



PLANNING AND ZONING COMMISSION MEETING

September 13, 2022

6:00 PM

City Council Chambers

Agenda

- 1. Call to Order**
- 2. Roll Call**
- 3. Agenda Approval**
 - A. Approval of September 2022 P&Z Agenda
- 4. Minutes Approval**
 - A. Approval of August's 2022 P&Z Meeting Minutes.
- 5. Public Comment**
- 6. Old Business**
- 7. New Business**
 - A. Consider recommendation on a major site plan application for a car wash at 1807 North Jefferson Way
 - B. Consider recommendation on a major site plan application for a bank at 1401 North Jefferson Way
 - C. Consider recommendation on the request for approval of a Plat of Survey for Warren & Nataliya Burge for Block 14 of Windle's Addition (405 E Franklin)
 - D. Consider recommendation on the request for approval of a Plat of Survey for Indianola Lodge #70 IOOF for a property located at 1202 S Jefferson Way
 - E. Consider recommendation on an amendment to Chapter 165, regarding fireworks sales locations
- 8. Comments**
 - A. Building Permit Report
 - B. Current Projects
- 9. Adjourn**



PLANNING AND ZONING COMMISSION MEETING

August 9, 2022

6:00 PM

City Council Chambers

Minutes

1. Call to Order

Bob Ormsby made a motion to nominate Josh Rabe as the Chair for this meeting. Lin Stecker seconds that motion.

Josh Rabe opens the meeting at 6:03.

2. Roll Call

Present: Sarah Ritchie, Bob Ormsby, Jeromy Pribil, Josh Rabe, Courtney Marmon, Lin Stecker

Staff Present: Charlie Dissell, Miranda Chadwick

Public: Josh Ridgely, Jody Wadle

3. Agenda Approval

A. Approval of Agenda for the August 2022 meeting.

Bob Ormsby made a motion to approve this month's agenda. Courtney seconds the motion.

4. Minutes Approval

A. Approval of the Minutes from July 2022 meeting.

Bob Ormsby makes a motion to approve the minutes from July's meeting. Lin Stecker seconds the motion.

5. Public Comment

6. Old Business

A. Consider recommendation on a major site plan application for Medicap Pharmacy located at 2105 North 3rd Lane

Bob Ormsby makes a motion to approve as submitted. Sarah Ritchie seconds the motion.

Jeromy Pribil recuses himself.

Passed unanimously.

7. New Business

A. Consider recommendation on request for approval of a Final Plat for Wadle Subdivision.

Bob Ormsby makes a motion to approve the final plat as submitted with a lateral tie.

Lin Stecker seconds the motion.

8. Comments

- A. Building Permit Report
- B. Current Projects

9. Adjourn

Meeting is adjourned at 6:27



MEMORANDUM

To: Planning and Zoning Commission

From:

Date: September 13, 2022

Subject: Consider recommendation on a major site plan application for a car wash at 1807 North Jefferson Way

Recommendation:

Attachments:

- 1. 0. Staff Report
- 2. 1. Application
- 3. 2. Site Plan
- 4. 3. Civil Drawings
- 5. 4. Stormwater Report



Community Development

110 N. First St., Indianola, IA 50125-0299 • www.indianolaiowa.gov
515-961-9430 • comdev@indianolaiowa.gov

Staff Report

Planning and Zoning Commission

Date of Meeting: September 13, 2022

Agenda Item: 7.A. Consider recommendation on a major site plan application for a car wash at 1807 North Jefferson Way

Proposed Use: Automotive Washing / Car Wash

Applicant: Dan Arends from VJ Engineering

Property Owner: VIA Real Estate LLC (JT Shelton)

Property Address: 1807 North Jefferson Way

Zoning: C-2 Highway Commercial Zoning District

Application Summary: Approval of a major site plan at 1807 North Jefferson Way is requested to allow for the construction of new a 4,350 square foot commercial building that is proposed for automotive washing.

AERIAL MAP



APPLICABLE CODE SECTIONS

The following sections of the Code of Ordinances of Indianola, Iowa apply to this request:

SECTION 165.06 SITE PLAN REGULATIONS AND PROCEDURES

1. SITE PLAN REQUIRED

Site plans, as provided herein this section, are required prior to approval of a building permit for the erection, relocation, expansion, or alteration of any structure or for the change in use of any structure or parcel.

2. SITE PLAN APPLICATION

The following site plans are required for all uses:

A. All Other New Uses, Buildings, and Structures. All other new uses, buildings, structures, conversions or changes of use, changes or modifications to building facades, and related additions and accessory structures that are not included in Section A herein above shall require the following:

- (1) **Major Site Plan.** A Major Site Plan Application is required for the development of a property, the construction of a new building or improvement, the redevelopment of an existing property (including a significant change in use), or an amendment or change to a previously approved site plan.
 - a. **Major Site Plan Application** - A site plan (including required site plan details and number of copies), application form, and any additional information and details as specified and required by the Zoning Administrator as necessary to determine compliance with all applicable codes and requirements shall be submitted to the Zoning Administrator along with the Major Site Plan Application fee as established by resolution of the City Council.
 - b. **Major Site Plan Review Procedure** - The Major Site Plan Application shall be reviewed by the Zoning Administrator, or their designee, for completeness. Incomplete applications shall be returned to the applicant with a list of the missing items or details. Applications deemed completed shall be distributed to other city departments and other agencies as necessary for review and comment as to its compliance with all zoning regulations and other pertinent city codes, regulations, and policies.
 - c. **Major Site Plan Review by Zoning Commission** - Subsequent to review by the Zoning

Administrator and other city departments and agencies, the Zoning Administrator, or their designee, shall submit to all members of the Zoning Commission a copy of the Major Site Plan Application along with a written recommendation as to the plan's conformity with the rules and regulations of the city.

- d. The Commission shall subsequently hold a meeting as prescribed by their rules of procedures and review the Major Site Plan Application for conformity with the zoning regulations and standards and may confer with the applicant on changes deemed advisable in such Site Plan.
- e. The Commission shall forward its recommendation to the City Council for approval, approval with conditions, or denial of the Major Site Plan Application within 45 days of the receipt of a Major Site Plan Applicant deemed complete by the Zoning Administrator. If the Commission does not act within the 45 days as prescribed above, the Major Site Plan Application shall be deemed to be recommended for approved by the Commission unless the applicant agrees to an extension of time.
- f. **Findings for Approval** – In order for the Commission to make a recommendation for approval of a Major Site Plan, the Commission shall make the following findings:
 - i. The proposed use, site improvements, and site plan comply with the minimum requirements of the zoning district in which it is proposed to be located;
 - ii. The property is of adequate size to accommodate the proposed use and site improvements including setbacks, open space, stormwater management, and off-street parking;
 - iii. The proposed use and site improvements will not unduly impact the health, safety, and general welfare of persons residing or working in adjoining property or surrounding area;
 - iv. The proposed use and site improvements shall not unduly increase traffic congestion;
 - v. The proposed use and site improvements will not unduly burden public utilities or increase risk to flooding;
 - vi. The proposed use and site improvements are compatible with the surrounding neighborhood and shall not diminish or impair established property values in adjoining or surrounding property; and,
 - vii. The proposed use and site improvements will not endanger, jeopardize or harm the health, safety or welfare of the properties and the community.
- g. **Major Site Plan Review by City Council** - The City Council, upon receipt of the recommendation of the Commission, shall either approve, approve with conditions, or disapprove the Major Site Plan Application. In order for the Council to approve a Major Site Plan, the Council shall confirm or make the aforementioned findings in subsection f. herein above.

ANALYSIS

Dan Arends of VJ Engineering is requesting approval of a major site plan to allow for the construction of a new 4,350 square foot commercial building that is proposed for automotive washing services, on the behalf of property owner JT Shelton from VIA Real Estate LLC. The property, which is located at 1807 North Jefferson Way, is located within the C-2 Highway Commercial Zoning District. The site plan proposes a trash enclosure, equipment screening, and exterior lighting that meets Section 165.05.

The property is currently zoned for the C2, Highway Commercial Zoning District. To the north, east, and south is a vacant lot within the same zoning district. To the west exists single-family residential property that is part of the Scenic Pointe Subdivision. A thirty-foot (30') wide landscape buffer is shown on the site plan to buffer between the commercial and residential properties.

The Elevate Indianola Comprehensive Plan designates the future land use of this area as Regional Mixed Use. Regional Mixed Use includes retail, office, restaurants, bars, personal and business services, and other similar uses, generally of a large scale. The Regional Mixed Use land designation also includes automobile oriented uses.

The property is accessed off of a private drive which can be accessed off of North Jefferson Way and Rolling Vista Place. This private drive is privately maintained.

Chapter 165.07 requires one (1) off-street parking spot per employee during the largest working shift. A minimum of five (5) parking spaces are required for this site. Twenty-one (21) parking stalls are provided in the site plan, including two (2) handicap parking spaces, one of which is van accessible. Eleven of the twenty-one (11/21) stalls provided are vacuum stalls (stalls used for vacuuming vehicles), including one that is ADA accessible. The remaining stalls are standard use.

The total area of this site 1.51 acres. With the 20% required open space, the site would require 7 deciduous shade trees, 13 deciduous ornamental trees, and 13 shrubs. The proposed plan includes 38 evergreen trees, 19 midstory street trees, 10 ornamental trees and 56 shrubs. A thirty-foot (30') buffer park is required on the site to buffer the site from existing residential properties to the West and is shown on the site plan. This buffer park requires one (1) overstory tree, two (2) evergreen trees and six (6) shrubs to be planted for every twenty-five linear feet (25') of required buffer and an earth berm of at minimum three (3) feet tall. Landscaping is shown on the site plan within the buffer park. Additionally, the subject property does not contain any floodplain or environmentally sensitive features such as a stream or waterway.

Regarding the building design standards, each primary façade shall contain no less than three (3) different class 1 or class 2 façade materials, together composing at least 75% of the primary façade area. Class 3 and class 4 façade materials in aggregate shall not exceed 25% of any primary façade area. Class 4 façade materials shall not exceed 5% of any primary façade area. At least one street-facing building façade and the façade containing the main building entry, if different from the street façade, shall consist of no less than 20% clear glass fenestrations (windows and full glass doors) on the first level. EIFS shall not be permitted within ten (10) feet of the finished floor elevation of the façade on which it is located. All structures shall utilize Class 1 or 2 roofing materials. No primary façade shall exceed 60 feet in length without interruption by one or more of the following architectural features:

- Projection or recess in the wall plane of at least two (2) feet in depth.
- Columns, piers, pilasters or other equivalent structural and/or decorative elements.

The primary façade is located on the east exterior elevation. The applicant proposes to use a combination of fiber cement siding (class 1), Portland cement stucco (class 1), clear glass (class 1). Applicable elevations meet all aspects of the code.

FINDINGS FOR APPROVAL

In order for the Commission to make a recommendation for approval of a Major Site Plan, the Commission shall make the following findings:

1. The proposed use, site improvements, and site plan comply with the minimum requirements of the zoning district in which it is proposed to be located

The applicant has provided a site plan with their application that shows the proposed use and proposed site improvements will comply with the minimum requirements of the C-2 Zoning District. This site plan has been reviewed by all members of the City's development review team, which includes Community Development, Fire, Parks and Recreation, Public Works, Water Pollution Control, IMU Electric, IMU Fiber and IMU Water.

2. The property is of adequate size to accommodate the proposed use and site improvements including setbacks, open space, stormwater management, and off-street parking

The total area of this site is 1.51 acres. The site plan has been reviewed as to proposed setbacks, open space, and off-street parking. Additionally, Snyder and Associates has reviewed the proposed Stormwater Management Plan submitted by the applicant. After these reviews, staff has no concerns regarding the size of the property and its proposed use.

3. The proposed use and site improvements will not unduly impact the health, safety, and general welfare of persons residing or working in adjoining property or surrounding areas

A thirty-foot (30') buffer yard will be implemented to buffer between the commercial use and residential properties that exist to the west. Based on the proposed use and improvements, the health, safety, and welfare of citizens should not be impacted.

4. The proposed use and site improvements shall not unduly increase traffic congestion

Traffic congestion should not increase unduly. North Jefferson Way is a major arterial high-capacity roadways that primarily provide for the movement of through traffic and limit access to adjacent land and to move regional through traffic. It provides five lanes with turn lanes, with a higher speed limit ranging from 35 to 55 mph in town. Additionally, the site is situated on a private drive which has two accessways to public roadways.

5. The proposed use and site improvements will not unduly burden public utilities or increase risk to flooding

The proposed use will not unduly burden the existing public utilities available in this area. The proposed site improvements do connect sanitary sewer to the existing sanitary sewer line on this site and connects its water service to a water main along the West side of North Jefferson Way. A stormwater management report was submitted for the subject property. Impervious surface area will increase on the site by 60%.

6. The proposed use and site improvements are compatible with the surrounding neighborhood and shall not diminish or impair established property values in adjoining or surrounding property

To the North, South, and East of the subject property is zoned C-2 Highway Commercial. To the West is zoned R-1 single-family residential. A buffer-yard of thirty-feet (30') is shown on the site plan, buffering between the residential and commercial use. Additionally, the proposed use should not diminish or impair established property values as both the subject property and residential properties to the west were platted in 2003 as part of the Scenic Pointe Subdivision with the knowledge that the subject property would involve highway commercial uses and had accounted for the thirty-foot buffer park when it was platted.

7. The proposed use and site improvements will not endanger, jeopardize, or harm the health, safety or welfare of the properties and the community

As previously mentioned, the proposed use and site improvements will not endanger or harm the health safety and welfare of properties or the community.

ALTERNATIVES

The City of Indianola Planning and Zoning Commission may consider the following alternatives:

- 1) The City of Indianola Planning and Zoning Commission concludes that all findings of approval have been satisfied, and recommends the Major Site Plan be approved, as submitted.**
- 2) The City of Indianola Planning and Zoning Commission concludes that all findings of approval have been satisfied, and recommends the Major Site Plan be approved, with conditions.
- 3) The City of Indianola Planning and Zoning Commission concludes that all findings of approval have not been satisfied and recommends the Major Site Plan be denied.
- 4) The City of Indianola Planning and Zoning Commission remands the Major Site Plan, back to the applicant and/or staff for further review and/or modifications and directs staff to place this item on a future Planning and Zoning agenda.

RECOMMENDATION

Staff recommends that the Indianola Planning and Zoning Commission concludes that all findings of approval have been satisfied, and recommends the Major Site Plan be approved, as submitted.

SITE DEVELOPMENT APPLICATION

Community Development

110 North 1st Street, Indianola, Iowa 50125-0299
(515) 961-9430 • comdev@indianolaiowa.gov



PROPERTY OWNER

(Last Name) Shelton
(First Name) JT
(Address) 13105 Dover Avenue
(City) Lubbock (State) TX (Zip) 79424
(Phone) (806) 368 – 7843 (Email) jt@7bdev.com

APPLICANT (if not Property Owner)

(Last Name) _____
(First Name) _____
(Address) _____
(City) _____ (State) _____ (Zip) _____

☐ CONSTRUCTION DOCUMENTS

Submittal Requirements:

All submittal requirements must be completed. Incomplete applications will not be considered

- ☐ Completed Application
- ☐ Filing Fee: \$100, plus OEC
- ☐ Subdivision: _____
- ☐ Proposed construction documents (hard copy)
- ☐ Proposed construction documents (electronic copy)
- ☐ Stormwater Management Plan
- ☐ Other Information as required by Director

☒ SITE PLAN

Submittal Requirements:

All submittal requirements must be completed. Incomplete applications will not be considered

- ☒ Completed Application
- ☒ Property Address: 1807 N Jefferson Street
- ☒ Filing Fee: \$225, plus OEC
- ☒ Current Zoning: B-2 Commercial
- ☒ All items as required by Chapter 165.06 of the Code of Ordinances of Indianola, Iowa
- ☐ Proposed site plan hard copy
- ☒ Proposed site plan (electronic copy)
- ☒ Stormwater Management Plan
- ☐ Other Information as required by Director

I certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owner(s) of the property. Pursuant to said authority, I hereby permit City officials to enter upon the property for the purpose of inspection related to this application.

Signature Dan Arends

Digitally signed by Dan Arends
DN: cn=Dan Arends, o=V2 Engineering, ou, email=darends@v2engineering.com, c=US
Date: 2022.05.27 13:14:46 -0500

Name (printed) Dan Arends

Date 20220527

FOR OFFICE USE ONLY: Code to 45683 (Const Docs)
45680 (Site Plan)

Date Received: _____

Receipt No: _____

Receipt Amount: _____

CHAMPION XPRESS CAR WASH

1807 N JEFFERSON WAY

INDIANOLA, IA, 50125



CODE INFORMATION:

PROJECT DESCRIPTION:		
FREESTANDING CAR WASH AND VACUUM FACILITY		
GOVERNING CODES:		
BUILDING CODE	2018 IBC	- INTERNATIONAL BUILDING CODE
FUEL GAS	2015 IFGC	- INTERNATIONAL FUEL GAS CODE
FIRE	2018 IFC	- INTERNATIONAL FIRE CODE
PLUMBING CODE	2018 UPC	- UNIFORM PLUMBING CODE
MECHANICAL CODE	2018 IMC	- INTERNATIONAL MECHANICAL CODE
ELECTRICAL CODE	2017 NEC	- NATIONAL ELECTRICAL CODE
ENERGY CODE	2012 IECC	- INTERNATIONAL ENERGY CONSERVATION CODE
ACCESSIBILITY	ASHRAE 90.1 - 2010	
	2009 ICC A117.1	
INTERIOR FINISHES:		
EXITWAYS TO HAVE A CLASS "A" FLAME SPREAD CLASSIFICATION (MIN)		
EXIT CORRIDORS TO HAVE A CLASS "B" FLAME SPREAD CLASSIFICATION (MIN)		
OTHER ROOMS HAVE A CLASS "C" FLAME SPREAD CLASSIFICATION (MIN)		

BUILDING DATA:		
BUILDING FOOTPRINT AREA (SQ. FT.):	4355 GROSS	
TOTAL AREA UNDER ROOF (SQ. FT.):	4355	
BUILDING HEIGHT:	1 STORY 20'-4" A.F.F.	
OCCUPANCY TYPE:	BUSINESS - CAR WASH	
CONSTRUCTION TYPE:	TYPE V-B	
ALLOWABLE AREA:	9000 SQ FT	
OCCUPANT LOAD:	TUNNEL AREA - UNOCCUPIED - BUSINESS AREA - 308 SQ.FT. - 150 SQ.FT./PERSON = 3 PEOPLE S-1 AREA MECHANICAL/ELECTRICAL ROOM- 796 SQ.FT. - 300SF/PERSON = 3 PEOPLE	
FIRE REQUIREMENTS:	ALL PROPERTY LINES ARE GREATER THAN 10' FROM BUILDING FACE. NO FIRE SEPARATION REQUIRED PER TABLE 602. NO HIGH PILED STORAGE PER 2018 IFC CHAPTER 32. NO HIGH HAZARD COMMODITIES ABOVE LOFT. NO STORAGE GREATER THAN 12 FT.	
NUMBER OF EXITS PROVIDED:	3	
NUMBER OF EXITS REQUIRED:	2	
	PER A.D.A. REQUIREMENTS - EACH EXIT TO BE 32" OR GREATER	
	EXIT ACCESS - MAXIMUM TRAVEL DISTANCE ALLOWED = 200 FT.	
EXIT SIGNAGE:	EXIT SIGNAGE TO COMPLY WITH 2018 IBC 1013	

ULTIMATE WIND SPEED - 110 MPH (RISK CATEGORY II)
WIND EXPOSURE CATEGORY - C
INFORMATION ABOVE ACQUIRED FROM ASCE 7 HAZARD TOOL- BASED ON ADDRESS PROVIDED ON SHEET.

ALL TRADES INCLUDING BUT NOT LIMITED TO METAL BUILDING MANUFACTURERS AND STOREFRONT MANUFACTURERS, ARE TO VERIFY WIND SPEED PRIOR TO INDIVIDUAL DESIGN ASPECTS AND NOTIFY ARCHITECT PRIOR TO DESIGN IF CONFLICTING INFORMATION IS RECEIVED.

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR	DWGS.	DRAWINGS	M.B.V.	MODULAR BRICK VENEER	SIM.	SIMILAR
A.S.F.	ABOVE SUBFLOOR	E.P.S.	EXPANDED POLYSTYRENE	MECH.	MECHANICAL	S.S.M.	SOLID SURFACE MATERIAL
A.T.B.	ABOVE TRUSS BEARING	E.W.C.	ELECTRIC WATER COOLER	MFR'S	MANUFACTURER'S	SQ.	SQUARE
A.C.T.	ACOUSTICAL CEILING TILE	EXP.	EXPOSED	M.O.	MASONRY OPENING	S.S.	STAINLESS STEEL
ALUM.	ALUMINUM	E.J.	EXPANSION JOINT	MRGWB	MOISTURE RESISTANT G.W.B.	S.T.	STAIR TREAD
APPROX.	APPROXIMATELY	E.G.W.B.	EXTERIOR GYPSUM WALL BOARD	O.C.	ON CENTER	S.C.	STAMPED CONCRETE
B.O.	BOTTOM OF	F.O.	FACE OF	O.H.	OVER HANG	STRUCT.	STRUCTURAL
B.F.F.	BELOW FLOOR FINISH	F.O.M.	FACE OF MASONRY	OPP.	OPPOSITE HAND	T.G.	THRESHOLD TYPE
BRG.	BEARING	F.P.	FABRIC PANEL (STRETCHED)	PCT	PORCELAIN TILE	T.P.	TOILET PARTITION
CPT.	CARPET	F.R.P.	FIBERGLASS REINFORCED PLASTIC	PEMB	PRE-ENGINEER METAL BUILDING	T.O.	TOP OF
C.I.	CAST IRON	F.F.E.	FINISH FLOOR ELEVATION	P.J.	PANEL JOINT	T.O.M.	TOP OF MASONRY
C.I.P.	CAST IN PLACE	F.E.C.	FIRE EXTINGUISHER CABINET	P. LAM. (P-LAM)	PLASTIC LAMINATE	T.S.	TUBE STEEL
C.B.	CEMENT BOARD	F.D.	FLOOR DRAIN	POLY	POLYETHYLENE	TYP.	TYPICAL
C.T.	CERAMIC TILE	F.S.	FILLER SPACE	P.T.	PRESSURE TREATED	U.N.O.	UNLESS NOTED OTHERWISE
C.O.	CASED OPENING	FTG.	FOOTING	PTD.	PAINTED	VERT.	VERTICAL
CONC.	CONCRETE	F.B.O.	FURNISHED BY OWNER	REINF.	REINFORCED	V.C.B.	VINYL COATED ACOUSTICAL CEILING
C.M.U.	CONCRETE MASONRY UNIT	GA.	GAUGE	R.D.	ROOF DRAIN		BOARD
CONT.	CONTINUOUS	G.W.B.	GYPSUM WALL BOARD	R.L.	ROOF LEADER	V.C.T.	VINYL COMPOSITION TILE
C.J.	CONTROL JOINT	HDWD.	HARDWOOD	R.O.	ROUGH OPENING	V.W.C.	VINYL WALL COVERING
C.M.	CULTURED MARBLE	LB.	POUND	R.B.	RUBBER BASE	O/	OVER
C.R.	CONTINUOUS RAILING	LIN.	LINEAR	RVL	REVEAL	W/	WITH
DIA. (DIAM.)	DIAMETER	LIO.	NUMBER	SCH'D	SCHEDULED	TOC	TOP OF CONCRETE
D.S.	DOWN SPOUT	NOM.	NOMINAL	S.C.	SEALED CONCRETE		

ARCHITECT:

C.L. HELT, ARCHITECT, INC.
6405 W. WILKINSON BOULEVARD
SUITE 100
BELMONT, NC 28012

PROJECT MANAGER: BEN WOODS/ VALERIA RAMON
PHONE: 704.342.1686
EMAIL: VALERIAM@HELTDDESIGN.COM

DEVELOPER:

7B BUILDING & DEVELOPMENT
13105 CR 1820
LUBBOCK, TX 79424
(806) 368-7843

PME CONSULTANT:

ALLIED CONSULTING ENGINEERS
709 CATAWBA ST.
BELMONT, NC 28012
dbelk@allied-engineers.com

ATTN: CORBETT THOMASON P.E.
PHONE: 704.877.5752
FAX: 704.333-1008
EMAIL: CORBETT@CORBETTENGINEERING.COM

STRUCTURAL ENGINEER:

TODD M. BORN
1522 Myrtle Oaks Trail
Oviedo, FL 32765

ATTN: TODD BORN
PHONE: 704-578-7213
EMAIL: TBORN@BORN-ENGINEERS.COM

MATERIAL LEGEND

	RIGID INSULATION
	BATT INSULATION
	SPRAY INSULATION
	GYPSUM BOARD
	PLYWOOD

SHEET LIST

NUMBER	SHEET LIST
ARCHITECTURAL	
T1.0	COVER SHEET
T2.0	COMCHECK - BUILDING ENVELOPE
T3.0	COMCHECK - INTERIOR LIGHTING & MECHANICAL
T4.0	LIFE SAFETY PLAN, & MOUNTING HEIGHTS
A0.0	ARCHITECTURAL SITE PLAN AND PAY STATION DETAILS
A1.0	FLOOR PLAN, WALL TYPES, NOTES, ENLARGED PLAN, & INTERIOR ELEVATIONS
A1.1	REFLECTED CEILING PLAN
A1.2	ROOF PLAN
A2.0	ELEVATIONS
A2.1	TRASH ENCLOSURE PLAN & ELEVATIONS
A2.2	VACUUM ENCLOSURE PLAN & ELEVATIONS
A3.0	BUILDING SECTIONS
A3.1	BUILDING SECTIONS & DETAILS
A4.0	DETAILS
A5.0	WINDOW & DOOR FINISH SCHEDULES
A5.1	WINDOW & DOOR DETAILS

STRUCTURAL	
S001	STRUCTURAL GENERAL NOTES & ABBREVIATIONS
S002	STRUCTURAL GENERAL NOTES
S100	FOUNDATION PLAN & NOTES
S101	SLAB PLAN & NOTES
S200	FOUNDATION SECTIONS & DETAILS (SHT 1 OF 2)
S201	FOUNDATION SECTIONS & DETAILS (SHT 2 OF 2)
S300	MISCELLANEOUS FRAMING PLAN DETAILS & NOTES

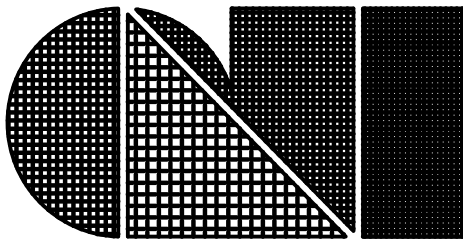
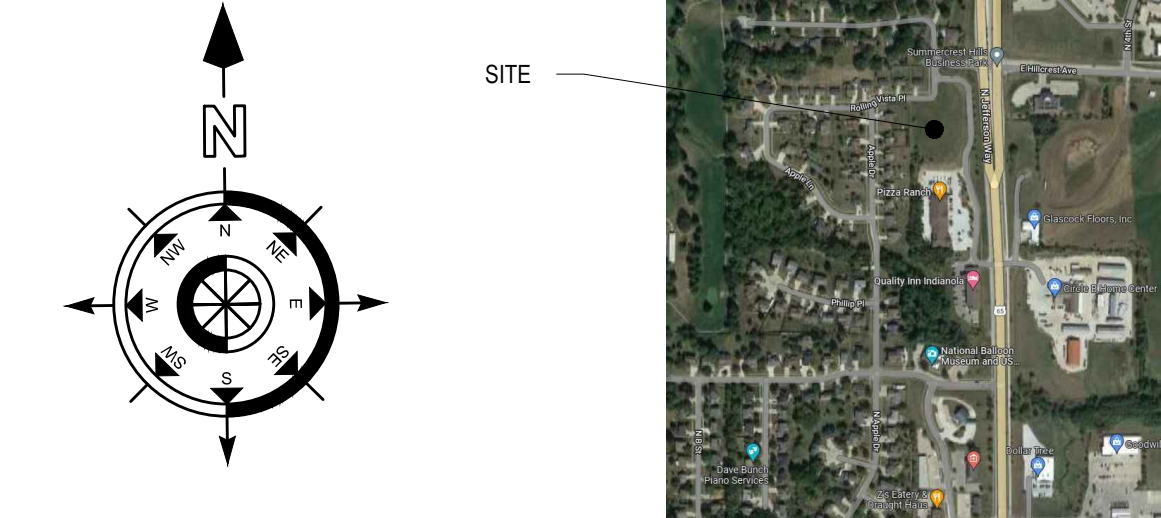
PLUMBING	
P-1	PLUMBING COVER SHEET
P-2	PLUMBING WASTE, & VENT & WATER SUPPLY PLANS
P-2.1	PLUMBING GAS AND AIR PLAN
P-3	RECLAIM SYSTEM PLAN
P-3.1	RECLAIM TANK DETAIL
P-3.2	SAND/OIL SEPARATOR DETAILS
P-3.3	CHASE WAY UNDER GROUND PIPING PLAN

MECHANICAL	
M-1	MECHANICAL COVER SHEET
M-2	MECHANICAL PLAN
ELECTRICAL	
E-1	ELECTRICAL COVER SHEET
E-2	ELECTRICAL LIGHTING FEATURE PLAN
E-3	ELECTRICAL POWER PLAN
E-3.1	ELECTRICAL MECH POWER PLAN
E-3.2	PAY STATIONS POWER AND LOW VOLTAGE PLAN
E-3.3	CAR WASH EQUIP UNDERGROUND CONDUIT PLAN
E-3.4	ELECTRICAL CAR WASH EQUIP POWER PLAN
E-3.5	ELECTRICAL SNOW MELT SYSTEM
E-4	ELECTRICAL PANEL SCHEDULES AND DETAILS
E-5	ELECTRICAL SECURITY/ SOUND PLAN
ES-1	ELECTRICAL SITE PLAN

SYMBOL LEGEND

	DETAIL TAG
	DETAIL NUMBER ON SHEET
	SHEET NUMBER
	ELEVATION TAG
	DETAIL NUMBER ON SHEET
	SHEET NUMBER
	SIM - INDICATES SECTION IS SIMILAR
	OPP - INDICATES SECTION IS MIRRORED
	TYP - INDICATES SECTION IS TYPICAL
	NEW COLUMN LINE TAG
	DOOR TAG
	WINDOW TAG
	WALL TYPE TAG
	HEIGHT A.F.F.
	REVISION TRIANGLE
	CENTERLINE

VICINITY MAP:



C.L. Helt, Architect Inc.

6405 W. WILKINSON BLVD
SUITE 100
BELMONT, NC 28012

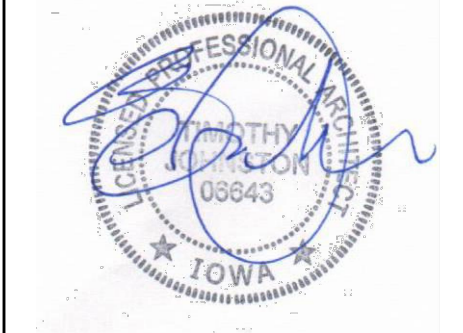
Ph. 704-342-1686
Fx. 704-343-0054
INFO@CLHELT.COM

C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
COVER SHEET

Seal 06/10/22



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Drawn By :

V. RAMON

Checked By :

D. MYERS

Revisions :

Date : 06/10/22

Sheet No.

T1.0

COMcheck Software Version COMcheckWeb
Interior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2010) Standard
Project Title: ChampionExpress-IndianolaIA
Project Type: New Construction

Construction Site: 1807 Jefferson Way
Indianola, Iowa 50125
Owner/Agent: Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1.Office	1551	0.90	1396
Total Allowed Watts =			1396

Proposed Interior Lighting Power

Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture (C X D)	D Watt	E
1.Office LED-A1: 1x4 LED panel: LED Panel 33W: LED-A2: 2x4 LED panel: LED Panel 44W: LED-B: 4' strip LED: LED Linear 33W: LED-A3: 2x4 LED panel: LED Panel 33W:	1 1 1 1	1 2 12 1	25 45 396 27	25 90 396 27
Total Proposed Watts =			538	

Interior Lighting PASSES: Design 61% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2010) Standard requirements in COMcheck version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Edwin Dean Belk
Name - Title: Signature Date: 6/14/2022



Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 1 of 10

COMcheck Software Version COMcheckWeb
Mechanical Compliance Certificate

Project Information

Energy Code: 90.1 (2010) Standard
Project Title: ChampionExpress-IndianolaIA
Location: Indianola, Iowa
Climate Zone: 5a
Project Type: New Construction

Construction Site: 1807 Jefferson Way
Indianola, Iowa 50125
Owner/Agent: Designer/Contractor:

Mechanical Systems List

Quantity System Type & Description

- 1 AHU-CU (Single Zone):
Cooling: 1 each - Split System, Capacity = 35 kBtu/h, Air-Cooled Condenser
Proposed Efficiency = 96.00 % E, Required Efficiency: 80.00 % E (or 78% APUE)
Fan System: FAN SYSTEM 1 - Compliance (Motor nameplate HP and fan efficiency method) : Passes
Fans:
FAN 1 Supply, Constant Volume, 1060 CFM, 0.8 motor nameplate hp
- 1 AHU-CU (Single Zone):
Heating: 1 each - Central Furnace, Gas, Capacity = 40 kBtu/h
Proposed Efficiency = 96.00 % E, Required Efficiency: 80.00 % E (or 78% APUE)
Cooling: 1 each - Split System, Capacity = 24 kBtu/h, Air-Cooled Condenser
Proposed Efficiency = 96.00 % E, Required Efficiency: 80.00 % E (or 78% APUE)
Fan System: FAN SYSTEM 1 - Compliance (Motor nameplate HP and fan efficiency method) : Passes
Fans:
FAN 1 Supply, Constant Volume, 800 CFM, 0.5 motor nameplate hp

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2010) Standard requirements in COMcheck version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Edwin Dean Belk - Engineer
Name - Title: Signature Date: 6/14/22



Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 2 of 10

COMcheck Software Version COMcheckWeb
Inspection Checklist

Energy Code: 90.1 (2010) Standard
Requirements: 100.0% were addressed directly in the COMcheck software
Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2.6.4 4.2.1.6.1 7 (F22)	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	☐ Complies ☐ Does Not ☐ Not Applicable	Requirement will be met.
4.2.2.8.4 1.1.2.4.1 2.8.7 (F62)	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder conductors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	☐ Complies ☐ Does Not ☐ Not Applicable	Requirement will be met.
4.2.2.9.4 4.9.7 (F61)	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐ Complies ☐ Does Not ☐ Not Applicable	Requirement will be met.
6.7.2.4 (F93)	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft2.	☐ Complies ☐ Does Not ☐ Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 3 of 10

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
6.4.3.8 (F20)	Freeze protection and snow/ice melting system sensors for future connection to controls.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 4 of 10

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.1.4.6 4.1.5 (ME1)	HVAC equipment efficiency verified, Non-NAECA HVAC equipment labeled as meeting 90.1.	Efficiency_____	Efficiency_____	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	See the Mechanical Systems list for values.
6.4.3.4.1 (ME3)	Stair and elevator shaft vents have motorized dampers that automatically close.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.4.3.4.2 6.4.3.4.3 (ME4)	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage where. Check gravity dampers where allowed.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.4.3.4.5 (ME39)	Enclosed parking garage ventilation has automatic containment detection and capacity to stage or modulate intake to 50% or less of design capacity.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.4.3.4.4 (ME3)	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.4.3.9 (ME6)	Demand control ventilation provided for spaces >500 ft2 and >40 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outdoor air damper control, or design airflow >3,000 cfm.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Systems with a design outdoor airflow less than 1,000 cfm.
6.4.3.10 (ME40)	Single zone HVAC systems with fan motors >=5 hp have variable airflow controls. Air conditioning equipment with a cooling capacity >=110,000 Btu/h has variable airflow controls.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.4.3.10 (ME40)	Single zone HVAC systems with fan motors >=5 hp have variable airflow controls. Air conditioning equipment with a cooling capacity >=110,000 Btu/h has variable airflow controls.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	See the Mechanical Systems list for values.
6.4.4.1.1 (ME7)	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.4.4.1.2 (ME8)	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	R_____	R_____	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.4.4.1.3 (ME9)	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	____ in	____ in	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 5 of 10

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.4.1.4 (ME41)	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.4.4.2.1 (ME10)	Ducts and plenums sealed based on static pressure and location.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.4.4.2.2 (ME11)	Ductwork operating >3 in. water column requires air leakage testing.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.4.4.2.2 (ME11)	Ductwork operating >3 in. water column requires air leakage testing.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.5.2.3 (ME19)	Dehumidification controls provided to prevent reheating, recirculating, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.5.2.3 (ME42)	Multiple zone VAV systems with CDC of individual zone boxes have static pressure setpoint reset controls.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.5.3.3 (ME42)	Multiple zone VAV systems with CDC of individual zone boxes have static pressure setpoint reset controls.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	See the Mechanical Systems list for values.
6.5.4.1 (ME25)	HVAC pumping systems >10 hp designed for variable fluid flow.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.5.6.1 (ME56)	Exhaust air energy recovery on systems meeting Table 6.5.6.1.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.5.7.1.3 (ME32)	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.5.7.1.2 (ME46)	Conditioned supply air to space with a kitchen hood shall not exceed the greater of a) supply flow required to meet space heating or cooling, or b) hood exhaust flow minus the available air transfer from available spaces.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 6 of 10

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.7.1.2 (ME46)	Conditioned supply air to space with a kitchen hood shall not exceed the greater of a) supply flow required to meet space heating or cooling, or b) hood exhaust flow minus the available air transfer from available spaces.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.5.7.1.5 (ME49)	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.5.7.2 (ME33)	Fume hoods exhaust systems >=15,000 cfm have VAV hood exhaust and supply systems, direct make-up air or heat recovery.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.5.8.1 (ME34)	Unenclosed spaces that are heated use only radiant heat.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.5.9 (ME35)	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.5.9 (ME35)	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%.			☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 7 of 10

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 (EL10)	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
9.4.1.1 (EL1)	Automatic controls to shut off all building lighting.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
9.4.1.2 (EL2)	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
9.4.1.3 (EL11)	Parking garage lighting is equipped with required lighting controls and daylight transition zone lighting.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
9.4.1.4 (EL12)	Primary daylighted areas >=250 ft2 are equipped with required lighting controls.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
9.4.1.5 (EL13)	Enclosed spaces with daylight area >=100 sq ft and rooftop monitors >100 ft2 are equipped with required lighting controls.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
9.4.1.6 (EL4)	Separate lighting control devices for specific uses installed per approved lighting plans.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
9.4.2 (EL6)	Exit signs do not exceed 5 watts per face.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
9.4.2 (EL6)	Exit signs do not exceed 5 watts per face.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
9.4.2 (EL6)	Exit signs do not exceed 5 watts per face.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
10.4.1 (EL9)	Electric motors meet requirements where applicable.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 8 of 10

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
6.4.3.1.2 (F13)	Thermostatic controls have a 5 °F deadband.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.4.3.2 (F10)	Temperature controls have setpoint overlap restriction.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.4.3.3.1 (F121)	HVAC systems equipped with at least one automatic shutdown control.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Systems with capacity 15,000 Btu/h and with manual controls.
6.4.3.3.2 (F22)	Setback controls allow automatic restart and temporary operation as required for maintenance.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Systems with capacity 15,000 Btu/h and with manual controls.
6.4.3.7 (F16)	When humidification and dehumidification are provided to a zone, simultaneous operation is prohibited.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.7.2.1 (F17)	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.7.2.2 (F18)	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
6.7.2.3 (F19)	An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 ft2 of conditioned area.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.
6.7.2.4 (F110)	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
8.7.1 (F18)	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
8.7.2 (F117)	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
9.2.2.3 (F18)	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	See the Interior Lighting fixture schedule for values.

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

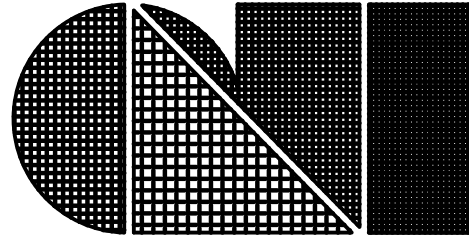
Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 9 of 10

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
10.4.3 (F24)	Elevators are designed with the proper lighting, ventilation power, and standby mode.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Project Title: ChampionExpress-IndianolaIA
Data filename: Report date: 06/13/22
Page: 10 of 10



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
COMCHECK -
INTERIOR LIGHTING &
MECHANICAL

Seal 06/10/22



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Drawn By :

V. RAMON

Checked By :

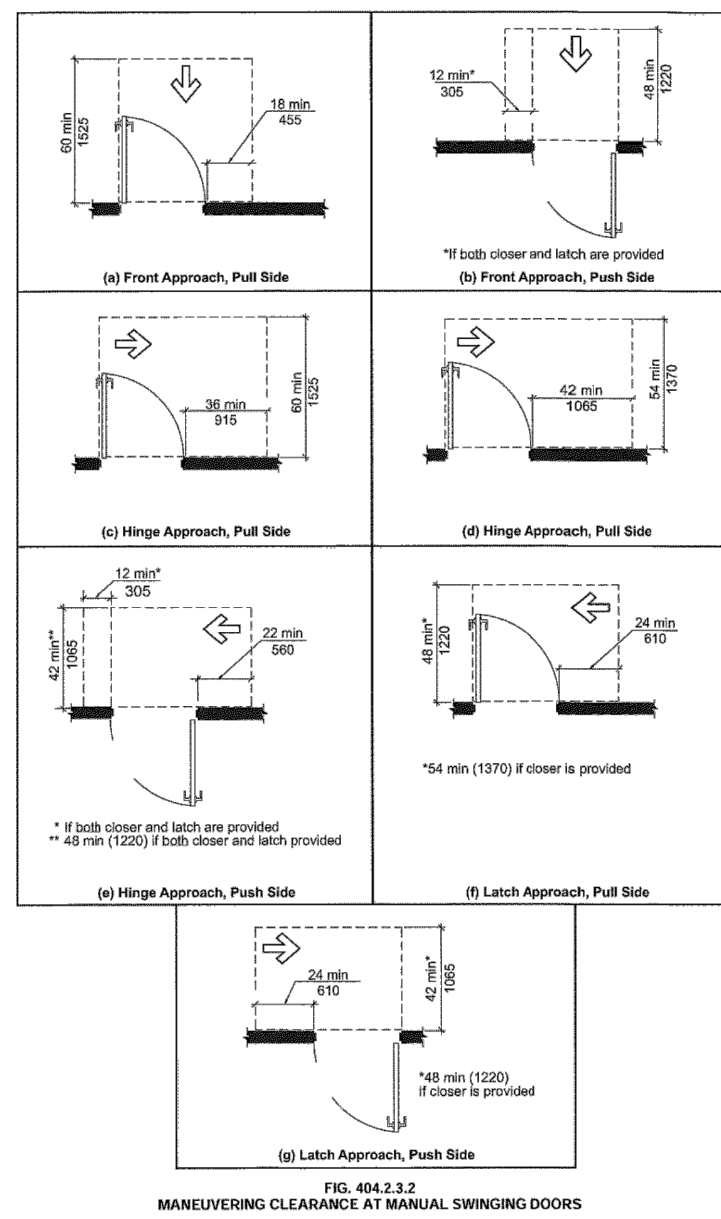
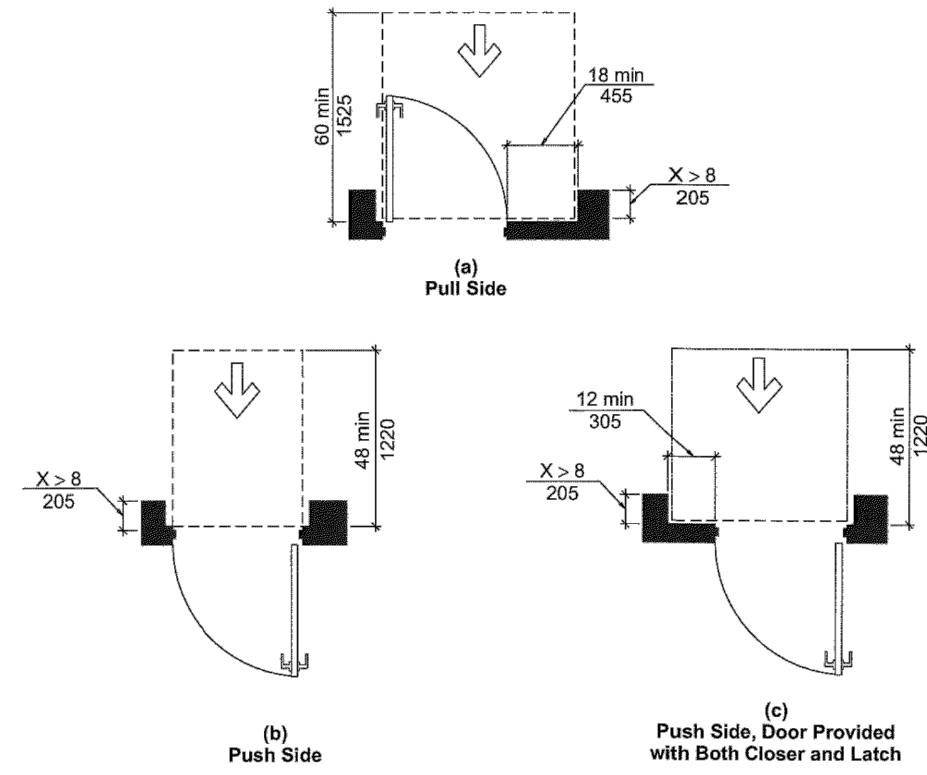
D. MYERS

Revisions :

Date : 06/10/22

Sheet No.

T3.0

FIG. 404.2.3.2
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORSFIG. 404.2.3.3
MANEUVERING CLEARANCE AT RECESSED DOORS

404.2.8 Door-Opening Force. Fire doors shall have the minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open doors other than fire doors shall be as follows:

1. Interior hinged door: 5.0 pounds (22.2 N) maximum
2. Sliding or folding door: 5.0 pounds (22.2 N) maximum

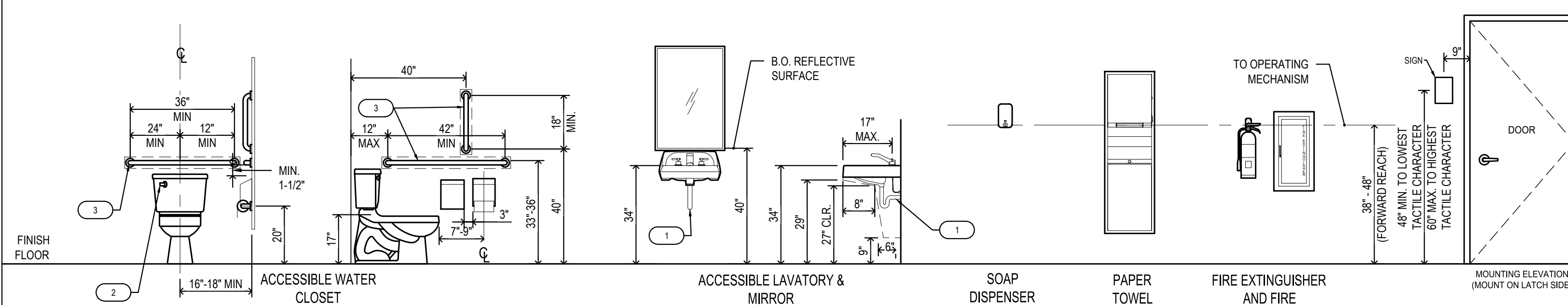
These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.

404.2.9 Door Surface. Door surfaces within 10 inches (255 mm) of the floor, measured vertically, shall be a smooth surface on the push side extending the full width of the door. Parts creating horizontal or vertical joints in such surface shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added lock plates shall be capped.

EXCEPTIONS:

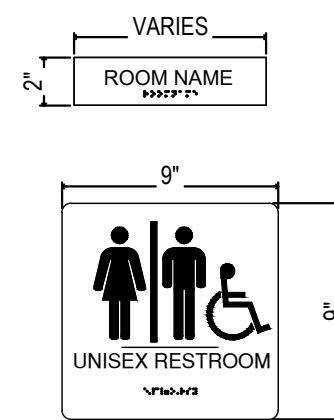
1. Sliding doors shall not be required to comply with Section 404.2.9.
2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at no less than 60 degrees from the horizontal shall not be required to comply with the 10-inch (255 mm) bottom rail height requirement.
3. Doors that do not extend to within 10 inches (255 mm) of the floor shall not be required to comply with Section 404.2.9.

ADA REQUIREMENTS - FIXTURES & ACCESSORY MOUNTING HEIGHTS



GENERAL ACCESSIBILITY NOTES:

1. G.C. TO PROVIDE WOOD BLOCKING FOR ALL TOILET ROOM ACCESSORIES IN METAL STUD PARTITIONS.
2. WHERE FLOOR SLOPE IS INDICATED THE RATE OF SLOPE SHALL BE 1/4" PER 1'-0" IN THE DIRECTION OF FLOOR DRAIN (U.N.O.). ARROW INDICATES DOWNWARD DIRECTION OF SLOPE.
3. SEE ELECTRICAL DRAWINGS FOR LIGHT INFORMATION AND SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ADA COMPLIANT UNDER SINK PIPE INSULATION ON ALL ADA COMPLIANT SINKS WHERE UNDERSINK PIPING IS EXPOSED.
5. THE BOTTOM 10" OF ALL DOORS SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST.
6. NO THRESHOLD SHALL EXCEED 2" IN HEIGHT.
7. HAND-OPERATED DOOR OPENING HARDWARE SHALL NOT REQUIRE TIGHT GRASPING OR TWISTING OF THE WRIST IN ORDER TO OPERATE & SHALL BE MOUNTED NO HIGHER THAN 48" A.F.F.
8. MAXIMUM FORCE REQUIRED TO OPEN EXTERIOR DOORS SHALL NOT EXCEED 5 LBS. MAXIMUM FORCE REQUIRED TO OPEN INTERIOR DOORS SHALL NOT EXCEED 10LBS-15 LBS.
9. IF A DOOR HAS A CLOSER, THEN THE SWEEP PERIOD OF THE CLOSER SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MINIMUM.
10. FAUCET CONTROL & OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND & SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBS. LEVER OPERATED, FLUSH TYPE & ELECTRONICALLY OPERATED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. IF SELF-CLOSING VALVES ARE USED, THE FAUCET SHALL REMAIN OPEN FOR A MINIMUM OF 10 SECONDS.
11. PROVIDE SIGNAGE WITH INTERNATIONAL SYMBOL OF ACCESSIBILITY IN ACCORDANCE WITH THE ACCESSIBILITY STANDARDS.
12. SIGNAGE HEIGHT SHALL BE IN ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE & LOCAL ACCESSIBILITY CODES.
13. RESTROOM SIGNAGE SHALL BE MOUNTED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE RESPECTIVE RESTROOM DOOR.



LIFE SAFETY LEGEND

- > PATH OF TRAVEL
REQUIRED DOOR WIDTH CALCULATED AT 0.2 INCHES PER PERSON, BASED ON SECTION 1005.1.
- ILLUMINATED EXIT SIGN W/ BATTERY BACKUP, SEE ELECTRICAL
- FIRE EXTINGUISHER 10#ABC, 4A40BC OR 4A80BC RATED. GC TO CONFIRM QUANTITY & LOCATIONS PER FIRE MARSHAL (MIN. 2 REQUIRED)

LEGEND

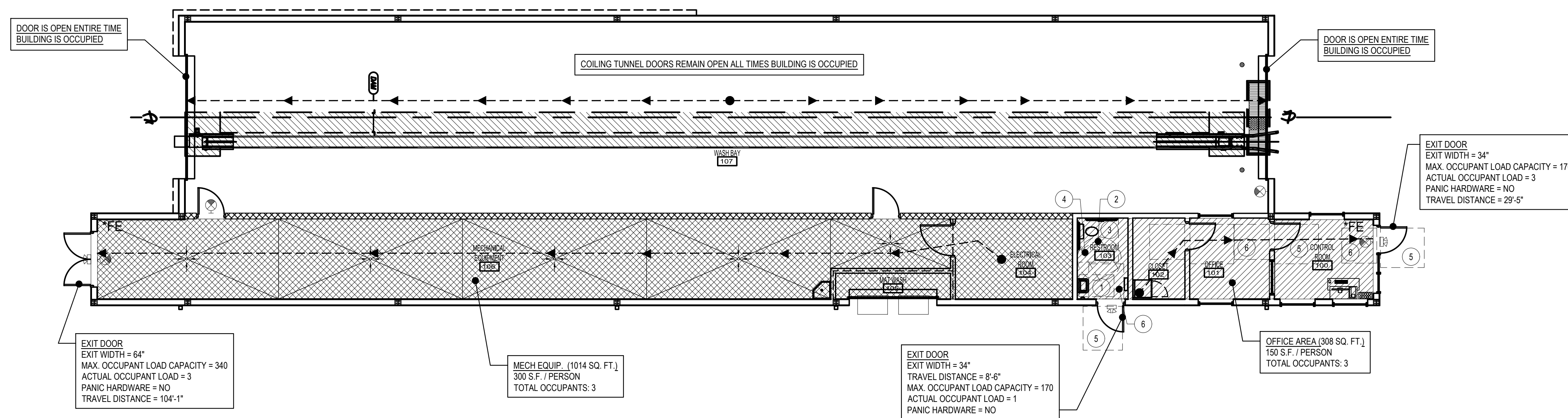
- BUSINESS OCCUPANCY
- MECHANICAL EQUIPMENT AREA (S-1)

CLEAR FLOOR NOTES

1	30X 48 CLEAR FLOOR AT LAVATORY
2	30 X 48 CLEAR FLOOR
3	60 X 56 CLEAR FLOOR AT TOILET
4	60 0 TURNING CLEARANCE
5	54 X 60 AT PULL SIDE OF DOOR
6	48 X 48 AT PUSH SIDE OF DOOR

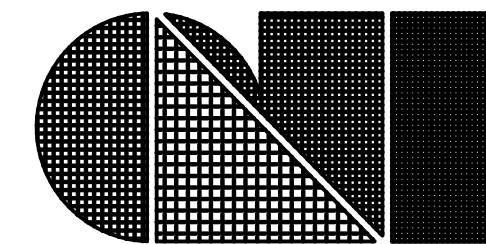
DETAIL PLAN NOTES

1	INSULATE ALL EXPOSED PIPES UNDER WALL MOUNTED LAVATORIES WITH A PRE-MOLDED SHIELD AS MANUFACTURED BY LAVATORY MANUFACTURER.
2	G.C. TO ENSURE WATER CLOSET FLUSH HANDLE IS ON THE WIDE SIDE OF TOILET (ROOM/STALL) - NO EXCEPTIONS.
3	GRAB BARS DESIGNED TO RESIST A SINGLE CONCENTRATED LOAD OF 250 POUNDS APPLIED IN ANY DIRECTION AT ANY POINT ON THE GRAB BAR.



1 LIFE SAFETY PLAN

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



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C.L. HELT PROJECT # 22088

Project : **CHAMPION**
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
**LIFE SAFETY PLAN &
MOUNTING HEIGHTS**

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V. RAMON

Checked By :

D. MYERS

Revisions :

Date : 06/10/22

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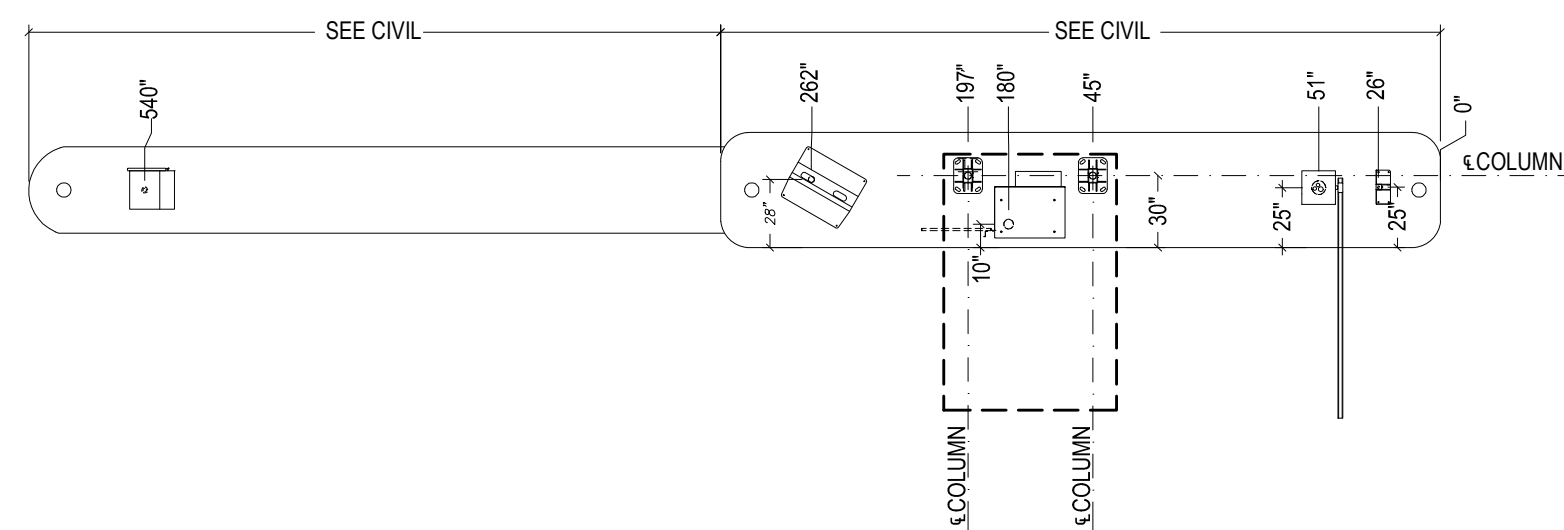
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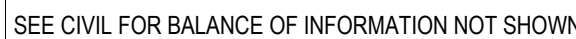
A0.0 NTS



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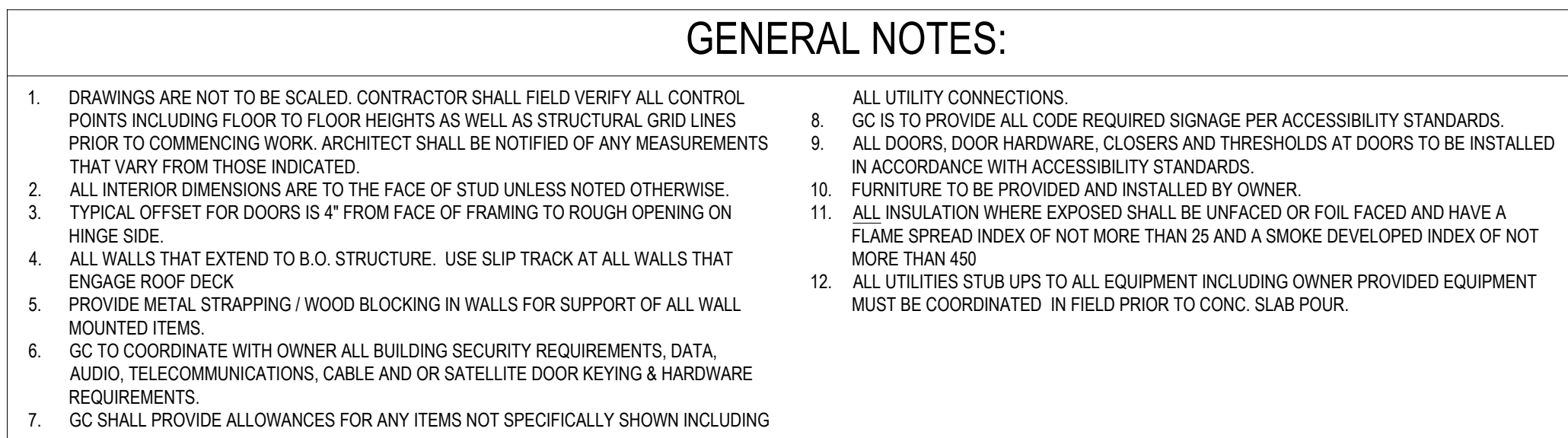


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ARCHITECTURAL SITE
PLAN AND PAY
STATION DETAILS

Sheet No.

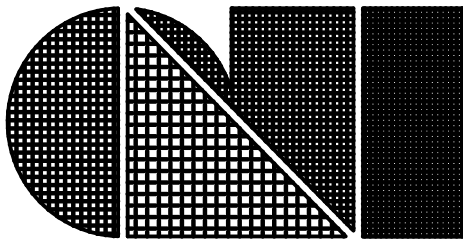
Page 15 of 271



TREATED LUMBER TO METAL STUDS NOTE

IN LOCATIONS THAT REQUIRE ATTACHMENT OF TREATED LUMBER TO METAL STUDS, INCLUDING BUT NOT LIMITED TO, EXTERIOR GRADE PLYWOOD OR TREATED WOOD BLOCKING, SHALL USE EITHER GALVANIZED METAL STUDS OR A BARRIER PROVIDED TO PREVENT DIRECT CONTACT OF THE TREATED LUMBER TO THE NON GALVANIZED METAL STUDS. METHOD OF BARRIER CAN BE ACHIEVED BY USE OF THERMAL TAPE, A BREATHABLE MEMBRANE, OR OTHER SIMILAR METHOD. METHOD OF SEPARATION SHALL NOT CREATE A DOUBLE VAPOR BARRIER WALL SYSTEM.

ALL SCREWS THROUGH TREATED LUMBER SHALL BE EITHER HOT DIP GALVANIZED OR STAINLESS STEEL SCREWS.



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C.L. HELT PROJECT #	22088
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project : CHAMPION
EXPRESS CAR WASH
FOR
77B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :

FLOOR PLAN, WALL
TYPES, NOTES,
ENLARGED PLAN, &
INTERIOR ELEVATION

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Drawn By :

V. RAMON

Checked By :

D. MYERS

Revisions :

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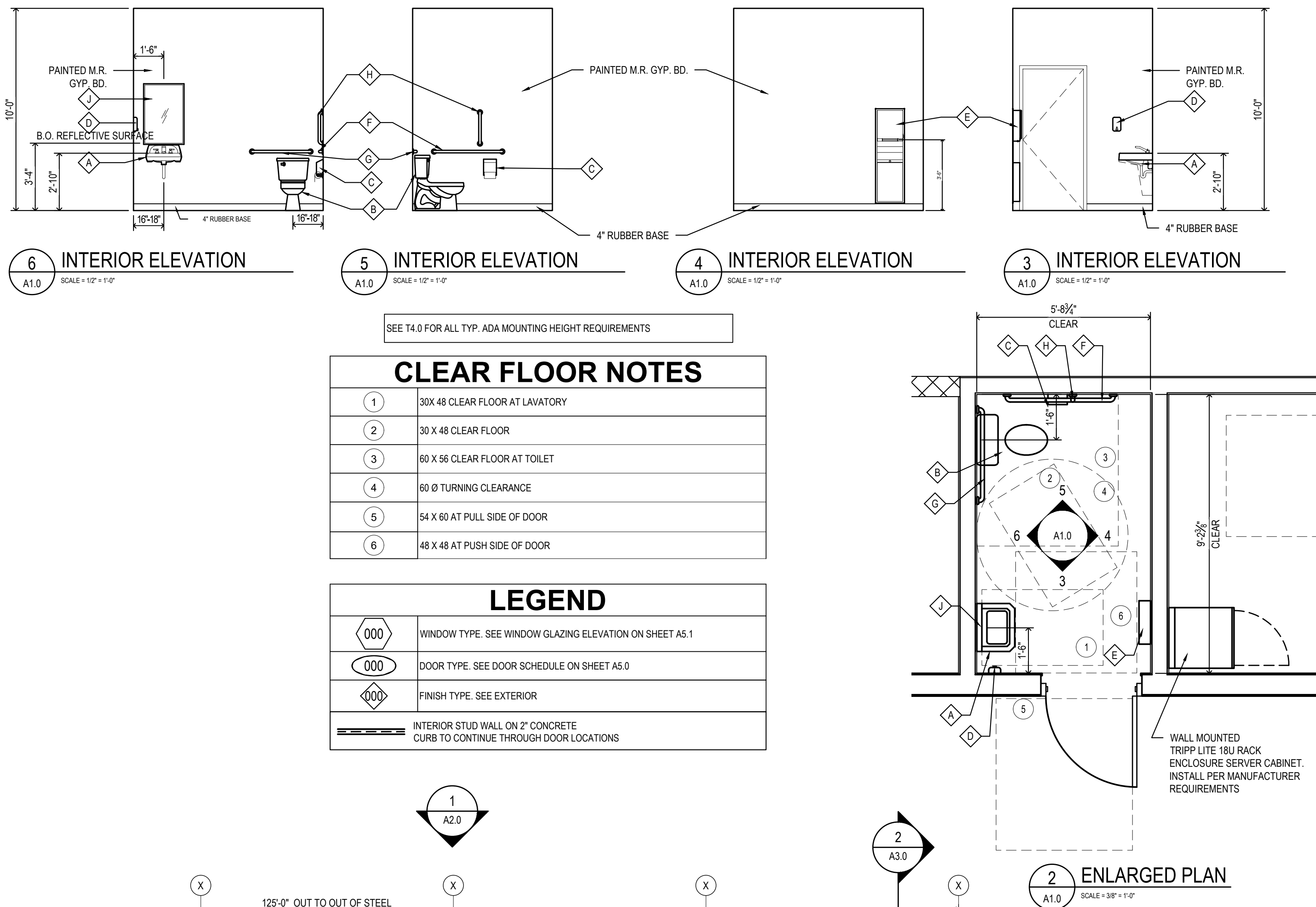
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Date : 06/10/22

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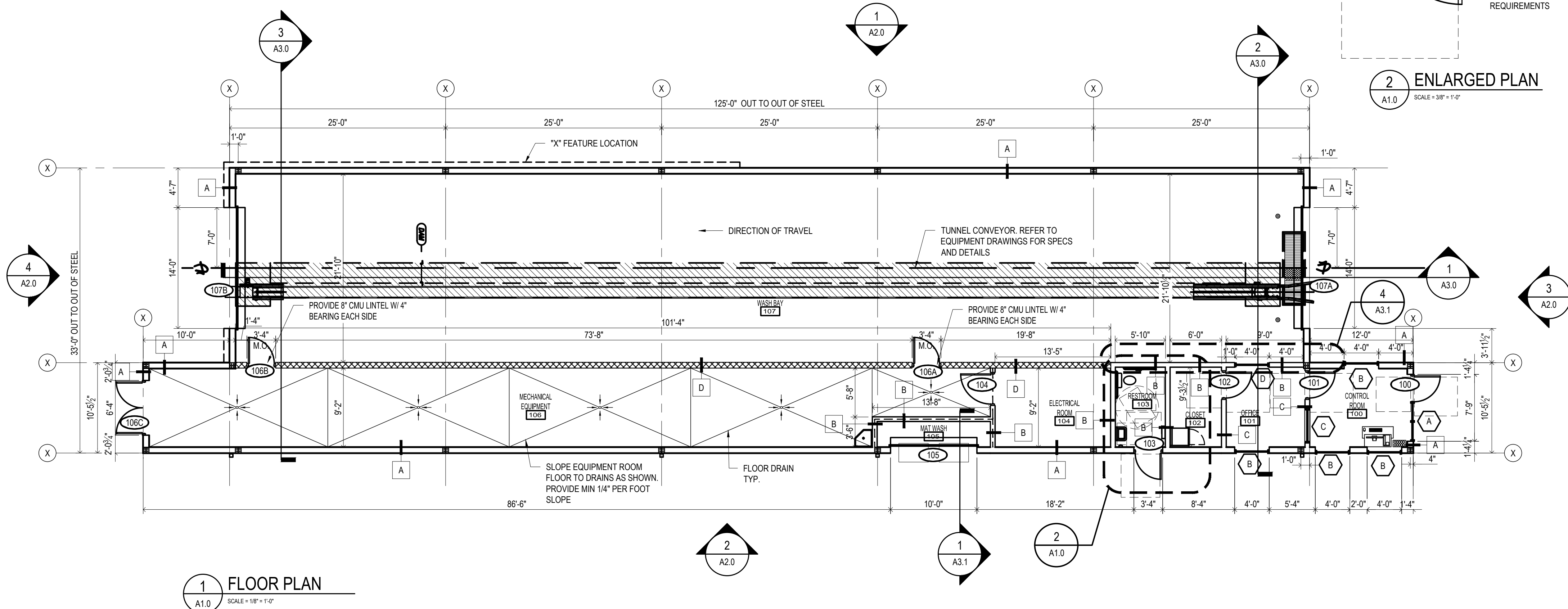
A1.0

TOILET ACCESSORY SCHEDULE				
	DESCRIPTION	MANUF.	MODEL	COLOR / FINISH
A	WALL-MOUNT SINK	SEE PLUMBING		
B	TOILET	SEE PLUMBING		
C	TOILET TISSUE DISPENSER	BOBRICK	B-2888	STAINLESS STEEL
D	SOAP DISPENSER	BOBRICK	B-2111	STAINLESS STEEL
E	PAPER TOWEL DISPENSER & TRASH RECEPTACLE	BOBRICK	B-3947	STAINLESS STEEL
F	42" GRAB BAR	BOBRICK	B-6806 X 42 STAINLESS STEEL GRAB BARS WITH SNAP FLANGE	SATIN FINISH
G	36" GRAB BAR	BOBRICK	B-6806 X 36 STAINLESS STEEL GRAB BARS WITH SNAP FLANGE	SATIN FINISH
H	18" VERTICAL GRAB BAR	BOBRICK	B-6806 X 18 STAINLESS STEEL GRAB BARS WITH SNAP FLANGE	SATIN FINISH
J	TILT MIRROR - 18" X 30"	BOBRICK	B-293 1830	STAINLESS STEEL
TOILET ACCESSORIES TO BE BOBRICK OR EQUAL. FINAL SELECTIONS TO BE APPROVED BY OWNER.				



NOTES:

1. G.C. TO INSTALL BLOCKING AS REQUIRED FOR NECESSARY FIXTURES / GRAB BARS. COORDINATE LOCATION WITH PLANS.
2. (M.R) MOISTURE RESISTANT GWB TO BE USED AT WET LOCATIONS
3. G.C. TO PROVIDE PRICING FOR PVC WALL PANELS FROM THE FOLLOWING MANUFACTURERS: EXTRUTECH PLASTICS, INC & EZ LINER LLC
4. INTERIOR WALL INSULATION R-19. ALL KRAFT PAPER TO BE IN DIRECT CONTACT WITH GYP. OR PLYWOOD NO KRAFT PAPER TO BE EXPOSED.

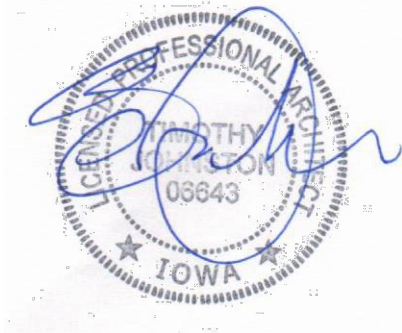


Page 16 of 27

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
REFLECTED CEILING
PLAN

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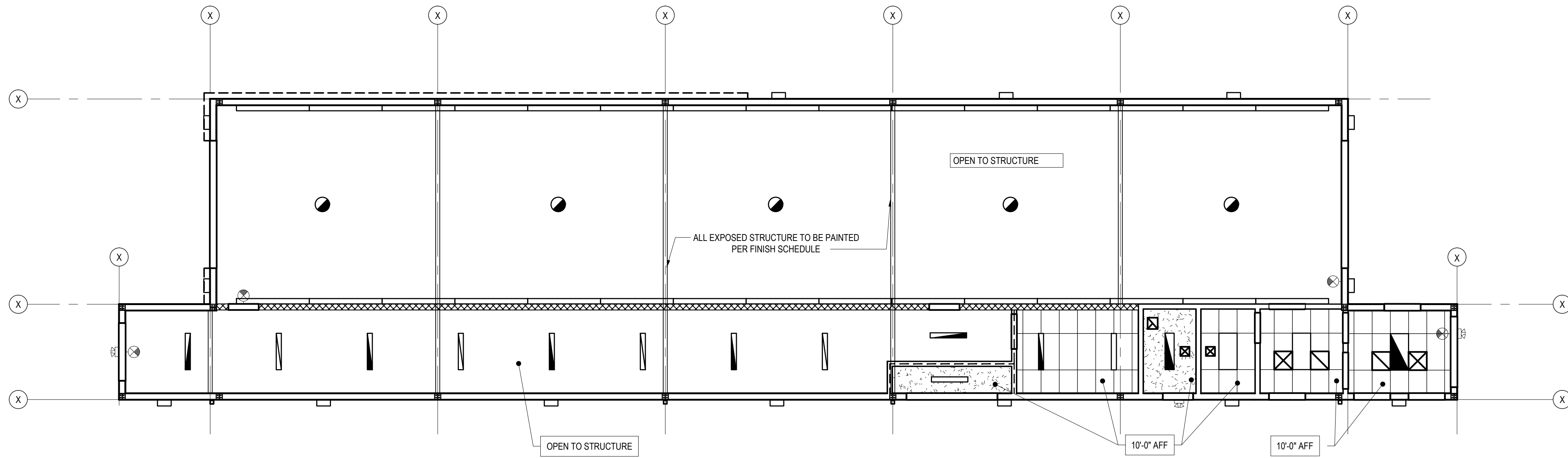
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D. MYERS

Revisions :

Date : 06/10/22

Sheet No.

A1.1



1
A1.1
REFLECTED CEILING PLAN
SCALE = 1/8" = 1'-0"

LEGEND

OPEN TO STRUCTURE - ALL EXPOSED STRUCTURE TO BE PAINTED.

