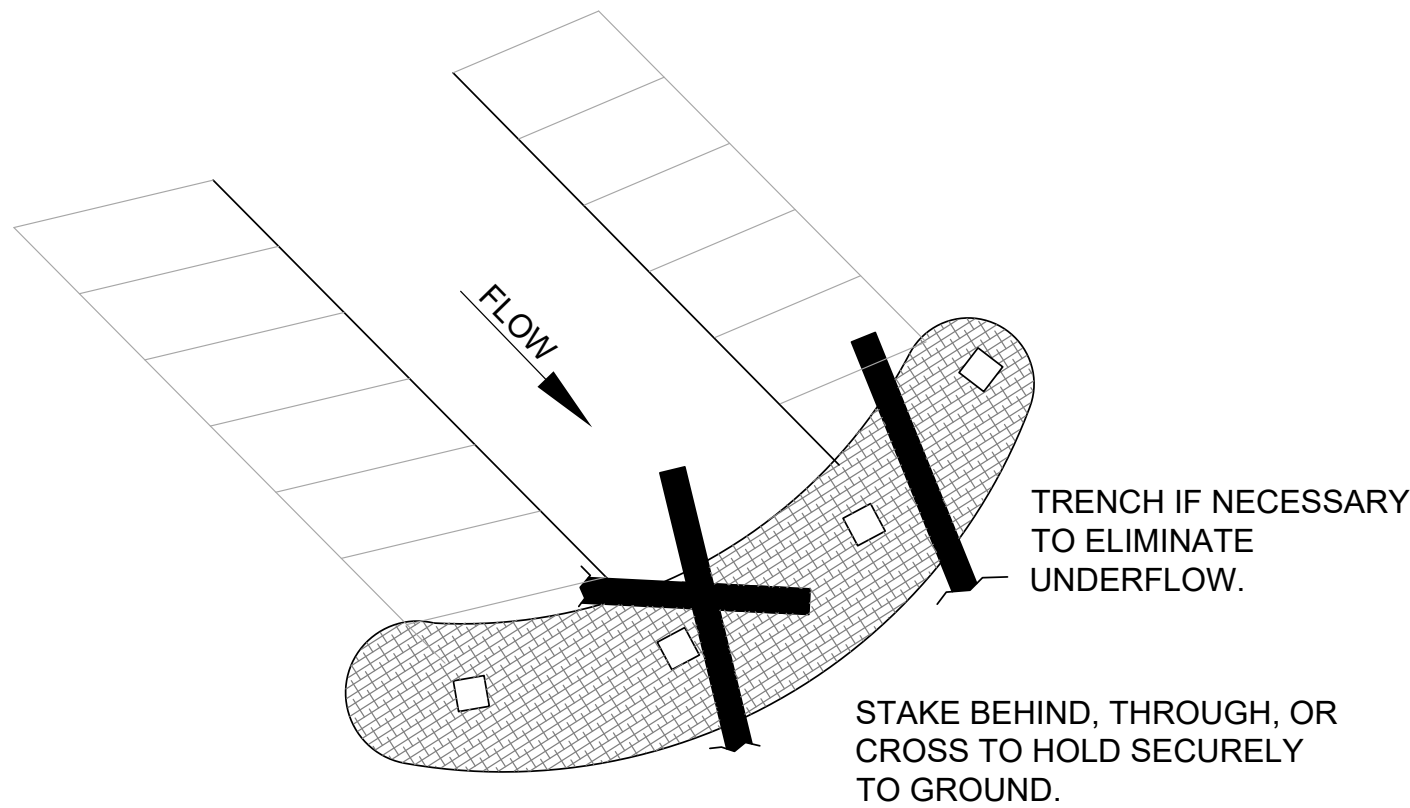
The entire surface to be sodded shall be reasonably smooth and free from stones, roots or other debris, and conform to the alignments, grade and cross-section indicated on the drawings. At this stage, unless otherwise specified, the Contractor shall apply the fertilizer and/or lime as required, and mix them with the surface soil material to a depth of 3 inches. Prior to laying the sod, the area to be sodded will be dampened if it is not already in a sufficiently moist condition. The sod bed soil shall be moist, but not saturated, to a minimum depth of six inches.

6. PLACING THE SOD

Sod shall be carefully placed and tamped. On slopes steeper than 3 horizontal to 1 vertical, the sod shall be pegged with wooden pegs. The pegs shall be spaced not over 2 feet apart in any direction and shall be driven flush with the surface of the sod.

7. ESTABLISHING THE SOD

The Contractor shall maintain the sod in a growing condition by watering when necessary, after completing each part of the sodding work, for at least 30 days.



INSTALL 12" SILT SOCK PERPENDICULAR TO FLOW WITH ENDS CURLED SLIGHTLY UPSTREAM TO PREVENT HIGH WATER FROM GOING AROUND THE ENDS. SLOW AND SPREAD WATER TO REDUCE CHANNELING AND EROSION

SILT SOCK DITCH CHECK

SEEDING AND MULCHING SPECIFICATIONS

1. GENERAL

Liming, fertilizing, seeding and mulching shall be performed within 20 days from disturbance any time during the year except during the period October 1 to November 1 South of US 10, September 20 to October 25 North of US 10 and any other time of the year that the seedbed cannot be properly prepared due to wetness, snow or frozen soil.

2. FERTILIZER AND LIME

Lime shall be standard agricultural ground limestone. Fertilizer shall meet the requirements of the applicable Michigan state laws, and shall be in such physical condition to insure uniform application over the area to be fertilized. Lime is required only as necessary to adjust pH to a minimum of 6.0. Fertilizer shall be applied at the rate specified by MDOT for TGM seed mixture.

3. SEED

The seed shall conform to the latest seed laws of the United States and of Michigan. Seed mixture shall be MDOT TGM mixture, and rate of seeding shall be 220 pounds per acre or per MDOT specifications.

4. PREPARATION OF SEEDBED

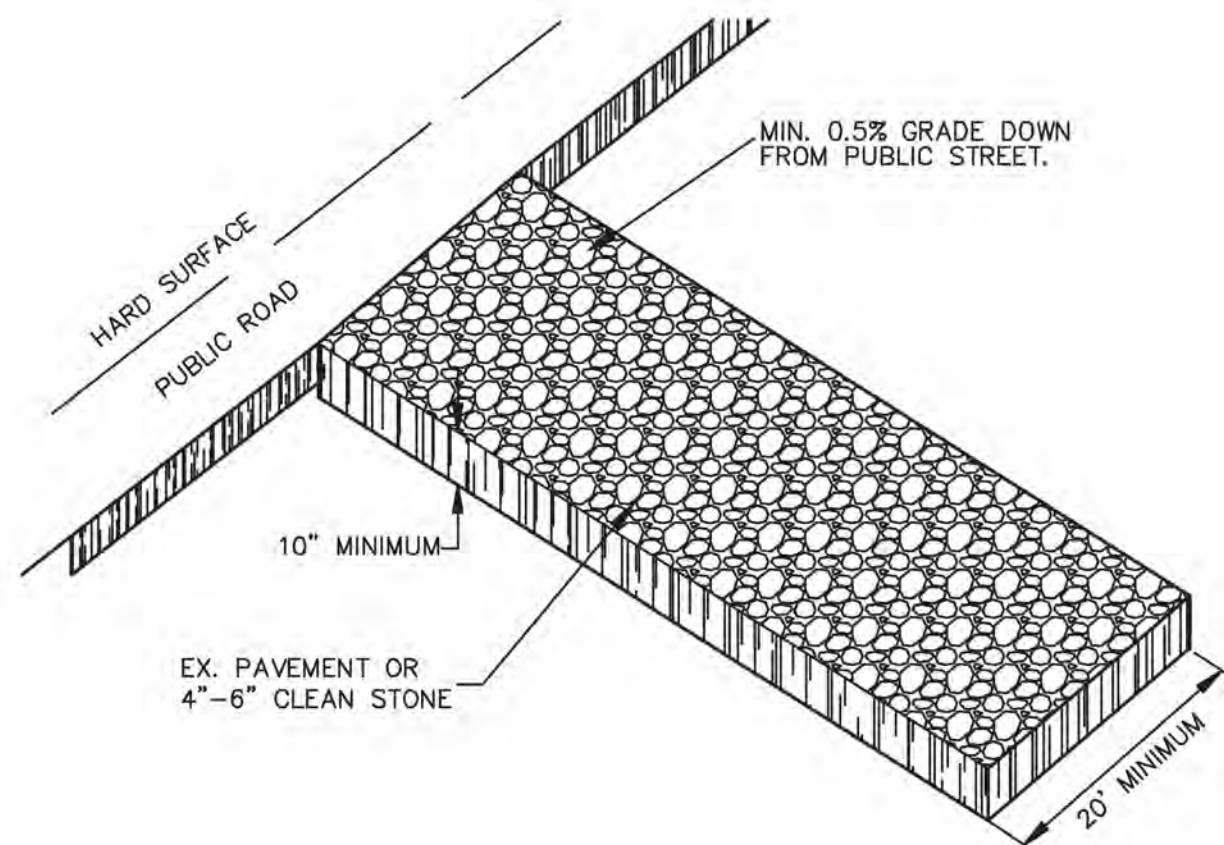
The entire area to be seeded shall be reasonably smooth and all washes and gullies shall be filled to conform to the desired cross-section before actual seedbed preparation is begun. Scarify subsoil areas perpendicular to water flow before they are filled. After final grading, the required fertilizer (except that applied with a hydraulic seeding) and/or lime shall be applied uniformly and incorporated into the top 3 inches of the soil. The seedbed preparation operation shall be suspended when the soil is too wet or too dry. On side slopes steeper than 3:1, the 3 inch minimum depth of seedbed preparation is not required, but the soil shall be worked enough to insure sufficient loose soil to provide adequate seed cover.

5. SOWING THE SEED

Seed immediately after preparation of the seedbed. Uniform seed distribution shall be accomplished by drilling, broadcasting or hydraulically seeding. If a hydraulic seeder is used, the seed, fertilizer and mulch may be applied together with water. Immediately after seeding, except in the case of hydraulic seeding, the soil shall be firmed with a cultipacker or other approved equipment to give the seed a cover of not more than 1/2 inch. Where broadcast seeding, the seed will be covered by use of hand rake or by dragging harrows, chains, or other suitable equipment over the surface or mulch to cover the seed. On slopes steeper than 3:1, the seed may be covered by hand without cultipacking.

6. MULCHING

The required mulching shall be performed with hydraulic seeding or immediately after seeding. The mulch shall be applied uniformly over the area. The type and rate shall be 2 tons per acre. The mulch, except for hydraulically placed mulch, shall be anchored. Anchoring of the mulch shall be performed by application of a commercially available tackifier at the rate recommended by the manufacturer, a mulch anchoring tool, tandem disk weighted and set nearly straight, track type tractor, or by installation of mulch netting. Mechanical anchoring shall be performed in a manner that creates ridges perpendicular to flow of water.



CONSTRUCTION ENTRANCE

N.T.S.

PERMANENT MAINTENANCE SCHEDULE

TASK	CURB & PAVED AREAS	STORM PIPE INLETS & OUTLETS	FOREBAY AREA	DETENTION OUTLET STRUCT.	ROADSIDE DITCH ADJACENT	SCHEDULE
INSPECT FOR SEDIMENT ACCUMULATION						QUARTERLY
REMOVE SEDIMENT ACCUMULATION						AS NEEDED*
INSPECT FOR TRASH/FLOATABLE ACCUMULATION						QUARTERLY
REMOVE TRASH/FLOATABLE ACCUMULATION						AS NEEDED*
INSPECT FOR ANY BARE SOILS/EROSION/DEAD VEG.						SEMI ANNUALLY
RE-ESTABLISH PERMANENT VEG./LANDSCAPING						AS NEEDED
CLEAN DRIVES/PARKING LOTS/TRASH ENCLOSURES						QUARTERLY
INSPECT WET WEATHER PERFORMANCE OF PIPE & OUTLET STRUCTURE						SEMI ANNUALLY*
CONTACT PROFESSIONAL ENGINEER TO CARRY OUT EMERGENCY INSPECTIONS						AS NEEDED

* REMOVE SEDIMENT ANY TIME ACCUMULATION IS 6"+ OR WHEN IT PROHIBITS POSITIVE DRAINAGE.

** NOTE: NO CHEMICALS ARE ALLOWED IN STORMWATER FEATURES OR BUFFER ZONES WITH THE FOLLOWING EXCEPTION: INVASIVE SPECIES MAY BE TREATED WITH CHEMICALS BY A CERTIFIED APPLICATOR. MOWING WITHIN THE BASIN AND BUFFER AREAS IS ALLOWED UP TO TWICE PER YEAR.

COST FOR PERMANENT MAINTENANCE IS THE RESPONSIBILITY OF THE PROPERTY OWNER. ESTIMATE ANNUAL COST IS EXPECTED TO BE LESS THAN \$1500 ON AVERAGE.

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rusy@overlandeng.com

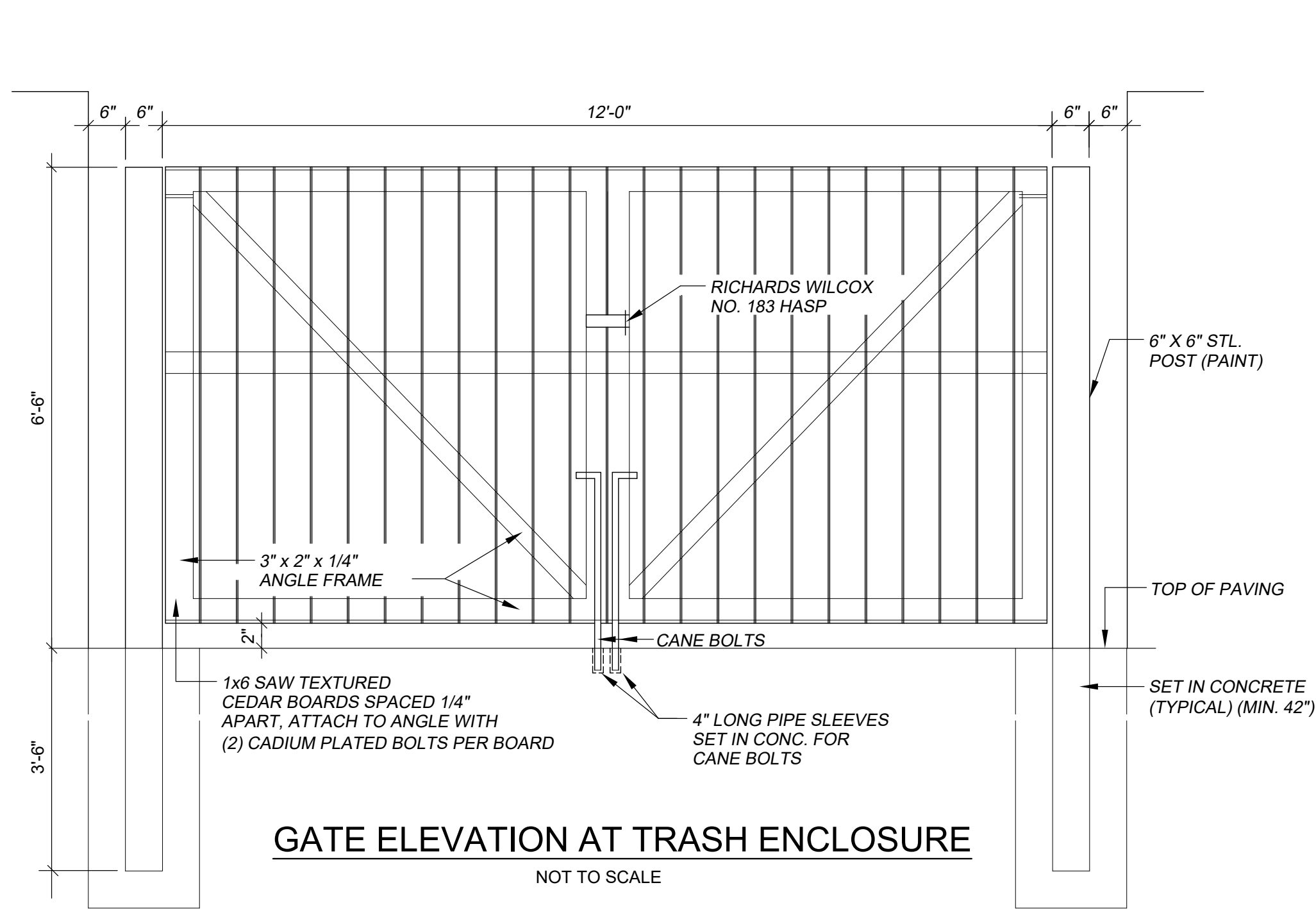
DOLLAR GENERAL
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SEDIMENTATION & EROSION
CONTROL DETAILS & NOTES

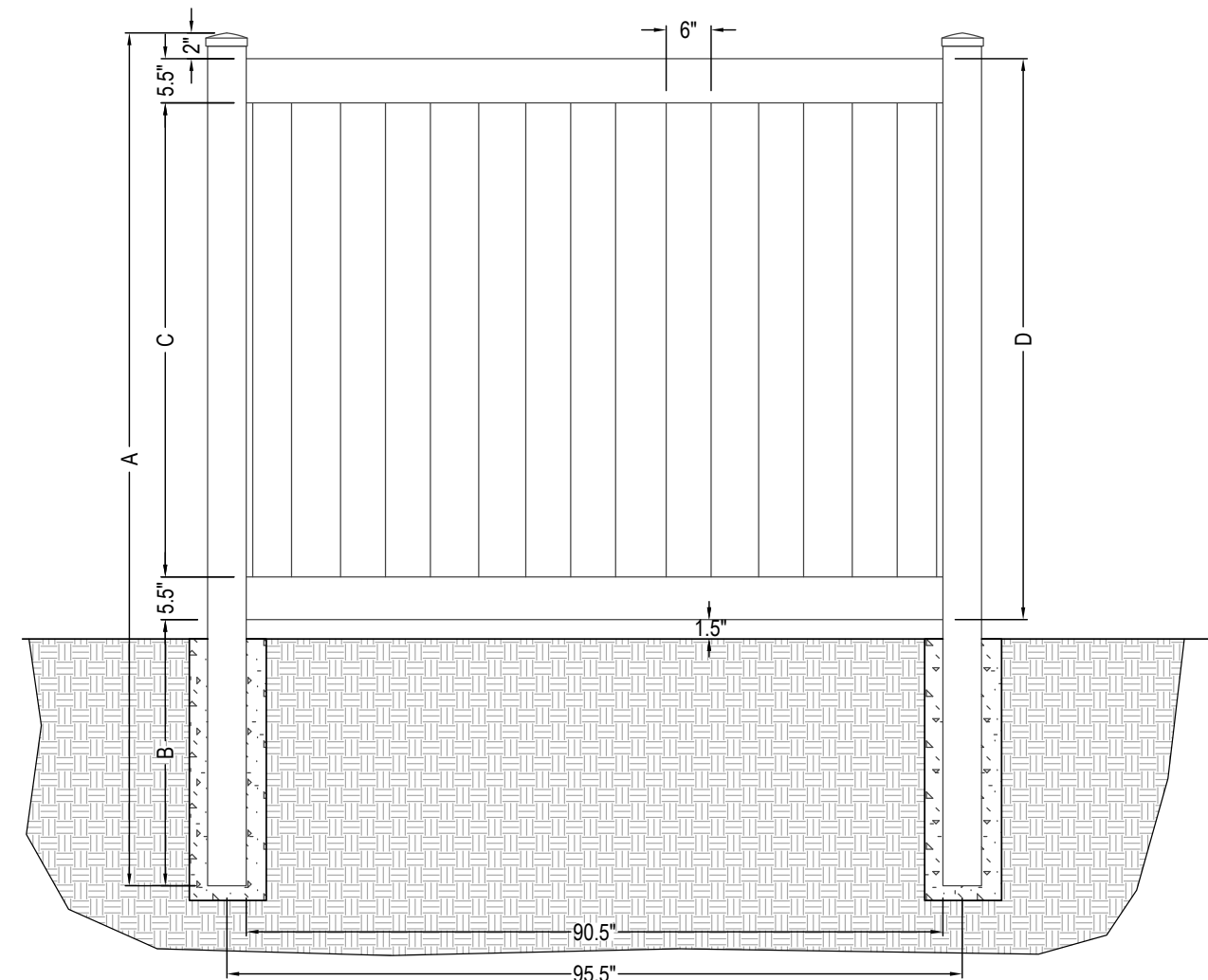
SHEET

C3.1

P:\Projects\11-1001 Overland Properties\1106 Augusta (Willis) M1 Drawings\UG AUGUSTA (WILLIS) M1 11-18-21.dwg 11/18/2021 12:53 PM

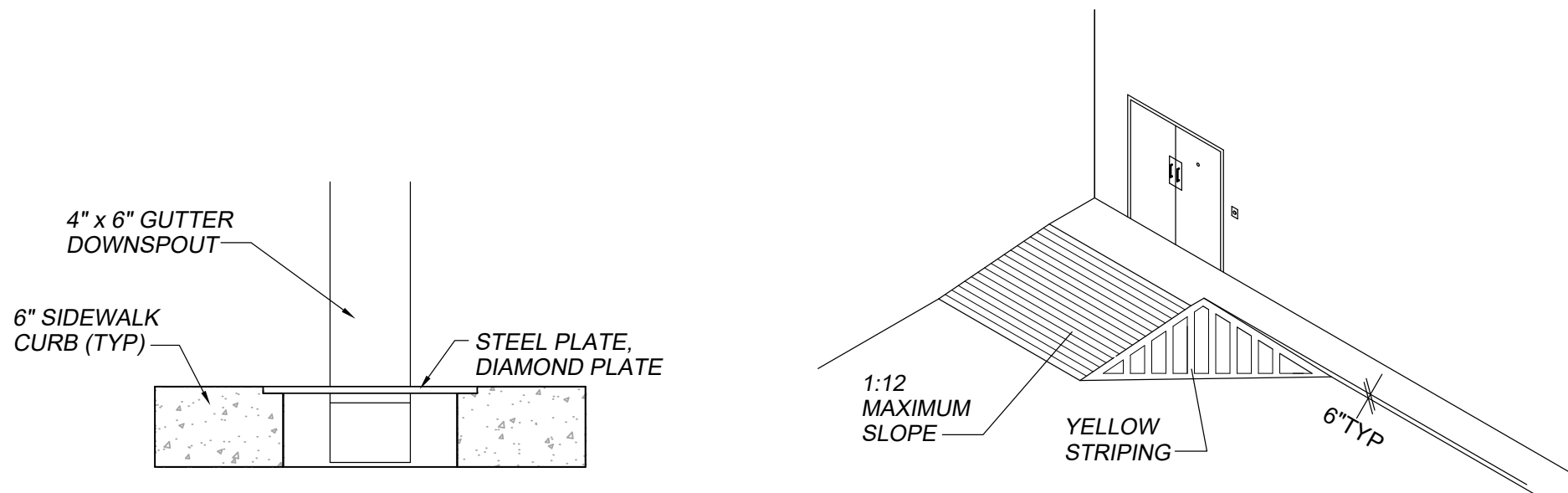


GATE ELEVATION AT TRASH ENCLOSURE
NOT TO SCALE



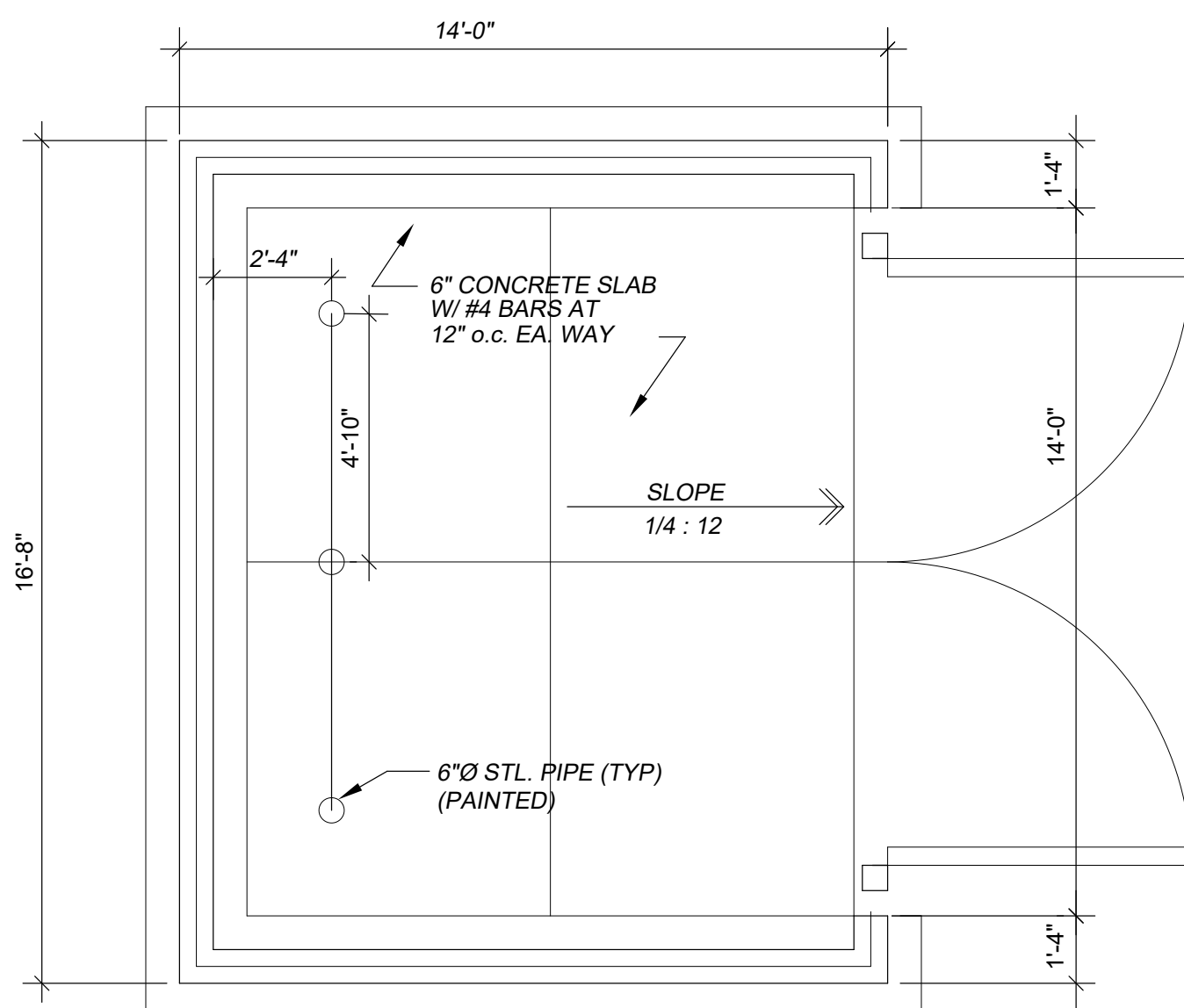
A		B		C		D	
H(FT)	INCHES	H(FT)	INCHES	H(FT)	INCHES	H(FT)	INCHES
6	108	6	34	6	61	6	72

VINYL PRIVACY FENCE DETAIL
REFER TO SELECTED MANUFACTURER'S DETAIL FOR INSTALL
NOT TO SCALE

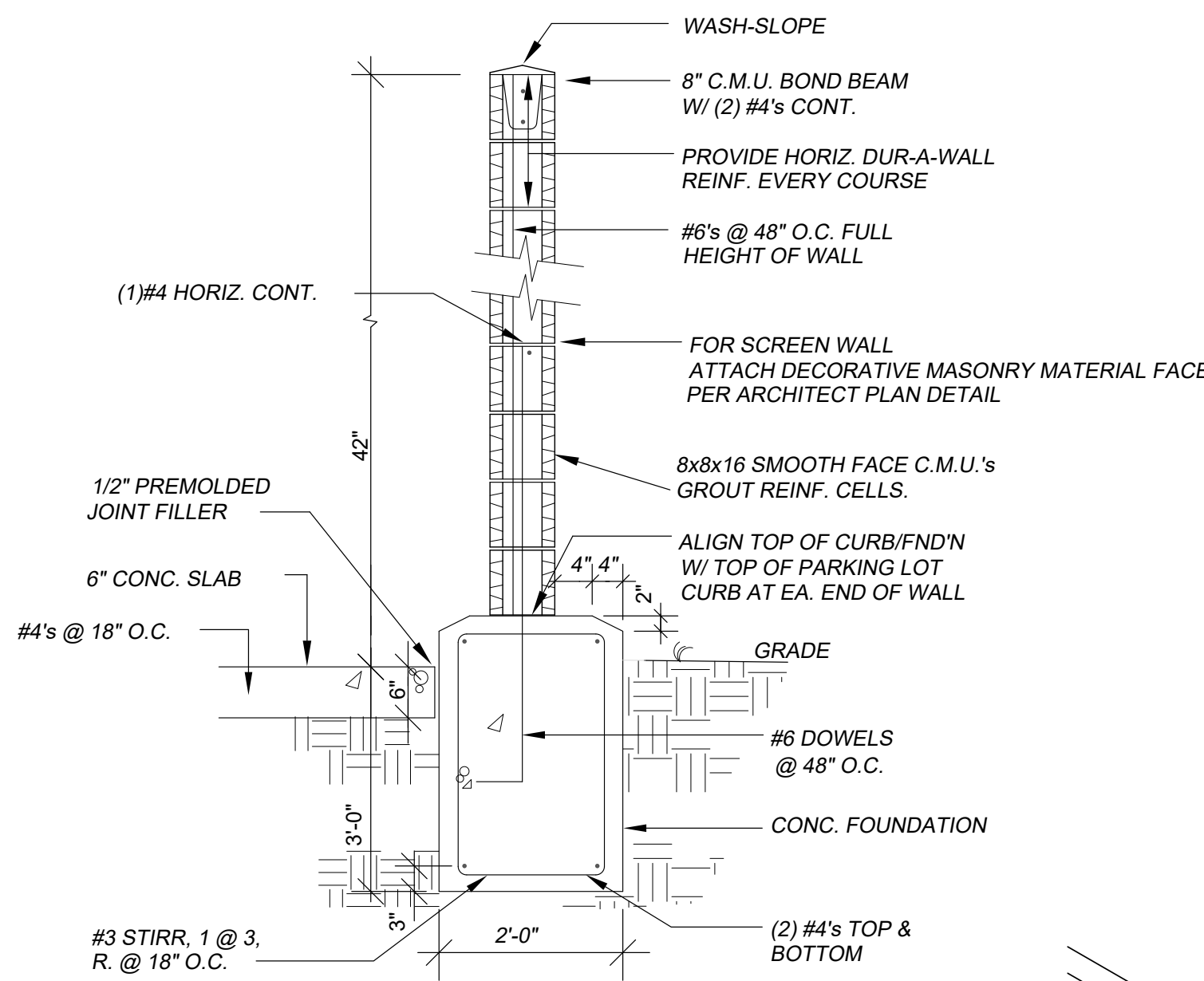


GUTTER DOWNSPOUT DETAIL
@ SIDEWALK
NOT TO SCALE

SIDE ENTRY DETAIL
NOT TO SCALE



PLAN OF MASONRY TRASH ENCLOSURE
NOT TO SCALE



MASONRY SCREEN WALL DETAIL
NOT TO SCALE

STRIPING NOTES

YELLOW CURBING
AND BOLLARDS

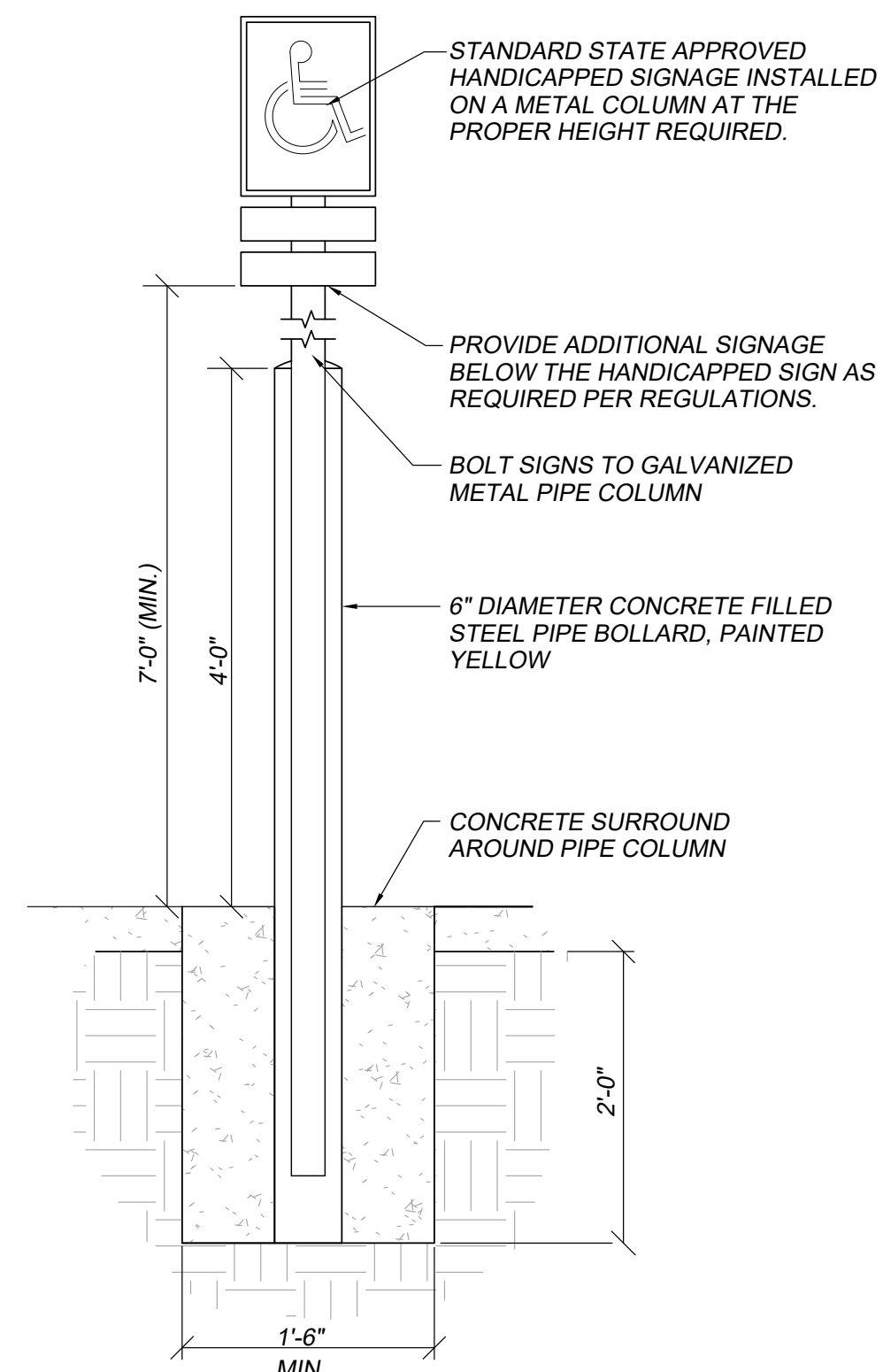
SURFACES SHOULD BE CLEAN, DRY AND METAL SURFACES
FREE OF HEAVY RUST 2 COATS SHERWIN WILLIAMS - KEM 4000
ACRYLIC ALKYD ENAMEL SAFETY YELLOW B55Y300

STRIPING -
PARKING LOT

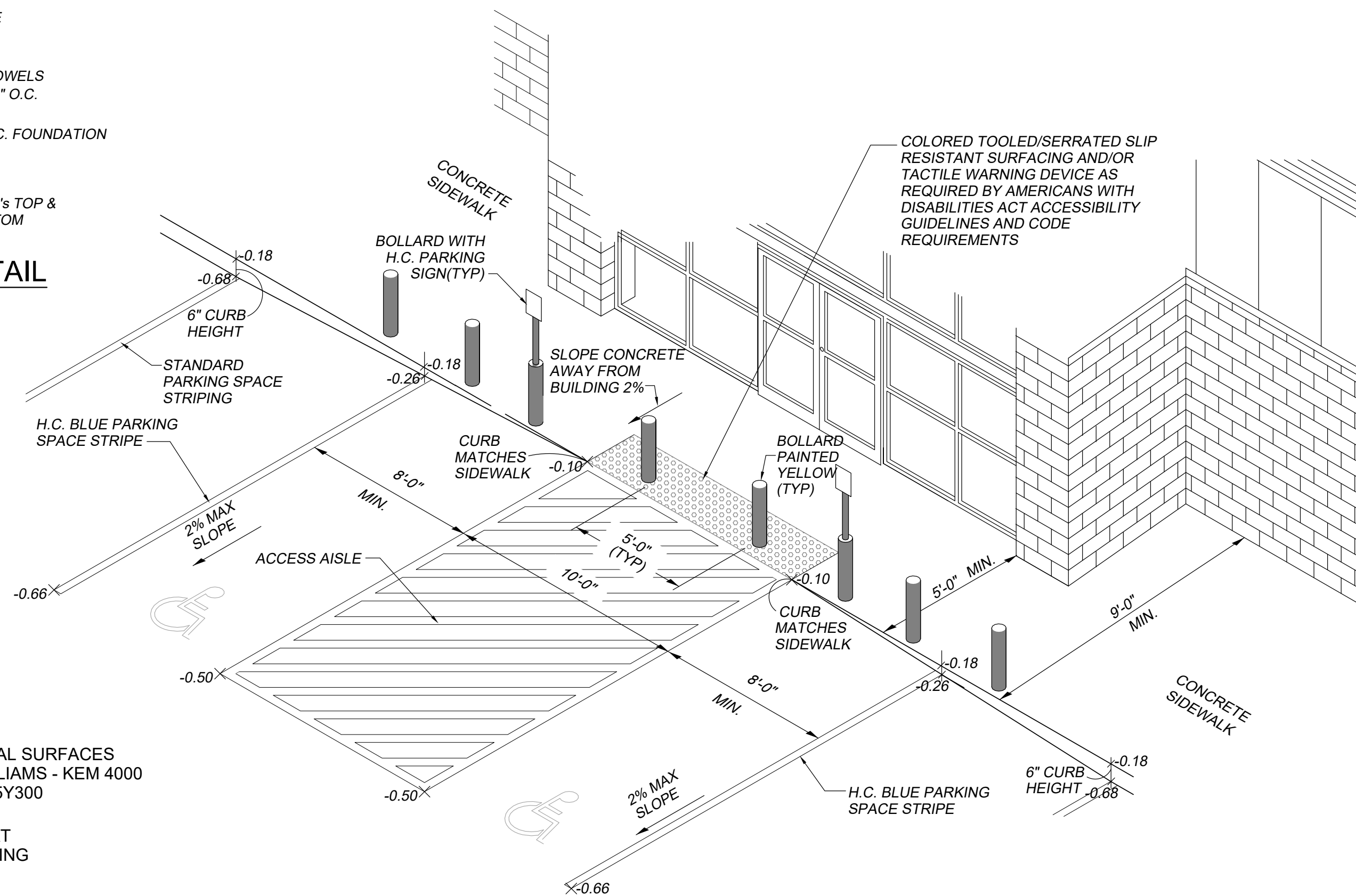
SURFACES SHOULD BE CLEAN, DRY. TOP COAT
SHERWIN WILLIAMS - PROMAR TRAFFIC MARKING
PAINT YELLOW TM5495

HANDICAP
STRIPING -
PARKING LOT

SURFACES SHOULD BE CLEAN, DRY. TOP COAT
SHERWIN WILLIAMS - PROMAR TRAFFIC MARKING
PAINT "H.C." BLUE



BOLLARD DETAIL
NOT TO SCALE



FRONT ENTRY ISOMETRIC
NOT TO SCALE

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NO.	DATE	DESCRIPTION	BY
2	11/18/21	REPLACED FENCE DETAIL	RP
1	10/7/21	REVISED DUMPSTER ENCLOSURE	EO



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WILLIS, MI

DETAILS

SHEET

C4

PLANT SCHEDULE				
PLAN KEY	BOTANICAL NAME	COMMON NAME	SIZE	QTY.
CANOPY DECIDUOUS TREES				
AoG	ACER RUBRUM 'OCTOBER GLORY'	RED MAPLE	2-1/2" cal.	24
QuM	QUERCUS MACROCARPA	BUR OAK	2-1/2" cal.	32
ORNAMENTAL TREES				
AgF	ACER GINNALA 'FLAME'	AMUR MAPLE	1-1/2" cal.	21
EVERGREEN TREES				
PgD	PICEA GLAUCA VAR. DENSATA	BLACK HILLS SPRUCE	6' ht.	32
DECIDUOUS SHRUBS				
PIG	POTENTILLA FRUTICOSA 'GOLDFINGER'	GOLDFINGER POTENTILLA	2'	19
VIN	VIBURNUM PLICATUM TOMENTOSUM 'NEWZAM'	NEWPORT VIBURNUM	2'	33
EVERGREEN SHRUBS				
JpS	JUNIPEROUS X PFITZERIANA 'SEA GREEN'	SEA GREEN JUNIPER	2'	27
TmT	TAXUS MEDIA 'TAUNTON'	TAUNTON YEW	2'	36

GENERAL SITE LANDSCAPING:
GLd 1 TREE PER 3,000 SF = 143,312/3,000 = 48 TREES REQUIRED: 48 TREES PROVIDED.