ALL GYP. CEILINGS TO BE 1/2" GYP. TAPED, SANDED AND PAINTED.
COLOR TO BE CEILING WHITE.
USE MOISTURE RESISTANT GWS AT ALL WET AREAS.

ACT

WALL PAK - SEE ELECTRICAL
2' X 2' LIGHT FIXTURE - SEE ELECTRICAL
4' LED STRIP LIGHT FIXTURE - SEE ELECTRICAL
4' LED STRIP NIGHT LIGHT FIXTURE - SEE ELECTRICAL

PENDANT LIGHT FIXTURE - SEE ELECTRICAL

FINISH CEILING DESIGNATION - ARE TO BOTTOM OF FRAMING U.N.O

WALL MOUNTED EMERGENCY LIGHT @ 9'-0" A.F.F. - SEE ELECTRICAL

BUILDING STANDARD WALL MOUNTED ILLUMINATED EXIT SIGN WITH BATTERY
BACK UP - SEE ELECTRICAL

WALL MOUNTED EXTERIOR LIGHTS AND WALL MOUNTED EXTERIOR
EMERGENCY LIGHT WITH BATTERY BACK UP ABOVE DOOR - SEE ELECTRICAL

SEE MECHANICAL FOR HVAC SUPPLY & RETURN LOCATIONS

SUPPLY DIFFUSER

RETURN GRILLE

EXHAUST GRILLE

NOTES:

1. CONTRACTOR TO COORDINATE WITH ALL PLUMBING, MECHANICAL AND ELECTRICAL
DRAWINGS. NOTIFY ARCHITECT IMMEDIATELY SHOULD ANY DISCREPANCIES OCCUR.

2. CONTRACTOR SHALL COORDINATE ALL HVAC EQUIPMENT AND DUCTWORK WITH LIGHTING
LAYOUT TO ENSURE PROPER INSTALLATION OF BOTH SYSTEMS MEETING THE DESIGN
INTENT.

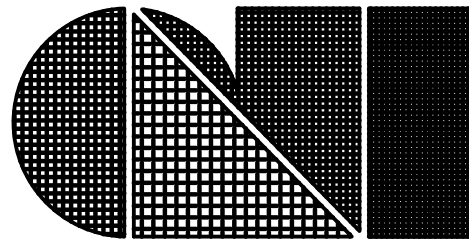
3. COORDINATE ALL CEILING HEIGHTS WITH METAL BUILDING DRAWINGS TO INSURE PROPER
HEIGHTS AND CLEARANCES. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES
BETWEEN DRAWINGS.

4. PLUMBING, MECHANICAL, AND ELECTRICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO:
JUNCTION BOXES, VALVES, DAMPERS, ETC., SHALL NOT BE LOCATED ABOVE HARD CEILINGS
REQUIRING AN ACCESS DOOR OR PANEL.

5. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.

6. REFER TO MECHANICAL PLANS FOR MECHANICAL INFORMATION. ALL MECHANICAL WORK TO
MEET REQUIREMENTS OF NATIONAL STATE AND LOCAL MECHANICAL CODES.

7. ARCHITECTURAL REFLECTED CEILING PLAN IS TO BE USED FOR CEILING FINISH AND
ELEC/MECH REFERENCE ONLY.



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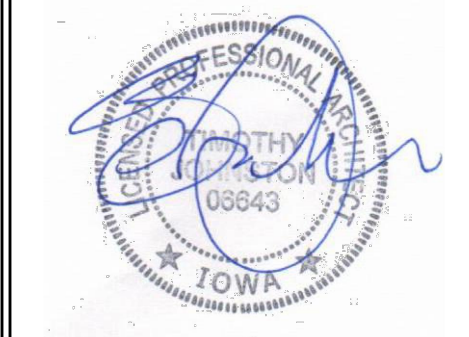
C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :

ROOF PLAN

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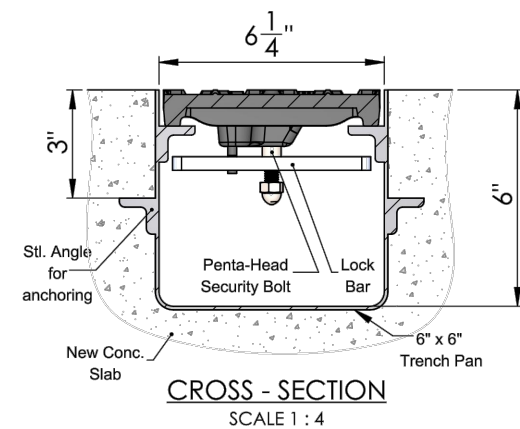
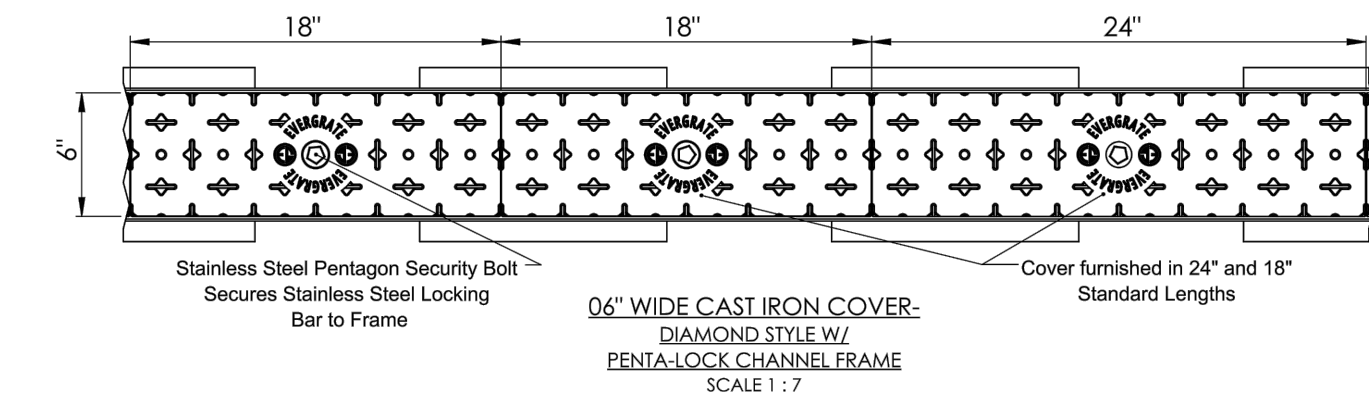
Checked By :
D. MYERS

Revisions :
A 07/21/2022 PERMIT COMMENTS

Date : 06/10/22

Sheet No.

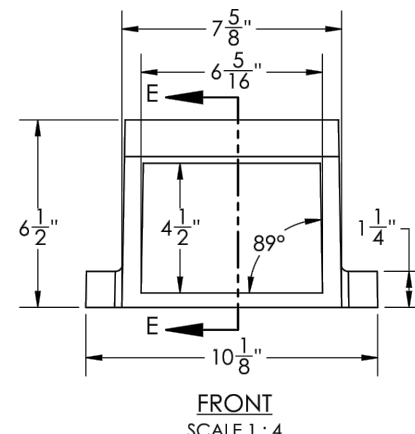
A1.2



Product No. : T-06C Diamond

Grate Material: ASTM-A48 Class 308 Cast Iron
Frame Material: Plain Steel
Load Rating: Non-Traffic (Pedestrian)
Made in USA

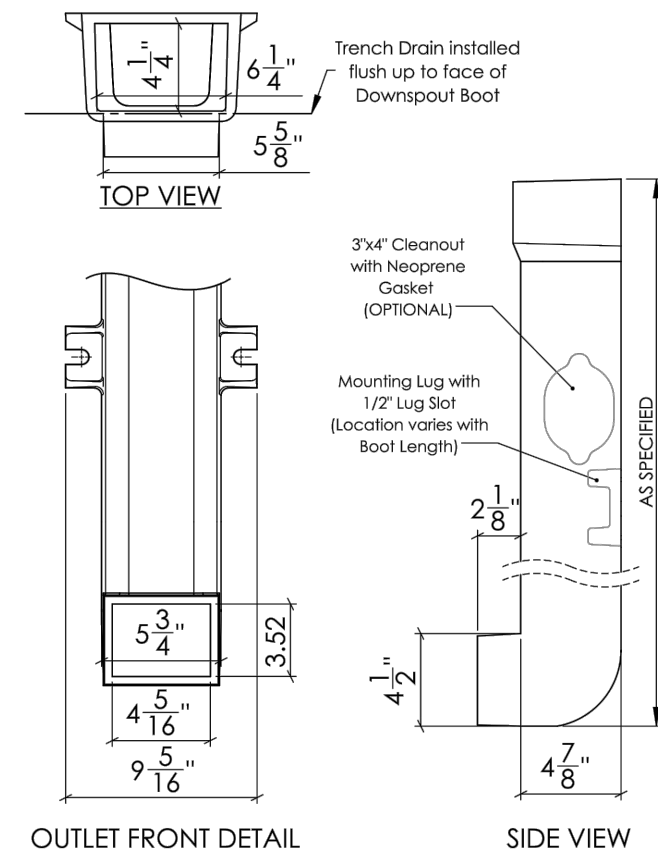
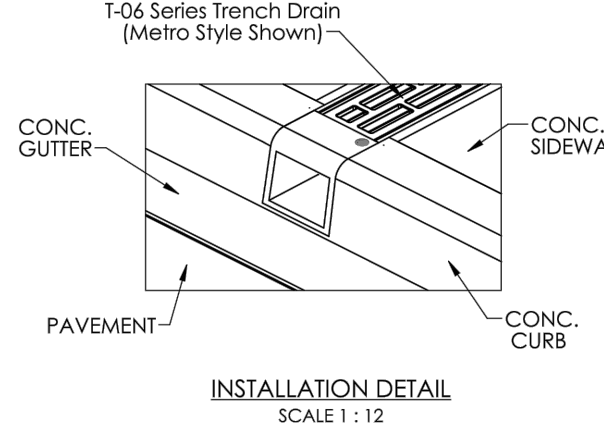
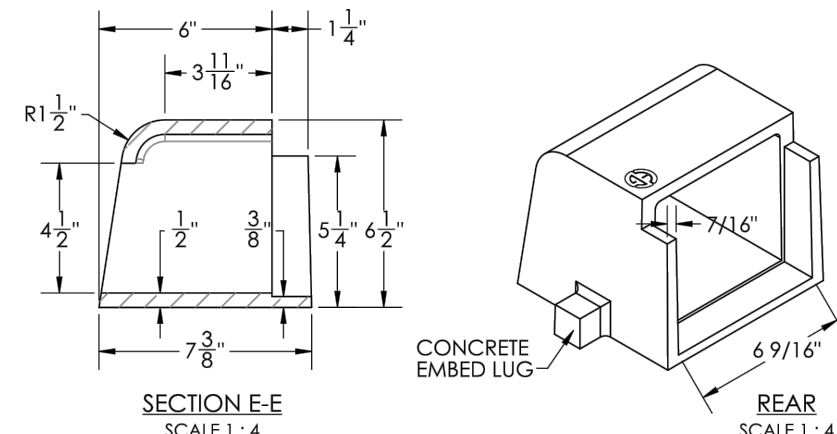
Grate + Frame Weight: 21.4 lbs./ft.
6" x 18" Open Area: N/A
6" x 24" Open Area: N/A



PERSPECTIVE OF C-646T
N.T.S.

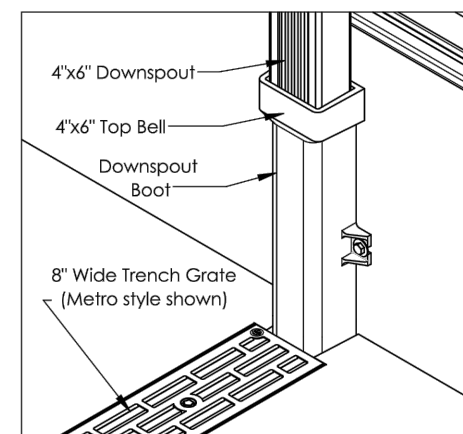
Product No. : C-646T

Material: ASTM-A48 Class 308 Gray Iron
Weight: 25 lbs. ea.
Made in USA



E-46 Downspout Boot (4'x6" Top Bell)

Material: ASTM-A48 Class 308 Cast Iron
Made in USA
Finish Options: Plain, Powder Coat



TYP. TRENCH CONNECTION

AVAILABLE LENGTHS:
16', 20', 24', 28', 32', 36', 40', 48', 60', 72'
*Units over 40' in length supplied in 2 piece assemblies.
*Clearout available on sizes 24" or longer in length.

EVERGRATE TRENCH DRAIN CONNECTION:
Fits Evergrate Trench Drain Sizes:
T-06C
T-08A
T-08C
T-12A
T-12C
T-14A
T-14C

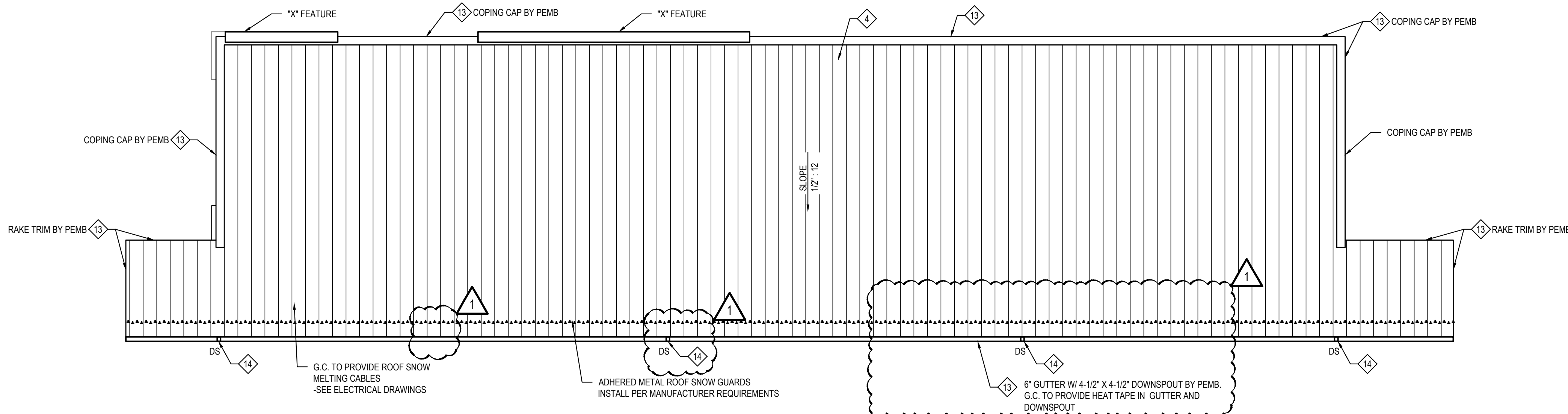
2 DOWNSPOUT BOOT DETAILS
A1.2 N.T.S.

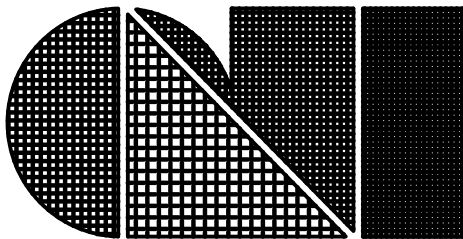
EXTERIOR FINISH SPEC. LEGEND

NOTE: SAMPLES SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION

4	MAIN BUILDING ROOF PANEL MANUF: WHIRLWINDSTEEL COLOR: GALVALUME PLUS STYLE: SUPER SPAN X
13	COPING GUTTER, TRIM, AND ACESORIES MANUF: WHIRLWINDSTEEL COLOR: BURNISHED SLATE
14	DOWNSPOUT BY PEMB COLOR: POLAR WHITE

ROOF DRAINAGE REQUIREMENTS
TOTAL AREA = 4,355 SF
HOURLY RAINFALL RATE = 3.0" / HR (0.031 GPM PER 1SF)
TOTAL RAINFALL RATE = 135 GPM
4-1/2" X 4-1/2" DOWNSPOUT = 360 GPM
DOWNSPOUTS REQUIRED = 1
DOWNSPOUTS PROVIDED = 4





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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
ELEVATIONS

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V. RAMON

Checked By :

D. MYERS

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Date : 06/10/22

Sheet No.

A2.0

LEGEND

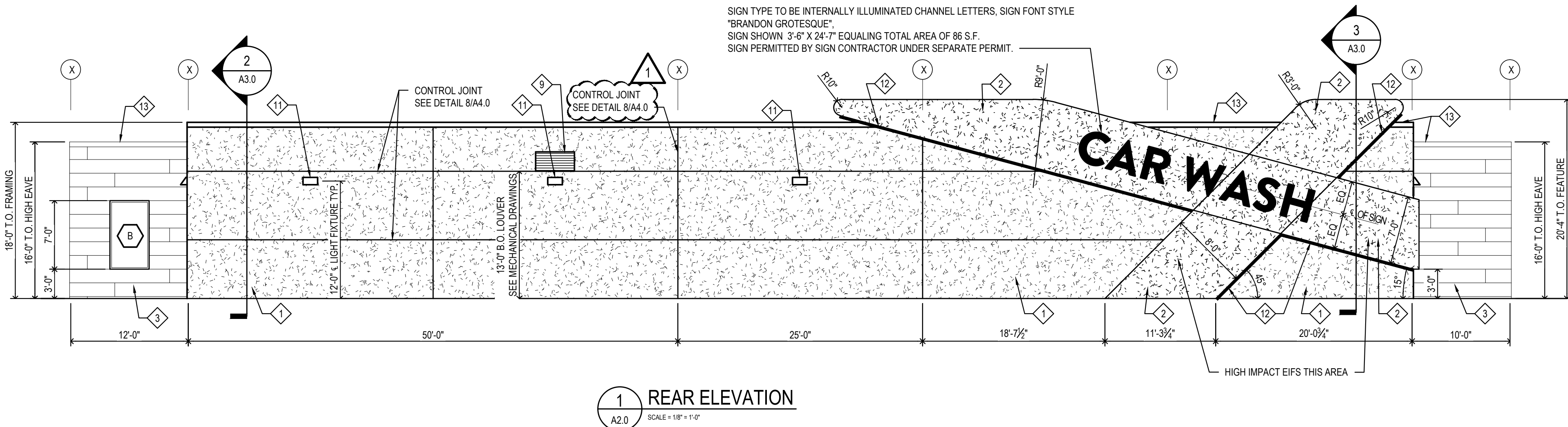
000	WINDOW TYPE. SEE WINDOW GLAZING ELEVATION ON SHEET A5.0
000	DOOR TYPE. SEE DOOR SCHEDULE ON SHEET A5.0
000	FINISH TYPE. SEE EXTERIOR FINISH SPEC. LEGEND

EXTERIOR FINISH SPEC. LEGEND

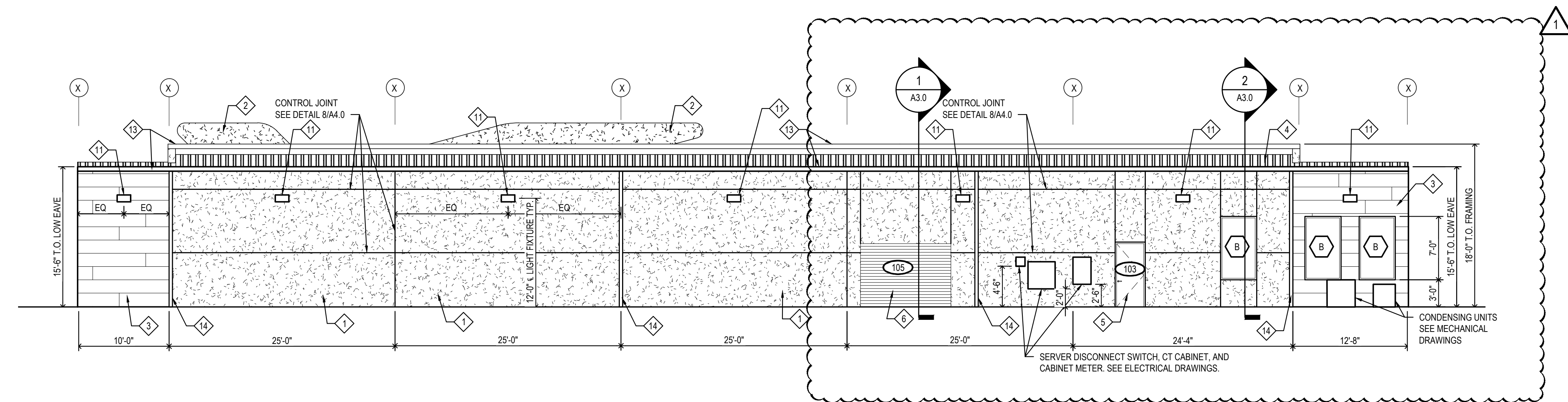
NOTE: SAMPLES SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION

1	STOPPOWERWALL SYSTEM (PORTLAND CEMENT STUCCO) MANUF: STO OR EQUAL COLOR: STO 37110 TEXTURE: STOLIT 1.5 (MEDIUM)
2	EIFS WALL SYSTEM AT "X" MANUF: STO OR EQUAL COLOR: STO 35140 TEXTURE: 81130 STOLIT 1.0 DARK GLOSSY
2A	STOPPOWERWALL SYSTEM (PORTLAND CEMENT STUCCO) MANUF: STO OR EQUAL COLOR: STO 35140 TEXTURE: 81130 STOLIT 1.0 DARK GLOSSY
3	EIFS ROOF SYSTEM MANUF: NICHINA SERIE: CORBOSA CONCRETE SERIES COLOR: SHADOW
4	MAIN BUILDING ROOF PANEL MANUF: WHIRLWINDSTEEL COLOR: GALVALUME PLUS STYLE: SUPER SPAN X
5	PAINT FINISH DOORS, AND LOUVER IN HOLLOW METAL DOOR FRAME MANUF: SHERWIN WILLIAMS COLOR: SW 7675 (1 PRIME + 2 COATS COLOR) NAME: SEALSKIN
6	PAINT FINISH (1 PRIME + 2 COATS COLOR) MANUF: IFS COATING COLOR: RAL 90333 CRYSTAL WHITE PRODUCT#: PLSF 80037PAINT FINISH
7	SPLIT FACE CMU COLOR: PAINTED TO MATCH EIFS COLOR STO 37110
8	CMU WALL CAP TO MATCH CMU
9	LOUVERS TO MATCH EIFS COLOR MANUF: SHERWIN WILLIAMS COLOR: SW 7653 (1 PRIME + 2 COATS COLOR) NAME: SILVERPOINTE
10	VACUUM BOOM FRAME MANUF: SONNY COLOR: SILVER
11	WALL PACK - SEE ELECTRICAL CENTER BETWEEN EIFS GROVE TYP.
12	COVE LIGHTING FEATURE - SEE ELECTRICAL
13	COPING, GUTTER, TRIM, AND ACESORIES MANUF: WHIRLWINDSTEEL COLOR: BURNISHED SLATE
14	DOWNSPOUT BY PEMB COLOR: POLAR WHITE
15	STACKED STONE MANUF: SUNSET STONE COLOR: CAPE COD

NOTE: SIGN CONTRACTOR SHALL ENGINEER ATTACHMENT OF SIGN TO BUILDING STRUCTURE AND DETERMINE
NUMBER OF FASTENERS, SIZE OF FASTENERS, AND ATTACHMENT POINTS. FASTENERS SHALL BE BLIND TO BE
INSTALLED FROM EXTERIOR ONLY. PROVIDE PIPE SPACER TO AVOID CRUSHING WALL FINISH. SEAL ALL
PENETRATION WATERTIGHT.

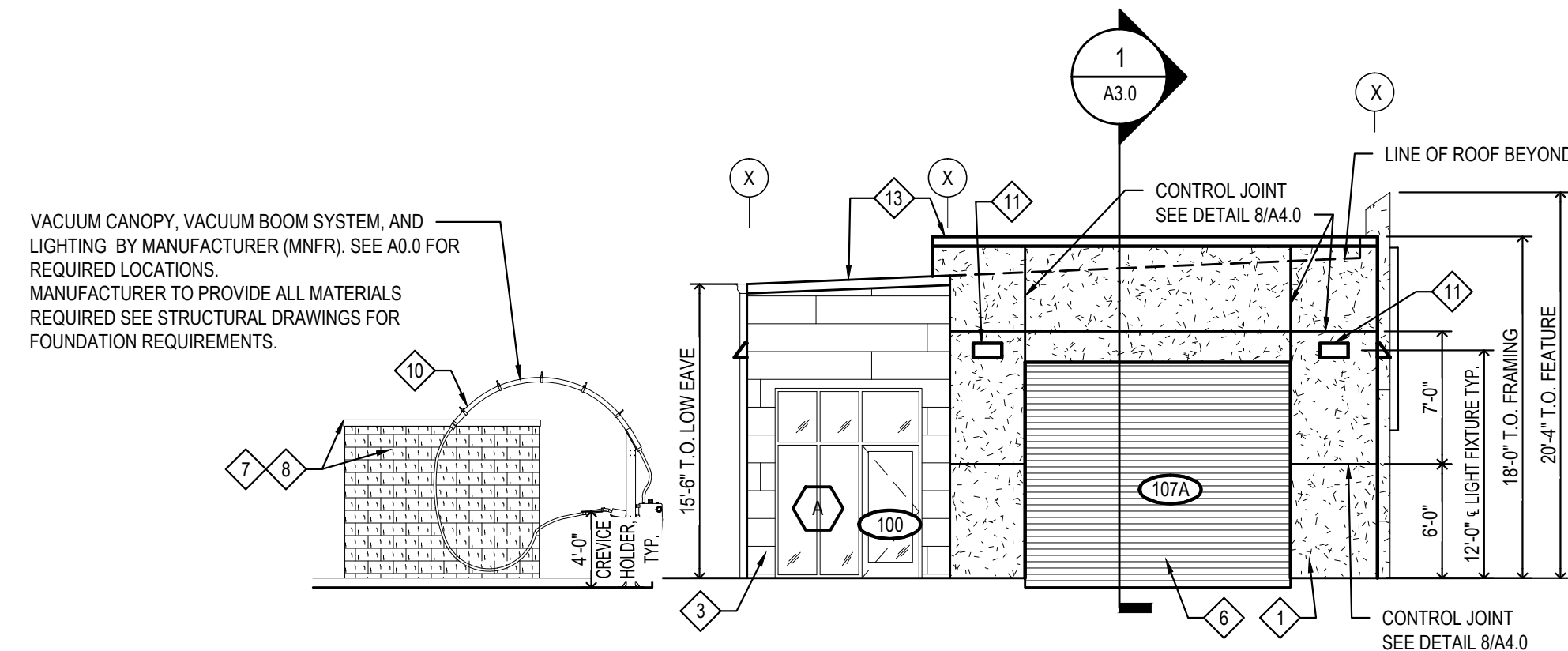


1 REAR ELEVATION
SCALE = 1/8" = 1'-0"

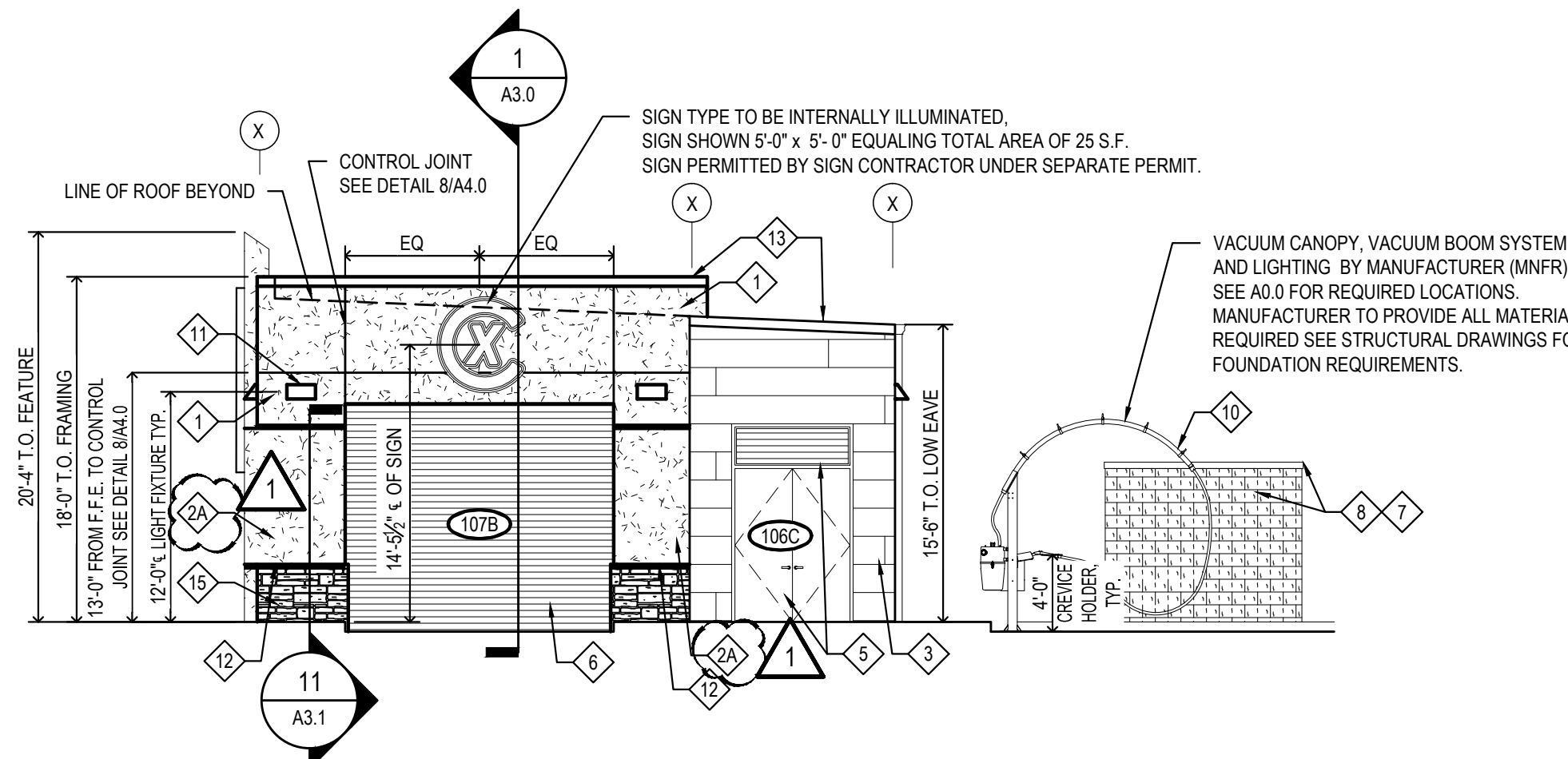


2 PARKING ELEVATION
SCALE = 1/8" = 1'-0"

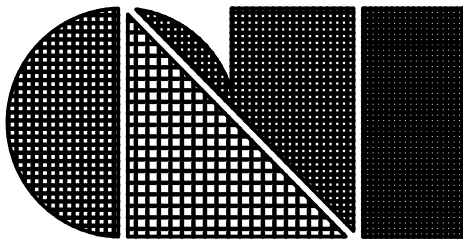
NOTE: STUCCO CONTROL JOINTS (CJ) TO BE LOCATED AS SHOWN. PROVIDE CJ PER A4.0, MIN. BELOW AND ABOVE
WINDOW AND DOOR OPENINGS. MAX. WALL AREA 144 SQ. FT.



3 ENTRANCE ELEVATION
SCALE = 1/8" = 1'-0"



4 EXIT ELEVATION
SCALE = 1/8" = 1'-0"



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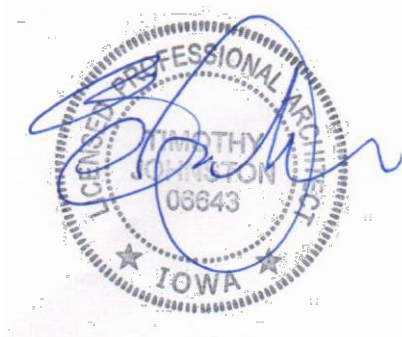
C.L. HELT PROJECT # 22088

Project : **CHAMPION**
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :

**TRASH ENCLOSURE
PLAN & ELEVATIONS**

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Drawn By :

V. RAMON

Checked By :

D. MYERS

Revisions :

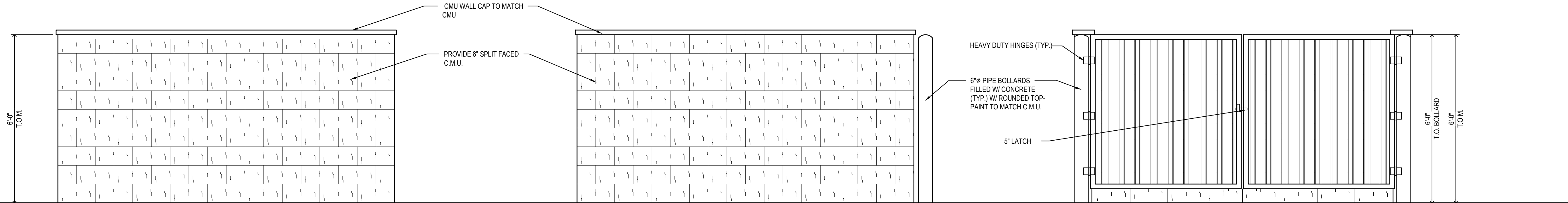
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Date : 06/10/22

Sheet No.

A2.1

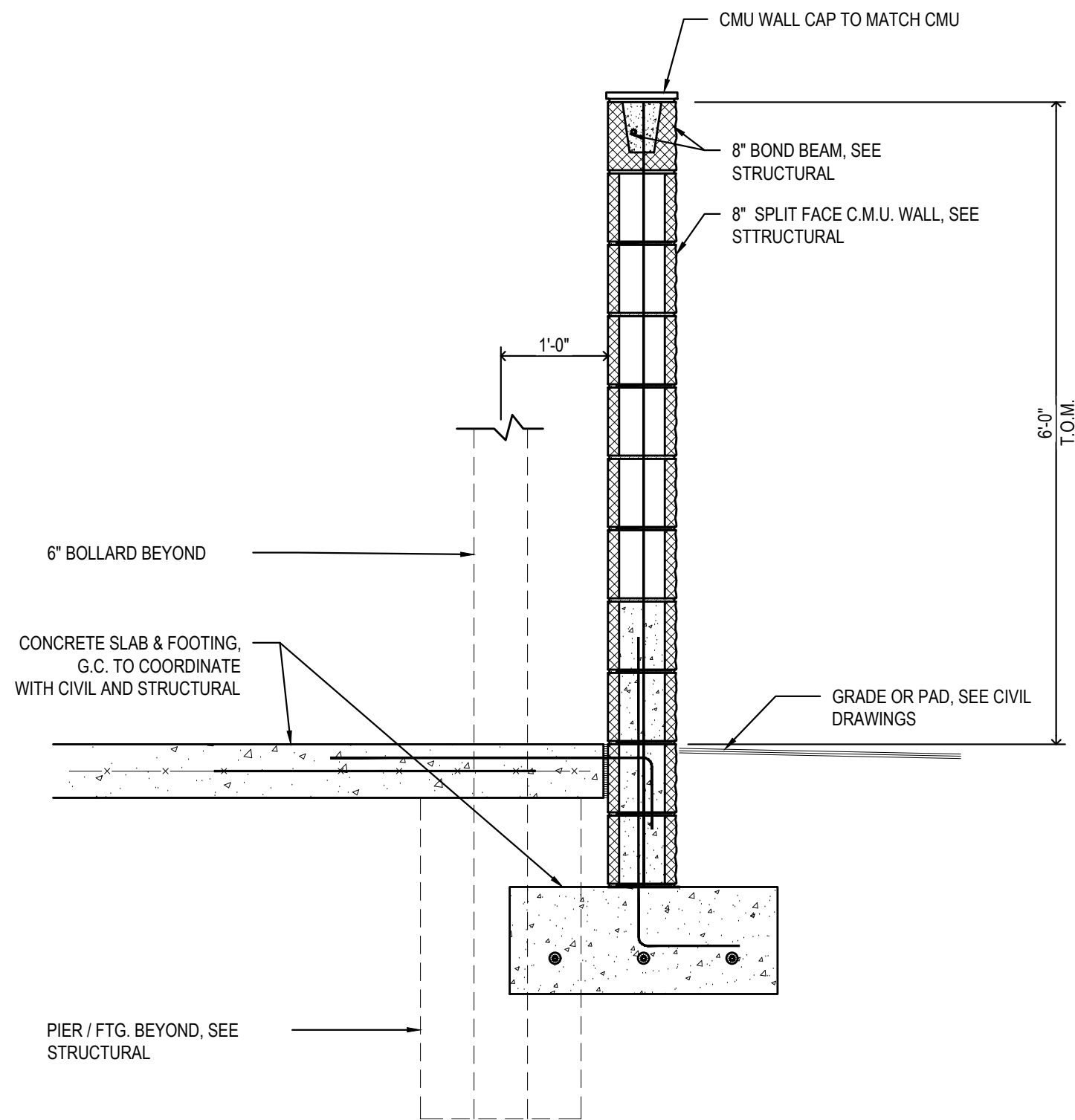
NOTE: SEE SHEET A2.0 FOR FINISHES



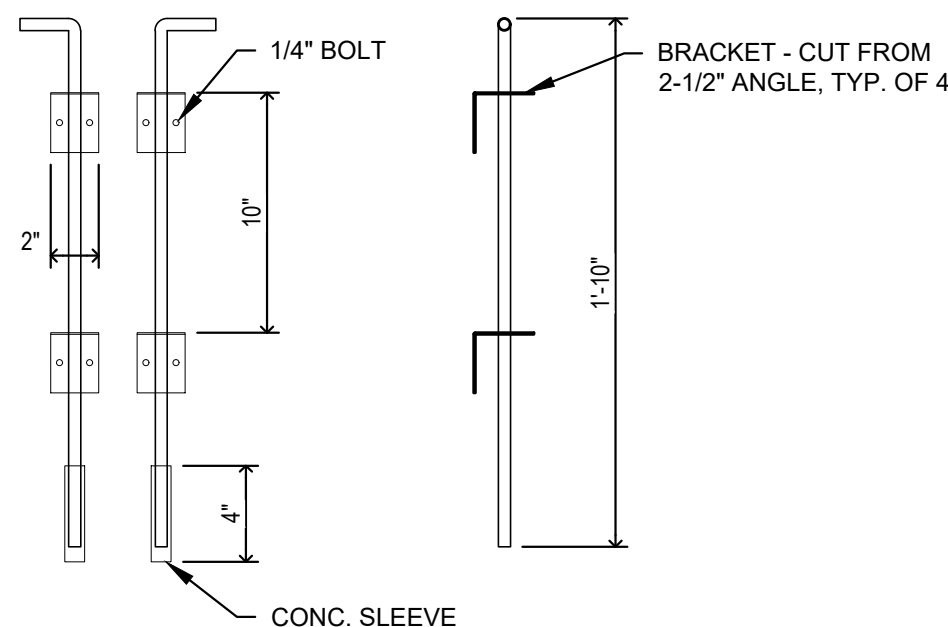
5 TRASH ENCLOSURE ELEVATION
A2.1 SCALE = 1/2" = 1'-0"

4 TRASH ENCLOSURE ELEVATION
A2.1 SCALE = 1/2" = 1'-0"

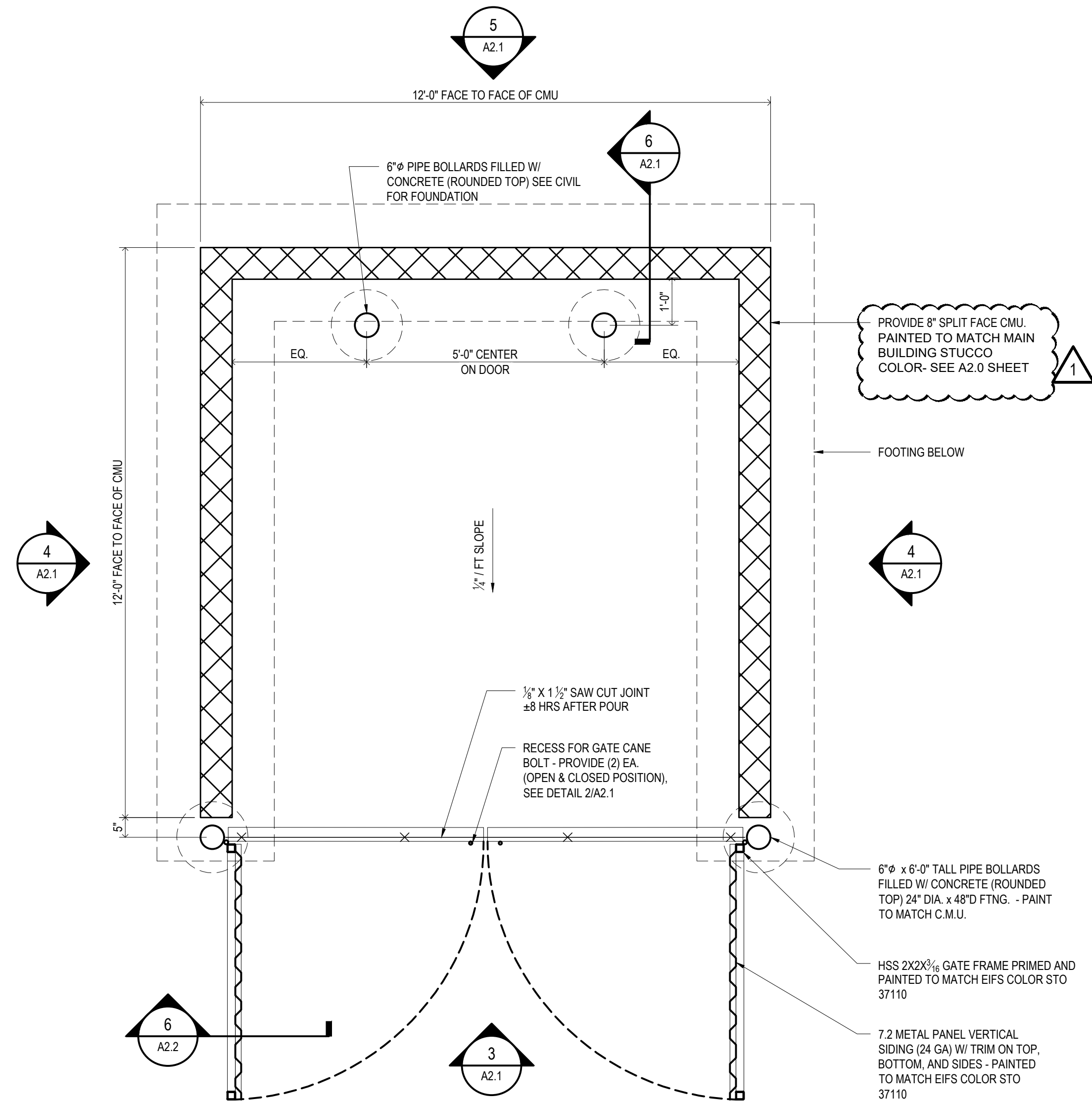
3 TRASH ENCLOSURE ELEVATION
A2.1 SCALE = 1/2" = 1'-0"



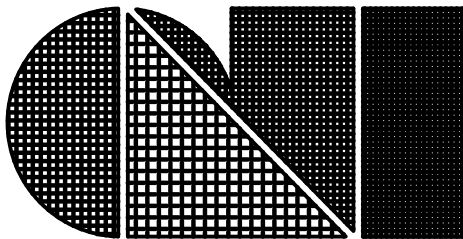
6 TYP. WALL SECTION
A2.1 SCALE = 3/4" = 1'-0"



2 CANE BOLT KEEPER DETAIL
A2.1 SCALE = 1 1/2" = 1'-0"



1 ENLARGED TRASH ENCLOSURE PLAN
A2.1 SCALE = 1/4" = 1'-0"



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C.L. HELT PROJECT # 22088

Project : CHAMPION
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INDIANOLA, IA, 50125

Sheet Description :
VACUUM ENCLOSURE
PLAN AND
ELEVATIONS

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Checked By :

D. MYERS

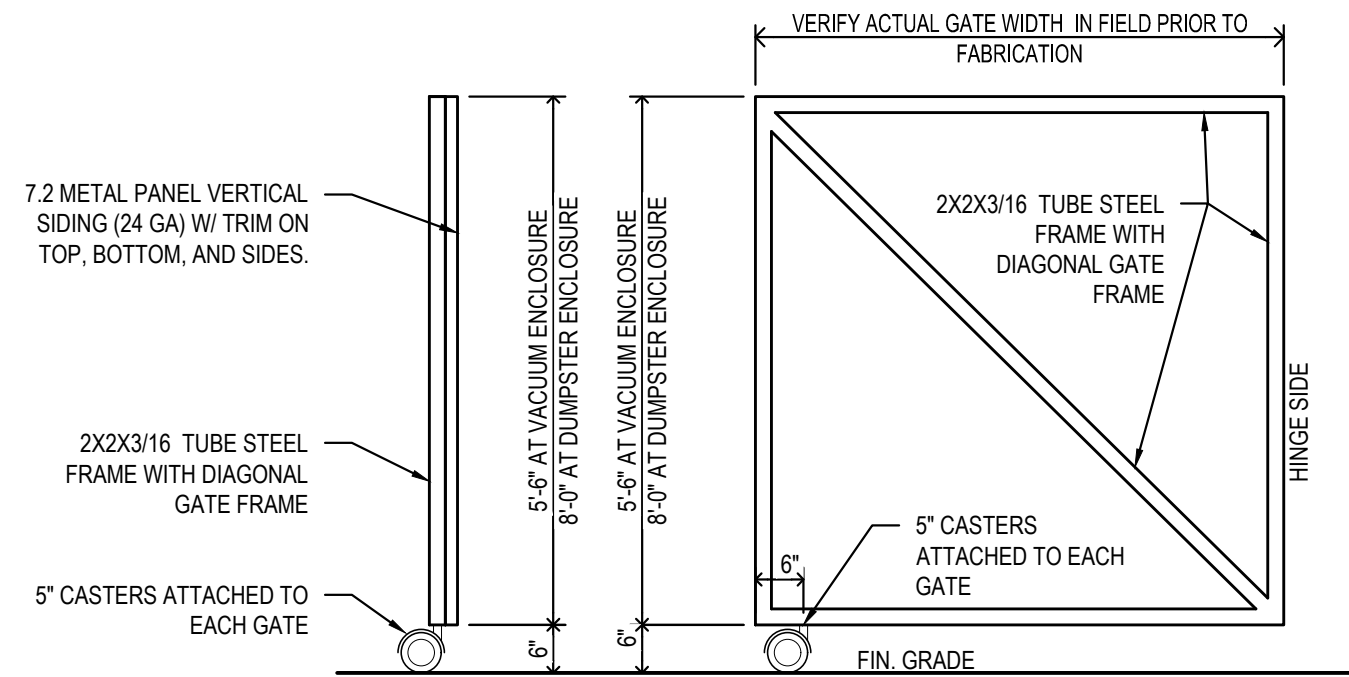
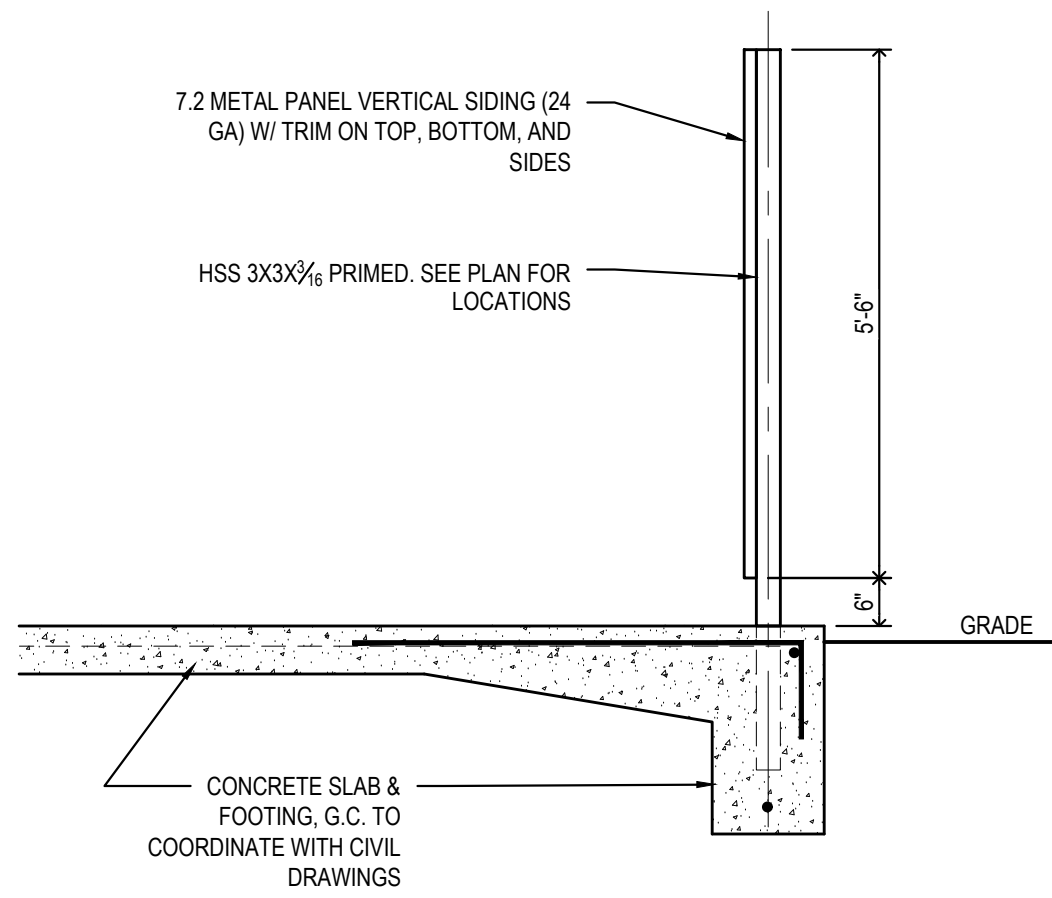
Revisions :

07/21/2022 PERMIT COMMENTS

Date : 06/10/22

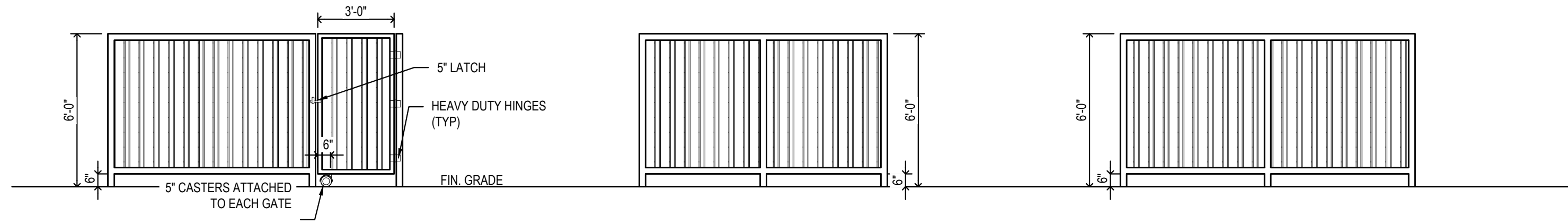
Sheet No.

A2.2



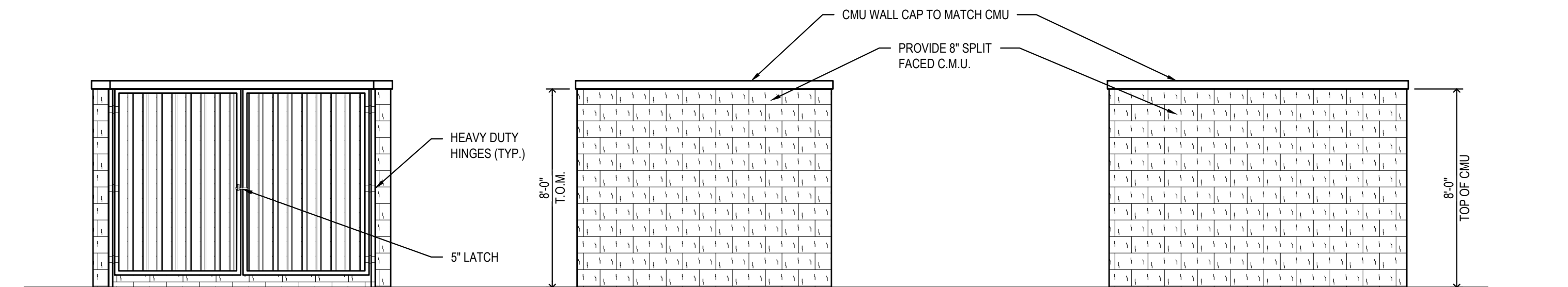
10 TYPICAL GATE SECTION

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



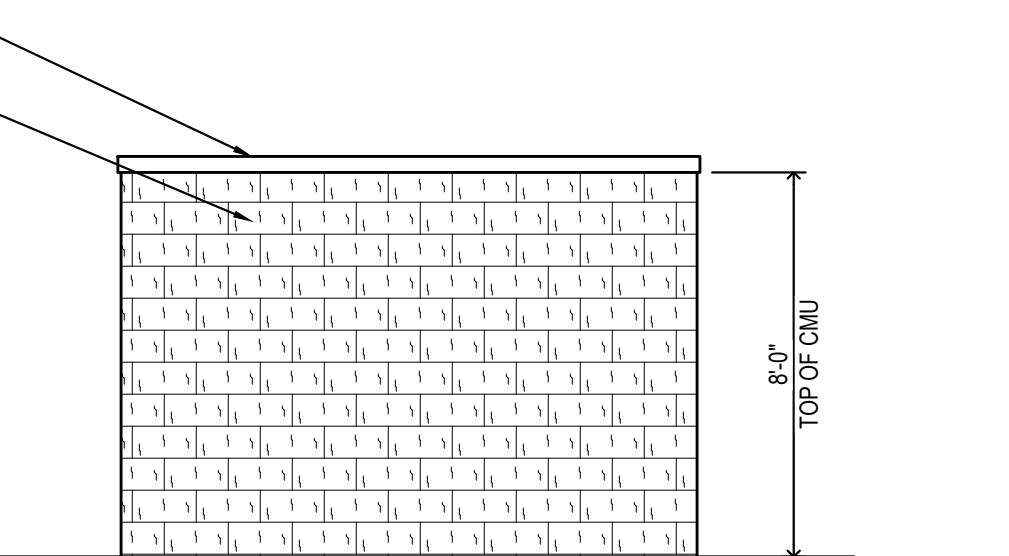
5 VACUUM ENCLOSURE ELEVATION

SCALE = 1/4" = 1'-0"



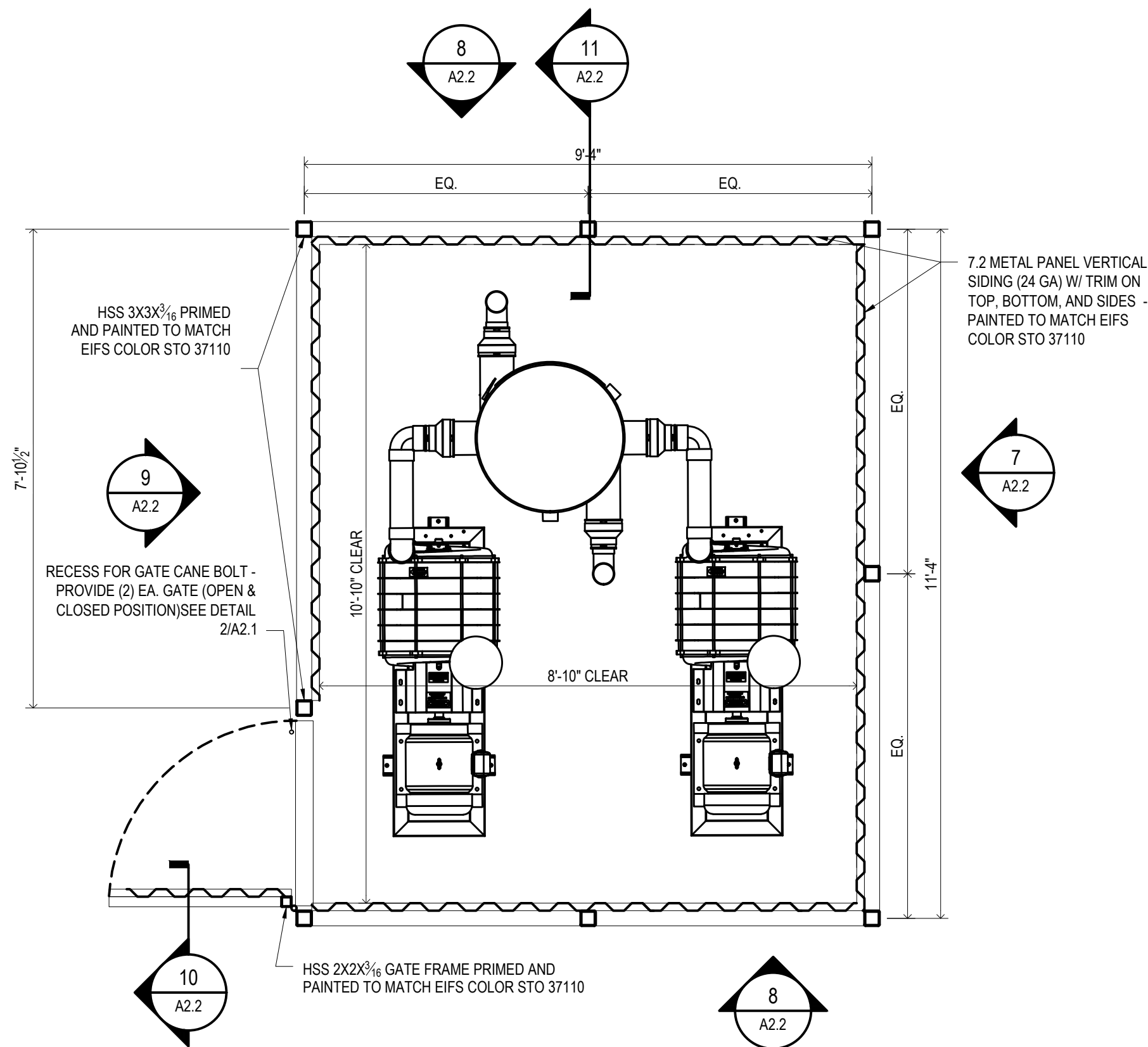
4 VACUUM ENCLOSURE ELEVATION

SCALE = 1/4" = 1'-0"



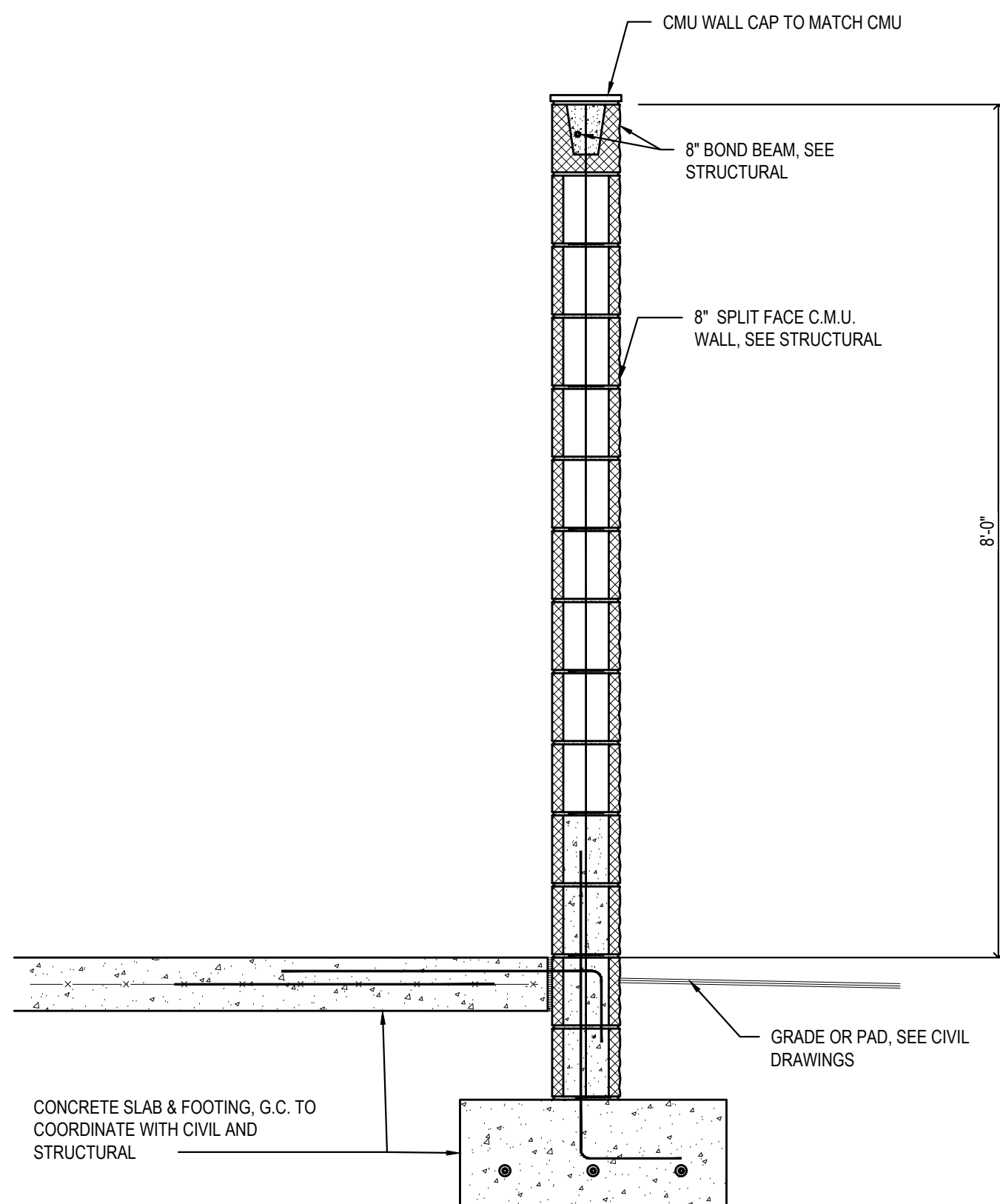
3 VACUUM ENCLOSURE ELEVATION

SCALE = 1/4" = 1'-0"



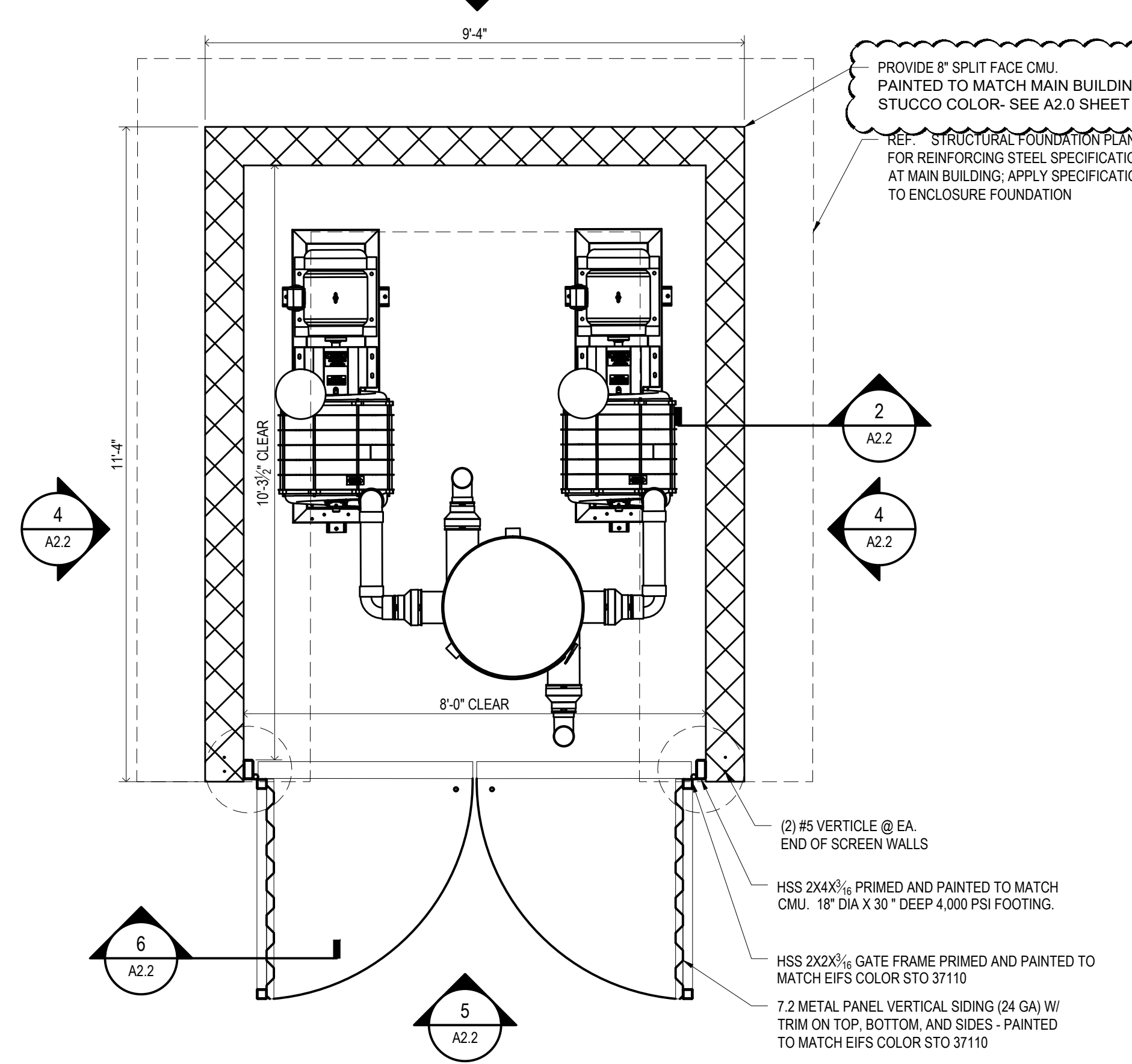
6 FENCE VACUUM ENCLOSURE W/ GATE

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



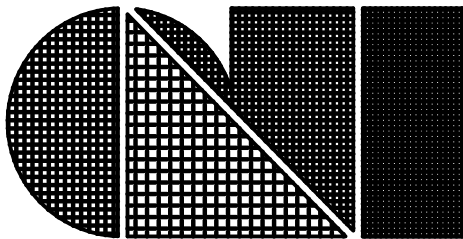
2 TYPICAL WALL SECTION

SCALE = 3/4" = 1'-0"



1 CMU VACUUM ENCLOSURE PLAN

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



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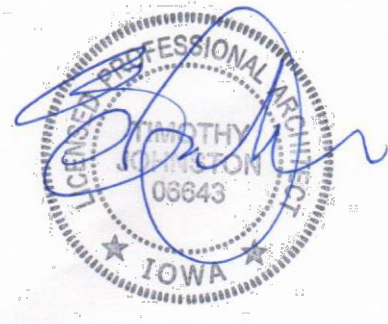
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C.L. HELT PROJECT # 22088

Project : **CHAMPION**
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
BUILDING SECTIONS

Seal 06/10/22



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TIMOTHY JOHNSTON, ARCHITECT

Drawn By :

V. RAMON

Checked By :

D. MYERS

Revisions :

Date : 06/10/22

Sheet No.

A3.0

TREATED LUMBER TO METAL STUDS NOTE

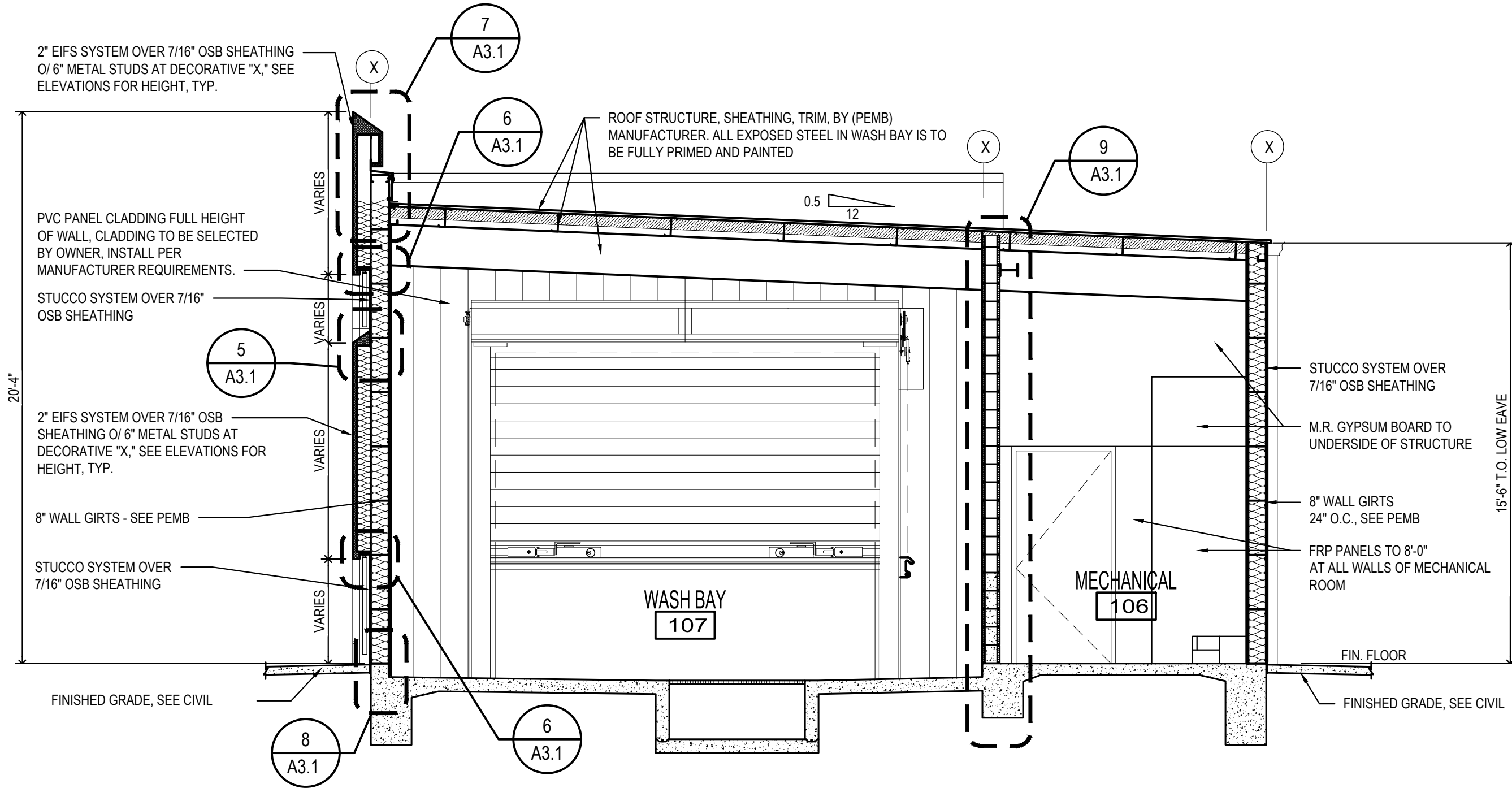
IN LOCATIONS THAT REQUIRE ATTACHMENT OF TREATED LUMBER TO METAL STUDS, INCLUDING BUT NOT LIMITED TO, EXTERIOR GRADE PLYWOOD OR TREATED WOOD BLOCKING, SHALL USE EITHER GALVANIZED METAL STUDS OR A BARRIER PROVIDED TO PREVENT DIRECT CONTACT OF THE TREATED LUMBER TO THE NON GALVANIZED METAL STUDS. METHOD OF BARRIER CAN BE ACHIEVED BY USE OF THERMAL TAPE, A BREATHABLE MEMBRANE, OR OTHER SIMILAR METHOD. METHOD OF SEPARATION SHALL NOT CREATE A DOUBLE VAPOR BARRIER WALL SYSTEM.

ALL SCREWS THROUGH TREATED LUMBER SHALL BE EITHER HOT DIP GALVANIZED OR STAINLESS STEEL SCREWS.

NOTES:

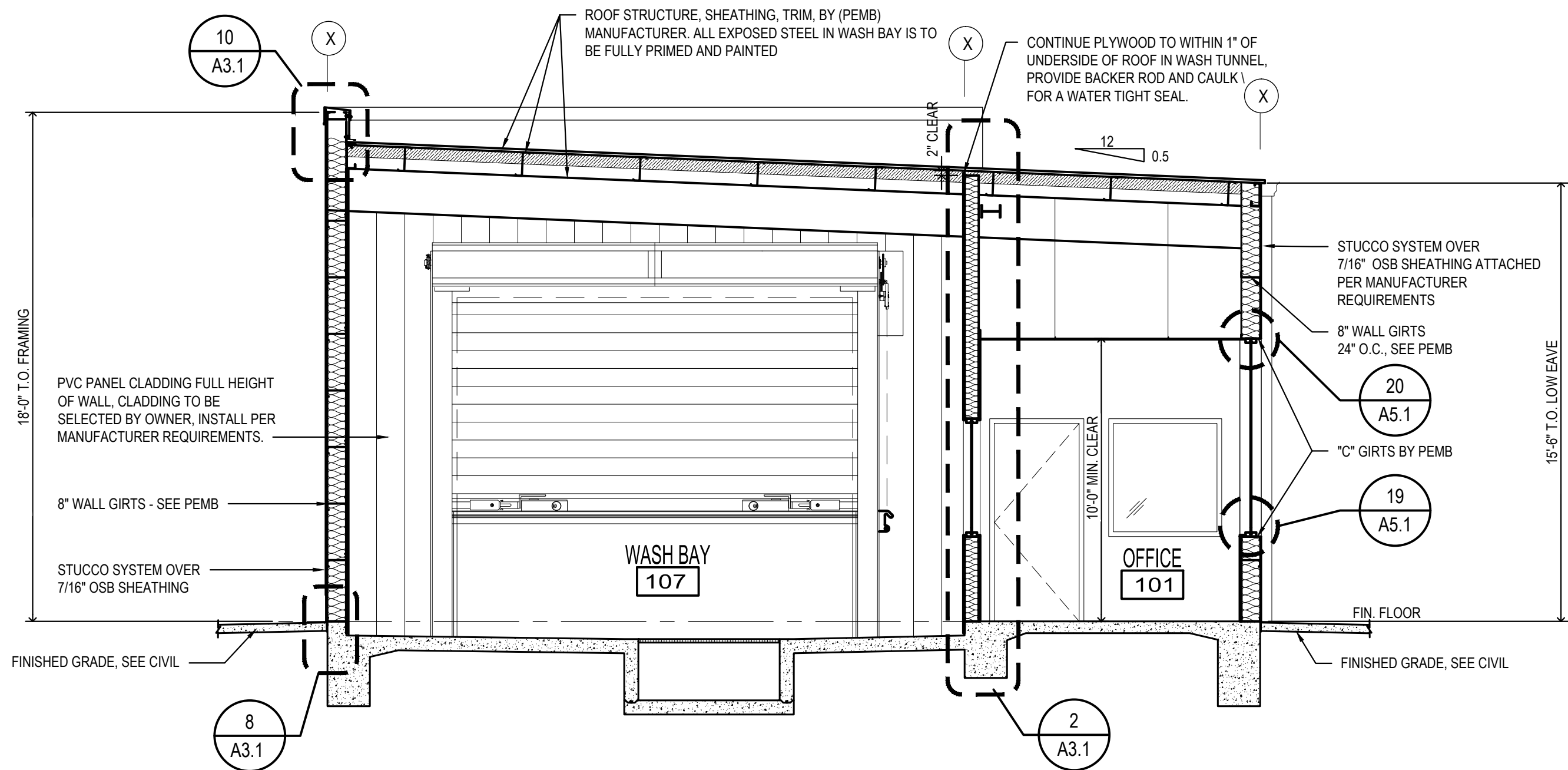
- SEE SHEET A2.0 FOR FINISHES

- SEE SHEET T2.0 FOR INSULATION PER COMCHECK



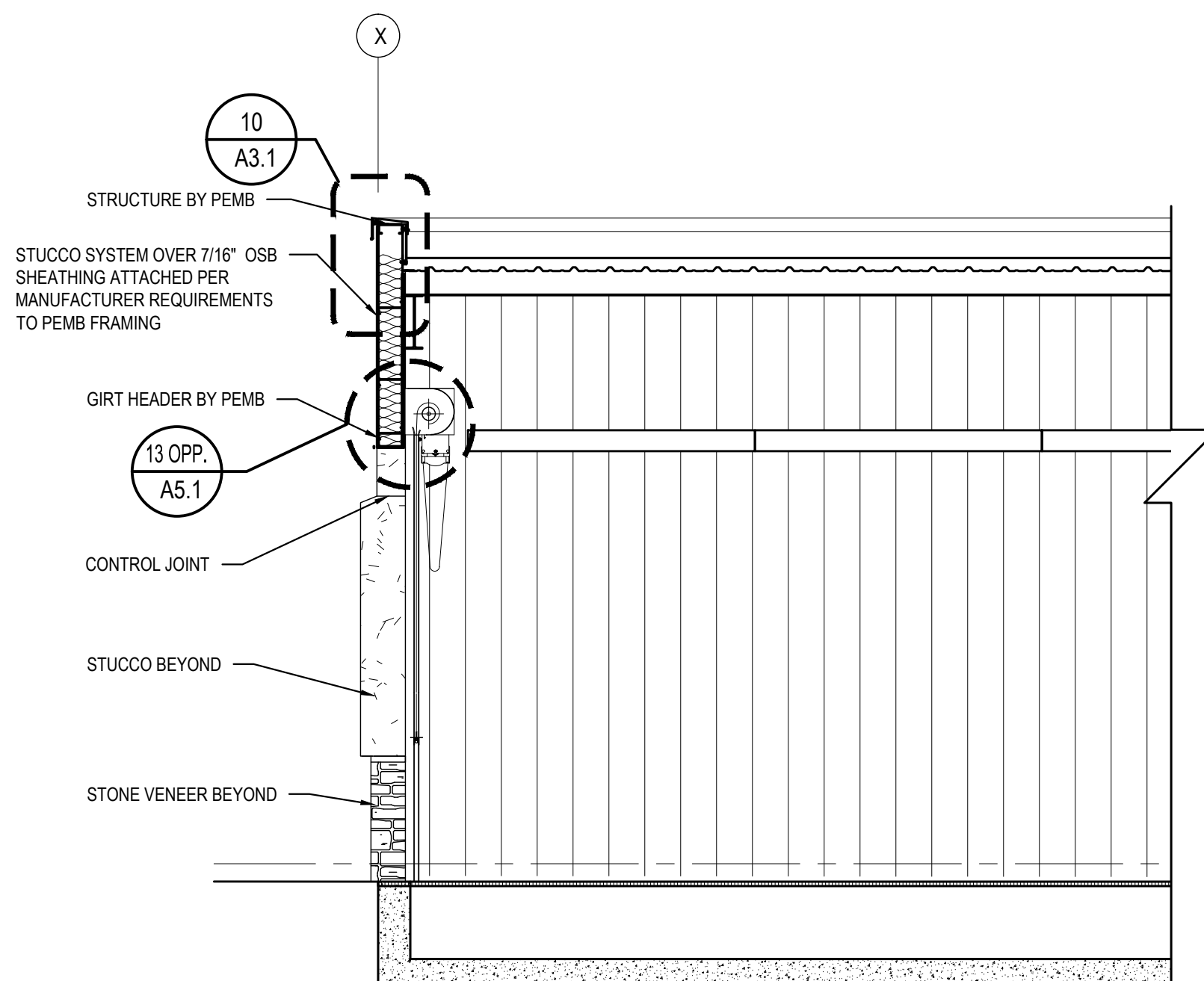
3 BUILDING CROSS SECTION

A3.0 SCALE = 1/4\"/>



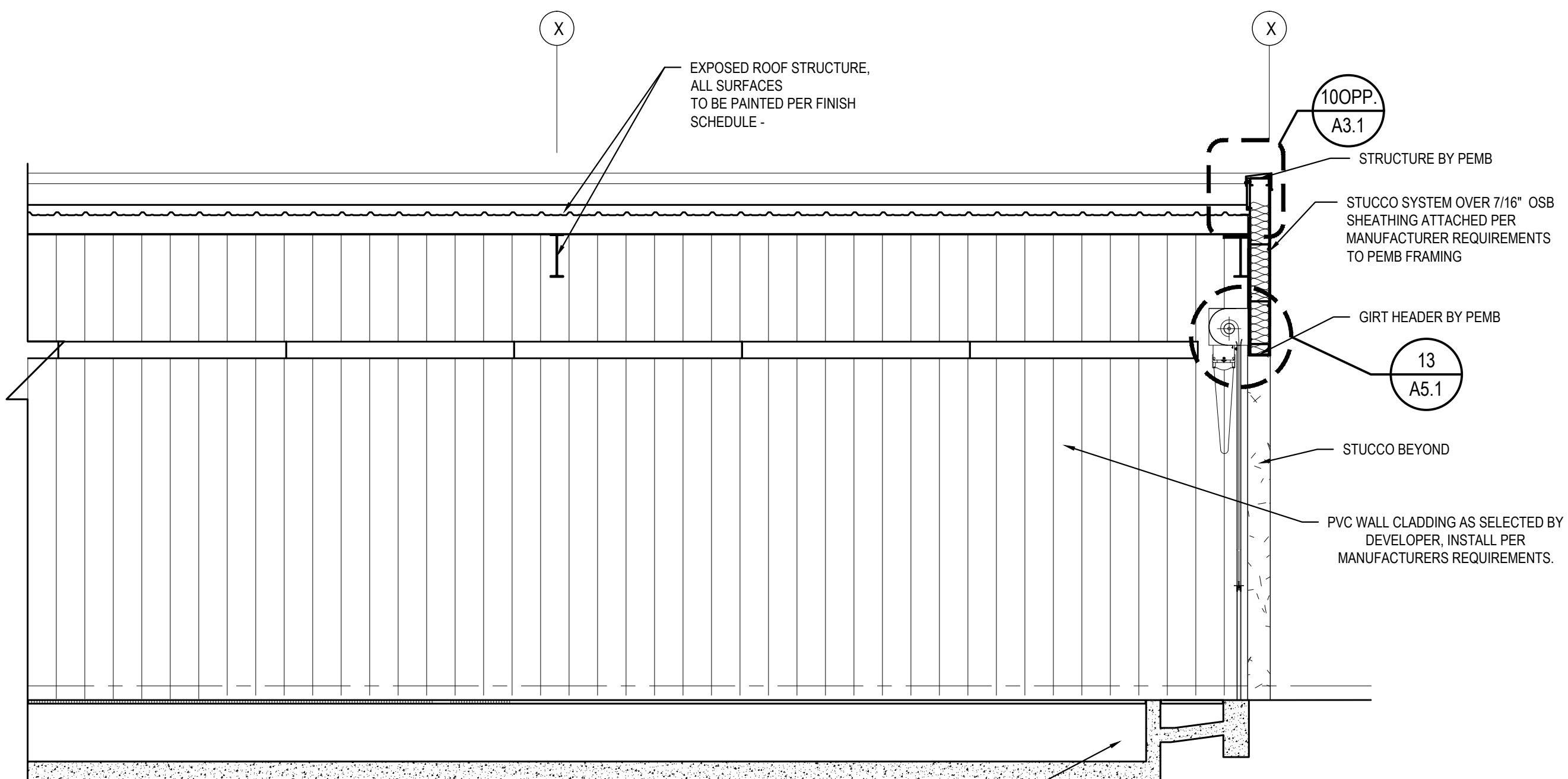
2 BUILDING CROSS SECTION

A3.0 SCALE = 1/4\"/>

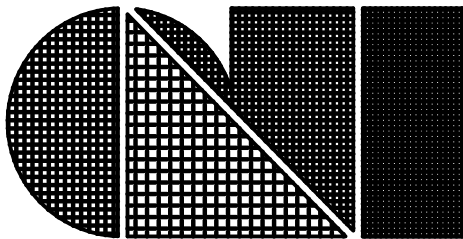


1 LONGITUDINAL BUILDING SECTION

A3.0 SCALE = 1/4\"/>



REFERENCE EQUIPMENT DRAWINGS FOR TUNNEL CONVEYOR TRENCH
SIZE AND DEPTH REQUIREMENTS. SEE STRUCTURAL FOR REINFORCING
REQUIRED AT TRENCH



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C.L. HELT PROJECT # 22088

Project : **CHAMPION**
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
**BUILDING SECTIONS &
DETAILS**

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TIMOTHY JOHNSTON, ARCHITECT

Drawn By :

V. RAMON

Checked By :

D. MYERS

Revisions :

Date : 06/10/22

Sheet No.

A3.1

TREATED LUMBER TO METAL STUDS NOTE

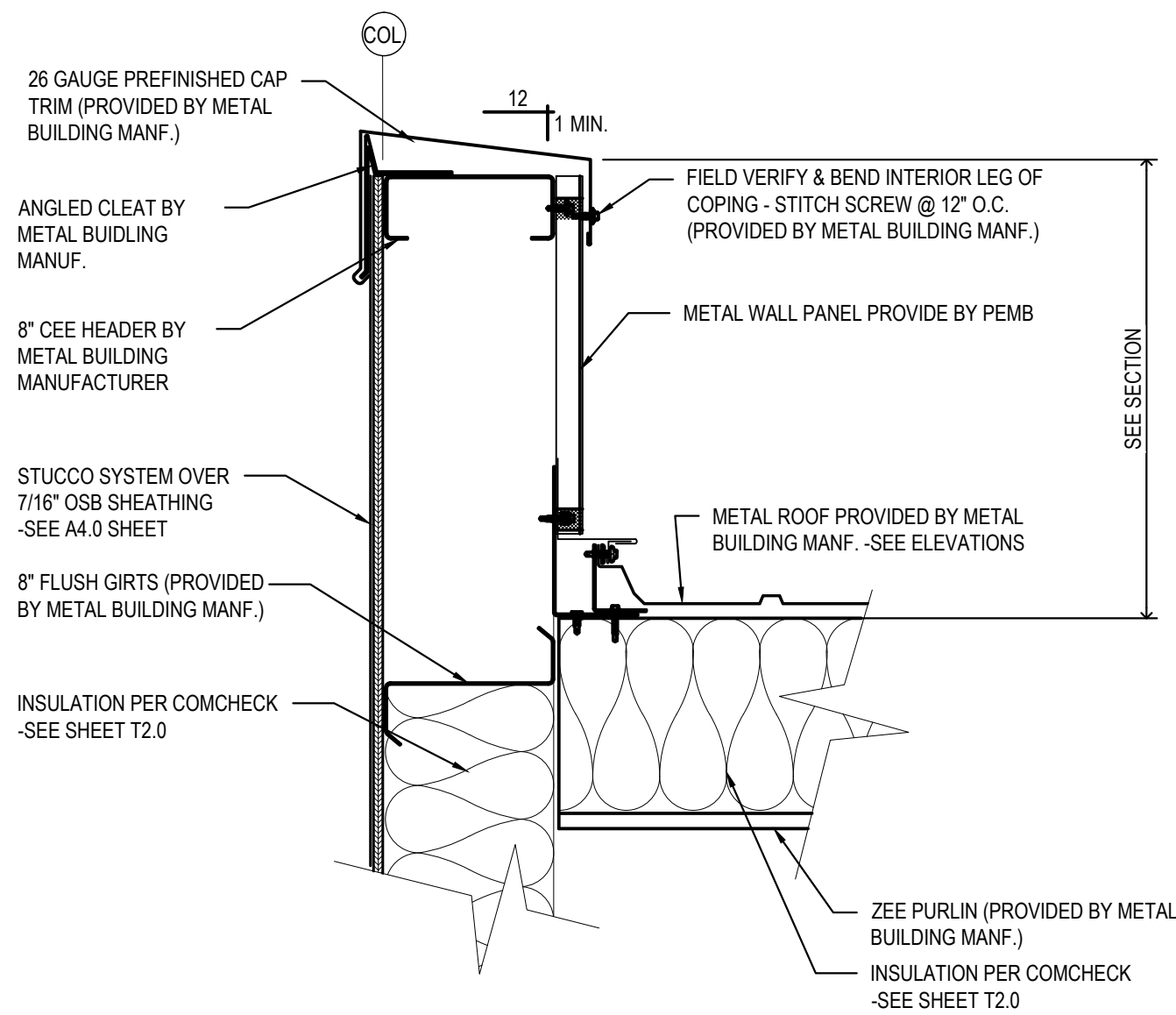
IN LOCATIONS THAT REQUIRE ATTACHMENT OF TREATED LUMBER TO METAL STUDS, INCLUDING BUT NOT LIMITED TO, EXTERIOR GRADE PLYWOOD OR TREATED WOOD BLOCKING, SHALL USE EITHER GALVANIZED METAL STUDS OR A BARRIER PROVIDED TO PREVENT DIRECT CONTACT OF THE TREATED LUMBER TO THE NON GALVANIZED METAL STUDS. METHOD OF BARRIER CAN BE ACHIEVED BY USE OF THERMAL TAPE, A BREATHABLE MEMBRANE, OR OTHER SIMILAR METHOD. METHOD OF SEPARATION SHALL NOT CREATE A DOUBLE VAPOR BARRIER WALL SYSTEM.

ALL SCREWS THROUGH TREATED LUMBER SHALL BE EITHER HOT DIP GALVANIZED OR STAINLESS STEEL SCREWS.

NOTES:

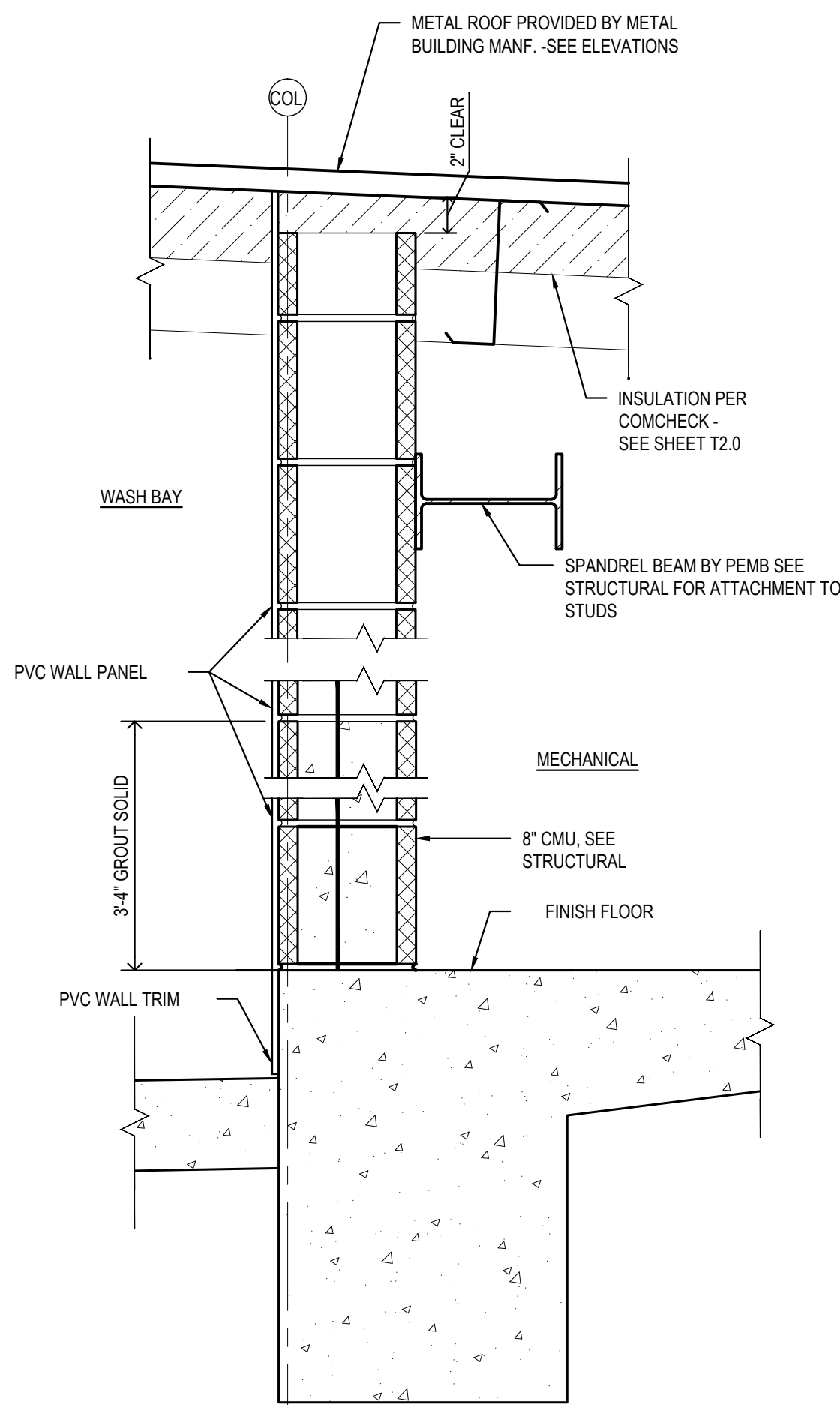
- SEE SHEET A2.0 FOR FINISHES

- SEE SHEET T2.0 FOR INSULATION PER COMCHECK



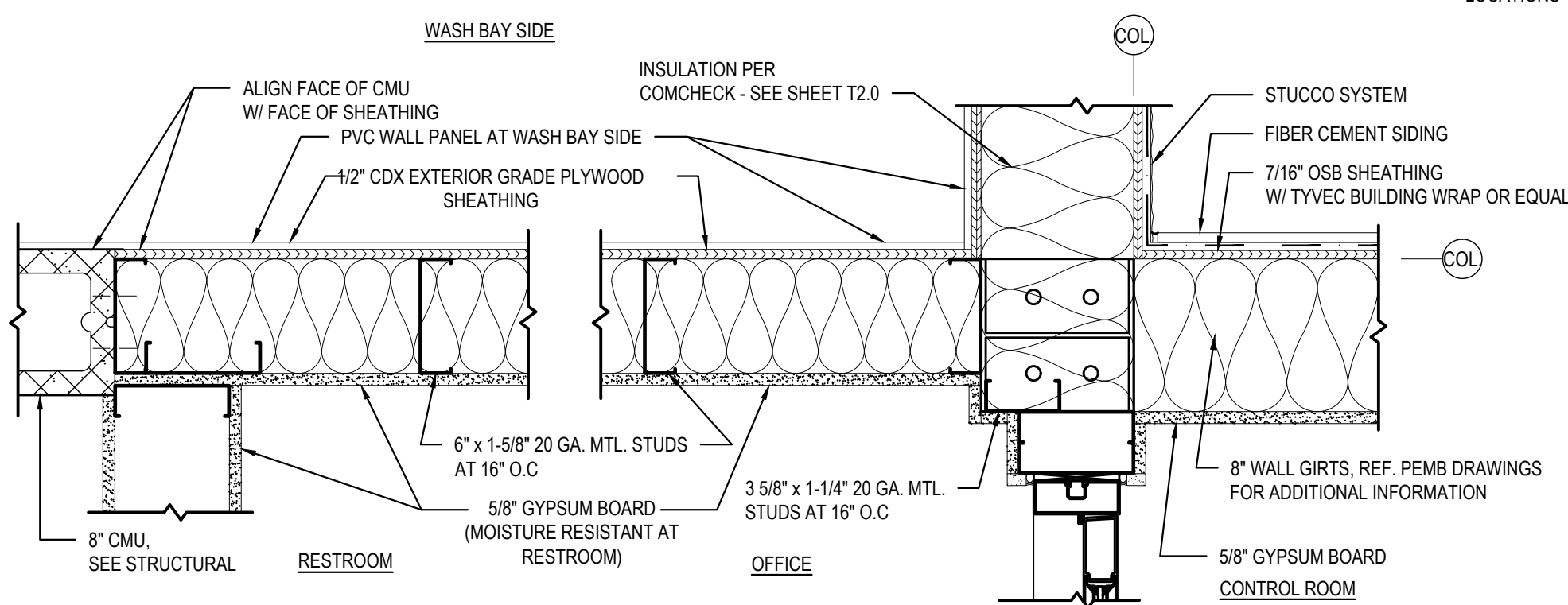
10 PARPAET DETAIL

A3.1 NOT TO SCALE



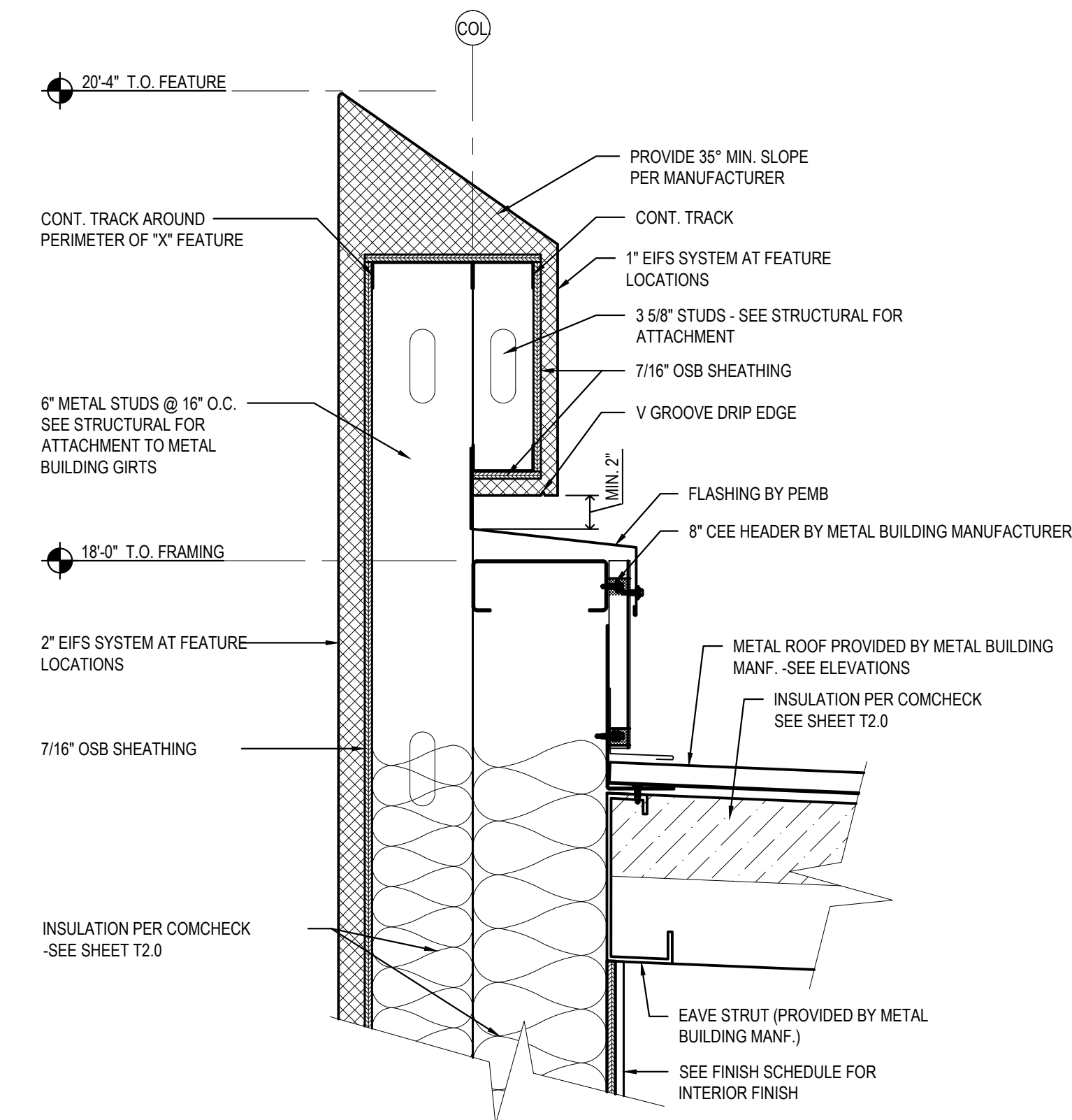
9 SECTION DETAIL

A3.1 SCALE = 1/12" = 1'-0"



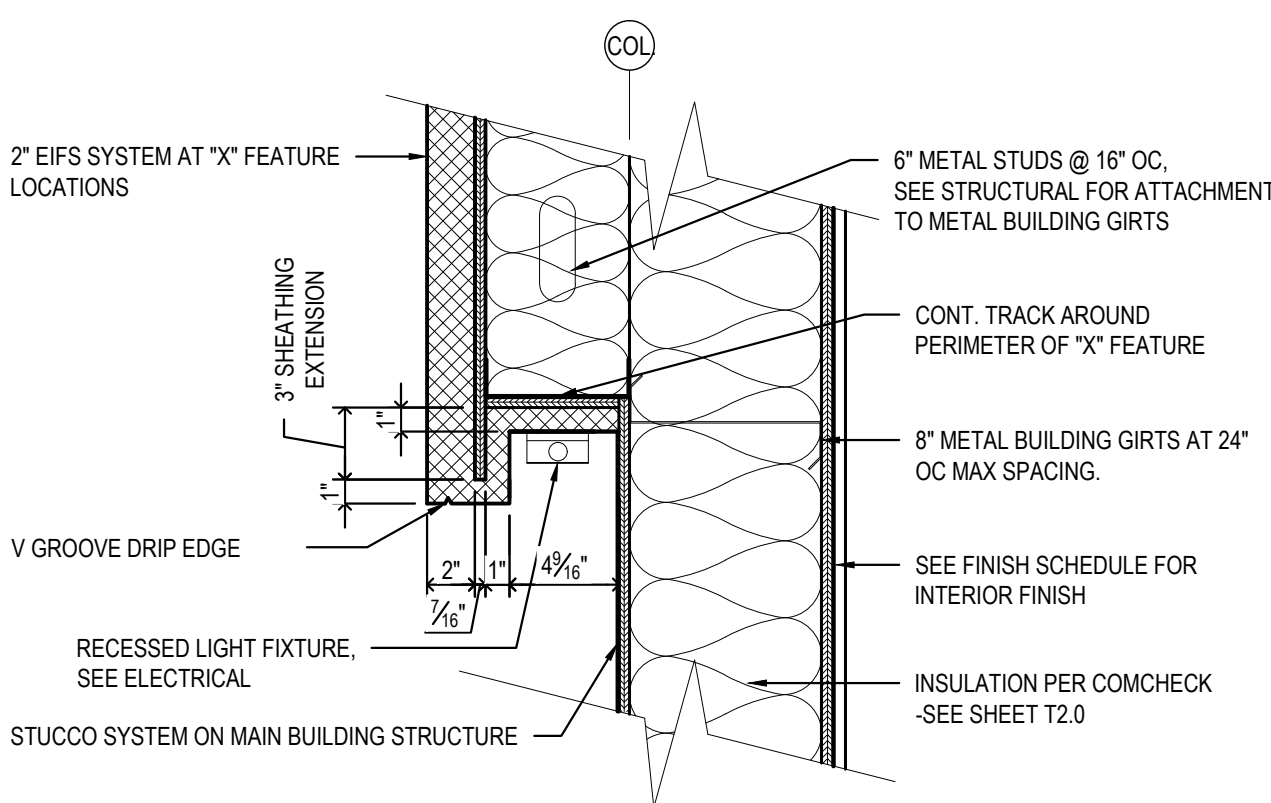
4 FRAMING DETAIL

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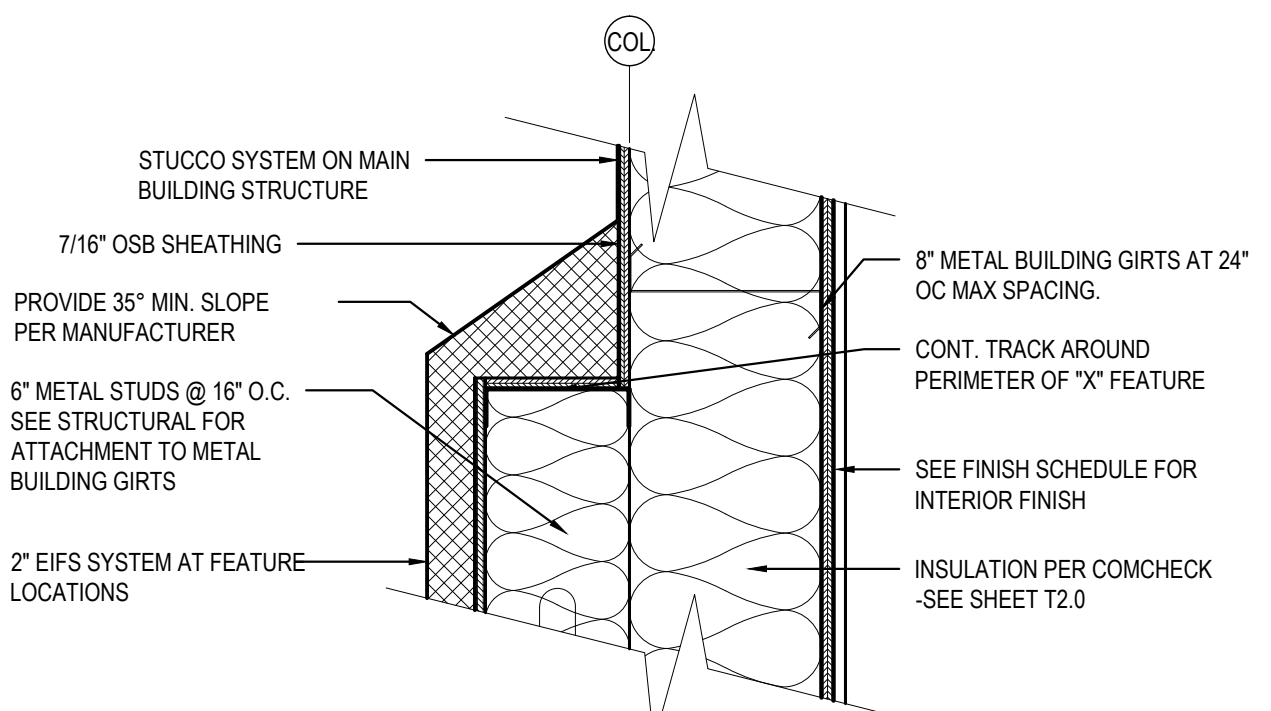
7 "X" SECTION DETAIL

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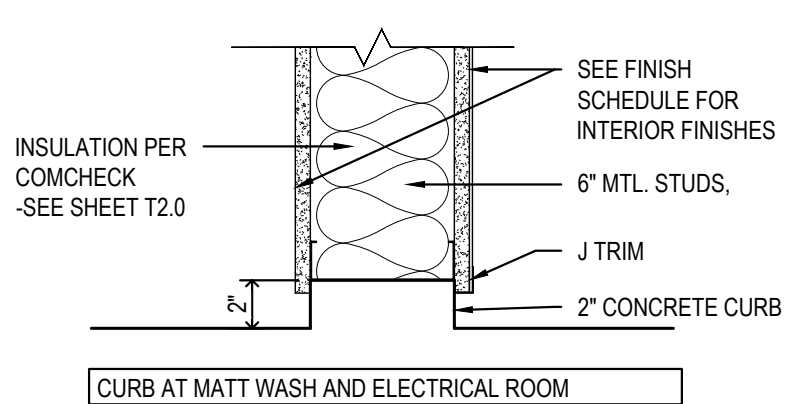
6 "X" SECTION DETAIL

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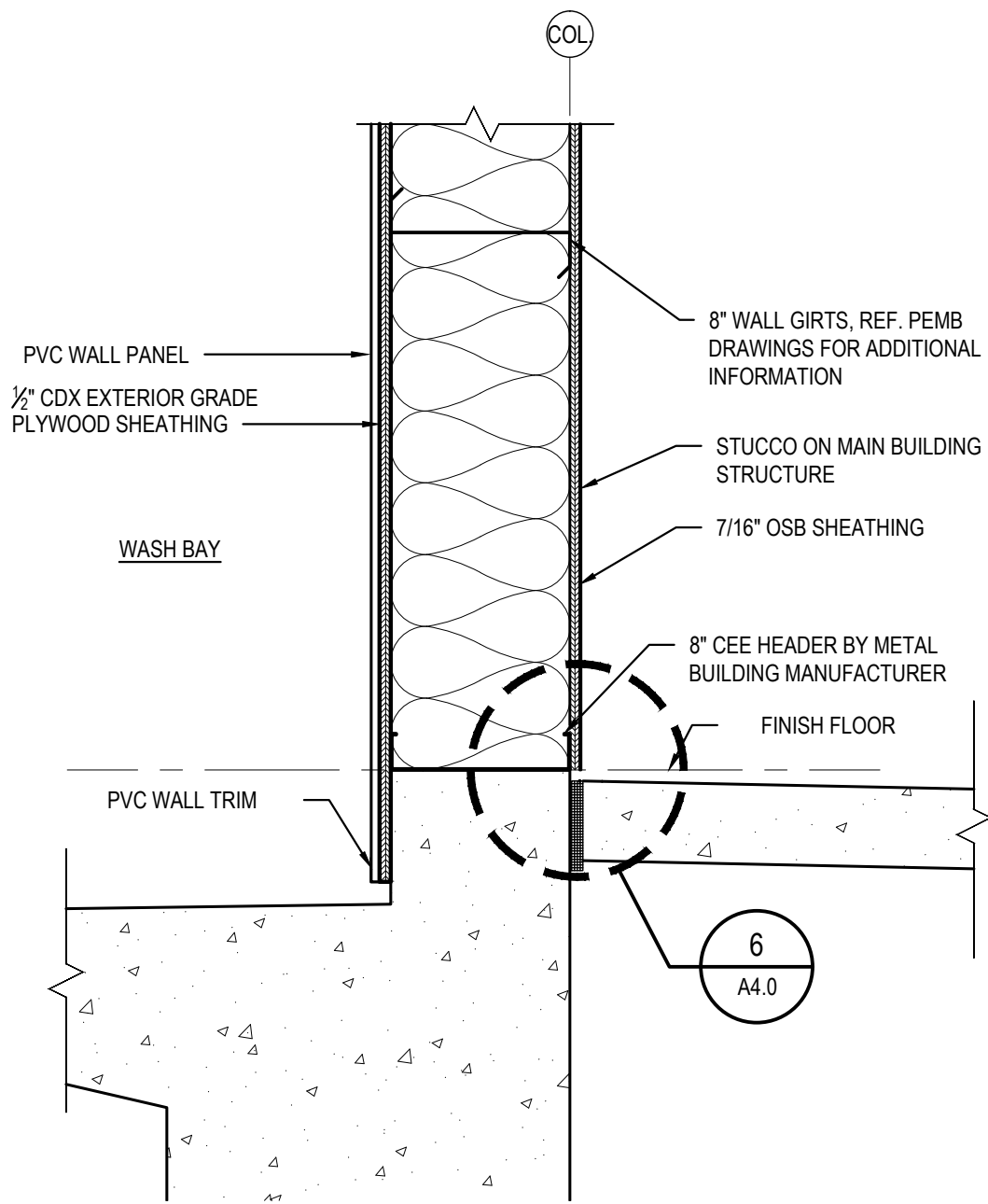
5 "X" SECTION DETAIL

A3.1 SCALE = 1/12" = 1'-0"



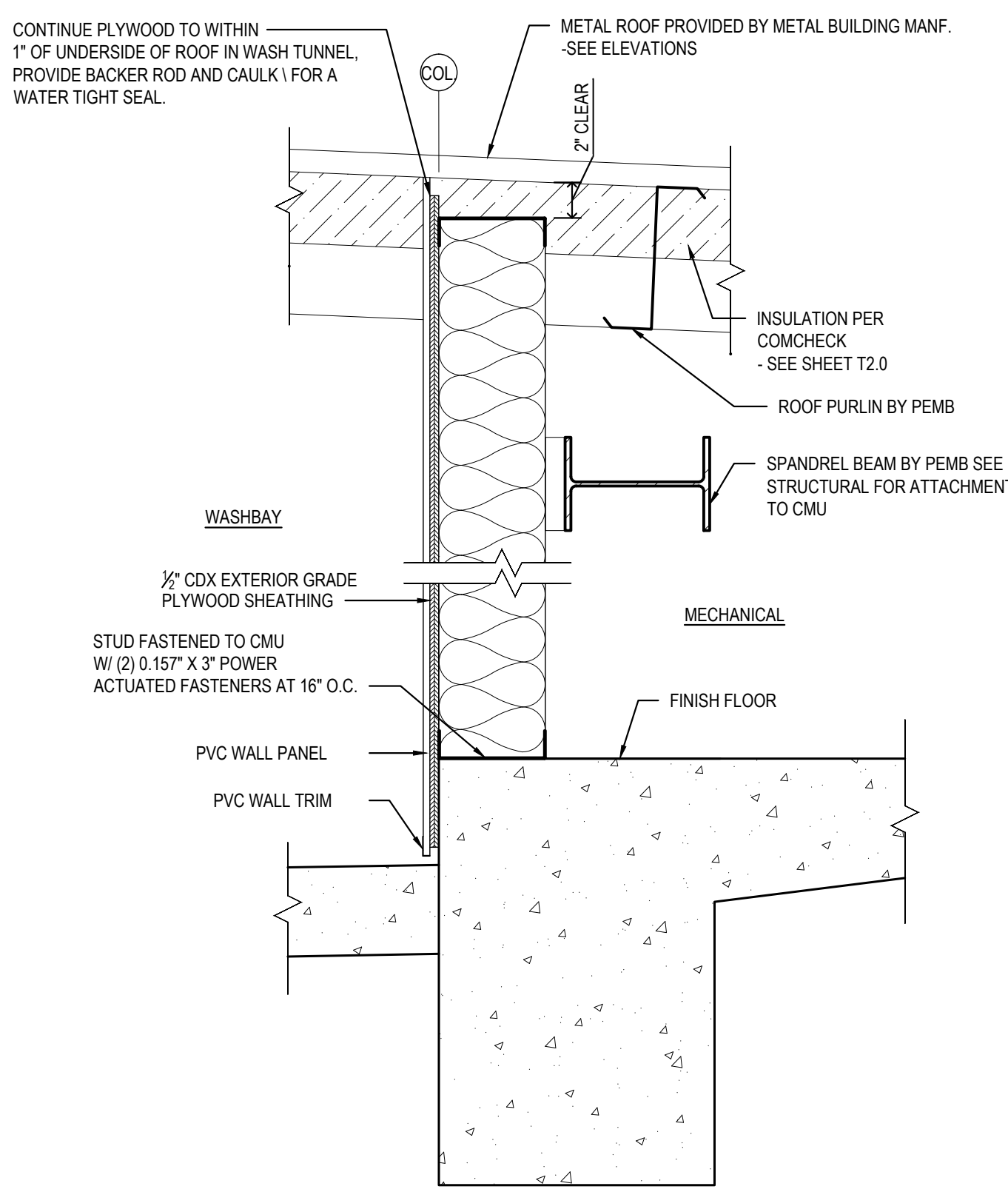
3 SECTION DETAIL

A3.1 SCALE = 1/12" = 1'-0"



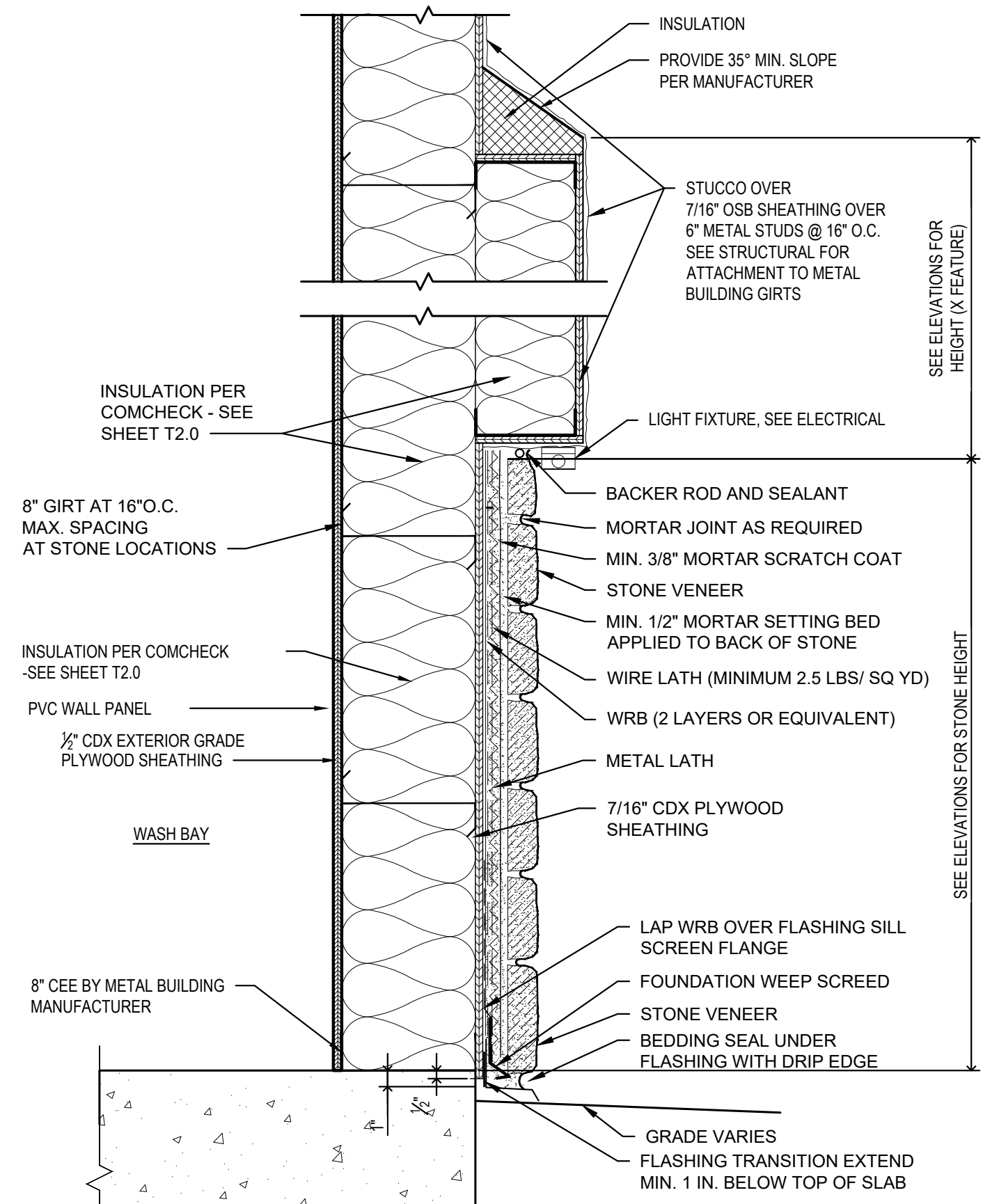
8 SECTION DETAIL

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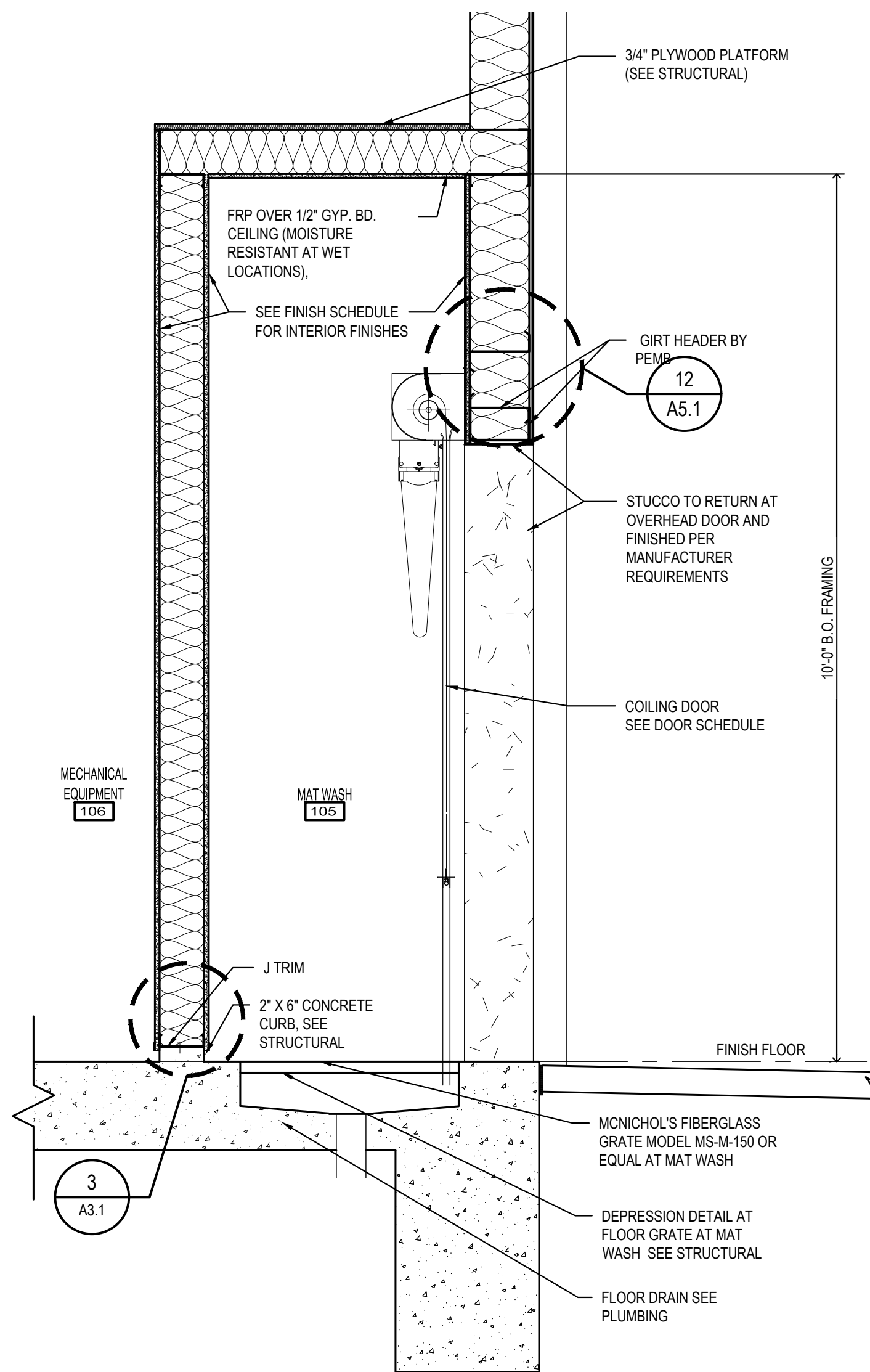
2 SECTION DETAIL

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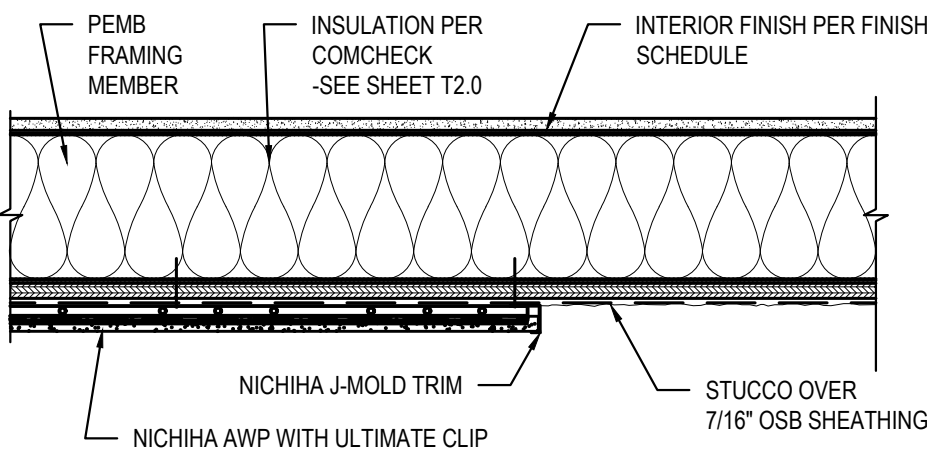
11 STONE AT GRADE

A3.1 NOT TO SCALE



1 WALL SECTION

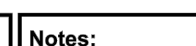
A3.1 SCALE = 3/4" = 1'-0"



A4.0 SCALE: 1-1/2" = 1'-0"



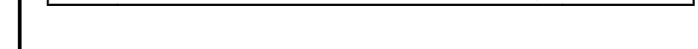
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A4.0 NOT TO SCALE



Detail No.: 4.09



A4.0 NOT TO SCALE



Detail No.: 4.52



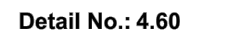
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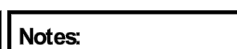
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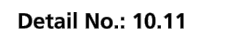
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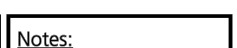
Detail No.: 4.60



NOT TO SCALE



Detail No.: 10.11



NOT TO SCALE



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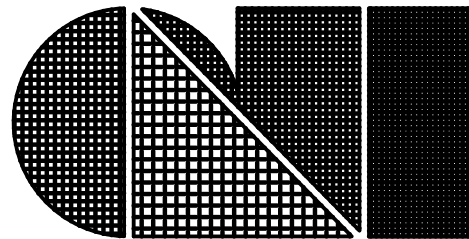
||oj E B

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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
WINDOW & DOOR
FINISH SCHEDULES

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Drawn By :

V. RAMON

Checked By :

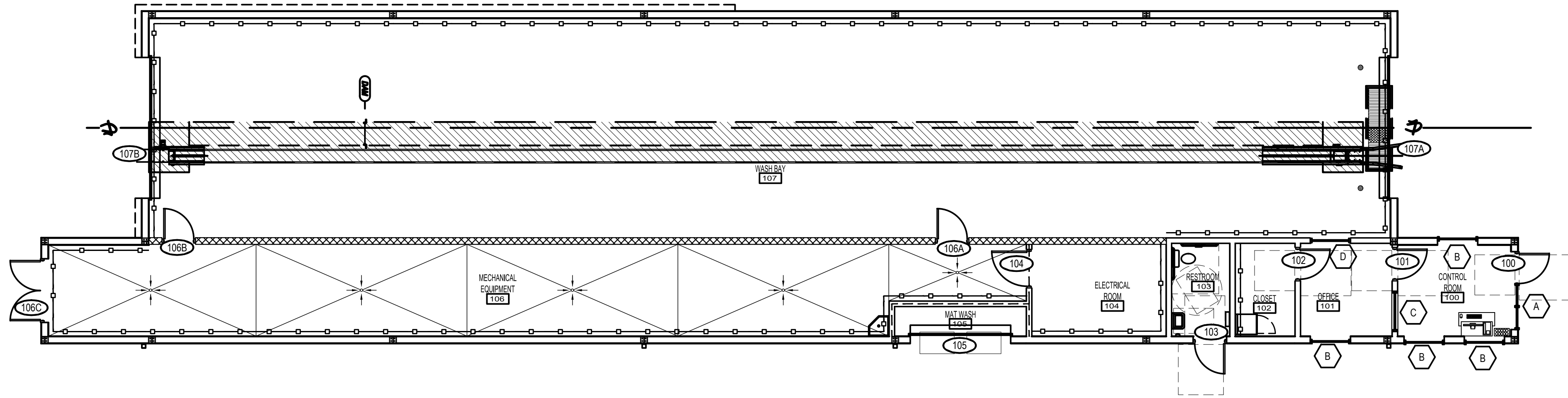
D. MYERS

Revisions :

Date : 06/10/22

Sheet No.

A5.0



4 PLAN REFERENCE
SCALE = 1/8" = 1'-0"

LEGEND	
	WINDOW TYPE. SEE WINDOW GLAZING ELEVATION ON SHEET A5.0
	DOOR TYPE. SEE DOOR SCHEDULE ON SHEET A5.0
	FINISH TYPE. SEE EXTERIOR
	INTERIOR STUD WALL ON 2" CONCRETE CURB TO CONTINUE THROUGH DOOR LOCATIONS
	LOCATION OF CDX GRADE PLYWOOD ON METAL STUDS AND WALL GIRT LOCATIONS ONLY. INTERIOR OF BUILDING - SEE FINISH SCHEDULE FOR FINISH

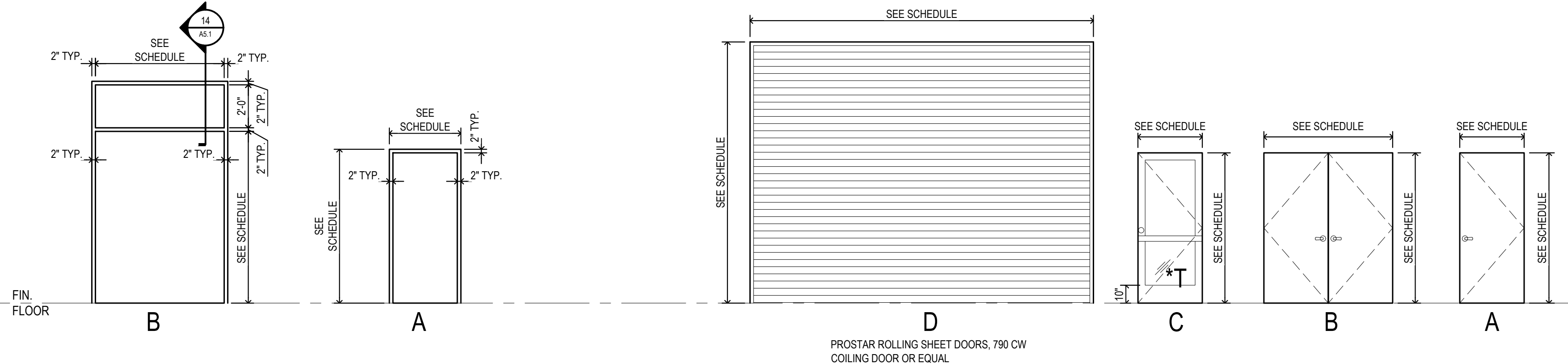
DOOR SCHEDULE															
DOOR NO.	ROOM NAME	DOOR						FRAME		DETAILS			HARDWARE	DOOR & FRAME NOTES	REMARKS
		SIZE		GLAZING MATERIAL	DOOR FINISH	MATERIAL	ELEVATION	MATERIAL	ELEVATION				SET		
		W	H							HEAD	JAMB	THRESHOLD			
100	CONTROL ROOM	3'-0"	7'-0"	1" CLEAR TEMPERED GLASS	ANODIZED	ALUMINUM	C	ALUMINUM	A	9/A5.1	15/A5.1	8/A5.1	5	1	SEE STOREFRONT & GLAZING NOTES FOR ENERGY COMPLIANCE
101	OFFICE	3'-0"	7'-0"	-	PAINTED	HM	A	HM	A	7/A5.1	6/A5.1	5/A5.1	1	2	COLOR WHITE
102	CLOSET	3'-0"	7'-0"	-	PAINTED	HM	A	HM	A	7/A5.1	6/A5.1	5/A5.1	2	2	COLOR WHITE
103	RESTROOM	3'-0"	7'-0"	-	PAINTED	HM	A	HM	A	12/A5.1	11&21/A5.1	8/A5.1	3	2	
104	ELECTRICAL ROOM	3'-6"	8'-0"	-	PAINTED	HM	A	HM	A	7/A5.1	6/A5.1	4/A5.1	6	2	COLOR WHITE
105	MAT WASH	6'-0"	7'-0"	-	BY MANUFACTURER	STEEL	D	STEEL	BY MANUFACTURER	13/A5.1	BY MANUF.	BY MANUF.	SEE REMARKS	1	BASIS OF DESIGN CLOPAY MODEL 160C; JANUS MODEL 3100 COILING OVERHEAD DOOR. DOOR TO INCLUDE LOCKING OPTIONS WHEN PLACING ORDER - SLIDE BOLT LOCK ON BOTTOM BAR TO BE INSTALLED ON FASCIA SIDE. PROVIDE WEATHER STRIPPING BY MANUFACTURER.
106A	MECHANICAL ROOM	3'-0"	7'-0"	1" CLEAR TEMPERED GLASS	ANODIZED	ALUMINUM	C	ALUMINUM	BY MANUF.	2/A5.1	10/A5.1	10/A5.1	5	1	
106B	MECHANICAL ROOM	3'-0"	7'-0"	1" CLEAR TEMPERED GLASS	ANODIZED	ALUMINUM	C	ALUMINUM	BY MANUF.	2/A5.1	10/A5.1	10/A5.1	5	1	
106C	MECHANICAL ROOM	PR-3'-0"	8'-0"	-	PAINTED	HM	B	HM	B	14/A5.1	8/A5.1	8/A5.1	4	2	
107A	WASH BAY	14'-0"	12'-0"	-	BY MANUFACTURER	STEEL	D	STEEL	BY MANUF.	13/A5.1	BY MANUF.	BY MANUF.	SEE REMARKS	1	BASIS OF DESIGN CLOPAY MODEL 160C; JANUS MODEL 3100 COILING OVERHEAD DOOR. DOOR TO INCLUDE LOCKING OPTIONS WHEN PLACING ORDER - SLIDE BOLT LOCK ON BOTTOM BAR TO BE INSTALLED ON INTERIOR SIDE. PROVIDE WEATHER STRIPPING BY MANUFACTURER.
107B	WASH BAY	14'-0"	12'-0"	-	BY MANUFACTURER	STEEL	D	STEEL	BY MANUF.	13/A5.1	BY MANUF.	BY MANUF.	SEE REMARKS	1	
DOOR NOTES:															
1. FACTORY FINISHED															
2. FACTORY PRIMED, +2 COATS															
3. PROVIDE WEATHER STRIPPING															
GENERAL DOOR NOTES:															
-ALL HARDWARE IS TO MEET ALL ADA REQUIREMENTS (PLACEMENT AND TYPE)															
-GC IS TO INSTALL WALL OR FLOOR STOPS AS REQUIRED PER DOOR LOCATION.															
-EXTERIOR DOORS TO RECEIVE ALUMINUM THRESHOLDS, THAT COMPLY WITH LOCAL, STATE AND ADA CODE REQUIREMENTS.															
G.C. TO PROVIDE ACOUSTIC SWEEP AND HEAD/JAMB SOUND SEALS AT MECHANICAL ROOM.															
-ALL DOORS, FRAMES AND HARDWARE SHALL BE COMMERCIAL STANDARD UNLESS NOTED OTHERWISE.															
-ALL DOOR LOCKS SHALL BE RE-KEYED SEPARATELY. VERIFY WITH OWNER.															
-CONTRACTOR TO VERIFY ALL HARDWARE WITH OWNER PRIOR TO PURCHASING.															
-ALL HARDWARE AND THRESHOLDS TO MEET ADA REQUIREMENTS.															

HARDWARE SCHEDULE	
HW-1 (OFFICE) QTY DESCRIPTION • (3) HINGE • (1) CLASSROOM LOCK • (1) WALL STOP • (3) SILENCER	
HW-2 (CLOSET) QTY DESCRIPTION • (3) HINGE • (1) PASSAGE SET • (1) WALL STOP • (3) SILENCER	
HW-3 (RESTROOMS) QTY DESCRIPTION • (1) CLASSROOM SECURITY MORTISE LOCK WITH INDICATOR (FALCON MA LOCK OR APPROVED EQUAL. G.C. TO CONFIRM WITH OWNER SECTIONAL 2 PIECE TRIM OR ESCUTCHEON FULL RECTANGULAR BACK PLATE. • (1) SURFACE CLOSER • (1) KICK PLATE • (1) WARDROBE HOOK • (1) WALL STOP • (3) SILENCER • (1) WEATHER STRIPPING • (1) THRESHOLD • (1) RAIN DRIP	
HW-4 (MECHANICAL ROOM) QTY DESCRIPTION • (3) HINGE • (1) CLASSROOM LOCK • (1) SURFACE CLOSER • (1) WALL STOP • (3) SILENCER • (1) WEATHER STRIPPING • (1) THRESHOLD • (1) RAIN DRIP	
HW-5 (STOREFRONT HARDWARE) • HINGES PER STOREFRONT MANUFACTURER • (1) ADA COMPLIANT ALUMINUM THRESHOLD (1/2" MAX HEIGHT) • (1) PUSH PLATE & BAR • (1) PULL HANDLE • (1) CLOSER W/ STOP ARM • (1) COMMERCIAL GRADE DEADLOCK W/ THUMBTURN • WEATHER STRIPPING	
HW-6 (ELECTRICAL ROOM) QTY DESCRIPTION • (3) HINGE • (1) PASSAGE SET • (1) WALL STOP • (3) SILENCER • (1) WEATHER STRIPPING • (1) THRESHOLD • (1) SURFACE CLOSER	

FINISH SCHEDULE					
ROOM NO.	ROOM NAME	FLOORS	WALLS	BASE	CEILING
100	CONTROL ROOM	SEALED CONCRETE	SILVERPOINT SW 7653 SEMI GLOSS PAINTED GYP. BD.	4" WHITE RUBBER BASE	2'X4" ACOUSTIC CEILING TILES
101	OFFICE	SEALED CONCRETE	SILVERPOINT SW 7653 SEMI GLOSS PAINTED GYP. BD.	4" WHITE RUBBER BASE	2'X4" ACOUSTIC CEILING TILES
102	CLOSET	SEALED CONCRETE	SILVERPOINT SW 7653 SEMI GLOSS PAINTED GYP. BD.	4" WHITE RUBBER BASE	2'X4" ACOUSTIC CEILING TILES
103	RESTROOM	ARMSTRONG FLOORING VINYL COMPOSITE TILE PEBBLE GRAY	FRP TO 8'-0" OVER MR. GYPSUM BD. PAINT M.R. GYPSUM BOARD ABOVE FRP WHITE (SEMI GLOSS).	4" WHITE RUBBER BASE	MOISTURE RESISTANT GYP. BD.
104	ELECTRICAL ROOM	SEALED CONCRETE	GIRT AND STUD WALL TO RECEIVE FRP OVER M.R. GYP. BD. CMU SEE NOTE 2 BELOW.	SEALED CONCRETE AT CURB AND CMU / FRP TO FLOOR AT ALL NON CMU WALLS	2'X4" ACOUSTIC CEILING TILES
105	MAT WASH	SEALED CONCRETE	FRP OVER 1/2" CDX EXTERIOR GRADE PLYWOOD TO 8'-0" A.F.F., REST OF HEIGHT M.R. GYPSUM BD. PAINT M.R. GYPSUM BOARD ABOVE FRP WHITE (SEMI GLOSS).	SEALED CONCRETE CURB	FRP OVER M.R. GYP. BD.
106	MECHANICAL ROOM	SEALED CONCRETE	GIRT AND STUD WALL TO RECEIVE FRP OVER 1/2" CDX EXTERIOR GRADE PLYWOOD TO 8'-0" A.F.F., REST OF HEIGHT M.R. GYPSUM BD. PAINT M.R. GYPSUM BOARD ABOVE FRP WHITE (SEMI GLOSS). CMU WALL SEE NOTE 2 BELOW.	SEALED CONCRETE AT CURB AND CMU / FRP TO FLOOR AT ALL NON CMU WALLS	EXPOSED PAINTED STRUCTURE (SEE NOTE 1)
107	WASH BAY	SEALED CONCRETE	GIRT AND STUD WALL TO RECEIVE PVC PANEL WHITE OVER 1/2" CDX EXTERIOR GRADE PLYWOOD. CMU WALL SEE NOTE 2 BELOW.	SEALED CONCRETE CURB	EXPOSED PAINTED STRUCTURE (SEE NOTE 1)

NOTES: 1. ALL EXPOSED STRUCTURE TO BE PAINTED CHAMPION BLUE WITH (1) PRIMER & (2) FINISH COATS
2. ALL CMU TO RECEIVE ONE COAT BLOCK SEALER AND 2 COATS EPOXY PAINT (WHITE)

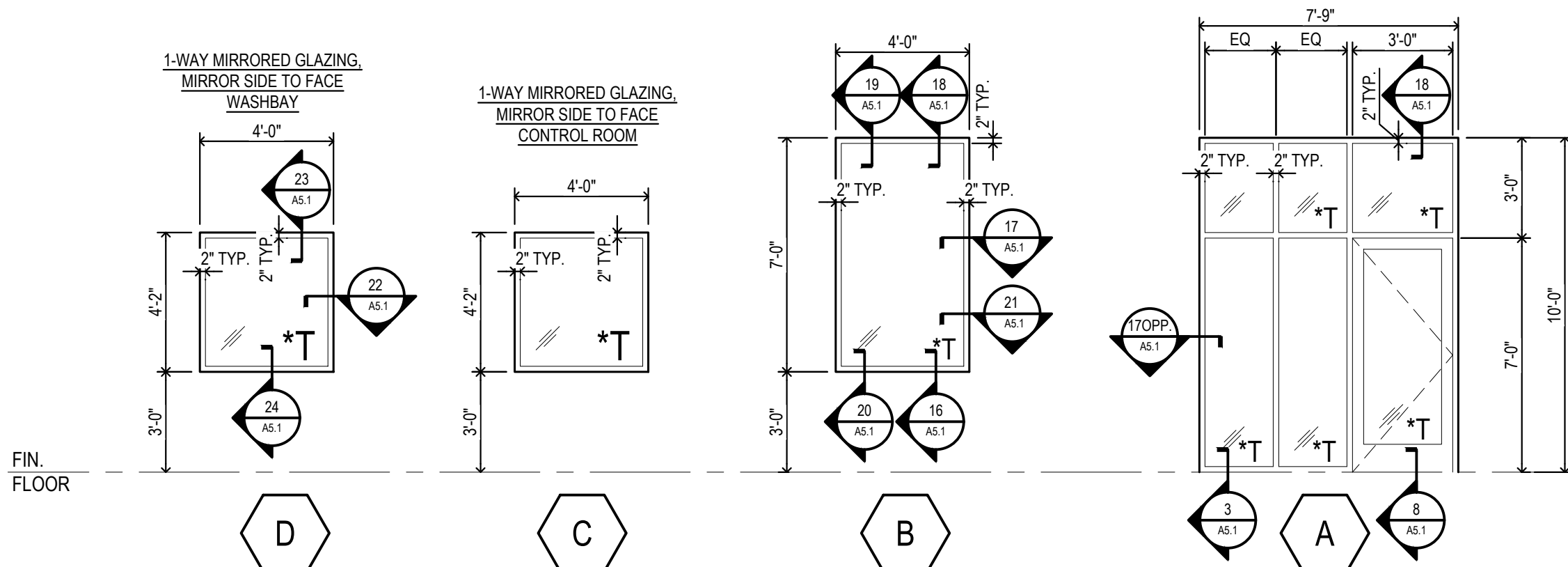
STOREFRONT FRAMING & GLAZING NOTES	
• "T" = TEMPERED • GENERAL CONTRACTOR AND GLAZING MANUFACTURER SHALL VERIFY AND COMPLY WITH ANY GOVERNING REQUIREMENTS FOR IMPACTED RATED GLAZING AND/OR STOREFRONT FRAMING. ALL EXTERIOR GLASS TO BE TEMPERED • SEE SHEET T1.0 - CODE COMPLIANCE SECTION OF PROJECT FOR WIND LOADS REQUIRED BASED ON LOCATION OF PROJECT. • THERMALLY BROKEN SYSTEM AS REQD. PER IECC • GLAZING UNITS SHALL HAVE A MINIMUM 1" OVERALL THICKNESS • INTERIOR PANE TO BE 1/4" FLOAT • GLAZING INNER SPACE CONTENT SHALL BE AIR • EXTERIOR PANE TO BE 1/4" FLOAT W/ LOW-E COATING STOREFRONT GLAZING PERFORMANCE VALUES ARE: MAXIMUM U-VALUE - .90 MAXIMUM SOLAR HEAT GAIN COEFFICIENT - 0.68 VISIBLE TRANSMITTANCE - 0.66	
NOTE: ULTIMATE WIND SPEED - 110 MPH (RISK CATEGORY II) ALL GLAZING IS REQUIRED TO MEET WIND SPEED STATED	

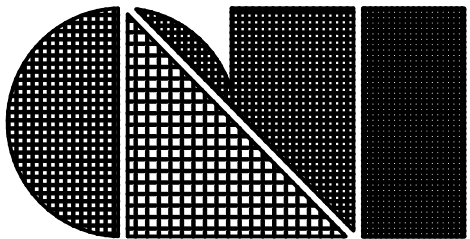


3 FRAMING ELEVATIONS
SCALE = 1/4" = 1'-0"

2 DOOR ELEVATIONS
SCALE = 1/4" = 1'-0"

1 GLAZING ELEVATIONS
SCALE = 1/4" = 1'-0"





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C.L. HELT PROJECT # 22088

Project : **CHAMPION**
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125Sheet Description :
WINDOW & DOOR
DETAILS

Seal 06/10/22

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TIMOTHY JOHNSTON, ARCHITECT

Drawn By :

V. RAMON

Checked By :