LANDSCAPING ADJACENT TO ROAD:
RLd 1 DECIDUOUS TREE PER 30', LESS DRIVEWAY OPENING = 721' - 36' = 685/30' = 23 TREES REQUIRED: 23 TREES PROVIDED.

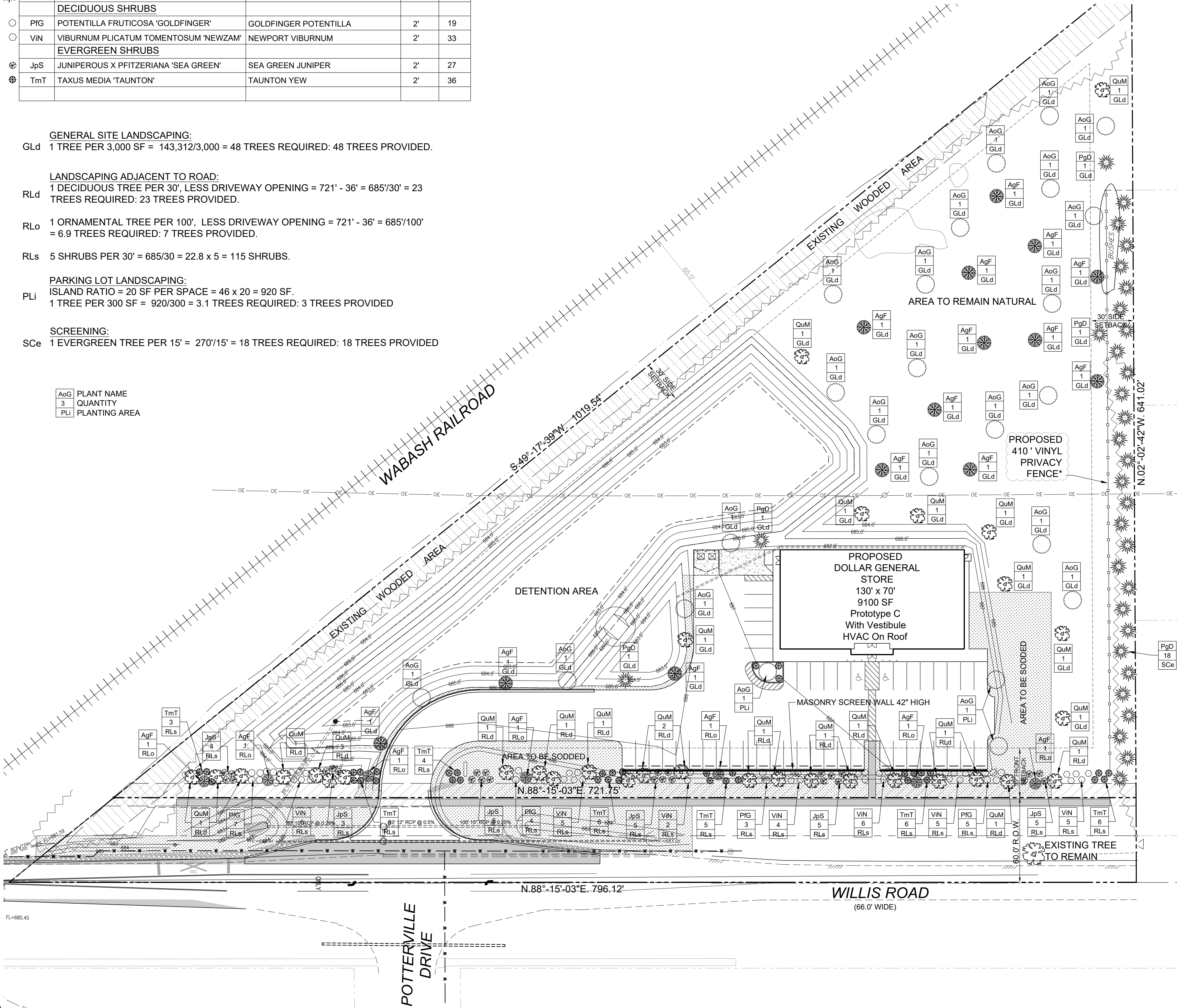
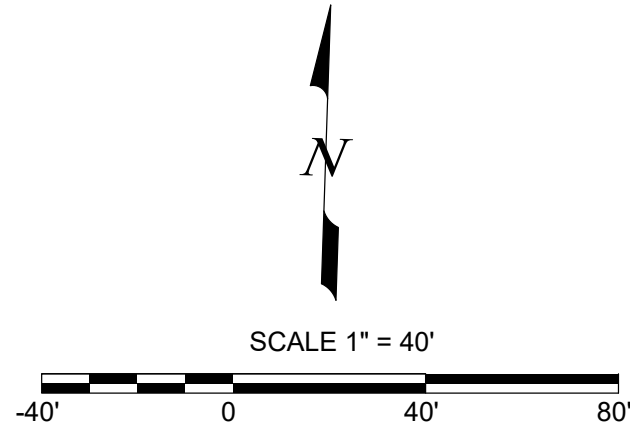
RLo 1 ORNAMENTAL TREE PER 100', LESS DRIVEWAY OPENING = 721' - 36' = 685/100' = 6.9 TREES REQUIRED: 7 TREES PROVIDED.

RLs 5 SHRUBS PER 30' = 685/30 = 22.8 x 5 = 115 SHRUBS.

PARKING LOT LANDSCAPING:
PLI ISLAND RATIO = 20 SF PER SPACE = 46 x 20 = 920 SF.
1 TREE PER 300 SF = 920/300 = 3.1 TREES REQUIRED: 3 TREES PROVIDED

SCREENING:
SCe 1 EVERGREEN TREE PER 15' = 270/15' = 18 TREES REQUIRED: 18 TREES PROVIDED

AoG PLANT NAME
3 QUANTITY
PLI PLANTING AREA



DG STD. SEEDING, SODDING, LANDSCAPING, AND IRRIGATION REQUIREMENTS:

LAWN SEEDING AND SODDING NOTES:

- ALL LAWNS FROM FACE OF THE BUILDING AND ON THE SIDE WHERE THERE IS PARKING OR A STREET ARE REQUIRED TO BE FULLY SODDED. ALL OTHER LANDSCAPE AREAS TO RECEIVE SEED.
- AREAS TO RECEIVE SEED OR SOD SHALL BE CLEAN OF DEBRIS AND FREE OF WEEDS.
- SEED MIX TO BE DROUGHT TOLERANCE FESCUE OR REGIONAL SPECIFIC BLEND. 1/4 TO 1/3 OF THE SEED MIXTURE TO BE ANNUAL RYE TO AIDE IN LIMITING EROSION OF PERENNIAL SEED DURING GERMINATION.
- STRAW SHALL BE THRESHED STRAW OF HAY, OATS, WHEAT, BARLEY, OR RYE. SPREAD AT A RATE OF 2 1/2 TONS PER ACRE. STRAW, NETTING, AND OTHER ANTI-EROSION MATERIALS TO BE REMOVED AFTER ESTABLISHED LAWN.
- MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER SEEDING. WATER REGULARLY TO KEEP LAWN AREAS MOIST TO MAXIMIZE GERMINATION AND MAINTAIN OPTIMUM GROWTH AND SURVIVAL TO ACHIEVE AN ACCEPTABLE STAND OF ESTABLISHED LAWN PRIOR TO THE STORE POSSESSION DATE, FREE OF ERODED OR BARE AREAS.

LANDSCAPE NOTES:

- CONTRACTOR SHALL PROVIDE LANDSCAPING IN ACCORDANCE WITH JURISDICTION REQUIREMENTS.
- ALL SOIL USED FOR PLANTING SHALL CONSIST OF REGIONALLY APPROPRIATE SOILS.
- ALL PLANTING BEDS SHALL HAVE A MINIMUM 3" DEPTH OF MULCH, WITH EDGING AS REQUIRED.
- ALL TREES LOCATED IN SOD AREAS SHALL HAVE A MULCH RING AROUND THEM WITH EDGING.
- ALL PLANTINGS SHALL BE THOROUGHLY WATERED BY THE LANDSCAPE CONTRACTOR AT THE TIME OF THE PLANTINGS.
- PRIOR TO FINAL ACCEPTANCE OF STORE BY DOLLAR GENERAL, THE SITE SHALL BE CLEAN OF ALL DEBRIS AND TRASH, AND MEET ALL REQUIREMENTS OUTLINED ABOVE.
- MAXIMUM SLOPE CUTS SHALL NOT EXCEED 4:1. ALL DISTURBED GRADES GREATER THAN 8:1 SHALL BE STABILIZED BY SODDING. SODDING PINS ARE TO BE USED ON ALL 4:1 GRADES.
- VEGETATION AT ENTRY SHOULD BE LOW TO ENSURE VISIBILITY OF STORE.
- IF TREES ARE REQUIRED IN FRONT OF BUILDING, SELECT SMALL LEAFED, NON DENSE SPECIES THAT WILL NOT INTERFERE WITH THE VISIBILITY OF STORE. THE SPACING SHALL CREATE VISUAL CORRIDORS TO STORE.

IRRIGATION NOTES:

- ALL LANDSCAPE AREAS AND LAWNS ADJACENT TO PAVED AREAS AND/OR STREETS ARE TO BE FULLY IRRIGATED.
- IRRIGATION SYSTEM TO INCLUDE ALL SPRAY HEADS, VALVES AND CONTROLLERS.
- A SEPARATE METER AND BACKFLOW PREVENTER WILL BE REQUIRED.
- LOCATE HEADS A MINIMUM OF 2'-0" FROM EDGE OF PAVEMENT / CURB.

*PRIVACY FENCE SHALL BE INSTALLED PER MANUFACTURER DETAIL, 6' MIN HT.

AREA TO BE SODDED = 28,514 SF

SOD HATCHED AREA.
REMAINDER OF DISTURBED AREA TO BE
HYDROSEEDED AND MULCHED



UTILITY DISCLAIMER

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NO.	DATE	DESCRIPTION	BY
5	11/18/21	REV FENCE/TREES PER REVIEW	RP
4	11/14/21	ADDED TREES PER REVIEW	EO
3	10/27/21	ADD LANDSCAPING PER REVIEW	EO
2	9/17/21	REVISED SOD LIMITS PER CO	RP
1	8/02/21	REVISED PER COMMENTS	EO



overland
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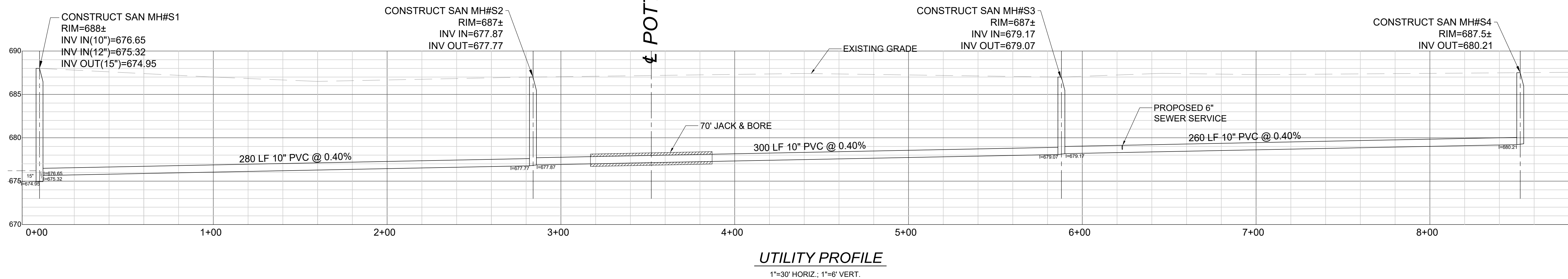
DOLLAR GENERAL

WILLIS, MI

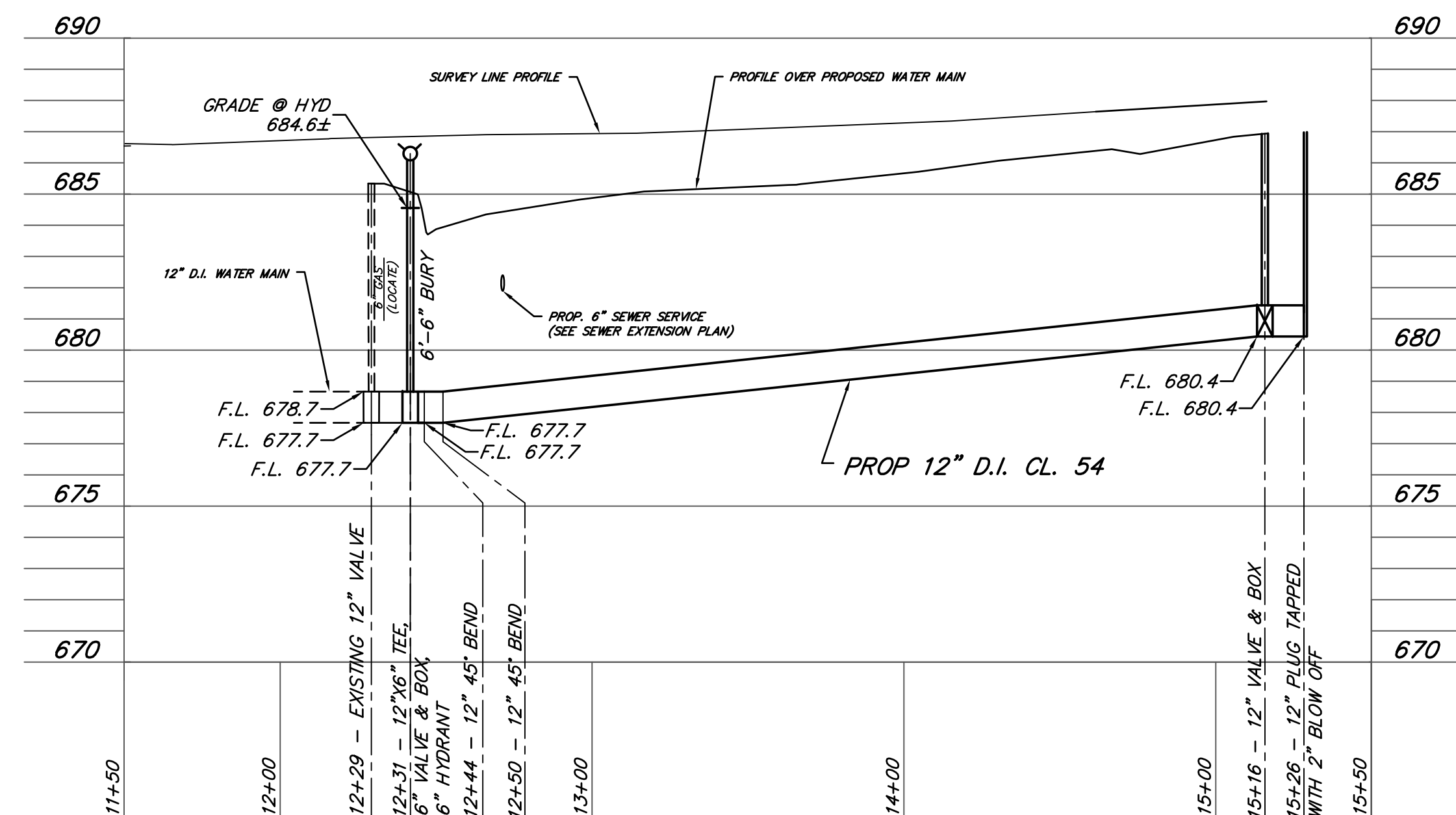
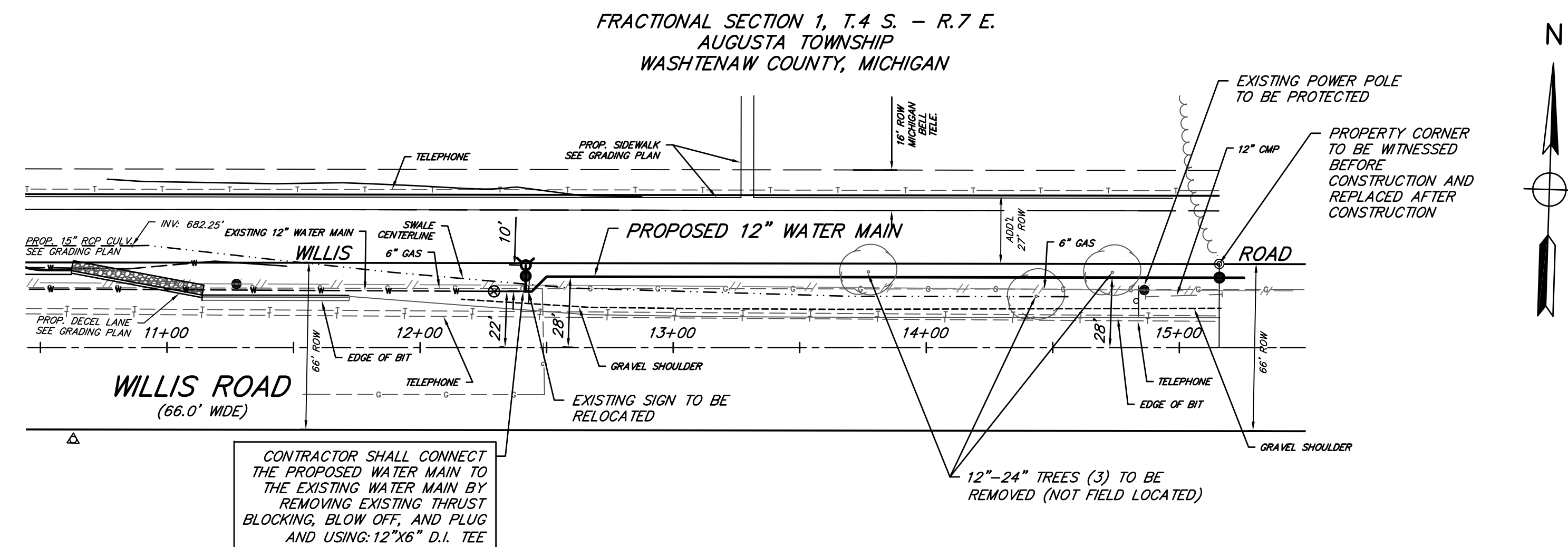
LANDSCAPE PLAN

SHEET

C5

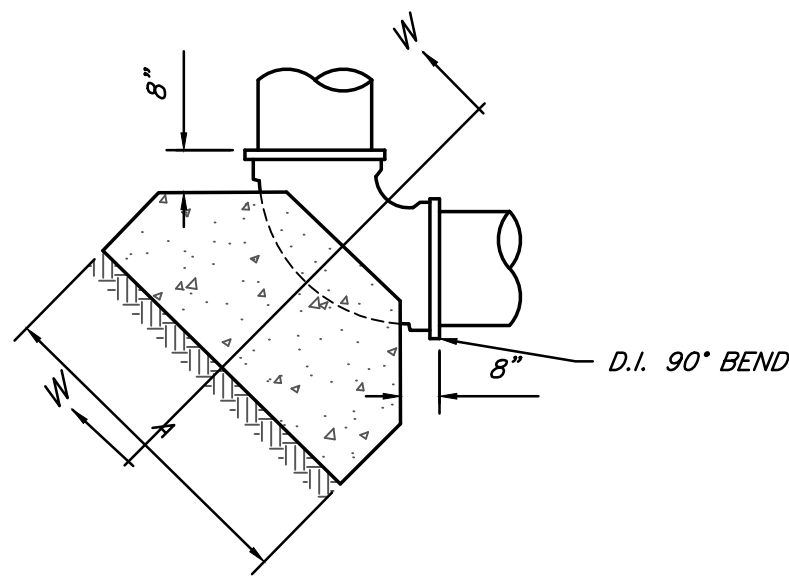


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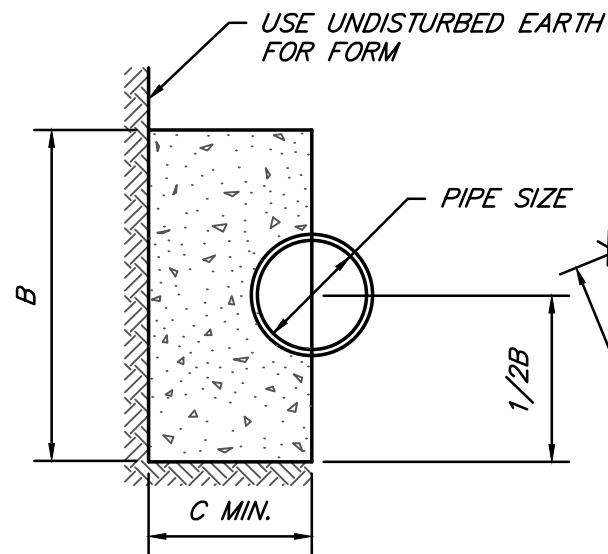
NOTE: EXISTING WATER MAIN LOCATION WAS BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR TO FIELD VERIFY.

BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>DOLLAR GENERAL WATER MAIN EXTENSION AUGUSTA TOWNSHIP, MI</p>			
<p>WATER PLAN AND PROFILE WILLIS ROAD 230' E OF POTTERVILLE DRIVE TO 170' W OF MCKEAN ROAD</p>			
<p>Spicer group</p>		<p>DUNDEE OFFICE 125 Helle Blvd, Suite 2 Dundee, MI 48131 Tel. 734-823-3308 www.SpicerGroup.com</p>	
DE. BY: TCA	CH. BY: BKP	PROJECT NO. 129777SG2020	
DR. BY: EMJ	APP. BY: TCA		
STDS. DW-1556	SHEET 1 OF 1	FILE NO. DW-4770-01	DW 01
DATE NOVEMBER 2021	SCALE H: 1"=40' V: 1"=4'		

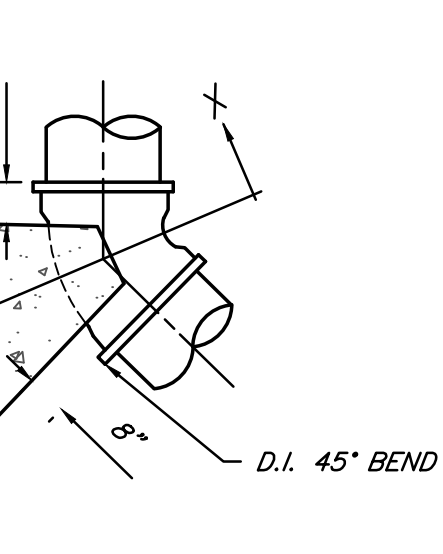


PLAN

DETAIL OF BLOCK FOR 90° BEND OR TEE
Q - MIN. CU. YD. CONCRETE PER BLOCK

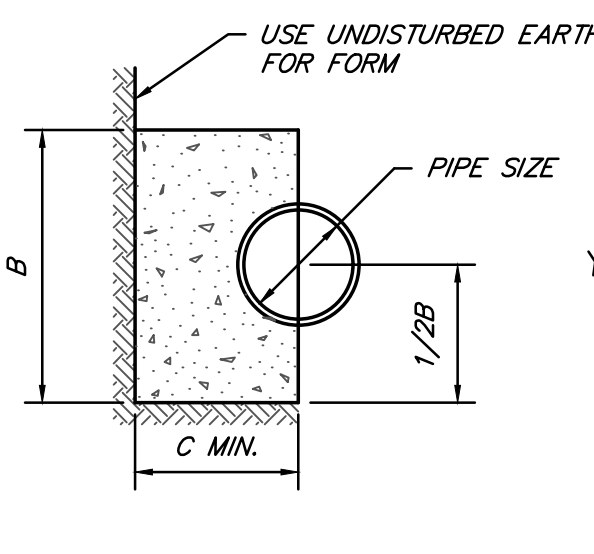


SEC. W-W

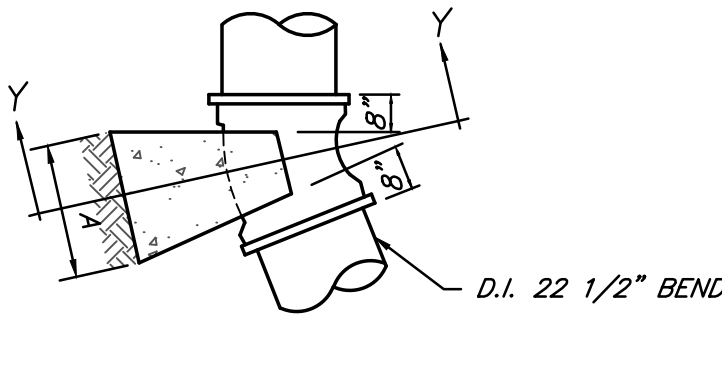


PLAN

DETAIL OF BLOCK FOR 45° BEND
Q - MIN. CU. YD. CONCRETE PER BLOCK

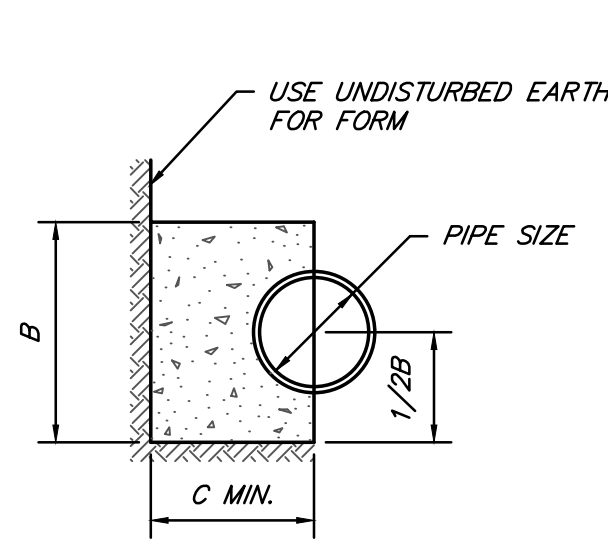


SEC. X-X

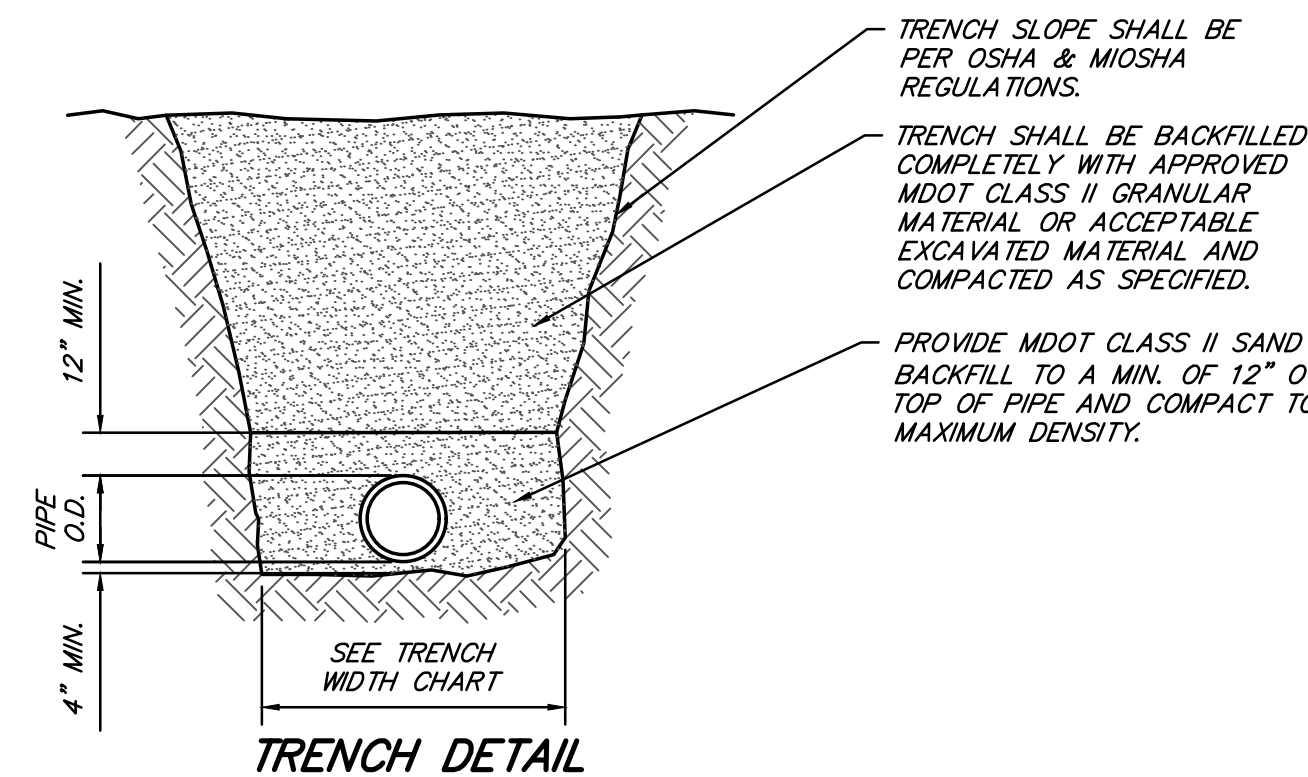


PLAN

DETAIL OF BLOCK FOR 22 1/2° BEND
Q - MIN. CU. YD. CONCRETE PER BLOCK

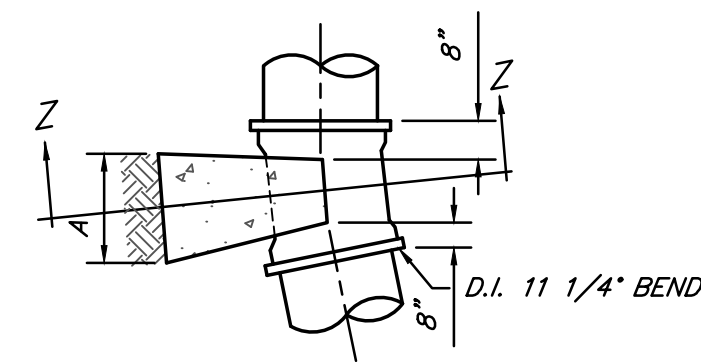


SEC. Y-Y



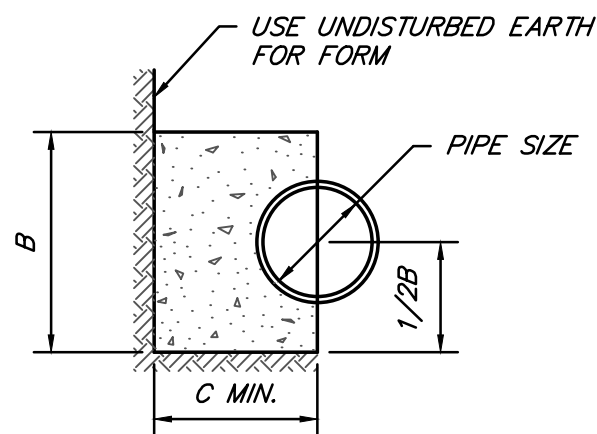
TRENCH DETAIL

TRENCH WIDTH CHART		
PIPE SIZE	TRENCH WIDTH	
	MINIMUM	MAXIMUM
6"	18"	24"
8" & 10"	24"	30"
12" & 15"	30"	36"
18"	34"	40"
21"	38"	42"
24"	42"	46"
27"	45"	49"
30"	49"	53"
36"	56"	60"
LARGER THAN 36"	I.D.+20"	I.D.+24"

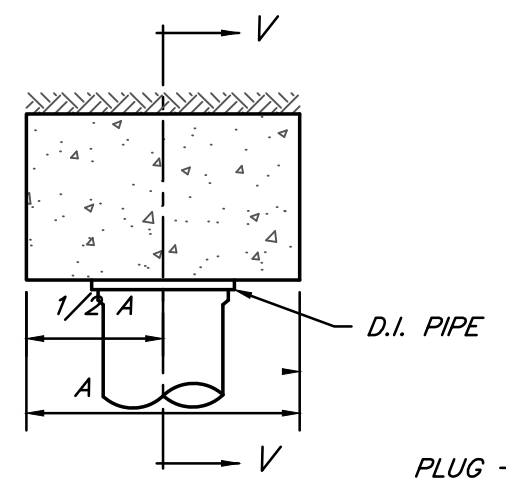


PLAN

DETAIL OF BLOCK FOR 11 1/4° BEND
Q - MIN. CU. YD. CONCRETE PER BLOCK

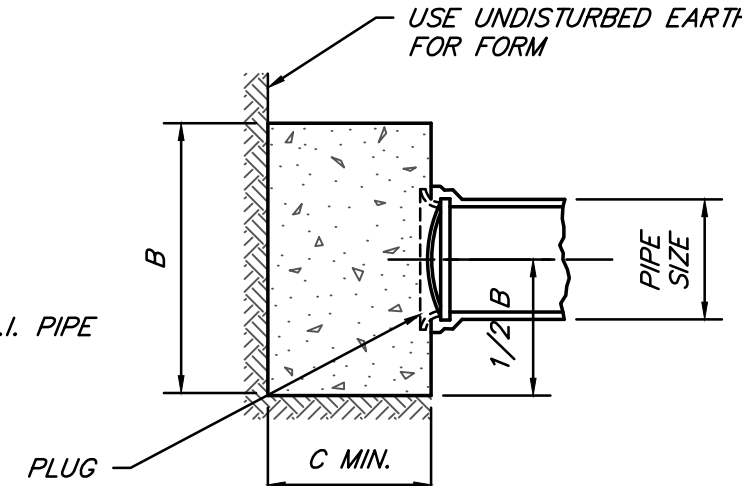


SEC. Z-Z



PLAN

DETAIL OF BLOCK FOR PLUG
Q - MIN. CU. YD. CONCRETE PER BLOCK



SEC. V-V

PIPE SIZE	90° BEND OR TEE				45° BEND				22 1/2° BEND				11 1/4° BEND				PLUG			
	A	B	C	Q	A	B	C	Q	A	B	C	Q	A	B	C	Q	A	B	C	Q
6", 8" & 10"	3'-0"	2'-0"	1'-3"	0.3	2'-0"	1'-6"	1'-3"	0.1	1'-6"	1'-0"	1'-3"	0.1	1'-0"	1'-0"	1'-3"	0.1	2'-0"	2'-0"	1'-6"	0.2
12"	3'-0"	2'-6"	1'-6"	0.4	2'-0"	2'-0"	1'-6"	0.2	2'-0"	1'-0"	1'-6"	0.1	1'-0"	1'-0"	1'-6"	0.1	2'-0"	2'-6"	1'-6"	0.3
16"	4'-0"	3'-0"	2'-0"	0.9	3'-0"	3'-0"	2'-0"	0.5	2'-0"	2'-0"	2'-0"	0.2	1'-0"	2'-0"	2'-0"	0.1	3'-0"	3'-6"	1'-9"	0.7
20"	5'-0"	4'-6"	2'-6"	1.23	4'-0"	3'-0"	2'-6"	0.82	3'-0"	2'-6"	2'-6"	0.58	2'-0"	1'-10"	2'-6"	0.3	4'-0"	4'-0"	2'-6"	1.45
24"	6'-0"	5'-6"	3'-0"	2.74	4'-0"	4'-0"	3'-0"	1.21	3'-0"	3'-0"	3'-0"	0.8	2'-6"	2'-2"	3'-0"	0.42	5'-0"	5'-0"	3'-0"	2.78
30"	7'-0"	7'-0"	3'-9"	5.39	5'-6"	5'-0"	3'-9"	2.14	4'-0"	3'-0"	3'-9"	1.35	3'-0"	2'-8"	3'-9"	0.98	6'-0"	6'-0"	3'-9"	4.96
36"	8'-0"	7'-6"	4'-6"	8.12	6'-0"	6'-0"	4'-6"	4.03	5'-0"	4'-0"	4'-6"	2.77	3'-0"	3'-2"	4'-6"	1.36	8'-0"	6'-0"	4'-6"	8.00
42"	9'-0"	8'-0"	5'-3"	11.58	7'-7"	7'-0"	5'-3"	6.43	5'-0"	5'-0"	5'-3"	3.85	4'-0"	3'-9"	5'-3"	2.17	8'-0"	8'-0"	5'-3"	12.44

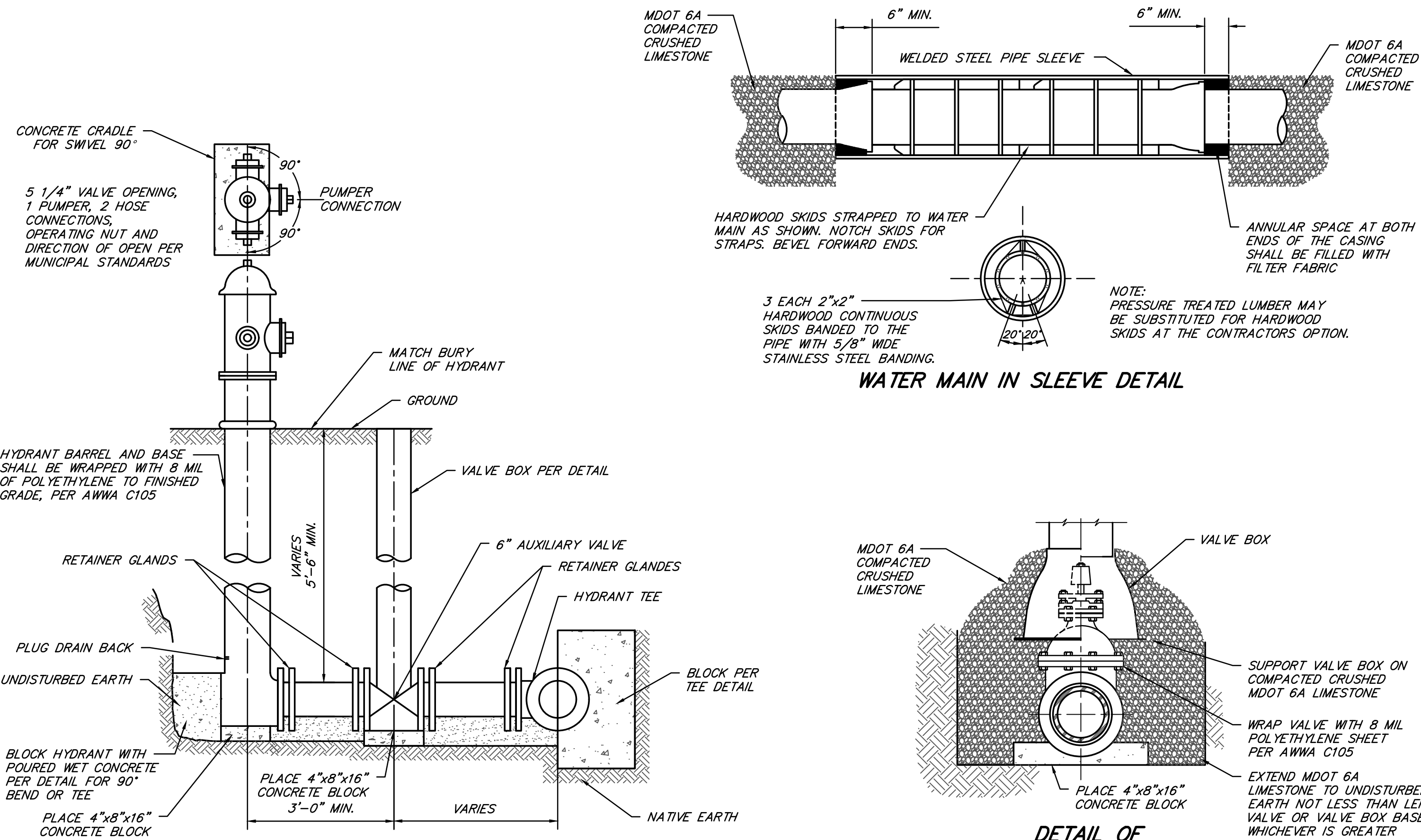
NOTE:

THE CONTRACTOR SHALL SECURE ALL MECHANICAL JOINT FITTINGS WITH RETAINER GLANDS IN ADDITION TO THRUST BLOCKING. RETAINER GLANDS SHALL BE MEGA-LUG AS MANUFACTURED BY EBAA IRON OR APPROVED EQUAL.