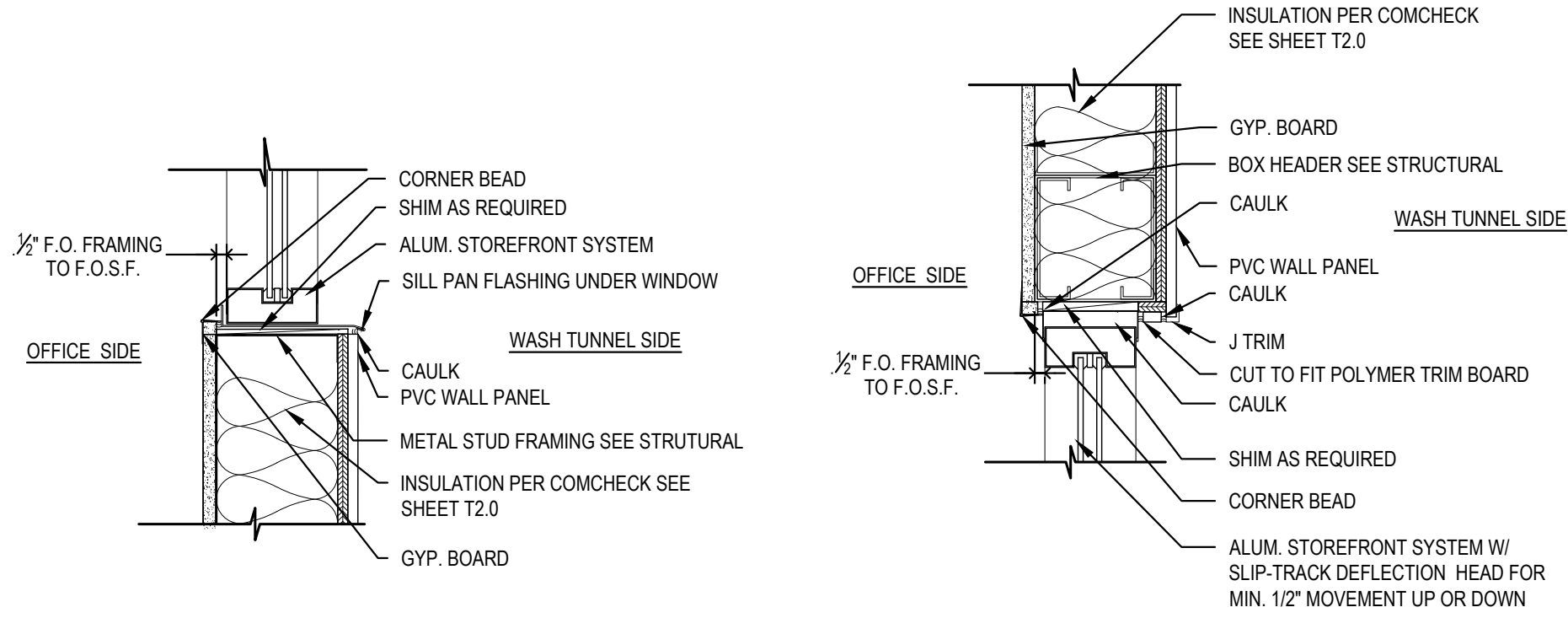
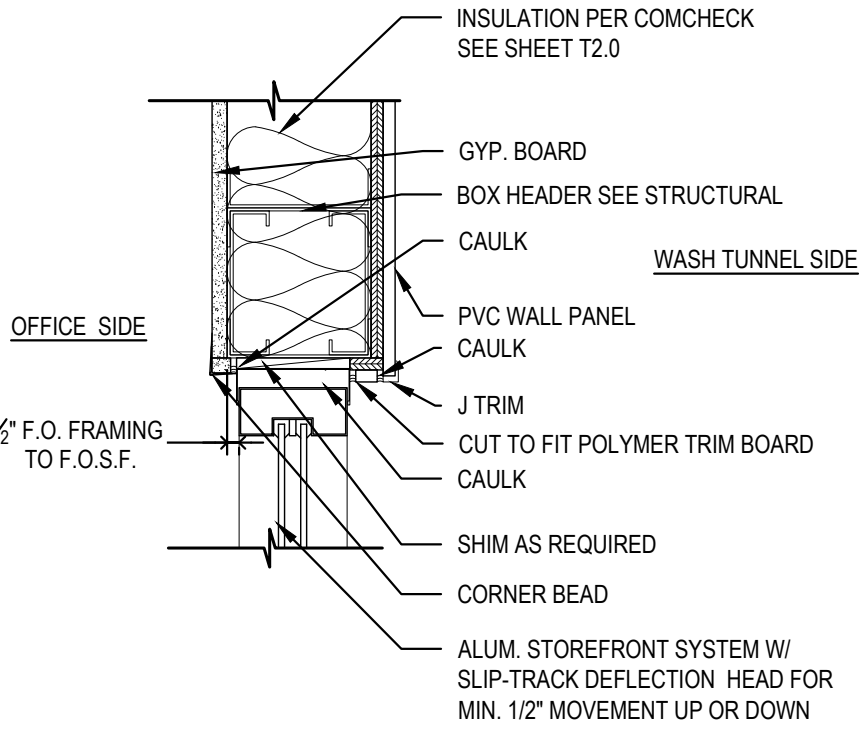
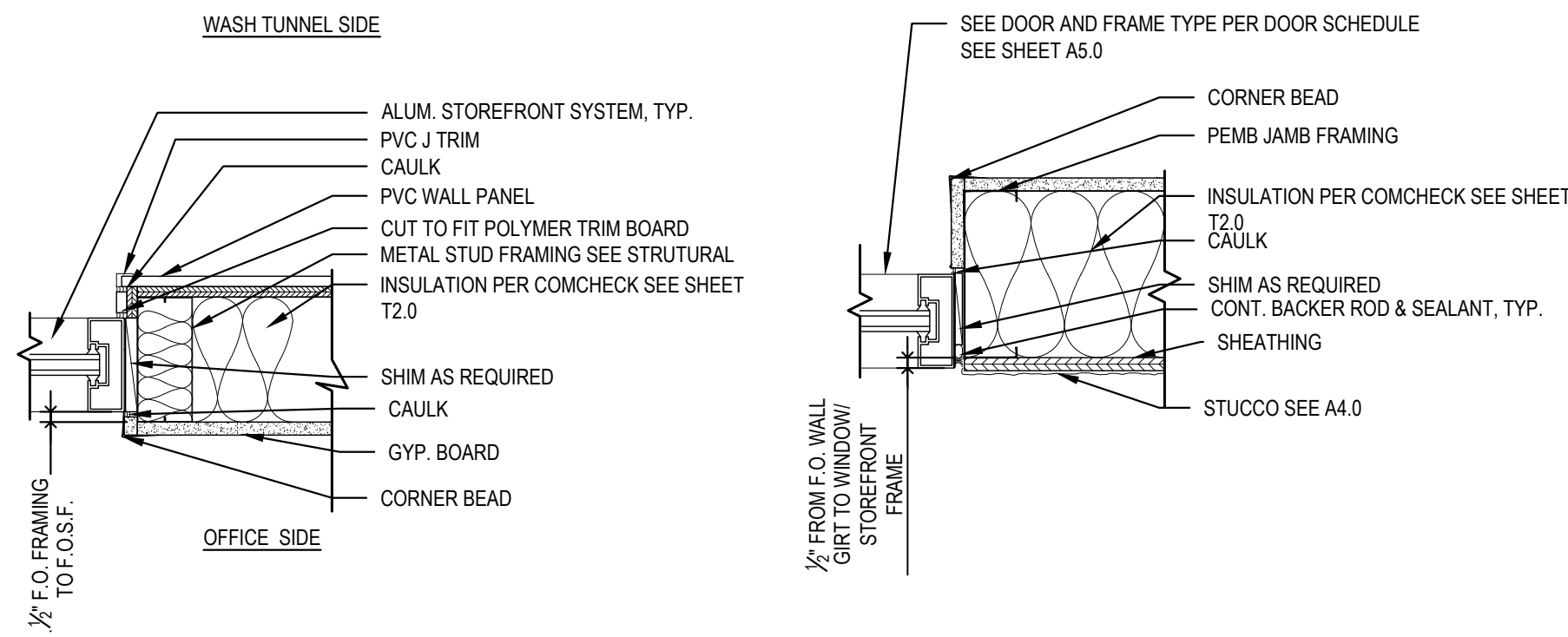
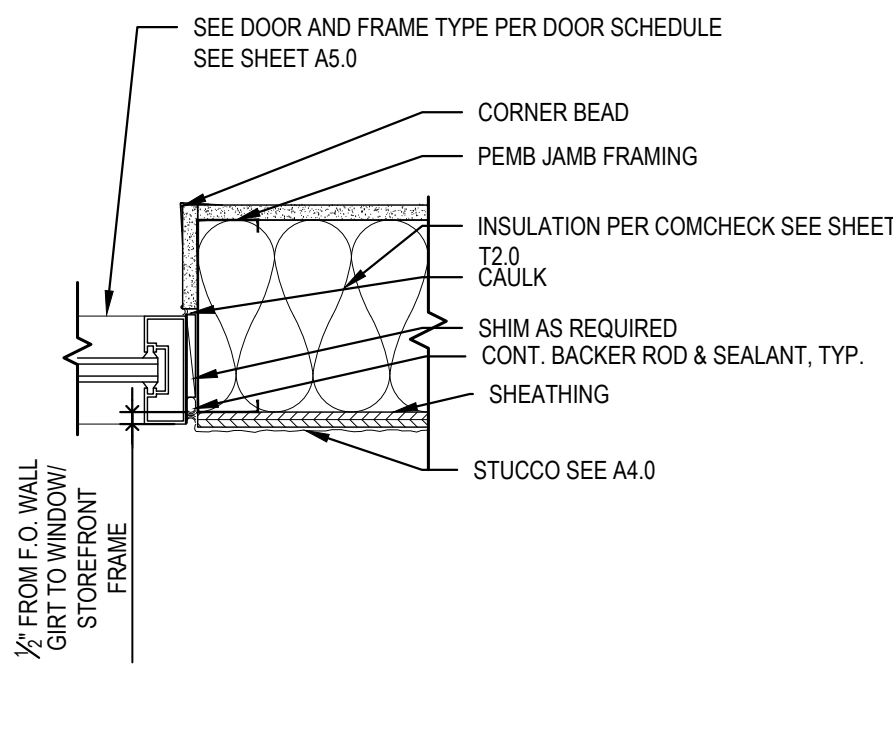
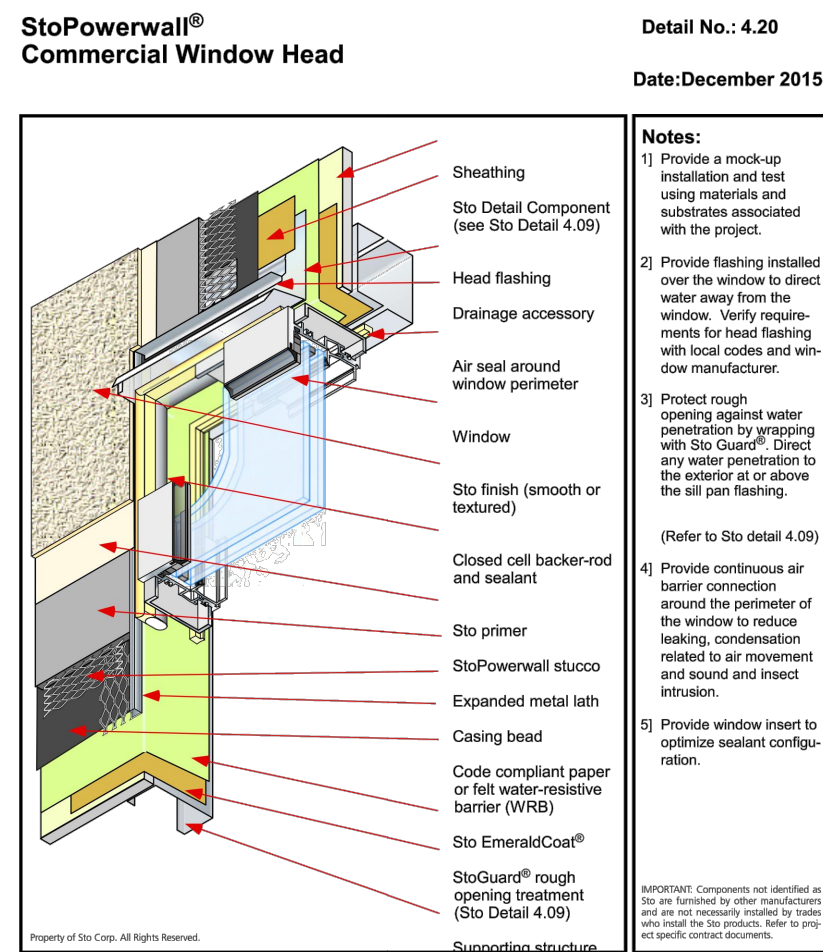
D. MYERS

Revisions :

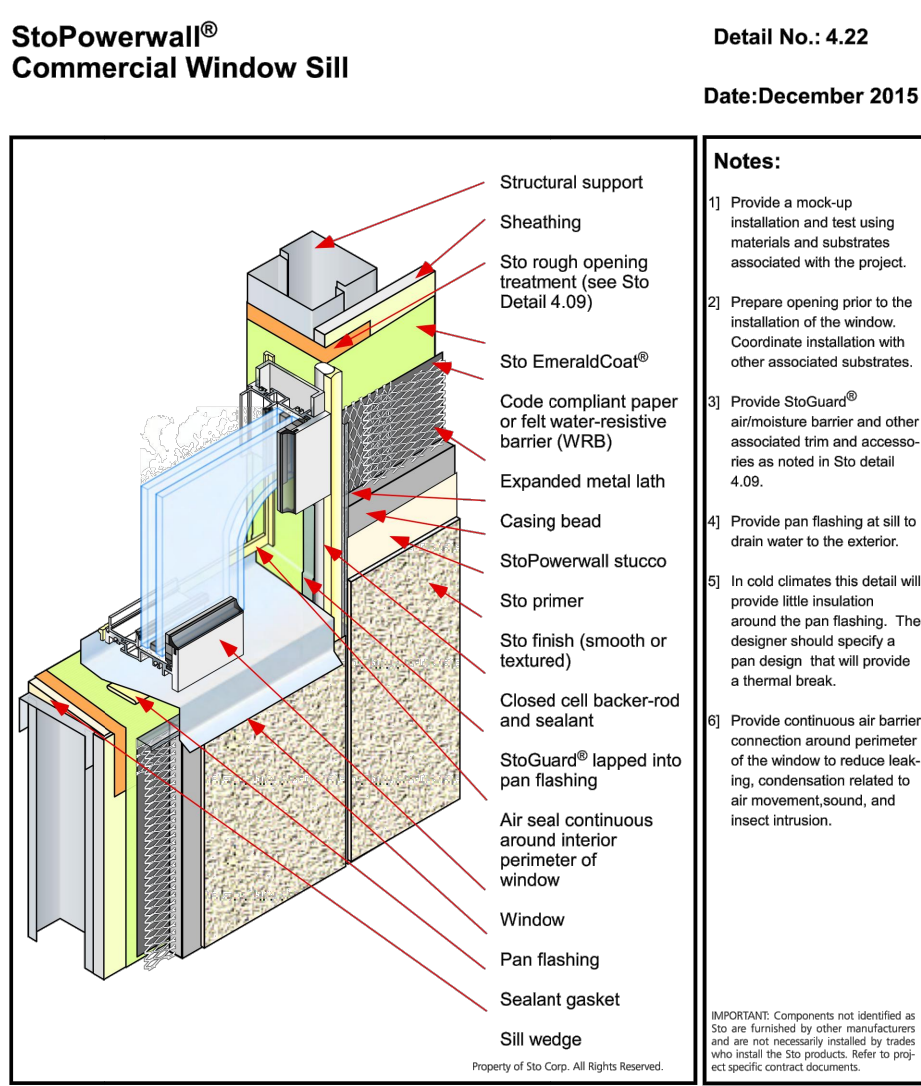
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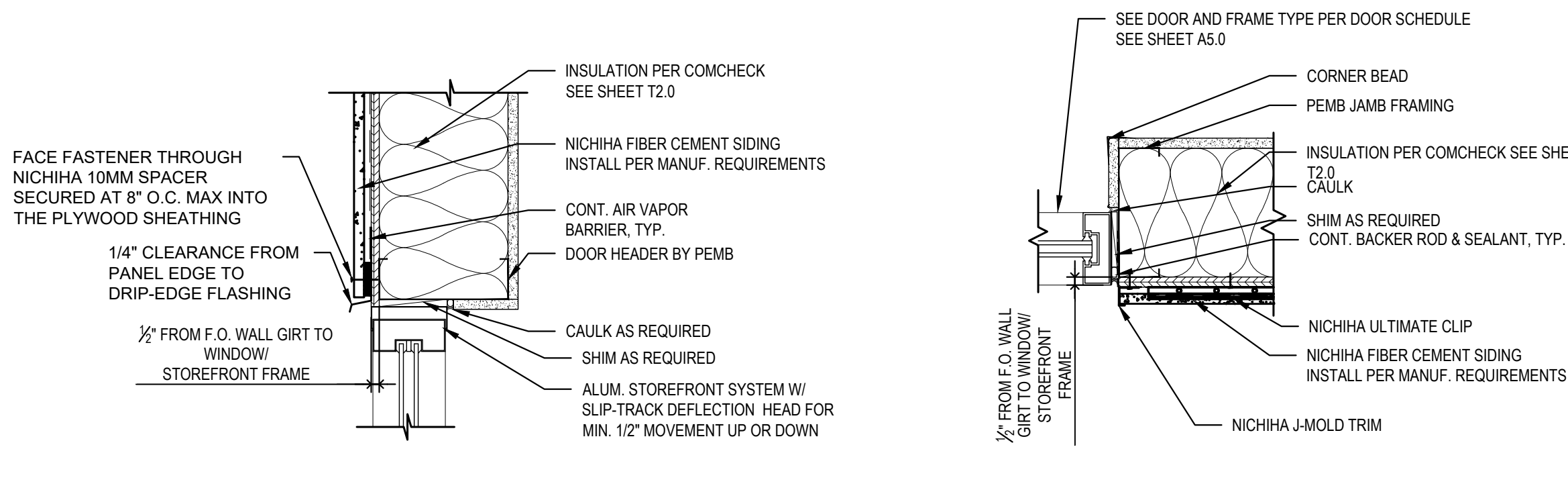
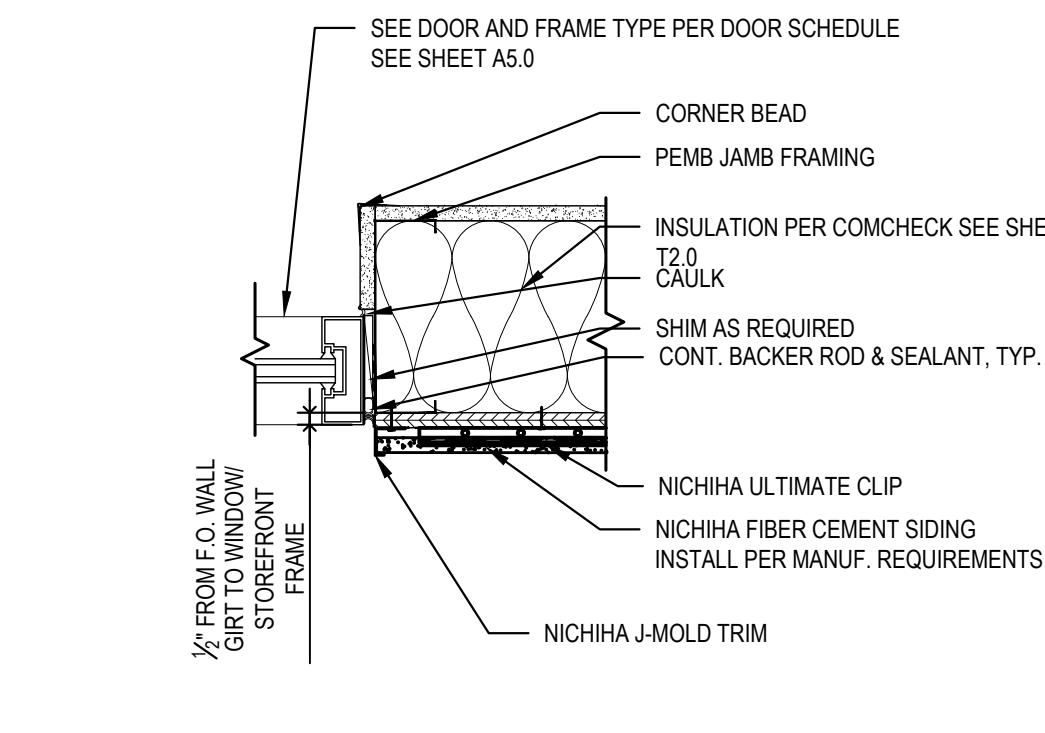
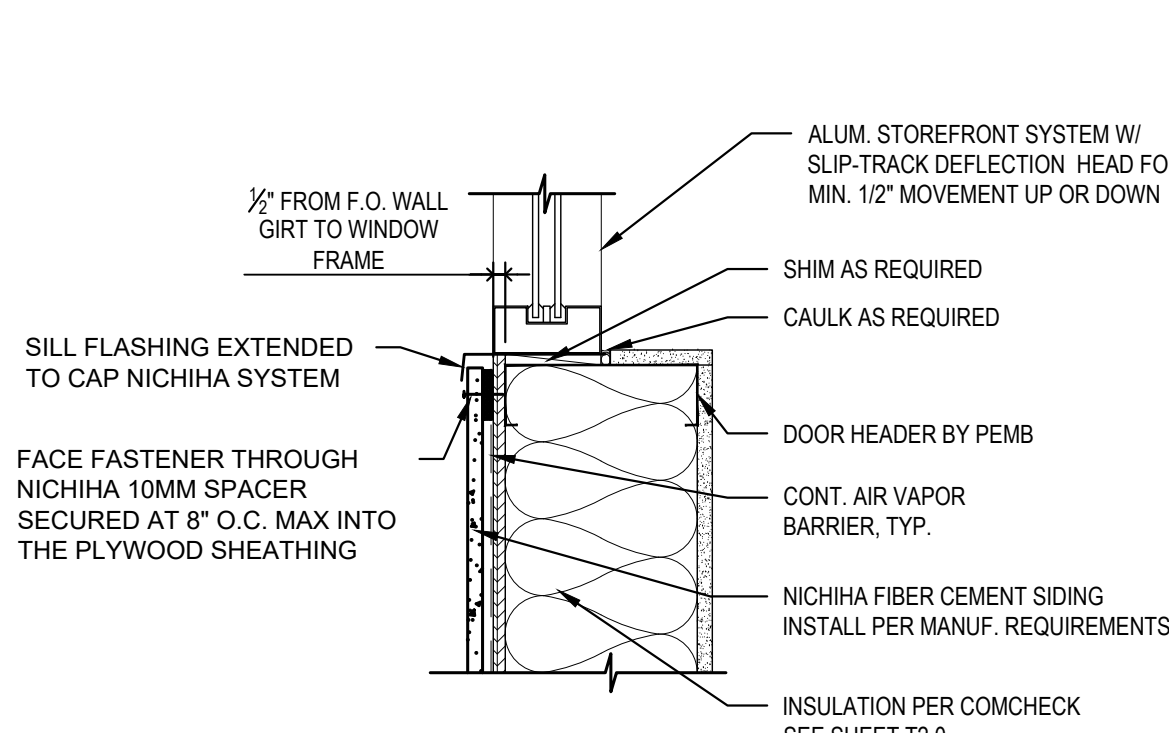
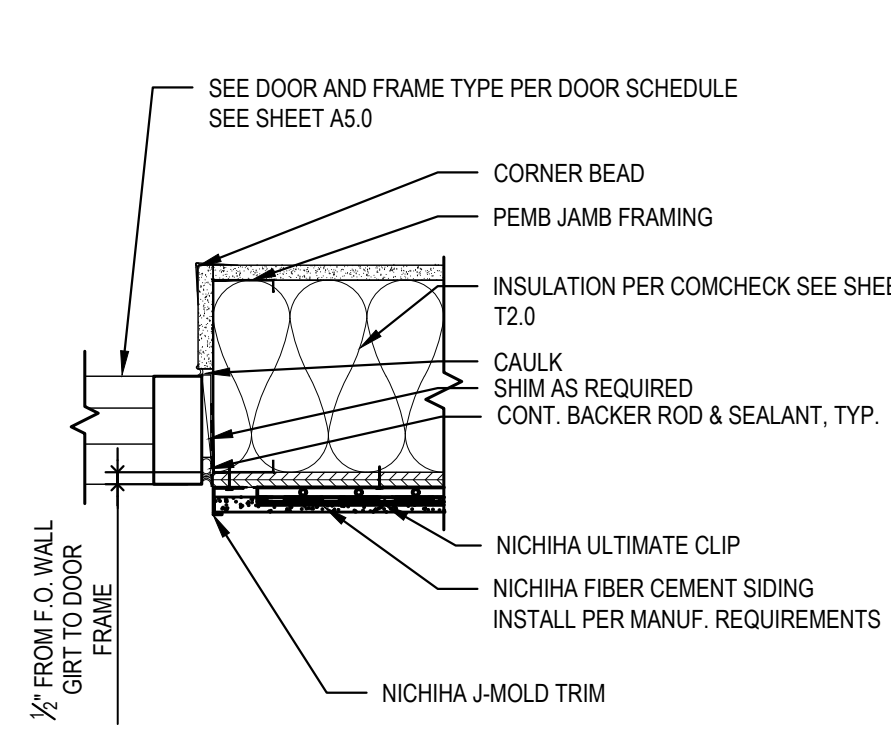
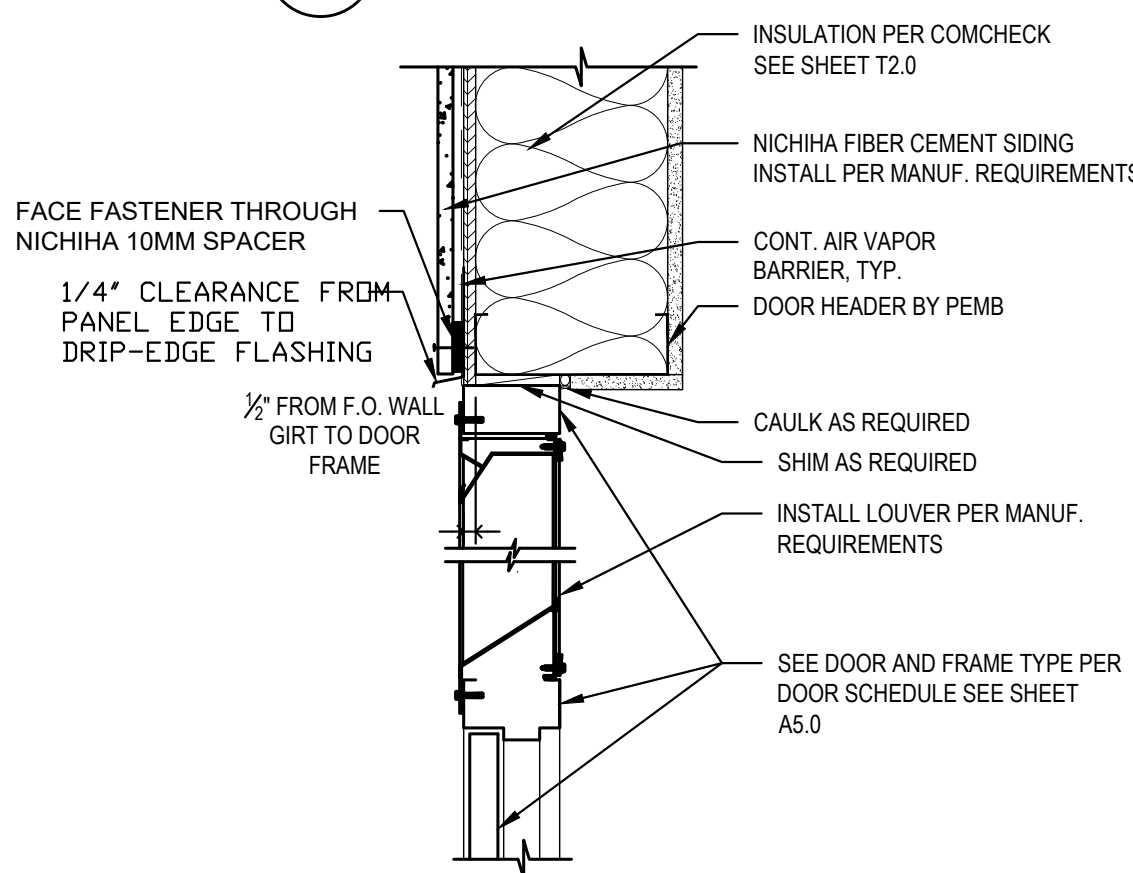
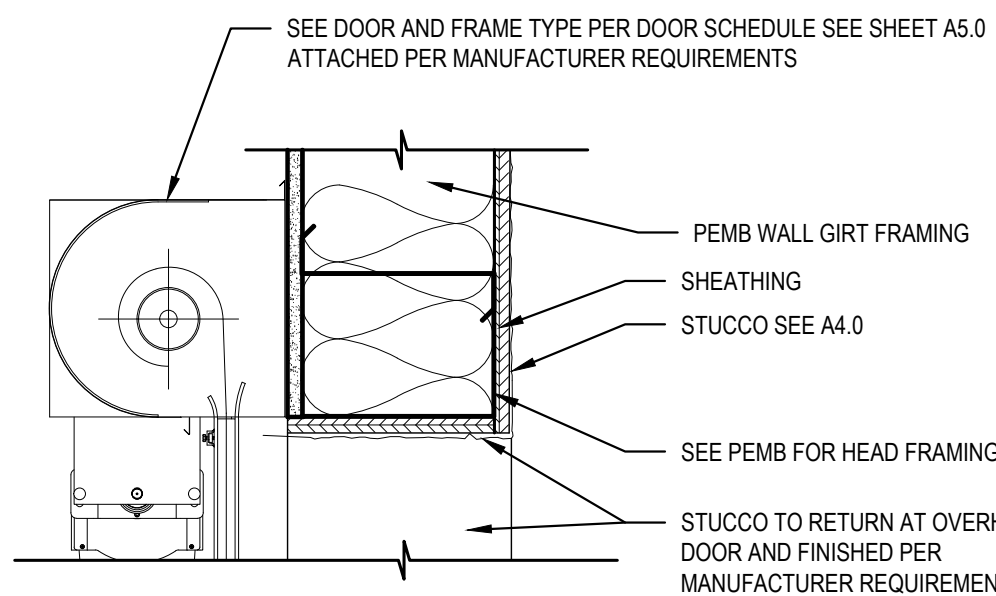
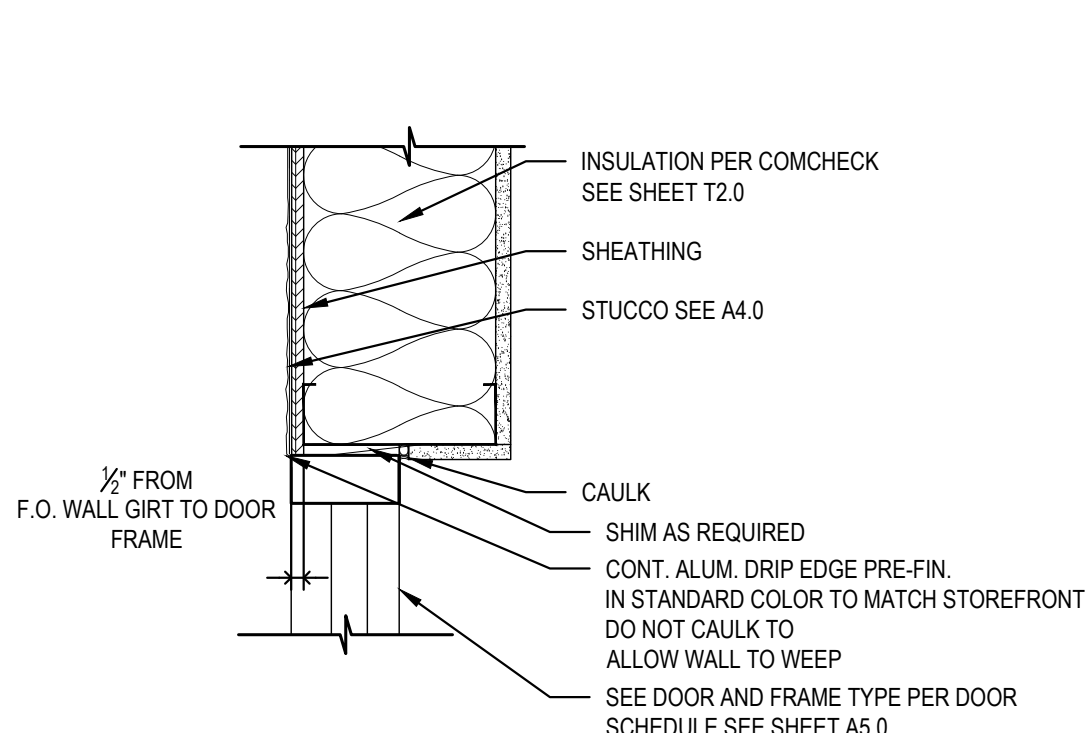
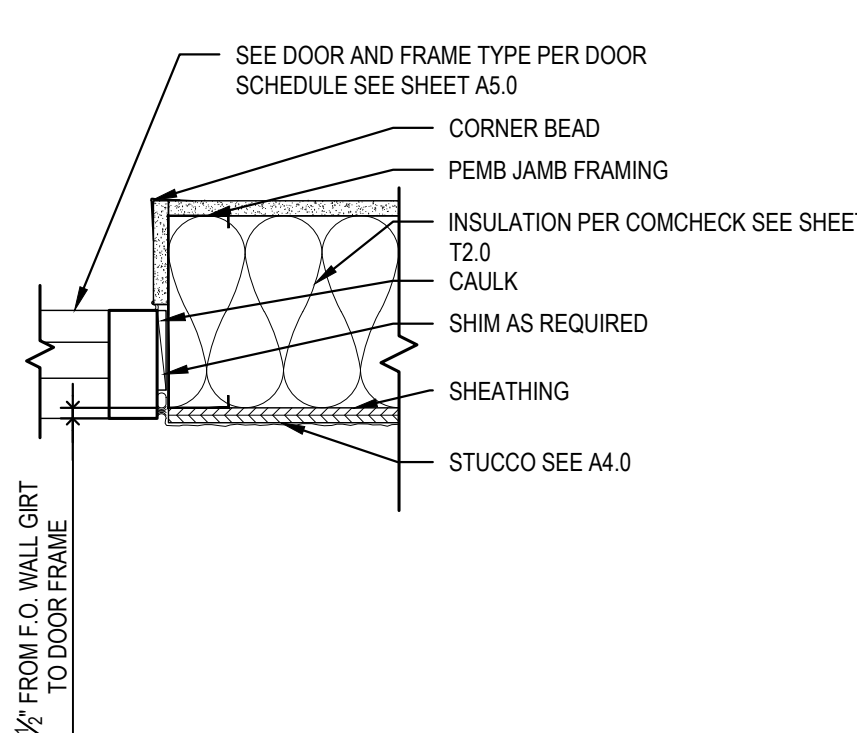
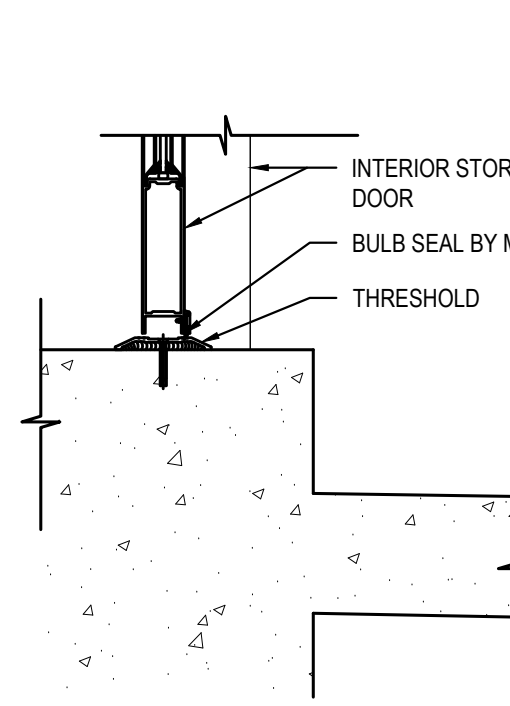
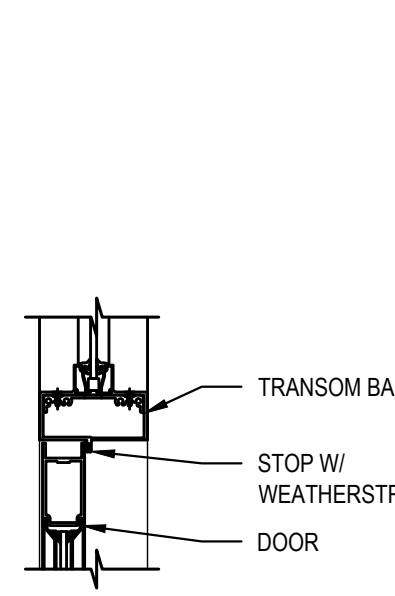
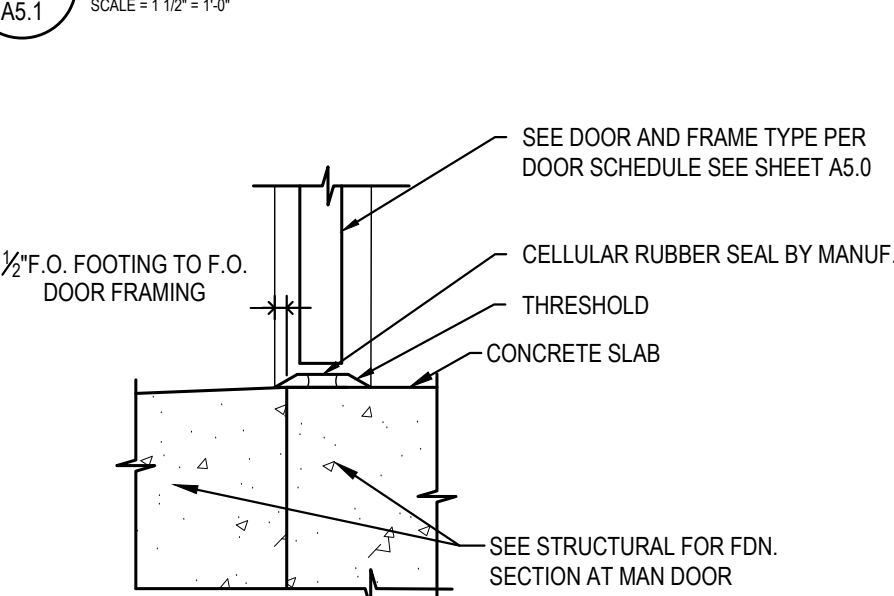
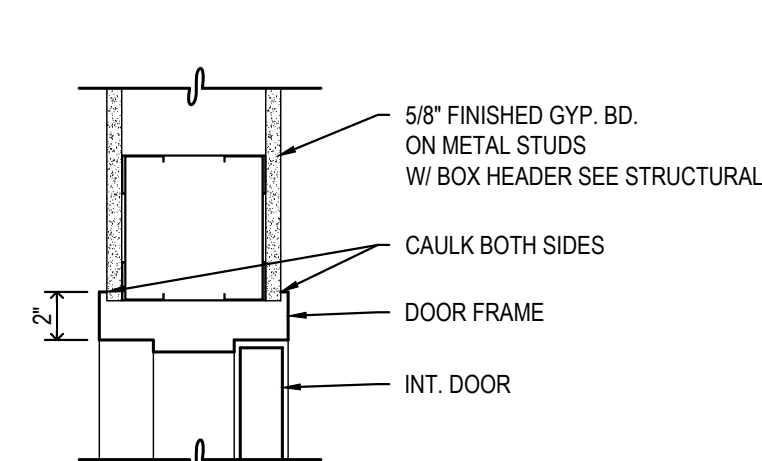
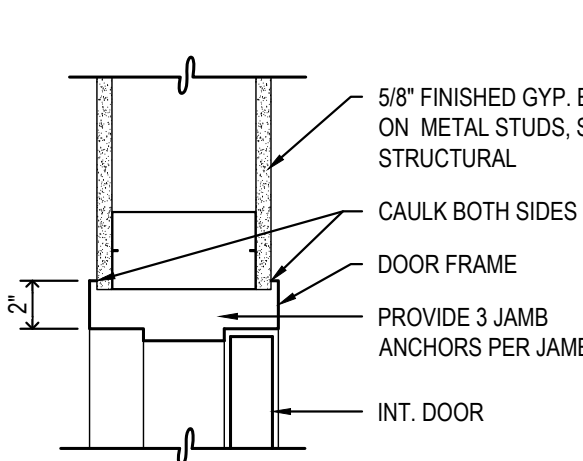
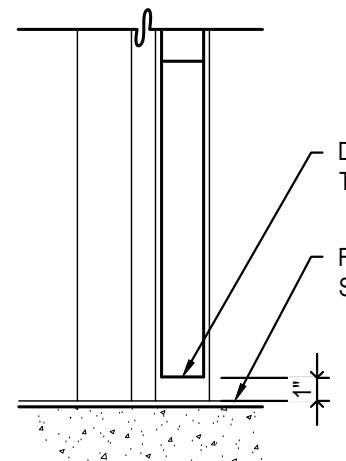
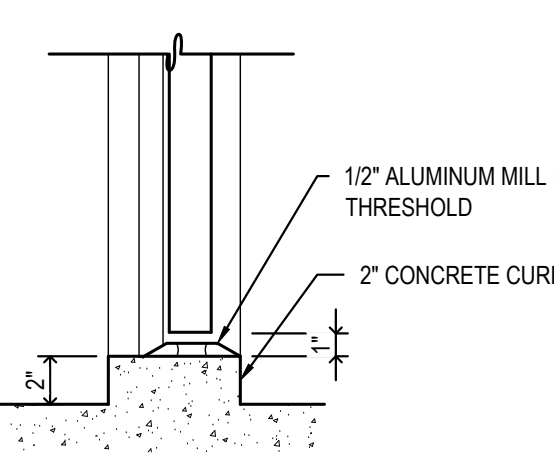
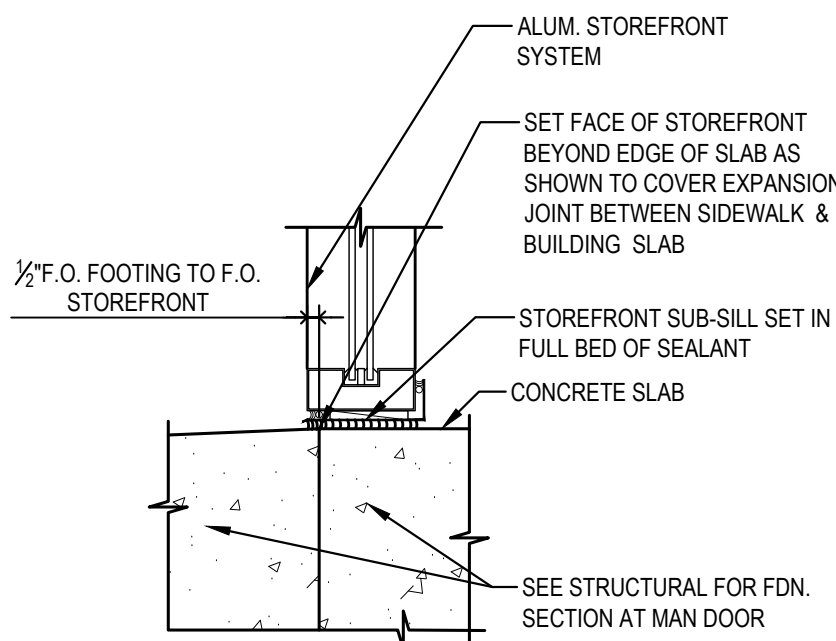
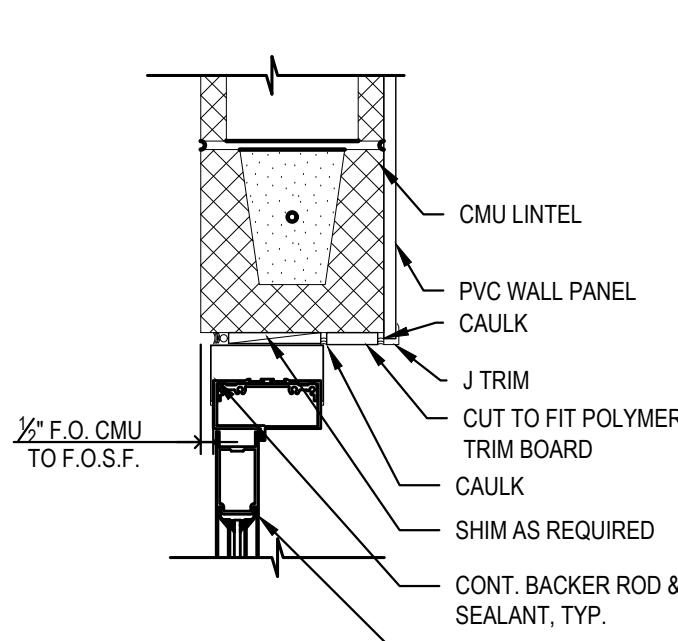
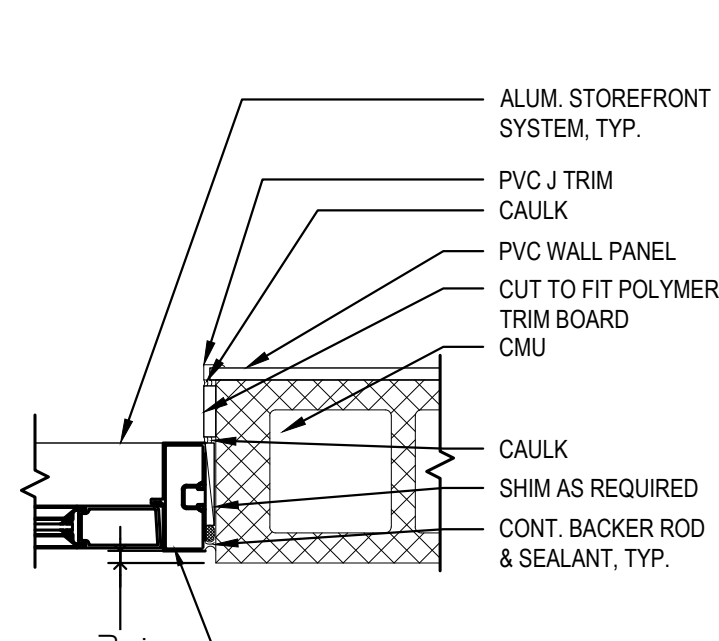
A5.1

24 INTERIOR WINDOW/ SILL DET.
A5.1 SCALE = 1 1/2" = 1'-0"23 INTERIOR WINDOW/ HEADER DET.
A5.1 SCALE = 1 1/2" = 1'-0"22 INTERIOR WINDOW/ JAMB DET.
A5.1 SCALE = 1 1/2" = 1'-0"21 WINDOW JAMB AT STUCCO
A4.0 NOT TO SCALE

NOTE: 1/2" OUT FROM F.O. WALL GIRT TO WINDOW FRAME

20 WINDOW HEAD AND JAMB AT STUCCO
A4.0 NOT TO SCALE

NOTE: 1/2" OUT FROM F.O. WALL GIRT TO WINDOW FRAME

19 WINDOW SILL AT STUCCO
A4.0 NOT TO SCALE18 WINDOW/STOREFRONT HEADER AT NICHIA
A5.1 SCALE = 1 1/2" = 1'-0"17 WINDOW/STOREFRONT JAMB AT NICHIA
A5.1 SCALE = 1 1/2" = 1'-0"16 WINDOW SILL AT NICHIA
A5.1 SCALE = 1 1/2" = 1'-0"15 DOOR JAMB AT NICHIA
A5.1 SCALE = 1 1/2" = 1'-0"14 LOUVER AND DOOR HEADER AT NICHIA
A5.1 SCALE = 1 1/2" = 1'-0"13 OVER HEAD DOOR HEADER AT STUCCO
A5.1 SCALE = 1 1/2" = 1'-0"12 DOOR HEADER AT STUCCO
A5.1 SCALE = 1 1/2" = 1'-0"11 DOOR JAMB AT STUCCO
A5.1 SCALE = 1 1/2" = 1'-0"10 DOOR THRESHOLD
A5.1 SCALE = 1 1/2" = 1'-0"9 STOREFRONT TRANSOM BAR
A5.1 SCALE = 1 1/2" = 1'-0"8 DOOR THRESHOLD
A5.1 SCALE = 1 1/2" = 1'-0"7 DOOR HEADER
A5.1 SCALE = 1 1/2" = 1'-0"6 DOOR JAMB
A5.1 SCALE = 1 1/2" = 1'-0"5 DOOR THRESHOLD
A5.1 SCALE = 1 1/2" = 1'-0"4 DOOR THRESHOLD
A5.1 SCALE = 1 1/2" = 1'-0"3 STOREFRONT SILL DETAIL
A5.1 SCALE = 1 1/2" = 1'-0"2 DOOR HEADER
A5.1 SCALE = 1 1/2" = 1'-0"1 DOOR JAMB
A5.1 SCALE = 1 1/2" = 1'-0"

ABBREVIATIONS

AAC	AUTOCLAVED AERATED CONCRETE	LB, #	POUND(S)
AB	ANCHOR BOLT	L.F.	LINEAR FEET
ABV	ABOVE	LG	LONG
A.C.I.	AMERICAN CONCRETE INSTITUTE	LI	LIVE LOAD
ADJ	ADJUSTABLE	LLBB	LONG LEG BACK-TO-BACK
A.F.F.	ABOVE FINISHED FLOOR	LLH	LONG LEG HORIZONTAL
AGGR	AGGREGATE	LLV	LONG LEG VERTICAL
A.I.S.C.	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LNTL	LINTEL
A.I.S.I.	AMERICAN IRON AND STEEL INSTITUTE	LSL	LONG SLOTTED
AL	ALUMINUM	LOC	LOCATION
ALT	ALTERNATE	LONG	LONGITUDE(INAL)
AR	ANCHOR ROD	LP	LOW POINT
ARCH	ARCHITECTURAL	LW	LONG WAY
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	MAS	MASONRY
A.W.S.	AMERICAN WELDING SOCIETY	MAX	MAXIMUM
		MB	MACHINE BOLT
		MBM	METAL BUILDING MFR
		MC	MOMENT CONNECTION
		MCJ	MASONRY CONTROL JOINT
		ME	MONOLITHIC EDGE
		MECH	MECHANICAL
		MEZZ	MEZZANINE
B/	BOTTOM OF	MF	MONOLITHIC FOOTING
BB	BOND BEAM	MFR	MANUFACTURE(ER)
BLDG	BUILDING	MIN	MINIMUM
BLV	BELOW	MISC	MISCELLANEOUS
BM	BEAM	M.L.	MICROLAM
BOT	BOTTOM	MO	MASONRY OPENING
BP	BASE PLATE	MONO	MONOLITHIC
BRDG	BRIDGING	MS	METAL STUD
BRG	BEARING	MTL	METAL
BRK	BRICK	MWF	MONOLITHIC WALL FOOTING
BS	BOTH SIDES		
BTJ	BETWEEN THE JOIST	NIC	NOT IN CONTRACT
BTWN		NS	NEAR SIDE
		NTS	NOT TO SCALE
C/C	CENTER TO CENTER	OA	OVERALL
CANT	CANTILEVER	OC	ON CENTER
CB	CONCRETE BEAM	OD	OUTSIDE DIAMETER
CC	CONCRETE COLUMN	OF	OUTSIDE FACE
CFS	COLD-FORMED STEEL	OH	OPPOSITE HAND /
CIR	CIRCLE	OPH	OVERHEAD
CJ	SAWED CONTROL JOINT (OR CONSTRUCTION JOINT)	OPNG	OPENING
CL	CENTERLINE	OPP	OPPOSITE
CL, C	CLEAR(ANCE)	OPT	OPTIONAL
CLR	CLEAR(ANCE)	PAF	POWDER-ACTUATED FASTENER(S)
CM	CONSTRUCTION MANAGER	PB	PRE-CAST CONCRETE BEAM
CMU	CONCRETE MASONRY UNIT	PEMB	PRE-ENGINEERED METAL BUILDING
CNC	CONCRETE	PERP	PERPENDICULAR
CONN	CONNECTION	PC	PRECAST
CONST	CONSTRUCTION	PL, t	PLATE
CONT	CONTINUOUS	P.L.	PARALLAM
CONTR	CONTRACTOR	PLS	PLACES
COORD	COORDINATE	PLF	POUNDS PER LINEAR FOOT
CSK	COUNTER SINK (SUNK)	PLYWD	PLYWOOD
CTR	CENTER	PNL	PANEL
CTRD	CENTERED	PSF	POUNDS PER SQUARE FOOT
CY	CUBIC YARD	PSI	POUNDS PER SQUARE INCH
		P.T.	PRESSURE TREATED
		PTN	PARTITION
DBA	DEFORMED BAR ANCHOR		
DBL	DOUBLE	R	RADIUS
DIA, Ø	DIAMETER	RC	REINFORCED CONCRETE
DIAG	DIAGONAL	REF	REFERENCE
DIST	DISTANCE	REINF	REINFORCE(D) (ING)
DL	DEAD LOAD	REQ	REQUIRED
DN	DOWN	REQD	REQUIRED
DTL	DETAIL	RF	ROOF
DWG	DRAWING	RM	ROOM
DWL	DOWEL	RTN	RADIUS POINT
		RW	RETAINING WALL
EA	EACH	SCH	SCHEDULE
EE	EACH END	S.D.I.	STEEL DECK INSTITUTE
EJ	EACH FACE	SECT	SECTION
ENG	ENGINEER	S.F.	STEPPED FOOTING
EOR	ENGINEER OF RECORD	SF	SQUARE FEET
ES	EDGE OF SLAB	SHT	SHEET
EL(EV)	ELEVATION	SIM	SIMILAR
ELEC	ELECTRICAL	S.J.I.	STEEL JOIST INSTITUTE
EQ	EQUAL	SL	SLOPE
EQ SP	EQUAL SPACE(S) (ING)	SLBB	SHORT LEG BACK-TO-BACK
ES	EACH SIDE	SO	SLAB ON GRADE
EW	EACH WAY	SP	SPACE(S)
EXP	EXPANSION	SPECS	SPECIFICATIONS
EXT	EXTERIOR	SPF	SPRUCE-PINE-FIR
FBG	FLORIDA BUILDING CODE	SQ	SQUARE
FD	FLOOR DRAIN	SSL	SHORT SLOTTED
FDN	FOUNDATION	STD	STANDARD
FF(E)	FINISHED FLOOR (EL.)	STIFFR	STIFFENER
FIN	FINISHED	STL	STEEL
FL	FLOOR	STR	STRENGTH
FLG	FLANGE	STRL	STRUCTURAL
FMG	FRAMING	SW	SHORT WAY / SHEAR WALL
FOM	FACE OF MASONRY	SYMM	SYMMETRICAL
FS	FAR SIDE	TYP	TYPICAL
FT	FOOT	TI	TOP OF
FTG	FOOTING	UNO	UNLESS NOTED OTHERWISE
GA	GAUGE	TA	TOP AND BOTTOM
GALV	GALVANIZED	TB	TIE BEAM
GB	GRADE BEAM	TC	TIE COLUMN
GCC	GENERAL CONTRACTOR	TEMP	TEMPERATURE
GFC	GROUT FILLED CELL(S) / COURSE(S)	THK	THICK
GLB	GLU-LAM BEAM	T.O.B.	TOP OF BLOCK
GR	GRADE	T.O.M.	TOP OF MASONRY
G.T.	GIRDER TRUSS	T.O.P.	TOP OF PLATE
		TOPG	TOPPING
HC	HOLLOW-CORE	TRANS	TRANSVERSE
HDR	HEADER	TRP	TRUSS
HT	HEIGHT	TYP	TYPICAL
HK	HOOK	TI	TOP OF
HORIZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
HP	HIGH POINT		
HS	HEADED STUD	VIF	VERIFY IN FIELD
HSS	HOLLOW STRUCTURAL SECTION (STEEL TUBE)	VERT	VERTICAL
		VERSALAM	VERSALAM
W.A.	WEDGE ANCHOR		
WD	WOOD		
WF	WALL FOOTING		
WO	WINDOW OPENING		
WP	WORKING POINT		
WS	WATERSTOP		
WWF	WELDED WIRE FABRIC		
W/	WITH		
K	KIP (1,000 LB)		
KWALL	KNEEWALL		
KO	KNOCK-OUT		

DESIGN CRITERIA

- ALL WORK SHALL CONFORM TO AT THE STANDARDS OF THE 2018 INTERNATIONAL BUILDING CODE WITH STATE AMENDMENTS.
- DESIGN LOADS:
 - DEAD LOADS
SEE P.E.M.B. DRAWINGS.
 - LIVE LOADS
2.2.1. LIVE LOADS PRODUCED BY THE USE OR OCCUPANCY OF THE STRUCTURE HAVE BEEN INCLUDED IN THE DESIGN, BASED ON THE FOLLOWING OCCUPANCIES:

UNIFORM LOADS (PSF)	CONCENTRATED LOADS (LB)
20	--
100	2000
250	8000
--	--

2.2.2. THE STRUCTURAL DESIGN IS BASED ON THE GREATER OF THE EFFECTS OF THE UNIFORM LOADS NOTED ABOVE OR THE CONCENTRATED LOADS NOTED ABOVE (ASSUMED TO BE DISTRIBUTED OVER AN AREA 2.5 SQUARE FEET UNLESS SPECIFICALLY NOTED BELOW).
 - DESIGN LIVE LOADS HAVE BEEN REDUCED IN ACCORDANCE WITH THE GENERAL BUILDING CODE NOTED ABOVE, SECTION 1607.91 & 1607.11.
- WIND DESIGN CRITERIA:

BASIC WIND SPEED	110 MPH, EXP "C"
RISK CATEGORY	II
INTERNAL PRESSURE COEFFICIENT	+0.18
BASE WIND PRESSURE, (qh)	28.3 PSF
COMPONENT AND CLADDING PRESSURES	N/A

2.4. SEISMIC LOADS
2.4.1. SEISMIC LOADS HAVE BEEN DETERMINED IN ACCORDANCE WITH THE GENERAL BUILDING CODE NOTED ABOVE, USING THE FOLLOWING PARAMETERS:

SEISMIC IMPORTANCE FACTOR, I	1.0
MAPPED SPECIAL RESPONSE ACCELERATION, S ₁	0.064
MAPPED SPECIAL RESPONSE ACCELERATION, S ₂	0.064
SITE CLASS	D (ASSUMED)
PERIOD SITE COEFFICIENT, F _p	1.60
LONG PERIOD SITE COEFFICIENT, F _L	2.40
SPECIAL RESPONSE COEFFICIENT, SHORT PERIOD, SD ₁	0.068
SPECIAL RESPONSE COEFFICIENT, 1SEC PERIOD, SD ₁	0.087
SEISMIC DESIGN CATEGORY, SDC	B

BASIC STRUCTURAL AND SEISMIC RESISTING SYSTEM:
SEE P.E.M.B. DRAWINGS.
ANALYSIS PROCEDURE:
EQUIVALENT LATERAL FORCE PROCEDURE PER ASCE 7-16 SECTION 12.8
RESPONSE MODIFICATION COEFFICIENT, R
DEFLECTION AMPLIFICATION FACTOR, C_d
OVERSTRENGTH FACTOR, Q_s
SEISMIC RESPONSE COEFFICIENT, C_s
DESIGN BASE SHEAR, (SERVICE (KIPS))
DESIGN BASE SHEAR Y-AXIS LONGITUDINAL (N/S)
DESIGN BASE SHEAR X-AXIS TRANSVERSE (E/W)
SEE P.E.M.B.
- SNOW LOADS
2.5.1. SNOW LOADS HAVE BEEN DETERMINED IN ACCORDANCE WITH THE GENERAL BUILDING CODE NOTED ABOVE, WITH THE FOLLOWING PARAMETERS:

GROUND SNOW LOAD, P _g	20 PSF
FLAT ROOF SNOW LOAD, P _f	20 PSF
SNOW EXPOSURE COEFFICIENT	1.0
IMPORTANCE FACTOR, I	1.0
THERMAL FACTOR, C _e	1.0
RAIN ON SNOW SURCHARGE (1/2" PER FOOT SLOPE)	0 PSF

2.6. DESIGN LOAD COMBINATIONS
2.6.1. BASIC LOAD COMBINATIONS PER ASCE 7-16, SECTION 2.3.2 FOR LOAD AND RESISTANCE FACTOR DESIGN (LRFD) ARE USED.
2.6.2. BASIC LOAD COMBINATIONS PER ASCE 7-16, SECTION 2.4.1 FOR ALLOWABLE STRESS DESIGN (ASD) ARE USED.
- UNDER NORMAL LOADING AND ENVIRONMENTAL CONDITIONS, THE BUILDING AND ITS STRUCTURAL COMPONENTS WILL MOVE AND DEFLECT DEPENDING UPON ON THE LENGTH OF THE MEMBER THE LOAD IS APPLIED. PROPER ALLOWANCE MUST BE MADE IN FINISHES AND ATTACHED ELEMENTS TO PERMIT THE BUILDING AND ITS STRUCTURAL COMPONENTS TO DEFLECT WITHOUT DAMAGE TO THE ATTACHED ELEMENTS. DETAILS FOR THE ATTACHMENT THESE ELEMENTS SHOULD BE PROVIDED BY OTHERS UNLESS SPECIFICALLY DETAILED IN THESE DRAWINGS.
- THE FOLLOWING ANTICIPATED DIFFERENTIAL MOVEMENTS BETWEEN ANY TWO FLOORS ARE BASED ON THE ASSUMPTION THAT CLADDING AND GLAZING INSTALLATION OCCURS NO EARLIER THAN 3 MONTHS AFTER SHORING IS REMOVED AND SLABS AND BEAMS FREE TO DEFLECT. SHOULD INSTALLATION OCCUR SOONER, ADDITIONAL MOVEMENT SHOULD BE ANTICIPATED

4.1. VERTICAL MOVEMENT ALLOWANCE	L/360
4.2. HORIZONTAL MOVEMENT ALLOWANCE	H/400 (FOR SERVICE WIND)

SEE SPECIFIC PLANS FOR DESIGN LOAD VALUES. IF DESIGN LOAD VALUES HAVE NOT BEEN INCLUDED THEN REFER TO BUILDING CODE.

GENERAL STRUCTURAL NOTES

- THE GENERAL STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CONFLICTS BETWEEN THE SPECIFICATIONS AND DESIGN DRAWINGS. THE MORE STRINGENT REQUIREMENTS SHALL GOVERN UNLESS DETERMINED OTHERWISE BY THE ARCHITECT/ENGINEER.
- TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE STRUCTURAL CONSTRUCTION DOCUMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE.
- EVERY REASONABLE EFFORT HAS BEEN MADE TO ENSURE COORDINATION BETWEEN THESE DRAWINGS AND THE ARCHITECTURAL & M.E.P. DRAWINGS. SHOULD THERE BE ANY DISCREPANCIES, THE CONTRACTOR SHALL REQUEST CLARIFICATION IN WRITING.
- NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE REDUCED IN STRENGTH. NOTIFY THE E.O.R. IMMEDIATELY OF ANY CONFLICTS THAT COULD REQUIRE STRUCTURAL MEMBER MODIFICATION.
- THE GENERAL CONTRACTOR SHALL REVIEW AND DETERMINE THAT DIMENSIONS ARE COORDINATED BETWEEN ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO FABRICATION OR START OF CONSTRUCTION. THE GENERAL CONTRACTOR SHALL REVIEW AND COORDINATE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ANCHORED, EMBEDDED AND SUPPORTED ITEMS WHICH AFFECT THE STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION AND/OR FABRICATIONS. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS.
- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE, AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS, OR TIE-DOWNS WHICH MIGHT BE NECESSARY.
- THE GENERAL CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, THE WORK PERSONS AND OTHER PEOPLE DURING CONSTRUCTION. HE SHALL SUPERVISE AND DIRECT THE WORK AND BE RESPONSIBLE FOR ALL CONSTRUCTION. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS RELATING TO EXISTING CONSTRUCTION AND EXISTING SERVICE ON THE SITE.
- ALL SUBMITTALS SETS SHALL CONSIST OF A MAXIMUM OF 5 COPIES. ANY ADDITIONAL COPIES WILL BE DISCARDED. ANY SUBMITTALS RECEIVED BY ARCHENG THAT HAVE NOT BEEN CHECKED BY THE GC AND HIS SUBCONTRACTOR SHALL BE RETURNED WITHOUT REVIEW. THE ENGINEER'S APPROVAL OF SHOP DRAWINGS AND/OR SUBMITTALS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR DEVIATIONS, ERRORS, OR OMISSIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- NO CONSTRUCTION LOADS THAT EXCEED THE SAFE LOAD CARRYING CAPACITY OF THE STRUCTURE BE APPLIED TO THE STRUCTURE. NOTIFY STRUCTURAL ENGINEER AND ARCHITECT OF ANY UNUSUAL OR EXCESSIVE LOADS OCCURRING DURING CONSTRUCTION. DO NOT APPLY CONSTRUCTION LOADS UNTIL STRUCTURAL COMPONENTS ARE PROPERLY CONNECTED AND ALL NECESSARY TEMPORARY BRACING IS IN PLACE.
- WORK NOT INDICATED ON THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT AT SIMILAR LOCATIONS SHALL BE REPEATED. UNLESS OTHERWISE NOTED, ALL SECTIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE TYPICAL AT SIMILAR LOCATIONS AND CONDITIONS.

FOUNDATIONS

- THE FOUNDATION HAS BEEN DESIGNED BASED ON AN ASSUMED ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF AS RECOMMENDED IN THE GEOTECHNICAL REPORT. THE GEOTECHNICAL ENGINEER SHALL PROVIDE A SUBGRADE VERIFICATION FOR THE SOILS UNDER FOUNDATIONS AND SLABS ON GRADE TO VERIFY THIS ALLOWABLE SOIL BEARING PRESSURE AND TO VERIFY PROPER COMPACTION OF SUBGRADE SOILS PRIOR TO POURING FOUNDATION.
- A SOILS TESTING AND VERIFICATION SCHEDULE SHALL BE ESTABLISHED BY THE G.C. BASED ON THE GEOTECHNICAL REPORT AS WELL AS COORDINATION WITH THE GEOTECHNICAL ENGINEER. THE SOILS TESTING AND VERIFICATION SCHEDULE SHALL BE STRICTLY FOLLOWED BY THE CONTRACTOR TO ENSURE PROPER AND ADEQUATE SUPPORT OF THE STRUCTURE. IF THE CONTRACTOR OR GEOTECHNICAL ENGINEER FINDS LOCALIZED AREAS OF POOR SOILS DURING SOILS TESTING AND VERIFICATION THE E.O.R. SHALL BE IMMEDIATELY CONTACTED TO EVALUATE THE FOUNDATION SUPPORT.
- FOOTINGS SHALL BE POURED INTO AN EARTH-FORMED TRENCH IF SOIL CONDITIONS PERMIT.
- BOTTOM OF ALL FOOTINGS SHALL EXTEND DOWN TO BELOW THE FROST DEPTH LINE FOR THE AREA OF THE PROJECT. SINCE NO GEOTECHNICAL REPORT HAS BEEN PROVIDED WE HAVE ASSUMED THE FROST DEPTH TO BE 30-INCHES. CONTRACTOR SHALL VERIFY THE REQUIRED FROST DEPTH PRIOR TO EXCAVATING FOR FOUNDATIONS AND NOTIFY E.O.R. OF ANY DISCREPANCIES.
- PERFORM DENSITY AND MOISTURE CONTENT TESTS OF COMPACTED FILL MATERIALS IN ACCORDANCE WITH ASTM D2226 AND ASTM D6938 OR AS REQUIRED BY GEOTECHNICAL ENGINEER.
- G.C. SHALL COORDINATE AND NOTIFY E.O.R. OF ANY CONDITIONS THAT WILL REQUIRE FOOTING STEPS OR LOWER FOOTINGS THAN INDICATED ON FOUNDATION PLAN. THESE CONDITIONS INCLUDE, BUT ARE NOT LIMITED TO, CONFLICTS WITH FINAL GRADING AROUND BUILDING PERIMETER, CONFLICTS WITH BELOW GRADE UTILITIES & PLUMBING, AND UNSUITABLE BEARING MATERIAL.
- SLOPE SIDES OF EXCAVATIONS, OR SHORE, SHEET, AND BRACE SIDE SLOPES TO ENSURE SLOPE STABILITY AND SAFETY. ADEQUATELY PROTECT ALL EXCAVATION SLOPES.
- REMOVE ALL MATERIAL CONTAINING RODS, DEBRIS OR OTHER DELETERIOUS MATERIAL FROM THE SITE.
- PROVIDE ADEQUATE DRAINAGE OR DEWATERING TO ALLOW PROPER FINISHING OF EXCAVATIONS AND TO KEEP WATER FROM COLLECTING IN THE BOTTOM OF EXCAVATIONS. FOUNDATIONS SHALL BE PLACED IN THE DRY. DO NOT PLACE FOOTINGS IN WATER.

SLAB ON GRADE

- UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT, COMPACT INTERIOR FILL TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557). SOIL COMPACTION SHALL BE FIELD-CONTROLLED BY A REPRESENTATIVE TECHNICIAN OF A QUALIFIED LABORATORY. EACH LIFT FILL SHALL NOT EXCEED 8" THICK AND SHALL BE COMPACTED PRIOR TO PLACEMENT OF NEXT LIFT.
- MAXIMUM SPACING OF CONTROL JOINTS (SAWED CONTROL JOINT OR CONSTRUCTION JOINT) SHALL BE AS SET IN THE TABLE BELOW, OR AS NOTED IN CONSTRUCTION DOCUMENTS. THE MORE STRINGENT REQUIREMENT SHALL APPLY. PATTERNS SHALL BE APPROXIMATELY SQUARE WITH A RATIO OF LONG SIDE TO SHORT SIDE NOT EXCEEDING 1.5 TO 1.

SLAB THICKNESS (IN)	* 3/4" OR LARGER AGGREGATE SPACING (FT)
4	12
5	13
6	14

* MIX DESIGNS CONTAINING AGGREGATE LESS THAN 3/4" ARE NOT ACCEPTABLE.
** SAWCUT SLAB AS SOON AS AGGREGATE DOES NOT DISLODGE (MUST BE WITHIN 12 HOURS OF CONCRETE PLACEMENT).
- GENERAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF SCJS AND CJS WITH ARCHITECTURAL FLOOR FINISHES TO ENSURE SLAB JOINTS DO NOT TRANSLATE THROUGH TO THE FINISHES. FLOOR FINISHES SHALL BE ISOLATED TO THE BEST EXTENT POSSIBLE FROM THE CONCRETE SLAB.
- SLAB THICKNESS SHALL BE INCREASED AS REQUIRED TO PROVIDE ADEQUATE SUPPORT FOR CRANE LOADS WITHOUT CRACKING THE SLAB.
- PLACE CONCRETE TO ACHIEVE AS TRUE AND SMOOTH A TOP SURFACE AS POSSIBLE. MOUNDS OR DIPS ARE NOT ACCEPTABLE. GC SHALL CONTROL OVERALL FLATNESS AND LEVELNESS, INCLUDING ON SLOPING AREAS TO WITHIN TOLERANCES PERMITTED BY SPECIFICATION - ASTM E1155.

CONCRETE AND REINFORCING

- A CERTIFIED TESTING AGENCY SHALL BE ENGAGED TO PERFORM INDUSTRY STANDARD TESTING INCLUDING SLUMP TESTS AND CYLINDER BREAKS TO ENSURE CONFORMANCE WITH CONSTRUCTION DOCUMENTS. G.C. OR TESTING AGENCY SHALL SUBMIT RESULTS TO ARCHITECT AND ENGINEER FOR REVIEW.
- CONCRETE WORK SHALL CONFORM TO ACI (LATEST EDITION) AND BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
- ALL CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

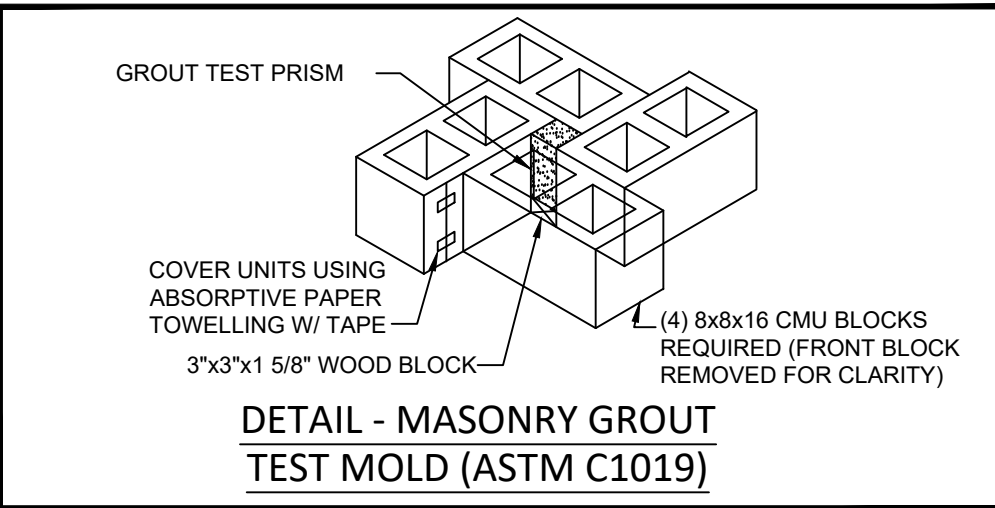
LOCATION	28 DAY STRENGTH	SLUMP	ENT. AIR	COARSE AGGREGATE(S)
FOUNDATIONS	3000 PSI	4" +/- 1"	5% +/- 1%	1"
SLAB-ON-GRADE: HEATED AREAS	4000 PSI	4" +/- 1"	N/A	1"
SLAB-ON-GRADE: UNHEATED AREAS	4000 PSI	4" +/- 1"	5% +/- 1%	1"
FILLED CELL & BOND BEAM GROUT	3000 PSI	8" TO 11"		COARSE GROUT: 3/4" FINE GROUT: NONE

NOTES:
 - SLUMP FOR RAMPS AND SLOPING SURFACES SHALL NOT EXCEED 4".
 - SEE MASONRY NOTES FOR TESTING REQUIREMENTS OF GROUT TO BE USED TO FILL CORES OF CMU.
 - NO AIR-ENTRAINING ADMIXTURES SHALL BE ADDED TO GROUT.
- CONCRETE MIX DESIGN SUBMITTALS:
 - EACH MIX DESIGN SHALL BE LABELED TO INDICATE THE AREA IN WHICH THE CONCRETE IS TO BE PLACED (I.E. FOUNDATIONS, SLAB-ON-GRADE, COLUMNS, ETC.). FAILURE TO DO SO WILL CAUSE DELAY AND/OR REJECTION OF SUBMITTALS.
 - PROPOSED MIX DESIGN SHALL BE IN ACCORDANCE WITH METHOD 1 OR METHOD 2 OF ACI 301. PROVIDE SUPPORTING DATA IN TABULAR FORM FOR EACH SEPARATE PROPOSED MIX.
 - SUBMIT CONCRETE MIX DESIGN FOR EACH PROPOSED CLASS OF CONCRETE.
- REBAR SHALL CONFORM TO ASTM A615 (GRADE 60). WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064 AND SHALL BE LAPPED MINIMUM OF ONE MESH + 2" WHERE SPLICED. ALL REINFORCING SHALL BE DOMESTICALLY PRODUCED.
- SEE DETAIL MS01 IN THESE DRAWINGS FOR STANDARD LAP SPLICE LENGTHS AND BENDING REQUIREMENTS FOR REINFORCING BARS.
- SEE DETAIL IN THESE DRAWINGS FOR TYPICAL CORNER REINFORCING DETAIL.
- MINIMUM COVER FOR REINFORCING BARS SHALL BE AS LISTED BELOW, UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"
CONCRETE EXPOSED TO EARTH OR WEATHER: #6 THRU #18 BARS: #8 BAR, W31 OR D31 WIRE AND SMALLER:	2" 1 1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER: SLABS, WALLS, JOISTS: #14 AND #18 BARS: #11 BAR AND SMALLER:	1 1/2" 3/4"
BEAMS, COLUMNS: PRIMARY REINFORCING, TIES, STIRRUPS, SPIRALS:	1 1/2"
SHELLS, FOLDED PLATE MEMBERS: #6 BAR AND LARGER: #5 BAR, W31, OR D31 WIRE AND SMALLER:	3/4" 1/2"
- POST-INSTALLED ANCHORS
 - POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED IN THE STRUCTURAL DRAWINGS.
 - CONTRACTOR SHALL OBTAIN APPROVAL FROM THE E.O.R. PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN PLACE ANCHORS.
 - POST-INSTALLED ANCHOR DRILLING, CLEANING OF HOLES, AND INSTALLATION SHALL COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS OR RECOMMENDATIONS. CONTACT MANUFACTURER'S REPRESENTATIVE FOR ANY QUESTIONS BEFORE OR DURING INSTALLATION.
 - CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID DAMAGING EXISTING REINFORCING STEEL WHEN DRILLING HOLES FOR POST-INSTALLED ANCHORS.
 - POST-INSTALLED ANCHORS SHALL BE INSTALLED TO MEET MINIMUM REQUIREMENTS FOR EDGE DISTANCE, END DISTANCE, AND SPACING PER THE MANUFACTURER'S LITERATURE UNLESS SPECIFICALLY NOTED IN THESE DRAWINGS.
 - UNLESS SPECIFICALLY LISTED IN THESE DRAWINGS, POST-INSTALLED ANCHORS SHALL BE EMBEDDED IN THE APPROPRIATE SUBSTRATE WITH A MINIMUM EMBEDMENT OF THE LARGEST OF THE FOLLOWING:
 - 8 TIMES THE NOMINAL ANCHOR DIAMETER
 - EMBEDMENT REQUIRED TO SUFFICIENTLY SUPPORT THE INTENDED LOAD
 - REQUESTS FOR SUBSTITUTION OF APPROVED PRODUCTS LISTED BELOW SHALL BE SUBMITTED TO THE E.O.R. FOR REVIEW AND APPROVAL. SUBSTITUTION REQUESTS SHALL BE IN WRITTEN FORMAT INCLUDING THE PRODUCT REQUESTED WITH SIGNED AND SEALED CALCULATIONS THAT SHOW AN EQUIVALENT CAPACITY USING THE APPROPRIATE DESIGN PROCEDURE.
 - APPROVED PRODUCTS FOR ANCHORS NOT EXPOSED TO WEATHER:
 - EXPANSION ANCHORS:
 - 8.1.1. KWIK BOLT TZ CARBON STEEL BY HILTI
 - 8.2. SCREW ANCHORS:
 - 8.2.1. DIAMETERS 3/8" & LARGER
 - 8.2.1.1. KWIK HUS BY HILTI
 - 8.2.2. DIAMETERS 1/2" & SMALLER
 - 8.2.2.1. TAPCON BY ITW RAMSET/REDHEAD
 - 8.3. ADHESIVE ANCHORS:
 - 8.3.1.1. PURE110+ BY DEWALT
 - APPROVED PRODUCTS FOR ANCHORS EXPOSED TO WEATHER:
 - EXPANSION ANCHORS:
 - 9.1.1. KWIK BOLT TZ SS 304 BY HILTI
 - 9.1.2. KWIK BOLT TZ SS 316 BY HILTI
 - 9.2. SCREW ANCHORS:
 - 9.2.1. DIAMETERS 3/8" & LARGER
 - 9.2.1.1. KWIK HUS BY HILTI
 - 9.2.2. DIAMETERS 1/2" & SMALLER
 - 9.2.2.1. TAPCON BY ITW RAMSET/REDHEAD
 - 9.3. ADHESIVE ANCHORS:
 - 9.3.0.1. PURE110+ BY DEWALT
 - POWDER-ACTUATED FASTENERS (P.A.F.) SHALL BE "X-U P8" BY HILTI OR E.O.R. APPROVED EQUAL.
 - REFER TO LIGHT GAUGE FRAMING NOTES (IF APPLICABLE) FOR ADDITIONAL INFORMATION.
 - CARBON STEEL EXPANSION ANCHORS SHALL HAVE A ONE-PIECE ANCHOR BODY WITH A LENGTH IDENTIFICATION CODE. THE ANCHORS SHALL HAVE AN EXPANSION MECHANISM WHICH CONSISTS OF A PAIR OF INTERLOCKING INDEPENDENT WEDGES. CARBON STEEL COMPONENTS SHALL BE PLATED ACCORDING TO ASTM SPECIFICATION B6.33. EXPANSION ANCHORS SHALL MEET THE DESCRIPTION IN FEDERAL SPECIFICATION FF-8-325 FOR CONCRETE EXPANSION ANCHORS.

MASONRY

- MASONRY CONSTRUCTION MATERIALS AND INSPECTIONS SHALL CONFORM TO THE LATEST EDITION OF ACI BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES (ACI 530/ASCE/TMS 402), LATEST EDITION. SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE/TMS 602), LATEST EDITION. ASTM C476, ASTM C1019, AND NCMA TEK 107.
- CONCRETE BLOCKS SHALL CONFORM TO ASTM C90 (fm = 2,000 PSI).
- MORTAR SHALL COMPLY WITH ASTM C270, TYPE S FOR ALL MASONRY WALLS.
- BLOCK SHALL NOT BE MOISTENED BEFORE GROUTING.
- ALL MASONRY CROSS WEBS SHALL BE FULLY BEDDED IN MORTAR AROUND CELLS TO BE GROUTED.
- REINFORCE WALLS WITH LADDER TYPE HORIZONTAL JOINT REINFORCEMENT COMPLYING WITH ASTM A951. SIDE RODS AND CROSS RODS OF HORIZONTAL JOINT REINFORCEMENT SHALL BE A MINIMUM OF 9 GAUGE AND HORIZONTAL JOINT REINFORCEMENT SHALL BE INSTALLED IN MASONRY BED JOINTS AT A MAXIMUM OF 16-INCHES ON CENTER MEASURED VERTICALLY. INSTALL HORIZONTAL JOINT REINFORCEMENT PER MANUFACTURER'S RECOMMENDATIONS AND LAP ALL JOINTS A MINIMUM OF 8-INCHES.
- VERTICAL REINFORCING MUST HAVE A MINIMUM CLEARANCE OF 3/4-INCH TO THE INSIDE FACE. SHELL OF MASONRY BLOCK. VERTICAL REINFORCEMENT IN WALLS SHALL BE SECURED AND LATERALLY SUPPORTED AGAINST DISPLACEMENT AT INTERVALS NOT EXCEEDING 192 BAR DIAMETERS OR 10-FT., WHICHEVER IS LESS, WHENEVER A CLEANOUT IS REQUIRED. SEE GROUTING DETAIL NOTE FOR CLEANOUT REQUIREMENTS.
- GROUT PLACEMENT STOPPED FOR (1) HOUR OR MORE SHALL BE STOPPED 1 1/2-INCHES BELOW TOP OF MASONRY BLOCK TO PROVIDE A KEY FOR SUBSEQUENT GROUTING.
- ALL GROUTING POURS SHALL BE CONSOLIDATED AND RECONSOLIDATED AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED BY MECHANICAL VIBRATION PER ACI 530.1/TMS 602/ASCE 6. CONSOLIDATION OR RECONSOLIDATION IS NOT REQUIRED FOR SELF-CONSOLIDATING GROUT.
- TYPICAL VERTICAL REINFORCING SIZE AND SPACING SHALL CONTINUED ABOVE AND BELOW ALL WALL OPENINGS.
- TEMPORARY BRACING AND SHORING OF WALLS TO PROVIDE STABILITY DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- STOPPING AND RESUMING WORK: RACK BACK 1/2-MASONRY UNIT LENGTH IN EACH COURSE. DO NOT TOOTH. CLEAN EXPOSED SURFACES OF SET MASONRY. REMOVE LOOSE MASONRY UNITS AND MORTAR PRIOR TO LAYING FRESH MASONRY.
- REINFORCE MASONRY OPENINGS GREATER THAN 1'-0" WIDE WITH HORIZONTAL JOINT REINFORCEMENT PLACED IN (2) HORIZONTAL JOINTS APPROXIMATELY 8-INCHES APART, IMMEDIATELY ABOVE THE LINTEL AND IMMEDIATELY BELOW THE SILL. EXTEND REINFORCEMENT TO THE JAMBS OF THE OPENING EXCEPT AT CONTROL JOINTS. SEE PLAN FOR ADDITIONAL REQUIREMENTS.
- DO NOT APPLY UNIFORM LOADS TO NEWLY CONSTRUCTED MASONRY WALLS FOR (3) DAYS.
- DO NOT APPLY CONCENTRATED LOADS TO NEWLY CONSTRUCTED MASONRY WALLS FOR (7) DAYS.
- EXTEND ALL VERTICAL WALL REINFORCEMENT TO WITHIN 2" OF TOP OF WALL OR BEAM UNLESS NOTED OTHERWISE. TERMINATE REINFORCING WITH STANDARD ACI 90-DEGREE HOOK.
- SEE ARCHITECTURAL AND STRUCTURAL CONSTRUCTION DOCUMENTS FOR MASONRY CONTROL JOINT (MCJ) LOCATIONS. MASONRY CONTROL JOINT SPACING SHALL NOT EXCEED 3x THE MASONRY WALL HEIGHT (IN FEET) OR 25-FEET, WHICHEVER IS LESS (UNLESS NOTED OTHERWISE).
- REFER TO ARCHITECTURAL CONSTRUCTION DOCUMENTS FOR WATERPROOFING DETAILS AT MASONRY CONTROL JOINTS.
- ALL MASONRY REINFORCING SHALL CONFORM TO ASTM A615 (GRADE 60), UNLESS NOTED OTHERWISE.
- SEE DETAIL MS05 IN THESE DRAWINGS FOR STANDARD LAP SPLICE LENGTHS AND BENDING REQUIREMENTS FOR REINFORCING BARS.
- JOB SITE MIXING OF GROUT SHALL NOT BE PERMITTED. TESTING SHALL CONFORM TO ASTM C1019. SEE TEST MOLD DETAIL BELOW. SEE SCHEDULE UNDER CONCRETE NOTES FOR COMPRESSIVE STRENGTH AND SLUMP REQUIREMENTS.



SPECIALTY ENGINEERING REQUIREMENTS

- ALL STAIRS, HANDRAILS, POSTS, AND SUPPORT CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR'S SPECIALTY ENGINEER. SHOP DRAWINGS SHALL BE SUBMITTED TO THE E.O.R. FOR REVIEW AND MUST BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE SAME STATE AS THE PROJECT LOCATION. DESIGN LOADINGS(S) SHALL CONFORM TO ALL REQUIREMENTS OF THE BUILDING CODE (SEE DESIGN CRITERIA FOR THE APPLICABLE BUILDING CODE) AS WELL AS ANY REQUIREMENTS LISTED IN THE STRUCTURAL CONSTRUCTION DOCUMENTS.
- FLAGPOLES AND/OR SITE LIGHTING POLES SHALL BE DESIGNED BY THE POLE VENDOR'S SPECIALTY ENGINEER AND SHALL INCLUDE POLES, FOUNDATIONS, AND CONNECTIONS. SHOP DRAWINGS SHALL BE SUBMITTED TO E.O.R. FOR REVIEW AND MUST BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE SAME STATE AS THE PROJECT LOCATION. MINIMUM DESIGN LOADS SHALL CONFORM TO ANSINAAM FP1001 "SPECIFICATIONS FOR DESIGN OF METAL FLAGPOLES".
- AWNINGS AND WALKWAY CANOPIES SHALL BE DESIGNED BY THE FABRICATOR'S SPECIALTY ENGINEER AND SHALL INCLUDE FRAME, COVERING, AND CONNECTIONS. SHOP DRAWINGS SHALL BE SUBMITTED TO E.O.R. FOR REVIEW AND MUST BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE SAME STATE OF THE PROJECT LOCATION. DESIGN LOADINGS(S) SHALL CONFORM TO ALL REQUIREMENTS OF THE BUILDING CODE (SEE DESIGN CRITERIA FOR THE APPLICABLE BUILDING CODE) AS WELL AS ANY REQUIREMENTS LISTED IN THE STRUCTURAL CONSTRUCTION DOCUMENTS.

STRUCTURAL SHEET INDEX	
S001	STRUCTURAL GENERAL NOTES & ABBREVIATIONS
S002	STRUCTURAL GENERAL NOTES
S100	FOUNDATION PLANS & NOTES
S101	SLAB PLAN & NOTES
S200	FOUNDATION SECTIONS & DETAILS SHT. 1 OF 2
S201	FOUNDATION SECTIONS & DETAILS SHT. 2 OF 2
S300	MISCELLANEOUS FRAMING PLAN, DETAILS & NOTES

LIGHT GAUGE METAL FRAMING

1. A CERTIFIED TESTING AGENCY SHALL BE ENGAGED TO PERFORM INDUSTRY STANDARD INSPECTIONS TO ENSURE CONFORMANCE WITH PLANS AND SPECIFICATIONS (IF PROVIDED). SUBMIT REPORTS TO ARCHITECT AND ENGINEER.
2. CONNECT STEEL STUDS AND TRACKS TO STRUCTURAL STEEL OR CONCRETE WITH MIN (2) POWDER ACTUATED FASTENERS (PAF) AT EACH STUD. AND CONNECT STEEL STUDS AND TRACKS TO EACH OTHER WITH MIN (2) #10 SCREWS AT EACH STUD (TYPICAL UNLESS NOTED OTHERWISE). SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND EXTENTS OF STEEL STUD WORK.
- NOTE: "POWDER ACTUATED FASTENER (PAF)" REFERS TO 0.145 DIA SHANK DOMED-HEAD, LOW-VELOCITY POWDER ACTUATED FASTENERS AS MANUFACTURED BY POWERS RAWL OR APPROVED EQUAL WITH MINIMUM CAPACITIES AS FOLLOWS:

IN 3000 PSI CONCRETE: 1 1/2" PENETRATION = 185# PULLOUT & 225# SHEAR

IN A992 STEEL: 1/4" MATERIAL = 430# PULLOUT & 660# SHEAR (PIN MUST FULLY PENETRATE THE MATERIAL BY 1/4" MINIMUM)

3. STEEL STUDS SHALL MEET FOLLOWING DESIGN CRITERIA: GALV G-60 ASTM A525. MINIMUM YIELD STRESS SHALL BE 50,000 PSI FOR 12ga, 14ga, 16ga AND 33000 PSI FOR 18ga & 20ga.

STUD SIZE	EFFECTIVE MINIMUM I	EFFECTIVE MINIMUM S
3 5/8"x16 GA	.8549	.4388
3 5/8"x18 GA	.6841	.3652
3 5/8"x20 GA	.5354	.2608
4"x16 GA	1.0752	.5027
4"x18 GA	.8722	.4177
4"x20 GA	.6722	.2589
6"x16 GA	2.8033	.8872
6"x18 GA	2.2675	.7328
6"x20 GA	1.7427	.5234
8"x14 GA	6.9477	1.7007
8"x16 GA	5.6294	1.3470
8"x18 GA	4.5454	1.1078
8"x20 GA	3.4876	.6684

NOTES:

- 3.1. NOT ALL SIZES MAY BE USED. SEE PLANS AND SECTIONS FOR SIZE(S) REQUIRED. (SIZES AND GAGES ON STRUCTURAL DWGS SHALL GOVERN OVER ARCHITECTURAL DWGS)
- 3.2. ALL SIZES SHALL HAVE 1-5/8" FLANGES.
4. BRACING DURING CONSTRUCTION: PROVIDE 1 1/2" COLD-ROLLED CHANNELS OR HORIZONTAL STRAP BRACING FOR WALLS IMMEDIATELY AFTER STUDS ARE ERECTED.
5. EXECUTION: POSITION STUDS VERTICALLY IN RUNNERS AND SPACE NO GREATER THAN 16". SECURELY ANCHOR EACH STUD TO RUNNER WITH (4) #10 LOW-PROFILE SCREWS, TWO AT TOP AND TWO AT BOTTOM, WITH ONE SCREW IN EACH FLANGE. TRACKS SHALL BE SECURELY ANCHORED TO THE SUPPORTING STRUCTURE AS SHOWN ON THE PLANS. AT TRACK BUTT JOINTS, ABUTTING PIECES OF TRACK SHALL BE SECURELY ANCHORED TO A COMMON STRUCTURAL ELEMENT, OR THEY SHALL BE BUTT-WELDED OR SPLICED TOGETHER. JACK STUDS OR CRIPPLES SHALL BE INSTALLED BELOW WINDOW SILLS, ABOVE WINDOW AND DOOR HEADS, AT FREE STANDING STAIR RAILS, AND ELSEWHERE TO FURNISH SUPPORT, AND SHALL BE SECURELY ATTACHED TO SUPPORTING MEMBERS. PROVISIONS FOR STRUCTURE VERTICAL MOVEMENT SHALL BE PROVIDED WHERE INDICATED ON THE PLANS. SPLICES IN AXIALLY LOADED STUDS SHALL NOT BE PERMITTED.
6. EXTERIOR SHEATHING: ATTACH SHEATHING TO EXTERIOR OF EACH STUD WITH 1" TYPE(S) S-12 COATED SCREWS SPACED 3/8" FROM ENDS AND EDGES AND AT APPROXIMATELY 6" OC.
7. LATERAL BRACING (HORIZONTAL BRIDGING) FOR WALLS:

(NOTE: IF NON-LOAD-BEARING WALLS (PARTITION WALLS OR CURTAIN WALLS) HAVE SHEATHING ON BOTH SIDES, LATERAL BRACING IS NOT REQUIRED.)

ENSURE BOTH STUD FLANGES ARE ATTACHED TO TOP AND BOTTOM RUNNER FLANGES. HORIZONTAL BRIDGING MUST BE INSTALLED AT SPACING NOT TO EXCEED 48" OC FOR AXIAL LOAD BEARING WALLS AND 60" OC MEASURED VERTICALLY FOR NON-LOAD-BEARING WALLS CARRYING WIND LOAD ONLY. (TYPICAL FOR ALL OPTIONS BELOW.)

HORIZONTAL BRIDGING - OPTION #1

HORIZONTAL BRIDGING - OPTION #2

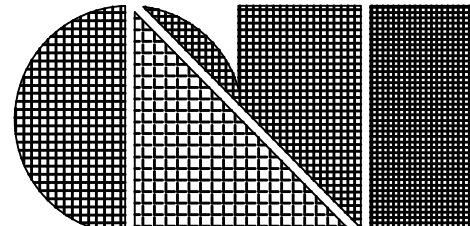
1 1/2" COLD ROLLED CHANNELS MAY BE USED IN LIEU OF ABOVE DETAIL TO BRACE STUDS LATERALLY. CHANNELS ARE INSERTED THROUGH STUD WEB HOLES AND SECURED WITH SCREW-ATTACHED 1 1/2"x2"x16ga CLIP ANGLES CUT TO LENGTH 1/4" LESS THAN STUD WIDTH.

HORIZONTAL BRIDGING - OPTION #3

8. METAL STUD INSTALLATION: METAL STUDS SHALL EXTEND INTO ALL TRACKS UNTIL IT IS WITHIN 1/2" OF THE TRACK WEB.

NO METAL STUD TRACK SHALL EXTEND PAST THE EDGE OF THE SUPPORT MORE THAN ONE THIRD OF ITS WIDTH (e.g. A 6" TRACK MAY EXTEND BEYOND THE EDGE OF SUPPORT A MAX OF 6/3=2").

THESE DRAWINGS ARE ISSUED FOR PERMITS, NOT FOR CONSTRUCTION. COORDINATION AND REVIEW OF FINAL METAL BUILDING COLUMN LAYOUTS AND REACTIONS ARE REQUIRED PRIOR TO CONSTRUCTION.



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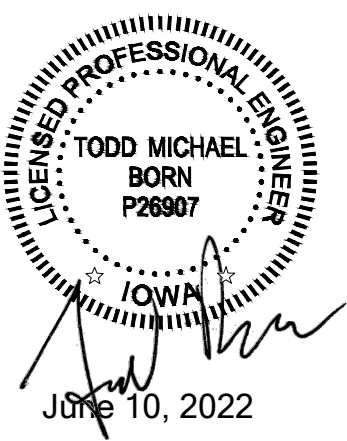
C.L. HELT PROJECT # 22088

Project : CHAMPION EXPRESS CAR WASH FOR 7B BUILDING AND DEVELOPMENT 1807 N JEFFERSON WAY INDIANOLA, IA, 50125

Sheet Description :

STRUCTURAL GENERAL NOTES

Seal



TO THE BEST OF THE ENGINEER'S KNOWLEDGE AND UNDERSTANDING, THE STRUCTURAL PLANS AND SPECIFICATIONS COMPLY WITH THE CURRENT IOWA BUILDING CODE AND ARE NOT DEPENDENT ON THE STRUCTURAL ENGINEER'S PROFESSIONAL JUDGMENT. (JOB #: 22.160)

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Drawn By : T. BORN

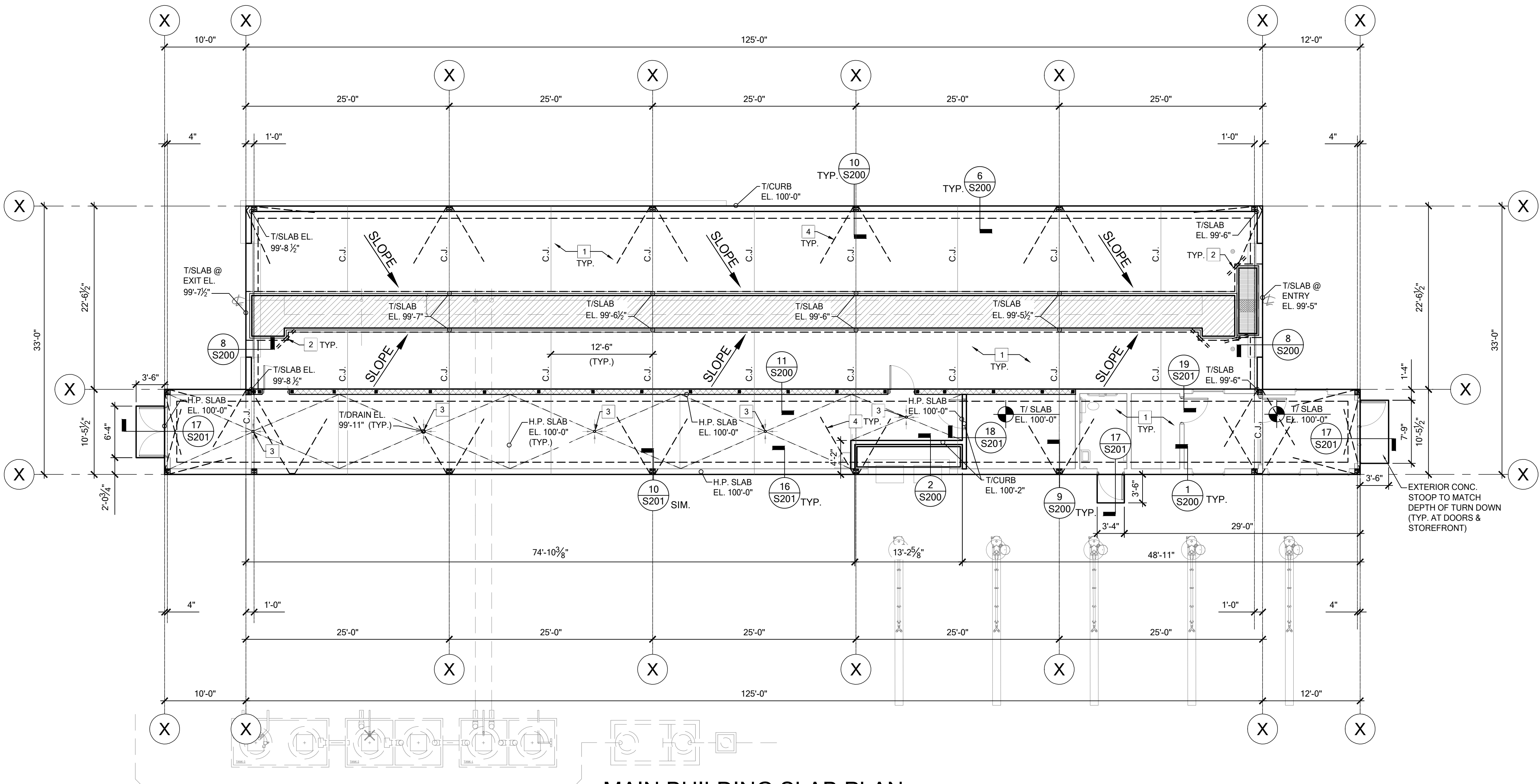
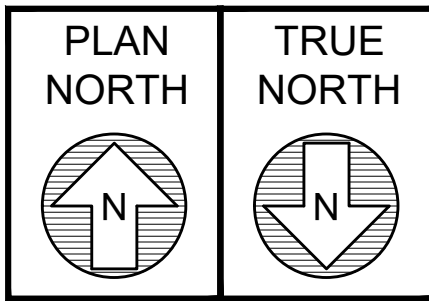
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Revisions :

Date : 06/10/22

Sheet No.

S002



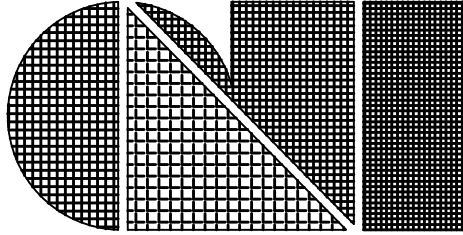
MAIN BUILDING SLAB PLAN

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

THESE DRAWINGS ARE ISSUED FOR PERMITS, NOT FOR CONSTRUCTION. COORDINATION AND REVIEW OF FINAL METAL BUILDING COLUMN LAYOUTS AND REACTIONS ARE REQUIRED PRIOR TO CONSTRUCTION.

FOUNDATION LEGEND	
SYMBOL	DESIGN DESCRIPTION
	INDICATES REINFORCED CELL W/ (1) GRADE 60 #5 VERTICAL BAR & FILLED SOLID WITH 3,000 PSI CONCRETE GROUT. SEE NOTE 6 BELOW.
	INDICATES TOP OF FUTURE SLAB, TOP OF FOOTING, OR TOP OF GRADE ELEVATION.
	INDICATES SAWED CONTROL JOINT - SEE DETAIL 3/S200. KEYED CONSTRUCTION JOINT CAN BE USED AT THE CONTRACTOR'S DISCRETION AT ALL SAWED CONTROL JOINTS UNLESS NOTED.
FOUNDATION NOTES	
1. SEE SHEETS S001 & S002 FOR GENERAL STRUCTURAL NOTES. 2. TOP OF CONCRETE SLAB. ELEVATION = 100'-0" (UNLESS NOTED OTHERWISE) FOR REFERENCE ONLY. SEE CIVIL DRAWINGS FOR ACTUAL ELEVATION ABOVE MEAN SEA LEVEL. 3. SEE 12/S200 FOR TYPICAL FOUNDATION REINFORCING AT BUILDING CORNERS. 4. G.C. SHALL COORDINATE AND NOTIFY E.O.R. OF ANY CONDITIONS THAT WILL REQUIRE FOOTING STEPS OR LOWER FOOTINGS THAN INDICATED ON FOUNDATION PLAN. THESE CONDITIONS INCLUDE, BUT ARE NOT LIMITED TO, CONFLICTS WITH FINAL GRADING AROUND BUILDING PERIMETER, CONFLICTS WITH BELOW GRADE UTILITIES & PLUMBING, AND UNSUITABLE BEARING MATERIAL. 5. ALL FOOTINGS ARE CENTERED UNDER BEARING WALLS, COLUMNS, GIRDER TRUSSES, ETC., UNLESS NOTED OTHERWISE. 6. REINFORCED CELLS SHALL BE PLACED AT ALL WALL LOCATIONS LISTED BELOW UNLESS NOTED OTHERWISE: 6.1. MAXIMUM SPACING OF 72" ON CENTER. 6.2. BUILDING CORNERS 6.3. FLOOR/ROOF GIRDER TRUSS BEARING LOCATIONS 6.4. LINTEL BEARING LOCATIONS 6.5. EACH SIDE OF MASONRY OPENINGS 6.5.1. MASONRY OPENINGS UP TO 8'-0" SHALL HAVE (1) REINFORCED CELLS EA. SIDE 6.5.2. MASONRY OPENINGS 8'-1" TO 12'-0" SHALL HAVE (2) REINFORCED CELLS EA. SIDE 6.5.3. MASONRY OPENINGS 12'-0" TO 16'-0" SHALL HAVE (3) REINFORCED CELLS EA. SIDE 7. MAXIMUM FILLED CELL SPACING SHALL APPLY ABOVE AND BELOW MASONRY OPENINGS. 8. MASONRY CONTRACTOR SHALL COORDINATE WITH DOOR AND WINDOW SPECIFICATIONS AS WELL AS ARCHITECTURAL DRAWINGS FOR ALL DOOR AND WINDOW ROUGH OPENING SIZES AND EXACT LOCATIONS. THESE DRAWINGS MAY NOT SHOW ROUGH OPENING DIMENSIONS. 9. MASONRY CONTRACTOR SHALL COORDINATE WITH MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR REQUIRED VENTS, PLUMBING LINES, ELECTRICAL CHASES, ELECTRICAL SWITCHES & OUTLETS, ETC. LOCATIONS AND VERIFY THERE IS NO FILLED CELL WHERE THESE ITEMS OCCUR. IF A CONFLICT IS FOUND NOTIFY THE E.O.R. IMMEDIATELY FOR CLARIFICATION AND/OR MODIFICATION.	
PLAN KEY NOTES	
	6" THICK, 4,000 P.S.I. CONC. SLAB REINF. W/ #4 @ 18" O.C. EA. WAY OVER 10 MIL VAPOR BARRIER & COMPACTED SUBGRADE
	PROVIDE (2) #4 x 36" LG. BARS @ MID-DEPTH OF CONC. SLAB @ ALL RE-ENTRANT CORNERS
	FLOOR DRAIN - SEE PLUMBING DWG'S. FOR T/DRAIN EL. - SLOPE SLAB TO FLOOR DRAIN
	#5 HAIRPIN - SEE DETAIL 9 & 10 /S2010 FOR DETAILS

CONTRACTOR/ SUB-CONTRACTOR NOTE:
ANY DISCREPANCY OR ERROR IN DIMENSIONS OR NOTES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN PROFESSIONAL FOR CLARIFICATION PRIOR TO COMMENCEMENT OF CONSTRUCTION.



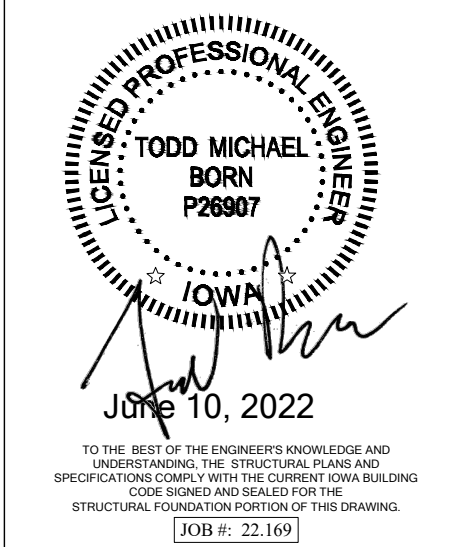
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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
SLAB PLAN & NOTES

Seal



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Drawn By :
T. BORN

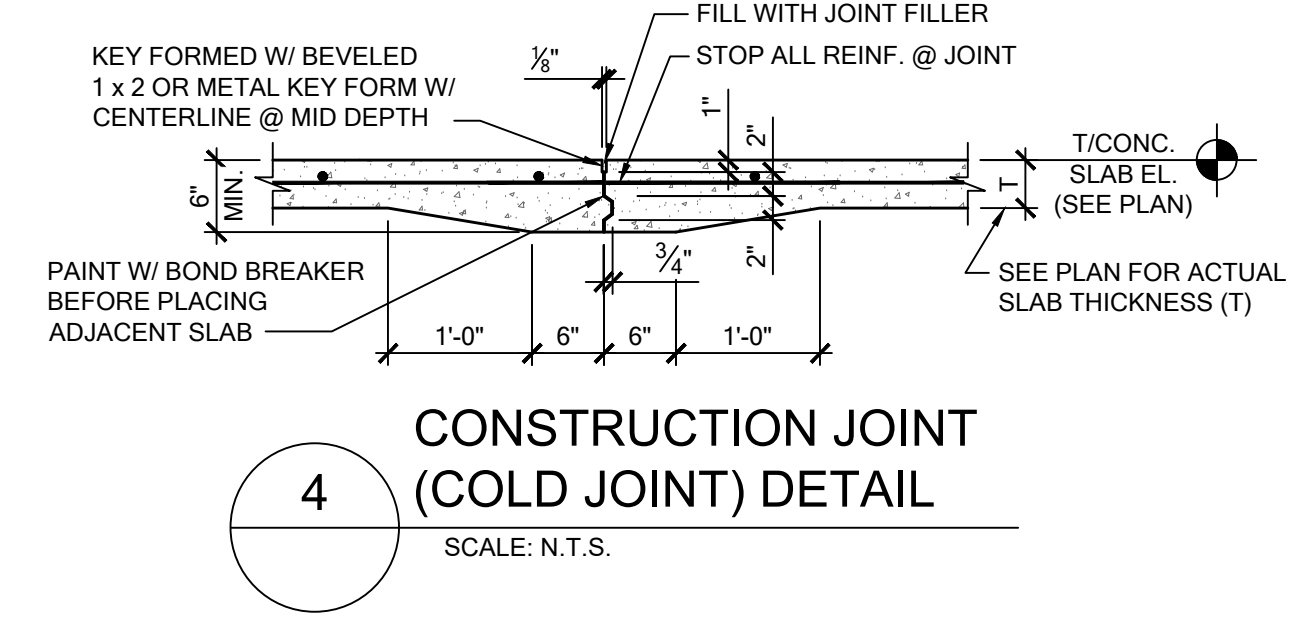
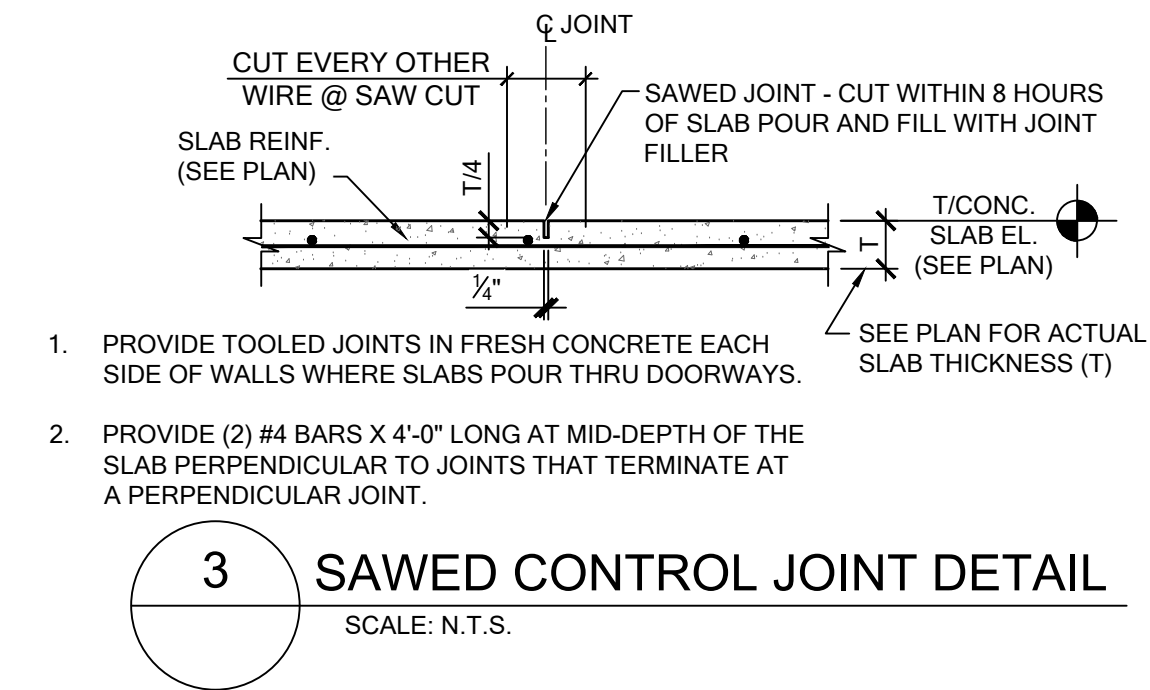
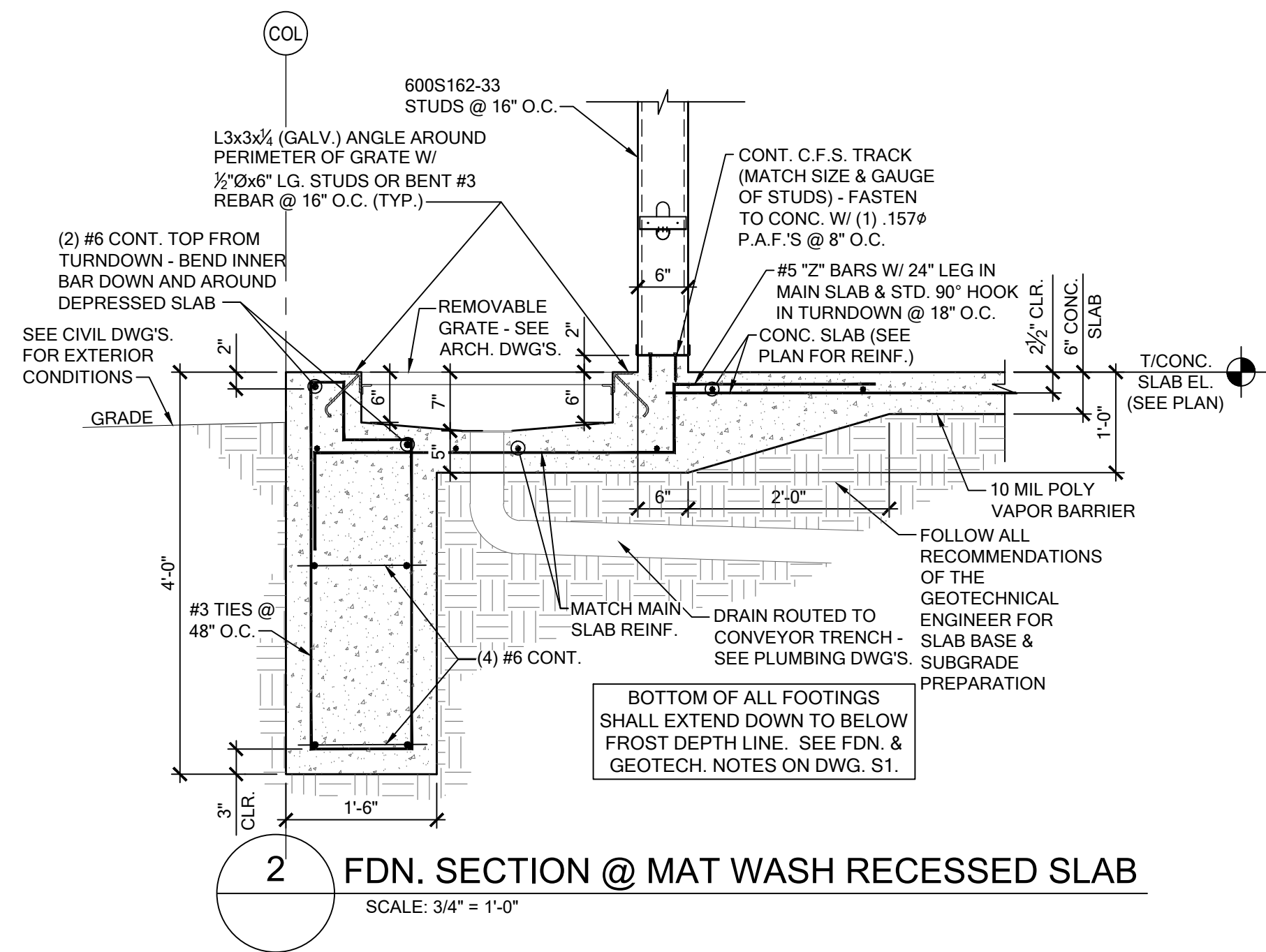
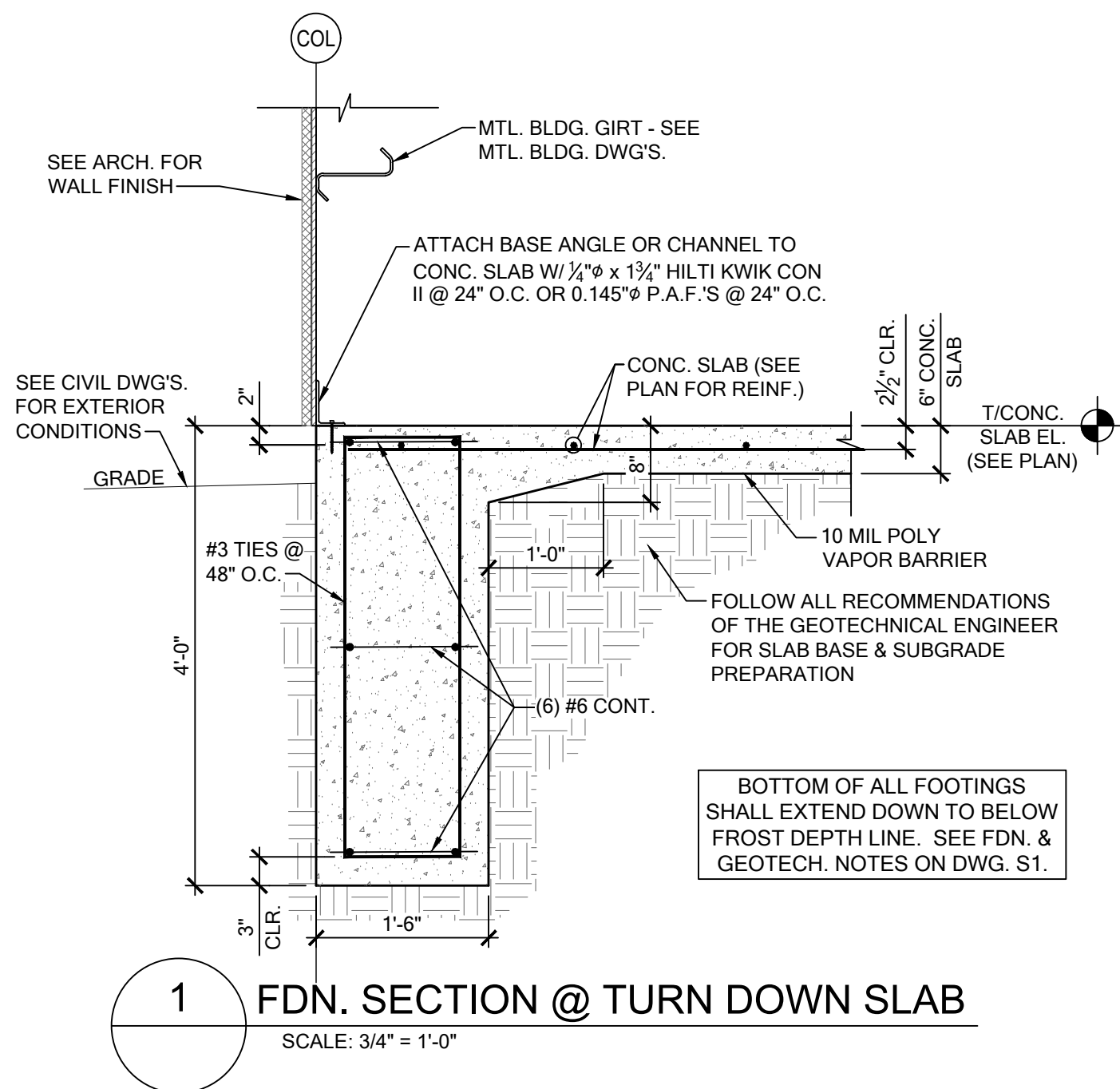
Checked By :
T. BORN

Revisions :

Date : 06/10/22

Sheet No.

S101



5 ANCHOR BOLT (A.B.) SCHEDULE
SCALE: N.T.S.

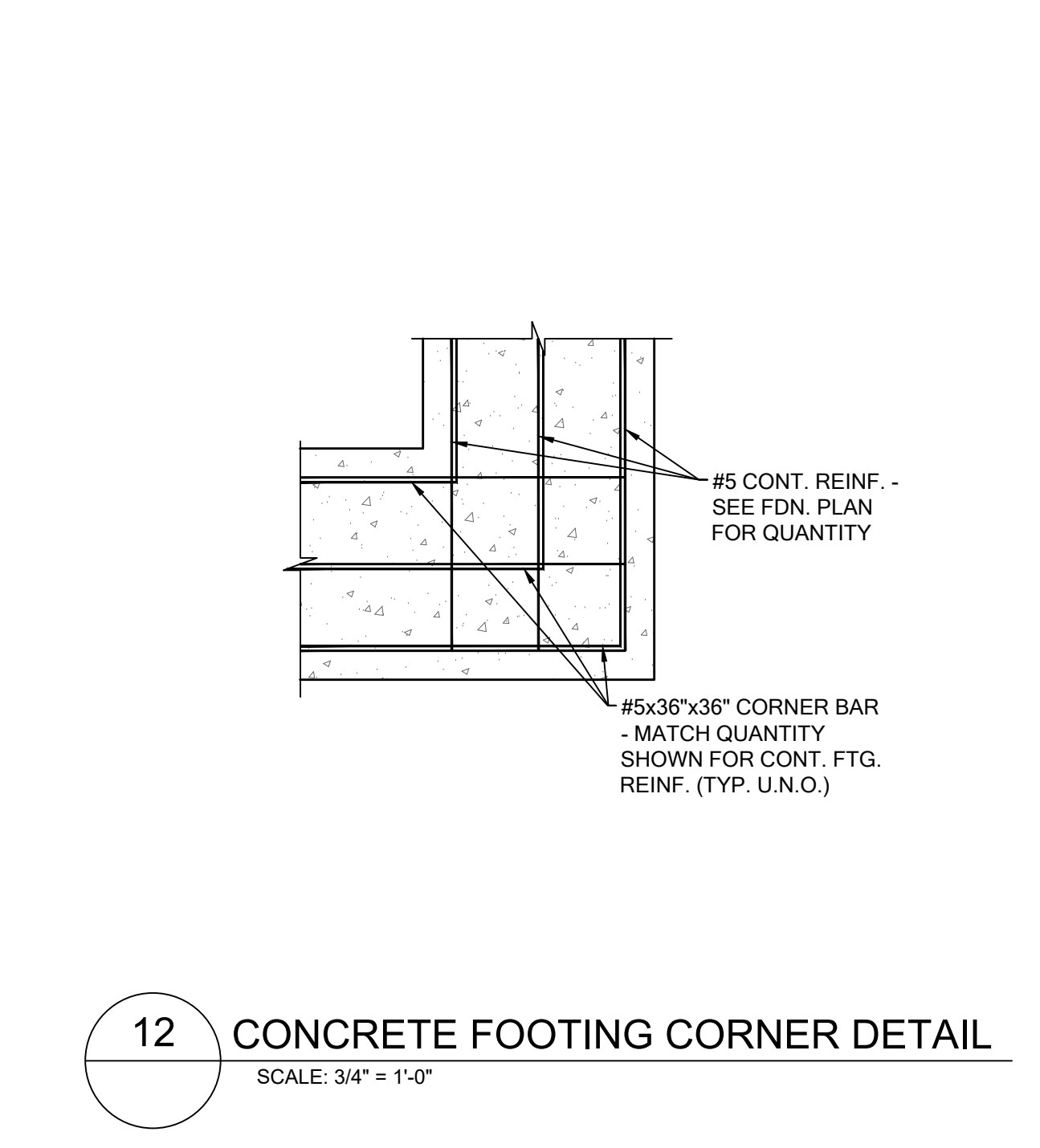
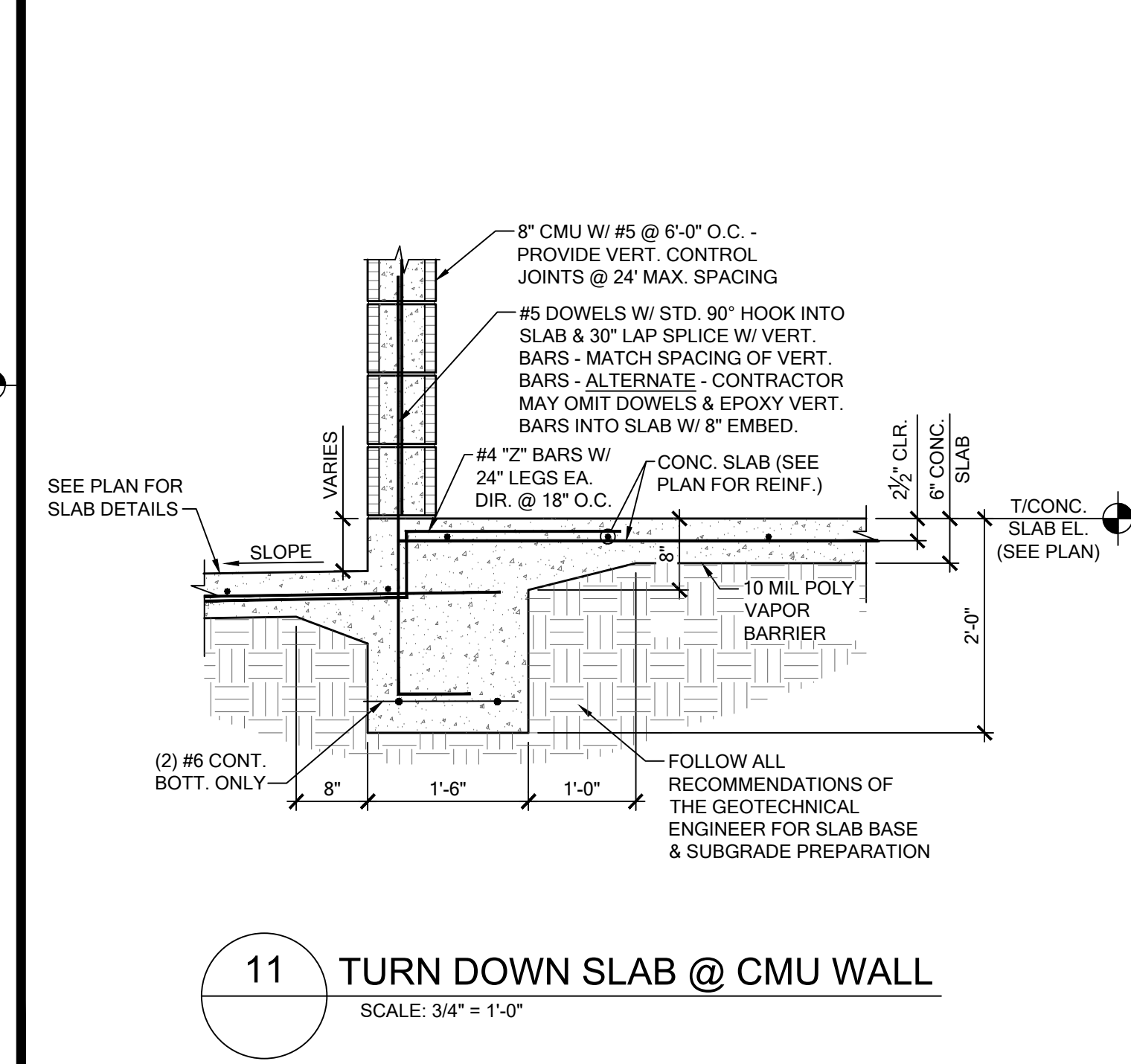
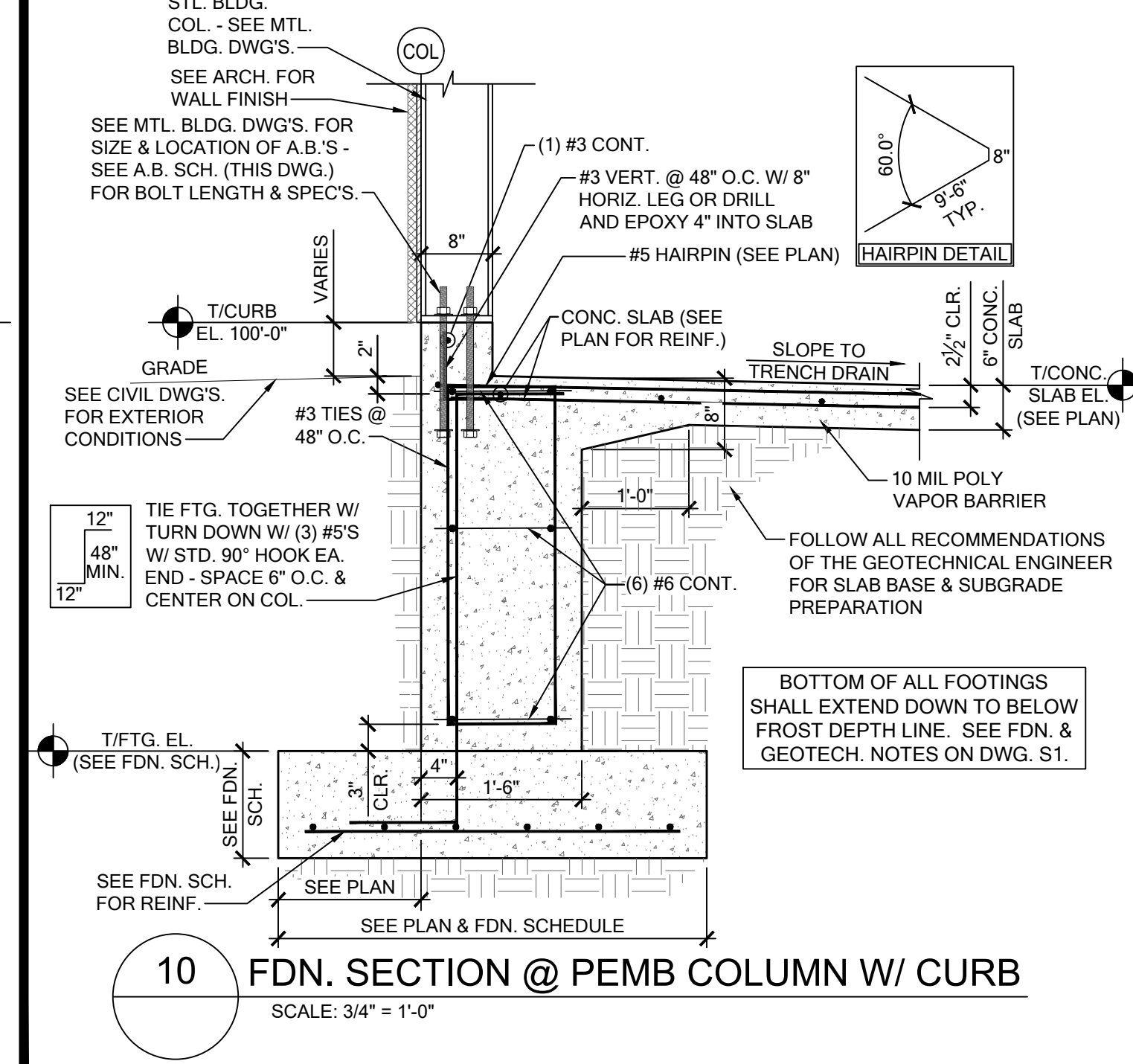
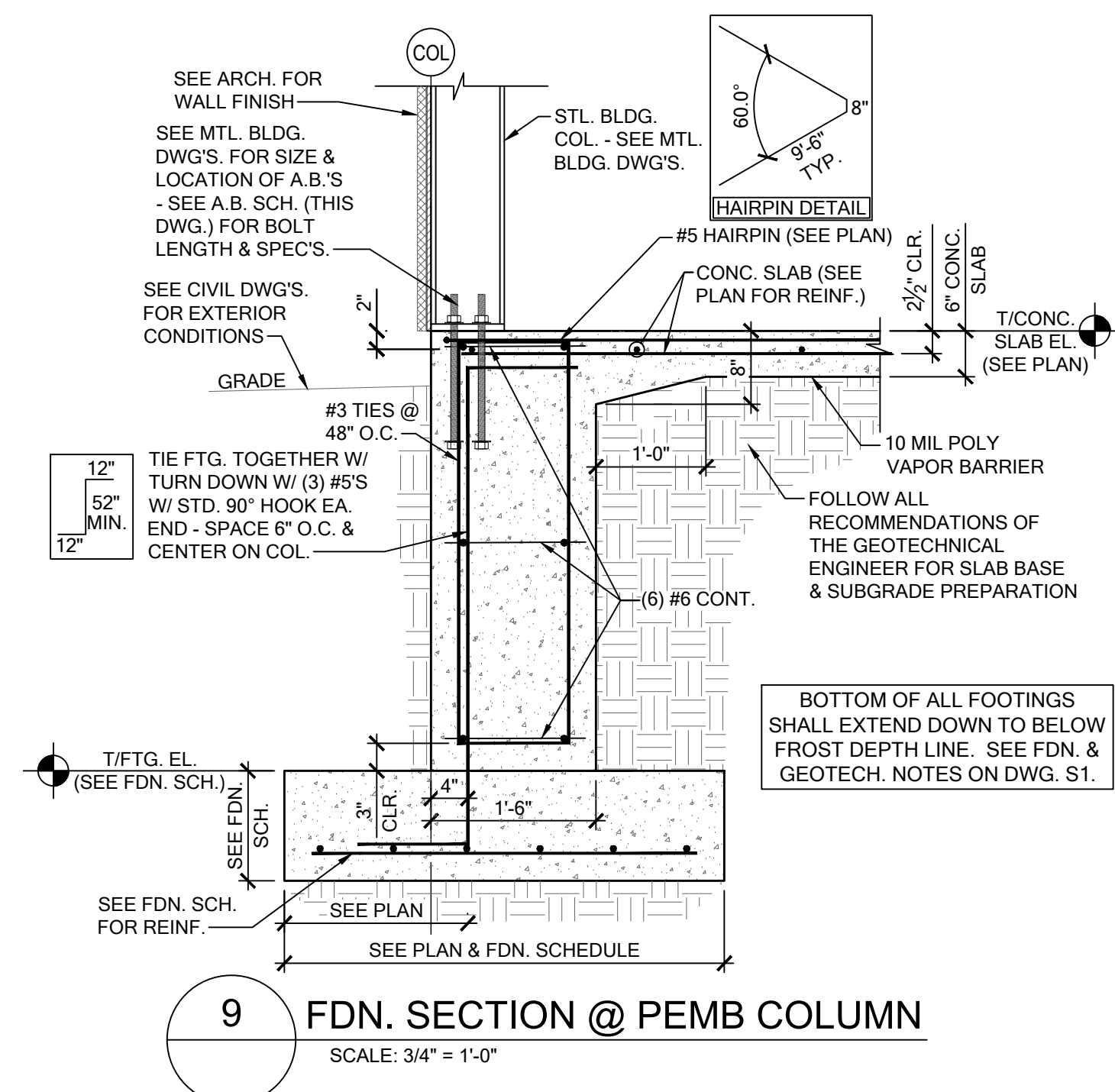
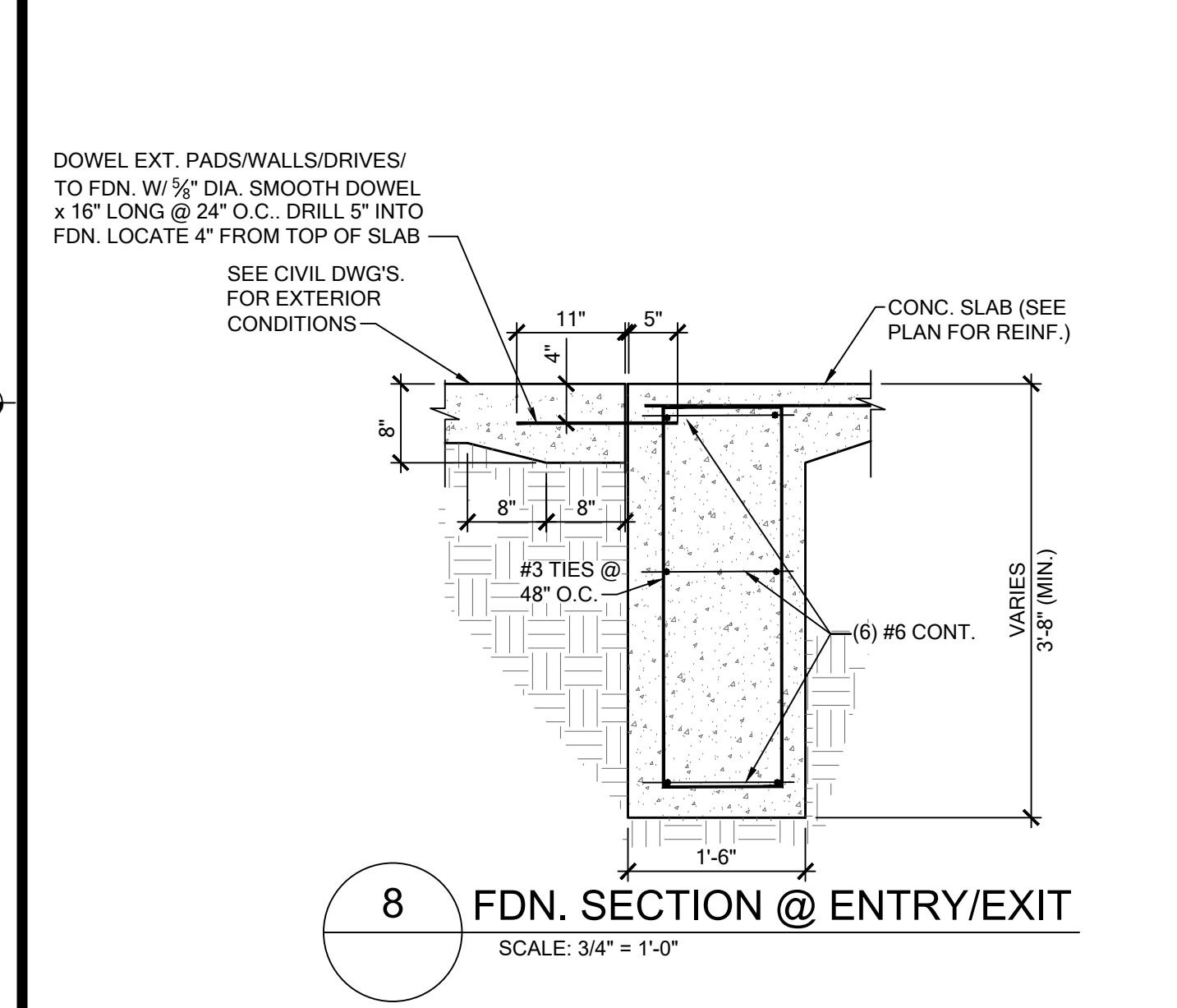
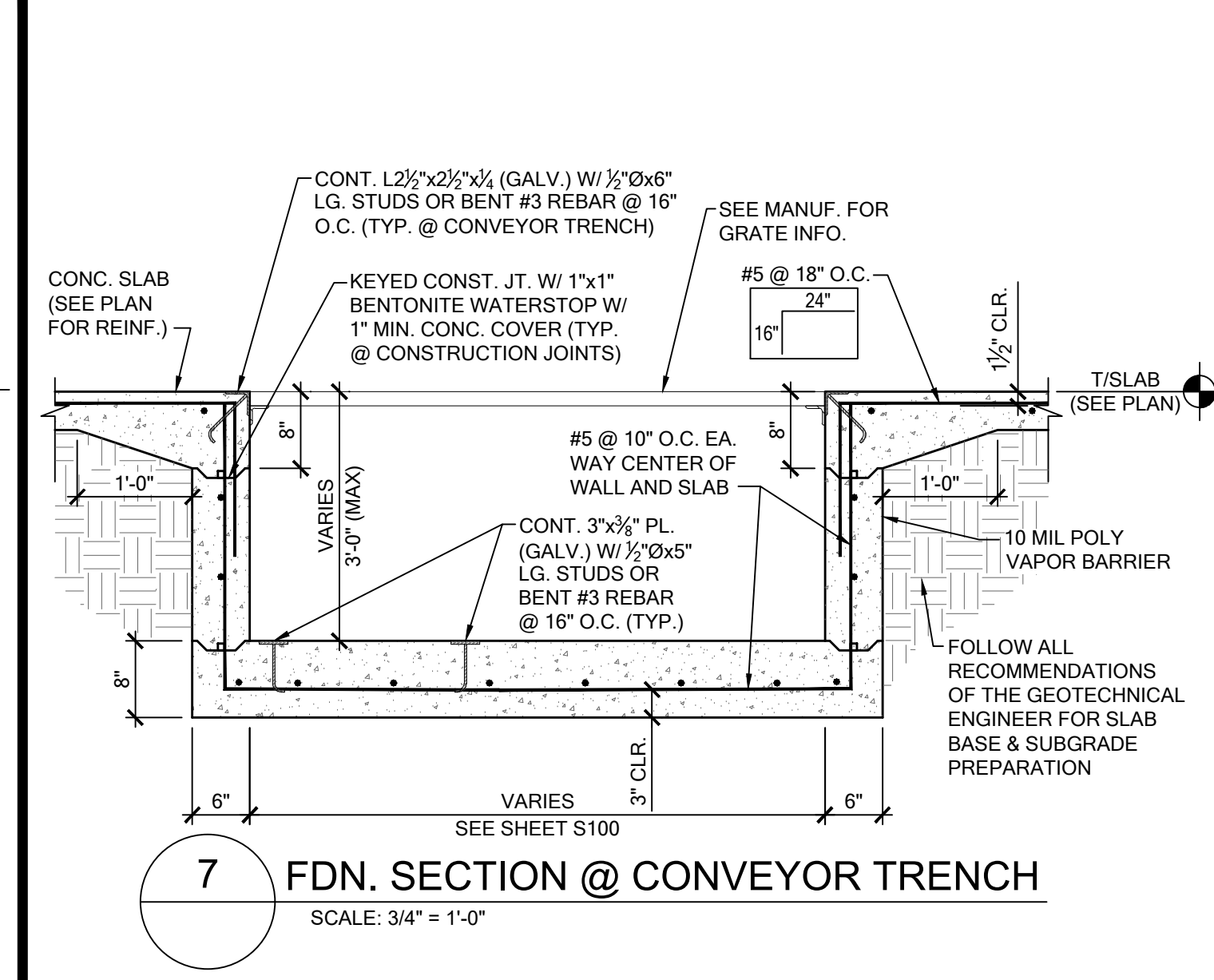
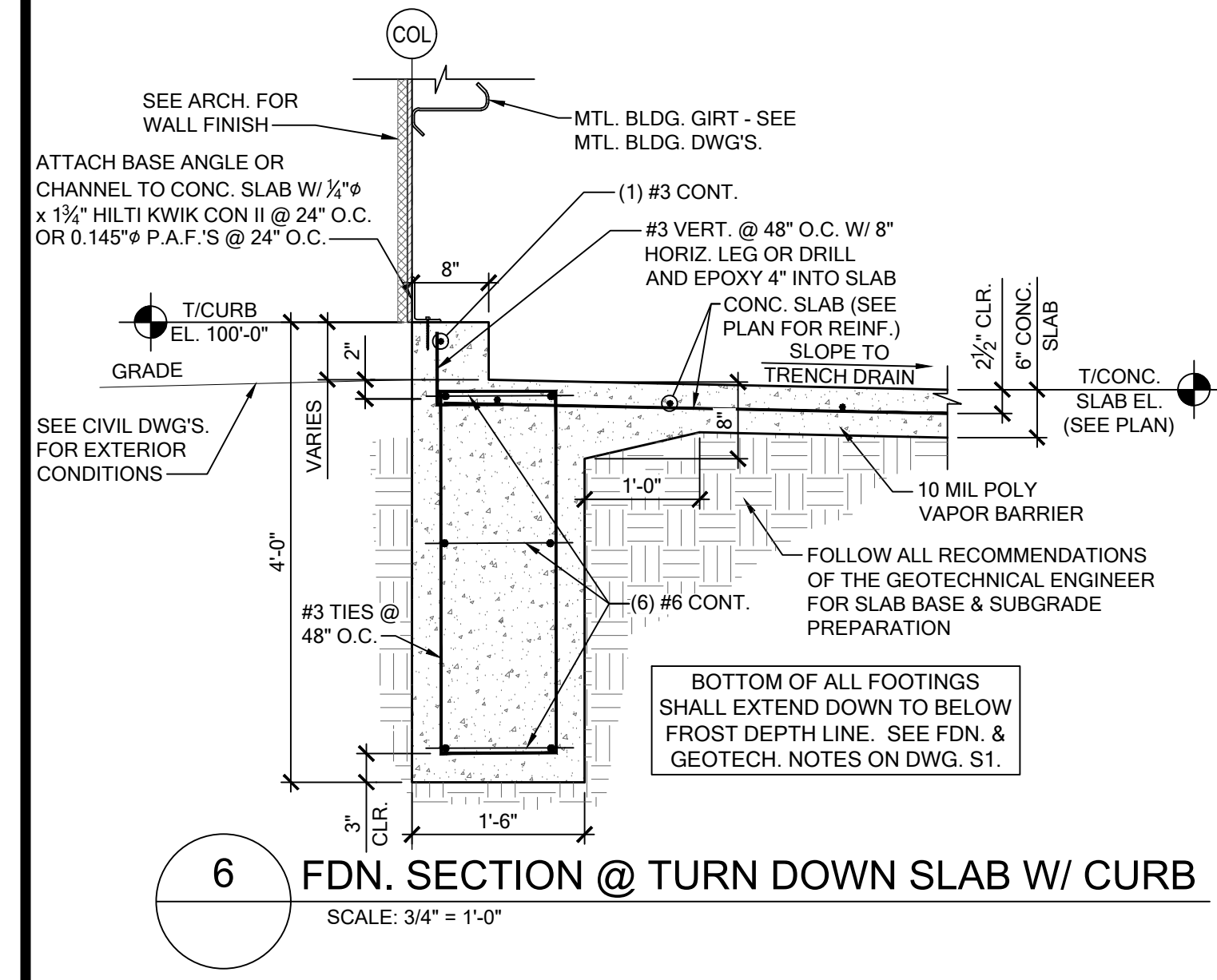
BOLT DIA. (Ø) (IN)	BOLT LENGTH (L) (IN)	THREAD LENGTH (T) & MAX PROJ.
3/8"	8"	3"
1/2"	9"	3"
5/8"	11"	4"
3/4"	14"	4"
7/8"	15"	4"
1"	16"	4"
1 1/8"	17"	5"
1 1/4"	19"	6"
1 3/8"	21"	6"
1 1/2"	24"	7"
1 3/4"	26"	7"
2"	28"	8"
2 1/4"	30"	9"
2 1/2"	34"	10"

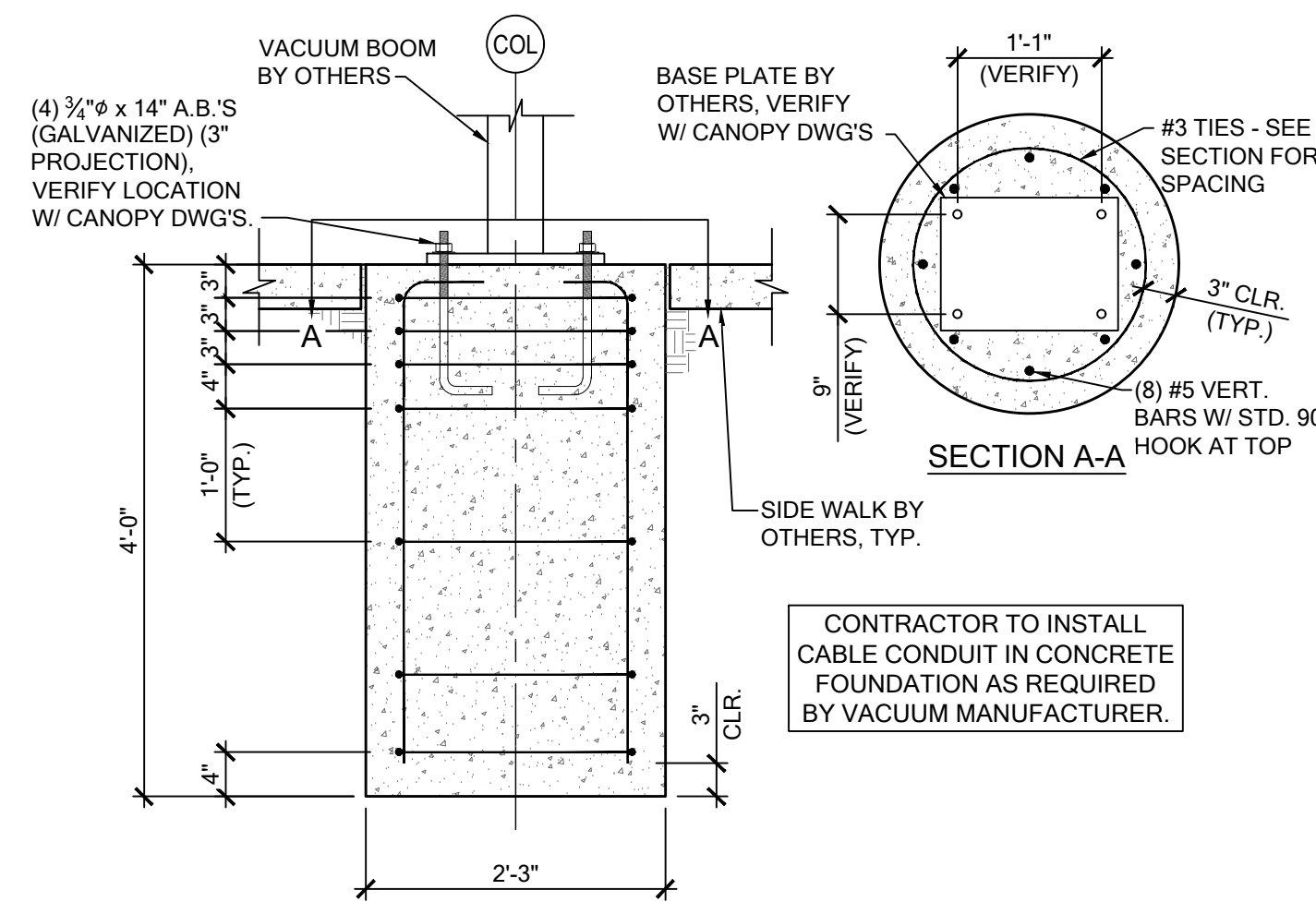
EMBEDMENT (L) - PROJECTION (T) - THREAD (T)