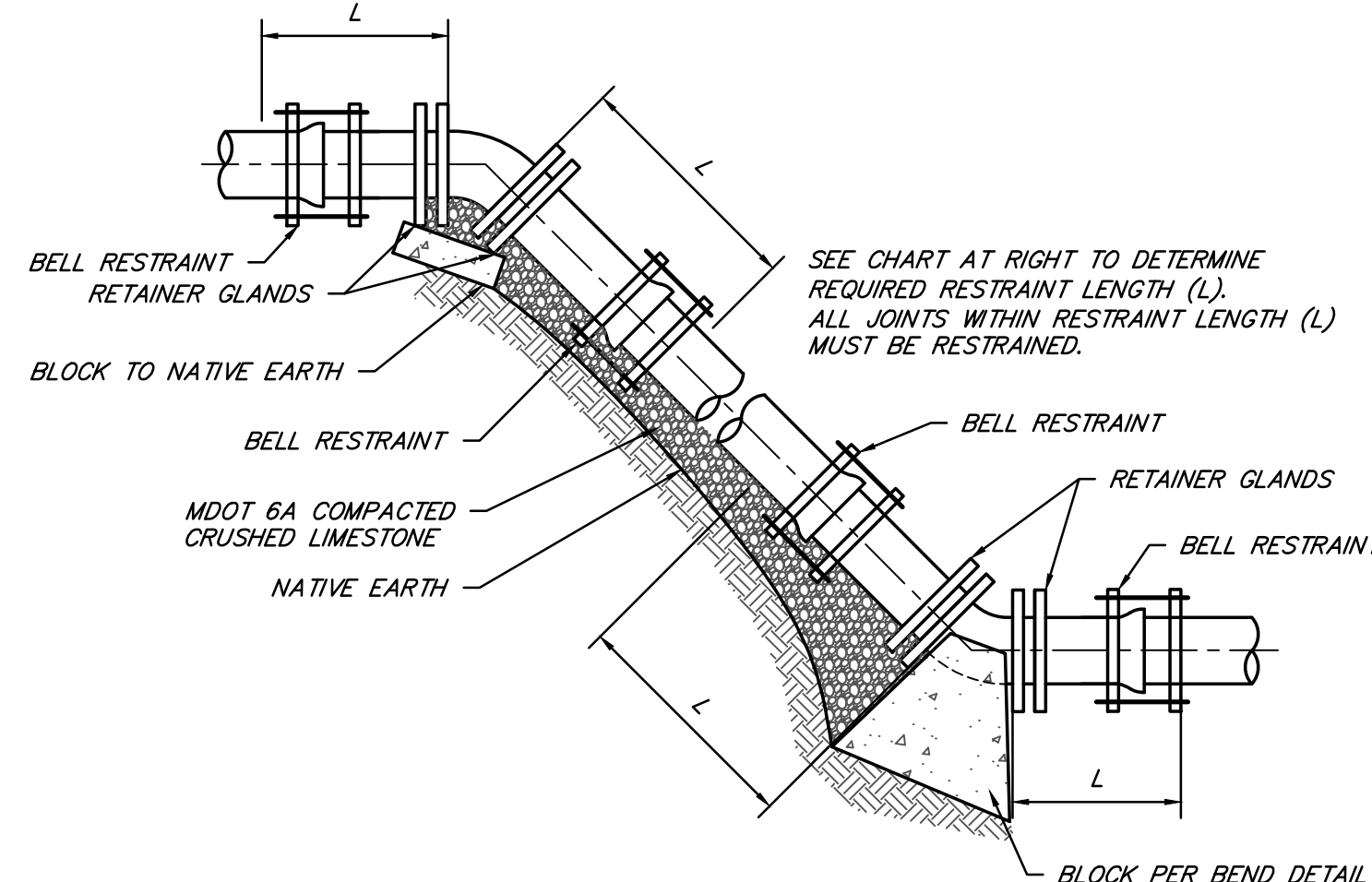
ALTERNATE FOR HYDRANTS: TWO 3/4" THREADED RESTRAINING RODS MAY BE USED AT HYDRANTS IN ADDITION TO ALL BLOCKING. RODS SHALL RECEIVE A MINIMUM DRY FILM OF 15 MILS (DTM) OF COAL TAR EPOXY. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH HYDRANT INSTALLED.

WRAP ALL FITTINGS, VALVES, HYDRANTS, AND ALL D.I. PIPE IN 8 MIL POLYETHYLENE SHEET PER AWWA C105

THE CONCRETE USED FOR BLOCKING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI IN 28 DAYS.

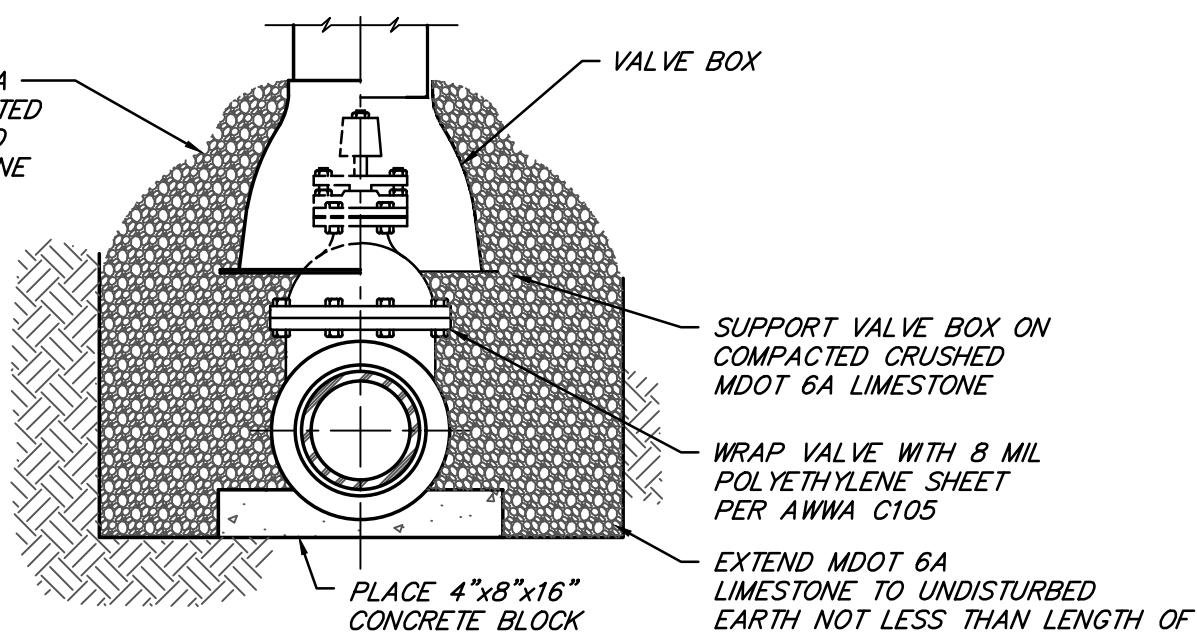


WATER MAIN IN SLEEVE DETAIL

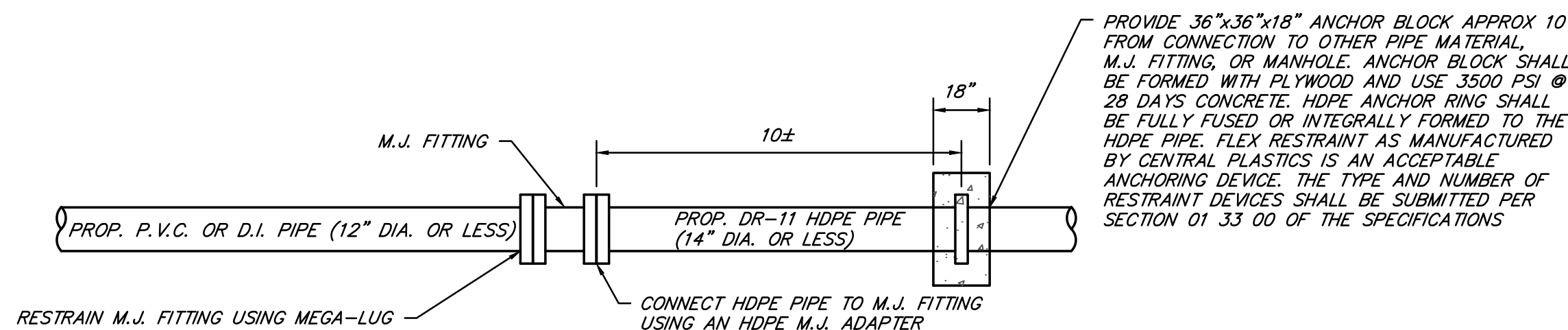


VERTICAL BEND DETAIL


PIPE RESTRAINT SCHEDULE FOR GROUND BURIED PRESSURE PIPES							
LENGTH (L) OF RESTRAINT REQUIRED (IN FEET)							
DEFLECTION ANGLE	PIPE						
	11-1/4" AND 22-1/2"	33-3/4"	45"	56-1/4"	67-1/2"	78-3/4"	90", TEE, OR DEAD END
6"	8	12	16	20	25	31	59
8"	10	15	20	26	33	40	77
10"	12	18	25	32	40	49	93
12"	14	21	29	37	47	57	109
14"	16	24	33	41	54	66	125
16"	18	27	37	47	60	74	141
18"	20	30	41	53	67	82	157
20"	22	33	45	58	73	90	172
24"	25	39	53	68	85	105	202
30"	30	46	63	82	102	126	244
36"	35	54	74	95	119	146	283
42"	40	61	83	107	133	164	320
48"	44	67	92	118	148	181	356

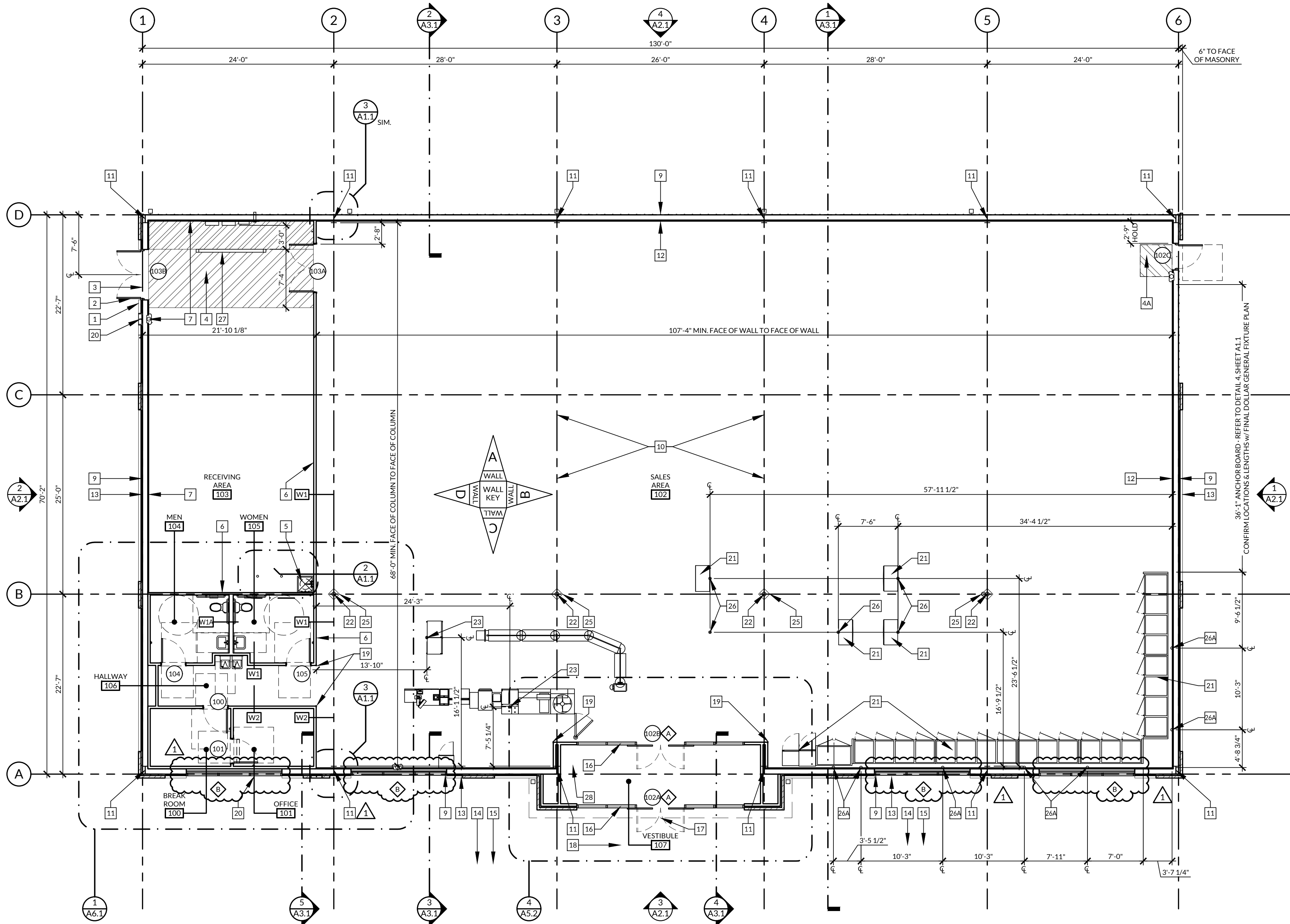


DETAIL OF SETTING OF VALVE BOXES



(14" DIPS OR LESS) HDPE CONNECTION DETAIL

NRP		REVISIONS	8-21-17
BY	MARK	REVISIONS	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREIN IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.			
STANDARD WATER MAIN DETAILS			
WATER MAIN STANDARD DETAILS			
		SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com	
DE. BY: SGV	CH. BY: SGV	PROJECT NO.	
DR. BY: SGV	APP. BY: SGV		
STDS.	SHEET 1 OF 1		
DATE: FEBRUARY, 2006	FILE NO.		
SCALE: NOT TO SCALE	DW-1556		



GENERAL NOTES

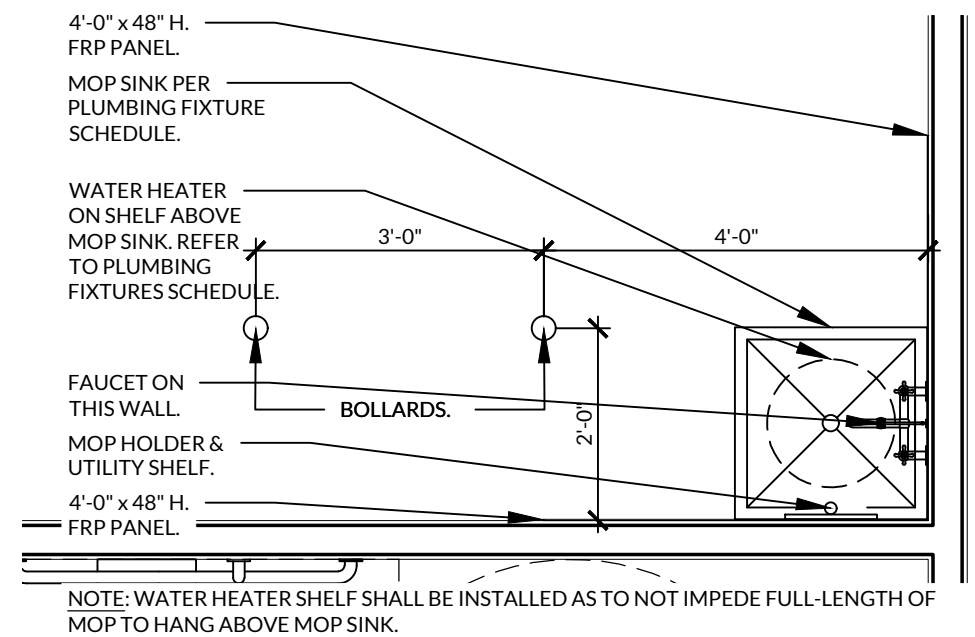
- ALL CONSTRUCTION SHALL ABIDE BY ALL LOCAL CODES & ORDINANCES SET FORTH BY THE LOCAL GOVERNING AUTHORITY.
- NOTIFY THE ARCHITECT IF QUESTIONABLE or UNFORESEEN CONDITIONS ARE ENCOUNTERED or IF CONDITIONS DIFFER FROM WHAT IS SHOWN or NOTED IN THE PLANS.
- DO NOT SCALE THE DRAWINGS. CONTACT THE ARCHITECT OF RECORD IF THERE IS A DISCREPANCY w/ DIMENSIONS. DIMENSIONAL DATA SHALL BE OBTAINED FROM WRITTEN INFORMATION ONLY. VERIFY ALL DIMENSIONS BEFORE PROCEEDING, ANY DIMENSIONAL DEVIATION FROM THAT SHOWN ON THE DRAWINGS, WHICH MAY AFFECT INTENT OF DESIGN or PROPER INCORPORATION OF ELEMENTS, SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION PROMPTLY & RESOLUTION OBTAINED BEFORE PROCEEDING.
- ARCHITECTURAL DIMENSIONS ARE GIVEN FROM FACE OF STUDS, CONCRETE, MASONRY, or COLUMN GRID LINES UNLESS NOTED OTHERWISE.
- EXTERIOR DIMENSIONS ARE GIVEN TO FACE OF WALL, COLUMN GRID LINES, MID POINT OF OPENINGS or FACE OF STUDS UNLESS NOTED OTHERWISE.
- MINIMUM SALES AREA CLEAR DIMENSIONS TO BE MAINTAINED. CONCRETE SLAB & PRE-ENGINEERED METAL BUILDING TO BE DESIGNED TO ACCOMMODATE THESE DIMENSIONS.
- METAL BUILDING COLUMNS SHALL BE STRAIGHT, TAPERED COLUMNS REQUIRE WRITTEN APPROVAL FROM DOLLAR GENERAL ARCHITECTURAL & ENGINEERING DEPARTMENT. MAINTAIN INTERIOR CLEARANCE OF 68'-0" BETWEEN FACE OF COLUMNS ON SALES FLOOR.
- FINISH FLOOR ELEVATION SHALL BE REFERENCED AS 100'-0".
- PATCH & REPAIR ANY DAMAGE INCURRED DURING CONSTRUCTION.
- CONTRACTOR RESPONSIBLE FOR TEMPORARY & PERMANENT SHORING & STABILIZATION OF ALL WALLS, FLOORS, & ROOFS.
- GENERAL CONTRACTOR SHALL COORDINATE ALL MECHANICAL, ELECTRICAL, & PLUMBING WORK, & PROVIDE ALL NECESSARY CONSTRUCTION TO FACILITATE SAID WORK INCLUDING, BUT NOT LIMITED TO ROUGH OPENINGS, EQUIPMENT SUPPORTS, BACKING & COORDINATION OF FINISH WORK, & UTILITY LOCATIONS & CONNECTIONS, WHETHER or NOT SPECIFICALLY INDICATED ON CONTRACT DOCUMENTS.
- EXTEND ALL INTERIOR PARTITIONS TO BOTTOM OF DECK or TO BOTTOM OF STRUCTURAL MEMBERS UNLESS NOTED OTHERWISE. MUST ALLOW FOR 2" DEFLECTION; PROVIDE DEFLECTION TRACK TO UNDERSIDE OF DECK.
- FOR PARTITION TYPES NOT SHOWN, REFER TO RELATED BUILDING SECTIONS.
- PROVIDE BLOCKING AS REQUIRED BETWEEN STUDS IN ALL RESTROOMS FOR GRAB BARS, MIRRORS, ACCESSORIES, & ANY OTHER ATTACHMENTS.
- ALL HEADERS OVER DOORS or OTHER OPENINGS UP TO 5'-0" WIDE SHALL BE 6" TALL METAL STUD BOX HEAD UNLESS NOTED OTHERWISE.
- ALL TOILET ROOMS SHALL HAVE WATER RESISTANT GYPSUM BOARD ON ALL PLUMBING WALLS.
- PROVIDE FIBERGLASS REINFORCED PANEL AT MOP SINK LOCATION TO HEIGHT OF 4'-0". EXTEND 2'-0" MINIMUM HORIZONTALLY PAST FIXTURE.
- ADDITIONAL REGISTERS MAY BE REQUIRED IF THE ANNUAL SALES PROJECTION EXCEEDS THE PERFORMANCE OF A STANDARD STORE. COORDINATE THE FINAL LOCATION & AMOUNT OF REGISTERS w/ THE FINAL APPROVED FIXTURE PLAN.
- FOR ALL EXTERIOR SIDEWALKS, H.C. ACCESSIBLE RAMPS, PIPE BOLLARDS, ETC. CIVIL DRAWINGS TO TAKE PRECEDENCE.
- ALL WOOD BLOCKING, FRAMING, & SHEATHING TO BE FIRE-RETARDANT TREATED.
- GENERAL CONTRACTOR SHALL PROVIDE A PORTABLE FIRE EXTINGUISHER IN EVERY CONSTRUCTION TRAILER, SHED, or SHIPPING ON THE PROJECT SITE DURING CONSTRUCTION.

FLOOR PLAN KEYNOTES

- RECEIVING DOOR BUZZER - TORK MDL#TA725 or EQUAL.
- DOOR SCOPE. REFER TO A1.0 & DOOR SCHEDULE.
- WEATHER STRIP & LOW PROFILE THRESHOLD PROVIDED BY BASS SECURITY. SEE TO A1.0 & DOOR SCHEDULE.
- STRIP FLOOR FOR DESIGNATED EGRESS PATH (PAINT YELLOW) & 3'-0" DESIGNATED EMS PANEL CLEARANCE (PAINT RED).
- STRIP FLOOR FOR DESIGNATED EGRESS PATH (PAINT YELLOW).
- PROVIDE & INSTALL WATER HEATER (MINIMUM 10 GALLON) ABOVE THE MOP SINK. REFER TO PLUMBING DRAWINGS FOR ACTUAL SIZE & SPECS.
- 3/8" METAL STUD w/ 5/8" GYPSUM BOARD (BOTH SIDES). REFER TO NOTED WALL SECTION. REFER TO ROOM FINISH SCHEDULE FOR GYPSUM BOARD HEIGHT AT ANY PARTICULAR WALL.
- METAL LINER PANELS TO 8'-0" A.F.F. (BY PRE-ENGINEERED BUILDING MANUFACTURER).
- NOT USED.
- METAL BUILDING PANELS (BY PRE-ENGINEERED BUILDING MANUFACTURER). PROVIDE TAMPER-RESISTANT FASTENERS FOR BOTTOM 8'-0".
- CONCRETE SLAB w/ 6x6xW14 WELDED WIRE MESH OVER POLYETHYLENE VAPOR BARRIER (MIN. 10 MM THICK) OVER CRUSHED STONE BASE. TYPICAL. PROVIDE CONTROL JOINTS AS SHOWN ON STRUCTURAL DRAWINGS.
- METAL BUILDING FRAME. REFER TO NOTED WALL SECTION & STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- 5/8" GYPSUM BOARD (TO 10'-0" A.F.F.) OVER METAL LINER PANELS & INSULATION w/ VAPOR BARRIER.
- 4" MASONRY or NICHIIHA PANEL or METAL BUILDING PANELS. REFER TO EXTERIOR ELEVATIONS. PROVIDE PROPER ANCHORAGE TO STRUCTURE.
- SLOPE CONCRETE 1/8" PER FOOT AWAY FROM BUILDING. REFER TO CIVIL DRAWINGS FOR EXACT LAYOUT & DIMENSIONS.
- BROOM FINISH CONCRETE SIDEWALK, TYPICAL (NOT SHOWN). COORDINATE w/ CIVIL DRAWINGS FOR EXACT LAYOUT & DIMENSIONS.
- STOREFRONT SYSTEM. REFER TO DOOR & WINDOW SCHEDULE & TO NOTED WALL SECTION FOR ADDITIONAL INFORMATION. CONTINUE GYPSUM BOARD ABOVE STOREFRONT TO DECK.
- LINE OF SOFFIT or CANOPY ABOVE.
- APPROXIMATE LOCATION OF A.D.A. COMPLIANT ACCESSIBLE RAMP (NOT SHOWN) w/ YELLOW PAINTED SIDES TO ACCESSIBLE PARKING STALLS. COORDINATE w/ CIVIL DRAWINGS FOR LOCATION, DIMENSIONS, & DETAILS.
- MC CUE CART & BUMPER GUARDS, TOP INSTALLED @ 3'-5" A.F.F. ORDER TRIM KIT FOR THIS PROTOTYPE (PROTOTYPE "C").
- WALL HYDRANT. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- REFRIGERATION BY DOLLAR GENERAL.
- ROUND PIPE STEEL COLUMN w/ RECESSED BASE PLATE. PAINT SW7005 PURE WHITE. WRAP STEEL COLUMN w/ TIGHT LOOP CARPET (BLACK) FROM BASE TO 48" A.F.F.
- POWER POLE. COORDINATE FINAL LOCATION w/ ELECTRICAL DRAWINGS & FINAL DOLLAR GENERAL FIXTURE PLAN.
- CONTROL JOINTS ARE TO BE PLACED ALONG COLUMN LINES & MID POINT BETWEEN COLUMN LINES. COORDINATE w/ STRUCTURAL DRAWINGS. (NOT SHOWN ON ARCHITECTURAL PLAN).
- FLOOR AREA AT BASE OF COLUMNS, WITHIN THE CONSTRUCTION JOINTS, TO BE PAINTED BLACK MAGIC TINT.
- ENDCAP COOLER/FREEZER & DISPLAY LIGHTING AS NEEDED TO BE HARDWIRED THROUGH WHITE SO CORD. G.C. TO LEAVE BOTTOM HANGING AT 80" A.F.F. REFER TO ELECTRICAL DRAWINGS. CORD ANCHORED TO PURLINS ABOVE. COORDINATE LOCATION w/ FINAL DOLLAR GENERAL FIXTURE PLAN.
- WALL OUTLETS FOR BANKS OF COOLERS & FREEZERS & COSMETICS VALANCE. REFER TO ELECTRICAL DRAWINGS.
- MC CUE RAILING IN FRONT OF ELECTRICAL PANELS. 8'-0" LONG w/ TOP TWO RAILINGS & NO MIDDLE POST.
- CART AREA.

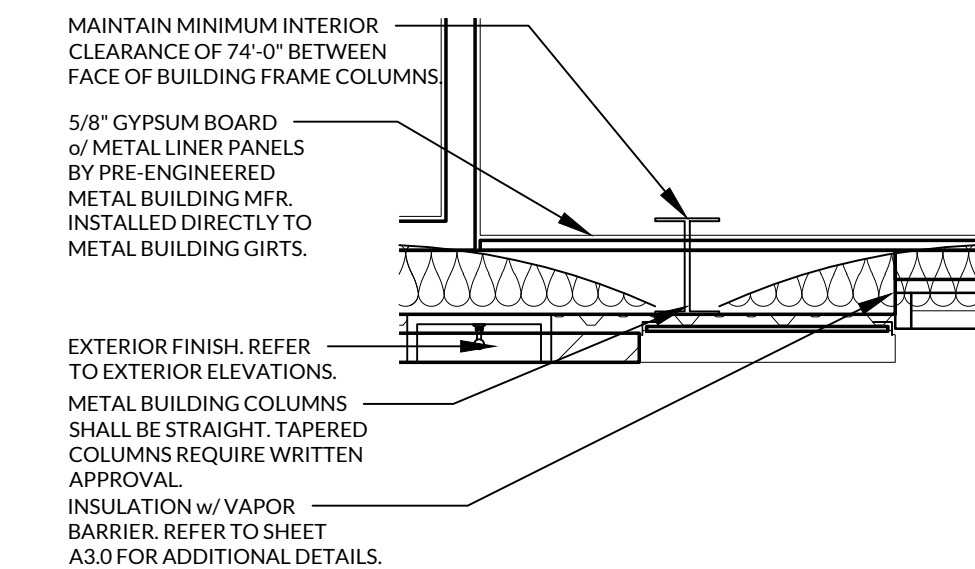
1 FLOOR PLAN

SCALE: 1/8"=1'-0"



2 ENLARGED MOP SINK PLAN

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

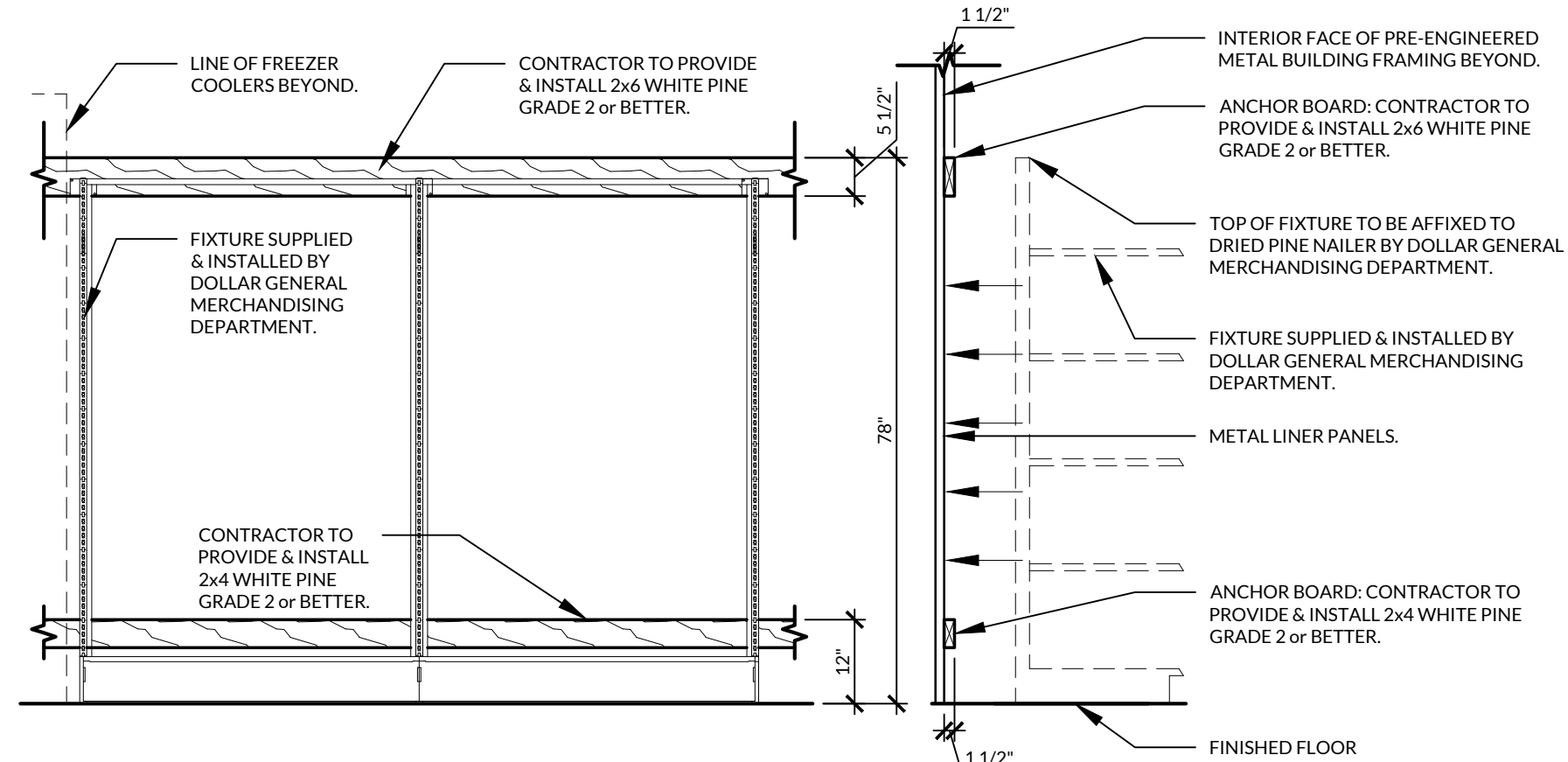


3 DETAIL AT COLUMN

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

4 ANCHOR BOARD DETAIL

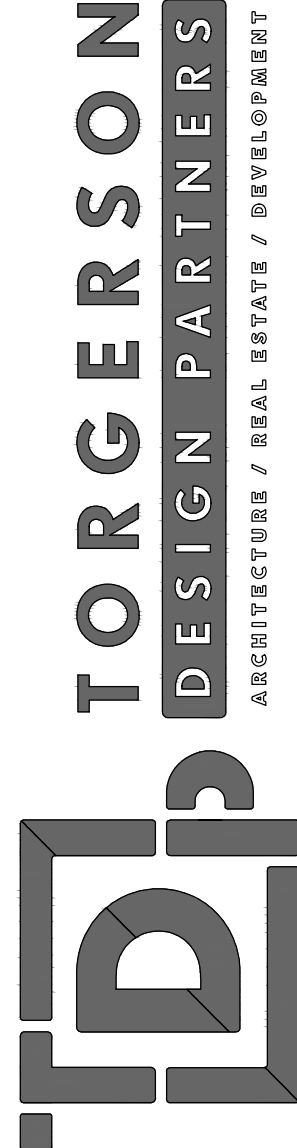
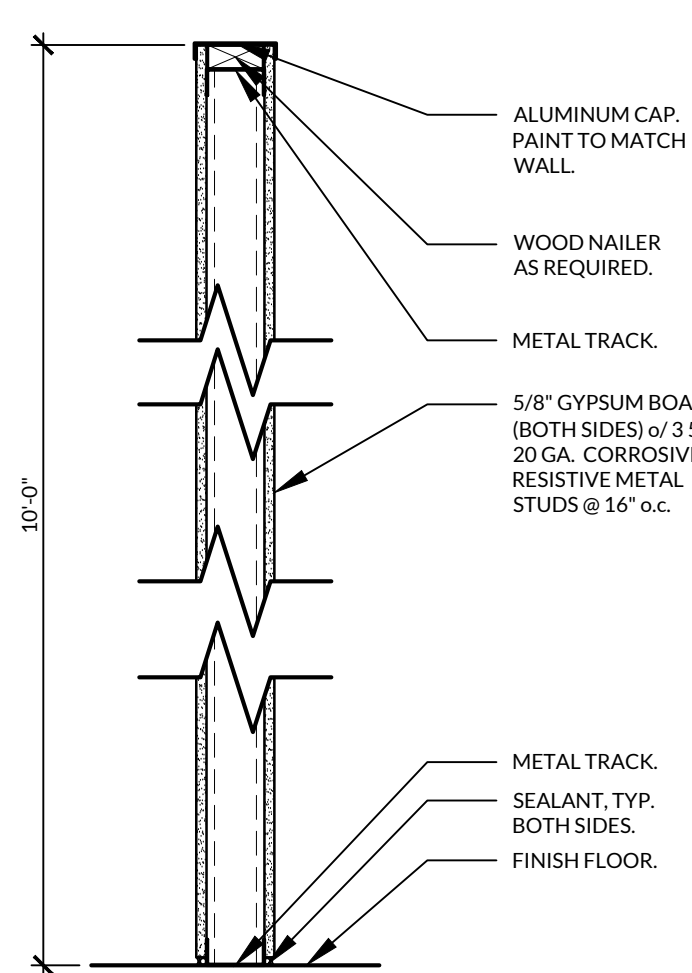
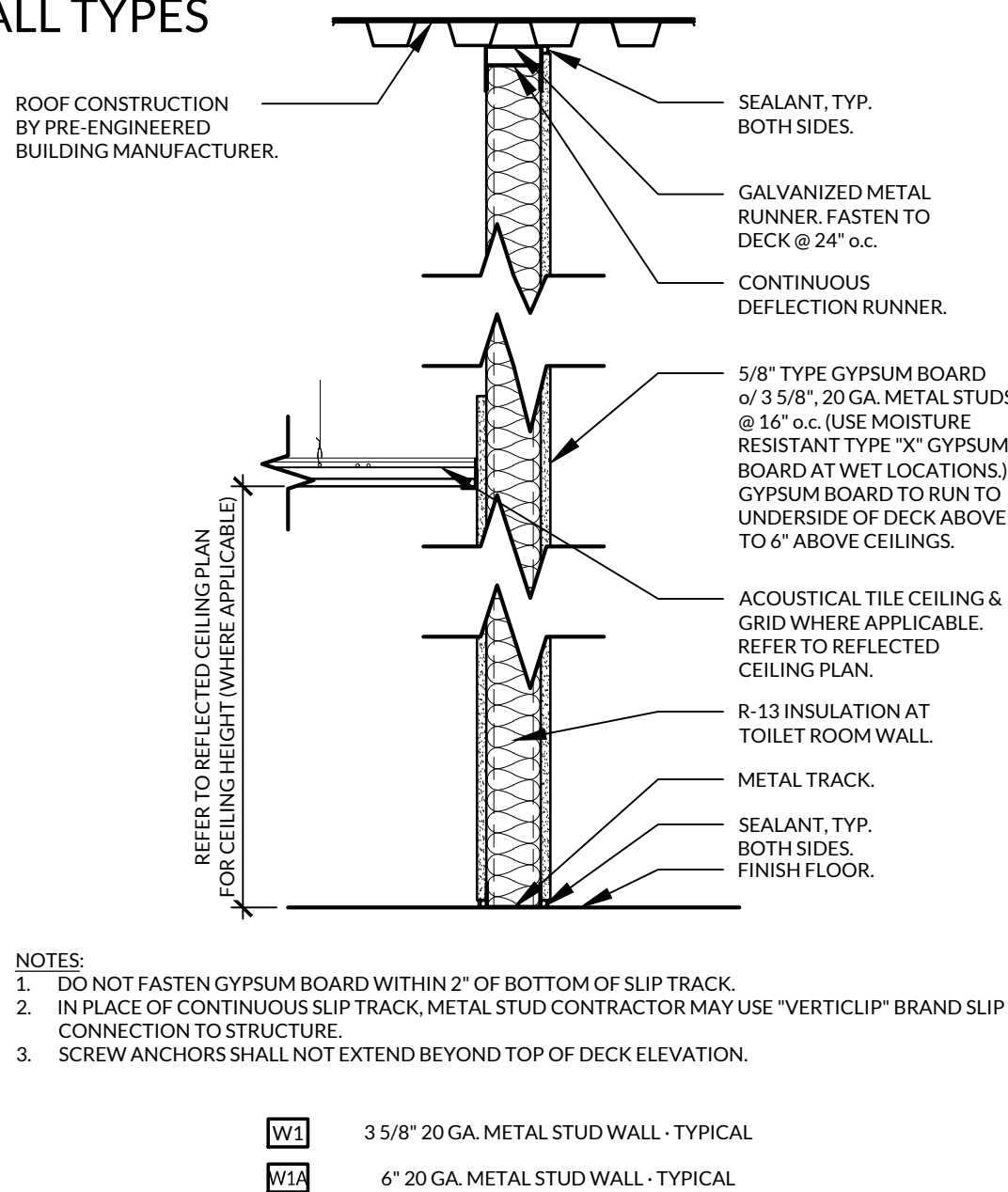
SCALE: 1/2"=1'-0"



DRINK FIXTURE WALL MOUNTING SUPPORT NOTES:

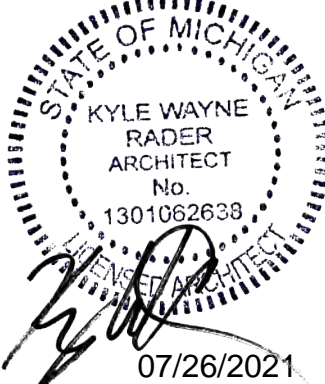
- PROVIDE & INSTALL 2x6 WHITE PINE - GRADE 2 or BETTER.
- PROVIDE & INSTALL 2x4 WHITE PINE - GRADE 2 or BETTER.
- FASTEN THE 2x6 TO THE WALL w/ THE TOP EDGE OF THE BOARD AT 6'-6" A.F.F. REFER TO FIXTURE PLAN FOR LENGTH & LOCATION OF BOARD.
- FASTEN THE 2x4 TO THE WALL w/ THE TOP EDGE OF THE BOARD AT 1'-0" A.F.F. REFER TO FIXTURE PLAN FOR LENGTH & LOCATION OF BOARD.
- PRE-DRILL PILOT HOLES IN ALL BOARDS PRIOR TO INSTALLATION TO PREVENT WOOD SPLITS.
- SECURE THE 2x6 w/ THREE SELF-TAPPING SCREWS PER WALL STUD. MINIMUM SCREW SIZE IS 4"x1/4".
- FASTEN THE 2x4 w/ ONE SELF-TAPPING SCREW PER WALL STUD. MINIMUM SCREW SIZE IS 4"x1/4".
- CAULK THE EDGES OF THE 2x6 AT THE TOP & BOTTOM WHERE IT MEETS THE WALL PRIOR TO PAINTING.
- PRIME & PAINT BOTH BOARDS TO MATCH WALL COLOR.
- VERIFY LOCATIONS OF ANCHOR BOARD w/ FIXTURE PLAN.

WALL TYPES



DOLLAR GENERAL

STORE #22731 - PROTOTYPE "C"
AUGUSTA, MICHIGAN
WILLIS ROAD & POTTERVILLE DRIVE
AUGUSTA, WASHTENAW COUNTY, MICHIGAN 48191



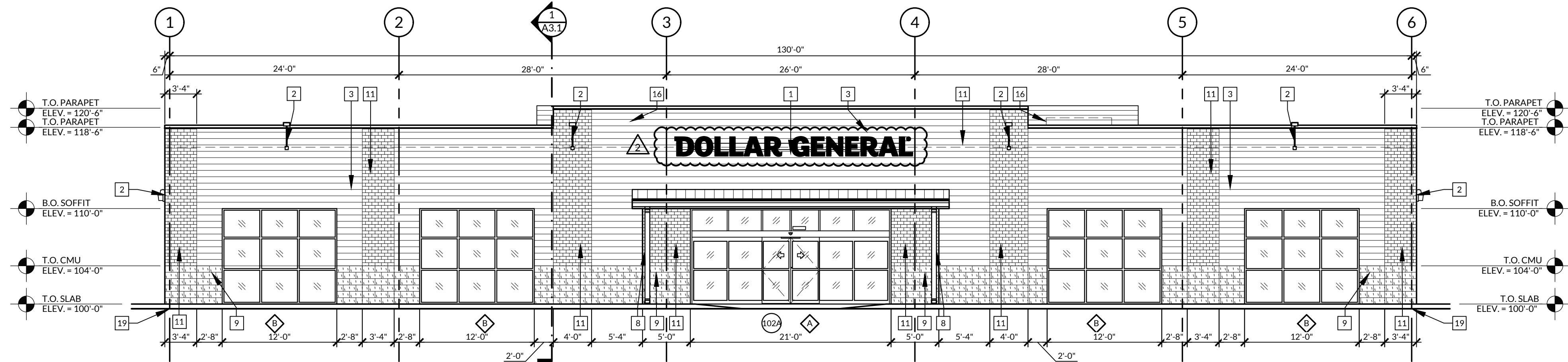
ARCHITECT OF RECORD:
KYLE W. RADER
ARCHITECTURAL LICENSE #:
1301062638

PROJECT NUMBER:
20264 - DGAM

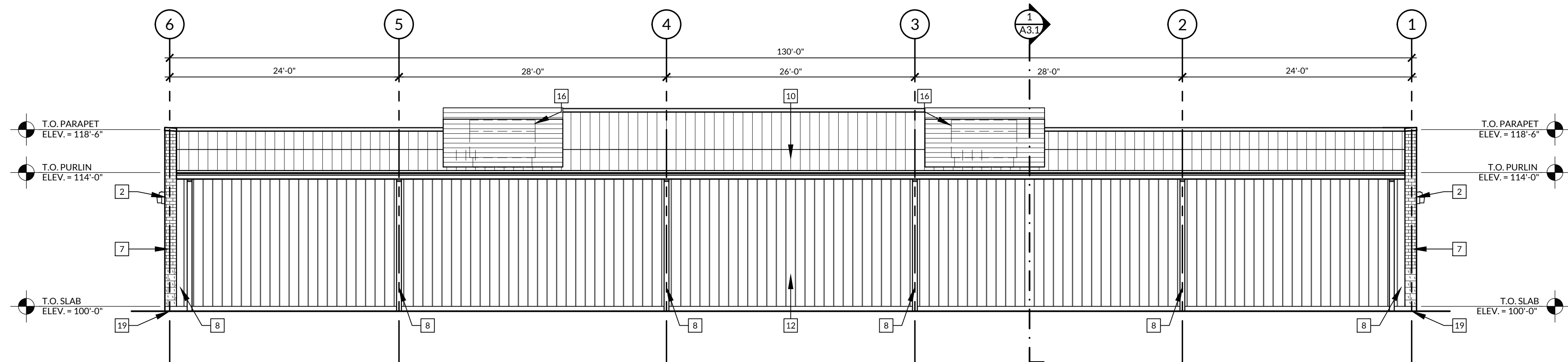
REVISION:
REV 001
JULY 26, 2021

A1.1
FLOOR PLAN
& DETAILS

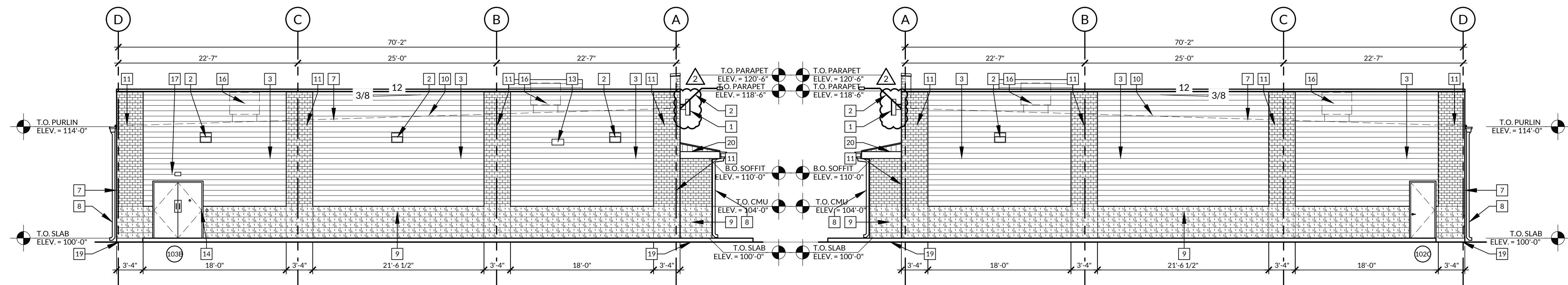
DATE: APRIL 01, 2020



1 SOUTH ELEVATION
SCALE: 1/8"=1'-0"



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

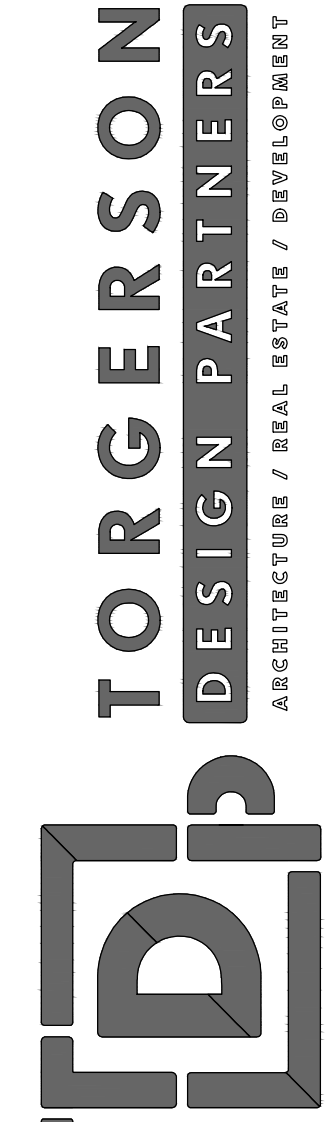


3 EAST ELEVATION
SCALE: 1/8"=1'-0"

4 WEST ELEVATION
SCALE: 1/8"=1'-0"

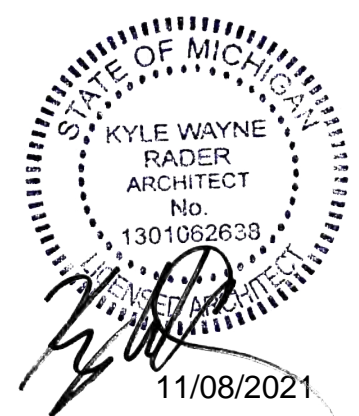
ELEVATION KEYNOTES

- 1 SIGN FURNISHED & INSTALLED BY DOLLAR GENERAL CORPORATION w/ CIRCUIT AS NOTED ON ELECTRICAL PLAN. SIGN TO BE CENTERED ON FRONT OF BUILDING. CONTRACTOR IS TO PROVIDE ADEQUATE BLOCKING AS REQUIRED BY SIGN MANUFACTURER TO SUPPORT SIGN WEIGHT OF UP TO 1,400 LBS. COORDINATE THE PROPER SIGNAGE TO BE USED w/ DOLLAR GENERAL.
- 2 EXTERIOR LIGHTING. REFER TO ELECTRICAL DRAWINGS TO VERIFY EXACT QUANTITY, LOCATION, MOUNTING HEIGHT & OTHER SPECIFICATIONS.
- 3 NICHIIHA VINTAGEWOOD ARCHITECTURAL PANELS. REFER TO EXTERIOR FINISH SCHEDULE FOR COLOR.
- 4 NOT USED.
- 5 NOT USED.
- 6 NOT USED.
- 7 TRIM. REFER TO EXTERIOR FINISH SCHEDULE FOR COLOR.
- 8 GUTTER & DOWNSPOUT. REFER TO EXTERIOR FINISH SCHEDULE FOR COLOR.
- 9 4" SPLIT FACE CONCRETE MASONRY UNIT. REFER TO EXTERIOR FINISH SCHEDULE FOR COLOR.
- 10 STANDING SEAM METAL ROOF. REFER TO EXTERIOR FINISH SCHEDULE FOR COLOR.
- 11 4" ECONOMY SIZE BRICK. REFER TO EXTERIOR FINISH SCHEDULE FOR COLOR.
- 12 PRE-FINISHED METAL WALL PANELS. PROVIDE TAMPER-RESISTANT FASTENERS FOR BOTTOM 8'-0". REFER TO EXTERIOR FINISH SCHEDULE FOR COLOR.
- 13 VENT FOR BATHROOM EXHAUST. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION & ADDITIONAL INFORMATION.
- 14 DOOR BUZZER. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- 15 NOT USED.
- 16 HVAC UNITS MOUNTED ON ROOF. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION & LOCATIONS. UNITS TO BE SCREENED FROM VIEW. SCREEN TO BE CITYSCAPES, INC. "ENVISOR SCREENING SYSTEM" or APPROVED EQUAL.
- 17 OUTSIDE AIR TEMP. SENSOR MOUNTED OVER RECEIVING DOORS @ 8'-0" A.F.F.
- 18 MINIMUM EAVE HEIGHT IS 14'-0" A.F.F.
- 19 FINISHED GRADE AT EXTERIOR WALLS SHALL BE A MINIMUM OF 6" BELOW FINISHED FLOOR AT ALL NON-PAVED AREAS.
- 20 METAL CANOPY BY PRE-ENGINEERED METAL BUILDING MANUFACTURER.
- 21 NOT USED.



DOLLAR GENERAL

STORE #22731 • PROTOTYPE "C"
AUGUSTA, MICHIGAN
WILLIS ROAD & POTTERVILLE DRIVE
AUGUSTA, WASHTENAW COUNTY, MICHIGAN 48191



ARCHITECT OF RECORD:
KYLE W. RADER
ARCHITECTURAL LICENSE #:
1301062638

PROJECT NUMBER:
20264 • DGAM

REVISION:
REV001 JULY 26, 2021
REV002 NOVEMBER 08, 2021

A2.1
EXTERIOR
ELEVATIONS

DATE: APRIL 01, 2020

EXTERIOR FINISH SCHEDULE																															
PRE-ENGINEERED METAL BUILDING VENDOR.	VP BUILDINGS ATTN:DAVID ENGLISH (901) 568-4537					STAR BUILDING SYSTEMS ATTN:RODNEY BURT (800) 879-7827					NUCOR BUILDING SYSTEMS ATTN:BOB BARRY (315) 622-4440 (260) 837-7891					BIGBEE STEEL BUILDINGS, INC. ATTN:KEVIN BUSLER (800) 633-3378					CHIEF BUILDINGS ATTN:NERIN SULLIVAN (800) 845-3378					PREFERRED COLORS IF ALTERNATE EXTERIOR MATERIALS ARE USED INSTEAD OF METAL PANELS					
EXTERIOR FINISHES ARE TO MATCH or BE EQUAL TO VP METAL BUILDING SYSTEM'S FINISH SELECTION.	COOL/EGYPTIAN WHITE	COOL/DARK BRONZE	BRONZE	COOL/COTTON WHITE	GALVALUME	LIGHTSTONE	MEDIUM BRONZE, KYMAR 500	BRONZE	POLAR WHITE	GALVALUME	LIGHTSTONE	MEDIUM BRONZE, KYMAR 500	BRONZE	POLAR WHITE	GALVALUME	SANDSTONE	BURNISHED SLATE	BRONZE	POLAR WHITE	GALVALUME	PARCHMENT	ANTIQUE BRONZE	BRONZE	POLAR WHITE	GALVALUME	SHERWIN WILLIAMS SW703 "SANDANCED BEIGE"	SHERWIN WILLIAMS SW7041 "VANDYKE BROWN"	BRONZE	WHITE BY F&B MANUFACTURER	GALVALUME	
GUTTERS.	●					●					●					●					●					●					
DOWNSPOUTS.	●					●					●					●					●					●					
SIDE & REAR METAL WALL PANELS & TRIM, RECEIVING & EMERGENCY EXIT DOORS. (EXTERIOR OF DOORS TO BE PAINTED. REFER TO DOOR SCHEDULE.)	●					●					●					●					●					●					
4" SPLIT-FACE CMU BLOCK.	FEATHERLITE BLOCK or EQUAL. COLOR: SAHARA SAND.					FEATHERLITE BLOCK or EQUAL. COLOR: SAHARA SAND.					FEATHERLITE BLOCK or EQUAL. COLOR: SAHARA SAND.					FEATHERLITE BLOCK or EQUAL. COLOR: SAHARA SAND.					FEATHERLITE BLOCK or EQUAL. COLOR: SAHARA SAND.					FEATHERLITE BLOCK or EQUAL. COLOR: SAHARA SAND.					
4" VELOUR FINISH ECONOMY SIZE BRICK.	ACME BRICK or EQUAL. COLOR: CRIMSON RED.					ACME BRICK or EQUAL. COLOR: CRIMSON RED.					ACME BRICK or EQUAL. COLOR: CRIMSON RED.					ACME BRICK or EQUAL. COLOR: CRIMSON RED.					ACME BRICK or EQUAL. COLOR: CRIMSON RED.					ACME BRICK or EQUAL. COLOR: CRIMSON RED.					
NICHIIHA FIBER CEMENT PANEL.	SERIES: VINTAGEWOOD. COLOR: REDWOOD.					SERIES: VINTAGEWOOD. COLOR: REDWOOD.					SERIES: VINTAGEWOOD. COLOR: REDWOOD.					SERIES: VINTAGEWOOD. COLOR: REDWOOD.					SERIES: VINTAGEWOOD. COLOR: REDWOOD.					SERIES: VINTAGEWOOD. COLOR: REDWOOD.					
FLAT METAL SOFFIT AT STOREFRONT VESTIBULE AREA.				●					●					●					●					●					●		
BUILDING FASCIA WALL, PARAPET or ENTRANCE, & CANOPY.		●					●					●					●					●					●				
STOREFRONT SYSTEM.			●					●					●					●					●						●		
STANDING SEAM METAL ROOF PANELS.					●				●						●				●						●						●
LINER PANELS (INTERIOR SALES & RECEIVING FLOOR)				●					●					●				●					●						●		

24'-10 7/8"

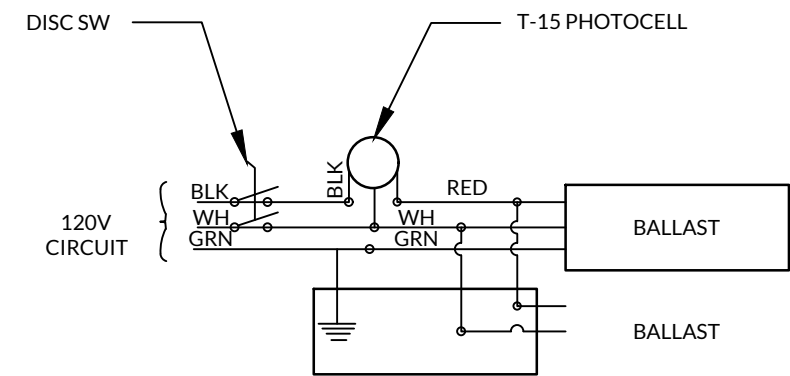
2'-0"

DOLLAR GENERAL®

E.O. DISC SW
& PHOTOCELL

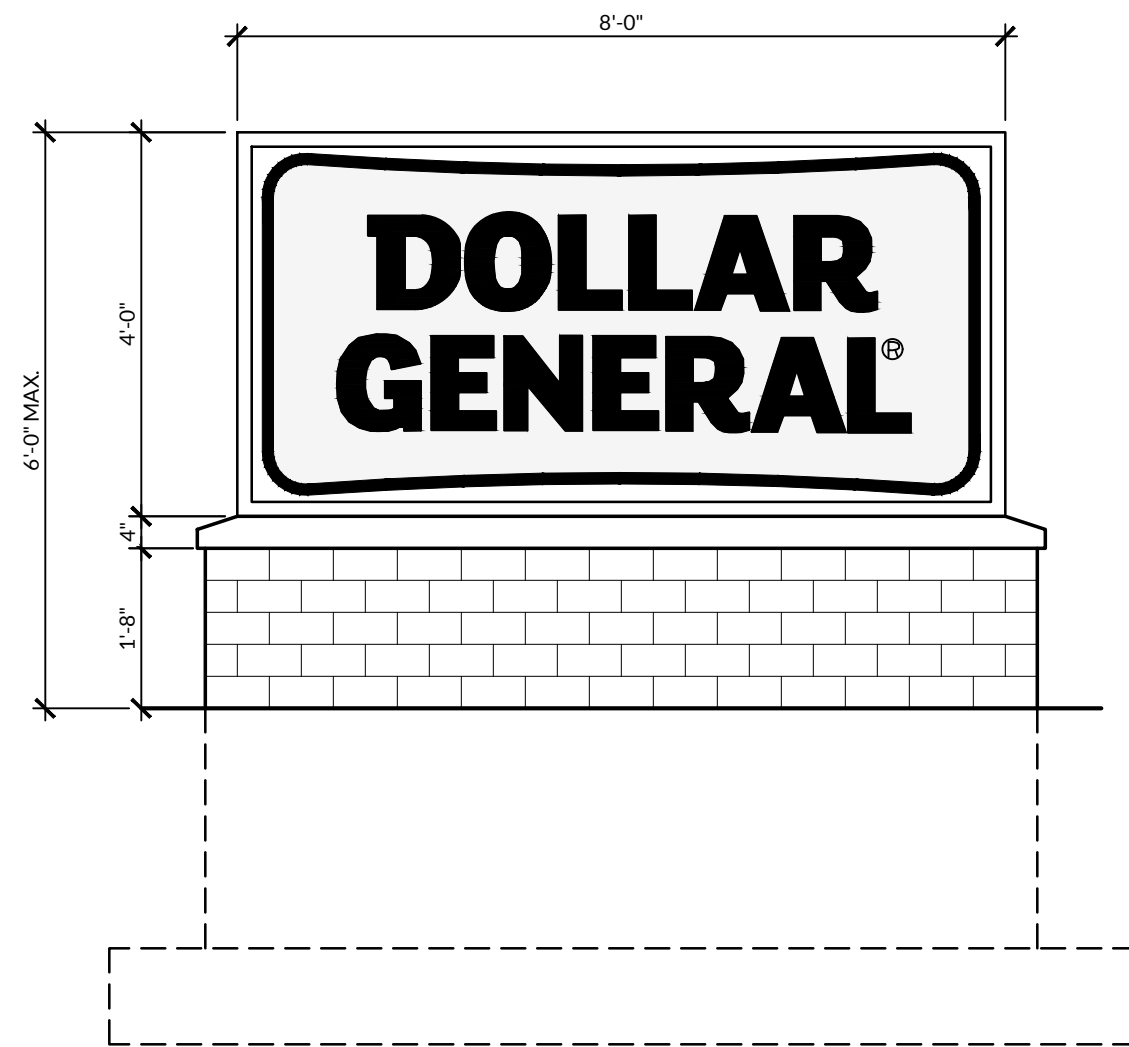
ELECTRICAL REQUIREMENTS:
57 LAMPS & (CC1320P) BALLASTS
(2) 15A CIRCUITS REQUIRED

AMPS: 19.95
WATTS: 969

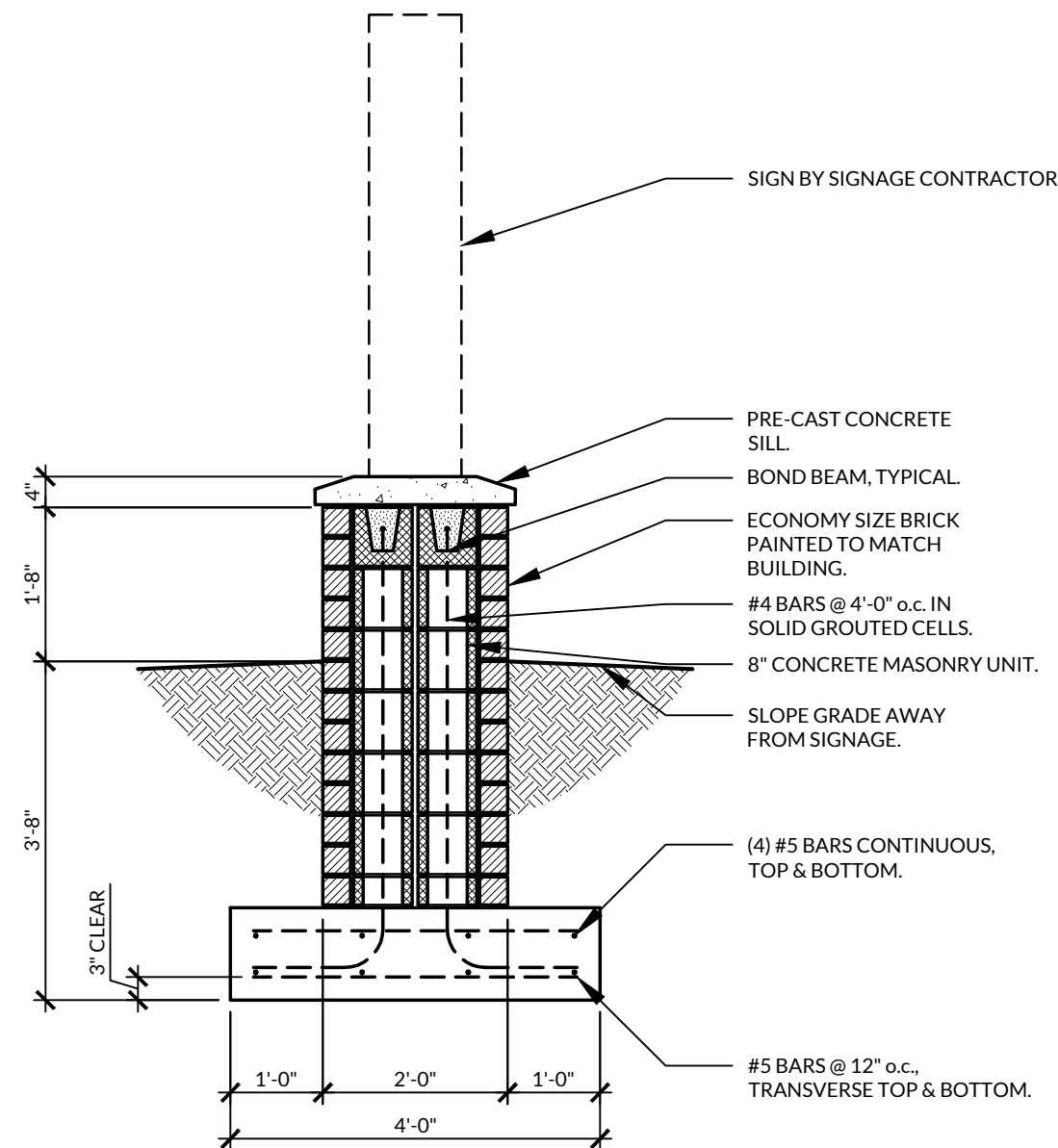


WIRING SCHEMATIC

MAIN BUILDING SIGN



MONUMENT SIGN 32.00 SQ. FT.



NOTE:
SIGN PERMIT APPLICATION TO BE INITIATED BY SIGNAGE VENDOR.
ADDITIONAL SIGNAGE DETAILS SHALL BE PROVIDED AT TIME OF SIGN
PERMIT APPLICATION.

DOLLAR GENERAL®

ACTUAL - 27.867 SQ. FT.

DOLLAR GENERAL®

BOXED METHOD - 49.781 SQ. FT.

SQUARE FOOTAGE



JOB SITE SIGN
THIS SIGN TO BE PROVIDED & INSTALLED BY THE
DEVELOPER or CONTRACTOR AT THE
BEGINNING OF THE CONSTRUCTION PROJECT.

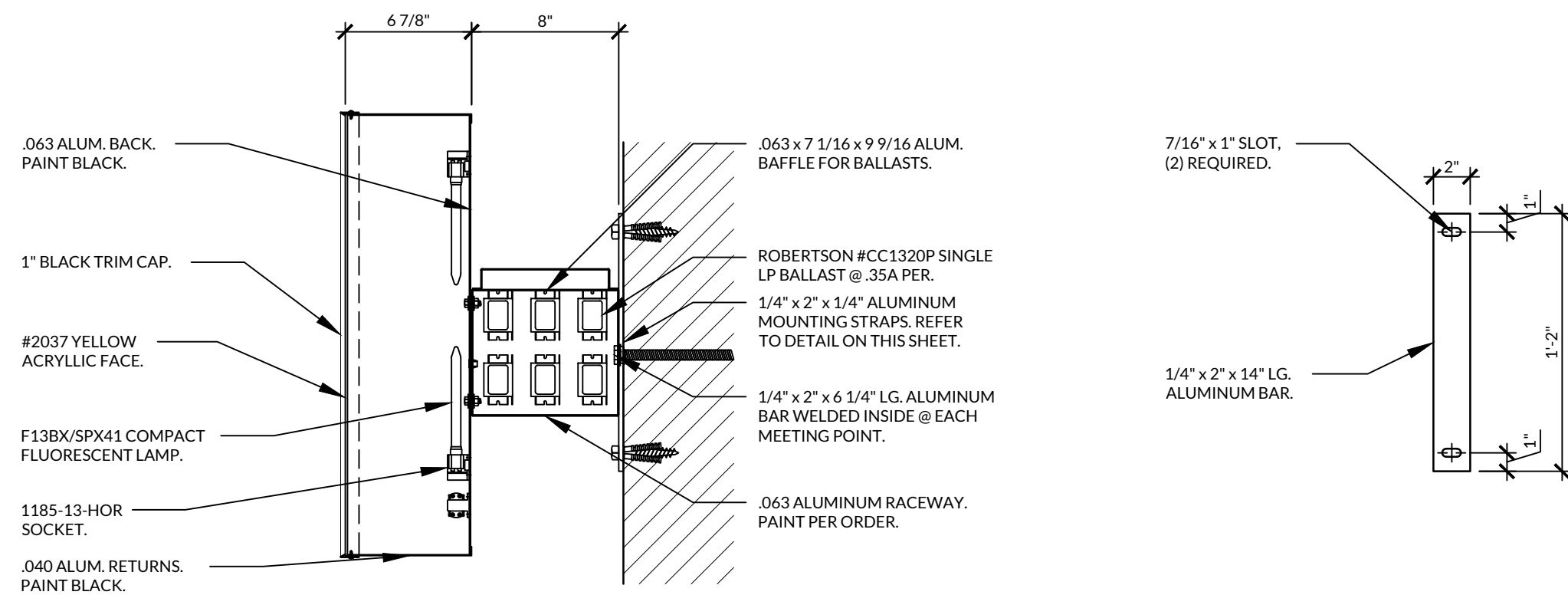
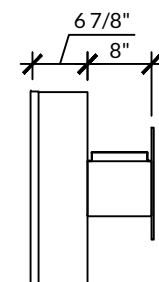
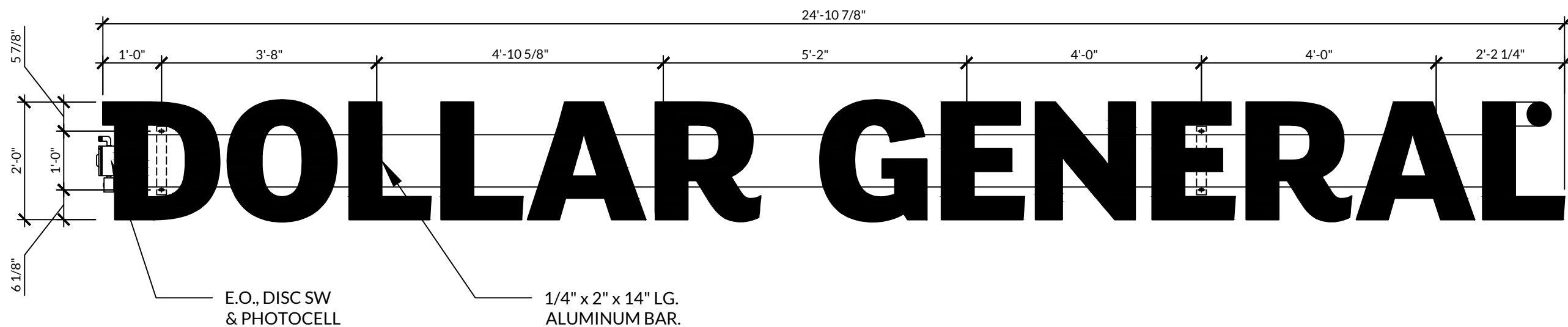
SIGN SPECIFICATIONS

- BUILDING SIGNS: PROVIDE CONDUIT & WIRE FROM ELECTRICAL PANEL TO THE SIGN CANOPY. THE CONDUIT IS TO BE 1" & HAVE ONE SET OF 10/2 WIRE w/ GROUND. BUILDING CANOPY MUST BE SUFFICIENTLY BUILT TO SUPPORT THE DOLLAR GENERAL SIGN OF UP TO 1400 LBS. NOTE: IF THE LEASE SPECIFIES A 5'-0" x 40'-0" BUILDING SIGN or 24" LETTER SET (or LARGER), 2 QTY. - 10/2 WIRE w/ GROUND. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- PYLON SIGNS: PROVIDE CONDUIT FROM ELECTRICAL PANEL TO LOCATION OF THE PYLON SIGN BASE. BURY CONDUIT UNDER PARKING AREA. THE CONDUIT IS TO BE 1" & HAVE ONE SET OF 10/2 WIRE w/ GROUND. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- FINAL ELECTRICAL CONNECTIONS FOR SIGN SHALL BE THE SIGN VENDORS RESPONSIBILITY ONCE THE "J" BOX & WIRES ARE IN PLACE.
- SEE CHART BELOW FOR SIGN SPECIFICATIONS.
- PYLON SIGN CABINETS TO CLEAR 15'-0" FROM GRADE & EDGE SHALL BE LOCATED NO CLOSER THAN 10'-0" TO ANY OVERHEAD UTILITY LINES.

24" LETTERS	288 LBS.	23.45	115	
BUILDING SIGN				
SIGN SIZE	SIGN WEIGHT	# OF CIRCUITS	AMPS	VOLTAGE
24" LETTERS	288 LBS.	(1) 15A & (1) 20A	23.45	115
PYLON SIGN				
SIGN SIZE	SIGN WEIGHT	# OF CIRCUITS	AMPS	VOLTAGE
5'-0" x 10'-0"	375 LBS.	(1) 15A	3.4	115
SIGN NOTES: 1. REFER TO ELECTRICAL PLANS FOR ADDITIONAL INFORMATION. CONTACT THE ARCHITECT IF THERE ARE ANY DISCREPANCIES.				

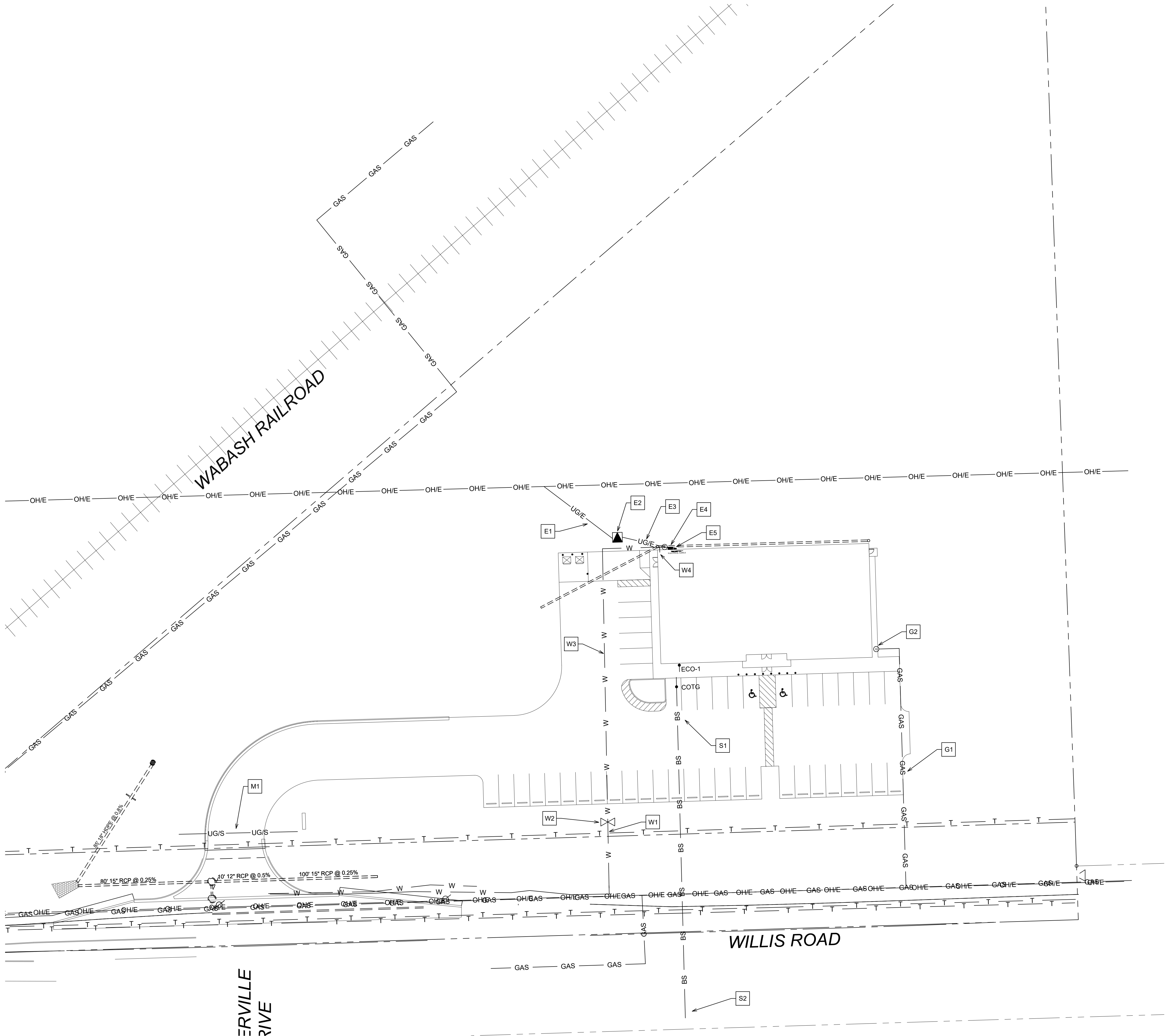
1 SIGNAGE ELEVATIONS

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



2 SIGNAGE BRACING DETAILS

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



SITE UTILITY LEGEND		SITE UTILITY LEGEND	
— SS —	SANITARY SEWER	— FO —	FIBER OPTICS
— BS —	BUILDING SEWER	⊖	ELECTRIC METER
— W —	WATER PIPING	⊙	GAS METER
— GAS —	GAS PIPING	⊕	WATER METER
— UG/E —	UNDERGROUND ELECTRIC	⊠	FIRE HYDRANT
— OH/E —	OVERHEAD ELECTRIC	▲	PAD MOUNT TRANSFORMER
— UG/C —	UNDERGROUND CONDUIT	⊙ MH	MANHOLE
— UG/S —	UNDERGROUND SLEEVE	● COTG	CLEANOUT TO GRADE
— T —	TELEPHONE		

#	KEYNOTES
ELECTRICAL	
E1	PROPOSED UNDERGROUND PRIMARY BY THE ELECTRIC UTILITY.
E2	PAD MOUNTED TRANSFORMER BY THE ELECTRIC UTILITY. THE E.C. SHALL CONSTRUCT A CONCRETE PAD IN ACCORDANCE WITH THE ELECTRIC UTILITY'S SPECIFICATIONS.
E3	UNDERGROUND SERVICE LATERAL BY THE ELECTRICAL CONTRACTOR.
E4	CT CABINET AND METER SOCKET BY THE ELECTRICAL CONTRACTOR. 1-1/4" NIPPLE BETWEEN THE CT CABINET AND THE METER SOCKET BY THE ELECTRICAL CONTRACTOR.
E5	600 AMP 2-POLE NEMA 3R FUSED SERVICE DISCONNECT BY THE ELECTRICAL CONTRACTOR.
GAS	
G1	NATURAL GAS SERVICE PIPE BY GAS COMPANY.
G2	LOCATION OF THE GAS METER WITH A SHUT-OFF VALVE ON THE SUPPLY SIDE AND A 7" W.C. REGULATOR. THE NATURAL GAS LOAD WILL BE 600,000 BTUH.
MISCELLANEOUS	
M1	4" PVC SLEEVE WITH PULL WIRE UNDER DRIVE. TURN UP AND WEATHERPROOF BOTH ENDS.
SEWER	
S1	4" BUILDING SEWER AT 1/4" PER 1' SLOPE WITH CLEANOUT TO GRADE WITHIN 5' OF THE BUILDING AND EVERY 100' THEREAFTER AND AT EVERY HORIZONTAL CHANGE OF DIRECTION GREATER THAN 45°. COORDINATE WITH THE SEWER COMPANY FOR TAPPING REQUIREMENTS, ROAD BORING/CUTTING & PATCHING, ETC.
S2	CONNECT TO THE SANITARY SEWER.
S3	MANHOLE ELEVATIONS PROVIDED BY THE SURVEYOR.
WATER	
W1	1-1/2" TAP FOR DOMESTIC AND LAWN IRRIGATION WATER USES. COORDINATE WITH THE WATER COMPANY FOR TAPPING REQUIREMENTS, ROAD BORING/CUTTING & PATCHING, ETC.
W2	1-1/2" CURB STOP AT THE PROPERTY LINE.
W3	1-1/2" WATER SERVICE FOR DOMESTIC AND LAWN IRRIGATION USES.
W4	THE WATER METERS WILL BE INSIDE THE BUILDING AT THIS LOCATION.

WATER & SEWER SERVICE MATERIALS

WATER SERVICE PIPE
COPPER: SEAMLESS COPPER TUBE TYPE K, SOFT TEMPER - ANSI H23.1, ASTM B88.
COPPER FITTINGS: BRASS OR BRONZE FLARE FITTINGS 125 LBS AND OVER, HEAVY DUTY LONG COLLAR TYPE - ASTM B62, OR CAST BRONZE AND WROUGHT SOLDER JOINT PRESSURE FITTING - ANSI B16.22, ANSI H23.1, ANSI B16.18.
SOLDERED JOINTS SHALL BE THOROUGHLY CLEANED AND PROPERLY FLUXED WITH NONCORROSIVE PASTE OR LIQUID FLUX COMPLYING WITH ASTM B813-00. SOLDER SHALL BE 95-5 TIN ANTIMONY OR 96-4 TIN SILVER SOLDER (LESS THAN 0.2% LEAD) COMPLYING WITH ASTM B32-94.

HDPE: SDR 9, 200 PSI, WATER SERVICE PIPE - ASTM D2239.
HDPE FITTING: ASTM D2609, ASTM D2683, ASTM D3261, ASTM F1055, CSA B137.1.

HDPE: CTS DR 11, 200 PSI, WATER SERVICE PIPE - ASTM D2737.
HDPE FITTING: ASTM D2609, ASTM D2683, ASTM D3261, ASTM F1055, CSA B137.1.

PLASTIC PIPE (HDPE) SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2774 AND SHALL BE INSTALLED WITH A COATED #12 AWG COPPER TRACER WIRE.

BUILDING SEWER PIPE:
PVC DRAIN WASTE AND VENT: SCH. 40 OR SCH. 80 SOLVENT WELD PIPE AND FITTINGS - ASTM D2665, ASTM F628, NSF 14, CS272, CSA-B181.2.

PVC SEWER PIPE - SDR 23.5 - ASTM D3034.

PVC PIPE AND FITTINGS MUST BE LAID ON A CONTINUOUS GRANULAR BED. INSTALLATION SHALL COMPLY WITH ASTM D2321.

CAST IRON: CAST IRON PIPE AND FITTINGS EXTRA HEAVY - ANSI A21.8; CAST IRON PIPE CENTRIFUGALLY CAST ONLY AND FITTINGS SERVICE WEIGHT - ANSI A21.6, ANSI A21.8, CS188.
CAST IRON FITTINGS: HUBLESS CAST IRON PIPE AND FITTINGS - ASTM A888-07A, CISPI STD. 301-05, CSA/CAN 3-B70.



Know what's below.
Call before you dig.