ROUGH POUR

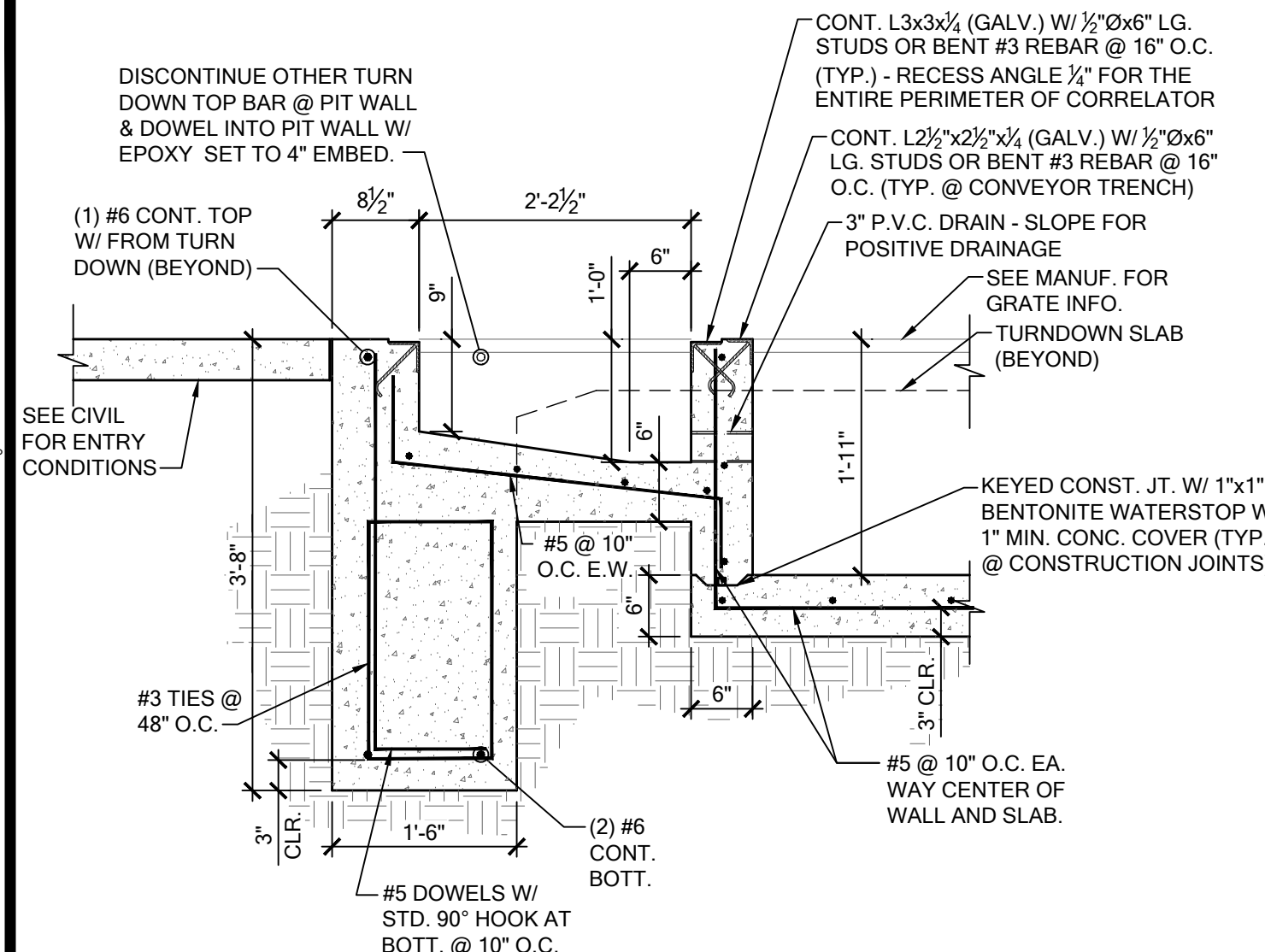
ASTM-F1554 GR. 55 BOLT DIA. (#)

2"x2"x1/2" PL. WASHER WELDED ALL AROUND BOTH SIDES W/ 1/4" FILLET WELD

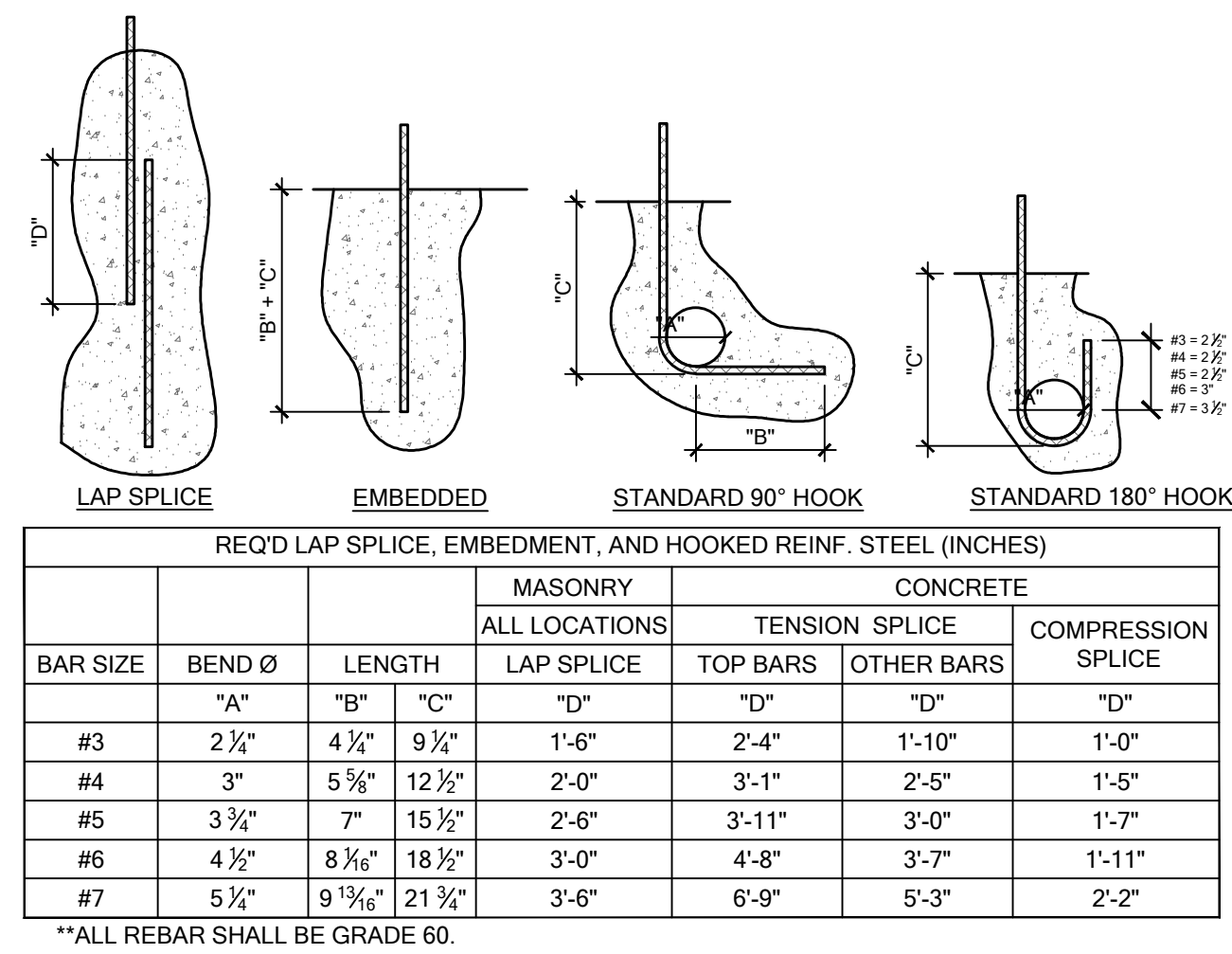




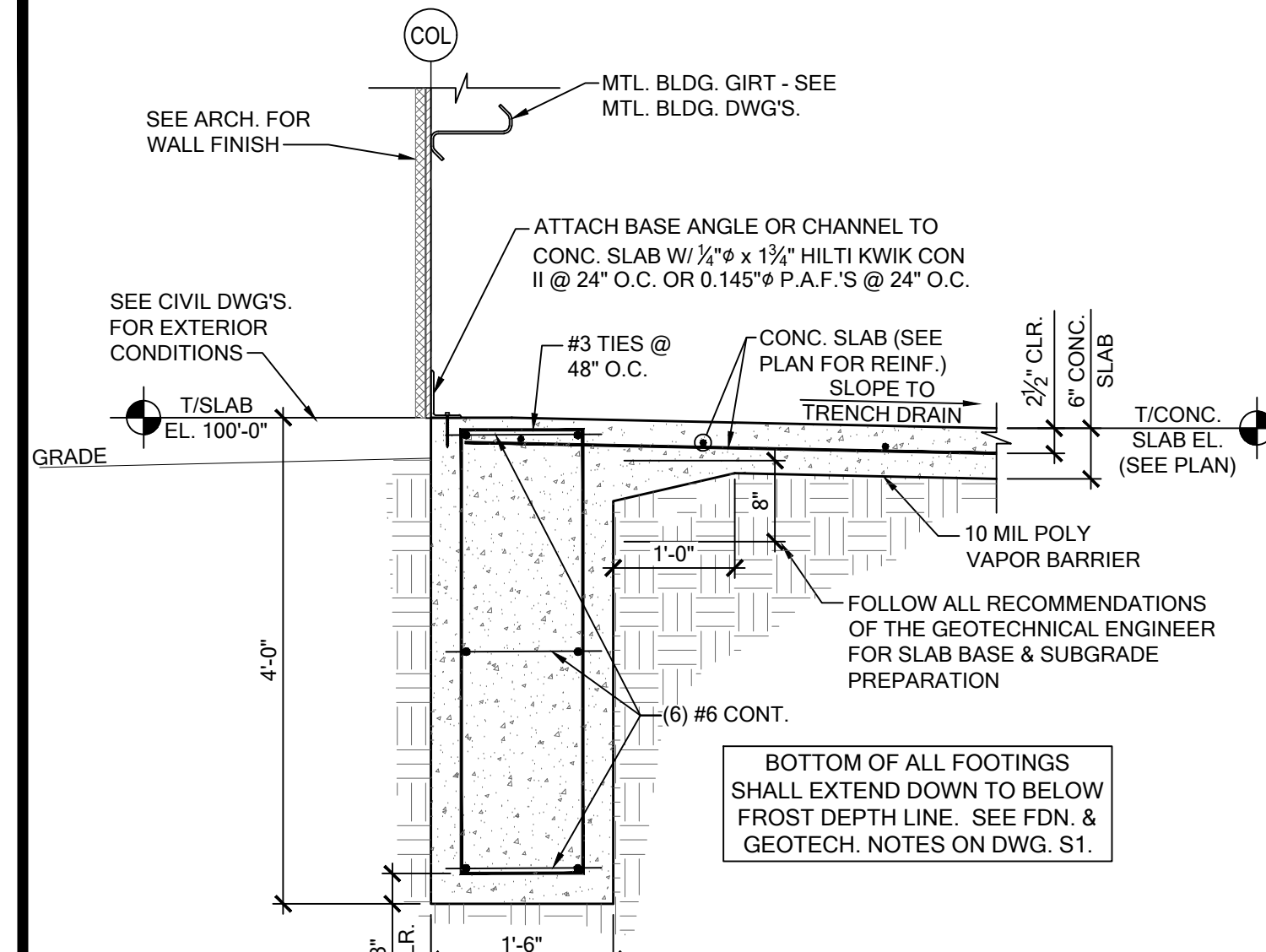
13 SECTION @ BOOM VACUUM FOUNDATION
SCALE: 3/4" = 1'-0"



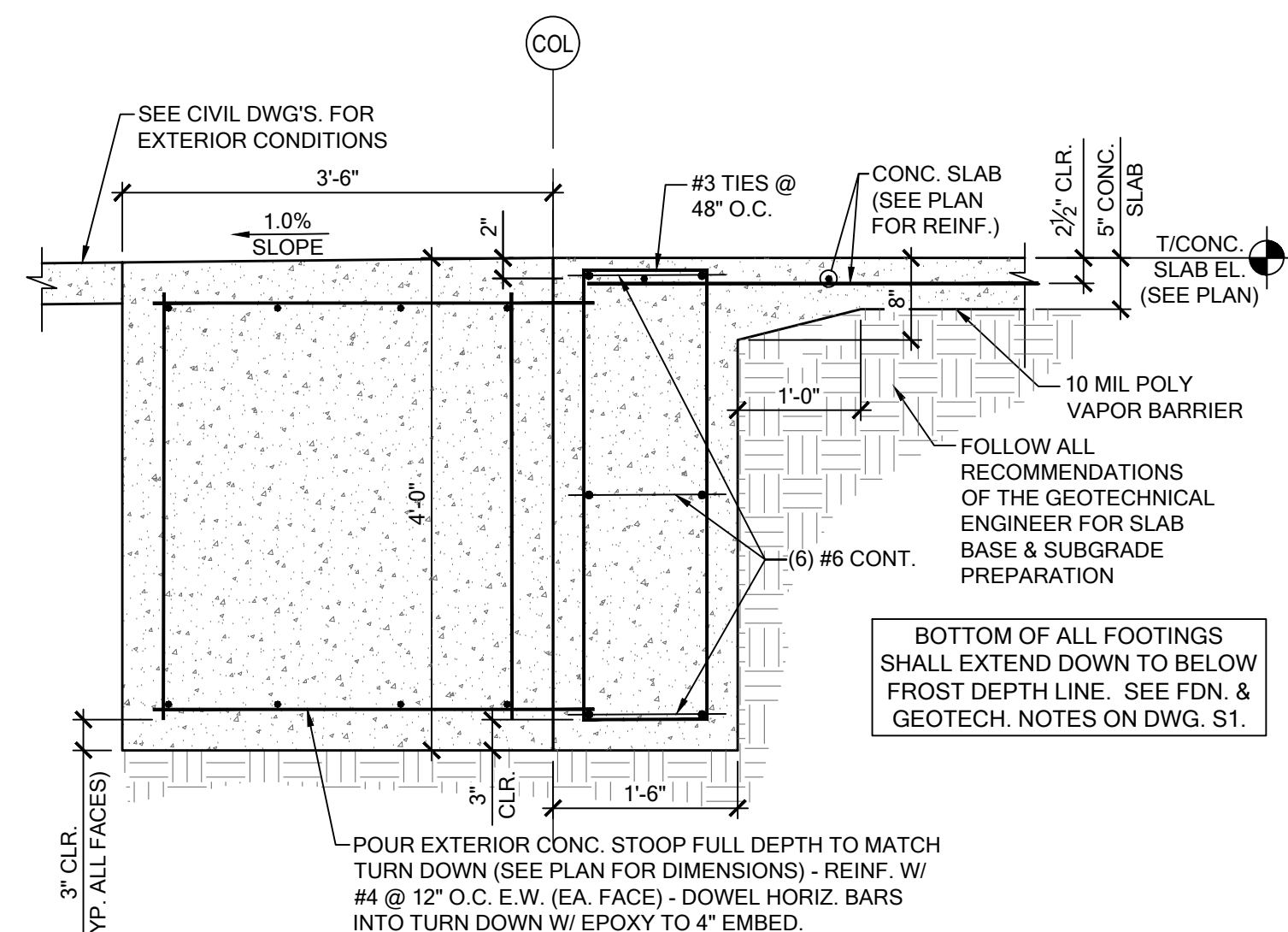
14 FDN. SECTION @ ENTRY
SCALE: 3/4" = 1'-0"



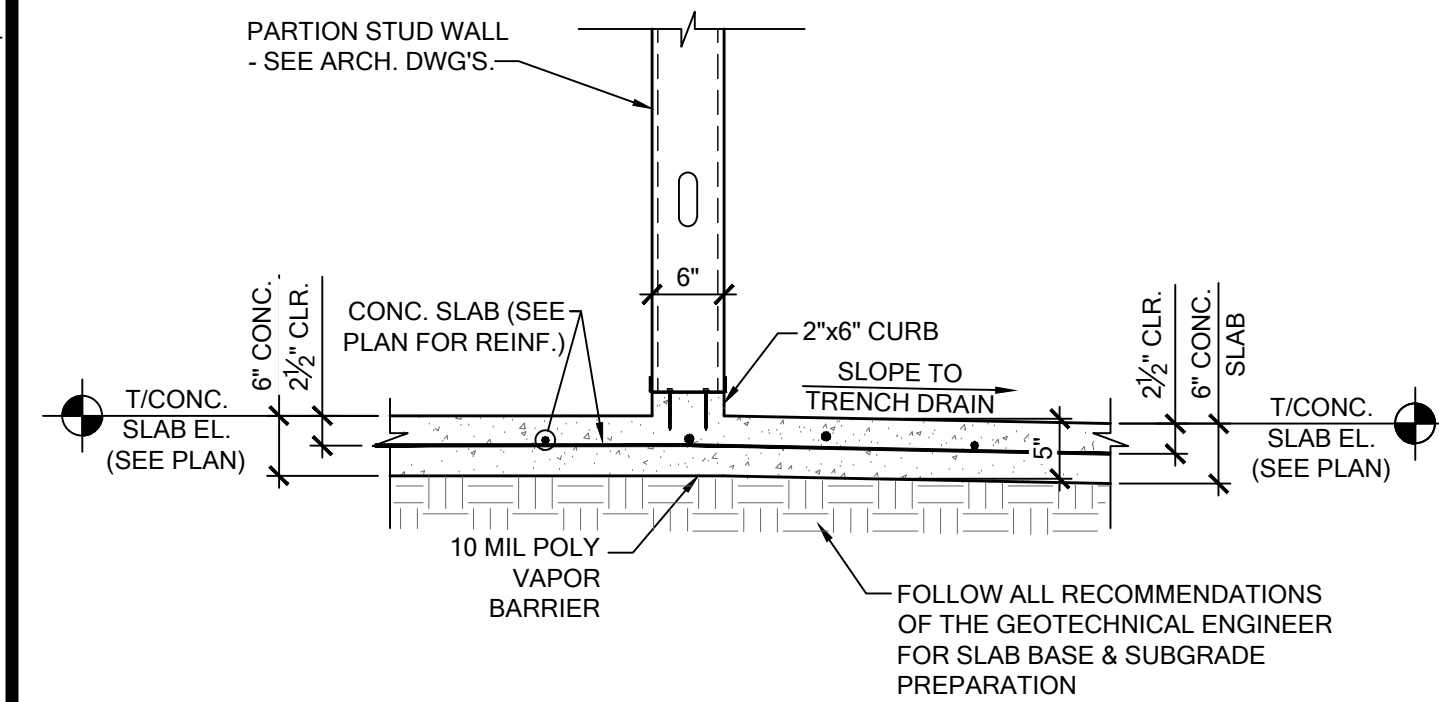
15 REBAR BEND & SPLICE DETAIL
SCALE: 3/4" = 1'-0"



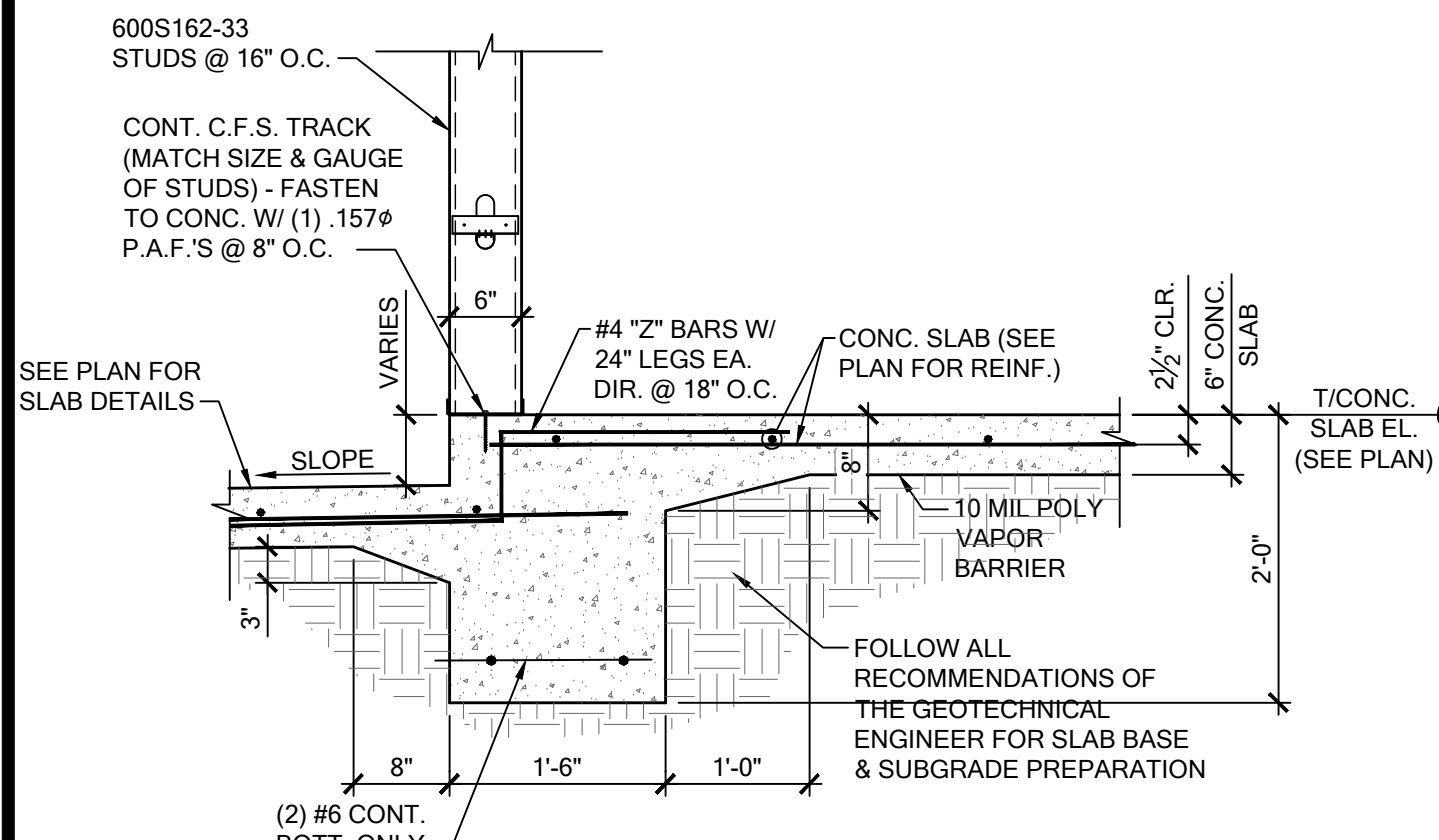
16 FDN. SECTION @ MECH. ROOM TURN DOWN SLAB
SCALE: 3/4" = 1'-0"



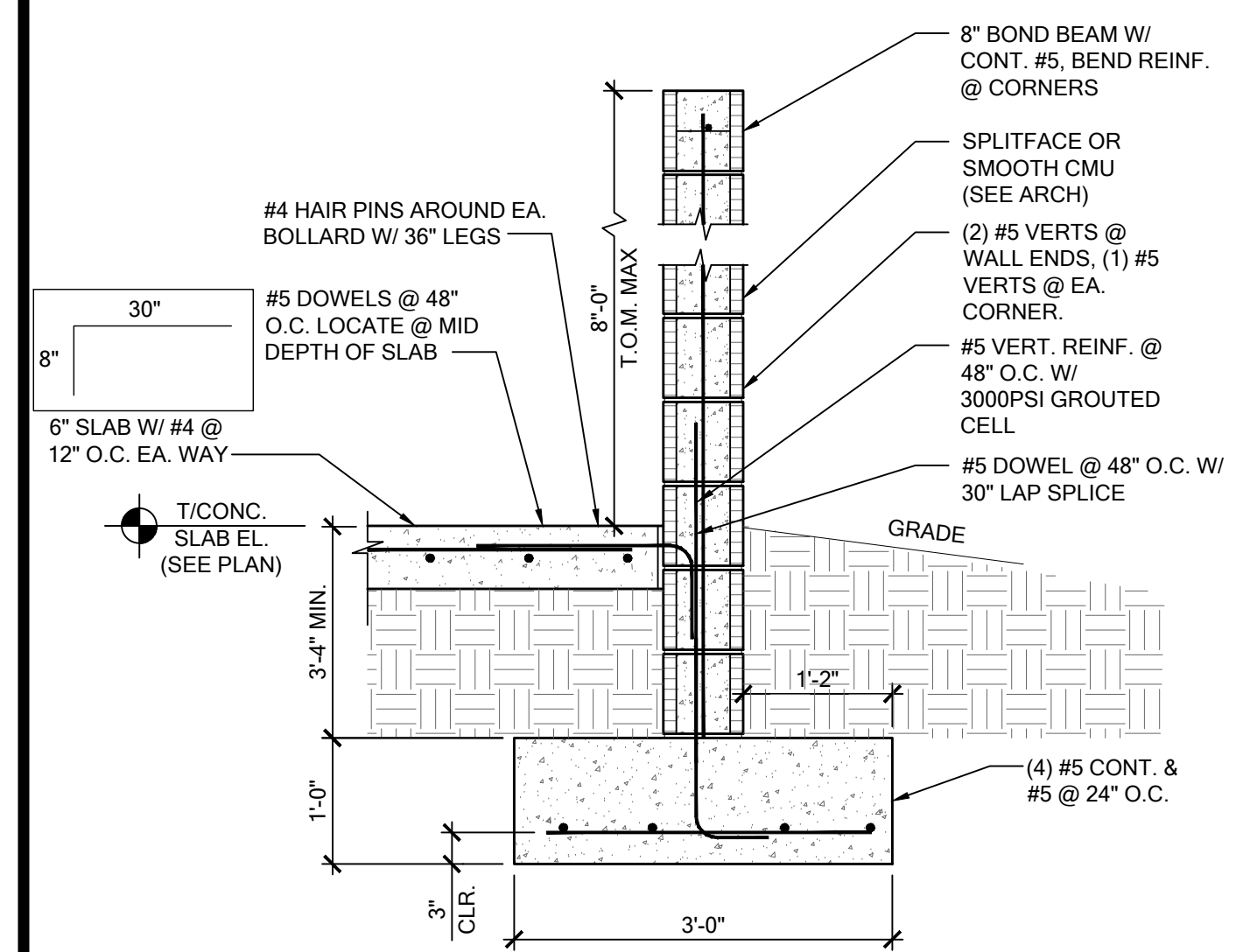
17 FDN. SECTION @ MAN DOOR
SCALE: 3/4" = 1'-0"



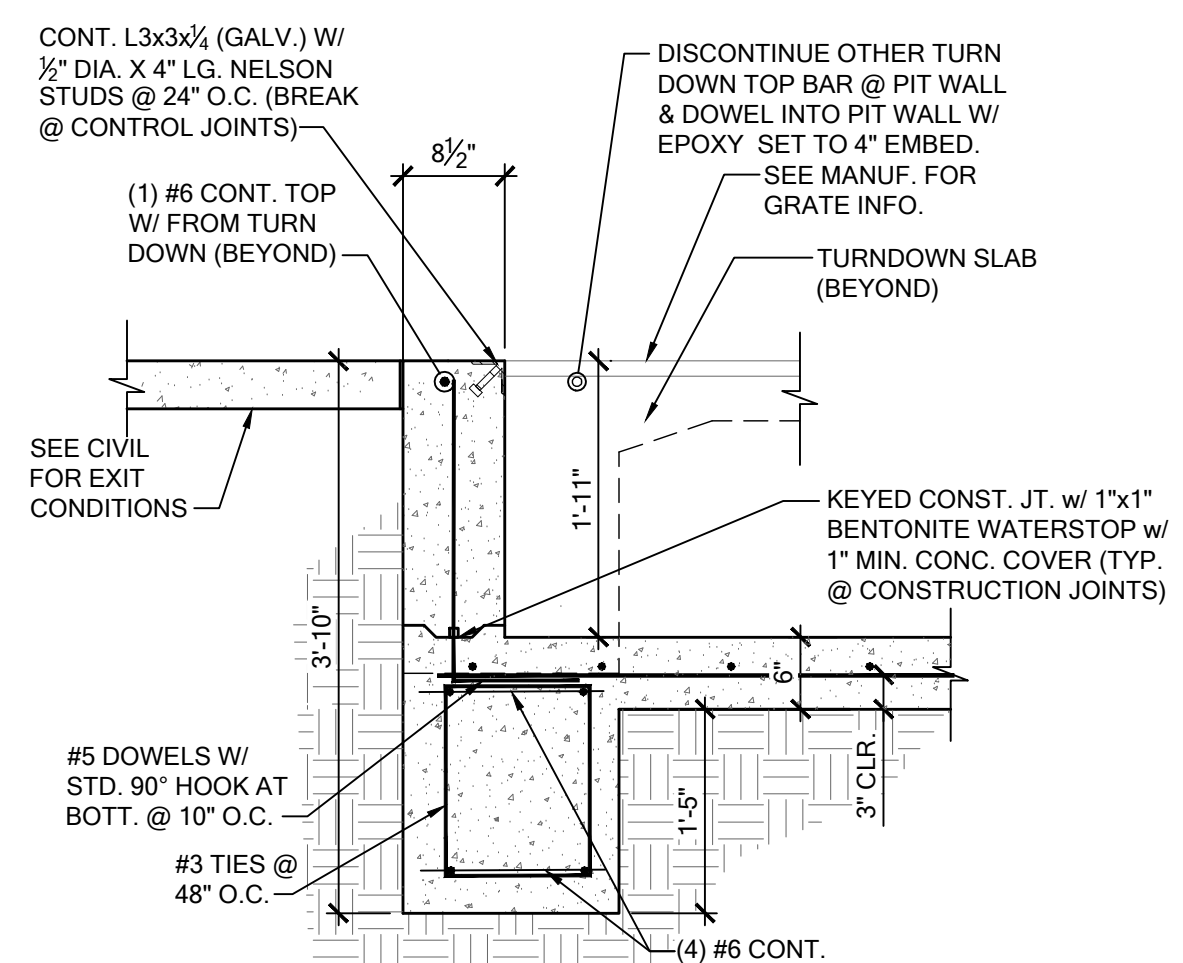
18 FDN. SECTION @ INTERIOR WALL W/ CURB
SCALE: 3/4" = 1'-0"



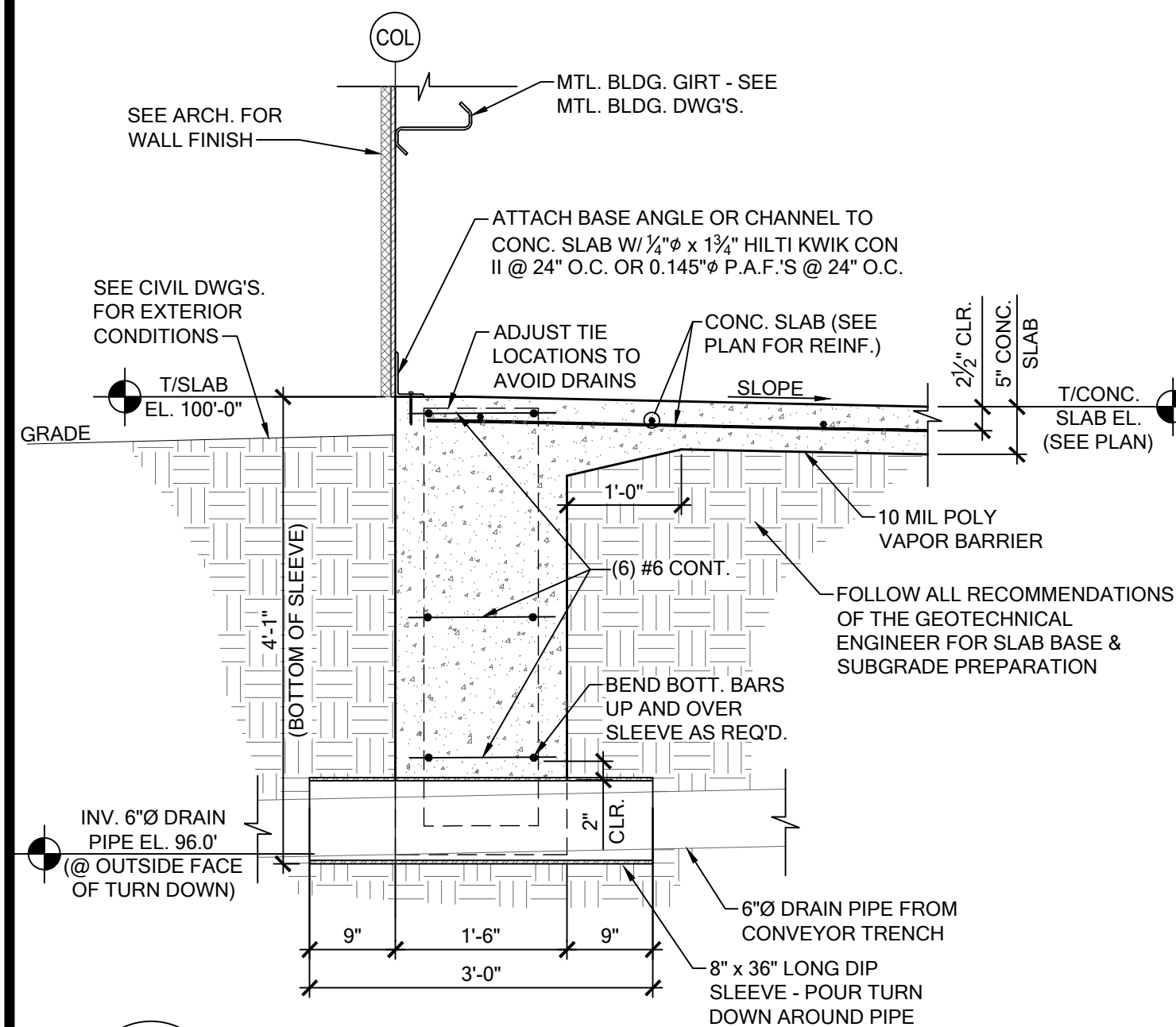
19 TURN DOWN SLAB @ L.G. WALL
SCALE: 3/4" = 1'-0"



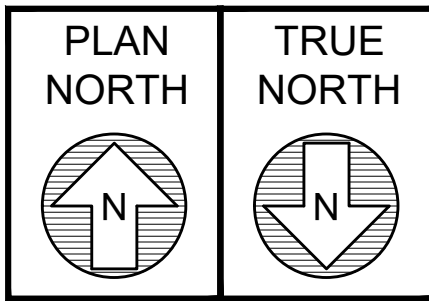
20 SECTION @ ENCLOSURE WALL
SCALE: 3/4" = 1'-0"



21 FDN. SECTION @ EXIT
SCALE: 3/4" = 1'-0"

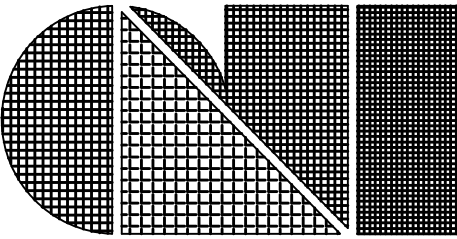


22 FDN. SECTION @ TRENCH DRAIN CROSSING
SCALE: 3/4" = 1'-0"



FRAMING NOTES
1. SEE SHEETS S001 & S002 FOR GENERAL STRUCTURAL NOTES.
PLAN KEY NOTES

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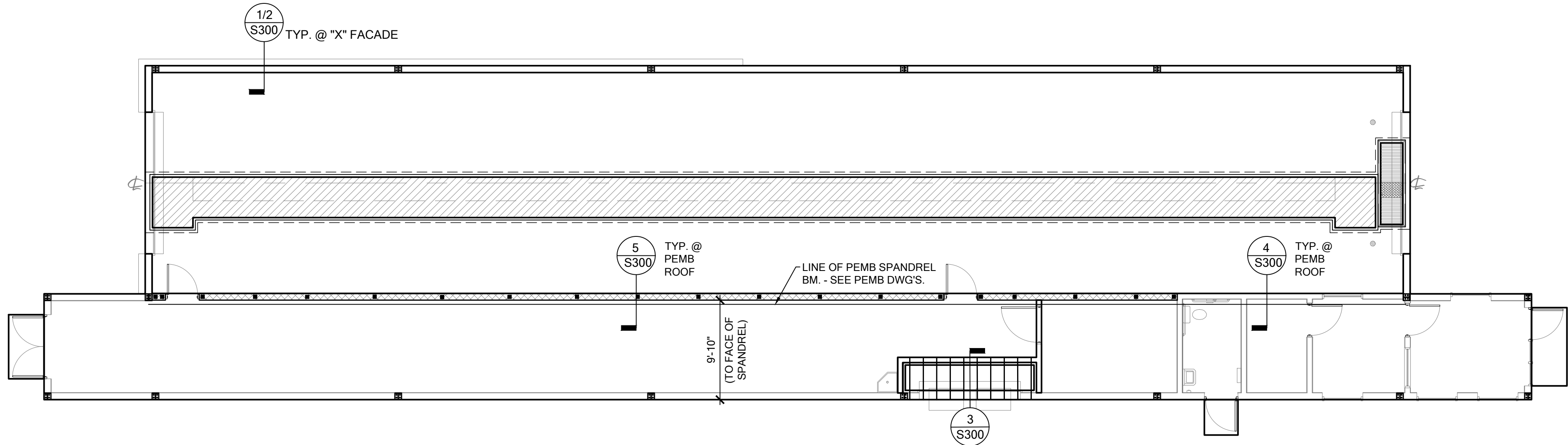
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C.L. HELT PROJECT # 22088

Project : **CHAMPION**
EXPRESS CAR WASH
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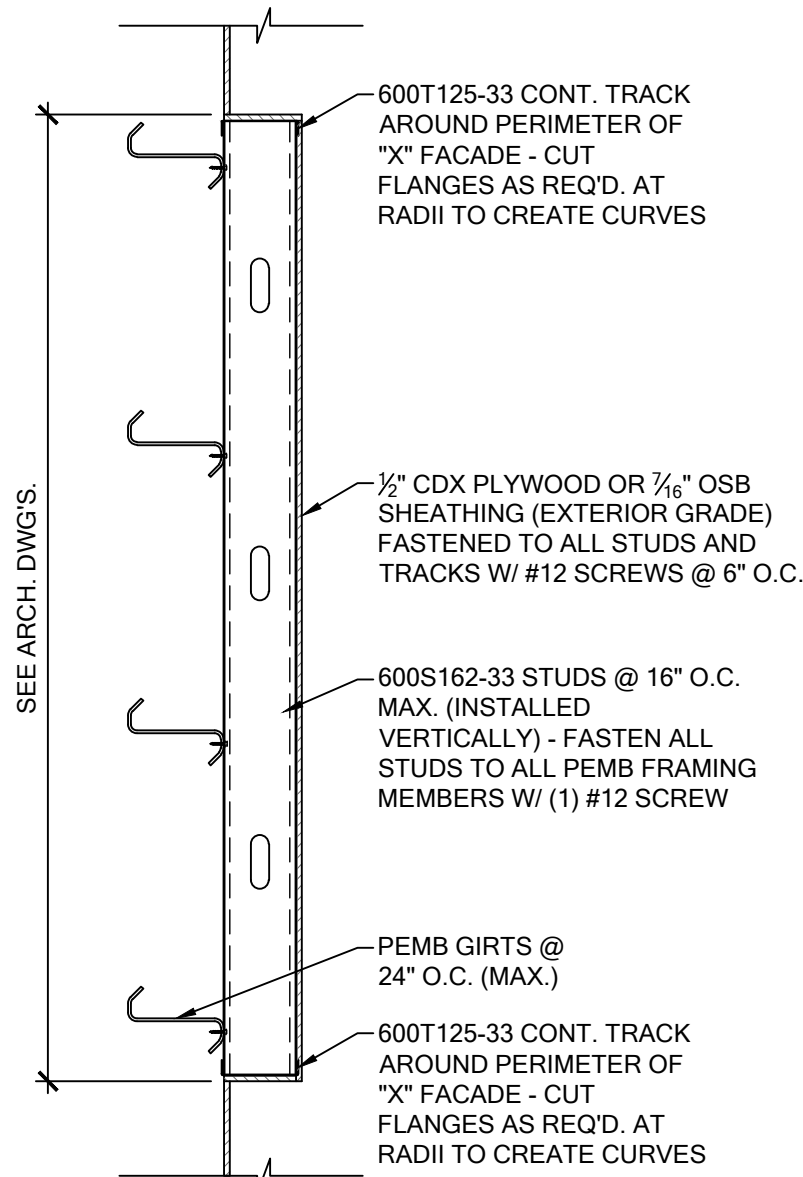
Sheet Description :
MISCELLANEOUS
FRAMING PLAN,
DETAILS & NOTES

THESE DRAWINGS ARE ISSUED FOR
PERMITS, NOT FOR CONSTRUCTION.
COORDINATION AND REVIEW OF
FINAL METAL BUILDING COLUMN
LAYOUTS AND REACTIONS ARE
REQUIRED PRIOR TO CONSTRUCTION.

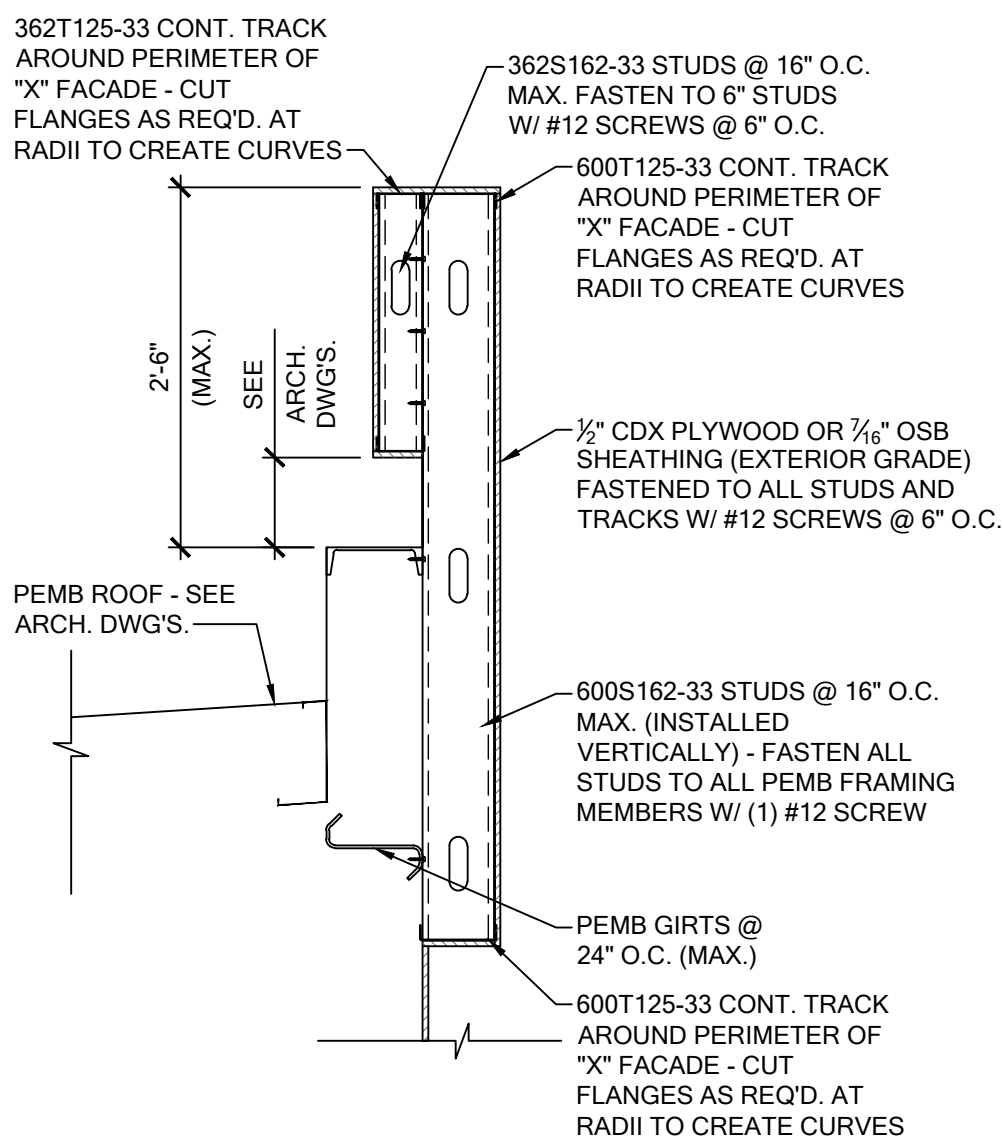


MISCELLANEOUS FRAMING PLAN

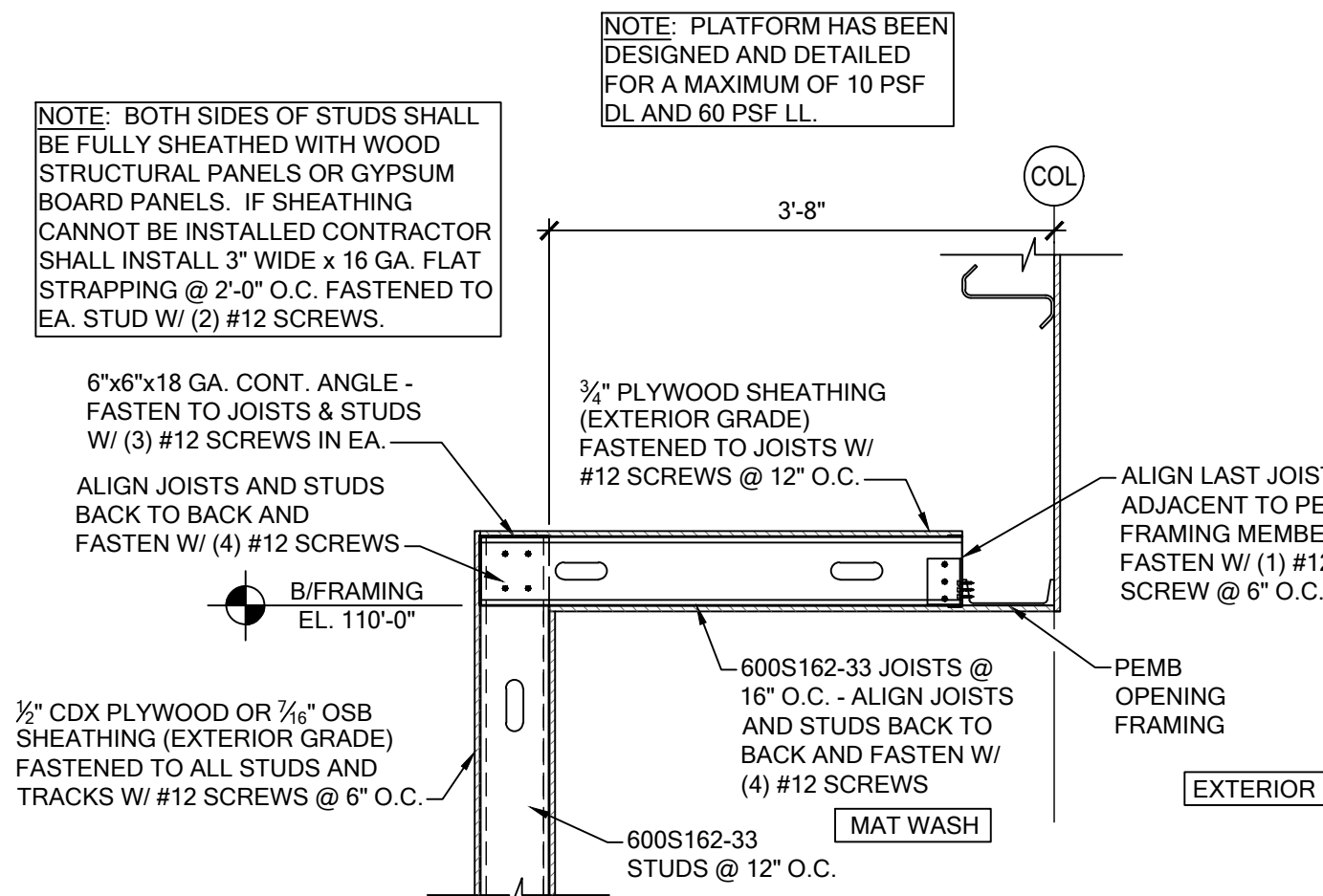
SCALE: 1/8" = 1'-0"



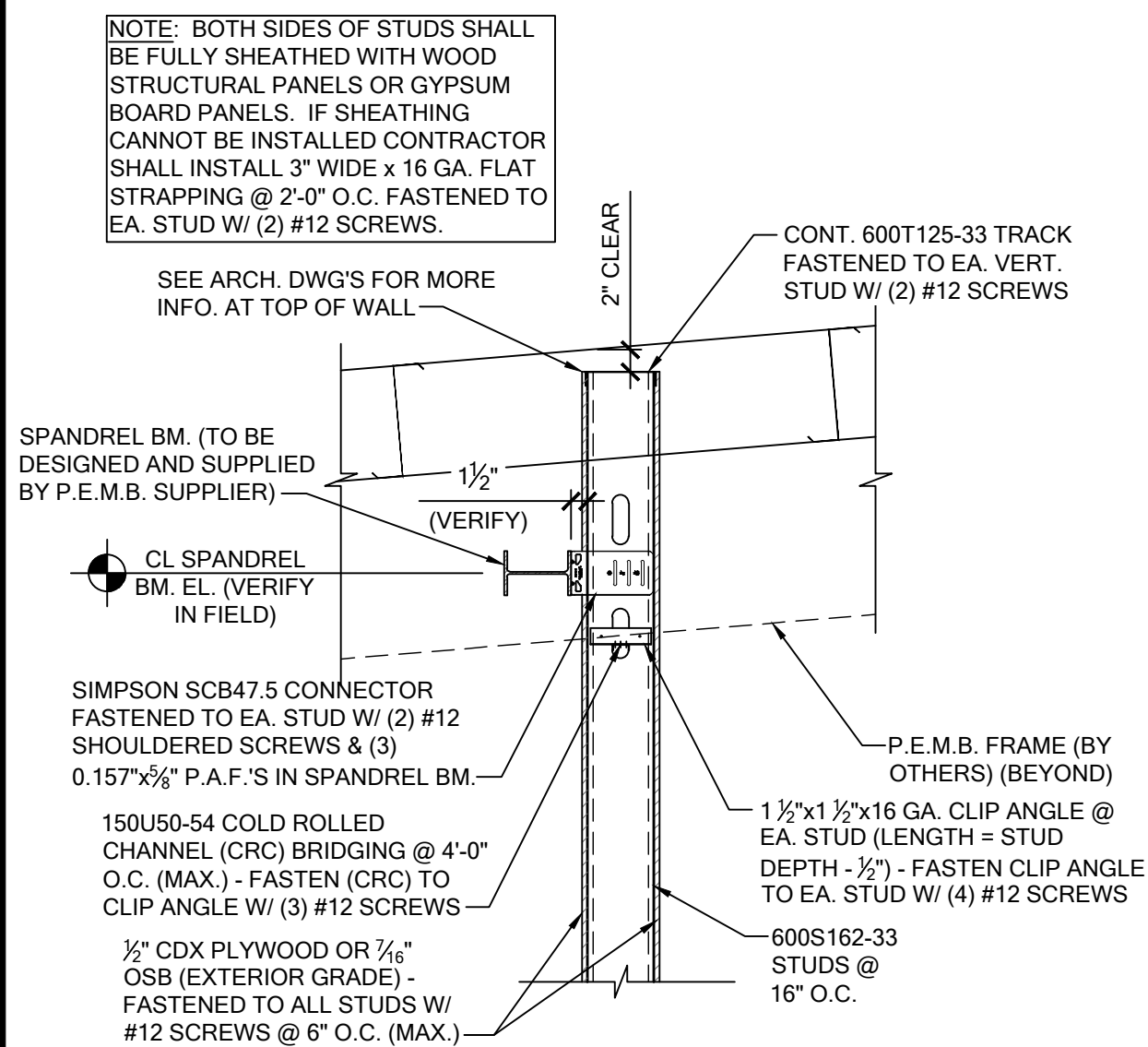
1 FRAMING SECTION @
MID-WALL "X" FACADE
SCALE: 3/4" = 1'-0"



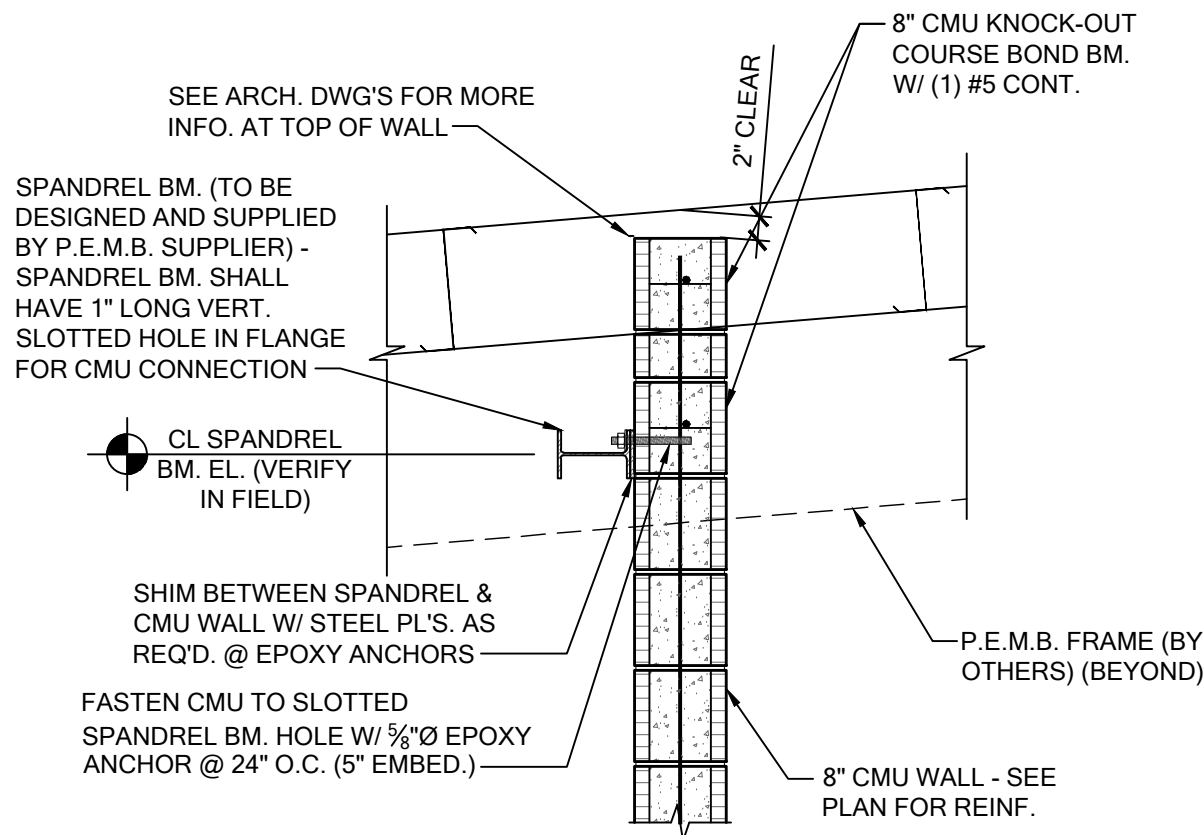
2 FRAMING SECTION @
TOP OF WALL "X" FACADE
SCALE: 3/4" = 1'-0"



3 FRAMING SECTION @ MAT WASH CEILING
SCALE: 3/4" = 1'-0"

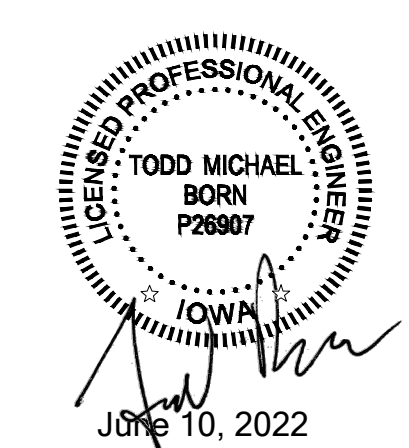


4 FRAMING SECTION @ C.F.S. STUD
WALL CONNECTION TO SPANDREL BM.
SCALE: 3/4" = 1'-0"



5 FRAMING SECTION @ CMU WALL
CONNECTION TO SPANDREL BM.
SCALE: 3/4" = 1'-0"

Seal



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TIMOTHY JOHNSTON, ARCHITECT

Drawn By :
T. BORN

Checked By :
T. BORN

Revisions :

Date : 06/10/22

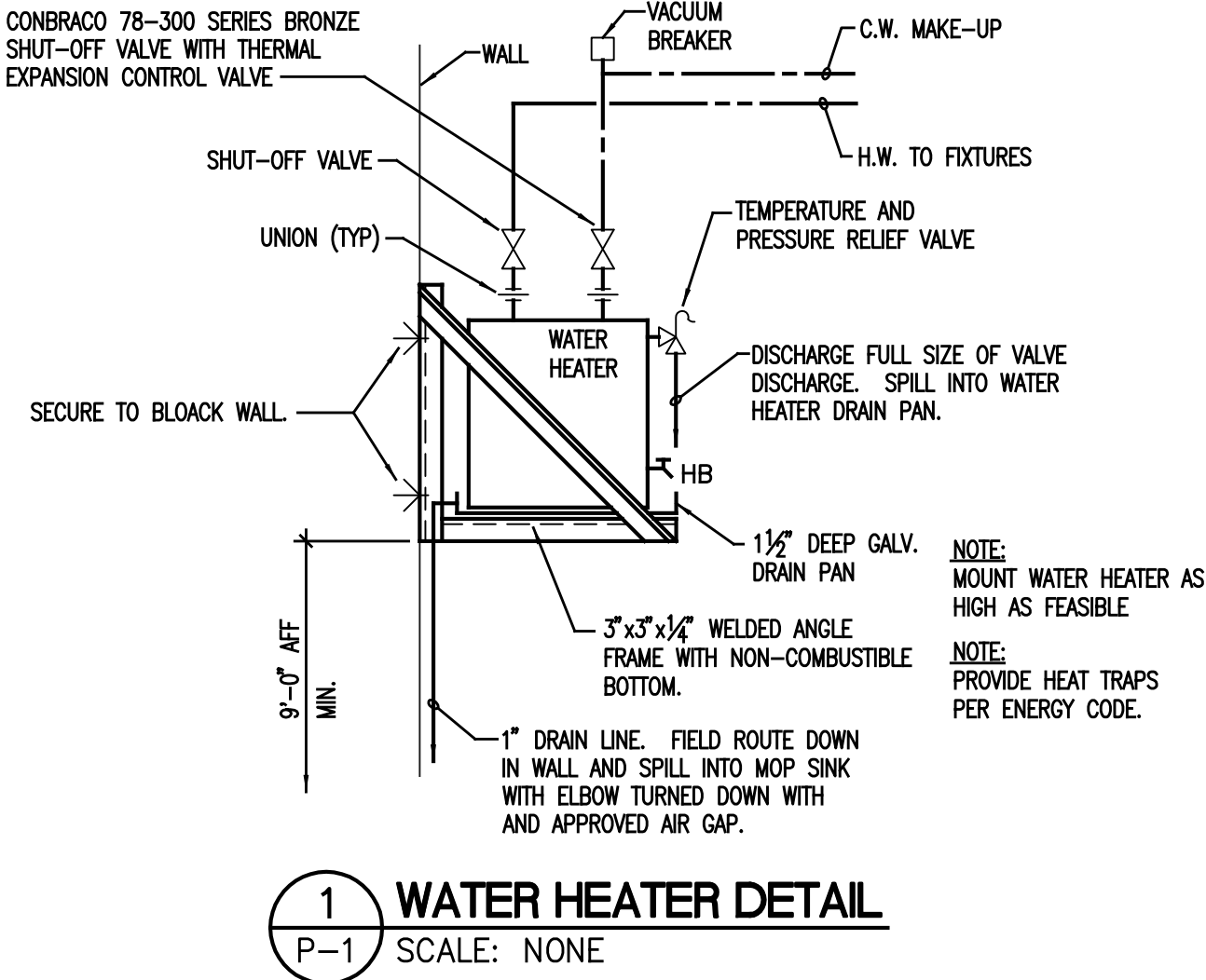
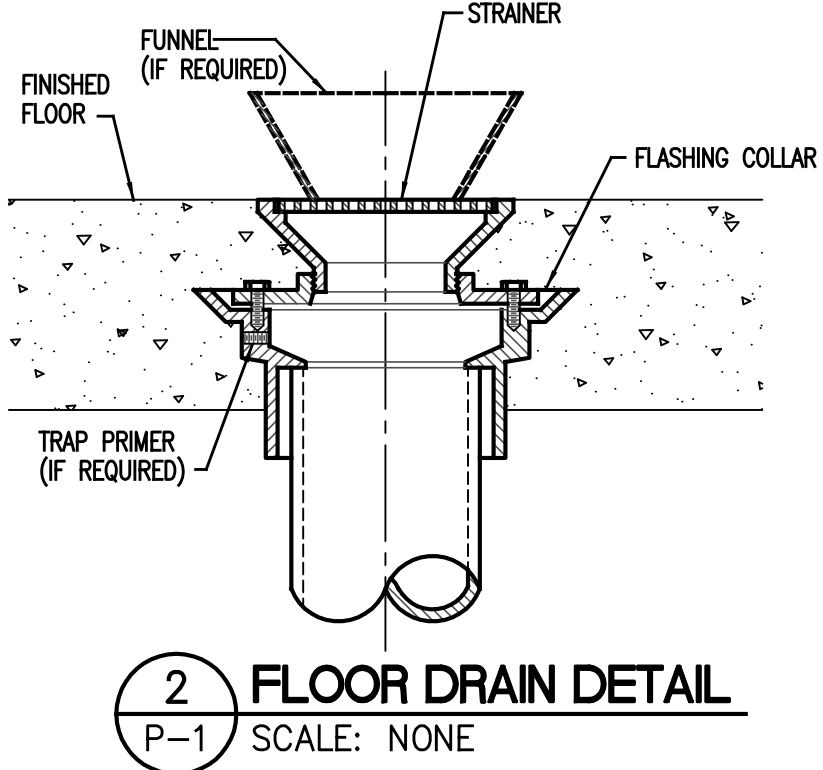
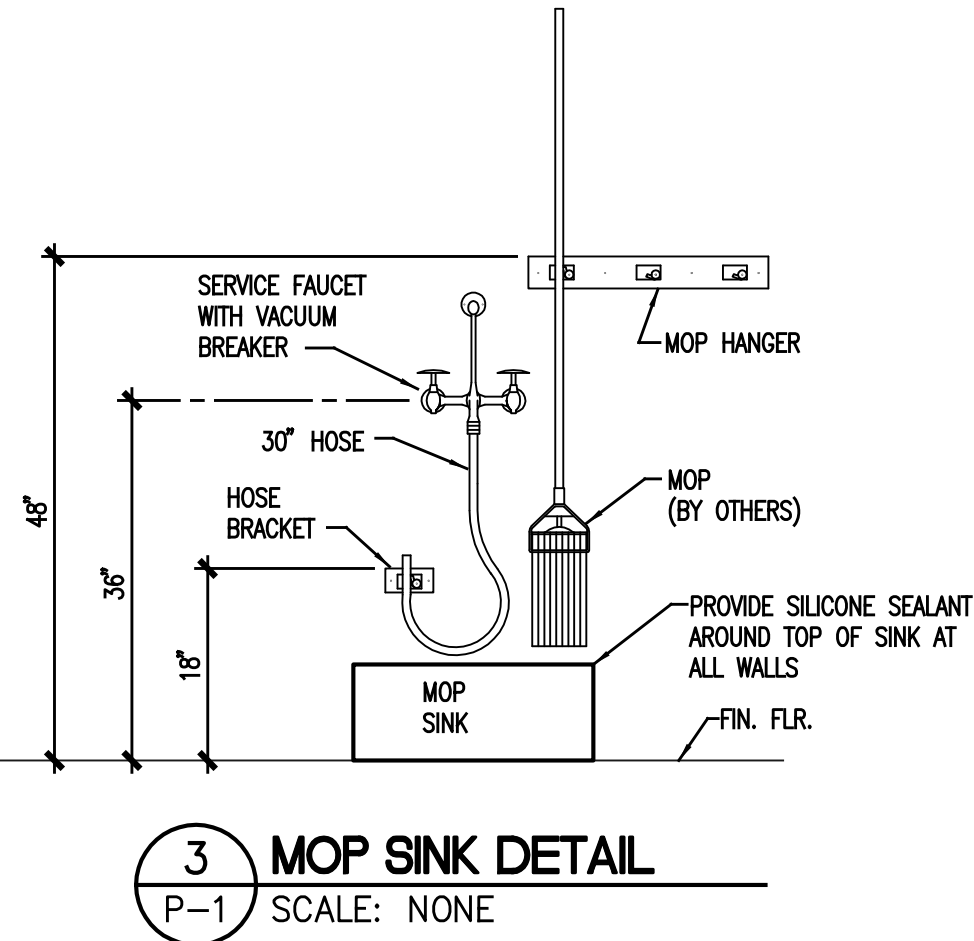
Sheet No.

S300

PLUMBING SPECIFICATIONS	
GENERAL REQUIREMENTS:	
1. GENERAL AND SPECIAL CONDITIONS: GENERAL AND SPECIAL CONDITIONS ARE HEREBY MADE AN INTEGRAL PART OF THIS DIVISION OF THE SPECIFICATIONS INSOFAR AS SAME ARE APPLICABLE TO THE WORK UNDER THIS DIVISION AND UNLESS OTHERWISE SPECIFIED.	
2. SCOPE: PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED FOR THE COMPLETION AND OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WILL APPLICABLE CODES.	
3. PERMITS: APPLY FOR AND PAY FOR ALL NECESSARY PERMITS, FEES, AND INSPECTIONS REQUIRED BY ANY PUBLIC AUTHORITY HAVING JURISDICTION. AVERAGE CHARGES, BOND PROPERTY ASSESSMENTS AND FACILITIES CHARGE ARE NOT TO BE CONSTRUED TO BE A PART OF THIS CONTRACT.	
WARRANTY: PROVIDE ALL MATERIALS AND EQUIPMENT UNDER THIS SECTION OF THE SPECIFICATIONS WITH A ONE YEAR WARRANTY FROM THE DATE OF ACCEPTANCE OF WORK BY THE OWNER.	
COORDINATION: VERIFY ALL ROUGH-IN LOCATIONS AND COORDINATE PIPING AND EQUIPMENT LOCATIONS WITH WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID CONFLICTS.	
6. FIELD VERIFICATION: FIELD VERIFY EXISTING CONDITIONS BEFORE STARTING CONSTRUCTION AND NOTIFY THE ARCHITECT/ENGINEER OF RECORD OF ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND EXISTING CONDITIONS AND/OR ANY POTENTIAL PROBLEMS OBSERVED BEFORE CONTINUING WORK IN THE EFFECTED AREAS.	
7. PLUMBING SYSTEMS INCLUDE, BUT ARE NOT LIMITED TO: - PLUMBING FIXTURES AND EQUIPMENT - FIRE STOPPING - DOMESTIC WATER SYSTEM - SANITARY WASTE AND VENT SYSTEM - STORM DRAIN SYSTEM - RECLAIM WATER SYSTEM - COMPRESSED AIR SYSTEM - NATURAL GAS PIPING	
FIXTURES:	
1. PROVIDE COMPLETE FIXTURES AND INCLUDE SUPPLIES, STOPS, VALVES, FAUCETS, DRAINS, TRAPS, TAIL PIECES, ESCUTCHEONS, ETC.	
FIRE STOPPING:	
1. FIRE STOP ALL PENETRATIONS, BY PIPING OR CONDUITS, OF FIRE RATED WALLS, FLOORS AND PARTITIONS. PROVIDE A DEVICE(S) OR SYSTEM(S) WHICH HAS BEEN TESTED AND LISTED AS COMPLYING WITH ASTM E-814 AND INSTALL IN ACCORDANCE WITH THE CONDITIONS OF THEIR LISTING. PROVIDE A DEVICE(S) OR SYSTEM(S) WITH AN "F" RATING EQUAL TO THE RATING OF THE ASSEMBLY BEING PENETRATED.	
DOMESTIC WATER PIPING:	
1. DOMESTIC WATER PIPING BELOW GRADE: SOFT ANNEALED SEAMLESS COPPER TUBING, TYPE "K" WITH NO JOINTS BELOW GRADE (ASTM B 88)	
2. DOMESTIC WATER PIPING AND JOINTS ABOVE GRADE: HARD DRAWN SEAMLESS COPPER TUBING, TYPE "L" WITH 95-5 SILVER SOLDERED JOINTS (ASTM B 88)	
3. STERILIZE DOMESTIC WATER PIPING IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS.	
4. INSULATE WATER PIPING ABOVE GRADE (EXCEPT EXPOSED CONNECTIONS TO PLUMBING FIXTURES) WITH 1" ENGINEERED POLYMER FLEXIBLE FOAM INSULATION. (MCOLOCK ENGINEERED POLYMER FOAM INSULATION.) TAPE ALL FLEXIBLE FOAM INSULATION AT ALL BUTT JOINTS.	
5. DOMESTIC WATER PIPING INSULATION, JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVES ARE REQUIRED TO MEET A FLAME-SPREAD RATING OR 25 OR LESS AND A SMOKE-DEVELOPED RATING OF 50 OR LESS, AS TESTED BY ASTM E84 (NFPA 255) METHOD.	
6. DO NOT INSTALL DOMESTIC WATER PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES. INSTALL WATER PIPING IN EXTERIOR WALLS ON THE CONDITIONED SIDE OF THE WALL INSULATION.	
7. SHUT OFF VALVES: PROVIDE FULL PORT, BALL TYPE, AND INSTALL IN A LOCATION THAT PERMITS ACCESS FOR SERVICE WITHOUT DAMAGE TO THE BUILDING OR FINISHED MATERIALS. PROVIDE ACCESS DOORS IF REQUIRED.	
8. PROTECT COPPER PIPING AGAINST CONTACT WITH DISSIMILAR METALS. ALL HANGERS, SUPPORTS, ANCHORS, AND CLIPS SHALL BE COPPER OR COPPER PLATED. WHERE COPPER PIPING IS CARRIED ON IRON TRAPEZE HANGERS WITH OTHER PIPING, PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT CONTACT WITH OTHER METALS.	
9. PROTECT COPPER PIPING AGAINST CONTACT WITH ALL MASONRY. WHERE COPPER IS SLEEVED THROUGH MASONRY, PROVIDE COPPER OR RED BRASS SLEEVES. WHERE COPPER MUST BE CONCEALED IN OR AGAINST MASONRY PARTITIONS, PROVIDE A HEAVY COATING OF ASPHALTIC ENAMEL ON THE COPPER PIPING AND 15# ASPHALT SATURATED FELT BETWEEN THE PIPING AND THE MASONRY PARTITION.	
SANITARY WASTE AND VENT PIPING:	
1. SANITARY WASTE AND VENT PIPING AND FITTINGS: SCHEDULE 40 PVC IN ACCORDANCE WITH ALL REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.	
2. SLOPE SANITARY WASTE PIPING 2½" AND SMALLER AT ¼" PER FOOT MIN. SLOPE SANITARY WASTE PIPING 3" AND LARGER AT ⅛" PER FOOT MINIMUM.	
3. WHERE WASTE PIPING IS EXPOSED IN REST ROOM AREAS, PROVIDE CHROME PLATED BRASS PIPING, WITH MATCHING STOPS AND ESCUTCHEONS. PROVIDE REMOVABLE TRAPS WITH INTEGRAL CLEAN-OUT PLUG FOR ALL LAVATORIES.	
4. INSTALL CLEAN-OUTS IN A LOCATIONS THAT PERMITS ACCESS FOR SERVICE WITHOUT DAMAGE TO THE BUILDING OR FINISHED MATERIALS.	
5. PROVIDE SLEEVES AT ALL PIPE PENETRATIONS (CONCRETE, BRICK, ETC.)	
STORM DRAIN PIPING:	
1. STORM DRAIN PIPING AND FITTINGS: SCHEDULE 40 PVC IN ACCORDANCE WITH ALL REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.	
2. INSTALL CLEAN-OUTS AT THE BASE OF ALL WASTE STACKS AND EVERY TURN IN PIPING IN EXCESS OF 45° AND NO FURTHER THAN 80"-0" APART IN A LOCATION THAT PERMITS ACCESS FOR SERVICE WITHOUT DAMAGE TO THE BUILDING OR FINISHED MATERIALS.	
NATURAL GAS PIPING:	
1. NATURAL GAS PIPING AND FITTINGS ABOVE GRADE: SCHEDULE 40, BLACK STEEL PIPING, TYPE S, SEAMLESS, GRADE B (ASTM A 53), WITH 150 PSI MALLEABLE BLACK IRON FITTINGS, GRADE 32510, (ASTM A 47).	
2. NATURAL GAS PIPING AND FITTINGS OUTSIDE BELOW GRADE: PLASTIC PIPE OR TUBING AND FITTINGS (ASTM D 2513) OR REINFORCED EPOXY RESIN GAS PRESSURE PIPE AND FITTINGS (ASTM D 2517).	
3. SPACE GAS PIPING HANGER RODS 7"-0" ON CENTER MAXIMUM AND SPACE TRANSVERSE BRACING 20"-0" ON CENTER MAXIMUM. TRANSVERSE BRACING FOR ONE SECTION MAY ACT AS LONGITUDINAL BRACING FOR THE PIPE SECTION CONNECTED TO IT IF THE BRACING IS INSTALLED WITHIN 24" OF THE ELBOW OR TEE. COORDINATE HANGER LOCATIONS WITH STRUCTURAL DRAWINGS DETAILS.	
4. PAINT ALL GAS PIPING WITH 2 COATS OF YELLOW ENAMEL PAINT APPLIED WITH A BRUSH (2 MIL THICKNESS MINIMUM).	
5. PROVIDE A.G.A. CERTIFIED SHUT-OFF VALVES MIN. 125 PSI RATED, NON-LUBRICATED PLUG TYPE WITH BRONZE BODY AND BRONZE PLUG, STRAINERS, AND REGULATORS (AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER) FOR ALL EQUIPMENT CONNECTED TO THE NATURAL GAS SYSTEM.	
COMPRESSED AIR PIPING:	
1. HARD DRAWN SEAMLESS COPPER TUBING, TYPE "L" WITH 95-5 SILVER SOLDERED JOINTS (ASTM B 88)	
SEISMIC REQUIREMENTS:	
1. PROPERLY SUPPORT AND BRACE VERTICALLY AND HORIZONTALLY ALL PIPING, APPARATUS, EQUIPMENT, ETC. IN ACCORDANCE WITH APPLICABLE CODES TO PREVENT EXCESSIVE MOVEMENT DURING SEISMIC CONDITIONS.	