FIELD VERIFY AND COORDINATE ALL UNDERGROUND UTILITIES WITH STORM WATER DETENTION AND DRAIN PIPING TO AVOID CONFLICT/INTERFERENCE.

THE ENGINEER HAS PROVIDED ONLY MECHANICAL, ELECTRICAL, AND PLUMBING ENGINEERING SERVICES. FLOOR PLANS AND SITE PLANS HAVE BEEN PROVIDED BY THE ARCHITECT FOR OUR USE RELATIVE TO MECHANICAL, ELECTRICAL, AND PLUMBING ENGINEERING SERVICES ONLY.

© 2020 THESE DRAWINGS ARE INSTRUMENTS OF THE ENGINEER FOR USE SOLELY WITH RESPECT TO THIS PROJECT. THE ENGINEER SHALL BE DEEMED THE AUTHOR OF THESE DOCUMENTS AND SHALL RETAIN ALL COMMON LAW STATUTORY & OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT. THE ENGINEER'S DRAWINGS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING WITH THE ENGINEER.

DANIEL L. MARTIN, P.E.
P.O. BOX 10252
SPRINGFIELD, MISSOURI 65808
PHONE: (417) 883-4056

DOLLAR GENERAL
TYPE C
WILLIS ROAD
WILLIS, WASHTENAW COUNTY, MICHIGAN



SEP 23, 2021

ENGINEER: Daniel L. Martin
LICENSE # 6201064277

DRAWN:
CHECKED:
DATE: 10/29/2020
REVISION: 09/22/2021
REVISION:
REVISION:
REVISION:
JOB #: 2020-172
SHEET #:

SU1

GENERAL SITE UTILITY SPECIFICATIONS AND NOTES	
1	THESE PLANS AND SPECIFICATIONS ARE EACH PART OF AN INTEGRATED DESIGN SYSTEM. ANY MODIFICATION, ALTERATION, CHANGE, DELETION, ADDITION, OR SUBSTITUTION, OF OR TO ANY PART OF THE PLANS OR SPECIFICATION COULD RESULT IN PROPERTY DAMAGE, INJURY, OR EVEN DEATH, AND REQUIRES A FULL REVIEW OF THE ENTIRE SYSTEM BY A PROFESSIONAL ENGINEER. ANY UNAUTHORIZED MODIFICATION OF THIS DOCUMENT MAY CONSTITUTE UNLICENSED PRACTICE AS A PROFESSIONAL ENGINEER AND MAY VIOLATE LAWS REGULATING THE PRACTICE OF ENGINEERING.
2	THIS APPLIES TO ALL MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS: THESE DRAWINGS AND SPECIFICATIONS ARE NOT DETAILED FABRICATION DRAWINGS TYPICALLY SHOWN IN STEP BY STEP INSTRUCTIONS. THEIR INTENT IS TO ESTABLISH THE MINIMUM STANDARD OF PERFORMANCE THAT IS ACCEPTABLE FOR THIS PROJECT. MAJOR COMPONENTS ARE ITEMIZED AND SHOWN BUT, ALL THE WORK AND EACH INDIVIDUAL DEVICE IS NOT NECESSARILY DESCRIBED OR INDICATED IN INTRICATE DETAIL. THE CONTRACTOR IS EXPECTED TO INCLUDE THESE ITEMS IN HIS BID BY HIS FORESIGHT FROM PREVIOUS EXPERIENCE AND/OR WITH A DOLLAR CONTINGENCY AMOUNT FOR UNFORESEEN EXPENSES. THE CONTRACTOR SHOULD BE FAMILIAR WITH THE ARCHITECTURAL, STRUCTURAL, AND CIVIL PLANS ETC. BEFORE MAKING A BID. IF THE CONTRACTOR NEEDS STEP BY STEP INSTRUCTIONS TO COMPLETE THIS WORK OR IF HE IS NOT FAMILIAR WITH THE LOCAL CODES OR THE TYPE OF SYSTEMS BEING INSTALLED, HE IS ADVISED NOT TO SUBMIT A BID OR TO WORK ON THIS PROJECT. FIELD MEASURING AND COORDINATING WITH OTHER TRADES IS MANDATORY. ALTHOUGH THE DRAWINGS SHOULD BE SIMILAR TO THE ACTUAL DIMENSIONS, THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THE DIMENSIONS OF THE WORK SHOWN. DO NOT SCALE DIMENSIONS OFF THE PLANS FOR FABRICATION. VERIFY WITH FIELD MEASUREMENT. COORDINATE WITH GENERAL CONTRACTOR EACH EQUIPMENT SIZE WITH THE LOCATION WHERE IT IS TO BE INSTALLED BEFORE ORDERING. NOTIFY THE ENGINEER IF SPACE DOES NOT ALLOW FOR EQUIPMENT SPECIFIED. ALL SUCH DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR AND IT IS HIS RESPONSIBILITY TO FIT WORK INTO ALLOWED SPACE. ALL OFF-SETS AND SMALL CHANGES IN ROUTING ARE CONSIDERED A PART OF THE SCOPE OF THE BASE BID FOR THIS PROJECT AND SHALL BE APPROVED BY THE ENGINEER OR ARCHITECT BEFORE INSTALLATION.
3	THE ENGINEER IS NOT RESPONSIBLE FOR FIELD ACTIVITIES ON THIS PROJECT WITHOUT DIRECT INSPECTION OF WORK IN PROGRESS.
4	CONTRACTOR IS TO VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL ON-SITE CONDITIONS, VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING CONDITIONS, AND MAKE CONNECTIONS TO LOCAL UTILITY COMPANY REQUIREMENTS AND IN ACCORDANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS. THE CONTRACTOR IS TO CONTACT THE LOCAL UTILITY COMPANY(S) & TO CONFIRM THE SCOPE OF RESPONSIBILITY FOR ALL UTILITY CONNECTION(S).
5	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR CONNECTION AND TO COORDINATE ALL UTILITY SERVICES TO THE FACILITIES/BUILDING. THE CONTRACTOR IS TO INCLUDE ALL COSTS, FEES, CHARGES, ETC. ASSOCIATED WITH THE CONNECTION OF NEW SERVICES (OR IN THE EVENT OF RENOVATIONS TO AN EXISTING BUILDING, MODIFICATIONS TO EXISTING SERVICES) FOR THE BUILDING. ALL WORK IS TO BE DONE IN ACCORDANCE WITH ALL LOCAL CODES, THE UTILITY COMPANY(S) STANDARDS, AND THE CURRENT BUILDING CODE. COORDINATE ALL ROUGH-INS WITH THE OWNER.
6	WATER SERVICE: CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND OWNER TO ARRANGE FOR WATER SERVICE AS INDICATED ON DRAWINGS. CONTRACTOR SHALL CONTACT THE LOCAL WATER DEPARTMENT AND ARRANGE FOR WATER SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC., INCURRED BY LOCAL AUTHORITIES INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR WATER SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT PLUMBING CODE AND WITH THE REQUIREMENTS OF LOCAL AUTHORITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WHAT IS OR IS NOT PROVIDED BY THE UTILITY COMPANY AND TO INCLUDE ALL COST(S) TO PROVIDE A WATER TAP/CONNECTION INTO HIS BID.
7	NATURAL GAS SERVICE: CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND OWNER TO ARRANGE FOR GAS SERVICE AS INDICATED ON DRAWINGS. CONTRACTOR SHALL CONTACT THE LOCAL GAS DEPARTMENT AND ARRANGE FOR GAS SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC., INCURRED BY LOCAL AUTHORITIES INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR GAS SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT FUEL GAS CODE AND WITH THE REQUIREMENTS OF LOCAL AUTHORITIES. NORMALLY THE UTILITY COMPANY SHALL MAKE THE MAIN TAP AND PROVIDE THE METER AND METER MANIFOLD AS WELL AS ALL PIPING, TRENCHING AND BACKFILL FROM THE GAS MAIN TO THE METER. NORMALLY THE CONTRACTOR SHALL PROVIDE THE PIPING FROM THE METER TO THE EQUIPMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WHAT IS OR IS NOT PROVIDED BY THE UTILITY COMPANY AND TO INCLUDE ALL COST(S) TO PROVIDE A COMPLETE GAS TAP/CONNECTION INTO HIS BID.
8	SEWER SERVICE: CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND OWNER TO ARRANGE FOR SEWER SERVICE AS INDICATED ON DRAWINGS. CONTACT THE LOCAL AUTHORITIES AND ARRANGE FOR SEWER SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC., INCURRED BY LOCAL AUTHORITIES INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR SEWER SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT INTERNATIONAL PLUMBING CODE (IPC) AND WITH THE REQUIREMENTS OF LOCAL AUTHORITIES. NORMALLY THE CONTRACTOR SHALL MAKE THE SEWER TAP. BE RESPONSIBLE FOR ALL PIPING AND ASSOCIATED TRENCHING, AND BACK FILL FROM THE SEWER CONNECTION POINT TO THE BUILDING. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM WHAT IS OR IS NOT PROVIDED BY THE UTILITY COMPANY AND TO INCLUDE ALL COST TO PROVIDE A COMPLETE SEWER SERVICE INSTALLATION/CONNECTION INTO HIS BID. PROVIDE WASTE LINE BACKWATER VALVE IN ACCESSIBLE PLACE IF EITHER TOP OF MANHOLE (UPSTREAM OR DOWNSTREAM) IS HIGHER THAN FINISHED FLOOR ELEVATION.
9	UNDER GROUND ELECTRICAL SERVICE: CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND OWNER TO ARRANGE FOR ELECTRICAL SERVICE AS INDICATED ON DRAWINGS. CONTACT THE LOCAL ELECTRICAL UTILITY COMPANY AND ARRANGE FOR ELECTRICAL SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC., INCURRED BY UTILITY COMPANY INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR ELECTRIC SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRICAL CODE (NEC), WITH THE CURRENT NFPA LIFE SAFETY CODE, AND WITH THE REQUIREMENTS OF LOCAL AUTHORITIES. NORMALLY THE UTILITY COMPANY SHALL PROVIDE THE PAD MOUNTED TRANSFORMER, METER, AND PRIMARY WIRING. NORMALLY THE CONTRACTOR SHALL PROVIDE THE CONCRETE PAD FOR THE TRANSFORMER, THE CT CABINET, METER BASE, ASSOCIATED TRENCHING AND BACKFILL FROM THE ELECTRIC JUNCTION CABINET TO THE TRANSFORMER, AS WELL AS ALL CONDUIT AND WIRE FROM THE TRANSFORMER TO THE CT CABINET, AND/OR BUILDING ELECTRIC SERVICE AS SHOWN ON THE ELECTRIC SERVICE RISER DIAGRAM. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM WHAT IS OR IS NOT PROVIDED BY THE UTILITY COMPANY AND TO INCLUDE ALL COST TO PROVIDE A COMPLETE ELECTRICAL CONNECTION INTO HIS BID. THE PHOTOMETRIC OF THE EXTERIOR LIGHTING WILL BE A MINIMUM OF 1-FOOT CANDLE ON THE PROPERTY LINE, WITH AN AVERAGE OF 5-FOOT CANDLE OVER THE EXTERIOR PROPERTY. NOTE THAT THE WALL-PACKS ARE SPECIFIED TO HAVE SHIELDS TO CONFINE THE LIGHT TO THIS PROPERTY.
10	SERVICE VALVES (SHUT OFF VALVES) LOCATED IN AN ACCESSIBLE, SERVICEABLE LOCATION ARE TO BE PROVIDED FOR HOSE BIBS.
11	TELEPHONE SERVICE: CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND OWNER TO ARRANGE FOR TELEPHONE SERVICE AS INDICATED ON DRAWINGS. CONTRACTOR SHALL CONTACT THE LOCAL TELEPHONE COMPANY AND ARRANGE FOR TELEPHONE SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC., INCURRED BY TELEPHONE COMPANY INTO BID. THE CONTRACTOR SHALL PROVIDE A 4" CONDUIT AS SHOWN ON THE PLANS FOR USE BY THE UTILITY COMPANY IN BRINGING TELEPHONE SERVICE INTO THE BUILDING. PROVIDE A 4" x 8" x 3/4" THICK EXTERIOR GRADE PLYWOOD PANEL FOR MOUNTING COMMUNICATION EQUIPMENT. PANEL TO BE PAINTED WHITE (FIRE RESISTANT PAINT).
12	CABLE SERVICE: CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND OWNER TO ARRANGE FOR CABLE SERVICE AS INDICATED ON DRAWINGS. CONTRACTOR SHALL PROVIDE A ROUGH-IN CONDUIT FOR CABLE SERVICE AS INDICATED ON DRAWINGS. THE CONTRACTOR SHALL PROVIDE AN EMPTIED 4" CONDUIT AS SHOWN ON THE PLANS FOR USE BY THE UTILITY COMPANY IN BRINGING CABLE SERVICE INTO THE BUILDING.
13	SPECIFICATION REQUIREMENTS ARE THAT THE DIFFERENT TRADES ARE TO COORDINATE WITH EACH OTHER. THE MECHANICAL CONTRACTOR IS TO LOOK AT AND BE FAMILIAR WITH THE PLUMBING AND ELECTRICAL SHEETS. THE PLUMBING CONTRACTOR IS TO LOOK AT AND BE FAMILIAR WITH THE MECHANICAL AND ELECTRICAL SHEETS. THE ELECTRICAL CONTRACTOR IS TO LOOK AT AND BE FAMILIAR WITH THE PLUMBING AND MECHANICAL SHEETS.
14	CONTACTORS ARE TO VISIT THE JOBSITE, TO INSPECT ANY AND ALL EQUIPMENT AT THE SITE, TO INSPECT ANY AND ALL EQUIPMENT THAT IS BEING PURCHASED AND/OR MOVED FROM ANOTHER LOCATION OR SITE TO THE NEW SITE, TO CHECK ANY AND ALL NAMEPLATES AND TO VERIFY UTILITY REQUIREMENTS, THEN TO VERIFY, CONFIRM AND COORDINATE WITH THE DRAWINGS. DISCREPANCIES ARE TO BE COORDINATED WITH THE ENGINEER. CONTRACTOR INSPECTIONS AND VERIFICATIONS ARE TO BE PRIOR TO PREPARING THE NEW SITE.
15	SPECIFICATION REQUIREMENTS ARE THAT THE DIFFERENT TRADES ARE TO COORDINATE WITH EACH OTHER. THE MECHANICAL, PLUMBING, AND ELECTRICAL CONTRACTORS ARE TO LOOK AT AND BE FAMILIAR WITH THE SITE UTILITY SHEETS. COORDINATE DOES NOT MEAN "I WAS HERE FIRST".



CLEANOUT SPECIFICATIONS

1	ALL HORIZONTAL DRAINS SHALL HAVE CLEANOUTS LOCATED NOT MORE THAN 100 FEET APART.
2	ALL BUILDING SEWERS SHALL BE PROVIDED WITH CLEANOUTS LOCATED NOT MORE THAN 50 FT. APART MEASURED FROM THE UPSTREAM ENTRANCE OF THE CLEANOUT.
3	CLEANOUTS SHALL BE INSTALLED AT EACH CHANGE OF DIRECTION OF HORIZONTAL WASTE OR SOIL LINES, WHICH IS GREATER THAN 45 DEGREES.
4	A CLEANOUT SHALL BE PROVIDED AT THE BASE OF EACH WASTE OR SOIL STACK.
5	PROVIDE A CLEANOUT NEAR THE JUNCTION OF THE BUILDING DRAIN AND THE BUILDING SEWER. CLEANOUT TO BE BROUGHT UP TO FINISHED GRADE LEVEL.



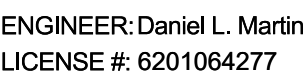
CLEANOUT/PAVED AREA (TYP)

NOT TO SCALE

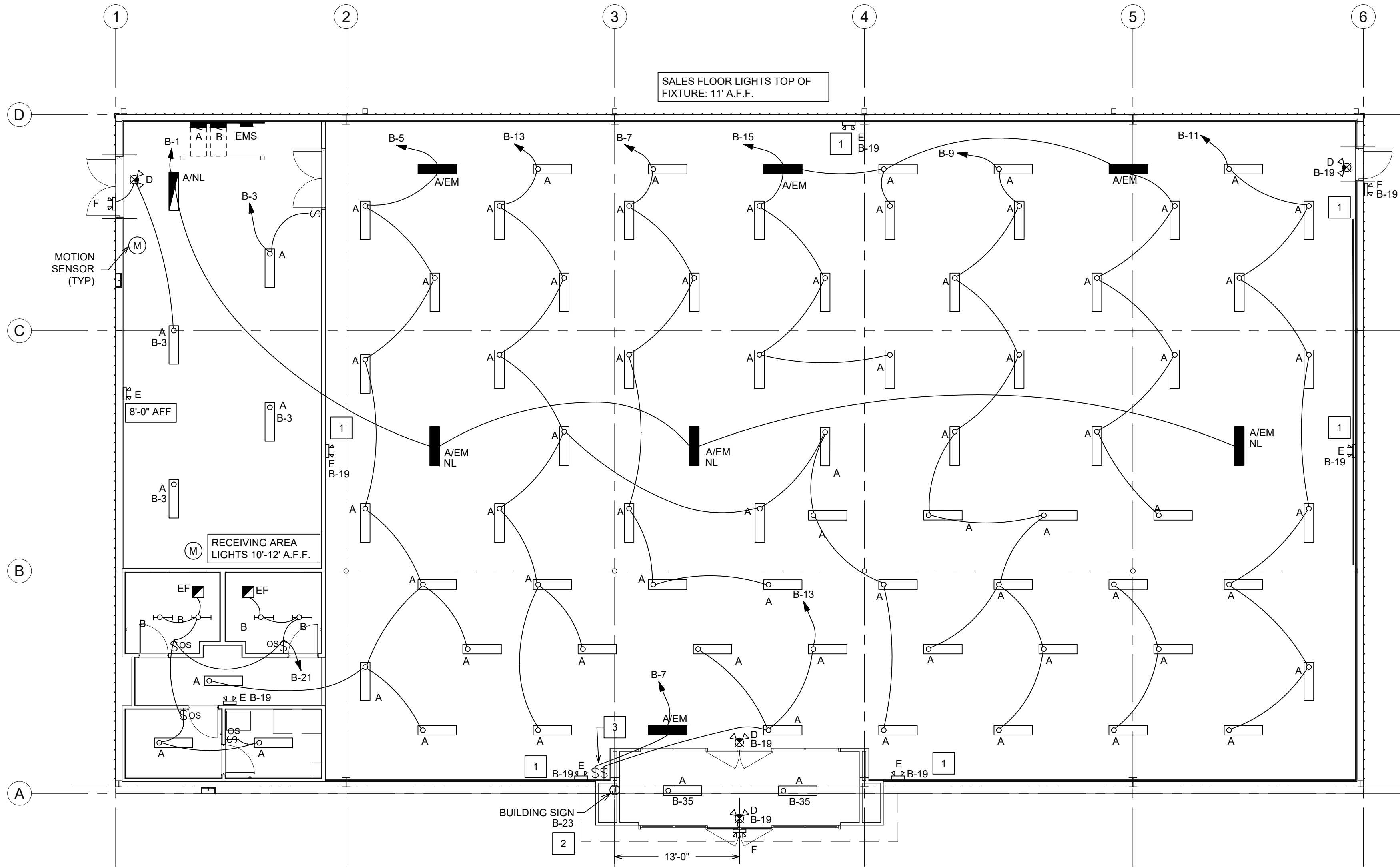
© 2020 THESE DRAWINGS ARE INSTRUMENTS OF THE ENGINEER FOR USE SOLELY WITH RESPECT TO THIS PROJECT. THE ENGINEER SHALL BE DEEMED THE AUTHOR OF THESE DOCUMENTS AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT. THE ENGINEER'S DRAWINGS SHALL NOT BE USED ON OTHER PROJECTS, FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING WITH THE ENGINEER.

DOLLAR GENERAL

WILLIS ROAD
WILLIS, WASHTENAW COUNTY, MICHIGAN



SU2



SWITCH SCHEDULE

SYMBOL	CALLOUT
\$	SINGLE POLE SWITCH
\$ _{OS}	WALL SWITCH OCCUPANCY SENSOR: LEVITON ODS10-IDW

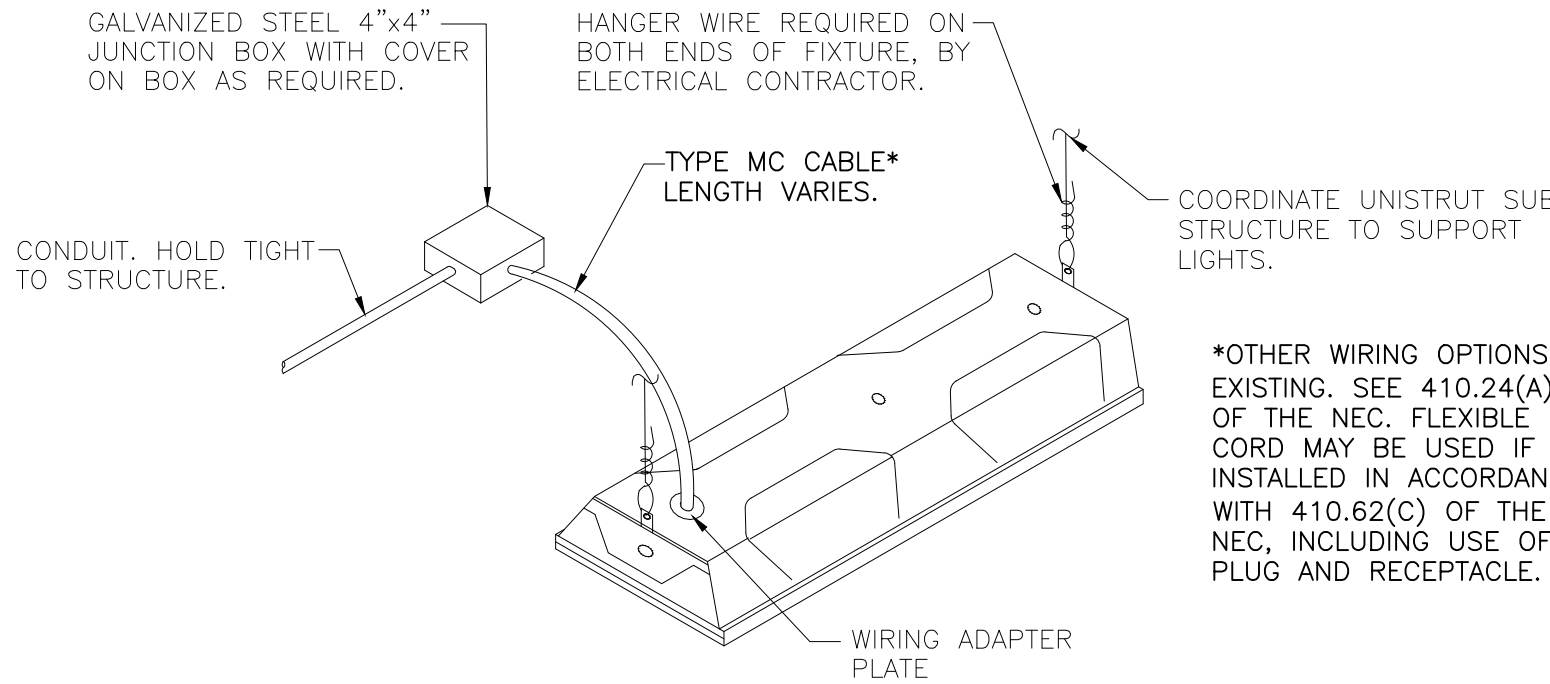
THE OPERATING PART OF LIGHT SWITCHES SHALL BE NO MORE THAN 48" AFF TO SATISFY ACCESSIBILITY REQUIREMENTS.

KEYNOTES

#	
1	EMERGENCY/EXIT SIGNS AND LIGHTS: INSTALL EMERGENCY LIGHTS AND EXIT SIGNS THROUGHOUT THE BUILDING IN COMPLIANCE WITH ALL APPLICABLE CODES. INSTALL EMERGENCY LIGHTS AND EXIT SIGNS 10'-6" AFF. INSTALL EMERGENCY LIGHTS ON THE OFFICE WALL (10' HIGH WALL) AS HIGH AS POSSIBLE ON WALL.
2	JUNCTION BOX FOR SIGN ON THE INTERIOR OF THE PARAPET, 13'-0" LEFT OF CENTER OF THE BUILDING.
3	SWITCH FOR MANUAL CONTROL OF THE LIGHT FIXTURES IN THE DAYLIGHT ZONE AS REQUIRED BY THE ENERGY CONSERVATION CODE.

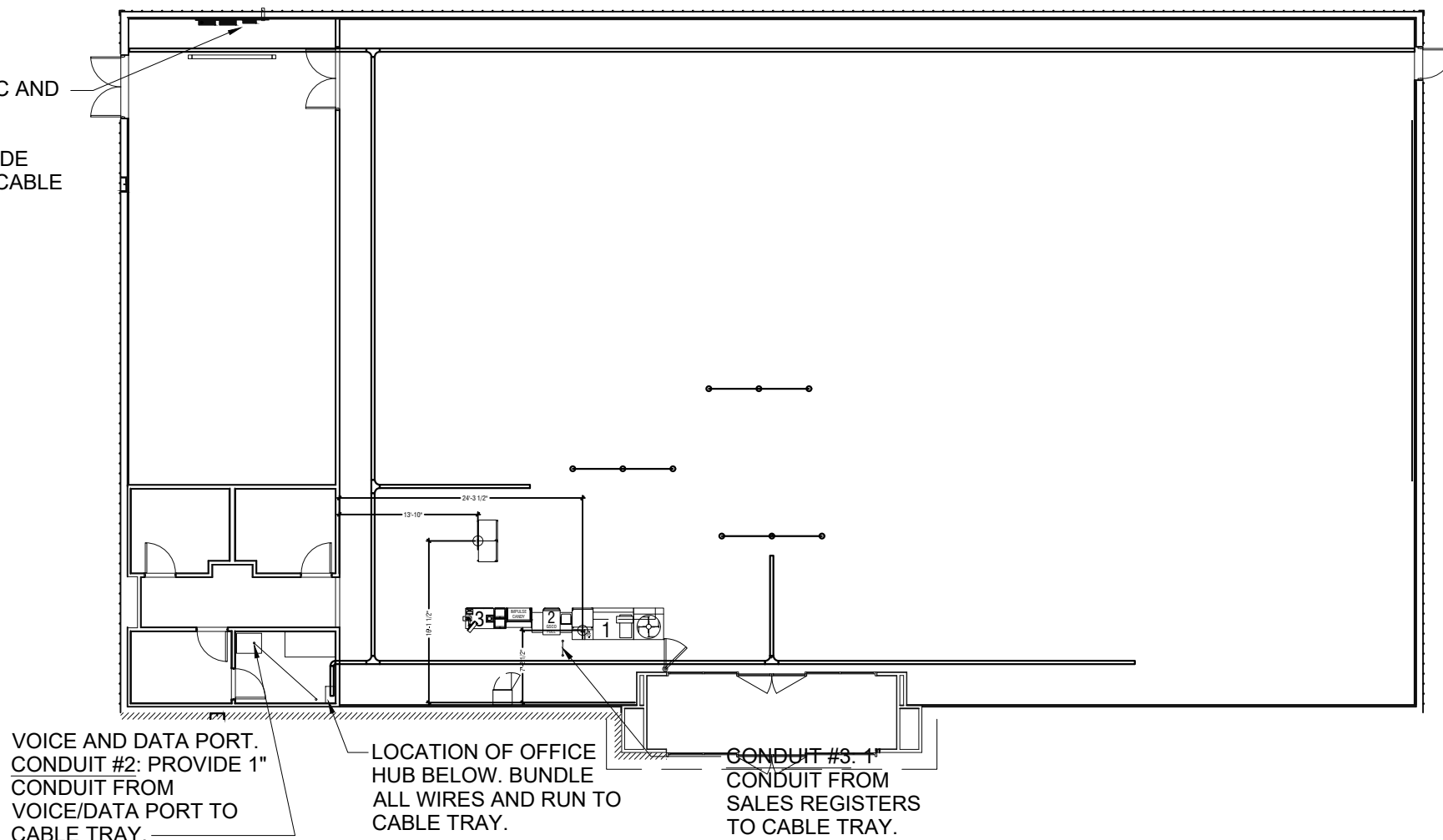
EMS/LIGHTING CONTROL REQUIREMENTS FOR ENERGY CONSERVATION CODE

- ALL INTERIOR LIGHTING, OTHER THAN EMERGENCY/EXIT LIGHTS AND SECURITY LIGHTS SHALL BE CONTROLLED BY AN AUTOMATIC TIME SWITCH.
- MANUAL LIGHTING OVERRIDE CONTROLS SHALL HAVE A TIME LIMIT OF 2 HOURS OR LESS.
- FOR SECURITY REASONS, THE SALES AREA LIGHTS WILL BE CONTROLLED BY THE TIME CLOCK WITH MANUAL OVERRIDE ACCESSIBLE ONLY BY EMPLOYEES.
- INDEPENDENT LIGHTING CONTROLS IN THE RESTROOMS, OFFICE, AND BREAK ROOM WILL BE PROVIDED BY WALL SWITCHES WITH OCCUPANCY SENSORS TO TURN THE LIGHTS OFF WITHIN 30 MINUTES OF VACANCY.
- INDEPENDENT LIGHTING CONTROLS IN THE RECEIVING AREA WILL BE PROVIDED BY A SWITCH IN THE RECEIVING AREA.
- DAYLIGHT ZONE CONTROL SHALL BE PROVIDED BY A MANUAL SWITCH NEAR THE CASH REGISTERS.
- DUSK-TO-DAWN EXTERIOR LIGHTS SHALL BE CONTROLLED BY AN ASTRONOMICAL TIME CLOCK. OTHER EXTERIOR LIGHTS AND SIGNAGE SHALL BE CONTROLLED BY A TIME CLOCK AND ASTRONOMICAL TIME CLOCK.



TYPICAL LIGHT FIXTURE MOUNTING DETAIL

SCALE: NTS



CABLE TRAY PLAN AND CONDUIT DIAGRAM

SCALE: NTS

NOTE REGARDING NATIONAL ACCOUNTS: REFER TO A1.0, GENERAL NOTES (ARCHITECTURAL SHEETS) FOR A LIST OF REQUIRED NATIONAL ACCOUNT VENDORS FOR LIGHTING, SWITCHGEAR, ENERGY MANAGEMENT SYSTEM, AND CABLE TRAY SYSTEMS. THE CONTRACTOR SHALL PURCHASE ALL REQUIRED SYSTEMS FROM THE REQUIRED NATIONAL ACCOUNT VENDOR.

LUMINAIRE SCHEDULE (SEE NOTES REGARDING REQUIRED NATIONAL ACCOUNT VENDORS)

CALLOUT	SYMBOL	DESCRIPTION	MODEL	INPUT WATTS	NOTES	QTY
A		4' STRIP SUSPENDED, 37W LED MOUNT TOP OF LIGHTS @ 11'-0"	US LED: PJF2-1-4-UNVL-35-50-Y	35		74
A/EM		4' STRIP 37W LED MOUNT TOP OF LIGHTS @ 11'-0" CIRCUITED THROUGH EMERGENCY INVERTER TO PROVIDE EMERGENCY LIGHTING	US LED: PJF2-1-4-UNVL-35-50-Y	35		7
A/NL		4' STRIP, SUSPENDED LED, 37W, WIRED AS NIGHT LIGHT. MOUNT TOP OF LIGHTS @ 11'-0"	US LED: PJF2-1-4-UNVL-35-50-Y	35		1
B		2' STRIP FIXTURE	US LED: PJF2-1-4-UNVL-15-50-Y	15		4
D		EMERGENCY LIGHT/EXIT SIGN COMBO	JLECB2RWRC	4		4
E		EMERGENCY LIGHT FIXTURE	JLEU9RC	2		7
EF		RESTROOM EXHAUST FAN - FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR, DISCONNECT AND ELECTRICAL CONNECTION BY THE ELECTRICAL CONTRACTOR		82		2
F		EMERGENCY LIGHT FIXTURE - WET LOCATION LISTED	JLRHWP-1	4		3
G-1		FULL CUTOFF LED WALL PACK LIGHT FIXTURE	USLED: WPR3-UNVL-37-4-50-BZ	37		5
H-1		FULL CUTOFF LED WALL PACK LIGHT FIXTURE	USLED: WPR3-UNVL-100-4-50-BZ	100		4
S-1		SINGLE FIXTURE POLE LIGHT ON 20' TALL POLE	US LED:QDXLR-150-50-UNVL-1-3-N-Z5	147	20' POLE: US-SSS20B4-4-BM	3

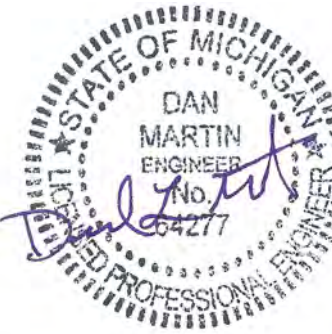
NOTE: THE E.C. IS RESPONSIBLE TO COUNT AND CONFIRM THE QUANTITIES OF THE FIXTURES IN THE PLANS PRIOR TO ORDERING.

EXTERIOR LED LIGHT HEADS ARE COVERED ON FOUR SIDES PLUS THE BACK WITH THE LIGHT BEING PROJECTED IN ONE DIRECTION. LIGHT HEADS MOUNTED AND POINTING IN A DOWNWARD DIRECTION ACCOMPLISHES THE GOAL OF WHAT USED TO BE CALLED "FULL CUT-OFF". IN THIS WAY THE PARKING LOT IS LIT AND THERE IS NO BLEED OVER TO THE PROPERTY LINE OR ACROSS PROPERTY LINES.

SEE SPECIFICATION ON SHEETS E7, E8,E9, & E10

DANIEL L. MARTIN, P.E.
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DOLLAR GENERAL
TYPE C
WILLIS ROAD
WILLIS, WASHTENAW COUNTY, MICHIGAN



NOV 19, 2021

ENGINEER: Daniel L. Martin
LICENSE #: 6201064277

DRAWN: _____
CHECKED: _____
DATE: 10/29/2020
REVISION: 11/25/2020
REVISION: 11/09/2021
REVISION: 11/19/2021
JOB #: 2020-172
SHEET #:

E2

PANEL SCHEDULE A

ROOM		VOLTS 240/120V 1-PH 3W			AIC 30,000		
MOUNTING FLUSH		BUS AMPS 600			MAIN BKR MLO		
FED FROM MAIN DISC.		NEUTRAL 100%			LUGS STANDARD		
NOTE					ISO GND BUS		
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA	LOAD KVA	CIRCUIT DESCRIPTION	CKT BKR	CKT #
1	60/2	RTU-1	8.35	a 0.1	AUTOMATIC DOOR	20/1	2
3				b 0.18	TELEPHONE BOARD	20/1	4
5	60/2	RTU-2	8.35	a 0.18	ENERGY MANAGEMENT	20/1	6
7				b 0	SPARE	20/1	8
9	60/2	RTU-3	8.35	a 0.72	ROOFTOP RECEPT.	20/1	10
11				b 0.4	OUTDOOR DRINK VEND.	20/1	12
13	60/2	RTU-4	8.35	a 11	MUH	40/2	14
15				b			16
17	20/1	SPARE	0	a 0.5	INTERFACE EQUIPMENT	20/1	18
19	20/1	SPARE	0	b 0.5	VSAT SATA HUB EQUIP	20/1	20
21	20/1	WATER HEATER	1.65	a 1	CCTV EQUIP	20/1	22
23	20/1	DRINKING FOUNTAIN	0.37	b 0.18	SECURITY RCPT	20/1	24
25	20/1	ICE MERCHANDISER	0.4	a 0.6	OFFICE RCPT	20/1	26
27	20/2	COOLER #1	1	b 0.54	BREAK ROOM RECEPT.	20/1	28
29				a 0.3	DEDICATED RCPT	20/1	30
31	20/2	COOLER #2	1	b 0	SPARE	20/1	32
33				a 0.2	ICE CREAM FREEZER	20/1	34
35	20/1	COOLER #3	1.3	b 0.98	GATORADE, RECEPTACLE	20/1	36
37	20/1	SPARE	0	a 0.36	RECEPTACLE	20/1	38
39	20/2	COOLER #4	1.3	b 32.7	PANEL B	200/2	40
41				a			42

CONN. KVA		CALC. KVA	CONN. KVA		CALC. KVA
GEN. LIGHTING	0	0	CONTINUOUS	3.75	4.69 (125%)
AREA (SQ. FT.)	0 SF		NONCONTINUOUS	10.7	10.7 (100%)
LIGHTING	4.06	5.07 (125%)	KITCHEN EQUIP	0	0 (N/A)
LARGEST MOTOR	5.3	1.33 (25%)	NONCOIN/DIVERSE	0	0 (N/A)
OTHER MOTORS	3	3 (100%)	APPLIANCES	24.2	24.2 (100%)
RECEPTACLES	3.78	3.78 (100%)			
COOLING	33.4	33.4 (100%)			
HEATING	18.6	0 (0%)			
TOTAL KVA			90.8	86.1	
BALANCED PHASE AMPS			359		
PHASE A			103%	PHASE B	96.8%

PANEL A NOTES:

AIC RATING: SERIES RATED AT 200,000 AMPS WITH BUSSMANN JIN FUSES.

BREAKERS THAT SERVE HVAC EQUIPMENT AND MOTOR LOADS (COOLERS, FREEZERS, ETC.) SHALL BE HACR.

BREAKERS 2, 4, 6, 21, 24, 25, 26, 27, 29, 31, 33, 34, 35, 36, SHALL BE LOCKABLE.

CONFIRM CIRCUIT BREAKER SIZE AND WIRING WITH FINAL EQUIPMENT SELECTED.

ALL BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR ROUTED WITH THE CIRCUIT CONDUCTORS. THIS MEANS ALL CONDUITS MUST HAVE A "GREEN" WIRE INSTALLED IN THEM, AND SIZED IN ACCORDANCE WITH N.E.C.

PANEL SCHEDULE B

ROOM		VOLTS 240/120V 1-PH 3W			AIC 30,000		
MOUNTING FLUSH		BUS AMPS 200			MAIN BKR MLO		
FED FROM A		NEUTRAL 100%			LUGS STANDARD		
NOTE					ISO GND BUS		
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA	LOAD KVA	CIRCUIT DESCRIPTION	CKT BKR	CKT #
1	20/1	NIGHT EMERGENCY LIGHTS, NIGHT LIGHTS	0.14	a 1.2	PWR TERM BROWN	20/1	2
3	20/1	RECEIVING LIGHTS	0.15	b 1.2	PWR TERM BROWN	20/1	4
5	20/1	70% SALES EMERGENCY LIGHTS, LIGHTS	0.315	a 1.2	PWR TERM GREEN	20/1	6
7	20/1	70% SALES EMERGENCY LIGHTS, LIGHTS	0.28	b 1.2	PWR TERM GREEN	20/1	8
9	20/1	70% SALES LIGHTS	0.35	a 1.6	PWR TERM GREEN	20/1	10
11	20/1	70% SALES LIGHTS	0.28	b 1.6	PWR TERM GREEN	20/1	12
13	20/1	30% SALES LIGHTS	0.56	a 0.18	RECEPTACLE	20/1	14
15	20/1	30% SALES EMERGENCY LIGHTS, LIGHTS	0.56	b 0.88	COOLER RECEPTACLE	20/1	16
17	20/1	SPARE	0	a 1.18	FREEZER RECEPTACLE	20/2	18
19	20/1	EXT/EMERGENCY LIGHTS	0.032	b			20
21	20/1	BREAK/OFFICE EX. FAN, LIGHTS EFS	0.294	a 3.9	FREEZER #1	20/2	22
23	20/1	BUILDING SIGN	1.2	b			24
25	20/1	PYLON SIGN	0.9	a 3.2	FREEZER #2	20/2	26
27	20/1	POLE LIGHTS	0.441	b			28
29	20/2	RECEPTACLE	0.18	a 3.2	FREEZER #3	20/2	30
31				b			32
33	20/1	EXT. LIGHTS	0.074	a 1.6	SODA COOLER	20/1	34
35	20/1	EXT. LIGHTS, LIGHTS	0.47	b 1.6	DRINK COOLER	20/1	36
37	20/2	FREEZER #4	2.6	a 0	SPARE	20/1	38
39				b 0	SPARE	20/1	40
41	20/1	DUSK/DAWN EXT. LIGHTS	0.111	a 0	SPARE	20/1	42

CONN. KVA		CALC. KVA	CONN. KVA		CALC. KVA
GEN. LIGHTING	0	0	CONTINUOUS	2.1	2.63 (125%)
AREA (SQ. FT.)	0 SF		NONCONTINUOUS	8	8 (100%)
LIGHTING	4.06	5.07 (125%)	KITCHEN EQUIP	0	0 (N/A)
LARGEST MOTOR	0	0 (N/A)	NONCOIN/DIVERSE	0	0 (N/A)
OTHER MOTORS	0	0 (100%)	APPLIANCES	17.8	17.8 (100%)
RECEPTACLES	0.72	0.72 (50%>10)			
COOLING	0	0 (N/A)			
HEATING	0	0 (N/A)			
TOTAL KVA			32.7	34.2	
BALANCED PHASE AMPS			143		
PHASE A			95.8%	PHASE B	104%

PANEL B NOTES:

AIC RATING OF 22K MINIMUM OR SERIES RATED FOR 200,000 AMPS WITH CLASS J OR CLASS R FUSES WHERE HIGHER RATING IS REQUIRED.

BREAKERS 1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 19, 21, 22/24, 26/28, 30/32, 34, 36 SHALL BE LOCKABLE.

CIRCUITS 1, 3, 5, 7, 9, 11, 13, 15, 17 (IF USED), 23, 25, 27/29, 31, 33, 35 (IF USED), 37, 39, 41 SHALL BE ROUTED TO THE EMS PANEL. ANY OTHER CIRCUITS USED FOR LIGHTS (ADDITIONAL EXTERIOR LIGHTING OR SIGNAGE CIRCUITS) SHALL ALSO BE ROUTED TO THE EMS PANEL.

CONFIRM CIRCUIT BREAKER SIZE AND WIRING WITH FINAL EQUIPMENT SELECTED.

ALL BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR ROUTED WITH THE CIRCUIT CONDUCTORS. THIS MEANS ALL CONDUITS MUST HAVE A "GREEN" WIRE INSTALLED IN THEM, AND SIZED IN ACCORDANCE WITH N.E.C.

ELECTRICAL LOADS

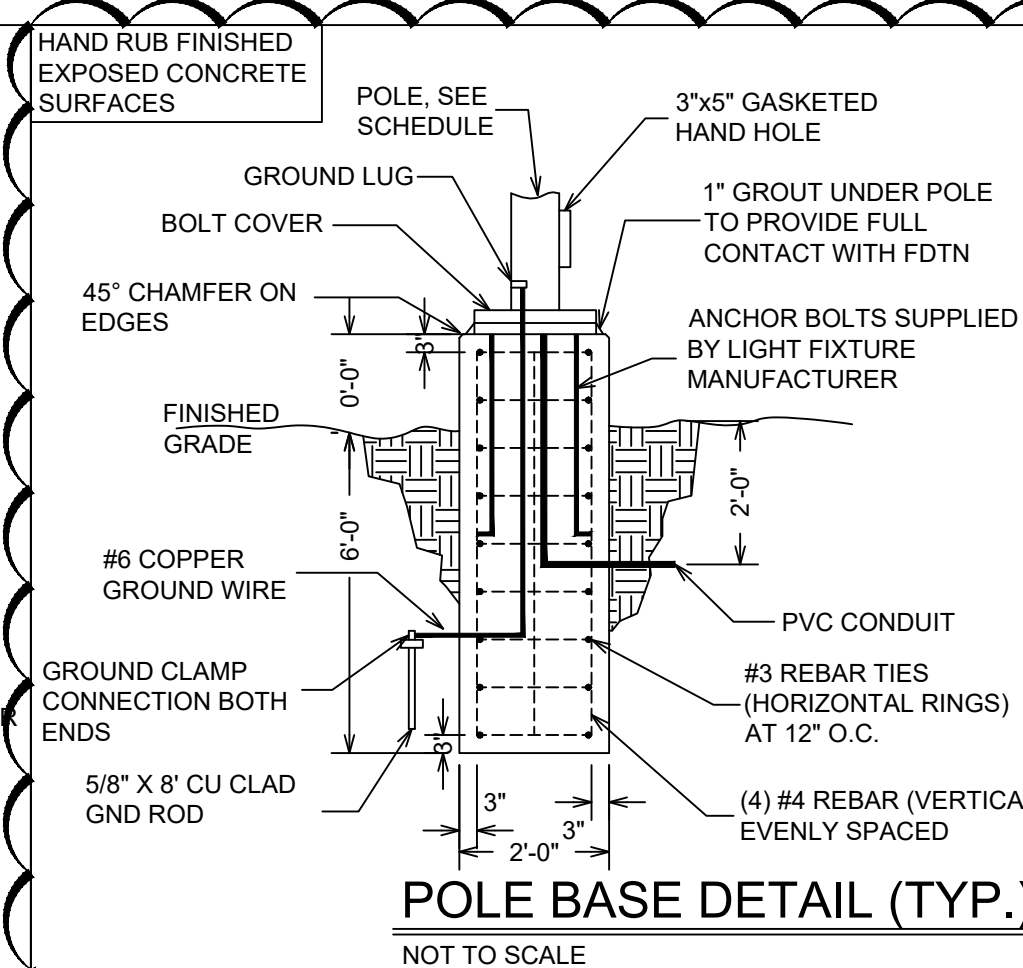
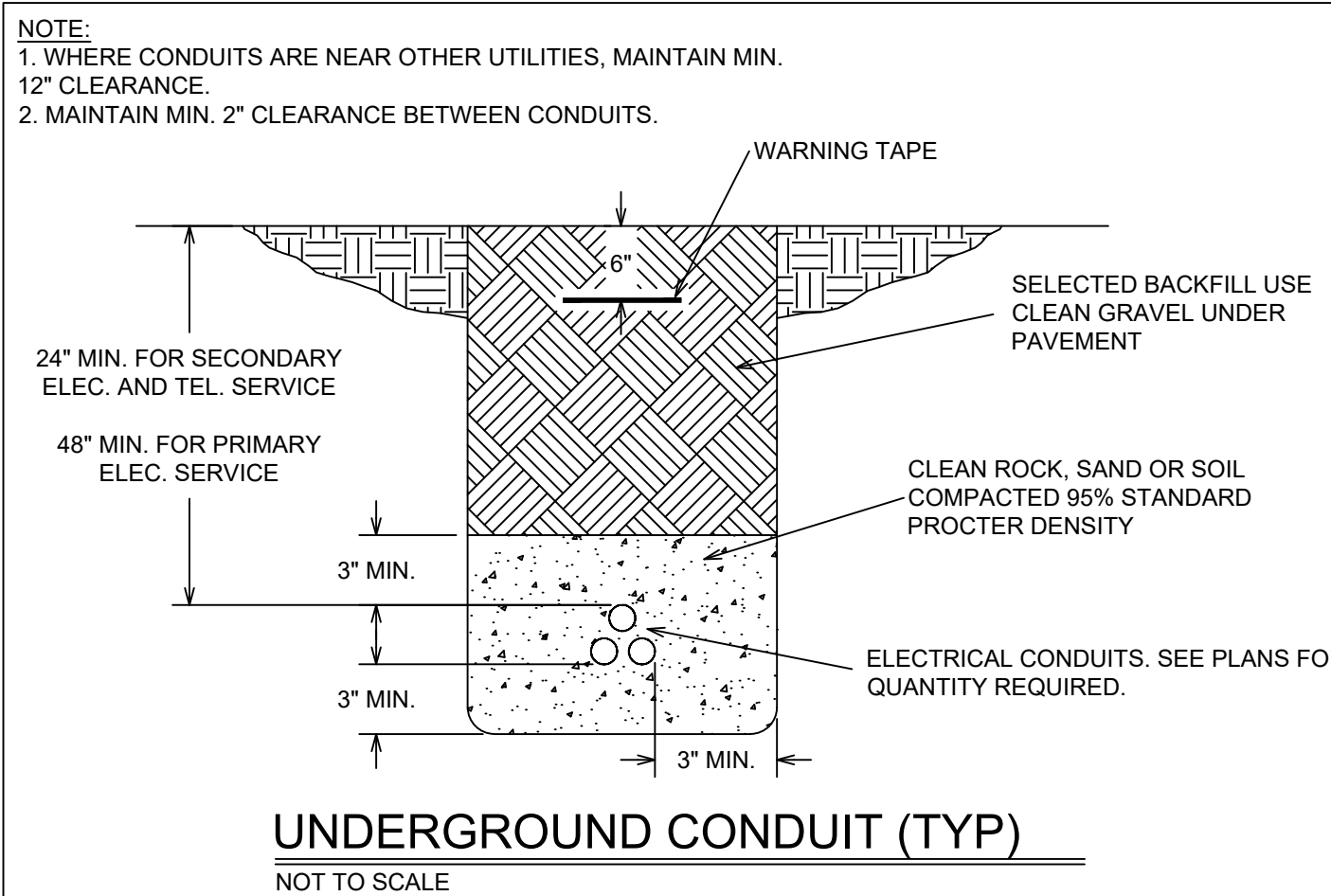
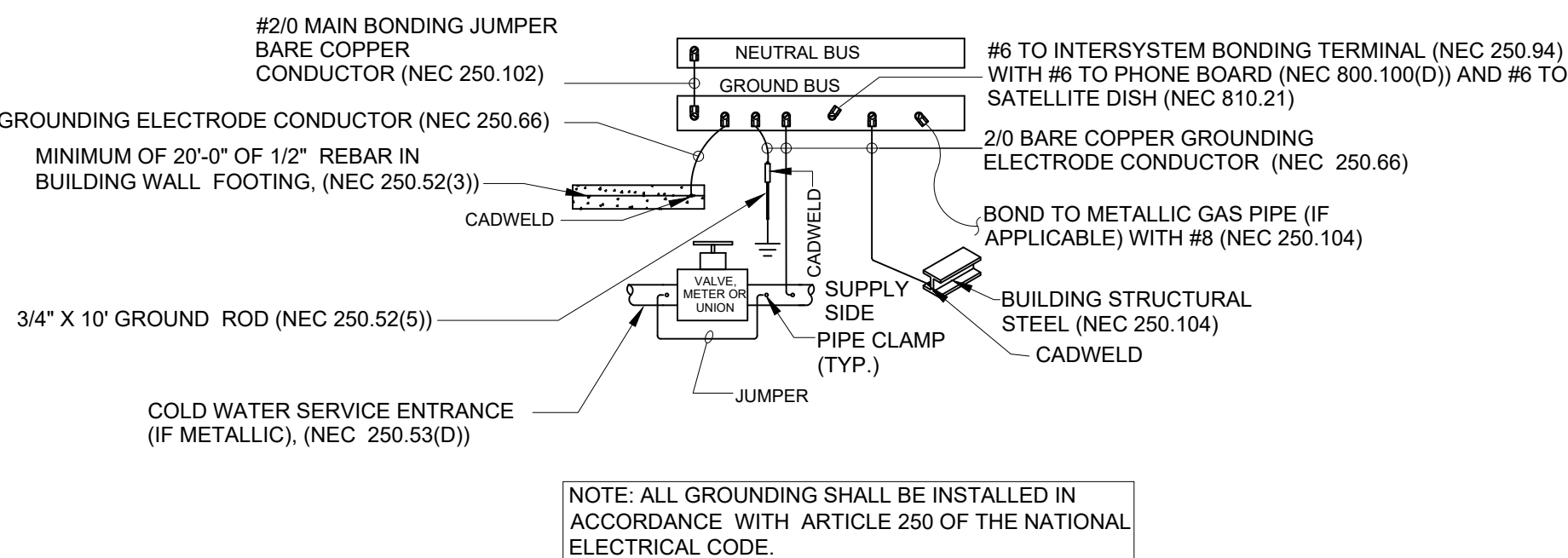
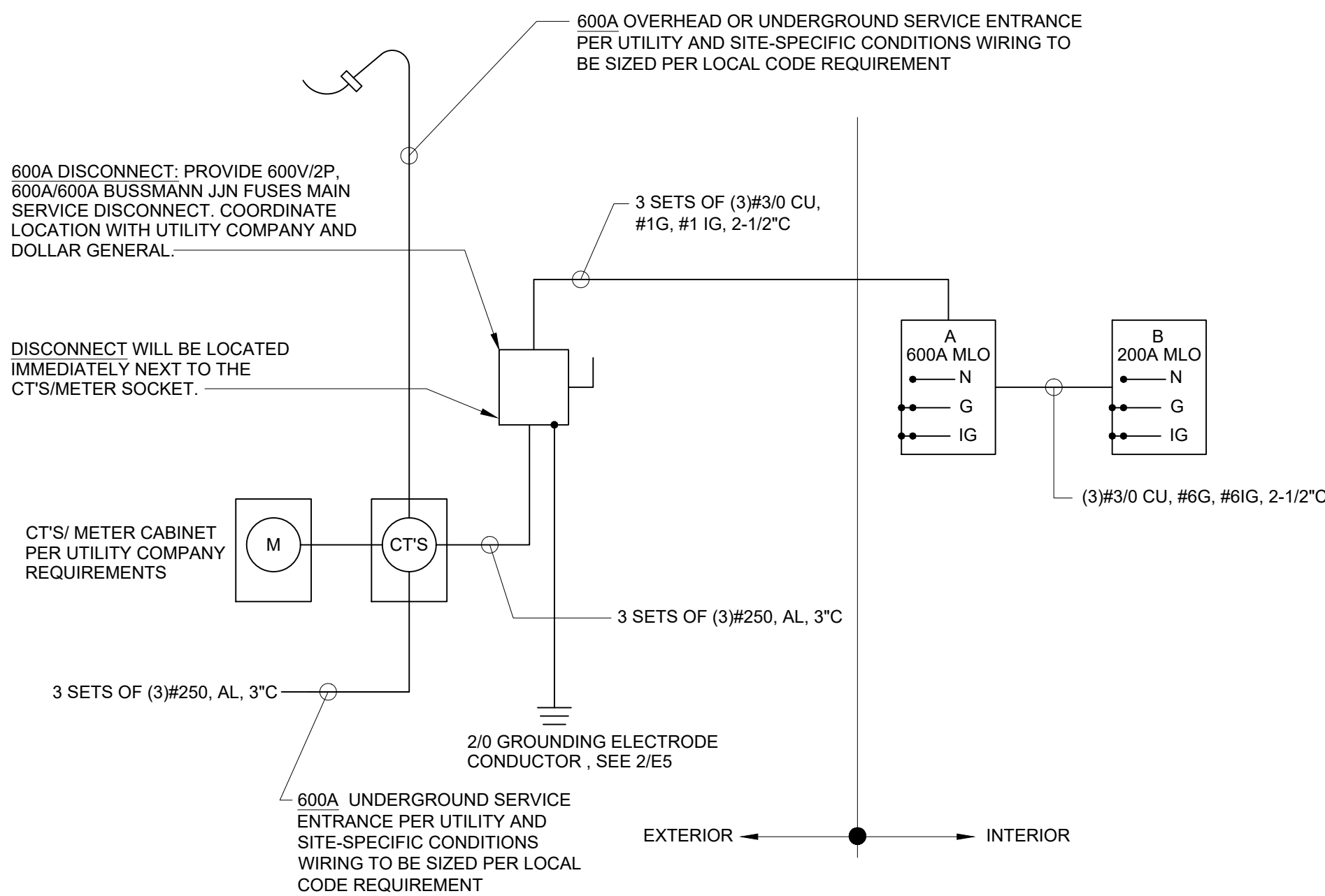
LOAD CATEGORY	CONNECTE D LOAD (VA)	DEMAND FACTOR	DEMAND LOAD (VA)
GENERAL LIGHTING LOAD (NEC 220.12, 220.42, GREATER THAN CONNECTED LOAD)	23,335	1	23,335
CONNECTED INTERIOR LIGHTING (LESS THAN NEC 220.12 LOAD)	3,136	0	0
CONNECTED EXTERIOR LIGHTING	1,026	1.25	1,283
LARGEST MOTOR	5,304	0.25	1,326
RECEPTACLES - TOTAL	2,520		
1ST 10 KVA	2,520	1	2,520
ABOVE 10 KVA	0	0.5	0
HVAC (4) 5-TON UNITS WITH GAS HEAT	33,408	1	33,408
OTHER: CONTINUOUS	3,750	1.25	4,688
OTHER: NON-CONTINUOUS	13,650	1	13,650
APPLIANCES	21,000	1	21,000
TOTAL	78,490		101,209
AMPS @ 240V 1Ø			422

FAULT CURRENT SCHEDULE

DEVICE	FAULT	AIC RATING	L-N VOLTS	FEEDER	
				SIZE	LENGTH
UTILITY TRANSFORMER	29,901		120V		
CT CABINET	25,441		120V	(3)#250kcmil AL	25'
MAIN DISC.	25,205	30,000	120V	(3)#3/0	2'-0"
A	24,972	30,000	120V	(3)#3/0	2'-0"
B	24,446	30,000	120V	#3/0	2'-0"

1. THE CALCULATIONS ARE BASED ON INFINITE BUS AND A 112.5 KVA TRANSFORMER WITH 1.6% IMPEDANCE. IF THE TRANSFORMER WILL BE LARGER AND/OR HAVE A LOWER IMPEDANCE, CONTACT THE ENGINEER FOR A REVISED CALCULATION.

2. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A DURABLE, PERMANENT SIGN AT THE MAIN DISCONNECT INDICATING THAT THE AVAILABLE FAULT CURRENT WAS CALCULATED TO BE 26,000 AMPS. THE CALCULATION WAS PERFORMED ON 10-29-2020.



NOTES:

1. MIN. DISTANCE TO TRENCHING OR OTHER SOIL DISTURBANCE IS 6'

2. CONCRETE TO BE A MIN. 3000 PSI STRENGTH - 28 DAY

3. VERIFY ANCHOR BOLT QUANTITY, SIZE, AND PROJECTION WITH POLE MFR.

4. DEPTH PER NEC TABLE 300.5 BASES & RUNNING CONDUITS. DO NOT LOCATE POLES IN RIGHT-OF-WAYS OR OTHER AREAS WHICH WOULD CONFLICT W/EXIST UTILITIES OR EASEMENTS

6. CONTRACTOR SHALL COORDINATE/SCHEDULE INSTALLATION WITH THE ARCH & G.C.

THE ENGINEER HAS PROVIDED ONLY MECHANICAL, ELECTRICAL, AND PLUMBING ENGINEERING SERVICES. FLOOR PLANS AND SITE PLANS HAVE BEEN PROVIDED BY THE ARCHITECT FOR OUR USE RELATIVE TO MECHANICAL, ELECTRICAL, AND PLUMBING ENGINEERING SERVICES ONLY.

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DANIEL L. MARTIN, P.E.

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SPRINGFIELD, MISSOURI 65808
PHONE: (417) 883-4056

DOLLAR GENERAL

TYPE C

WILLIS ROAD
WILLIS, WASHTENAW COUNTY, MICHIGAN



NOV 19, 2021

ENGINEER: Daniel L. Martin
LICENSE #: 6201064277

DRAWN: _____
CHECKED: _____
DATE: 10/29/2020
REVISION: 11/25/2020
REVISION: 10/29/2021
REVISION: 11/09/2021
REVISION: 11/19/2021
JOB #: 2020-172
SHEET #:

E4

NOTE REGARDING NATIONAL ACCOUNTS: REFER TO THE PROJECT COVER SHEET(S) (ARCHITECTURAL SHEETS) FOR A LIST OF REQUIRED NATIONAL ACCOUNT VENDORS FOR LIGHTING, SWITCHGEAR, ENERGY MANAGEMENT SYSTEM, AND CABLE TRAY SYSTEMS. THE CONTRACTOR SHALL PURCHASE ALL REQUIRED SYSTEMS FROM THE REQUIRED NATIONAL ACCOUNT VENDOR.

SITE UTILITY LEGEND		SITE UTILITY LEGEND	
— SS —	SANITARY SEWER	— FO —	FIBER OPTICS
— BS —	BUILDING SEWER	⊖	ELECTRIC METER
— W —	WATER PIPING	⊙	GAS METER
— GAS —	GAS PIPING	⊕	WATER METER
— UG/E —	UNDERGROUND ELECTRIC	⊕	FIRE HYDRANT
— OH/E —	OVERHEAD ELECTRIC	▲	PAD MOUNT TRANSFORMER
— UG/C —	UNDERGROUND CONDUIT	⊙	MANHOLE
— UG/S —	UNDERGROUND SLEEVE	●	CLEANOUT TO GRADE
— T —	TELEPHONE		

#	KEYNOTES
1	1" CONDUIT TO PYLON SIGN.
2	1" CONDUIT TO POLE LIGHTS.

DISCLAIMER: THE PHOTOMETRIC CALCULATIONS WILL BE CONFIRMED BY THE NATIONAL LIGHTING ACCOUNT VENDOR (NATIONAL LIGHTING ELECTRICAL SERVICE). THE E.C. AND G.C. WILL BE RESPONSIBLE TO CONFIRM THAT NATIONAL LIGHTING ELECTRICAL SERVICE (THE NATIONAL ACCOUNT LIGHTING VENDOR) HAS RUN THEIR PHOTOMETRICS FOR THIS SITE. IT IS ALSO THE RESPONSIBILITY OF THE E.C. AND G.C. TO CONFIRM ALL LIGHT FIXTURE MODEL NUMBERS WITH THE NATIONAL ACCOUNT VENDOR (NATIONAL LIGHTING ELECTRICAL SERVICE).

LED LIGHT HEADS ARE COVERED ON FOUR SIDES PLUS THE BACK WITH LIGHT BEING PROJECTED IN ONE DIRECTION. LIGHT HEADS MOUNTED AND POINTING IN A DOWNWARD DIRECTION ACCOMPLISHES THE GOAL OF WHAT USED TO BE CALLED "FULL CUT-OFF". IN THIS WAY THE PARKING LOT IS LIT AND THERE IS NO BLEED OVER TO THE PROPERTY LINE OR ACROSS PROPERTY LINES.

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P.O. BOX 10252
SPRINGFIELD, MISSOURI 65808
PHONE: (417) 883-4056

DOLLAR GENERAL
TYPE C
WILLIS ROAD
WILLIS, WASHTENAW COUNTY, MICHIGAN



ENGINEER: Daniel L. Martin
LICENSE #: 6201064277

DRAWN:	
CHECKED:	
DATE:	10/29/2020
REVISION:	11/25/2020
REVISION:	09/22/2021
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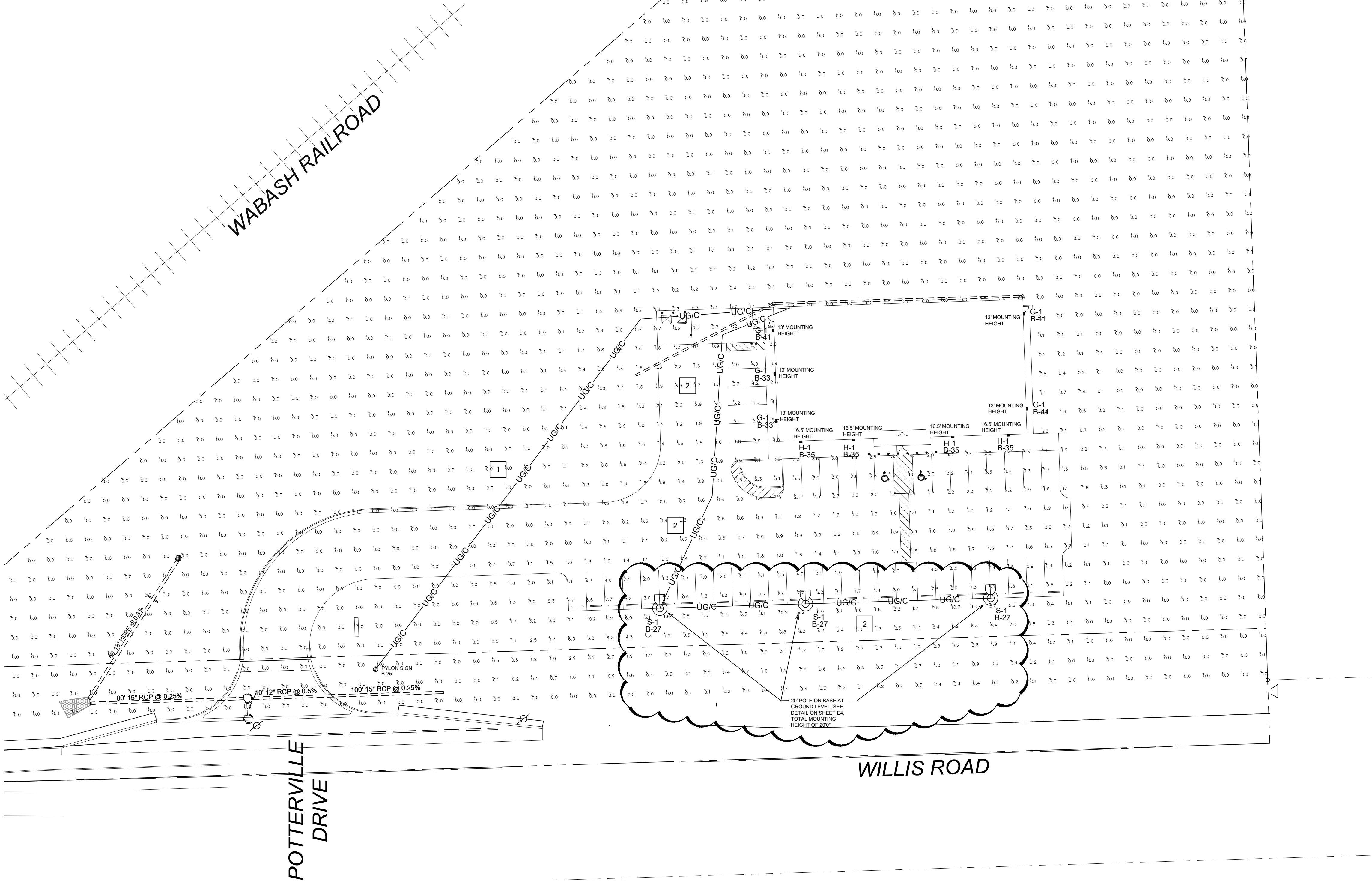
E5

LUMINAIRE SCHEDULE (SEE NOTES REGARDING REQUIRED NATIONAL ACCOUNT VENDORS)					
CALLOUT	SYMBOL	DESCRIPTION	MODEL	INPUT WATTS	NOTES
G-1	•	FULL CUTOFF LED WALL PACK LIGHT FIXTURE	USLED: WPR3-UNVL-37-4-50-BZ	37	
H-1	•	FULL CUTOFF LED WALL PACK LIGHT FIXTURE	USLED: WPR3-UNVL-100-4-50-BZ	100	
S-1	⊙	SINGLE FIXTURE POLE LIGHT ON 20' TALL POLE	US LED: QDXLR-150-50-UNVL-1-3-N-Z5	147	20' POLE: US-SSS20B4-4-BM

NOTE: THE E.C. IS RESPONSIBLE TO COUNT AND CONFIRM THE QUANTITIES OF THE FIXTURES IN THE PLANS PRIOR TO ORDERING.

EXTERIOR LED LIGHT HEADS ARE COVERED ON FOUR SIDES PLUS THE BACK WITH THE LIGHT BEING PROJECTED IN ONE DIRECTION. LIGHT HEADS MOUNTED AND POINTING IN A DOWNWARD DIRECTION ACCOMPLISHES THE GOAL OF WHAT USED TO BE CALLED "FULL CUT-OFF". IN THIS WAY THE PARKING LOT IS LIT AND THERE IS NO BLEED OVER TO THE PROPERTY LINE OR ACROSS PROPERTY LINES.

SEE SPECIFICATION ON SHEETS E7, E8, E9, & E10



FIELD VERIFY AND COORDINATE ALL UNDERGROUND UTILITIES WITH STORM WATER DETENTION AND DRAIN PIPING TO AVOID CONFLICT/INTERFERENCE.



New Build Product Information

Data and Install Guides

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DoradoXLE 2

Outdoor LED Area/Site Luminaire



Key Features

- Outdoor applications benefit from superior photometric performance and uniformity.
- Low profile design provides a contemporary appearance and is right sky friendly.
- Precision molded optics are sealed to protect against environmental contaminants.
- Easy installation by one person in the field.
- Photozell and motion sensor accessories are available to be installed.

Electrical

- 120-277V or 347-480V available.
- 0-10V dimming standard.
- 10KV surge protection standard.
- System power factor >90% and THD <20%.
- Operating temperature: -30°C to +40°C (-30°F to +104°F)

Mounting

- Slip fitter, pole mount, or trunnion mounting options available.

Construction

- Robust die-cast aluminum housing protects integral components from harsh environments and optimizes thermal management.
- Housing is protected by a corrosion resistant powder coat finish.
- Standard dark bronze finish. Custom colors available by request.
- IP66 rated enclosure prevents intrusion from environmental elements that could degrade performance.

Optics

- IP67 rated LED light engine prevents dust or moisture from degrading performance.
- Precision molded optics available in Type II, Type III, Type IV or Type V distributions.
- Industry leading LEDs with 3000K, 4000K, and 5000K CCT (minimum 70 CRI).
- Lumen Maintenance: >60,000 hours (L70)¹

Warranty

- Product is backed by US LED's industry-leading Ten-Year Warranty.

Ordering Information

DYL2																		
Series	Model	CCT	Input Voltage	Finish	Optics	Photozell	Mounting	Driver	Accessories									
100	100W	30	3000K	UNWL	120-277V	1	Bronze²	2	Type 2	II	No Photozell	Z1	Adjustable For Square Pole and Round Pole - 4" Nominal	X1	Standard	BSL	Back Light Side	
120	120W	40	4000K	UNWL	347-480V	3	Type 3	01	Photozell			X2	High Temperature					
150	150W	50	5000K			4	Type 4	02	Motion Sensor								BSL	House Side
200	200W					5	Type 5										BSL	House Side
250	250W																	
300	300W¹																	

1. US LED product "Lifetime" refers only to the LED light engine, not the power source, and are based on the Illuminating Engineering Society's TM21 Projected Lumen Maintenance methodology at a 20° C / 77° F ambient temperature. The lifetime is solely meant to be a guide for expected LED degradation and not a warranty or predictive of their actual life, which can be affected by ambient temperature and other factors.
2. Custom colors available upon request.
3. Recommended that 300W model should not be used in operating temperature beyond +30°C (85°F).
4. Closed fixture.

ODXLE2 07/11/20 Due to continued product improvements, product specifications are subject to change without notice. Please visit www.usled.com for the most updated product specifications. 1



QubePAK Regal 3

Architectural Outdoor LED Wall Pack



Key Features

- Modern LED replacement for traditional fluorescent or HID fixtures.
- Elegant yet rugged construction effortlessly integrates with existing architecture.
- Adjustable, full-cutoff design with a tilt mechanism that allows for precise aiming.
- Night sky friendly: eliminates light pollution and minimizes glare.
- Industry leading 10-Year warranty.

Electrical

- 120-277VAC, 0-10V dimming standard.²
- System power factor >90% and THD <20%.
- Photozell/motion sensor available.
- Operating temperature: -40°C to +40°C (-40°F to +104°F)

Mounting

- Luminaire is ready to be surface mounted.

Construction

- Robust die-cast aluminum housing protects integral components from harsh environments and optimizes thermal management.
- Housing is protected by a corrosion resistant bronze powder coat finish.
- IP65 rated enclosure prevents intrusion from environmental elements that could degrade performance.

Optics

- Type II or Type IV optical distribution.
- Industry leading LEDs with 3000K, 4000K, and 5000K CCT (minimum 70 CRI).
- Lumen Maintenance: 100,000 hours (L70)¹

Warranty

- Backed by US LED's industry leading 10-year warranty.

Ordering Information

Series	Input Voltage	Power	Optics	CCT	Finish
UNWL	120-277V	37 37W¹	2 Type 2	30 3000K	BZ Bronze
		58 58W	4 Type 4	40 4000K	
		70 70W		50 5000K	
		100 100W			

WPR3 03/27/20 Due to continued product improvements, product specifications are subject to change without notice. Please visit www.usled.com for the most updated product specifications. 1

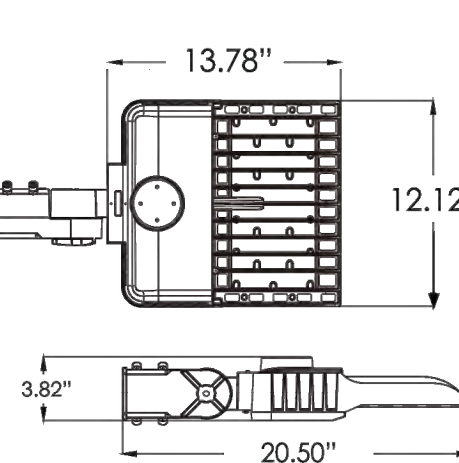


DoradoXLE 2

Outdoor LED Area/Site Luminaire

Dimensions

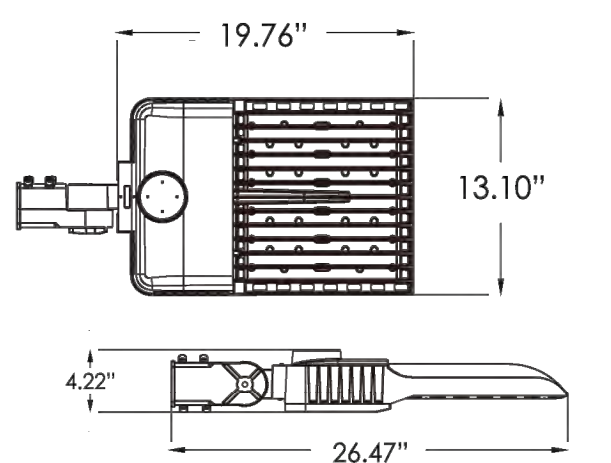
Models 100W / 120W / 150W



Net Weight	EPA Rating
10.46 lbs.	0.36

EPA (FT.)	Configuration	Weight (lbs.)
0.36	1	11.46
0.72	2	22.92
0.62	3	22.92
0.60	4	34.38
0.57	5	34.38
0.56	6	45.84

Models 200W / 240W / 300W



Net Weight	EPA Rating
20.00 lbs.	0.48

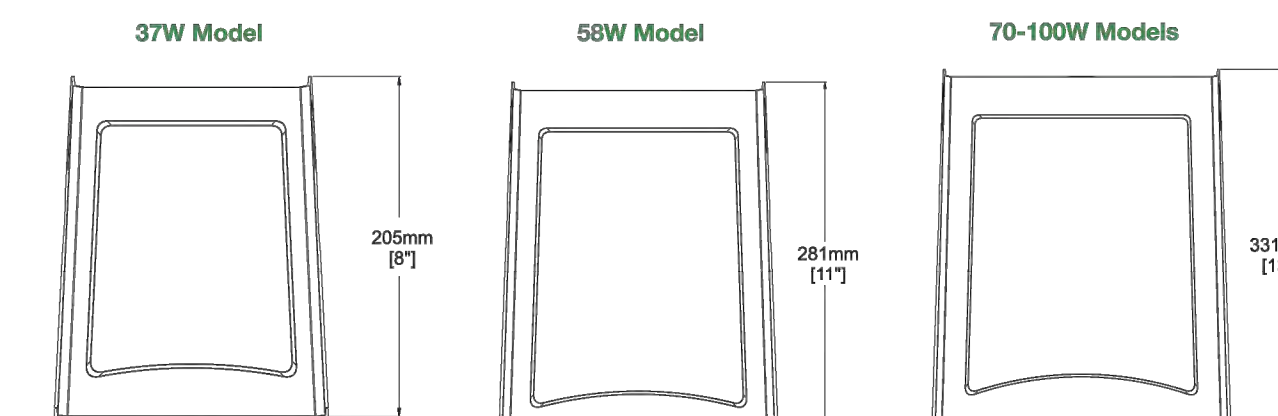
EPA (FT.)	Configuration	Weight (lbs.)
0.48	1	20.00
0.96	2	40.00
0.79	3	40.00
1.27	4	60.00
1.33	5	60.00
1.27	6	80.00

ODXLE2 07/11/20 Due to continued product improvements, product specifications are subject to change without notice. Please visit www.usled.com for the most updated product specifications. 2

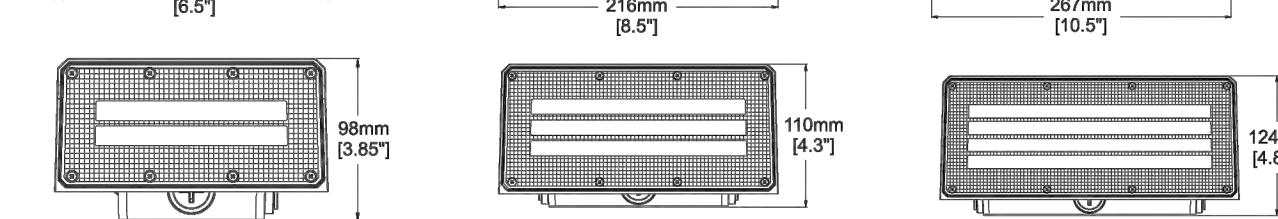


QubePAK Regal3

Architectural Outdoor LED Wall Pack



Dimensions



Model	Net Weight
37W	2.87 lbs. (1.3kg)
58W	4.63 lbs. (2.1kg)
70-100W	5.95 lbs. (2.7kg)

Performance Data

Model	Available CCT	System Level Power	Delivered Lumens	Efficacy	L70 Calculate Life
WPR3-UNWL-37-X-XX-BZ	3000K/4000K/5000K	37.1W	4,701 lm	126 LPW	100,000 Hours
WPR3-UNWL-58-X-XX-BZ	3000K/4000K/5000K	58.4W	7,695 lm	132 LPW	100,000 Hours
WPR3-UNWL-70-X-XX-BZ	3000K/4000K/5000K	71.8W	10,201 lm	142 LPW	100,000 Hours
WPR3-UNWL-100-X-XX-BZ	3000K/4000K/5000K	104.5W	14,007 lm	134 LPW	100,000 Hours

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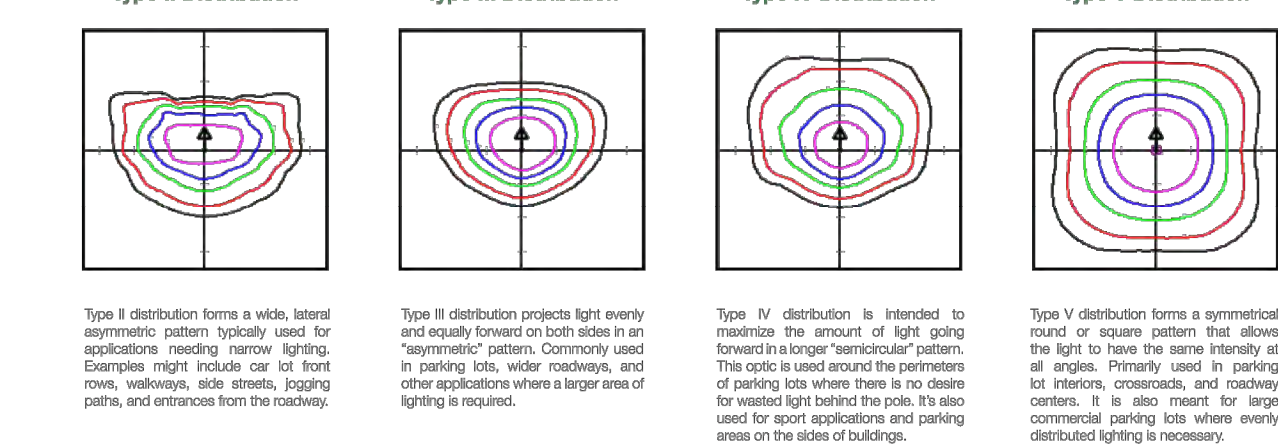


DoradoXLE 2

Outdoor LED Area/Site Luminaire

Optical Distributions

All photometric testing performed to IESNA LM-79 standards by a NVLAP® accredited testing facility. ISO footcandle plots below demonstrate examples of the general distribution patterns based on a 25' mounting height. Please visit www.usled.com for complete specifications, IES files, and detailed photometric data.