PLUMBING FIXTURE SPECIFICATIONS AND CONNECTION SCHEDULE																			
MARK	FIXTURE	TYPE	MANUFACTURER	MODEL NO.	MATERIAL	STYLE	FAUCET/VALVE				DRAIN		SUPPLIES AND STOPS	PIPE SIZES				MOUNTING	REMARKS
							MANUFACT. MODEL NO.	SPOUT	HANDLES	CENTERS	TYPE	SIZE		WASTE	VENT	CW	HW		
P-1	WATER CLOSET	FLUSH TANK PRESSURE ASSIST	ZURN	ZB560	VITREOUS CHINA	ADA ELONGATED (1.6 GPF)	-	-	-	-	-	-	ZURN ZB606-XL-CR-PC	3"	2"	½"	-	FLOOR	PROVIDE ZURN ZB9B56S-EL-ST'S OPEN FRONT SEAT AND ZURN ZB972-COMB TOILET KIT. PROVIDE CAULKING AROUND BASE.
P-2	LAVATORY	WALL HUNG	ZURN	ZB344	VITREOUS CHINA	ADA COMPLIANT	ZURN ZB6500-XL METERING (0.25 GPC)	CENTERSET	H/C PUSH BUTTONS	4"	GRID	1¼"	ZURN ZB804-XL-LR-PC	2"	1½"	½"	½"	WALL HUNG	MOUNT AT ADA HEIGHT. PROVIDE ZURN ZB743-PC GRID DRAIN WITH TAILPIECE, ZURN Z1021WL-PC TRAP PRIMER WITH TRAP ARM AND ZURN ZB946-INT ADA PROTECTOR COMBINATION KIT. PROVIDE ZURN ZNB870XLT THERMOSTATIC MIXING VALVE.
P-3	MOP SINK	FLOOR MOUNTED	FIAT	TSBC1610	TERRAZZO	24"x24"x12" CORNER DROP FRONT	FIAT 830-AA WITH VACUUM BREAKER	THREADED WITH PAIL HOOK	FOUR ARM HANDLES	8"	GRID	3"	-	3"	1½"	½"	½"	FLOOR	PROVIDE WITH 832-AA HOSE BRACKET, 889-CC MOP HANGER, 1239BB BUMPERGUARD
WH-1	WATER HEATER	ELECTRIC	BRADFORD WHITE	RE110U6	GLASS LINED	LONEBOY	-	-	-	-	-	-	-	-	-	SEE PLAN	SEE PLAN	SEE DETAIL	10 GAL. STORAGE, 1.5KW, 120V, 7 GPH REC AT 90°F RISE
WH-2	WATER HEATER	ELECTRIC	CHRONOMITE	S-30L	---	COMMERCIAL	-	-	-	-	-	-	-	-	-	½"	½"	UNDER COUNTER	INSTANTANEOUS WATER HEATER. 4160W @ 208V/1-PH 58°F RISE AT 0.5 GPM
FCO	FLOOR CLEAN-OUT	ROUND TOP	ZURN	Z-1464	CAST IRON	CAST IRON TOP	-	-	-	-	-	-	-	-	-	-	-	FLOOR	
GCO	GRADE CLEAN-OUT	ROUND TOP	J.R. SMITH	4240	CAST IRON	CAST IRON TOP	-	-	-	-	-	-	-	-	-	-	-	GRADE	PROVIDE WITH 24"x24"x8" THK CONCRETE PAD AT GRADE.
WCO	WALL CLEAN-OUT	ROUND COVER	ZURN	Z-1446	CAST IRON	S.S. COVER	-	-	-	-	-	-	-	-	-	-	-	WALL	
FD	FLOOR DRAIN	ADJUSTABLE	JOSAM	30000 6A STRAINER	CAST IRON	NIKALOY ROUND TOP	-	-	-	-	CAST IRON	SEE PLANS	-	-	-	-	-	FLOOR	6"ø DIAMETER TOP. PROVIDE DEEP SEAL TRAP WITH PROSET TRAP GUARD.
WH	WALL HYDRANT	NON-FREEZE	WADE	8600	BRONZE CASING	EXPOSED	-	-	LOOSE KEY	-	-	-	-	-	-	¾"	-	WALL	ASSE APPROVED VACUUM BREAKER / BACKFLOW PREVENTER WITH 3/4" HOSE CONNECTION
HB	HOSE BIBB	ANGLED SILLCOCK	WADE	QT63X	CAST BRASS	WALL FAUCET	-	-	QUARTER TURN	-	-	-	-	-	-	¾"	-	WALL	PROVIDE WITH AUTOMATIC DRAINING ANTI-SIPHON VACUUM BREAKER WITH 3/4" HOSE CONNECTION.
WH4	WATER HAMMER ARRESTOR																		SIZE/INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

PLUMBING LEGEND	
---	DOMESTIC COLD WATER PIPING
---	105°F DOMESTIC HOT WATER PIPING
---	VENT PIPING
---	WASTE (SANITARY SEWER)
RL	RAIN LEADER PIPING
G	GAS PIPING
A	COMPRESSED AIR PIPING
RW	RECLAIMED WATER PIPING
H	HYDRAULIC PIPING
⋈	GATE VALVE
⋈	BALANCING VALVE
⋈	CHECK VALVE
○	PIPE UP
⊙	PIPE DOWN
P-1	FIXTURE DESIGNATION
A.F.F.	ABOVE FINISHED FLOOR
P.C.	PLUMBING SUB-CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL SUB-CONTRACTOR
E.C.	ELECTRICAL SUB-CONTRACTOR
FCO	FLOOR CLEAN OUT
WCO	WALL CLEAN OUT
YCO	YARD CLEAN OUT
FPHB	FREEZE PROOF HOSE BIBB
F.D.	FLOOR DRAIN
CW	COLD WATER
HW	HOT WATER



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
PLUMBING
COVER SHEET

Seal

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EDWIN DEAN BELK
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D. BELK

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D. BELK

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Date :
6/10/2022

Sheet No.
P-1

PLUMBING GENERAL NOTES:

1.

COORDINATE ALL ROUGH-IN LOCATIONS AND CONNECTIONS FOR ALL LINES WITH OWNER AND EQUIPMENT INSTALLER PRIOR TO INSTALLATION AT JOBSITE.

2.

ALL WASH BAY EQUIPMENT PROVIDED BY CAR WASH EQUIPMENT SUPPLIER SHALL BE PIPED ACCORDING TO EQUIPMENT PROVIDER DRAWINGS. VERIFY EXACT REQUIREMENTS WITH EQUIPMENT PROVIDER. PROVIDE ROUGH-IN AND MAKE FINAL CONNECTIONS, FURNISHING CUT-OFF VALVE, P-TRAPS, PRESSURE RELIEF VALVES AND PIPING AS REQUIRED.

3.

RUN ALL PIPING IN WASH BAY AS REQUIRED NOT TO INTERFERE WITH THE OPERATION OF EQUIPMENT.

4.

ALL SLEEVES SHALL BE PROVIDED WITH LONG SWEEP ELBOWS.

5.

PAINT ALL EXPOSED GAS LINES AS REQUIRED BY OWNER.

PLUMBING KEYED NOTES

(P1)

4" SANITARY SERVICE. REFER TO CIVIL DRAWINGS FOR CONTINUATION.

(P2)

2" DOMESTIC WATER SERVICE. REFER TO CIVIL DRAWINGS FOR CONTINUATION.

(P3)

2" SHUT-OFF VALVE LOCATED 12" AFF. BRANCH 2" TO RPZ FOR CAR WASH EQUIPMENT, 1" TO DOMESTIC WATER USES AND 3/4" WITH SHUT-OFF VALVE (NOT SHOWN ON PLANS DUE TO CONGESTION) TO EXTERIOR WALL HYDRANT.

(P4)

2" RPZ BACKFLOW PREVENTER FOR CAR WASH EQUIPMENT, WATTS MODEL LF009QTS (ASSE #1013) PER LOCAL WATER UTILITY REQUIREMENTS. PROVIDE WITH QUARTER TURN ISOLATION VALVES AND STRAINER. PROVIDE AIR GAP FITTING AT RPZ AND EXTEND TO HUB DRAIN. SIZE FOR FULL DISCHARGE PER RPZ MANUFACTURER'S RECOMMENDATIONS. MOUNT BACKFLOW PREVENTER 30" AFF.

(P5)

VALVE AND CAP 2" WATER LINE FOR EXTENSION TO CAR WASH EQUIPMENT. REFER TO EQUIPMENT VENDOR DRAWINGS FOR EXACT PIPING AND INSTALLATION REQUIREMENTS.

(P6)

WH-1 ABOVE MOP SINK. SEE DETAIL 1/P-1. PROVIDE 3/4" CW & HW CONNECTIONS TO WH-1.

(P7)

3/4" CW DOWN TO WASHER/EXTRACTOR. PROVIDE CONNECTION TO WASHER PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

(P8)

INSTANTANEOUS WATER HEATER, WH-2, MOUNTED UNDER SINK. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

(P9)

3/4" CW OUT TO SHUT-OFF VALVE. PROVIDE CONNECTION TO MAT WASH MACHINE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

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C.L. HELT PROJECT #

22088

Project : CHAMPION

EXPRESS CAR WASH

FOR

7B BUILDING AND DEVELOPMENT

1807 N JEFFERSON WAY

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Sheet Description :

PLUMBING WASTE & WATER VENT AND WATER SUPPLY PLANS

Seal

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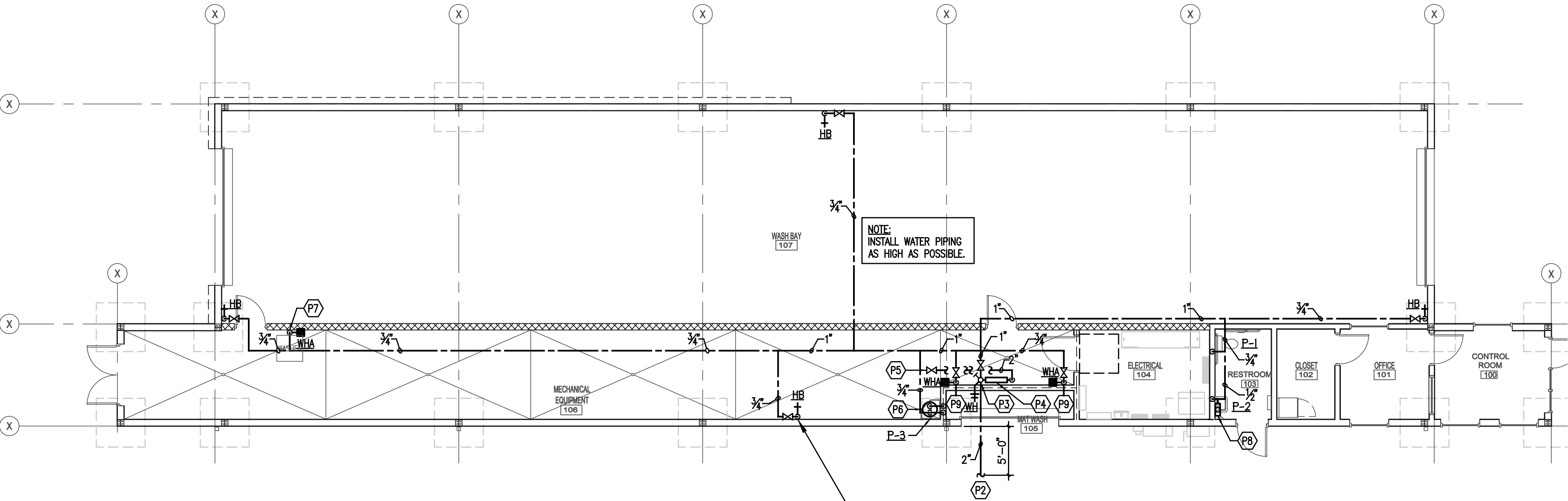
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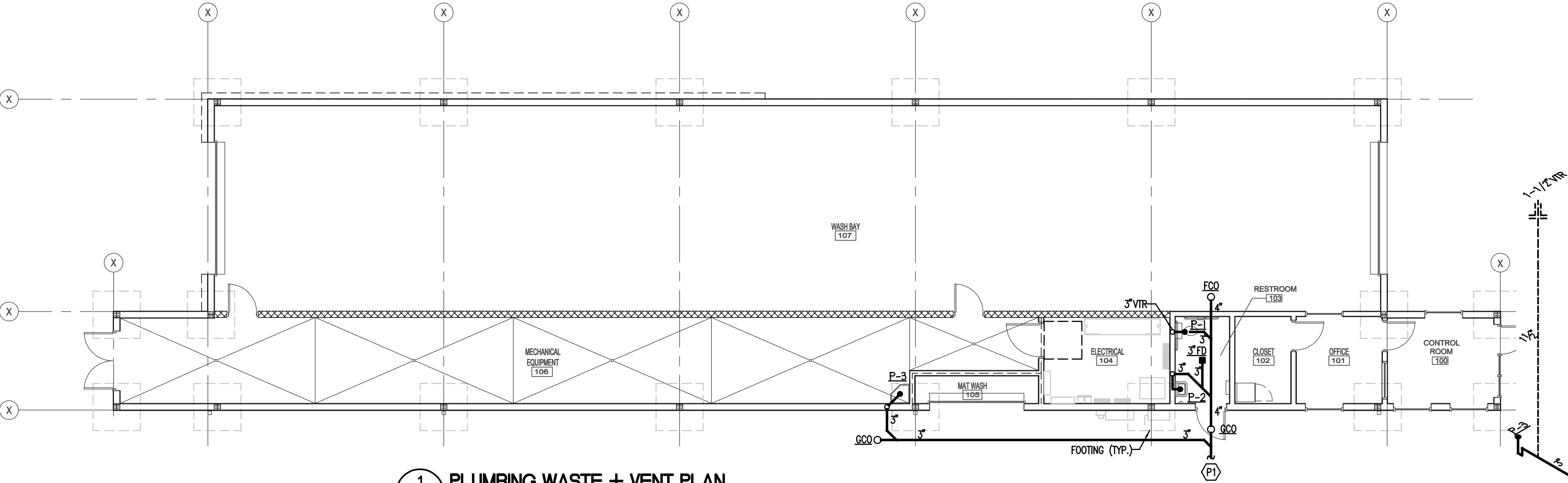
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P-2

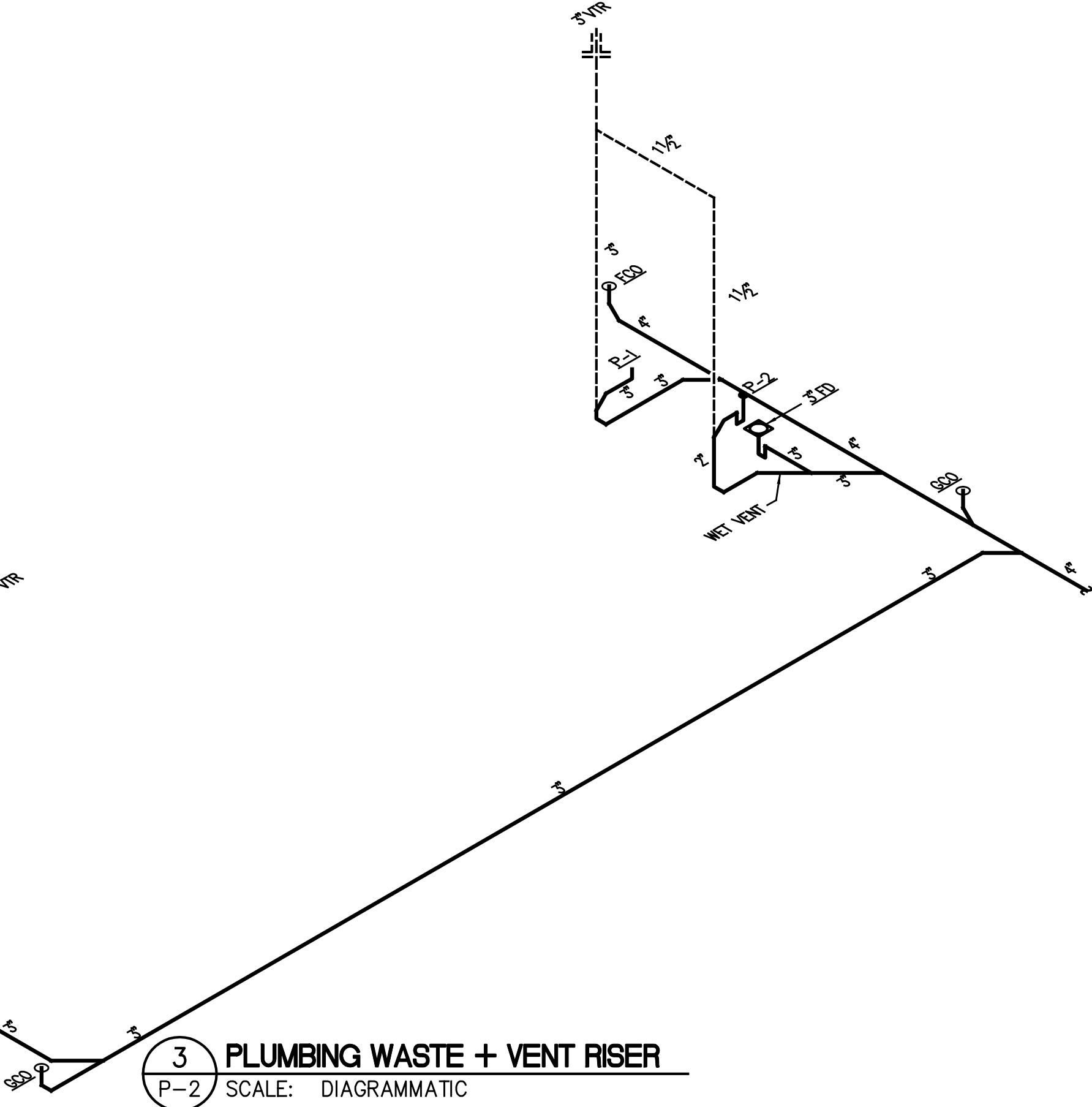


2 PLUMBING WATER SUPPLY PLAN
P-2 SCALE: 1/8"=1'-0"

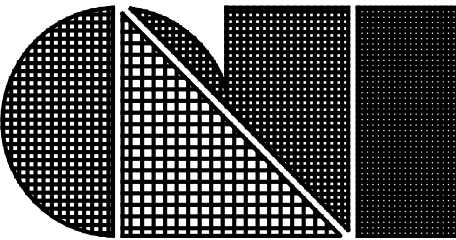
CAR WASH EQUIPMENT COORDINATION NOTE:
- LOCATION OF HOSE BIBB IS PRELIMINARY ONLY. HOSE BIBB SHALL BE LOCATED NEXT TO WATER SOFTENER. PLUMBING CONTRACTOR SHALL REFER TO SITE SPECIFIC CAR WASH EQUIPMENT DRAWINGS PREPARED BY SONNY'S FOR FINAL LOCATION OF WATER SOFTENER AND ADJUST HOSE BIBB LOCATION ACCORDINGLY.



1 PLUMBING WASTE + VENT PLAN
P-2 SCALE: 1/8"=1'-0"



3 PLUMBING WASTE + VENT RISER
P-2 SCALE: DIAGRAMMATIC



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C.L. HELT PROJECT # 22088

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FOR
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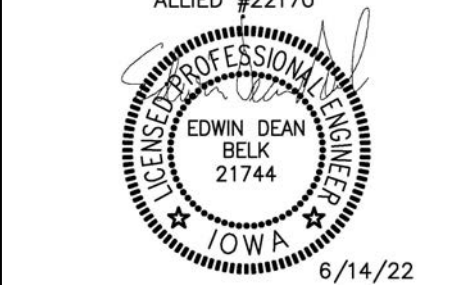
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PLUMBING
GAS AND AIR PLAN

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D. BELK

Revisions :

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6/10/2022

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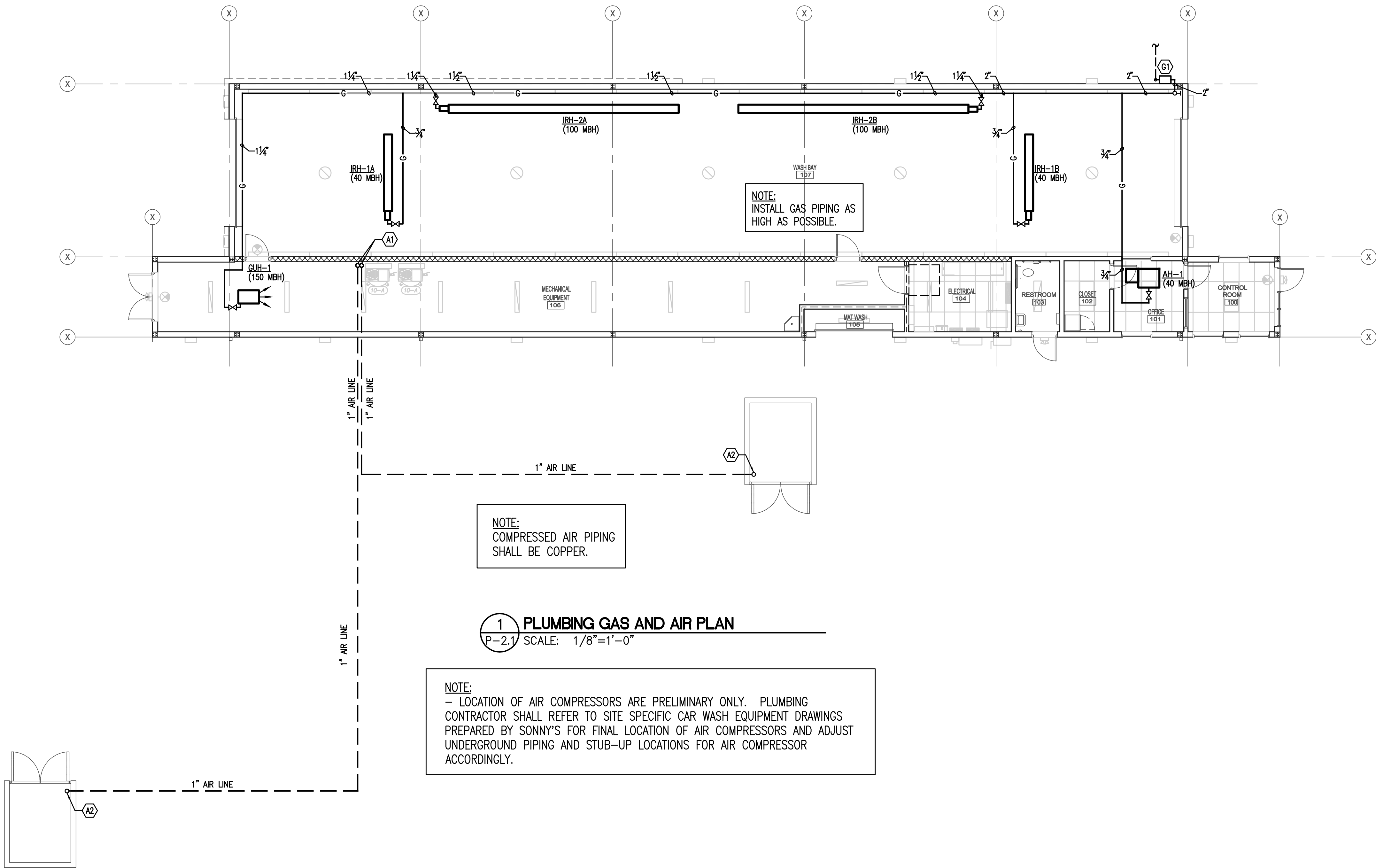
P-2.1

GAS KEYED NOTES

- (G1) NATURAL GAS METER AND UNDERGROUND SERVICE BY LOCAL GAS UTILITY. COORDINATE GAS METER SIZE (470 MBH), LOCATION AND DESIRED GAS DELIVERY PRESSURE (7"WC) WITH LOCAL GAS UTILITY PRIOR TO CONSTRUCTION. GAS PIPING IS SIZED BASED ON GAS DELIVERY PRESSURE OF 7"WC AND 175 FEET TOTAL DEVELOPED LENGTH OF GAS PIPING.
- (G2) 2" GAS THRU WALL TO SHUT-OFF VALVE AT 24" AFF. ROUTE GAS PIPING UP TO BOTTOM OF CEILING AND BRANCH TO GAS APPLIANCES.

COMPRESSED AIR KEYED NOTES

- (A1) STUB-UP 1" COMPRESSED AIR LINE 10" AFF. NEXT TO AIR COMPRESSORS. CAP OFF FOR FUTURE CONNECTION. FIELD COORDINATE FINAL LOCATION OF AIR COMPRESSORS WITH SONNY'S CAR WASH EQUIPMENT DRAWINGS PRIOR TO BEGINNING CONSTRUCTION. PROVIDE A SEPARATE COMPRESSED AIR RUN FOR EACH VACUUM ENCLOSURE.
- (A2) STUB-UP 1" COMPRESSED AIR LINE TO 10" AFG INSIDE VACUUM ENCLOSURE NEXT TO VACUUM SEPARATOR TANK. CAP OFF FOR FUTURE CONNECTION. FIELD COORDINATE FINAL STUB-UP LOCATION WITH SONNY'S CAR WASH EQUIPMENT DRAWINGS.



1 PLUMBING GAS AND AIR PLAN
P-2.1 SCALE: 1/8"=1'-0"

NOTE:
- LOCATION OF AIR COMPRESSORS ARE PRELIMINARY ONLY. PLUMBING CONTRACTOR SHALL REFER TO SITE SPECIFIC CAR WASH EQUIPMENT DRAWINGS PREPARED BY SONNY'S FOR FINAL LOCATION OF AIR COMPRESSORS AND ADJUST UNDERGROUND PIPING AND STUB-UP LOCATIONS FOR AIR COMPRESSOR ACCORDINGLY.

- (P1) 2" HUB DRAIN FOR WASHER/EXTRACTOR. (NOTE: THIS DRAIN IS NOT SHOWN ON SONNY'S EQUIPMENT DRAWINGS BUT DOES NEED TO BE INSTALLED)
- (P2) 4" HUB DRAIN FOR RPZ.
- (P3) 2" HUB DRAIN FOR WATER SOFTNER.
- (P4) 2" HUB DRAIN FOR R.O.
- (P5) 2" HUB DRAIN FOR AIR COMPRESSORS.
- (P6) 3" FLOOR DRAIN, TRUNK LINE TO BYPASS DRAIN, NO VENTS OR TRAPS REQUIRED.
- (P7) 3" DRAIN FOR MAT WASH STATION.

(R1) 3/4" LOW LEVEL CONDUIT (SCH 80 PVC) FROM RECLAIM TANK #3 TO RECLAIM PUMP STATION. REFER TO DETAIL 2/P-3 FOR STUB-UP LOCATION.

(R2) 2" UNDERFLOW LINE (SCH 80 PVC) FROM RECLAIM PUMP STATION TO RECLAIM TANK #1. REFER TO DETAIL 2/P-3 FOR STUB-UP LOCATION.

(R3) 1-1/2" TRENCH FLUSH LINE (SCH 80 PVC) FROM RECLAIM PUMP STATION TO CORRELATOR PIT, 8" B.F.F. TO THE TOP OF THE WATER LINE PIPE. REFER TO DETAIL 2/P-3 FOR STUB-UP LOCATION.

(R4) 1-1/2" ROLLER WASH LINE (SCH 80 PVC) FROM RECLAIM PUMP STATION TO CORRELATOR PIT, 8" B.F.F. TO THE TOP OF THE WATER LINE PIPE. REFER TO DETAIL 2/P-3 FOR STUB-UP LOCATION.

(R5) 3" SEWER FLUSH LINE (SCH 80 PVC) FROM RECLAIM PUMP STATION TO SAND/OIL SEPARATOR. REFER TO DETAIL 2/P-3 FOR STUB-UP LOCATION.

(R6) 1-1/2" TANK FLUSH LINE (SCH 80 PVC) FROM RECLAIM PUMP STATION TO RECLAIM TANK #1. REFER TO DETAIL 2/P-3 FOR STUB-UP LOCATION.

(R7) 1-1/2" CIRCULATION/OZONE LINE (SCH 80 PVC) FROM RECLAIM PUMP STATION TO RECLAIM TANK #2. REFER TO DETAIL 2/P-3 FOR STUB-UP LOCATION.

(R8) 3" Suction LINE (SCH 80 PVC) FROM RECLAIM TANK #3 TO RECLAIM PUMP STATION. REFER TO DETAIL 2/P-3 FOR STUB-UP LOCATION.

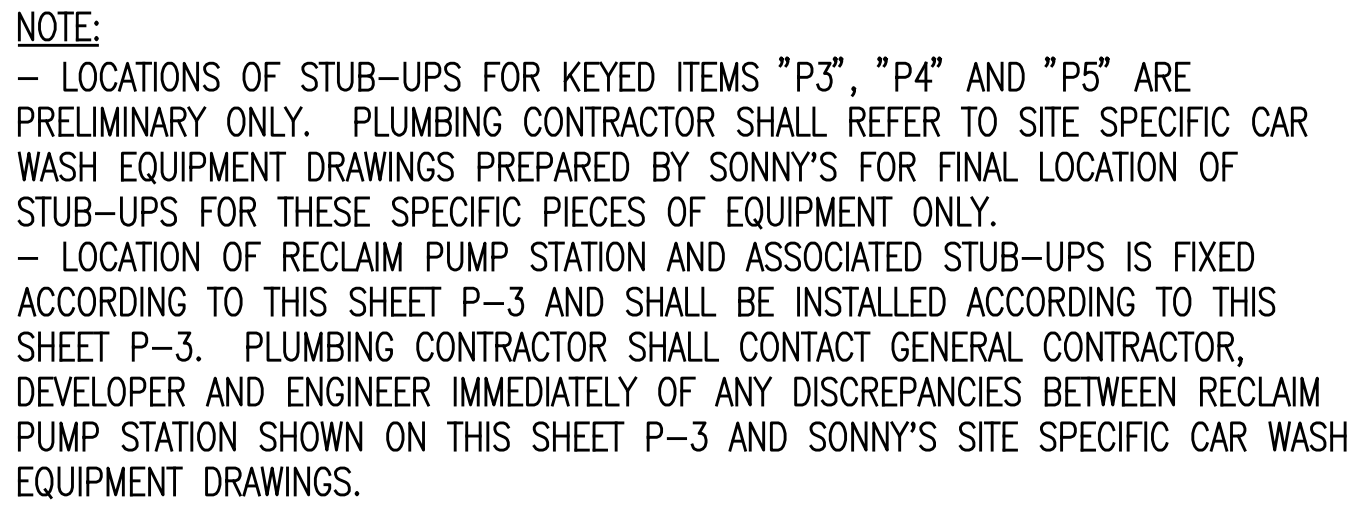
(R9) 3" Suction LINE (SCH 80 PVC) FROM RECLAIM TANK #3 TO RECLAIM PUMP STATION. REFER TO DETAIL 2/P-3 FOR STUB-UP LOCATION.

(R10) 6" DISCHARGE LINE (SCH 80 PVC) FROM CONVEYOR TRENCH TO RECLAIM TANK #1. MUST BE STRAIGHT RUN OF PIPE. NO ELBOWS ALLOWED.

(R11) 6" OVERFLOW LINE (SCH 80 PVC) FROM RECLAIM TANK TO SAND/OIL SEPARATOR.

(R12) 6" BYPASS DRAIN LINE (SCH 80 PVC) FROM CONVEYOR TRENCH TO SAND/OIL SEPARATOR.

2 RECLAIM PUMP STATION DETAIL
P-3 SCALE: NONE



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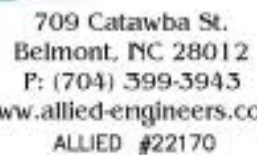
C.L. HELT PROJECT #

project : CHAMPION
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FOR
77B BUILDING AND DEVELOPMENT
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Sheet Description :

RECLAIM SYSTEM PLAN

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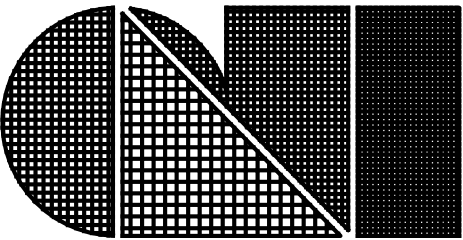
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Sheet No.

P-3



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
**RECLAIM TANK
DETAIL**

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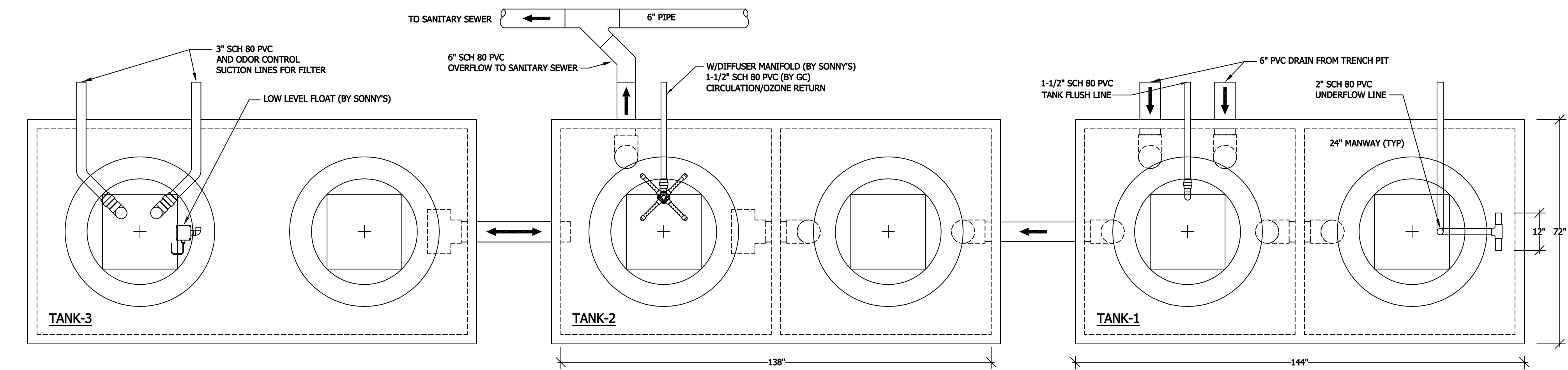
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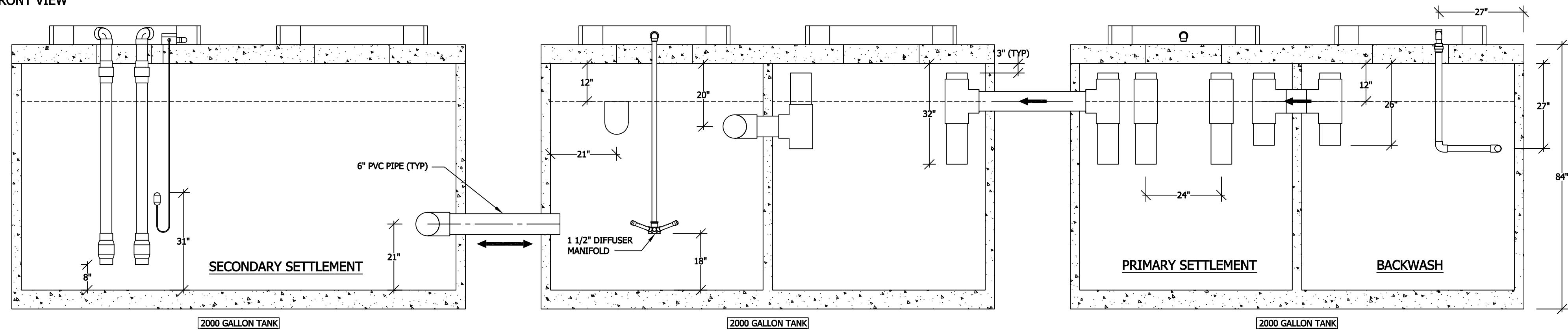
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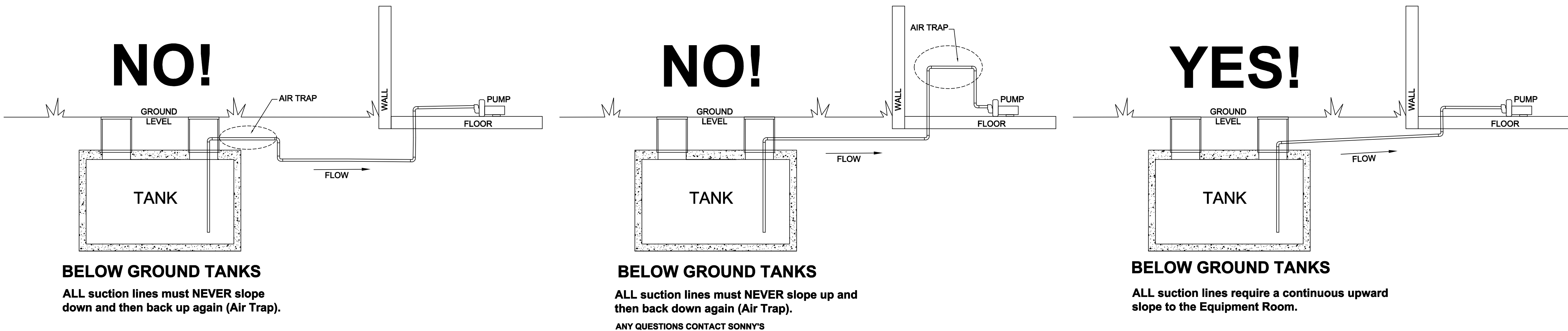
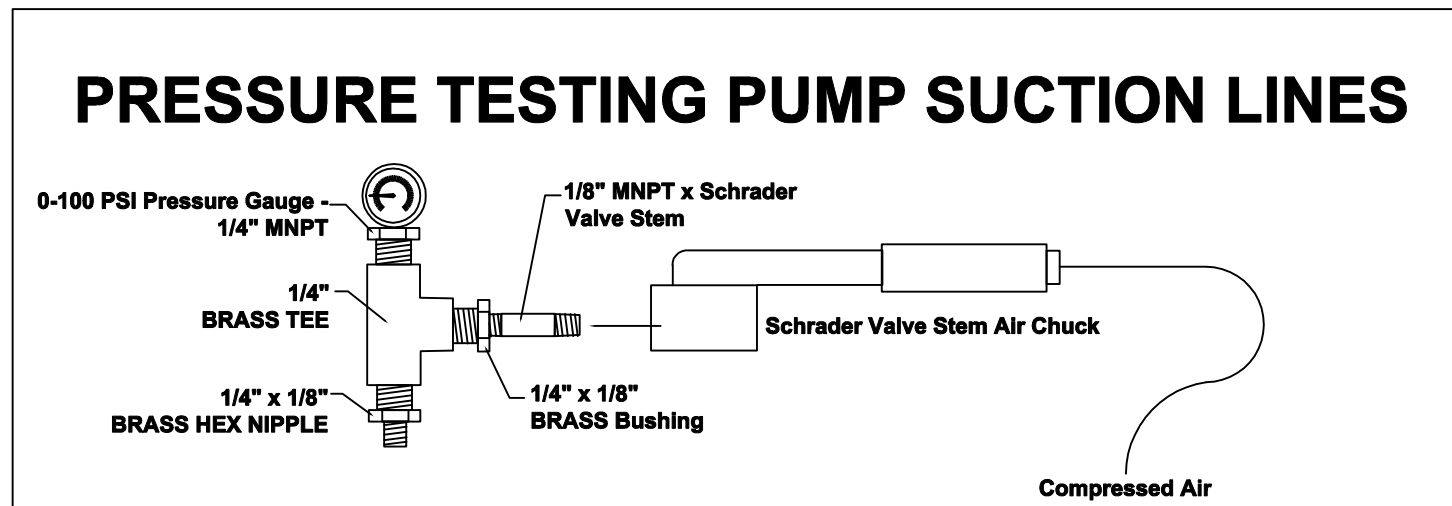


TOP VIEW
FRONT VIEW



CAR WASH VELOCITY RECLAIM SYSTEM STANDARD 3 TANK 2000 GALLON TANKS

- NOTES:
1. PLUMBING MUST BE RUN BELOW THE FROST LINE. IN REGIONS WHERE FREEZING MAY OCCUR, POSITION TANKS TO ENSURE COMPLIANCE. IF NECESSARY, LINES MAY BE RUN INTO THE SIDES OF THE TANKS SHOULD THE TOPS BE TOO CLOSE TO THE FROST LINE.
 2. ALL TANK BOTTOMS MUST BE LEVEL.
 3. LOCATE TANKS SUCH THAT PLUMBING CAN BE INSTALLED WITH THE REQUIRED SLOPES THROUGHOUT THE LENGTH OF THE PIPING. FROM TANK ENTRY POINT TO EQUIPMENT ROOM, AIR TRAPS ARE FORMED WHERE LINES SLOPE UP AND BACK DOWN ARE NOT PERMITTED. ALL SUCTION LINES REQUIRE A CONTINUOUS UPWARD SLOPE TO THE EQUIPMENT ROOM AND RECLAIM UNIT.
 4. DRAWINGS ARE FOR REFERENCE ONLY. CONSULT WITH TANK MANUFACTURER TO IDENTIFY STANDARD CONFIGURATIONS FOR APPROVED APPLICATIONS.
 5. SEAL ALL PENETRATIONS TO PREVENT LEAKAGE INTO THE SOIL.
 6. IN APPLICATIONS THAT ARE AT RISK OF A SEWAGE BACKUP INTO THE RECLAIM SYSTEM, INSTALLATION OF A BACK FLOW PREVENTER IS RECOMMENDED.
 7. APPROXIMATE TANK VOLUME IS 2000 GALLONS EACH. THE FIRST 2000 GALLONS IS FOR THE SEPARATION OF HEAVY SOLIDS WITH THE REMAINING 4000 RESERVED FOR SETTING OF FINER CONTAMINANTS.
 8. AN ADDITIONAL SAND/OIL SEPARATOR SHALL BE ADDED TO TANKING CONFIGURATION PER CITY/STATE REQUIREMENTS.
 9. ALL UNDERGROUND TANKS AND PIPING BY CONTRACTOR.
 10. PIPES MAY BE LOCATED ON EITHER SIDE OF TANKS
 11. UNLESS OTHERWISE NOTED, ALL INTERNAL TANK PLUMBING TO BE 6" SCH 40 PVC.
 12. IN REGIONS THAT MAY INCLUDE DIRT ROADS, OFF-ROAD OPERATIONS, OR FARMING CONDITIONS, THE ADDITION OF A MUD/HEAVY SOLIDS SEPARATION TANK TO THE STANDARD CONFIGURATION IS RECOMMENDED.



BELOW GROUND TANKS

ALL suction lines must NEVER slope down and then back up again (Air Trap).

BELOW GROUND TANKS

ALL suction lines must NEVER slope up and then back down again (Air Trap).

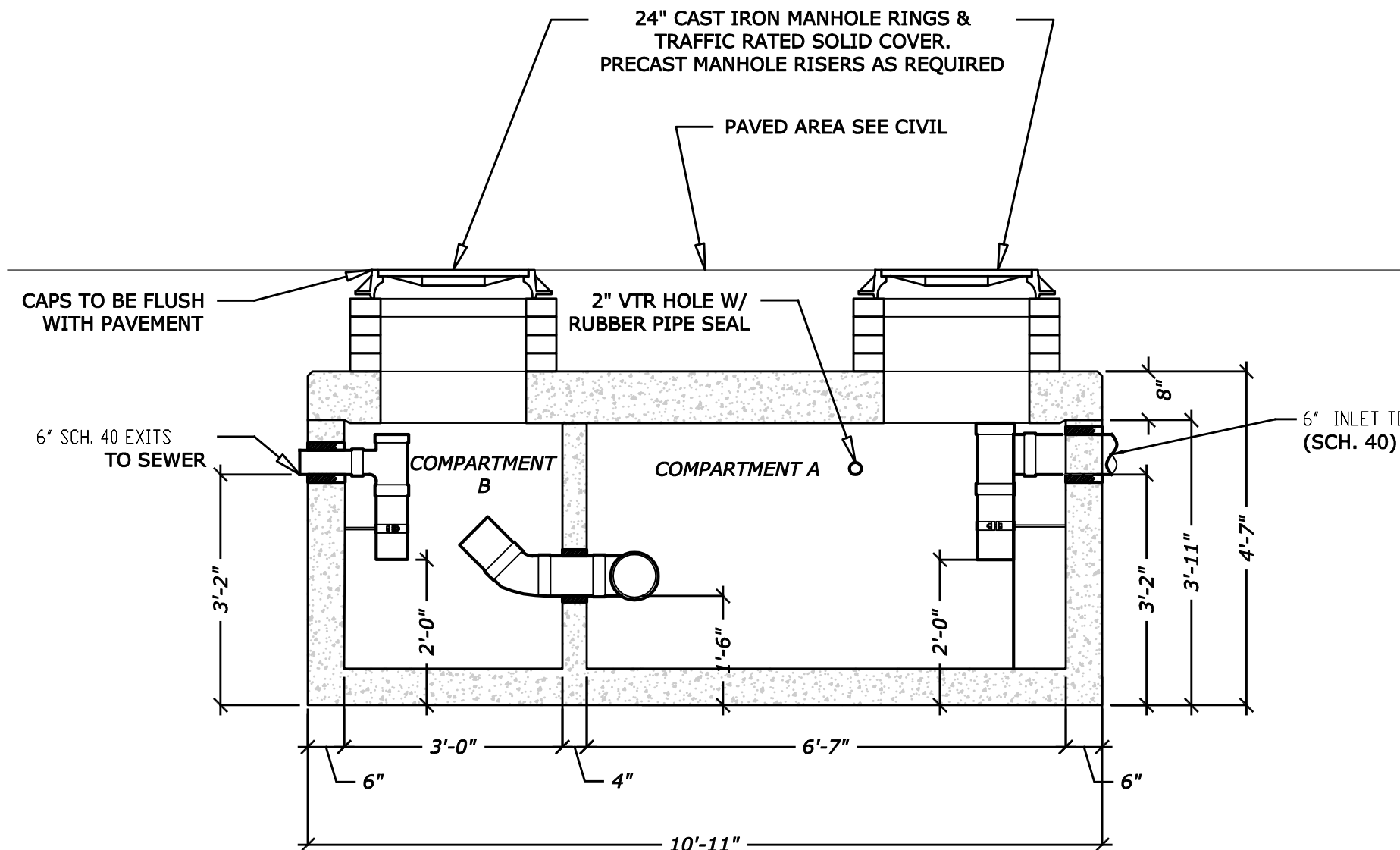
ANY QUESTIONS CONTACT SONNY'S

BELOW GROUND TANKS

ALL suction lines require a continuous upward slope to the Equipment Room.

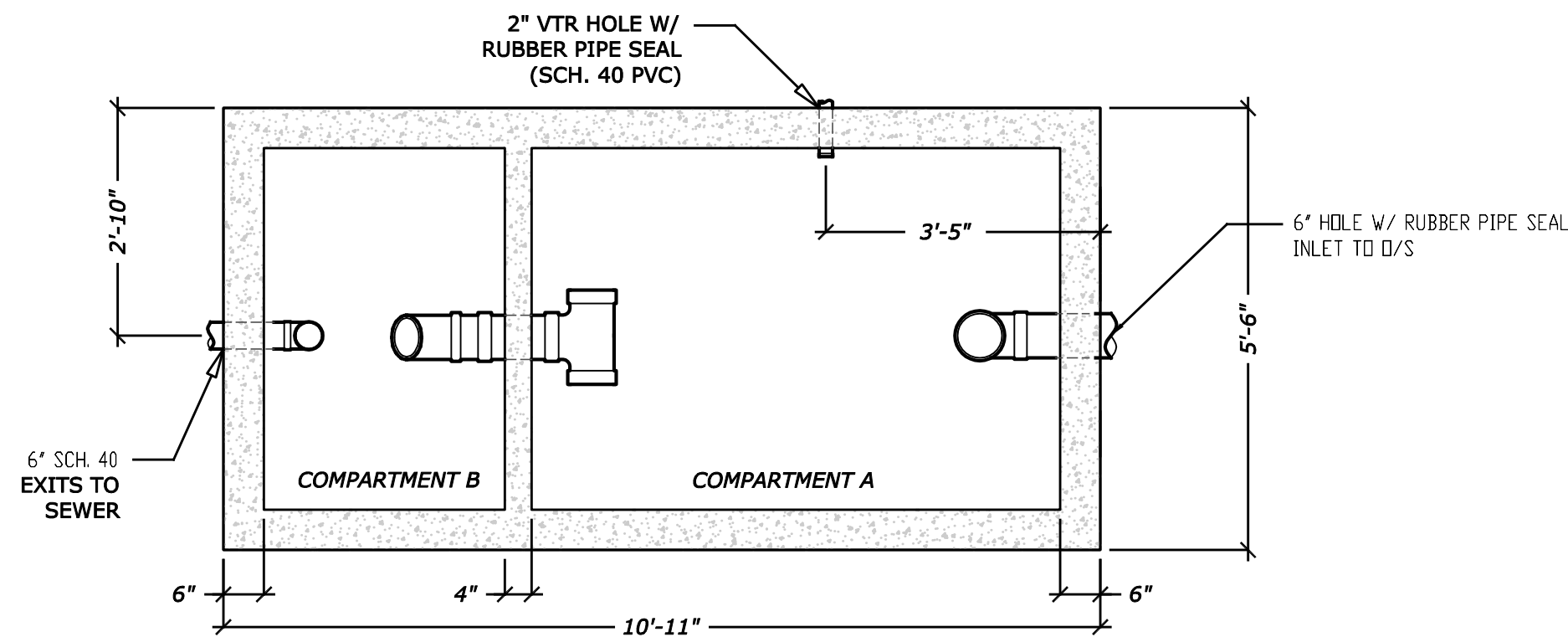
FYI - STRUCTURAL NOTES

1. DESIGN: Dimensions and tolerance shown are required for proper installation of car wash equipment. Structure shown is suggested construction. The Architect and/or Engineer of record shall verify that the structure shown is appropriate for this particular project and shall alter/modify design as required to satisfy the requirements of the project.
2. SOIL: Design shown assumes that the soil conditions at the site are satisfactory and have adequate bearing capacity for the loads to be imposed, with minimal differential settlement of the trench, slab, and car wash structures. If it is found that the soil on the site contains organics, and cannot be sufficiently compacted or has other deleterious properties, the trench shall be redesigned for support on a piling foundation. The Architect and/or Engineer of record shall verify the soil conditions at the site.
3. CONVEYOR TRENCH CONSTRUCTION: Excavate trench to a point at or just below the bottom of trench slab shown. Slope excavation to match slope of trench. Compact soil under trench in accordance with soil Engineer's recommendation. Form and pour trench bottom slab coordinating placement of vertical reinforcement with placement of block so that vertical reinforcement is centered in the block cells. Lay block and fill cells and tie columns with concrete to a point just below the slab over pour shown. After adequate curing time, back fill and compact clean soil behind trench walls in accordance with Soils Engineer's direction. Complete trench by forming and pouring conveyor shelf, correlator pit bottom, and surrounding slab.
4. SLAB FINISHES: All car wash vehicular slabs shall be finished with rough non-skid surface (Broom Finish). Brush lines in finish shall be parallel to the direction of slope.
5. APPROACH & EXIT SLABS: Concrete approach and exit slabs extending a minimum of 20 feet from either end of the trench are required. These slabs shall be aligned with and level along the direction of travel through the car wash. Slight sloping of the slabs perpendicular to the direction of travel to allow drainage is acceptable.
6. CONCRETE STRENGTH: All concrete shall be normal weight unless noted otherwise and shall attain a 28 day compressive strength of $f'_c = 3000$ psi.
7. MIXES: All concrete mixes shall be designed by the supplier to meet the requirements set forth herein.
8. SLUMP: Unless noted or approved otherwise, the maximum slump allowable for concrete shall be four (4) inches. If higher slump is desired to increase workability, the Contractor should consult with the concrete supplier about using a concrete additive that will increase slump without increasing the water-cement ratio of the concrete. The contractor shall verify that any concrete additives shall not have any detrimental effects on embedded items, finishes indicated on the plans, or likely future finishes.
9. VIBRATION: All cast-in-place concrete shall be consolidated by means of mechanical vibrators. The Contractor shall use properly trained personnel to assure that the concrete is not over or under vibrated, resulting in over or under consolidation of the concrete.
10. FINISHING: Finishing of concrete shall be in accordance with ACI 301 (Latest Edition).
11. CURING: Beginning immediately after placement, concrete shall be protected from premature drying, excessively hot or cold temperatures, mechanical injury, and shall be maintained with minimal moisture loss at a relatively constant temperature for the period necessary for hydration of the cement and hardening of the concrete. The materials and methods of curing shall conform to ACI 301.
12. REINFORCING STEEL STRENGTH: All conventional reinforcing steel shall have a minimum yield strength of 60,000 psi and shall conform to ASTM designation A-615 Grade 60.
13. STRENGTH OF MASONRY UNITS: All hollow concrete masonry units shall be grade N-1 normal weight units that conform to the "Standard Specifications for Hollow Load Bearing Concrete Masonry Units" ASTM C-90 (Latest Edition). The minimum compressive strength of the hollow concrete masonry units at 28 days shall be 2,500 psi (net area) with a minimum compressive strength of the masonry assembly $f'_m = 1,500$ psi.
14. MORTAR: All masonry shall be laid with full mortar coverage of the face shells and webs and full end joints using type M or S mortar. All mortar used in the hollow concrete masonry unit walls shall conform to ASTM 270 (Latest Edition).
15. CONCRETE GROUT: All filled cells of masonry units shall be filled with concrete grout having a minimum compressive strength of 2,000 psi and a maximum slump of 9".
16. BLOCK PLACEMENT: All cells to be filled with concrete shall be as straight as possible. The block should not be staggered so as to constrict the flow of concrete in any way. This shall be done by strategically placing pieces of block vertically between filled cells in non-modular masonry openings.
17. STRUCTURAL STEEL SHAPES: All structural steel hot rolled shapes and plates shall be ASTM A36 with a minimum yield stress of 36 ksi. All steel shall conform to AISC Standards and Specifications for the Design, Fabrication, and Erection of Structural Steel.
18. BOLTS: All bolts shall conform to "Specifications for Low Carbon Steel Externally and Internally Threaded Standard Fasteners" ASTM A307 or "High Strength Bolts for Structural Steel Joints, Including Suitable Nuts and Plain Hardened Washers" ASTM A325.



O/S TANK

INTERCEPTOR SHALL BE 1000 GALLON TRAP AS MANUFACTURED



O/S TANK

INTERCEPTOR SHALL BE 1000 GALLON TRAP AS MANUFACTURED

1 SAND/OIL SEPARATOR DETAIL
P-3.2 SCALE: NONE

1000 GALLON SAND/OIL INTERCEPTOR LOCATION:
COORDINATE WITH CIVIL AND CAR WASH EQUIPMENT DRAWINGS
FOR EXACT LOCATION OF INTERCEPTOR ON SITE AND ADJUST
PIPING AS REQUIRED.

- NOTE:
1. ALL LINES SHALL BE SCH. 40 PVC UNLESS OTHERWISE NOTED.
 2. DRAWING FOR PLUMBING ARE FOR REFERENCE ONLY, NOT INTENDED FOR TANKING CONSTRUCTION.
 3. CONSULT WITH TANK MANUFACTURER FOR TANK CONSTRUCTION AND TRAFFIC BEARING LOAD.



ALL MEASUREMENTS ARE FOR REFERENCE AND SHOULD BE CONSIDERED MINIMUMS.



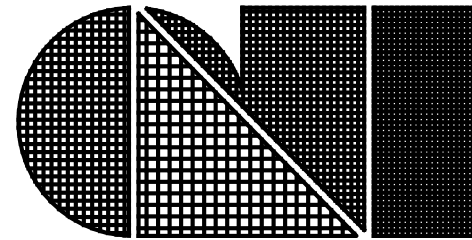
6" PVC IS SIZED FOR DEBRIS, NOT FLOW, AND SHOULD NOT BE REDUCED.



ALL PIPING SHALL BE 6" UNLESS OTHERWISE NOTED. PAY CLOSE ATTENTION TO SIZING, LOCATION, AND ELEVATIONS.



ALL WALL AND BULKHEAD PENETRATIONS TO HAVE WATERPROOF RUBBER SEALS.



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C.L. HELT PROJECT #

22088

Project : CHAMPION

EXPRESS CAR WASH

FOR

7B BUILDING AND DEVELOPMENT

1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :

SAND/OIL
SEPARATOR
DETAILS

Seal



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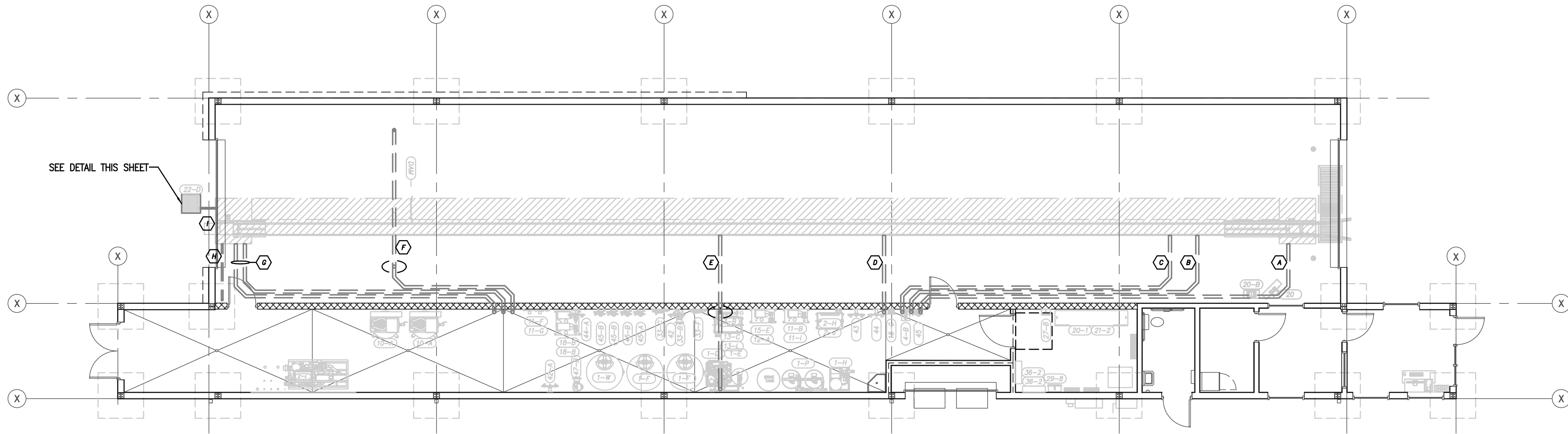
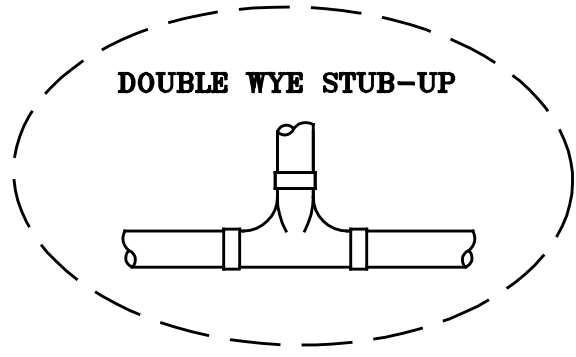
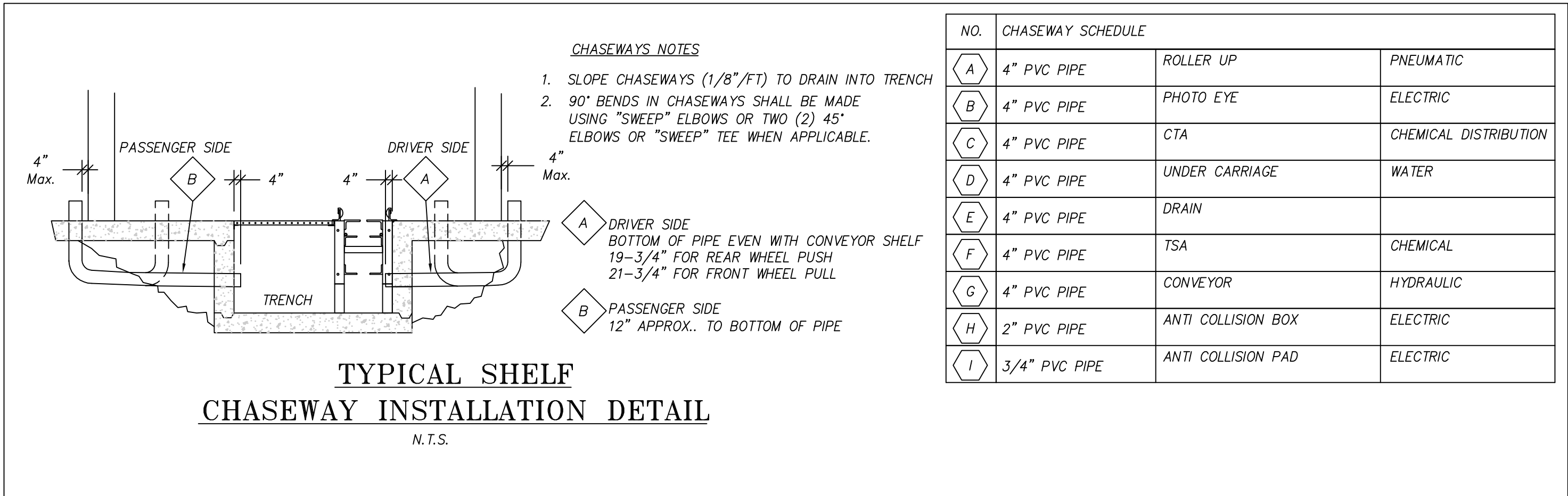
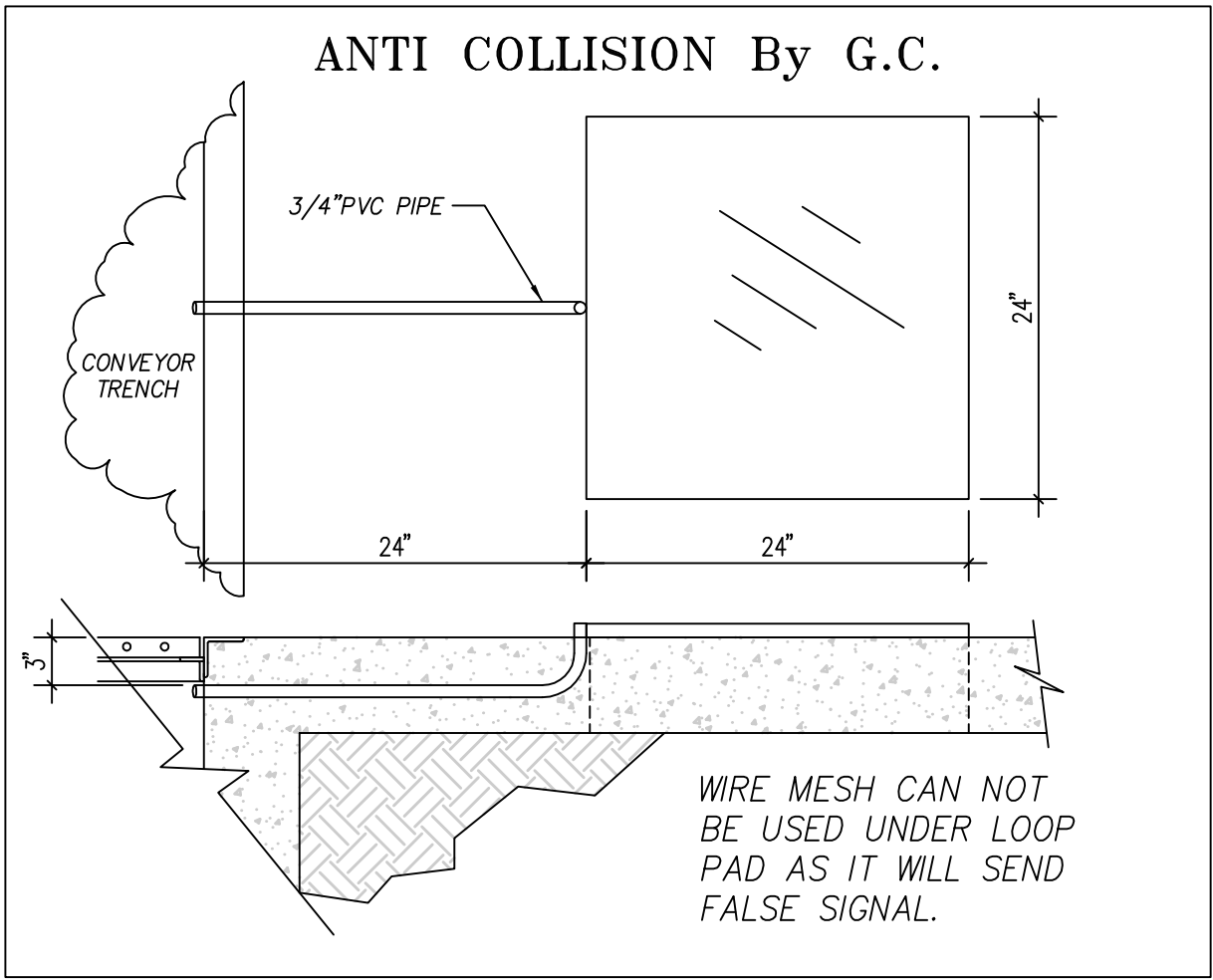
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Sheet No.

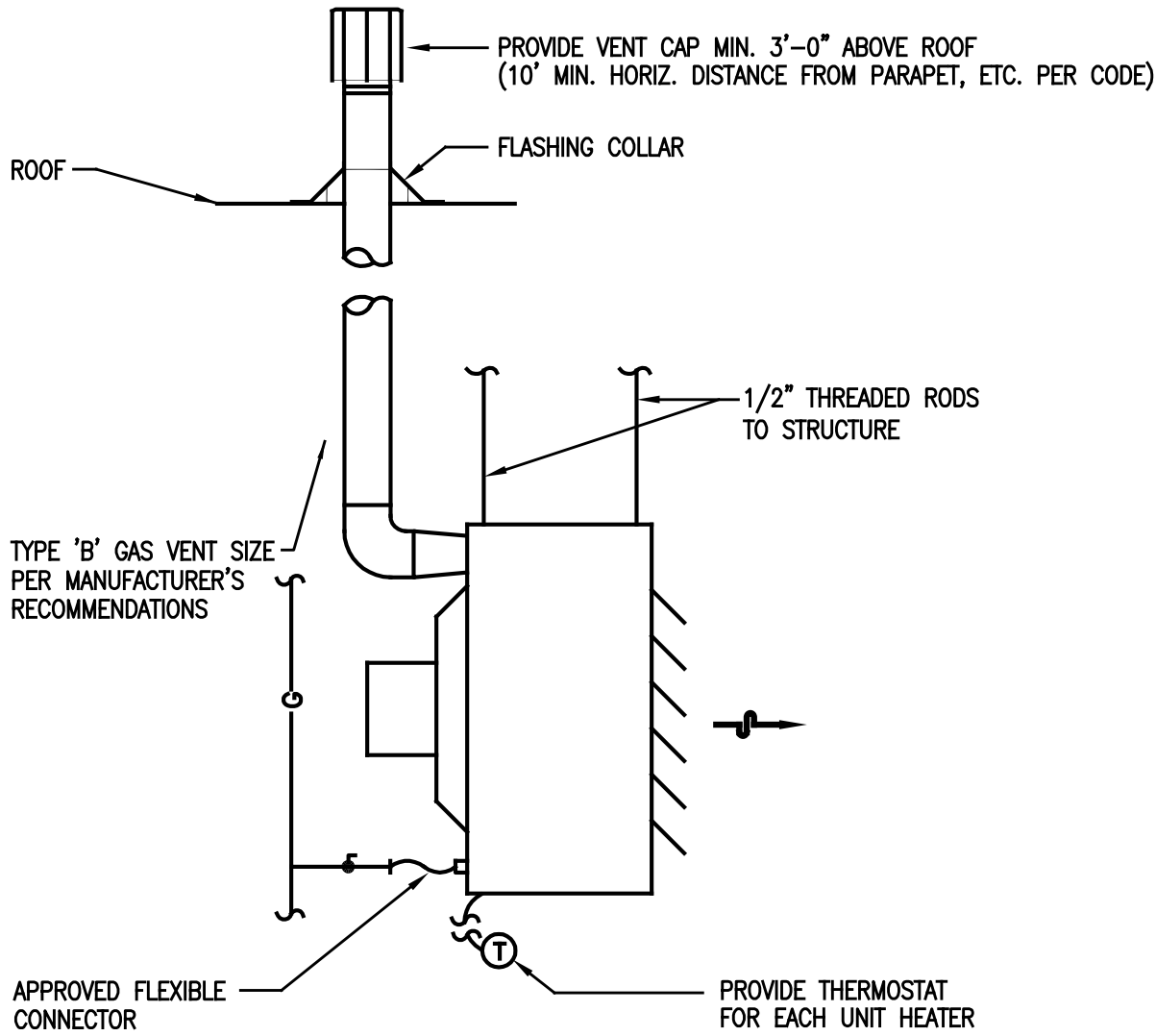
P-3.2



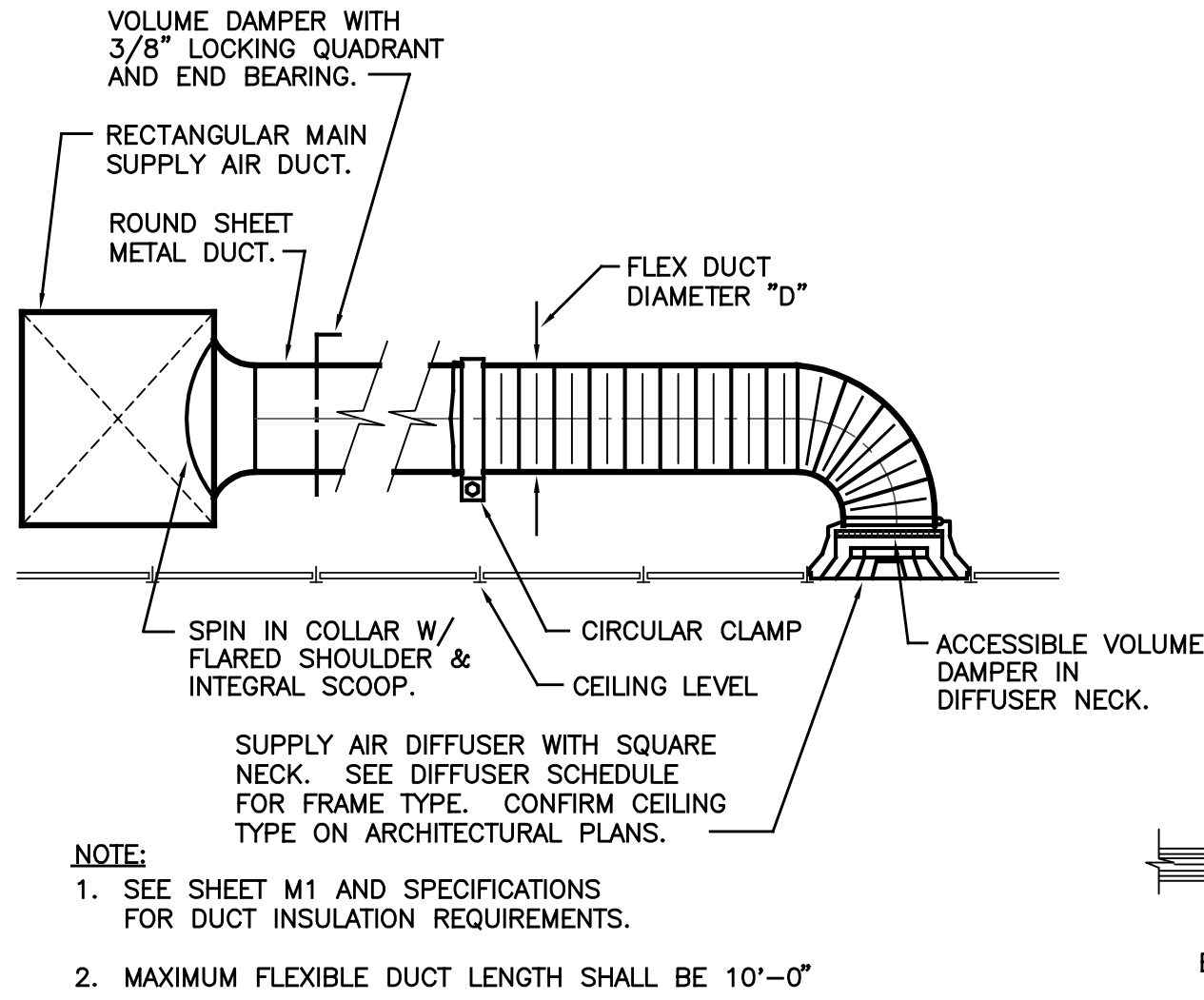
1 CHASE WAY UNDERGROUND PIPING PLAN
P-3.3 SCALE: 1/8"=1'-0"

CAR WASH EQUIPMENT COORDINATION NOTE:
PLUMBING CONTRATOR SHALL BE RESPONSIBLE FOR PROVIDING UNDERGROUND CHASE WAY PIPING FOR CAR WASH EQUIPMENT. PIPING SHOWN IS FOR PRICING AND SCOPE OF WORK ONLY AND IS NOT TO BE USED FOR CONSTRUCTION. SITE SPECIFIC CAR WASH EQUIPMENT DRAWINGS PREPARED BY SONNY'S WILL BE PROVIDED TO CONTRACTOR FOR CONSTRUCTION. REFER TO SHEET 4.1 IN THE SONNY'S EQUIPMENT PACKAGE FOR FINAL DESIGN OF UNDERGROUND CHASE WAY PIPING INCLUDING CHASEWAY SCHEDULE AND DIMENSIONED LOCATIONS OF PIPING.