Performance Data

Model	CCT	System Level Power	Delivered Lumens	Efficacy	L70 Calculate Life
100W	3000K	105.2 W	13,275 lm	126 LPW	>60,000 Hours
	4000K	105.2 W	14,070 lm	134 LPW	>60,000 Hours
	5000K	105.2 W	14,860 lm	141 LPW	>60,000 Hours
120W	3000K	120.2 W	14,560 lm	121 LPW	>60,000 Hours
	4000K	120.2 W	15,470 lm	129 LPW	>60,000 Hours
	5000K	120.2 W	16,340 lm	136 LPW	>60,000 Hours
150W	3000K	148.6 W	18,570 lm	125 LPW	>60,000 Hours
	4000K	148.6 W	19,680 lm	132 LPW	>60,000 Hours
	5000K	148.6 W	20,790 lm	140 LPW	>60,000 Hours
200W	3000K	188.4 W	26,190 lm	139 LPW	>60,000 Hours
	4000K	188.4 W	27,750 lm	147 LPW	>60,000 Hours
	5000K	188.4 W	29,320 lm	156 LPW	>60,000 Hours
240W	3000K	247.6 W	31,320 lm	127 LPW	>60,000 Hours
	4000K	247.6 W	33,190 lm	134 LPW	>60,000 Hours
	5000K	247.6 W	35,060 lm	142 LPW	>60,000 Hours
300W	3000K	292.4 W	35,760 lm	122 LPW	>60,000 Hours
	4000K	292.4 W	37,800 lm	130 LPW	>60,000 Hours
	5000K	292.4 W	40,030 lm	137 LPW	>60,000 Hours

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QUBEPAK REGAL 3 (WPR3)

INSTALLATION INSTRUCTIONS

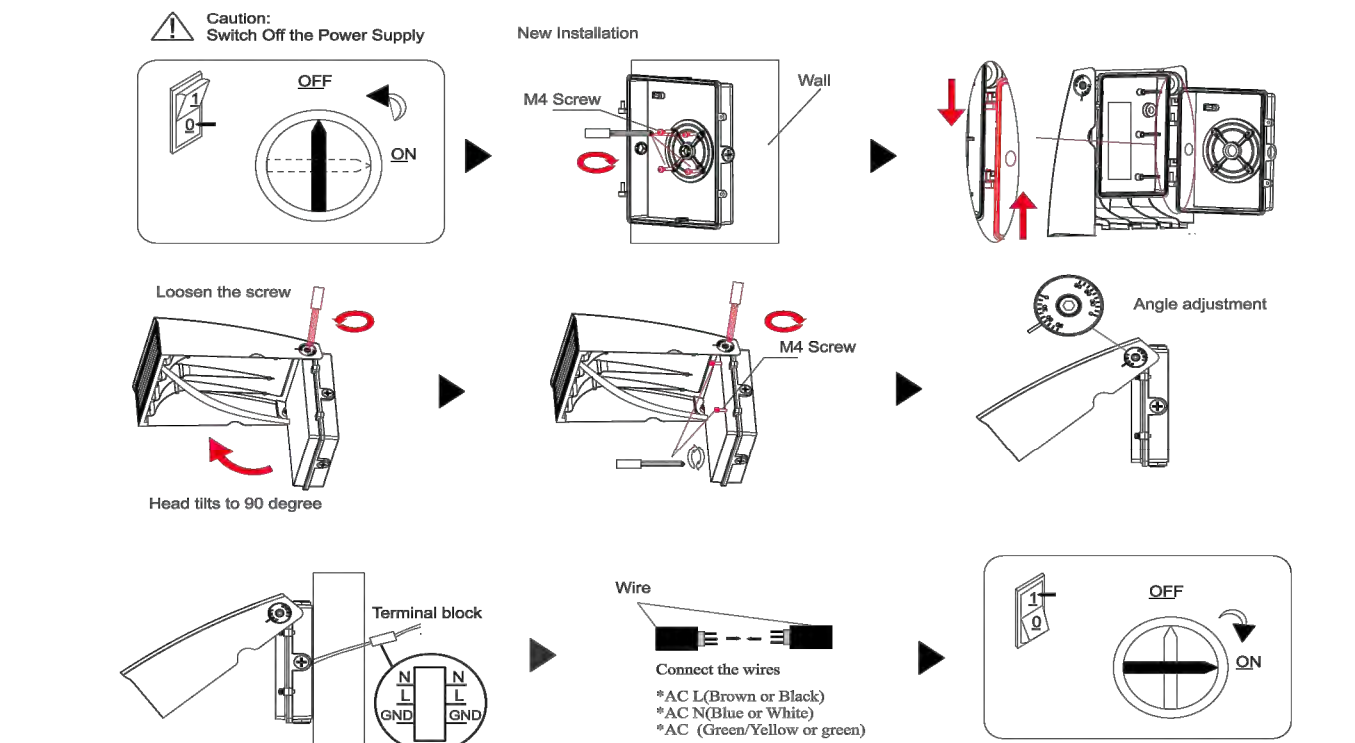


WARNING

- The installation must only be performed by a licensed electrician.
- To prevent death, injury or damage to property, this product must be installed in accordance to National Electric Code (NEC) in the US or Canadian Electrical Code (CEC) in Canada.
- Disconnect power before installing the product or servicing it.
- Wait until fixture has cooled down before installing or servicing the fixture.
- Make sure that the fixture is grounded.
- Modification to the WPR3 fixture voids its warranty and UL Listing.
- Caution - Risk of fire.
- Min. 75°C supply conductor.
- Suitable for wet locations.
- Suitable for operation in ambient not exceeding 50°C.

INSTALLATION INSTRUCTIONS

- Verify power is disabled.
- Remove fixture from carton.
- Loosen the two captive screws opposite the hinge side.
- With hinge to the left, open cover approximately 120 degrees and slide cover away, to remove cover from the hinge pins.
- Feed wires from line power through applicable conduit holes and mount fixture base to wall according to local codes using appropriate mounting hardware. Junction box, conduit, conduit fittings and mounting hardware are not supplied. Use fittings suitable for wet location (Type 4 or 4X). Use UL Listed fittings.
- Slide cover onto base by aligning hinges.
- Mate LED module wire connections.
- Reconnect ground wire.
- Close cover, use caution not to pinch wires, and secure with two screws opposite the hinge.
- Adjust angle as appropriate.
- Energize fixture.



Specifications and dimensions subject to change without notice.

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SPRINGFIELD, MISSOURI 65808
PHONE: (417) 883-4056

DOLLAR GENERAL
TYPE C
WILLIS ROAD
WILLIS, WASHTENAW COUNTY, MICHIGAN



NOV 19, 2021

ENGINEER: Daniel L. Martin
LICENSE #: 6201064277

DRAWN:

CHECKED:

DATE: 10/29/2020

REVISION: 11/19/2021

REVISION:

REVISION:

JOB #: 2020-172

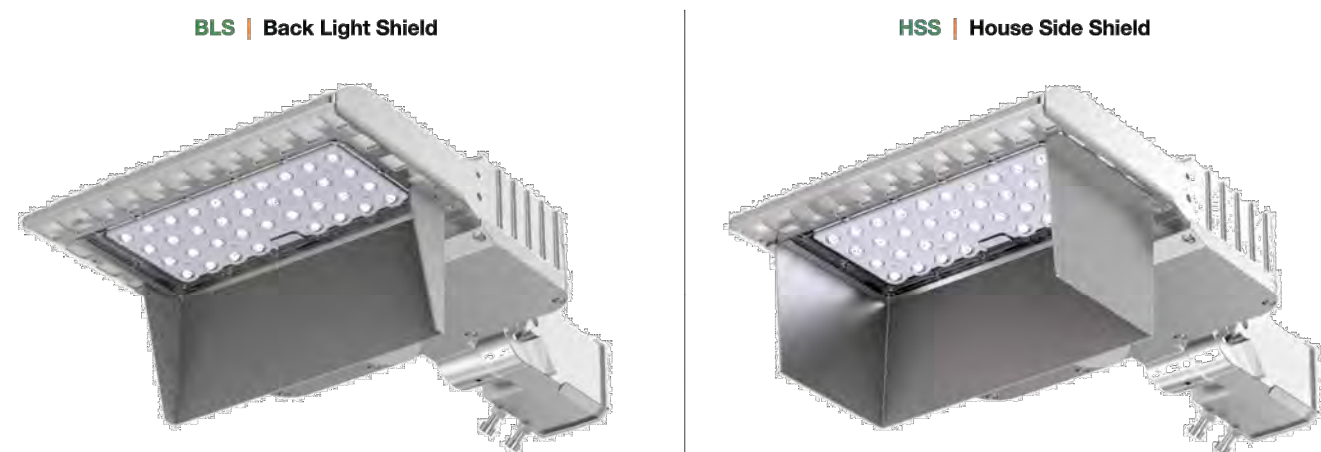
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DoradoXLE 2
Outdoor LED Area/Site Luminaire



Accessories



QDXLE2
01/1/2021

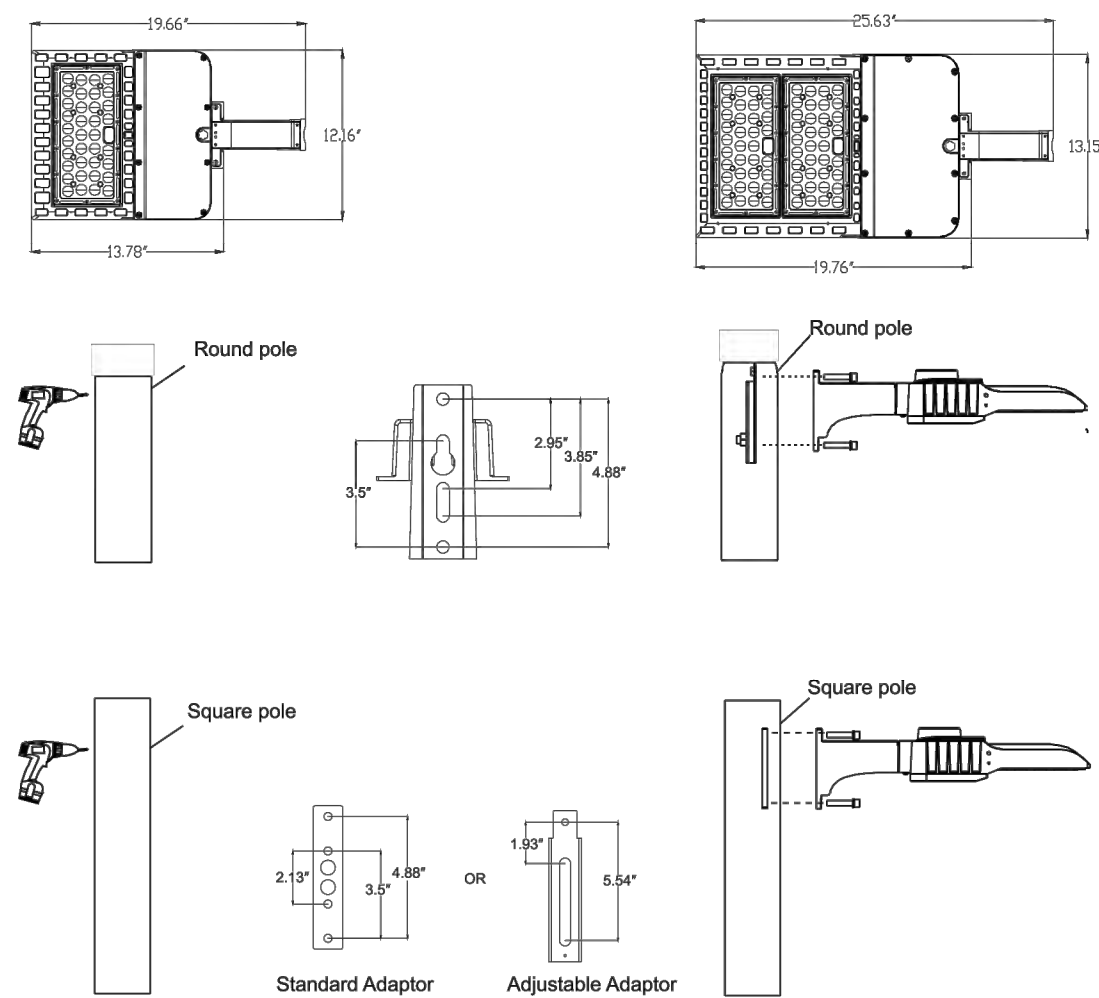
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5



DoradoXLE2 (QDXLE2)
INSTALLATION INSTRUCTIONS

DAM-A/DAM-S (For 4" diameter round pole & square pole):



Step 1: Drilled on the pole according to the measurement of hole on the bracket.
Step 2: Put the adaptor (standard adaptor or adjustable adaptor) into the pole, then put the fixture with DAM on the pole and tighten the screws.

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DoradoXLE2 (QDXLE2)
INSTALLATION INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

- To reduce the risk of death, personal injury or property damage from fire, electric shock, falling parts, cuts/abrasions, and other hazards please read all warnings and instructions included with and on the fixture box and all fixture labels.
- Before installing, servicing, or performing routine maintenance up on this equipment, follow these general precautions.
- Installation and service of luminaires should be performed by a qualified licensed electrician.
- Maintenance of the luminaires should be performed by person(s) familiar with the luminaire's construction and operation and any hazards involved. Regular fixture maintenance programs are recommended.
- It will occasionally be necessary to clean the outside of the refractor/lens. Frequency of cleaning will depend on ambient dirt level and minimum light output which is acceptable to user. Refractor/lens should be washed in a solution of warm water and any mild, non-abrasive household detergent, rinsed with clean water and wiped dry.
- Should optical assembly become dirty on the inside, wipe refractor/lens and clean in above manner, replacing damaged gaskets as necessary.
- DO NOT INSTALL DAMAGED PRODUCT! This luminaire has been properly packed so that no parts should have been damaged during transit. Inspect to confirm. Any part damaged or broken during or after assembly should be replaced.
- These instructions do not purport to cover all details or variations in equipment nor to provide every possible contingency to meet in connection with installation, operation, or maintenance.

WARNING RISK OF INJURY

- Wear gloves and safety glasses at all times when removing luminaire from carton, installing, servicing or performing maintenance.
- Avoid direct eye exposure to the light source while it is on.

WARNING RISK OF ELECTRIC SHOCK

- Disconnect or turn off power before installation or servicing.
- Verify that supply voltage is correct by comparing it with the luminaire label information.
- Make all electrical and grounded connections in accordance with the National Electrical Code (NEC) and any applicable local code requirements.
- All wiring connections should be capped with UL approved recognized wire connectors.

WARNING RISK OF BURN

- Allow lamp/fixture to cool before handling.
- Do not touch enclosure or light source.
- Do not exceed maximum wattage marked on luminaire label.
- Follow all manufacturer's warnings, recommendations and restrictions for: driver type, burning position, mounting locations/methods, replacement and recycling.

WARNING RISK OF FIRE

- Keep combustible and other materials that can burn, away from lamp/lens.
- Do not operate in close proximity to persons, combustible materials or substances affected by heat or drying.

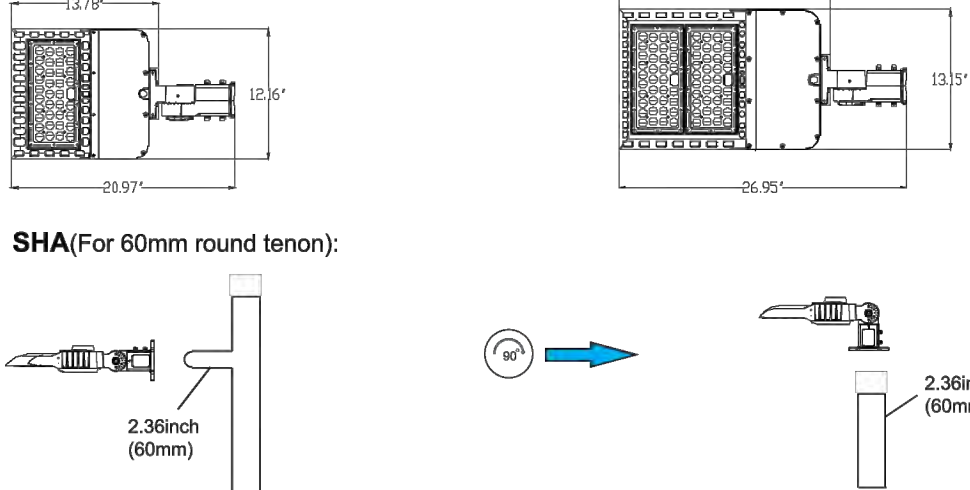
Specifications and dimensions subject to change without notice.

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DoradoXLE2 (QDXLE2)
INSTALLATION INSTRUCTIONS

SHA (All in one Mount):



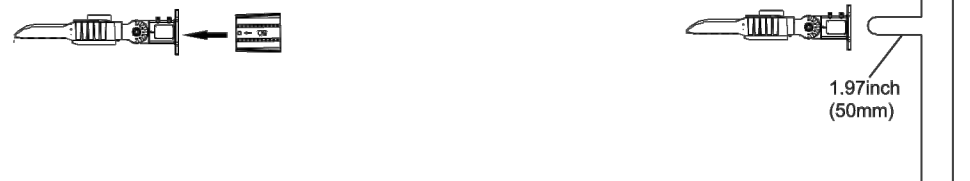
Step 1: Put the fixture with SHA on the bar which is on the pole.
Step 2: Then tighten the screws.

SHB (For 40mm round tenon):



Step 1: Put the fixture with SHB on the bar which is on the pole.
Step 2: Then tighten the screws.

SHC (For 50mm round tenon):



Step 1: Put the fixture with SHC on the bar which is on the pole.
Step 2: The tighten the screws.

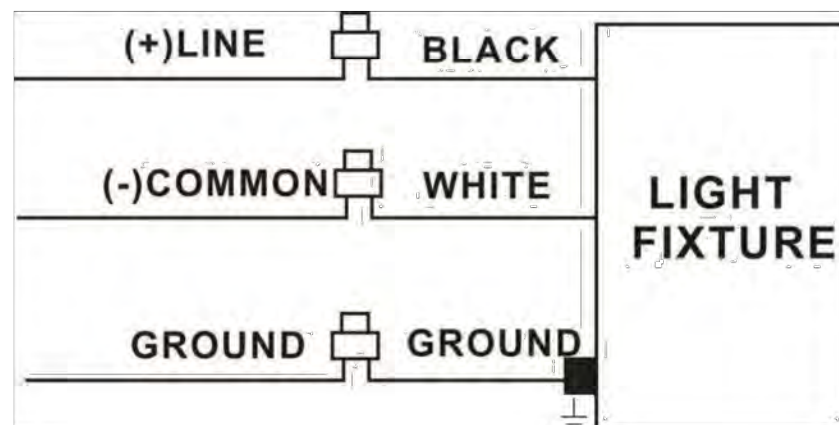
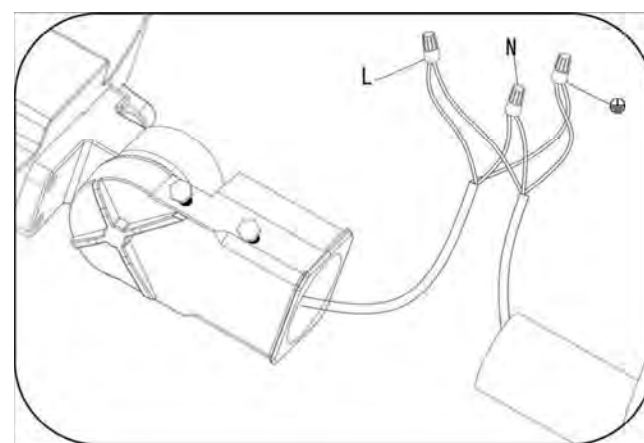
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DoradoXLE2 (QDXLE2)
INSTALLATION INSTRUCTIONS

ON-OFF WIRING



Make the wire connections outside the mounting arm. Refer to the wire diagram for power connections.
Step1: Connect the black fixture lead to the (+)LINE supply lead.
Step2: Connect the white fixture lead to the (-)COMMON supply lead.
Step3: Connect the GROUND wire from fixture to supply lead.

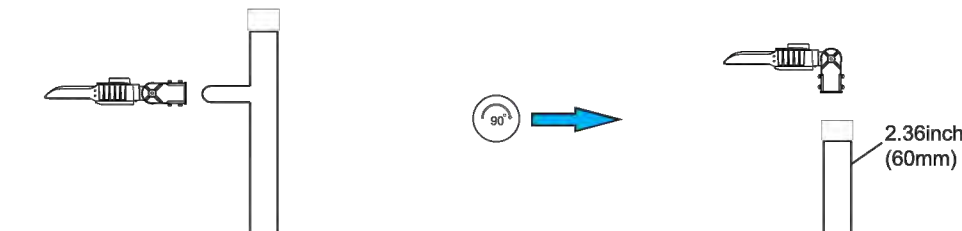
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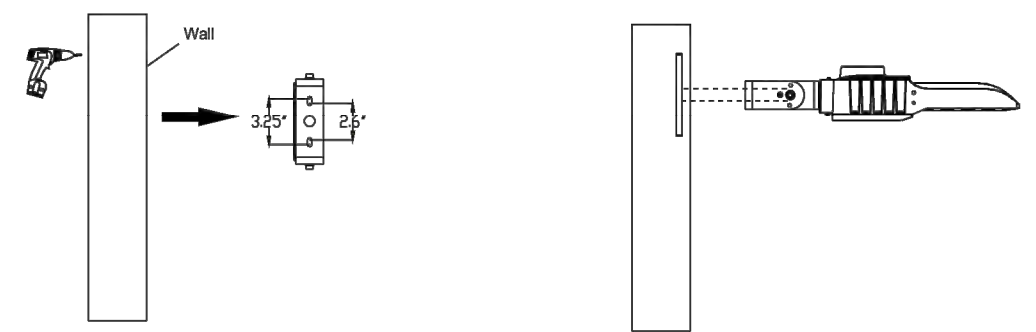
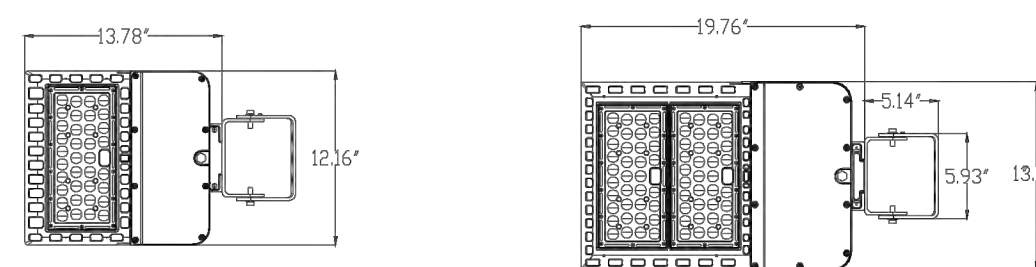
DoradoXLE2 (QDXLE2)
INSTALLATION INSTRUCTIONS

SLI (Slip Fitter):



Step 1: Install the fixture with SLI to the tenon which is on the pole.
Step 2: Then tighten the screws.

TRU (Trunnion):

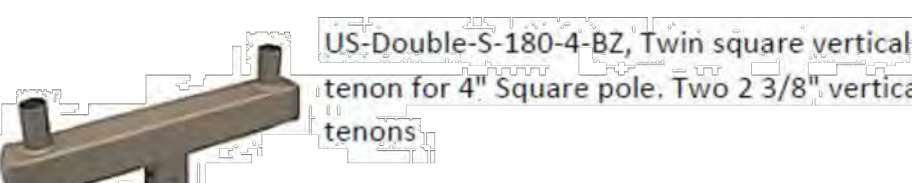
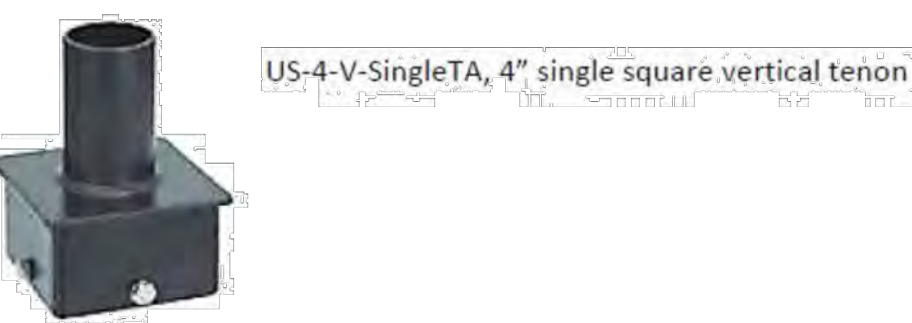


Step 1: Drilled on the wall or pole according to the measurement of hole on the bracket.
Step 2: Put the fixture with TRU on the wall and tighten the screws.

Specifications and dimensions subject to change without notice.

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Mounting Options



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DOLLAR GENERAL
TYPE C
WILLIS ROAD
WILLIS, WASHTENAW COUNTY, MICHIGAN



NOV 19, 2021

ENGINEER: Daniel L. Martin
LICENSE #: 6201064277

DRAWN: _____
CHECKED: _____
DATE: 10/29/2020
REVISION: 11/19/2021
REVISION: _____
REVISION: _____
REVISION: _____
JOB #: 2020-172
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New Build Product Information

Data and Install Guides

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PJF2

INSTALLATION INSTRUCTIONS

IMPORTANT SAFETY WARNINGS

THE INSTALLATION MUST ONLY BE PERFORMED BY A LICENSED ELECTRICIAN. TO PREVENT DEATH, INJURY OR DAMAGE TO PROPERTY, THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE TO NATIONAL ELECTRIC CODE (NEPA70) IN THE US OR CANADIAN ELECTRICAL CODE (CSA22-1) IN CANADA.

L'INSTALLATION NE DOIT ÊTRE EFFECTUÉE QUE PAR UN ÉLECTRICIEN AGRÉÉ. POUR PRÉVENIR LES DÉCÈS, LES BLESSURES OU LES DOMMAGES MATÉRIELS, CE PRODUIT DOIT ÊTRE INSTALLÉ CONFORMÉMENT AU CODE NATIONAL DE L'ÉLECTRICITÉ (NEPA70) AUX USA OU CODE CANADIEN DE L'ÉLECTRICITÉ (CSA22-1) AU CANADA.

CONSULT A QUALIFIED ELECTRICIAN TO ENSURE CORRECT BRANCH CIRCUIT CONDUCTOR.

CONSULTEZ UN ÉLECTRICIEN QUALIFIÉ POUR VOUS ASSURER QUE LES CONDUCTEURS DE LA DÉRIVATION SONT ADEQUATS.

SUITABLE FOR DAMP LOCATIONS, SUITABLE FOR OPERATION IN AMBIENT NOT EXCEEDING 45°C.

CONVIENT AUX EMPLACEMENTS HUMIDES, PEUT ÊTRE UTILISÉ À UNE TEMPÉRATURE AMBIANTE N'EXCÉDANT PAS 45°C.

CAUTION - RISK OF FIRE. MIN 90°C SUPPLY CONDUCTORS, CLASS 2, CLASS 1 WIRE ONLY.

ATTENTION - RISQUE D'INCENDIE. LES FILS D'ALIMENTATION 90 °C MIN. CLASSE 2, CLASSE 1 FIL SEULEMENT.

- To reduce the risk of death, personal injury or property damage from fire, electric shock, falling parts, cuts/lacerations, and other hazards please read all warnings and instructions included with and on the fixture box and all fixture labels.
- Follow all manufacturer's warnings, recommendations and restrictions for: driver type, burning position, mounting locations/methods, replacement and recycling.
- Wear gloves and safety glasses at all times when removing luminaire from carton, installing, servicing or performing maintenance.
- Disconnect or turn off power before installation or servicing the luminaire.
- Allow lamp/fixture to cool before handling.
- Do not exceed maximum wattage marked on the label.
- Do not operate in close proximity to persons, combustible materials or substances affected by heat or drying.
- Verify that supply voltage is correct by comparing it with the luminaire label information.
- All wiring connections should be capped with UL approved recognized wire connectors.
- DO NOT INSTALL DAMAGED PRODUCT! This luminaire has been properly packed so that no parts should have been damaged during transit. Inspect to confirm. Any part damaged or broken during or after assembly should be replaced.
- Maintenance of the luminaires should be performed by person(s) familiar with the luminaire's construction and operation and any hazards involved. Regular future maintenance programs are recommended.
- It will occasionally be necessary to clean the outside of the refractor/lens. Frequency of cleaning will depend on ambient dirt level and minimum light output which is acceptable to user. Refractor/lens should be washed in a solution of warm water and any mild, non-abrasive household detergent, rinsed with clean water and wiped dry.
- Should optical assembly become dirty on the inside, wipe refractor/lens and clean in above manner, replacing damaged gaskets as necessary.
- These instructions do not purport to cover all details or variations in equipment nor to provide every possible contingency to meet in connection with installation, operation, or maintenance.



Specifications and dimensions subject to change without notice.

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PJF2

Linear LED Strip Light



Key Features

- Available in 2 ft. or 4 ft. models.
- 161,000 hours L70 calculated life.
- Suspended or surface mounted.
- Designed to facilitate easier installations.
- Industry leading 10-Year warranty.

Construction

- Housing is constructed from steel in a standard white finish.
- Lens is frosted acrylic for uniform light distribution that's glare-free.
- End caps are high-impact injection molded PMMA material.

Electrical

- 120VAC Input.
- Operating temperature: -30°C to +40°C (-22°F to +104°F)

Mounting

- Luminaire is ready to be suspended or surface mounted.

Optics

- Industry leading LEDs in 3500K, 4000K, or 5000K CCT (minimum 80 CRI).
- Lumen Maintenance >161,000 hours (L70)

Warranty

- Backed by US LED's industry leading 10-year warranty.

Ordering Information

PJF2	Series	Variant	Size	Input Voltage	Power	CCT	Battery Back-Up
1	Standard	2 ft.	UNVL	120-277V	15W	35 3500K	Black No Battery Back-Up
4	4 ft.				35 35W	40 4000K	Black No Battery Back-Up
					40 40W	50 5000K	Black Integrated Battery Back-Up

Example: PJF2-1-4-UNVL-35-60

1. US LED product "User" refers only to the LED light engine, not the power source, and are based on the Illuminating Engineering Society's TM21 Projected Lumen Maintenance methodology at a 25°C / 77°F ambient temperature. The fixture is only meant to be a guide for expected LED degradation and not a warranty or promise of their actual life, which can be affected by ambient temperature and other factors.
2. Only available with 4 ft. option.
3. Only available with 4 ft. option.

PJF2 070620 Due to continued product improvements, product specifications are subject to change without notice. Please visit www.usled.com for the most updated product specifications. 1

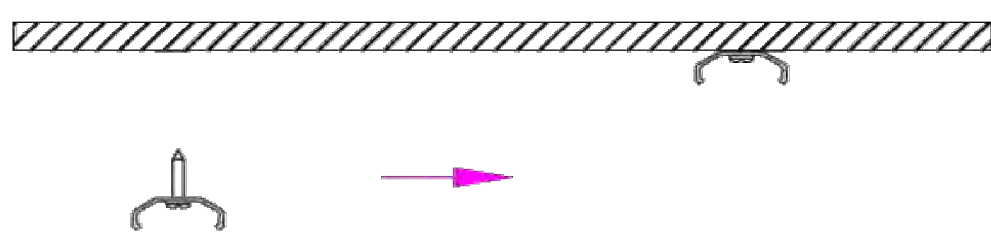


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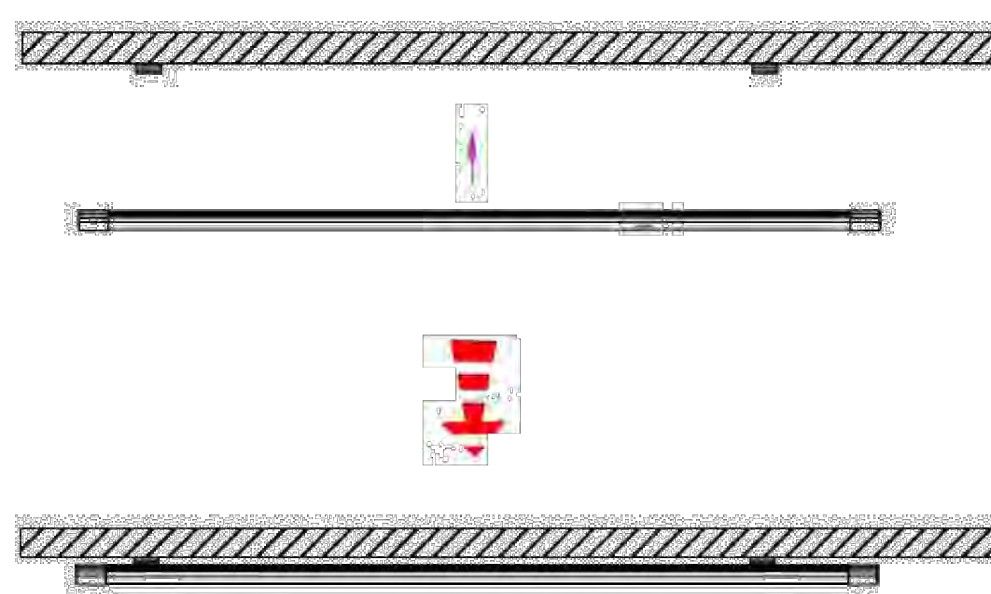
INSTALLATION INSTRUCTIONS

CEILING INSTALLATION INSTRUCTIONS

- Attach (2) snap joins to the ceiling with supplied bolts.



- Install the PJF2 luminaire onto the (2) snap joints.



Specifications and dimensions subject to change without notice.

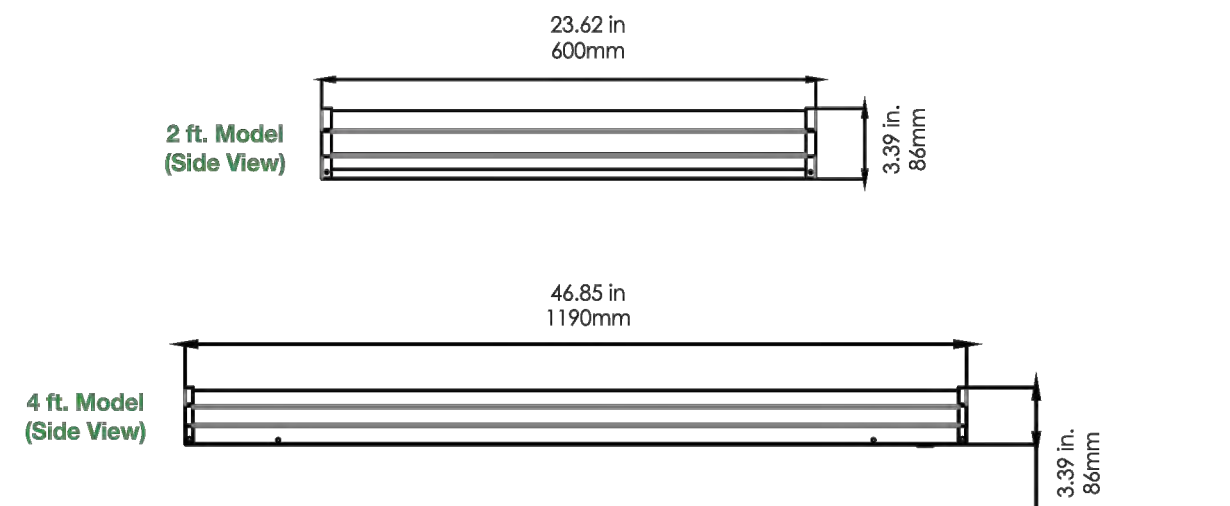
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PJF2

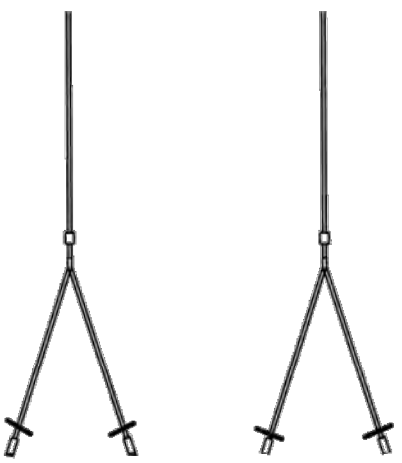
Linear LED Strip Light

Dimensions

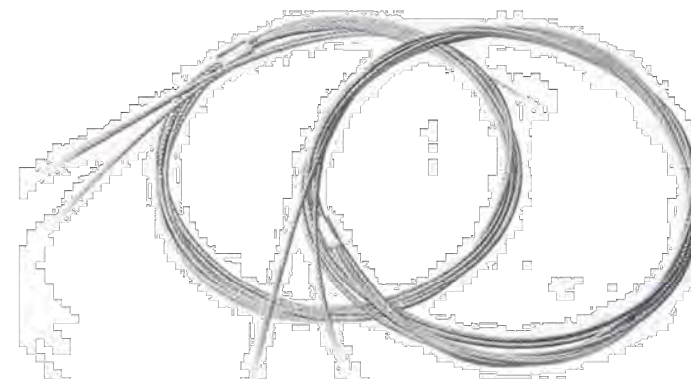


Mounting

PJF2-AC-10 10 ft. Cable Mounting Kit - Set of 2 (Sold Separately)



30200 20 ft. Aircraft Cable Mounting Kit
30202 10 ft. Aircraft Cable Mounting Kit (Power Cable Required, Sold Separately)



PJF2 070620 Due to continued product improvements, product specifications are subject to change without notice. Please visit www.usled.com for the most updated product specifications.

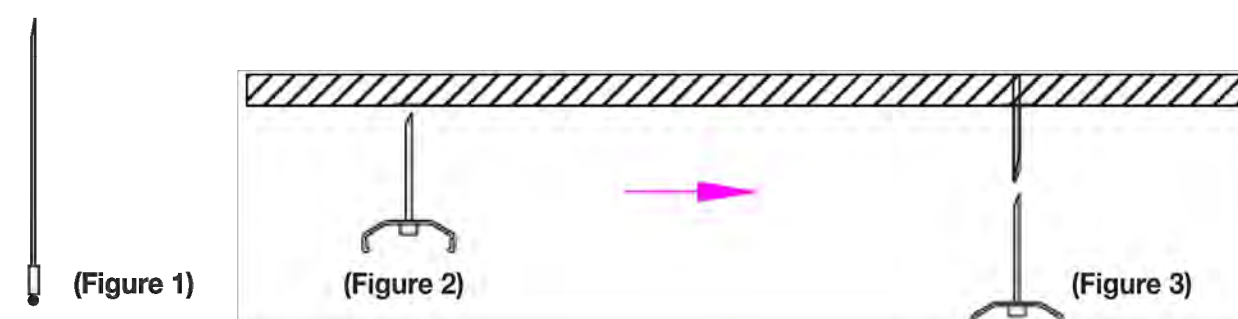


PJF2

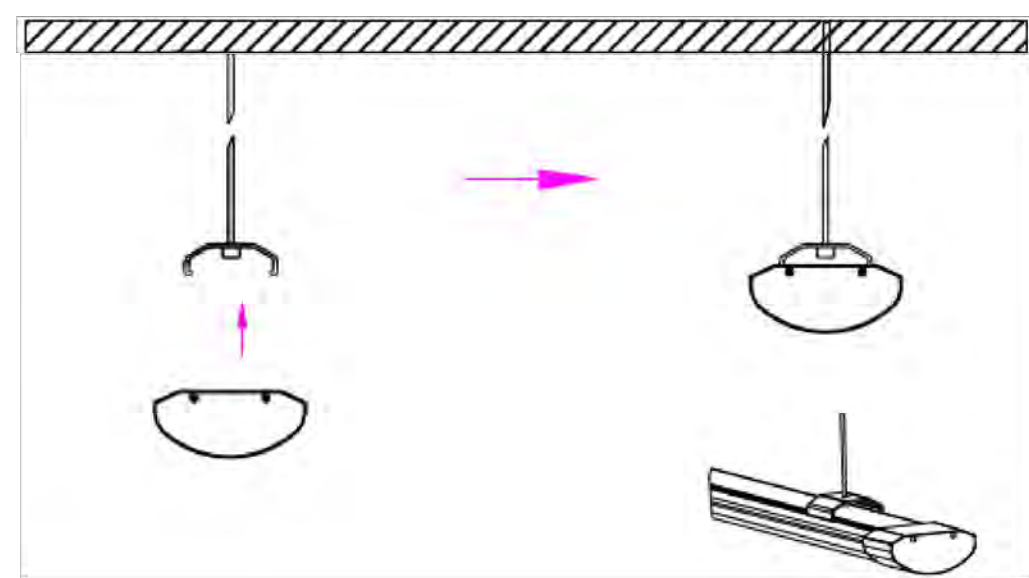
INSTALLATION INSTRUCTIONS

SUSPENDED INSTALLATION INSTRUCTIONS

- Slide one the supplied crimps onto the wire rope all the way down until the ball at the bottom of the rope stops it (Figure 1). Assemble the wire ropes into the supplied snap points (Figure 2). Attach the wire ropes to the ceiling using second supplied crimp or other hardware by others (Figure 3).



- Install the PJF2 luminaire onto the (2) snap joints.



Specifications and dimensions subject to change without notice.

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PJF2

Linear LED Strip Light

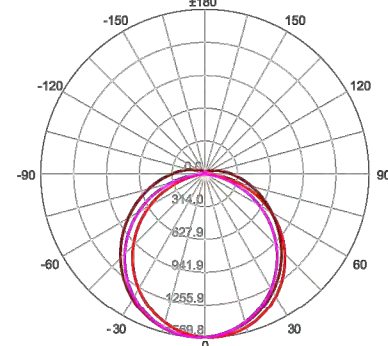
Performance Data

Luminaire Photometric Data

Model Number	PJF2-1-4-UNVL-35-XX-X
Issue Date	03/12/2020
IESNA	LM-63-2002
Lamp	LED
Total Input Watts	35
Total Lumens	5,075
Efficiency	146 LPW
Spacing Criterion	0°-180° = 1.70 90°-270° = 1.44

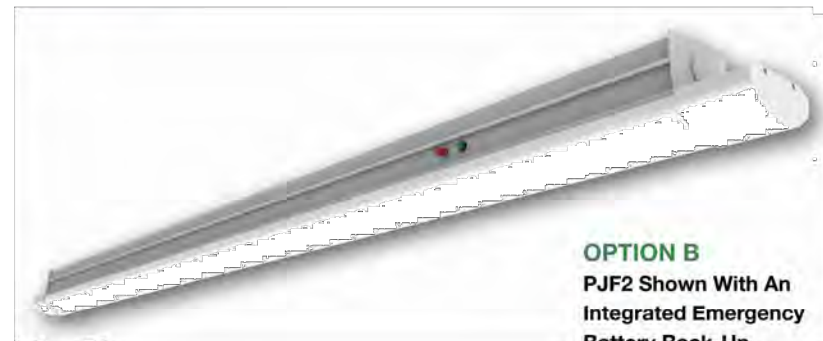
Zonal Lumen Summary

Zone	Lumens	% Fixt
0-30	1215.96	23.35
0-60	1994.25	38.29
0-90	3563.90	68.43
0-180	4853.25	93.19
0-180	5208.78	100.00



Model	System Level Power	Delivered Lumens	Efficiency	CCT	L70 Calculate Life	L83 Calculate Life
PJF2-1-2-UNVL-15-35-X	15W	2,175L	145 LPW	3500K	161,000 Hours	75,000 Hours
PJF2-1-2-UNVL-15-40-X	15W	2,250L	150 LPW	4000K	161,000 Hours	75,000 Hours
PJF2-1-2-UNVL-15-50-X	15W	2,250L	150 LPW	5000K	161,000 Hours	75,000 Hours
PJF2-1-2-UNVL-35-35-X	35W	4,900L	140 LPW	3500K	161,000 Hours	75,000 Hours
PJF2-1-4-UNVL-35-40-X	35W	5,075L	145 LPW	4000K	161,000 Hours	75,000 Hours
PJF2-1-4-UNVL-35-50-X	35W	5,075L	145 LPW	5000K	161,000 Hours	75,000 Hours
PJF2-1-4-UNVL-40-35-X	46W	6,348L	138 LPW	3500K	161,000 Hours	75,000 Hours
PJF2-1-4-UNVL-40-40-X	46W	6,440L	140 LPW	4000K	161,000 Hours	75,000 Hours
PJF2-1-4-UNVL-40-50-X	46W	6,440L	140 LPW	5000K	161,000 Hours	75,000 Hours

Accessories



PJF2 070620 Due to continued product improvements, product specifications are subject to change without notice. Please visit www.usled.com for the most updated product specifications.



LED Thermoplastic Exit Combo



Combining LED exit illumination with reliable LED lamp heads, this attractive low-profile design offers maintenance-free, long life dependable service. Easily mounts above doors and in restricted spaces to fit any application.

FEATURES

- Easy to install, snap together design
- Suitable for damp location
- Rugged, injection-molded UL94 V-0 flame retardant, high-temperature thermoplastic housing
- Universal style - includes 2 face plates, a back plate and mounting canopy
- LED combo exit where each of the lamp heads contain 12 long lasting, efficient, ultra-bright white LEDs
- Charge rate/power "ON" LED indicator light with test button
- Low voltage disconnect eliminates deep discharge
- Brown-out, short circuit and voltage surge protection
- UL recognized maintenance-free NiCad battery
- Universal J-Box mounting system - Ceiling, wall or end mount
- UL listed 90 minute emergency run time, 24 hour recharge time
- Constant, uniform illumination by long-life, high intensity, red or green LEDs
- Overcharge protection
- Fully illuminated 6" characters with 3/4" stroke
- Optional Self Test/Self Diagnostics (SDT) available
- Remote capable - up to 2 CLED remote heads
- Chevron-style, universal arrow knockouts
- 120/277V dual primary, 60Hz input
- Standard finishes: Black and white

WARRANTY

Any component that fails due to manufacturer's defect is guaranteed for 3 years with a separate 5 year pro-rated warranty on the battery. The warranty does not cover physical damage, abuse or acts of God. Manufacturer reserves the right to charge for such repairs if deemed necessary.

ORDERING INFORMATION

Series	Style	Finish	Type	Options
04-CRW2-LED 04-CGW2-LED	2= UNIVERSAL	W= WHITE B= BLACK	LED Lamps	SDT= SELF TEST / DIAGNOSTICS RC= REMOTE CAPABILITY

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THE ENGINEER HAS PROVIDED ONLY MECHANICAL, ELECTRICAL, AND PLUMBING ENGINEERING SERVICES. FLOOR PLANS AND SITE PLANS HAVE BEEN PROVIDED BY THE ARCHITECT FOR OUR USE RELATIVE TO MECHANICAL, ELECTRICAL, AND PLUMBING ENGINEERING SERVICES ONLY.

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DANIEL L. MARTIN, P.E.
P.O. BOX 10252
SPRINGFIELD, MISSOURI 65808
PHONE: (417) 883-4056

DOLLAR GENERAL
TYPE C
WILLIS ROAD
WILLIS, WASHTENAW COUNTY, MICHIGAN



NOV 19, 2021

ENGINEER: Daniel L. Martin
LICENSE #: 6201064277

DRAWN:

CHECKED:

DATE: 10/29/2020

REVISION: 11/19/2021

REVISION:

REVISION:

JOB #: 2020-172

SHEET #:

E9



LED Emergency Light



HOUSING

- Injection-molded, engineering grade, 5VA flame retardant, high-impact resistant, thermoplastic in white or black finish.

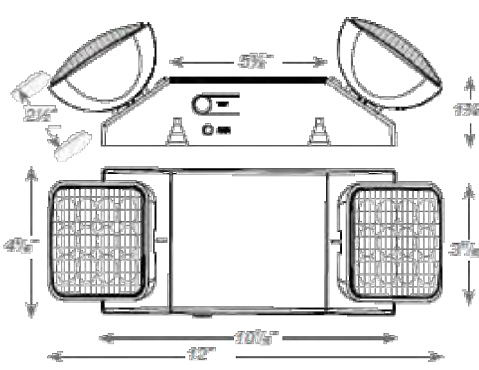
OPTIONS

- SDT: Self-diagnostic feature performs monthly, biannual, and annual tests to ensure reliable operation and meet electrical and life safety codes.
- HL: 10 LEDs per head provide increased center-to-center spacing.
- SPV: UL Listed for special voltage option.

WARRANTY / LISTING

- Five year warranty on all electronics and housing. Battery pro rated for five years.
- Meets UL924, NFPA 101 Life Safety Code, NEC, OSHA, Local and State Codes.
- UL Listed for damp locations (0°C – 50°C).

DIMENSIONS



ORDERING INFORMATION

MODEL	HOUSING COLOR	OPTIONS
04-EL-1-LED	White	SDT Self-Diagnostics
B Black	HL High-Lumen	
	SPV 208/220/240 volt, 50/60 Hz	

ILLUMINATION

- Long lasting, efficient, ultra bright white LED lamp heads.
- 1W (8 LEDs x 0.125) per head.
- High performance chrome-plated metallized reflector and plastic lens for optimal light distribution.
- Adjustable LED lamp heads provide optimal center-to-center spacing. High-lumen option available for increased center-to-center spacing.

ELECTRICAL

- Dual 120/277 voltage standard. Optional multi-tap 208/220/240 voltage available.
- Remote capacity standard.
- Charge rate/power "ON" LED indicator light and push-to-test switch for mandated code compliance testing.
- 3.6V long life, maintenance-free, rechargeable NiCd battery.
- Internal solid-state transfer switch automatically connects the internal battery to LED lamp heads for minimum 90-minute emergency illumination.
- Fully automatic solid-state, two rate charger initiates battery charging to recharge a discharged battery in 24 hours.

MOUNTING

- Surface mount via easy connect back plate, which fits most standard junction boxes and snaps into place making internal electrical connections.
- Top and side knockout for conduit applications.
- Suitable for wall or ceiling mount.

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www.usled.com



LED Remote Heads

Indoor/ Outdoor
Weatherproof



04-RHRLED



- All voltages are available for INDOOR and OUTDOOR applications.
- 3.6 Volt (1 Watt) for Emergency Lights - Call for pricing
- 9.6 Volt (1 Watt) for Exit/Emergency Combos - Call for pricing
- SDT available - Call for pricing

ILLUMINATION

- Long lasting, efficient ultra-bright white LED lamp heads.
- High-performance chrome-plated metallized reflector and plastic lens (indoor applications) or glass lens (outdoor applications) for optimal light distribution.
- Adjustable LED lamp heads increases center-to-center spacing with 8 LEDs in each lamp head.

ELECTRICAL

- Powered from low voltage power source with low voltage wiring (not provided).

MOUNTING

- Universal mounting base mounts to single-gang switch box.
- Distance of maximum run is determined by system voltage, wire gauge and total maximum wattage on the run.
- Suitable for wall or ceiling mount.

HOUSING

- Indoor application remote heads are injection-molded, engineering-grade, 5VA flame retardant, high-impact resistant, thermoplastic in white or black finish.
- Outdoor application remote heads are die-cast aluminum. Sealed and gasketed in gray or black finish.

WARRANTY / LISTING

- Five year warranty on electronics and housing.
- UL listed with approved Best Lighting Products.
- Meets UL924, NFPA 101 Life Safety Code, NEC, OSHA, Local and State Codes.

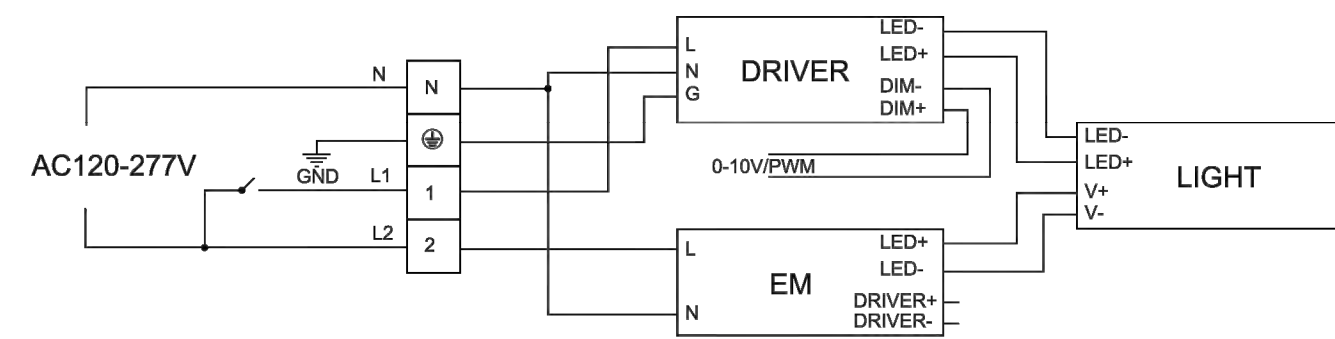
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PJF2

INSTALLATION INSTRUCTIONS

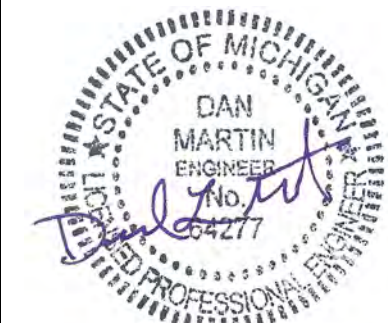
WIRING DIAGRAM



Specifications and dimensions subject to change without notice.

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NOV 19, 2021

ENGINEER: Daniel L. Martin
LICENSE #: 6201064277

DRAWN: _____
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DATE: 10/29/2020
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REVISION: _____
REVISION: _____
REVISION: _____
JOB #: 2020-172
SHEET #:

E10

DANIEL L. MARTIN, P.E.
P.O. BOX 10252
SPRINGFIELD, MISSOURI 65808
PHONE: (417) 883-4056

DOLLAR GENERAL
TYPE C
WILLIS ROAD
WILLIS, WASHTENAW COUNTY, MICHIGAN



Carlisle | Wortman
ASSOCIATES, INC.

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

Date: October 5, 2021
Revised: November 3, 2021
December 8, 2021

Final Site Plan Review For Augusta Township, Michigan

Application #:	SP-21-02
Applicant:	Rodney Parrott, PE
Project Name:	Dollar General
Plan Date:	September 23, 2021
Location:	North side of Willis Road, west of McKean Road, immediately east of the railroad (T-20-01-395-005)
Zoning:	GC, General Commercial
Action Requested:	Final Site Plan Review
Required Information:	As noted below.

PROJECT AND SITE DESCRIPTION

The applicant is proposing to develop a 9,100 square foot Dollar General and associated site improvements on the 5.23-acre subject property. The property is located immediately east of the Norfolk Southern / Wabash Railroad on the north side of Willis, west of McKean Road.

Retail uses are a permitted use in the GC, General Commercial district. A pre-application conference was held at the February 17, 2021, Planning Commission meeting. Preliminary site

plan review was conducted on April 21, 2021. This final site plan review is the last step in the Township's site plan review process.



AREA, WIDTH, HEIGHT, SETBACKS

Section 3.5 outlines the dimensional requirements for the GC, General Commercial District.

	<u>Required</u>	<u>Provided</u>	<u>Compliance</u>
Lot Area	2 acres	5.23 acres	Compliant
Lot Width	150 feet	796.21	Compliant
<u>Setbacks</u>			
Front	35 feet	105 feet	Compliant
Side	30 feet	160 feet (west) 120 feet (east)	Compliant
Rear	30 feet	203 feet	Compliant

Lot Coverage	30%	22%	Compliant
Building Height	35 feet/2 stories	18.5 feet / 1 story	Compliant

The proposed plan has been modified to demonstrate the Willis Road future right-of-way line as required. All dimensional requirements of the GC, General Commercial zoning district have been met.

Items to be Addressed: None.

NATURAL RESOURCES

Topography:	Existing topography is relatively level and is devoid of any significant natural features.
Woodlands:	No woodlands exist on the site.
Wetlands:	A wetland area is delineated along the western property line. No construction is proposed within this portion of the site.
Soils:	According to the USDA Web Soil Survey, the soils on the site are composed of Wasepi sandy loam (WaA), and Gilford Sandy Loam. The Wasepi soils present a “somewhat limited” construction rating. “Somewhat Limited” indicates the soils are moderately favorable and limitations can be overcome or minimized by special planning design or installation. Whereas the Gilford soils have greater limitations to development. These soils are found in the southwest corner of the site where no building construction is proposed.

Items to be Addressed: None.

BUILDING LOCATION AND SITE ARRANGEMENT

The building and proposed improvements are located on the southern portion of the site. The arrangement appears logical.

Items to be Addressed: None.

ESSENTIAL FACILITIES

A stormwater detention area is shown north and west of the proposed structure. The applicant has received approval from the Washtenaw County Water Resources Commission as required.

Water and sewer connections are also proposed. Previously, sewer connections played a major role in the review of the previous development. As shown on the final site plan provided, sanitary sewer is proposed to be connected across Willis Road from Potterville Drive. Extension of sanitary sewer and water services are proposed along the remaining Willis Road frontage as well.

Items to be Addressed: None.

PARKING, LOADING

Section 7.2 requires retail stores to provide 1 parking space for each 200 feet of gross floor area. Based on this requirement, 46 parking spaces are required.

	Requirement	No. of Spaces Required	No. Spaces Provided
Off-Street	1 space per 200sq.ft. gross floor area (9,1000 / 200 = 46 spaces)	46 spaces	46 spaces
Barrier Free	26-50 spaces	2 spaces	2 spaces
Loading	2,000 – 20,000 square feet area	1 space	1 space

Parking spaces in a 90-degree parking pattern are required to be 9.5 feet in width and 18 feet in length and are provided at 9.5-foot widths and 20-foot depths. The maneuvering lane width exceeds the minimum 24-foot for a two-way lane width requirement (shown at 36 feet).

Loading / Unloading

A 10-foot by 50-foot concrete receiving area is provided at the northwest corner of the proposed building as required.

Items to be Addressed: None.

SITE ACCESS AND CIRCULATION

The site will be accessed via a new two-way drive from Willis Road. The proposed drive will align with the existing private drive (Potterville Drive) across Willis Road. As noted previous, the proposed Willis Road ROW has been demonstrated. We defer further comment to the Township Engineer and the WCRC with regard to site access and circulation. The last communication received by the WCRC regarding this project was September 16, 2021. WCRC approval has been provided to the Township.

A public sidewalk is proposed from the railroad tracks (western property extent) to the proposed screening fence east of the proposed structure. The Planning Commission had discussed the extension of the sidewalk during the previous preliminary site plan review for this project and found the termination at the west side of the proposed site improvements is appropriate. An

internal sidewalk connection to the main entrance is also provided from the proposed public sidewalk along Willis Road as well.

Items to be Addressed: None.

LANDSCAPING

A landscape plan is required to be provided as part of final site plan review. Section 5.7.H requires all development proposals for which landscape is required to submit a landscape plan demonstrating compliance with Section 5.7.

The following landscaping requirements apply:

Landscaping Adjacent to Roads: One (1) deciduous tree is required for every 30 lineal feet of road frontage; plus, one (1) ornamental tree per 100 linear feet of road frontage; plus, five (5) shrubs per 30 lineal feet of road frontage (minus drives and sidewalks). The applicant provides 23 trees and 115 shrubs adjacent to Willis Road as required.

Greenbelts: Twenty (20)-foot greenbelts are required along the side and rear property lines of all non-residential developments. Twenty (20)-foot greenbelts are proposed along the east and south sides of the development.

Screening Between Land Uses: Section 5.7.B.1.d. requires the following:

Screening in the form of a landscaped berm, dense landscape screen, or wall shall be required wherever a non-residential use in a commercial district abuts directly upon land zoned or used for residential purposes, and where loading areas would be visible from residential districts. Landscaped screening shall comply with the requirements in Section 5.7.C.5. if a wall is used instead of landscaping, the requirements in Section 5.8 shall be complied with, but a landscaped greenbelt conforming to Section 5.7.C.4. shall be required on the side of the wall facing the residential district.

Evergreen plantings and a wooden privacy fence are provided along the entire east property line. We note a detail of the proposed 6-foot-tall privacy fencing is provided on Sheet C4.

Parking Lot Landscaping: Off-street parking areas containing more than 20 spaces shall comply with the requirements for parking lot landscaping. Based on requirements of Section 5.7.C.6. Additionally, parking areas shall be screened from view from the road through the use of a masonry screen wall at least 42-inches in height, or a continuous evergreen landscape screen of at least six (6) feet in height (Section 3.7.D.2.b.). The applicant is proposing seven (7) interior parking lot trees in addition to the required 42-inch masonry screen wall along the south parking lot periphery screening it from Willis Road as required. Detail of the wall is provided on Sheet C5.1.

General Site Landscaping: All undeveloped portions of the site not already containing specific landscape requirements shall contain one (1) deciduous or evergreen tree per every 3,000 square feet of undeveloped area. The applicant provides on Sheet C1 that the site will maintain 3.29 acres (143,312.4 SF) of open space ($143,312.4 / 3,000 = 47.7$ trees). The applicant has provided 47 general site landscaping trees as required.

Dumpster Enclosure: A two-bay dumpster enclosure is proposed northwest of the proposed structure. Detail of the dumpster enclosure is provided on Sheet C4. Section 5.8.H. requires dumpster areas be screened on at least three (3) sides with a masonry wall of common brick, face brick, or decorative block, of the same material as the principal building.

Items to be Addressed: None.

LIGHTING

A lighting plan is provided on Sheet E5. We note the location of all proposed wall-mounted and pole-mounted fixtures and illumination levels are noted on the plan. Additionally, mounting heights of wall-mounted fixtures are called out. Detail of proposed fixtures has been provided in the second revised submittal demonstrating they are fully shielded and downward directed. Further, the height and detail of pole-mounted fixtures has been provided depicting a 20-foot pole-mounted fixture as allowed..

Illumination levels provided meet the standards outlined in Section 9.13.E.1.

Items to be Addressed: None.

SIGNS

A freestanding sign shown on the east side of the entry drive. Section 8.7 outlines sign requirements for non-residential signs. The sign is located just outside of the Michigan Bell easement which runs parallel to Willis Road. The applicant has noted the setback dimensions related to the location of the proposed sign and the future Willis Road right-of-way to ensure the required 15-foot setback has been met.

Sign details are provided on Sheet A7.1 noting the size of both freestanding and wall signage areas. Freestanding signs are limited to one-half (0.5) of a square footage per linear foot of lot frontage, but in no case shall exceed 32 square feet in area. Based on the frontage of the lot the maximum 32 square feet of freestanding signage is allowed. The applicant is proposing a 32 square foot freestanding sign. Further, freestanding signs are limited to 6 feet in height, and dimensions on Sheet A7.1 verify height of the sign will not exceed 6 feet in height.

A wall sign is also proposed, and detail is provided on Sheet A7.1. Wall signs shall be based on one (1) square foot of area per one (1) foot of linear building frontage with no wall signs to exceed

60 square feet in area. The proposed building has 130 feet of linear building frontage allowing the maximum wall sign area of 60 square feet. The applicant is proposing a 50 SF wall sign.

A temporary construction sign is also proposed on Sheet A7.1. The location of this sign is not provided nor is the overall sign height. Temporary signs that advertise the construction of new non-residential development shall not exceed 32 square feet in area or 6 feet in height. These temporary signs shall be removed immediately after construction is complete.

Items to be Addressed: *Sign permits must be submitted for review and approval by the Township Zoning Administrator.*

FLOOR PLAN AND ELEVATIONS

Building floor plans and elevations have been provided. The proposed structure must meet the building design standards outlined in Section 3.7.D.3. Specifically, the following shall apply:

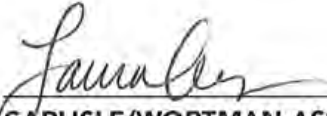
1. The maximum linear length of an uninterrupted building façade facing public streets shall be thirty (30) feet. The building has a front elevation length of 130 feet requiring some façade articulation or architectural design variation every 30 feet. As proposed, the front elevation design has been modified to include brick, block and niche board panels along the front and side elevations to provide the required architectural variation.
2. Ground floor facades that face public streets shall have arcades, display windows, entry areas, awnings, or other such features along no less than 50% of their horizontal length. The front elevation has been modified to provide what appears to be windows to meet this 50% requirement.
3. Flat roofs must have parapets concealing HVAC units from public view. The elevations demonstrate parapet screening along all sides of the structure.
4. The predominant building materials are noted as split-face masonry units and pre-finished metal wall panels. Façade colors and systems shall be reviewed and approved by the Planning Commission as part of final site plan review.
5. The building is required to have one (1) entrance facing the road upon which said building fronts which is connected by a concrete sidewalk of at least four (4) feet in width. This item has been addressed.

Items to be Addressed: *Planning Commission to review/approve façade colors and systems during final site plan.*

RECOMMENDATIONS

The following items will need to be addressed to the satisfaction of the Planning Commission prior to final site plan approval:

1. Sign permits must be submitted for review and approval by the Township Zoning Administrator.
 2. Verify material proposed as “21” – window/glazing and level of transparency.
 3. Planning Commission to review/approve façade colors and systems during final site plan.
-


CARLISLE/WORTMAN ASSOC., INC.
Laura K. Kreps, AICP
Senior Associate
#144-2100

cc: Rodney Parrott via rodney@overlandeng.com

**FINDINGS OF REQUIRED STANDARDS
AND RESOLUTION OF APPROVAL
RAILSPLITTER #2 – LARGE-SCALE SOLAR ENERGY SYSTEM
SLU 21-01
December 15, 2020**

WHEREAS an application for a Special Land Use Permit for a commercial large scale solar energy system as provided for and identified as a large solar energy system (LSES) under Section 6.25 of the Township Zoning Ordinance on land located north of Arkona Road, east of Sanford Road, south of Talladay Road and west of Hitchingham Road encompassing approximately 493 acres on the following 13 parcels in Sections 19 and 20, Augusta Charter Township, Washtenaw County, Michigan (LSES Property): (T-20-19-400-001; T-20-19-400-002; 5655 Willow Road (T-20-30-100-002); 5760 Willow Road (T-20-30-100-003); T-20-30-100-004; 12439 McCrone Road (T-20-30-100-005); T-20-30-200-004; T-20-30-200-008; T-20-30-200-012; T-20-30-400-006; T-20-19-300-003; T-20-30-200-009; 12182 McCrone Road (T-20-30-200-010)); and

WHEREAS in accordance with Article 14.12 of the Township Zoning Ordinance, the Augusta Township Planning Commission held a public hearing on this matter on September 15, 2021, and public comments were received and considered; and

WHEREAS the applicant submitted a revised special land use application and supplemental materials for Planning Commission review dated August 23, 2021; and

WHEREAS the Augusta Charter Township Planning Commission reviewed the Special Land Use Permit application for this use and per the requirements of Article 4.4 of the Township Zoning Ordinance finds the following:

A. Will be harmonious and in accordance with the general objectives or any specific objectives of the Augusta Charter Township Master Plan.

The Master Plan sets forth the primary goal for rural areas in the Township as the preservation of “...the rural character of Augusta Township through the management of growth and preservation of natural resources and active farming.” And one of the primary objectives is to “Protect and encourage active farming in Augusta Township.” Several of the members have serious concerns that this primary objective is not satisfied by the introduction of a LSES on 355 acres of prime agricultural land. However, the zoning ordinance was amended in February of 2020 to allow a LSES on land zoned agriculture residential in the Township even though the use may not be consistent with goals and objectives set forth in the master plan. Since this Commission is bound by terms in the zoning ordinance for review of the solar use, it is attempting to reconcile the proposed solar use with the objectives of the master plan as required.

Accordingly, the Commission observes that the Properties along the north, east, and west of the site are primarily agricultural / environmentally sensitive properties with some single-family residential neighbors. In general a solar use is of extremely low intensity in relation to other uses. By comparison, a residential development in this area would increase traffic, require additional Township services, and could remove portions of this area from farming production. The proposed LSES will not generate traffic after the construction period, nor will it require any additional Township services. The use can also be removed, and farming operations restored after the life of the LSES has ended.

Further, the applicant has provided for 500-foot setbacks from the project to adjacent, non-participating residences as requested by the Planning Commission, and noted areas where additional landscape screening will be installed. These landscape areas are primarily along both sides of Willow Road; behind the two (2) non-participating parties along Willow Road; across from the non-participating residence across Gooding Road, and at the Arkona and McCrone Roads intersection screening non-participating residences at this location.

The Planning Commission determines that the proposed LSES can be approved and developed in a manner that is generally harmonious with the Master Plan if certain conditions listed below are fully satisfied.

- B. Will be designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and will not change the essential character of the area.**

Members of this Commission have observed that the intended character of the general vicinity as provided for in the Master Plan and Zoning Ordinance is rural farming in nature with scattered low density rural residential uses. To the extent that a commercial solar use is visible, this Commission believes that the use will likely change the essential character of the area.

The applicant has provided a preliminary site plan demonstrating locations of where proposed solar arrays will be erected as well as areas to remain in a natural state, and buffer/screening areas where the solar arrays will be located adjacent to neighboring single-family residences. The applicant has provided for 500-foot setbacks from the project to adjacent, non-participating residences as requested by the Planning Commission. There are proposals for screening the use from adjacent residences and other uses. The applicant notes in their application the solar farm use will be a low intensity use once constructed and will be operated, maintained, and managed without interference to other uses.

The Planning Commission determines that it is possible for the LSES to be designed, constructed, operated, and maintained to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and will not change the essential character of the area if the conditions listed below are met.

- C. Will not be hazardous or disturbing to existing or future nearby uses.**

The Planning Commission determines the LSES will not be hazardous or disturbing to existing or future nearby uses if the conditions listed below are met.

- D. Will be an improvement in relation to property in the immediate vicinity and to the Township as a whole.**

The Planning Commission determines the LSES can be an improvement in relation to the property in the immediate vicinity and to the Township as a whole if the conditions listed below are met.

- E. Will be served adequately by essential public services and facilities or that the persons responsible for the establishment of the proposed use will provide adequately for any such service or facility.**

No water or sewer facilities are required due to the nature of the project. The Developer will work with the local emergency service providers for any additional training necessary to serve the LSES at the Developer's cost. The Developer will also construct the necessary infrastructure to connect the proposed LSES to the power grid as shown in the final site plan.

The Planning Commission determines the LSES will be served adequately by essential public services and facilities or that the persons responsible for the establishment of the proposed use will provide adequately for any such service or facility if the conditions listed below are met.

F. Will not create excessive additional public costs and will not be detrimental to the economic welfare of the Township.

The Planning Commission determines the LSES will not create excessive additional public costs and will not be detrimental to the economic welfare of the Township if the conditions below are met.

G. Will be consistent with the intent, purposes, and specifications of this Ordinance.

As part of this special land use review, and future corresponding site plan review submittals, Carlisle Wortman Associates will ensure compliance with the large solar energy system standards as outlined in Section 6.25 and the conditions for approval listed below.

NOW THEREFORE BE IT RESOLVED, that the Augusta Charter Township Planning Commission hereby approves SLU 21-01 Railsplitter #2 with the following conditions:

1. Five hundred (500)-foot setbacks and landscape screening are provided from solar panels to all non-participating residential structures.
2. One hundred fifty (150)-foot setbacks are provided from solar panels, equipment or deer fencing from all participating residential structures.
3. One hundred (100)-foot setback shall be provided from all road rights-of-ways (which roads are these).
4. No landscaping shall be placed within 50 feet of any right-of-way.
5. Landscape screening shall be installed to reasonably obscure the LSES from adjacent uses and from passersby along Willow, McCrone, and Gooding Roads as provided and consistent with the attached color rendering which was also provided to the Planning Commission at the October 20, 2021 meeting. The objective of all screening along roads and adjacent uses shall be to, as much as is reasonably possible, make the solar use not visible to residents and others who may be traveling through the Township. The details of screening must be included and approved as part of the final site plan.
6. Landscape screening shall consist of one (1) row of evergreen trees spaced at a distance of eight (8) feet apart on center and two (2) rows of shrubs spaced at distance of six (6) feet on center. The evergreen trees shall be planted at a height of between four (4) and six (6) feet and the shrubs shall be planted at a height at least two (2) feet. As required by Section 6.25.J of the Augusta Township Zoning Ordinance, the vegetative buffer shall be continuously maintained and the applicant shall replace all unhealthy (sixty (60) percent dead or greater) and dead material within one (1) year or the next appropriate planting period, whichever occurs first. The applicant will replace dead material with trees between four (4) and six (6)

feet in height and shrubs at least two (2) feet in height, but may plant a different species than that originally planted if the originally planted species does not thrive in this location.

7. Maintenance of existing trees around the periphery of the development
8. No chemicals shall be used for weed or mosquito control that might have a detrimental impact on groundwater.
9. A weed and mosquito control plan as approved by the PC shall be provided as part of final site plan approval.
10. The applicant will adhere to the Township's Property Maintenance Code (Section 302.4) with regard to weed/grass control.
11. No additional wetlands are allowed to be created or developed by the project.
12. An inspection and survey of existing drain tiles on the LSES Property shall be provided prior to any construction and a plan as approved by the PC for maintenance and preservation of the drain tiles shall be submitted with final site plan. Existing drain tiles as surveyed must be functionally maintained at all times during construction and use of the property.
13. Drain tiles on the LSES Property rendered nonfunctioning directly as a result of construction or operation of the LSES will be replaced or repaired so as not to create any drainage issues on the LSES Property or on adjacent and surrounding properties.
14. The Township shall be indemnified from all third-party claims for personal or property damage arising from the Developer's negligent and/or intentional acts and/or omissions during construction, maintenance and decommissioning of the LSES, and shall be listed as an additional insured on applicable insurance policies during the life of the LSES.
15. Any LSES debris originating from damaged solar panels shall be removed from the LSES Property within thirty (30) days of damage occurring or as soon as practicable after thirty (30) days.
16. The operator of the project or its assigns shall initially respond within ten (10) business days to complaints from residential property owners arising from and related to the operation of the LSES (Residential Claim). Any resolution shall include lawful and reasonable solutions consistent with the Zoning Ordinance, which shall also be provided to the Township Zoning Administrator. The operator of the LSES or its assigns reserve the right to adjudicate any claims, including Residential Claims, in a court of proper jurisdiction.
17. The decommissioning plan shall be rewritten to provide security to the Township for 100% of the cost to remove and dispose of all panels, wiring, and restoration of the land to its original condition. The value of decommissioning shall be determined by a 3rd party financial consultant or engineer selected by the Township and paid for by Developer. Once value of decommissioning is determined, it shall be updated on a periodic basis of not less than every 3 years.
18. The Applicant shall abide by all County requirements regarding the use, maintenance and/or repair of County roads, and shall enter into an agreement with the Washtenaw County Road Commission (WCRC) as approved by the Township providing for repair of damage to Township roads in the event LSES activities cause damage to any roads.
19. Developer shall enter into a development/SUP agreement with the Township prior to any work on the project which provides for enforcement of all applicable requirements in the Township Zoning Ordinance, other ordinances of the Township, this approval, the approved final site plan and other relevant regulations and law.

**FINDINGS OF REQUIRED STANDARDS
AND RESOLUTION OF DENIAL
RAILSPLITTER #2 – LARGE-SCALE SOLAR ENERGY SYSTEM
SLU 21-01
December 15, 2021**

WHEREAS an application for a Special Land Use Permit for large scale solar facility on the premises located north of Arkona Road, east of Sanford Road, south of Talladay Road and west of Hitchingham Road encompassing approximately 493 acres or 13 properties (T-20-19-400-001; T-20-19-400-002; 5655 Willow Road (T-20-30-100-002); 5760 Willow Road (T-20-30-100-003); T-20-30-100-004; 12439 McCrone Road (T-20-30-100-005); T-20-30-200-004; T-20-30-200-008; T-20-30-200-012; T-20-30-400-006; T-20-19-300-003; T-20-30-200-009; 12182 McCrone Road (T-20-30-200-010)). in Sections 19 and 20, Augusta Charter Township, Washtenaw County, Michigan; and

WHEREAS in accordance with Article 14.12 of the Township Zoning Ordinance, the Augusta Township Planning Commission held a public hearing on this matter on September 15, 2021, and public comments were received and considered; and

WHEREAS the applicant submitted a revised special land use application and supplemental materials for Planning Commission review dated August 23, 2021; and

WHEREAS PC members have carefully considered the presentations of Ranger Power and the comments and concerns from members of the public and have generally struggled with the proposed project since it was first presented at a different location in the Township and then moved to its current location because of opposition by the many more residents who would be affected by the project; and

WHEREAS the current proposed project is in a better location, and a consensus of current members of this PC have worked with Ranger Power in an attempt to fit the proposed project into the area consistent with the stated purposes of an Agricultural Residential district in the Zoning Ordinance and the stated goals and objectives in the current Master Plan; and

WHEREAS in February 2020, an amendment to the Zoning Ordinance was adopted by the Township Board that allowed for large scale solar projects to be considered and potentially approved as a special use in zoned Agricultural Residential districts when such uses were only permitted in zoned industrial districts prior to the 2020 zoning amendment; and

WHEREAS upon reviewing the Township Master Plan and Zoning Ordinance for uses permitted in a zoned Agricultural Residential district in the context of the proposed project, this PC considers that the 2020 amendment that permits large scale solar projects to be considered as a special use in zoning Agricultural Residential districts was not based upon the goals and objectives stated in the Township Master Plan as required by law; and

WHEREAS this PC reviewed the Special Land Use Permit application for and the proposed large scale solar project as it is required to do in accordance with the requirements of Article 4.4 of the Township Zoning Ordinance, and now finds the following:

- A. Will be harmonious and in accordance with the general objectives or any specific objectives of the Augusta Charter Township Master Plan.**

The Master Plan sets forth the primary goal for rural areas in the Township as the preservation of "...the rural character of Augusta Township through the management of growth and

preservation of natural resources and active farming.” And one of the primary objectives is to “Protect and encourage active farming in Augusta Township.” Several of the members have serious concerns that this primary objective is not satisfied by the introduction of a large scale commercial solar project on 355 acres of prime agricultural land. However, the zoning ordinance, as amended in February of 2020, allows a large scale commercial solar use on land zoned Agriculture Residential in the Township and this Commission is bound by terms in the zoning ordinance for review of the solar use. This PC has been unable to reconcile the goals and objectives outlined in the Master Plan with the proposed large scale solar energy project. Specifically, the following goals and objectives:

- Preserve the rural character of Augusta Charter Township through management of growth and preservation of natural resources and active farming. To the extent that the project can be seen by passersby on the roads and by residents on the perimeter of the project, the rural character of the area is not preserved. Nor does the use preserve and promote active farming or preserve natural resources.
- Protect the integrity of the existing and future residential areas. To the extent that the project can be seen by passersby on the roads and by the existing and future potential residents in the area, the integrity of existing and future residential uses will likely be compromised.
- Protect and encourage active farming in Augusta Charter Township. The proposed use does not protect or encourage active farming. It diminishes active farming in the Township.
- Promote limited development of commercial / industrial uses in appropriate locations of the Township. Utilization of 493 acres of farmland for a commercial/industrial solar use does not limit such uses to an appropriate location in the Township.

The Planning Commission determines that the proposed large scale solar facility cannot be approved and developed in a manner that is generally harmonious with the Master Plan.

- B. Will be designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and will not change the essential character of the area.**

Members of this Commission have observed that the intended character of the general vicinity as provided for in the Master Plan and Zoning Ordinance is rural farming in nature with scattered low density rural residential uses. To the extent that a commercial solar use is visible, this Commission believes that the use will likely change the essential character of the area and will not be harmonious and appropriate in appearance with the general vicinity.

The Planning Commission determines that the proposed large scale solar facility as proposed in the preliminary site plan would not be designed, constructed, operated and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and will change the essential character of the area.

- C. Will not be hazardous or disturbing to existing or future nearby uses.**

The Planning Commission determines the large solar facility will be hazardous or disturbing to existing or future nearby uses based on the scale and visibility of the project to immediate and nearby residents and uses.

D. Will be an improvement in relation to property in the immediate vicinity and to the Township as a whole.

The Planning Commission determines the large solar facility is not an improvement in relation to the property in the immediate vicinity and to the Township as a whole based on inconsistencies noted in the goals and objectives outlined in the Master Plan.

E. Will be served adequately by essential public services and facilities or that the persons responsible for the establishment of the proposed use will provide adequately for any such service or facility.

No water or sewer facilities are required or proposed due to the nature of the project. If permitted, the developer has agreed in the proposal to work with the local emergency service providers for any additional training necessary to serve the proposed facility at the developer's cost.

The Planning Commission determines the large solar facility if permitted would be served adequately by essential public services.

F. Will not create excessive additional public costs and will not be detrimental to the economic welfare of the Township.

The Planning Commission determines the large solar facility if approved would not create excessive additional public costs. However, the full effect of economic impacts and welfare of the Township is unclear to this PC and without such clarity it is difficult for this PC to determine whether the project might create any additional public cost due to loss of tax revenues or for other reasons because of any other cost to the Township caused by the project development and maintenance over a 20 year period.

G. Will be consistent with the intent, purposes, and specifications of this Ordinance.

Ranger Power and the project as proposed generally meets the specifications for a large-scale solar project as outlined in the Ordinance. However, this PC believes that the proposed use is generally not consistent with the intent, purpose and objectives of other uses allowed in a zoned Agricultural Residential zoning district. To the extent that the Ordinance was amended in 2020 to list large scale solar projects as a special use in zoning Agricultural Residential districts, this PC believes that the amendment was not well thought out because it was not made or guided by the Master Plan policies and goals.

NOW THEREFORE BE IT RESOLVED, that the Augusta Charter Township Planning Commission hereby DENIES SLU 21-01 Railsplitter #2 based on the findings stated above. This PC also considers that the proposed use might be approved if it was proposed, constructed and

maintained in a manner which removes it from sight from passersby on perimeter roads and adjacent properties with existing and potential future residential uses.

ROLL CALL VOTE:

AYES:

NAYES:

ABSENT:

ABSTAIN:

RESOLUTION DECLARED ADOPTED

Dated: _____

Robert Yurk, Chairperson
Augusta Charter Township Planning Commission

CERTIFICATE

I hereby certify that the foregoing is a true and complete copy of a resolution adopted by the Planning Commission of Augusta Charter Township, County of Washtenaw, State of Michigan at a regular meeting held on the ____ day of _____, 2021, and that said meeting was conducted and public notice of said meeting was given pursuant to and in full compliance with the open meetings act, being Act 267, Public Acts of Michigan, 1976, and that the minutes of said meeting were kept and will be or have been made available as required by said Act.

Dated: _____

Secretary Planning Commission
Augusta Charter Township