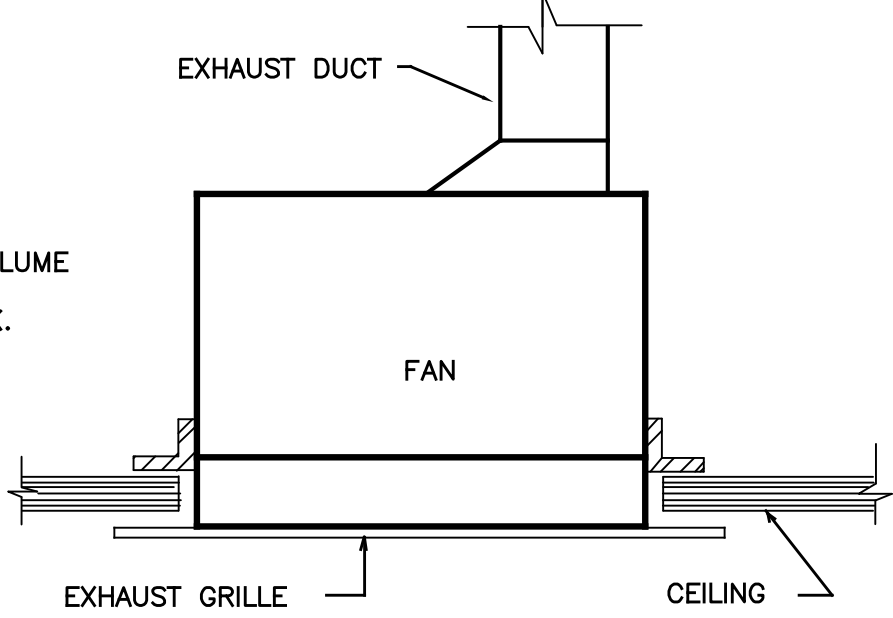
MECHANICAL GENERAL NOTES	
1.	DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLAN FOR EXACT LOCATION OF DOORS, WINDOWS, CEILING DIFFUSERS, ETC.
2.	ALL DUCTWORK AND PIPING SHALL BE COORDINATED WITH THE WORK PERFORMED UNDER OTHER DIVISIONS TO AVOID INTERFERENCE.
3.	LOCATE ALL THERMOSTATS 4'-0" ABOVE THE FINISHED FLOOR, UNLESS OTHERWISE NOTED.
4.	HVAC CONTRACTOR SHALL REPAIR, REPLACE, OR REPAINT TO MATCH EXISTING SURFACES DAMAGED BY THE HVAC CONTRACTOR DURING INSTALLATION OF MECHANICAL EQUIPMENT.
5.	HVAC CONTRACTOR SHALL REMOVE FROM THE JOBSITE ANY MATERIALS NOT ECONOMICALLY RECOVERABLE. ANY MATERIALS REMOVED FROM THE JOBSITE AND SOLD FOR SALVAGE SHALL BE CREDITED TO THE OWNERS ACCOUNT.
6.	INSTRUMENT TEST HOLES SHALL BE LOCATED IN ALL NEW SUPPLY, EXHAUST, AND RETURN DUCTS.
7.	HVAC CONTRACTOR SHALL PROVIDE AND INSTALL MANUAL BALANCING DAMPERS IN DUCTWORK FIVE FEET UPSTREAM OF ALL DUCTED DIFFUSERS. IF FIVE FEET CANNOT BE MAINTAINED THE MAXIMUM DISTANCE POSSIBLE SHOULD BE OBSERVED. THE CONTRACTOR SHALL ALSO PROVIDE AND INSTALL ALL DAMPERS NECESSARY TO BALANCE THE SYSTEM TO AIR FLOW VALUES SHOWN ON PLANS.
8.	MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE TEN FEET.
9.	DUCT SIZES GIVEN ARE INSIDE CLEAR DIMENSIONS. SHEET METAL SIZES SHALL BE INCREASED ACCORDINGLY TO ALLOW FOR DUCT LINER.
10.	HVAC CONTRACTOR SHALL PROVIDE AND INSTALL FIRE AND/OR SMOKE DAMPERS WHERE INDICATED ON PLANS AND IN SUCH LOCATIONS AS REQUIRED BY APPLICABLE CODE. INSTALLATION OF FIRE AND/OR SMOKE DAMPERS SHALL BE IN STRICT ACCORDANCE WITH THE DAMPER MANUFACTURERS RECOMMENDATIONS.
11.	ALL VALVES AND PIPING SPECIALTIES SHALL BE LINE SIZED UNLESS NOTED OTHERWISE. USE ECCENTRIC REDUCERS ON CONTROL VALVES WHERE REQUIRED.
12.	ALL CONCEALED DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTED IN ACCORDANCE WITH THE LATEST SMACNA STANDARDS. ALL EXPOSED DUCTWORK SHALL BE GALVANIZED SPIRAL ROUND DUCT WITH PAINT GRIP FINISH.
13.	ALL SUPPLY DUCTWORK ABOVE FINISHED CEILINGS SHALL BE WRAPPED WITH 1-1/2" FIBER GLASS INSULATION. ALL EXPOSED SUPPLY DUCTWORK AND ALL RETURN DUCTWORK SHALL BE LINED WITH 1" THICK DUCT LINER. VAPOR BARRIER SHALL BE MAINTAINED THROUGHOUT DUCT SYSTEM. CONTRACTOR SHALL INSTALL WRAP INSULATION OVER TOP OF ALL CEILING SUPPLY AIR DIFFUSERS.
14.	FLEXIBLE DUCTWORK SHALL BE THERMIFLEX TYPE MKF, 1-1/2" EXTERNALLY INSULATED AND CONFORM TO ALL REQUIREMENTS OF U.L. 181 FOR CLASS 1 DUCTS.
15.	ALL PIPING, DUCTS, VENTS, ETC. EXTENDING THROUGH THE WALL AND/OR ROOF SHALL BE FLASHED AND COUNTERFLASHED IN A WATERPROOF MANNER.
16.	ALL PIPING INSULATION SHALL RUN CONTINUOUSLY THROUGH FLOOR, WALLS, AND PARTITIONS.
17.	ALL PIPING SHALL BE SUPPORTED ADJACENT TO EQUIPMENT, TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
18.	HVAC CONTRACTOR SHALL PROVIDE ALL ROOF CURBS TO THE GENERAL CONTRACTOR FOR ASSEMBLY AND INSTALLATION PRIOR TO THE INSTALLATION OF ROOFING MATERIALS.
19.	HVAC CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS ON JOBSITE.
20.	VERIFY ALL ROUTING OR ALL WORK ON JOBSITE.
21.	GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORTING ANGLES AND EXTRA SUPPORT BEAMS FOR ROOFTOP A.C. UNITS, EXHAUST FANS, ETC.
22.	IT IS THE INTENTION OF THESE DRAWINGS TO COVER ALL WORK FOR A COMPLETE FIRST CLASS MECHANICAL INSTALLATION. ANY EQUIPMENT, TRIM HARDWARE AND/OR DEVICES USUALLY UTILIZED IN THE CLASS OF WORK, THOUGH NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT WHICH MAY BE NECESSARY FOR THE SATISFACTORY COMPLETION OF THE WORK (AS DETERMINED BY THE ARCHITECT) SHALL BE FURNISHED AND INSTALLED BY THE HVAC CONTRACTOR AS PART OF HIS TOTAL WORK.
23.	HVAC CONTRACTOR SHALL BALANCE THE SYSTEM AND PROVIDE THE OWNER WITH WRITTEN VERIFICATION THAT THE SYSTEM IS IN COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
24.	THIS DESIGN IS DIAGRAMMATIC AND FOR IMAGE GUIDANCE ONLY. MECHANICAL CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, REGULATIONS, AND LAWS.



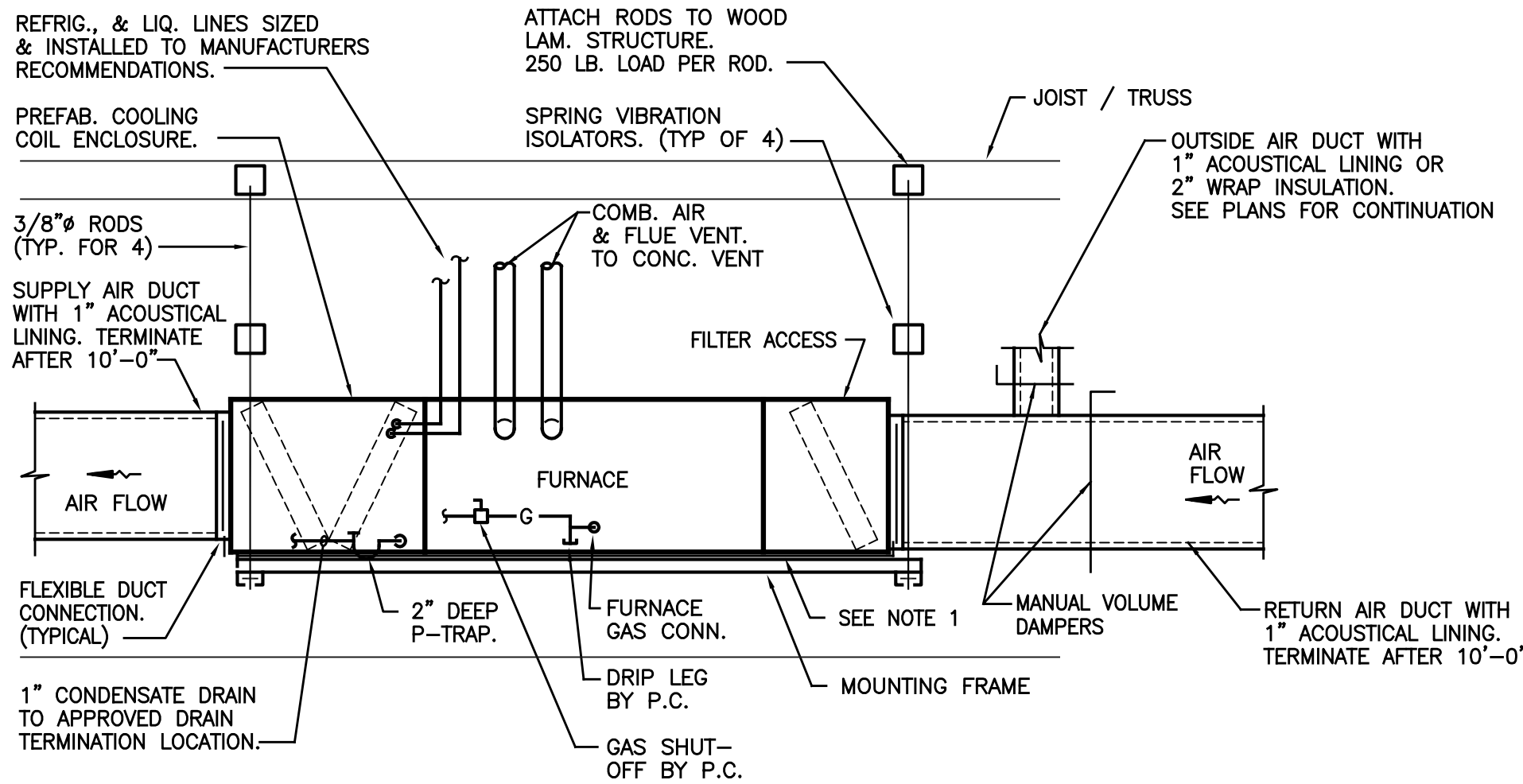
4 GAS FIRED UNIT HEATER
M-1 N.T.S.



3 SUPPLY AIR DIFFUSER DETAIL
M-1 N.T.S.



2 CEILING EXHAUST FAN DETAIL
M-1 N.T.S.



NOTES:

- AUXILIARY DRAIN PAN WITH MICROFLOAT SWITCH. INTERLOCK FLOAT SWITCH WITH FURNACE. INSTALL FLOAT SWITCH IN ONE CORNER OF PAN AND TILT PAN TO THAT CORNER.

1 HORIZONTAL FURNACE DETAIL
M-1 N.T.S.

SPLIT SYSTEM FURNACE WITH DX COOLING SCHEDULE																						
UNIT DESIG. AH/CU	AREA SERVED	AIR HANDLING UNIT DATA							CONDENSING UNIT				COOLING COIL CAPACITY				HEATING CAPACITY			FILTER DATA		NOTES
		MANUFACTURER & MODEL #	TOTAL CFM	MIN. O.A. CFM	MIN. S.P. (N.W.G)	FAN RPM	ELECTRICAL DATA		MANUFACTURER & MODEL #	ELECTRICAL DATA			MANUFACTURER & MODEL #	TOTAL MBH	SENS. MBH	SEER/ EER	INPUT MBH	OUTPUT MBH	EFF. %	TYPE	THICK IN.	
							FAN HP	FAN VOLT/PH		VOLT/PH	MCA	MAX FUSE										
AH-1/CU-1	SEE PLANS	YORK TM9E04Q401MP11	800	100	0.6	MED	1/2	120V/1ø	YORK YCS24B21S	208V/1ø	13.6	20	YORK CM24A	24.0	18.3	14.75 SEER	40	38	95	THROW AWAY	1"	1,2,3,4,5,6,7

NOTES:

- COOLING CAPACITIES ARE RATED IN ACCORDANCE WITH ARI STANDARD 210/290 AT 95°F AMBIENT OUTDOOR AIR TEMP., 80°F DRY BULB, 67° WET BULB ENTRANCE AIR TEMP., AND NOMINAL AIR QUANTITY LISTED.
- PROVIDE ROOF CONCENTRIC VENT TERMINATION KIT. INSTALL MINIMUM 10'0" FROM HVAC AIR INTAKES.
- PROVIDE CUSTOM FILTER RACK (ON END) AND NEW FILTERS FOR INDOOR AIR HANDLING UNIT.
- PROVIDE TIME DELAY RELAY AND/OR ACCESSORIES AS REQUIRED PER AHRI RATING CERTIFICATE.
- PURON REFRIGERANT
- OUTDOOR CONDENSING UNITS SHALL BE MINIMUM 14 SEER.
- PROVIDE HONEYWELL VISION PRO 7 DAY PROGRAMMABLE THERMOSTAT WITH NIGHT SETBACK.

DUCTLESS SPLIT SYSTEM SCHEDULE																								
UNIT DESIG.	UNIT DESIG. AH	AREA SERVED	INDOOR AIR HANDLING UNIT DATA										OUTDOOR CONDENSING UNIT DATA				COOLING CAPACITY			HEATING CAPACITY (47°F)		FILTER DATA		NOTES
			MANUFACTURER & MODEL #	TOTAL CFM	MIN. O.A. CFM	MIN. S.P. (N.W.G)	ELECTRICAL DATA				MANUFACTURER & MODEL #	ELECTRICAL DATA			TOTAL MBH	SENS. MBH	SEER	TOTAL MBH	HSPF	TYPE	THICK IN.			
							FAN SPEED	FAN VOLT/PH	AUX. HTR. KW	VOLT/PH		MCA	MAX FUSE	VOLT/PH								MCA	MAX FUSE	
CU-2	AH-2	ELEC. RM.	MITSUBISHI PLA-A36BA6	1060	NAT. VENT.	DUCT- LESS	HI	208V/1Ø			2.0	—	MITSUBISHI PUY-A36NHA6	208V/1Ø	25.0	40	35.0	25.9	14.2			THROW AWAY	1"	1,2,3,4,5,6,7,8

NOTES:

- COOLING CAPACITIES ARE RATED IN ACCORDANCE WITH ARI STANDARD 210/240 AT 95°F AMBIENT OUTDOOR AIR TEMP., 80°F DRY BULB, 67° WET BULB ENTRANCE AIR TEMP., AND NOMINAL AIR QUANTITY LISTED.
- PROVIDE WIRED REMOTE CONTROLLER.
- PROVIDE NEW FILTERS FOR AIR HANDLER.
- PROVIDE SS610E DRAIN PAN LEVEL SENSOR FOR AIR HANDLER.
- PROVIDE CONDENSATE PUMP IF NECESSARY.
- PROVIDE AIR OUTLET GUIDE AND/OR AIR PROTECT GUIDE FOR COOLING OPERATION IN LOW OUTDOOR TEMPERATURES. UNIT WILL BE OPERATING IN COOLING MODE YEAR ROUND.
- PROVIDE ADDITIONAL ACCESSORIES AS REQUIRED FOR COMPLETE SYSTEM.
- PROVIDE LONG-LINE REFRIGERATION KIT IF REFRIGERATION LENGTH EXCEEDS MANUFACTURER'S RECOMMENDATIONS.

FAN SCHEDULE											
MARK	SERVICE	AREA SERVED	VOLUME (CFM)	SP (n. WC)	DRIVE TYPE	ELECTRICAL DATA		MANUFACTURER / MODEL NO.	FAN TYPE & ARRANGEMENT	CONTROL SCHEME	NOTES
						SIZE (HP)	VOLT/PH				
EF-1	EXHAUST	RESTROOM	75	0.25	DIRECT	17 W	120/1	GREENHECK SP-A90	CEILING CABINET	B	1 2 3 4
EF-2	EXHAUST	EQUIP. RM.	2000	0.25	DIRECT	3/4 HP	120/1	GREENHECK SQ-160-VG-3/4	CENTRIFUGAL INLINE	C	1 5 6 7

NOTES:

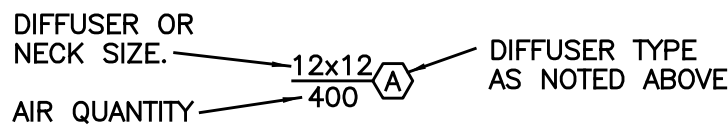
- MOTOR WITH THERMAL OVERLOADS
- INTEGRAL BACKDRAFT DAMPER
- SPEED CONTROLLER MOUNTED AT FAN HOUSING
- WC-6 HOODED WALL CAP WITH BUILT-IN BIRDSCREEN AND DAMPER.
- MOTORIZED BACKDRAFT DAMPER
- INLET GUARDS
- NEOPRENE HANGING ISOLATION KIT.

CONTROL SCHEME

- CONTROL WITH SEPARATE SWITCH BY E.C.
- CONTROL WITH ROOM LIGHTS
- CONTROL WITH THERMOSTAT. SET AT 85°F.

AIR DISTRIBUTION SCHEDULE											
MARK	SERVICE	CFM	NECK SIZE	FRAME TYPE	PATTERN	DAMPER	MATERIAL	FINISH	MANUFACTURER / MODEL NO.	TYPE	NOTES
A	SUPPLY	SEE PLANS	SEE PLANS	LAY-IN	4-WAY	YES	ALUMINUM	WHITE	METAL*ARE 5700	CEILING DIFFUSER LOUVERED FACE	1
A	SUPPLY	SEE PLANS	SEE PLANS	SURFACE	4-WAY	YES	ALUMINUM	WHITE	METAL*ARE 5700	CEILING DIFFUSER LOUVERED FACE	1
B	RETURN	SEE PLANS	SEE PLANS	LAY-IN	NA	NO	ALUMINUM	WHITE	METAL*ARE 7500R	CEILING DIFFUSER PERFORATED FACE	1

1. DIFFUSER DESIGNATIONS ON PLANS AS FOLLOWS:

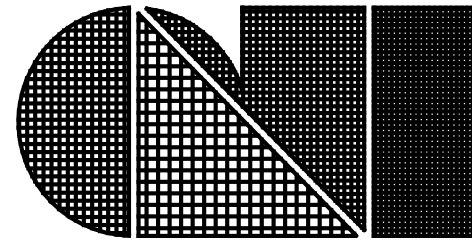


LOUVER SCHEDULE							
MARK	FREE AREA	DIMENSIONS	TYPE	FRAME	CONSTRUCTION	MANUFACTURER / MODEL NO.	NOTES
L-1	4.02 SQ. FT.	48"W X 24"H	DRAINABLE	CHANNEL	ALUMINUM	RUSKIN ELF375DX	2 3 4
L-2	2.60 SQ. FT.	72"W X 24"H	DRAINABLE	CHANNEL	ALUMINUM	RUSKIN ELF375DX	1 3 5
L-3	0.31 SQ. FT.	12"W X 12"H	DRAINABLE	CHANNEL	ALUMINUM	RUSKIN ELF375DX	2 3 4

NOTES:

- BIRDSCREEN
- INSECT SOREEN
- CLEAR ANODIZED FINISH
- MOTORIZED DAMPER
- PROVIDE (2) 20"x24" BLANK OFF PANELS

VENTILATION CALCULATIONS	
CALCULATIONS BASED ON THE 2018 INTERNATIONAL MECHANICAL CODE TABLE 403.3	
AH-1	
CONTROL ROOM {OFFICE SPACE} = (102 SQFT X 0.06 CFM/SF) + (102 SQFT X 5 PERSON/1000 SF X 5 CFM/PERSON) = 9 CFM	
OFFICE {OFFICE SPACE} = (83 SQFT X 0.06 CFM/SF) + (83 SQFT X 5 PERSON/1000 SF X 5 CFM/PERSON) = 7 CFM	
CLOSET {STORAGE ROOM} = (52 SQFT) X (0.12 CFM/SQFT) = 6 CFM	
TOTAL = 22 CFM / 0.8 ZONE EFFECTIVENESS = 28 CFM	
100 CFM OUTSIDE AIR SHALL BE PROVIDED FOR THIS UNIT.	



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
MECHANICAL
COVER SHEET

Seal



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D. BELK

Checked By :

D. BELK

Revisions :

Date :

6/10/2022

Sheet No.

M-1

- MECHANICAL HVAC KEYED NOTES
- M1

ROUTE CONDENSATE DRAIN LINE ABOVE CEILING AND DOWN IN WALL AND SPILL ONTO WASH TUNNEL FLOOR WITH ELBOW TURNED DOWN 6" ABOVE FLOOR. DRAIN LINE SHALL BE FULL SIZE OF CONNECTION TO UNIT. DRAIN PIPING SHALL BE CONSTRUCTED OF PVC WITH GLUED JOINTS AND FITTINGS.
- M2

PROVIDE MOTORIZED DAMPER INTERLOCKED WITH EF-2. DAMPER SHALL OPEN WHEN FAN ENERGIZES AND CLOSES WHEN FAN DE-ENERGIZES.
- M3

PROVIDE MOTORIZED DAMPER FOR 24"Wx24"H OPENING ABOVE DOOR, INTERLOCKED WITH EF-2. DAMPER SHALL OPEN WHEN FAN ENERGIZES AND CLOSES WHEN FAN DE-ENERGIZES.
- M4

5" TYPE "B" FLUE VENT UP THRU ROOF TO APPROVED ROOF VENT TERMINATION.
- M5

4" COMBUSTION AIR UP THRU ROOF TO APPROVED ROOF TERMINATION.
- M6

4" TYPE B FLUE VENT UP THRU ROOF TO APPROVED ROOF VENT TERMINATION.
- M7

2" PVC COMBUSTION AIR AND 2" FLUE VENT UP TO CONCENTRIC VENT ROOF TERMINATION. INSTALL PER MANUFACTURER'S INSTRUCTIONS. FIELD LOCATE MINIMUM 10'-0" FROM HVAC FRESH AIR INTAKE.
- M8

NOT USED.
- M9

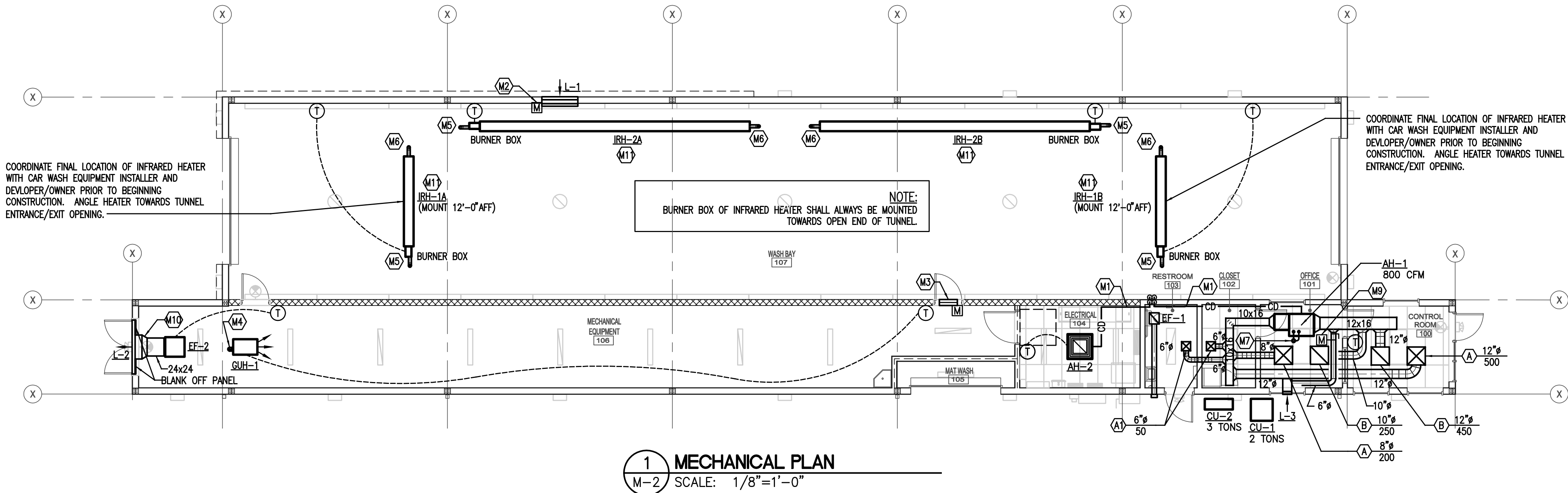
6"Ø OUTSIDE AIR DUCT FROM RETURN AIR DUCT TO OUTSIDE AIR LOUVER. CONNECT TO RETURN AIR DUCT WITH MOTORIZED DAMPER AND MANUAL BALANCING DAMPER. INTERLOCK MOTORIZED OUTSIDE AIR DAMPER WITH FAN IN FURNACE SO THAT DAMPER OPENS WHEN FAN ENERGIZES AND DAMPER CLOSES WHEN FAN DE-ENERGIZES.
- M10

TRANSITION 24"x24" EXHAUST DUCT TO 32"x24" SECTION OF EXHAUST LOUVER. BLANK OFF REMAINING SECTIONS OF LOUVER ON THE LEFT AND RIGHT WITH 20"x24" BLANK OFF PANELS.
- M11

PER MANUFACTURER, "IN SOME CASES, SOME PARTS OF THE CAR WASH EQUIPMENT NEEDS TO BE SHIELDED. USE HIGHLY REFLECTIVE ALUMINUM MATERIAL OR ALUMINUM TAPE TO SHIELD THE HOSES, ETC., SPECIFICALLY WITHIN 10 FEET FROM THE BURNER."

MECHANICAL LEGEND

	SUPPLY DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
	SIDEWALL DIFFUSER/GRILLE
	12"x12" RECTANGULAR DUCT
	12"Ø FLEXIBLE DUCT
	12"Ø ROUND RIGID DUCT
	TURNING VANES
	MANUAL VOLUME DAMPER (MVD)
	1" DOOR UNDERCUT
	THERMOSTAT/CONTROL. PROVIDE WITH LOCKING LEXAN COVER. MOUNT 48" AFF.
	MOTORIZED DAMPER
S.A.	SUPPLY AIR
R.A.	RETURN AIR
	DIFFUSER SYMBOL



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6/10/2022

ELECTRICAL SYMBOL LEGEND	
	DEDICATED CIRCUIT HOMERUN TO POWER DISTRIBUTION EQUIPMENT. SUBSCRIPT DENOTES PANEL AND CIRCUIT(S). NUMBER OF ARROWHEADS DENOTES # OF 120V CIRCUITS. FEEDER CIRCUIT HOMERUNS AND 208V BRANCH CIRCUIT HOMERUNS SHOWN WITH ONLY ONE ARROWHEAD. CONDUIT RUN CONCEALED IN WALLS OR ABOVE CEILING. IN AREAS WITH NO CEILING, RUN CONDUITS HIGH AS POSSIBLE AGAINST STRUCTURE. CONDUIT UNDERGROUND, UNDERFLOOR, OR IN WALL. JUNCTION BOX, CEILING MOUNTED JUNCTION BOX, FLOOR MOUNTED JUNCTION BOX WALL MOUNTED SINGLE POLE SWITCH, 20A, 120/277 VOLT, +48" A.F.F. TO CENTER. OCCUPANCY SENSOR SWITCH. ACUITY CONTROLS WSD-PDT-WH +48" A.F.F. TO CENTER. INDICATES FLUORESCENT FIXTURES DUAL SWITCHED, INBOARD/OUTBOARD SWITCHED SEPARATELY. DATA. OUTLET, +18" A.F.F. TO CENTER OR AT HEIGHT INDICATED ON PLAN, STUB UP 3/4" CONDUIT ABOVE ACCESSIBLE CEILING. CABLE BY OTHERS. DUPLEX RECEPTACLE, 15 AMP, 120 VOLT, +18" A.F.F. TO CENTER. FOR SINGLE RECEPTACLE ON A CIRCUIT, USE A 20A RECEPTACLE. "GFI" INDICATES GROUND FAULT PROTECTION. "WP" INDICATES WEATHERPROOF. "EW" INDICATES FOR ELECTRIC WATER COOLER, MOUNT WITHIN COOLER ENCLOSURE. TWO DUPLEX RECEPTACLES IN A TWO GANG BOX WITH A COMMON COVER PLATE, WALL MOUNTED 15" A.F.F. U.O.N. SPECIAL PURPOSE RECEPTACLE. PROVIDE VOLTAGE, AMP RATING, AND NUMBER OF WIRES AS NOTED ON DRAWINGS AND AS REQUIRED BY DEVICE BEING SERVED. RECEPTACLE WALL-MOUNTED 46" A.F.F., 8" ABOVE COUNTERTOP, OR 3-1/4" ABOVE BACKSPLASH. MOTOR CONNECTION WITH EQUIPMENT DESIGNATION VOLTAGE AND HORSEPOWER RATING SHOWN. MANUAL MOTOR STARTER. "WP" INDICATES WEATHERPROOF. NON-FUSIBLE SAFETY SWITCH FUSED SAFETY SWITCH. PROVIDE FUSES AS REQUIRED BY EQUIPMENT NAMEPLATE. PANELBOARD, SURFACE OR RECESS MOUNTED, SEE SCHEDULE FOR DETAILS. CEILING MOUNTED FLUORESCENT FIXTURE, SURFACE OR RECESSED MOUNTING, SEE FIXTURE SCHEDULE FOR DETAILS OF ALL FIXTURES. CEILING MOUNTED FLUORESCENT FIXTURE CONNECTED TO NIGHT LIGHT CIRCUIT, WITH INTEGRAL EMERGENCY BATTERY PACK. SURFACE MOUNTED FLUORESCENT STRIP. SEE FIXTURE SCHEDULE FOR DETAILS. WALL MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS. EXIT LIGHT WITH BATTERY PACK, UNIVERSAL MOUNTING, SHADING INDICATES FACE. EMERGENCY EGRESS LIGHT WITH BATTERY PACK, SEE FIXTURE SCHEDULE FOR DETAILS.
GENERAL ELECTRICAL NOTES	
1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL LOCAL AND STATE CODES. 2. ALL MATERIAL SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC., AND THE NATIONAL MANUFACTURERS ASSOCIATION. 3. ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE ELECTRICAL CONTRACTOR. 4. DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE ONLY THE GENERAL ARRANGEMENT. SEE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS. 5. ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE THE DAY THE PROJECT IS ACCEPTED BY THE OWNER. 6. ELECTRICAL CONTRACTOR SHALL MAKE ALL ELECTRICAL POWER CONNECTIONS TO HVAC, PLUMBING AND OTHER EQUIPMENT AS REQUIRED. 7. A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS. 8. ALL CUTTING AND PATCHING OF WALLS AND FLOORS FOR ELECTRICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. 9. ALL WIRING SHALL BE INSTALLED IN GALVANIZED RIGID CONDUIT, INTERMEDIATE METAL CONDUIT, OR EMT. ALL STUB-UPS SHALL BE RIGID CONDUIT. EMT SHALL BE PERMITTED TO BE INSTALLED UNDER SLAB WHERE PROTECTED BY CORROSION PROTECTION. TYPE AC, ARMORED CABLE SHALL BE ALLOWED FOR BRANCH CIRCUIT WIRING FOR SWITCHES, LIGHTS AND RECEPTACLES. 10. CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS. MINIMUM SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WIRE #8 AWG AND LARGER SHALL BE STRANDED. ALL CONDUCTORS #10 AND SMALLER SHALL BE SOLID, UNLESS OTHERWISE NOTED. USE THE 60°C AMPACITY RATING FOR CONDUCTORS FEEDING EQUIPMENT RATED 100A OR LESS, OR FOR EQUIPMENT RATED FOR CONDUCTORS #1 AWG OR LESS. 11. BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE THHN OR THWN AS REQUIRED. 12. PROVIDE A PULL WIRE IN ALL EMPTY CONDUITS. 13. PROVIDE A TYPED DIRECTORY IN ALL PANEL BOARDS CLEARLY DESCRIBING THE LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS. 14. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANEL BOARDS AND DISCONNECT SWITCHES, WHITE LETTERS ON BLACK BACKGROUND. 15. FUSES 0 – 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSS. UNLESS NOTED OTHERWISE. 16. VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START UP. NOTIFY ENGINEER OF ANY CHANGES. 17. PROVIDE SCHEDULE 40 PVC CONDUIT UNDERGROUND FROM TELEPHONE EQUIPMENT ROOM TO CONNECTION POINT AS DIRECTED BY LOCAL TELEPHONE COMPANY, SEE TEL. RISER DETAIL. 18. ALL TERMINALS, SPLICING CONNECTORS, LUGS, ETC. SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED. ALL TERMINALS, SPLICING CONNECTORS, LUGS, ETC. SHALL BE IDENTIFIED FOR USE WITH 75°C RATED CONDUCTORS. 19. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL ELECTRICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.). 20. PENETRATIONS OF REQUIRED SMOKE PARTITIONS SHALL BE SEALED USING METHODS APPROVED UNDER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS SMOKE STOPPING IS ACCOMPLISHED. 21. WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE WALL, FLOOR, OR PARTITION FOR THE PURPOSE OF RUNNING RACEWAY CARRYING ELECTRICAL, TELEPHONE, TELEVISION, OR LOCAL COMMUNICATION AND/OR SIGNALING CIRCUITS, THE OPENING AROUND THE RACEWAY SHALL BE FIRE STOPPED PER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS FIRE STOPPING IS ACCOMPLISHED. USE APPROVED ASSEMBLIES SUCH AS THE FOLLOWING: CONDUIT PENETRATIONS OF 1 & 2 HOUR GYP BOARD WALLS – U.L.#WL1001 CONDUIT PENETRATIONS OF 1 & 2 HOUR CONCRETE OR BLOCK WALLS – U.L.#CAJ1001 CONDUIT PENETRATIONS OF 1 & 2 HOUR CONCRETE FLOORS – U.L.#CAJ1001 22. IN REQUIRED FIRE RATED WALLS AND PARTITIONS, OPENINGS FOR INSTALLATION OF BOXES THAT ARE GREATER THAN 16 SQUARE INCHES SHALL BE PROTECTED AS REQUIRED BY U.L. COORDINATE CLOSELY WITH THE GENERAL CONTRACTOR TO INSURE THE INTEGRITY OF THE U.L. RATING IS MAINTAINED. 23. WHERE A HOME RUN IS SHOWN THE CIRCUIT SHALL BE INSTALLED IN A DEDICATED CONDUIT, DO NOT COMBINE WITH OTHER CIRCUITS. WHERE A CIRCUIT HOMERUN IS NOT SHOWN THE CONTRACTOR SHALL COMBINE CIRCUITS AS FOLLOWS: A MAXIMUM OF THREE 20A BRANCH CIRCUITS MAY BE COMBINED IN A COMMON HOMERUN SHARING A COMMON NEUTRAL OR WITH SEPARATE NEUTRALS, A TOTAL OF SIX CURRENT CARRYING CONDUCTORS. 24. ALL BRANCH CIRCUITS LARGER THAN 20A SHALL BE SEPARATELY HOMERUN TO THE PANEL. ALL HOME RUNS IN EXCESS OF 100' SHALL BE INCREASED ONE WIRE SIZE FROM THAT SHOWN FOR THE CIRCUIT, #10 AWG MINIMUM. CIRCUIT NUMBERS, FIXTURE DESIGNATION AND SWITCHING ARE AS FOLLOWS. UPPER CASE LETTER(S) INDICATES FIXTURE TYPE. NUMBER INDICATES CIRCUIT. LOWER CASE LETTER(S) INDICATES SWITCHING DESIGNATION. WHERE TWO SWITCHING DESIGNATIONS ARE SHOWN CONTROL ONE LAMP OF TWO LAMP FIXTURES AND THE CENTER LAMP(S) OF THREE AND FOUR LAMP FIXTURES TO THE FIRST DESIGNATION, AND THE REMAINING LAMPS TO THE SECOND DESIGNATION. FIXTURE SWITCHING AND CIRCUITING ARE TYPICAL FOR ALL LIGHT FIXTURES.	

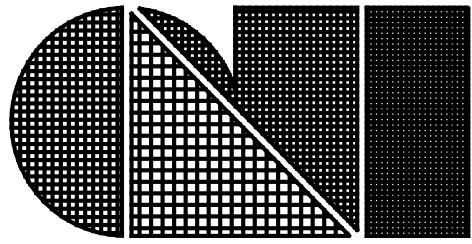
NOTE: ALL WIRING DEVICES (RECEPTACLES AND SWITCHES) SHALL BE IVORY. ALL COVER PLATES SHALL BE STAINLESS STEEL.

LIGHTING FIXTURE SCHEDULE											
MARK	MANUF.	CATALOG NUMBER	LAMP DATA		LENS IF APPLICABLE	MOUNTING	BALLAST DATA		VOLTAGE	FIXTURE WATTS	DESCRIPTION
				TYPE			NO.	TYPE			
A1(EM)	COLUMBIA	SRP14 40 VW ED U ELL14ST	LED	3148 LUMENS 80CRI, 4000°K	FROSTED/TEXTURED LENS	SURFACE	1	LED DRIVER	120	25	1'x4' SURFACE MOUNTED LED FLAT PANEL. PROVIDE WITH EMERGENCY SELF-DIAGNOSTIC BATTERY PACK, 1400 LUMENS PROVIDE WITH SRPSMK14 SURFACE MOUNT KIT
A2	COLUMBIA	SRP24 40 ML G ED U	LED	4934 LUMENS 80CRI, 4000°K	FROSTED/TEXTURED LENS	LAY-IN	1	LED DRIVER	120	45	2'x4' LAY-IN LED FLAT PANEL.
A2(EM)	COLUMBIA	SRP24 40 ML G ED U ELL14ST	LED	4934 LUMENS 80CRI, 4000°K	FROSTED/TEXTURED LENS	LAY-IN	1	LED DRIVER	120	45	SAME AS FIXTURE "A2" EXCEPT PROVIDE WITH EMERGENCY SELF-DIAGNOSTIC BATTERY PACK, 1400 LUMENS
A3	COLUMBIA	SRP24 40 VW G ED U	LED	3351 LUMENS 80CRI, 4000°K	FROSTED/TEXTURED LENS	LAY-IN	1	LED DRIVER	120	27	2'x4' LAY-IN LED FLAT PANEL.
B	COLUMBIA	LXEM 4 40 LW RFA ED U	LED	4250 LUMENS 80CRI, 4000°K	ACRYLIC, LINEAL RIBBED FROSTED LENS	SURFACE	1	LED DRIVER	120	33	4' LINEAR VAPOR TIGHT LED FIXTURE
B(EM)	COLUMBIA	LXEM 4 40 LW RFA ED U ELL14	LED	4250 LUMENS 80CRI, 4000°K	ACRYLIC, LINEAL RIBBED FROSTED LENS	SURFACE	1	LED DRIVER	120	33	SAME AS FIXTURE "B" EXCEPT PROVIDE WITH EMERGENCY BATTERY PACK, 1400 LUMENS
D	G&G	WPX8-SO-50K	LED	8000 LUMENS 85CRI, 5000°K	CHEMICAL RESISTANT CLEAR LENS	SURFACE	1	LED DRIVER	120	50	8' LINEAR LED FIXTURE UL LISTED FOR WET LOCATION, CONNECTORIZED, IP68 PROVIDE WITH POWER AND CONNECTIONS ACCESSORIES AS NECESSARY. MOUNTING HEIGHT = 12'-0"
E											LED WALL PAK LIGHT. REFER TO ES-2 FOR LIGHT FIXTURE SPECIFICATION. REFER TO ARCHITECTURAL ELEVATIONS FOR FINAL MOUNTING HEIGHT AND LOCATION.
F	BARRON	SCP-S 50 LG VS 4K CC	LED	5702 LUMENS 72CRI, 4000°K	DP LENS	SURFACE	1	LED DRIVER	120	50	CANOPY LED FIXTURE UL LISTED FOR WET LOCATION
G(EM)	BEACON	SRT2 100 5K7 5W UNV WHT E	LED	10788 LUMENS 70CRI, 5000°K	ACRYLIC LENS	PENDANT	1	LED DRIVER	120	93	ROUND LED LOW-BAY FIXTURE. UL LISTED FOR WET LOCATION. PROVIDE WITH 90 MIN. EMERGENCY BATTERY BACKUP.
⊗	EMERGI-LITE	ELXN400 RN	LED	PROVIDED WITH UNIT		UNIVERSAL			120	2.5	RED LED EXIT SIGN WITH 90 MIN. BATTERY BACKUP
⊗ WP	EMERGI-LITE	WW SVXN 1 R D 4X CW	LED	PROVIDED WITH UNIT		UNIVERSAL			120	3.7	RED LED EXIT SIGN WITH 90 MIN. BATTERY BACKUP UL LISTED FOR WET LOCATION.
R	EMERGI-LITE	OW LUX SD	LED	PROVIDED WITH UNIT		UNIVERSAL			120	12W	EXTERIOR EMERGENCY LIGHT WITH 90 MIN BATTERY BACKUP. UL LISTED FOR DAMP AND WET LOCATIONS.

FIXTURE SCHEDULE NOTES:
1. CATALOG NUMBERS AND MANUFACTURERS ARE TO INDICATE TYPE AND QUALITY OF FIXTURE DESIRED. SUBMIT CUTSHEETS OF ALTERNATE MANUFACTURERS FOR ARCHITECT AND OWNER APPROVAL PRIOR TO PURCHASE OF ANY FIXTURES.

PROVIDE SEPARATE LINE ITEM BID TO FURNISH AND INSTALL "D" FIXTURES IN TUNNEL. THE "D" FIXTURES ARE THE STANDARD WHITE LIGHT LED FIXTURE. IF THIS LOCATION IS TO RECEIVE THE UPGRADE "INFINITY COLOR CHANGING LIGHTS" PACKAGE, THEN THE UPGRADE PACKAGE WILL BE FURNISHED AND INSTALLED BY SONNY'S AND THE "D" FIXTURES WILL NOT BE INSTALLED.

ELECTRICAL GENERAL NOTES:	
1. VERIFY EXACT LOCATION OF ALL ELECTRICAL EQUIPMENT WITH OWNER AND EQUIPMENT VENDOR PRIOR TO INSTALLATION. 2. VERIFY ALL ELECTRICAL INSTALLATIONS WITH LOCAL CODES AND CITY ORDINANCES PRIOR TO INSTALLATION. 3. VERIFY AND COORDINATE EXACT LOCATION OF ALL LIGHT FIXTURE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL REFLECTIVE CEILING PLANS. 4. ALL LIGHTING CONTROLS SHOWN FOR GENERAL REFERENCE ONLY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND SUBMIT CONTROL DRAWINGS AND MODEL NUMBERS FOR ENGINEERING APPROVAL DURING SUBMITTAL STAGE. 5. ALL EXHAUST FANS SHALL BE PROVIDED WITH HP RATED SNAP SWITCH FOR DISCONNECTING MEANS, UNLESS NOTED OTHERWISE. 6. THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXACT POWER REQUIREMENTS FOR OWNER FURNISHED AND EQUIPMENT VENDOR PROVIDED EQUIPMENT PRIOR TO ROUGH-IN. TERMINATE AS DIRECTED BY EQUIPMENT NAME PLATES. COORDINATE EXACT LOCATION FOR INSTALLATIONS WITH OWNER AND EQUIPMENT VENDOR PRIOR TO ROUGH-IN. 7. PROVIDE 3/4" CONDUIT WITH PULL STRING STUBBED 6" ABOVE ACCESSIBLE CEILING FOR ALL TELEPHONE AND DATA OUTLETS. COORDINATE EXACT ROUGH-IN LOCATION WITH OWNER PRIOR TO INSTALLATION. 8. REFER TO MECHANICAL AND PLUMBING PLANS FOR MECHANICAL AND PLUMBING EQUIPMENT AND LOCATIONS. PROVIDE ALL LABOR AND MATERIALS TO FULLY CONNECT ALL MECHANICAL AND PLUMBING EQUIPMENT REFER TO ELECTRICAL PANEL SCHEDULES FOR CIRCUIT NUMBER AND SIZE. PROVIDE A GFCI RECEPTACLE WITHIN 25' OF ALL MECHANICAL EQUIPMENT. 9. ALL TEMPERATURE CONTROLS BY ELECTRICAL CONTRACTOR AS DIRECTED BY MECHANICAL. REFER TO MECHANICAL FOR T-STAT LOCATIONS. 10. COORDINATE THE EXACT LOCATION OF ALL VIDEO/CABLE OUTLETS WITH OWNER PRIOR TO INSTALLATION. 11. ALL FLOOR MOUNTED DEVICES SHALL BE COORDINATED WITH OWNER PRIOR TO ROUGH-IN FOR CORRECT PLACEMENT OF DEVICES. 12. ALL DEVICES AND JUNCTION BOXES IN WASH BAY SHALL BE UL-LISTED FOR WET LOCATIONS. 13. ALL RECEPTACLES IN MECHANICAL ROOM SHALL BE GFCI. 14. ALL 24V WIRING/LOW VOLTAGE WIRING SHALL BE RUN IN SEPARATE CONDUITS FROM 120V WIRING.	



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
ELECTRICAL
COVER SHEET

Seal



709 Catawba St.
Belmont, NC 28012
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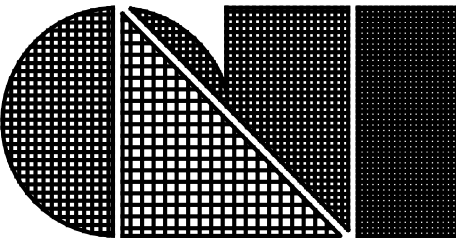
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Sheet No.

E-1



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Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
ELECTRICAL
LIGHTING PLAN

Seal



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6/14/22

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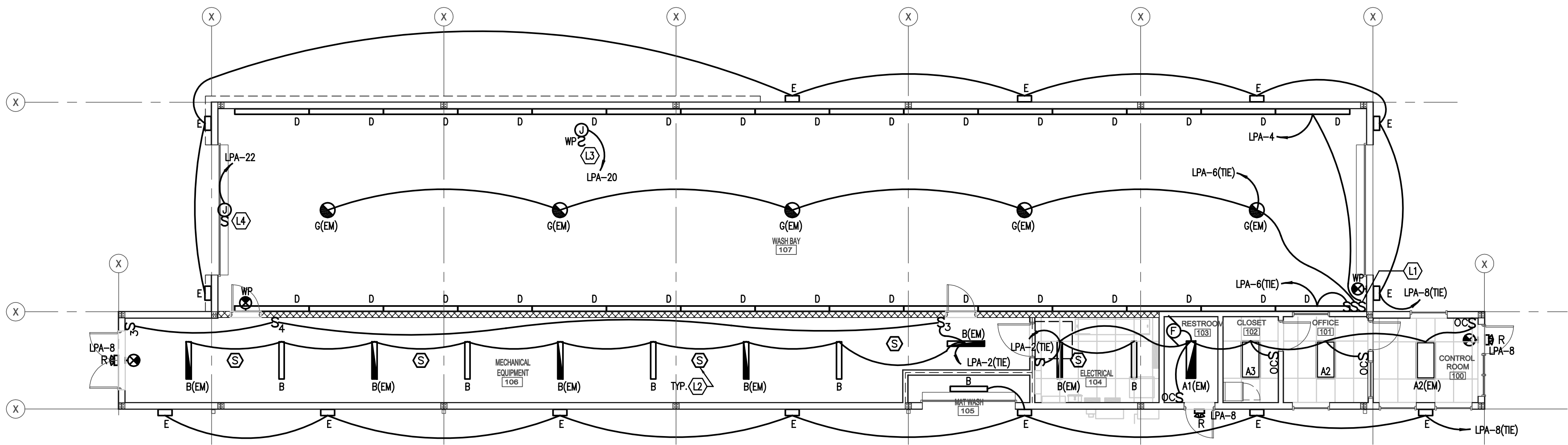
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Sheet No.

E-2

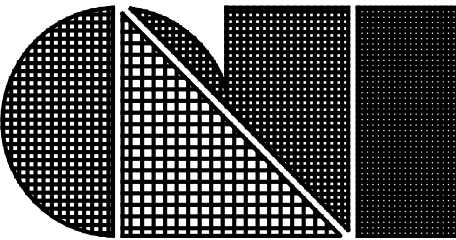


1 ELECTRICAL LIGHTING PLAN
E-2 SCALE: 1/8"=1'-0"

NOTE:
ALL EXIT, NIGHT LIGHT AND EMERGENCY DRIVERS/BALLASTS SHALL BE
CIRCUITED TO AN UNSWITCHED LEG (INCLUDING RELAYS) OF THE NEAREST
LOCAL LIGHTING CIRCUIT.

ELECTRICAL LIGHTING KEYED NOTES

- (L1) WEATHERPROOF SWITCH LOCATION.
- (L2) PROVIDE SMOKE DETECTOR MOUNTED TO CEILING. DETECTOR SHALL BE INTER-CONNECTABLE AND SHALL BE HARDWIRED TO 120V WITH 12V BATTERY BACKUP. INTER-CONNECT ALL DETECTORS SUCH THAT IF ONE GOES INTO ALARM, ALL GO INTO ALARM. WIRE TO CIRCUIT LPA-2, AHEAD OF ANY LOCAL SWITCHING.
- (L3) PROVIDE JUNCTION BOX INSIDE TUNNEL FOR CONNECTION TO SIGN ON "X" FEATURE. EC SHALL MAKE FINAL ELECTRICAL CONNECTION TO SIGN. SEE ARCHITECTURAL ELEVATIONS FOR SIGN LOCATION
- (L4) PROVIDE JUNCTION BOX(ES) AND SWITCH(ES) FOR CONNECTIONS TO BUILDING SIGNAGE. SEE ARCHITECTURAL ELEVATIONS FOR QUANTITIES, LOCATIONS AND HEIGHT OF SIGNAGE. EC SHALL MAKE FINAL ELECTRICAL CONNECTIONS TO SIGNAGE.



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Sheet Description :

ELECTRICAL
LIGHTING FEATURES
PLAN

Seal



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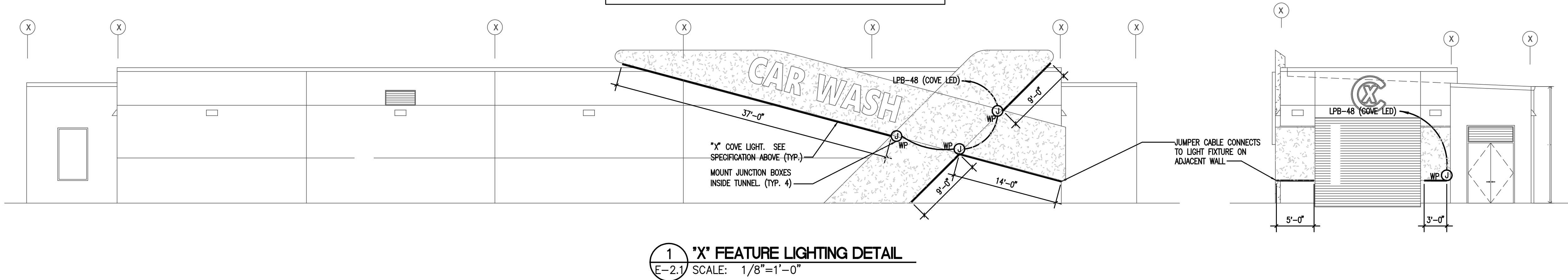
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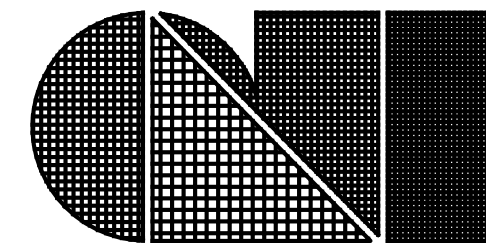
***X* COVE LIGHT.**
TAPE LIGHT MOUNTED INSIDE ALUMINUM CHANNEL WITH FROSTED LENS.
MOUNT ALUMINUM CHANLLE INSIDE ARCHITECTURAL COVE. SEE COVE LIGHT
FIXTURE DETAIL 7/A3.1.
COMPONENTS:
-TAPE: XICATO XFL-RGBW-247.6-19267-3095-SP010
-EXTRUSION: XICATO XCC-C-SLR-SA-2
-FROSTED LENS: XICATO XCC-L-SLR-FR-2
-CAP: XICATO XCC-E-SLR-NA-NCSTD
-MOUNT: XCC-M-D45-SA-H
-CONTROLLER/POWER SUPPLY: XICATO XSL-POW-RGBW-5CH
DUAL CONTROLLER & POWER SUPPLY, 4 CH RGBW, CV, 96W, 24V, DALI
DT8 DISPLAY, 100-277V AC, 244x64x32, ONBOARD COLOR PROGRAMMING,
DALI ADDRESS CAN BE MANUAL VIA BUTTONS AND SHOWN ON A DIGITAL
DISPLAY
-WALL CONTROLLER: XICATO XSL-CON-RGBW-SWT
TOUCH CONTROLLER DIMMER - ON/OFF, GROUP CONTROL RGBW DT8 DALI
TOUCH PANEL, 4 CHANNEL, DIMMER, DALI BUS, 4MMA OPERATIONAL
CURRENT, DALI DT8, 75x120x29.1
-WET LOCATION BOX: XICATO H15000
WEATHERPROOF ENCLOSURE FOR CONTROLLERS.

PROVIDE WITH ALL COMPONENTS/ACCESSORIES AS REQUIRED FOR COMPLETE
INSTALLATION. COORDINATE LOCATION OF WALL CONTROLLER WITH OWNER PRIOR
TO BEGINNING CONSTRUCTION.

ELECTRICAL CONTRACTOR SHALL PROVIDE DMX CABLING FROM WALL CONTROLLER
TO EACH CONTROLLER/POWER SUPPLY. FIELD COORDINATE LENGTH REQUIRED.

CONTACT TOM SALTER WITH TRIANGLE LIGHTING SOLUTIONS, (919-308-7160) OR
EMAIL TOM@TRIANGLELIGHTINGSOLUTIONS.COM FOR FINAL DESIGN AND PRICING.
PROVIDE TRIANGLE LIGHTING SOLUTIONS WITH SHEET E-2.1.





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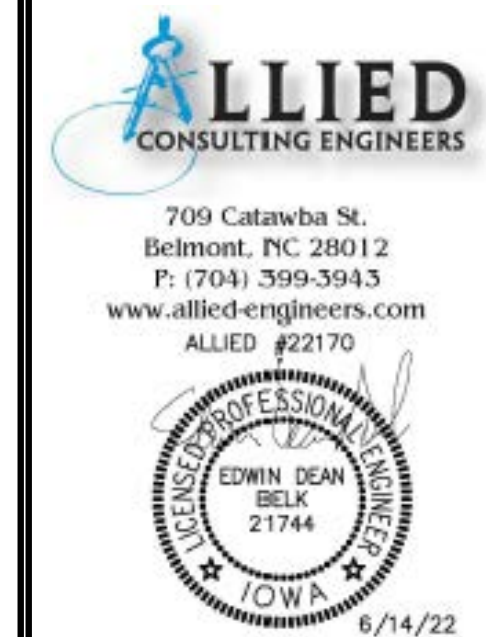
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Sheet Description :

ELECTRICAL
POWER PLAN

Seal



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Sheet No.

E-3

ELECTRICAL POWER KEYED NOTES

- E1 800A, 480Y/277V, 3PH, 4WIRE ELECTRICAL SERVICE. CT CABINET, ELECTRIC METER AND 800A FUSED SERVICE DISCONNECT SWITCH. SEE 1/E-4.
- E2 PROVIDE 2" CONDUIT WITH PULL STRING FOR TELEPHONE/DATA SERVICE. STUB UP TO 6" AFF IN CORNER OF CLOSET 102.
- E3 MOUNT RECEPTACLE AT 12'-0" AFF AT EACH CORNER OF BUILDING.
- E4 MOUNT RECEPTACLE AND DATA OUTLET (WHERE SHOWN NEXT TO RECEPTACLE) AT 12'-0" AFF FOR FUTURE USE BY OWNER.
- E5 PROVIDE 3/8" #10G IN 1-1/2" UNDERGROUND CONDUIT FROM DISCONNECT SWITCH AT VACUUM EQUIPMENT ENCLOSURE TO VFD ENCLOSURE IN ELECTRICAL ROOM. FIELD COORDINATE INSTALLATION REQUIREMENTS WITH AUTOVAC VACUUM & AIR SYSTEM DRAWINGS PRIOR TO BEGINNING CONSTRUCTION. (NOTE: SEPARATE CONDUITS ARE REQUIRED FOR POWER TO EACH VACUUM MOTOR.)
- E6 STUB-UP TWO (2) 1" ELECTRICAL CONDUITS WITH 3/8" #10 WIRE TO 10" ABOVE TOP OF PIER FOOTING FOR VACUUM BOOM LIGHTING. FIELD COORDINATE FINAL PIER FOOTING LOCATION WITH CIVIL, ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO BEGINNING CONSTRUCTION. REFER TO STRUCTURAL DRAWINGS FOR PIER FOOTING DETAIL SHOWING ELECTRICAL CONDUIT STUB-UP LOCATIONS. FIELD COORDINATE INSTALLATION REQUIREMENTS WITH AUTOVAC VACUUM & AIR SYSTEM DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- E7 PROVIDE ONE (1) 1" UNDERGROUND CONDUIT WITH PULL STRING FROM VACUUM EQUIPMENT ENCLOSURE TO VFD ENCLOSURE IN ELECTRICAL ROOM FOR VFD TRANSDUCER. FIELD COORDINATE INSTALLATION REQUIREMENTS WITH AUTOVAC VACUUM & AIR SYSTEM DRAWINGS PRIOR TO BEGINNING CONSTRUCTION. (NOTE: MAINTAIN MINIMUM 12" CLEAR FROM HIGH VOLTAGE CONDUITS FOR VACUUM MOTORS)

SEE 2/E-3 FOR ENLARGED
OFFICE AREA PLAN.

NOTE:
ALL WIRING IN WASH BAY SHALL INSTALLED
IN LIQUIDTIGHT FLEXIBLE METAL CONDUIT.

1 ELECTRICAL POWER PLAN
E-3 SCALE: 1/8"=1'-0"

2 ENLARGED OFFICE AREA PLAN
E-3 SCALE: 1/4"=1'-0"

CONTRACTOR SHALL PROVIDE #6 CU GROUND TO SERVICE
GROUND BAR (7 TERMINALS) AS REQUIRED FOR GROUNDING
OF COMMUNICATION EQUIPMENT. PROVIDE 10' LOOP OF #6
GROUND WIRE TERMINATED WITH LUG. NETWORK INTERFACE
DEVICE (DEMARCO) WITH TEST PLUGS SHALL BE INSTALLED
INSIDE MOUNTED BELOW THE SERVER RACK. DO NOT
INSTALL DEMARCO ON EXTERIOR OF BUILDING.

PROVIDE 2" CONDUIT
ABOVE CEILING FROM
CLOSET TO ELECTRICAL
ROOM. PROVIDE END
BUSHINGS.

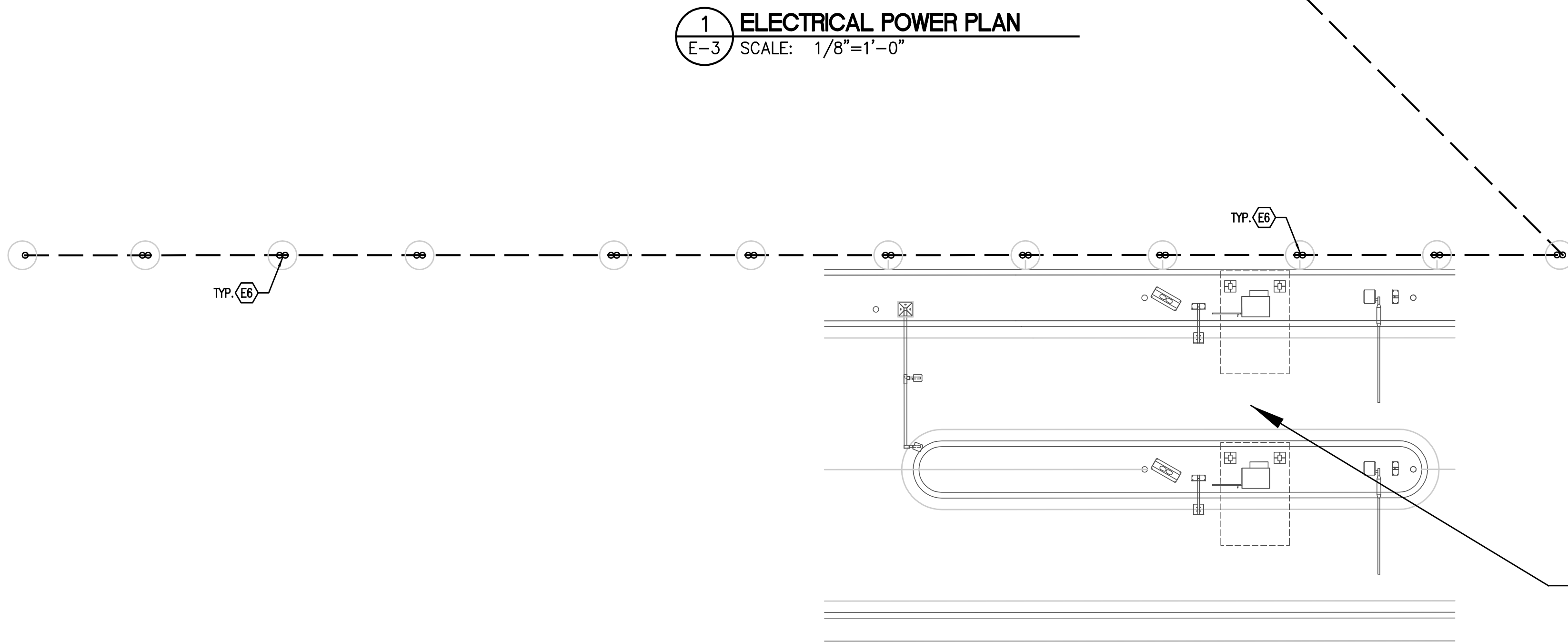
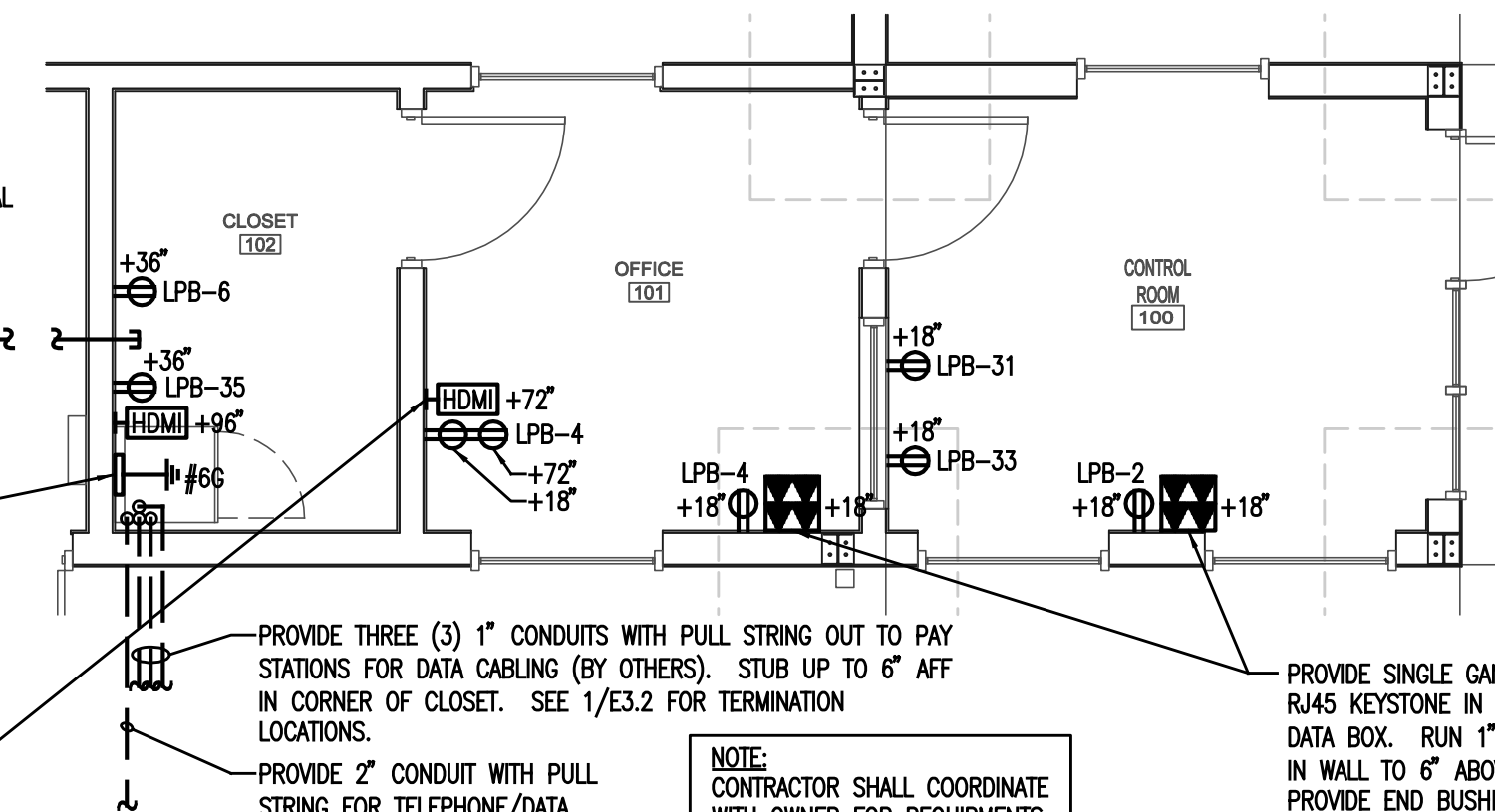
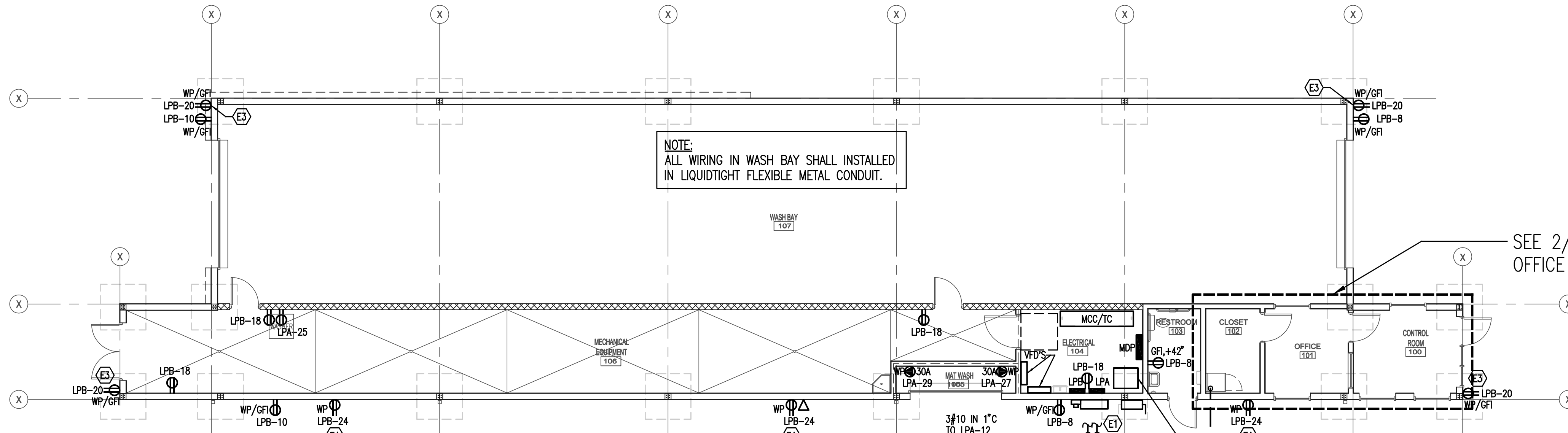
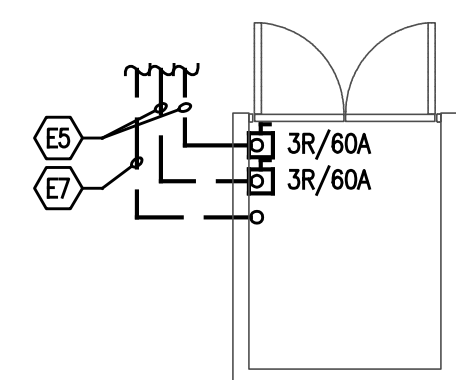
PROVIDE SINGLE GANG 1 PORT
HDMI KEYSTONE IN SINGLE GANG
DATA BOX. RUN 1" CONDUIT UP
IN WALL TO 6" ABOVE CEILING.
PROVIDE END BUSHING.

PROVIDE THREE (3) 1" CONDUITS WITH PULL STRING OUT TO PAY
STATIONS FOR DATA CABLING (BY OTHERS). STUB UP TO 6" AFF
IN CORNER OF CLOSET. SEE 1/E3.2 FOR TERMINATION

NOTE:
CONTRACTOR SHALL COORDINATE
WITH OWNER FOR REQUIREMENTS
AND ROUTING OF ALL CAT5
CABLING.

PROVIDE SINGLE GANG 4 PORT
RJ45 KEYSTONE IN SINGLE GANG
DATA BOX. RUN 1" CONDUIT UP
IN WALL TO 6" ABOVE CEILING.
PROVIDE END BUSHING.

SEE 1/E-3.2 FOR
POWER AND LOW
VOLTAGE REQUIREMENTS
TO PAY STATIONS.





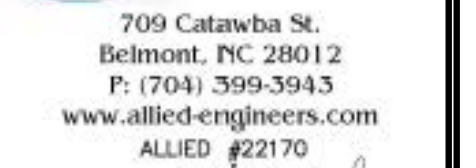
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INFO@CLHELT.COM

C.L. HELT PROJECT # 22088

**Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125**

Sheet Description :
**ELECTRICAL
MECH
POWER PLAN**

Seal



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TIMOTHY JOHNSTON, ARCHITECT

Drawn By :
D. BELK

Checked By :
D. BELK

Revisions :

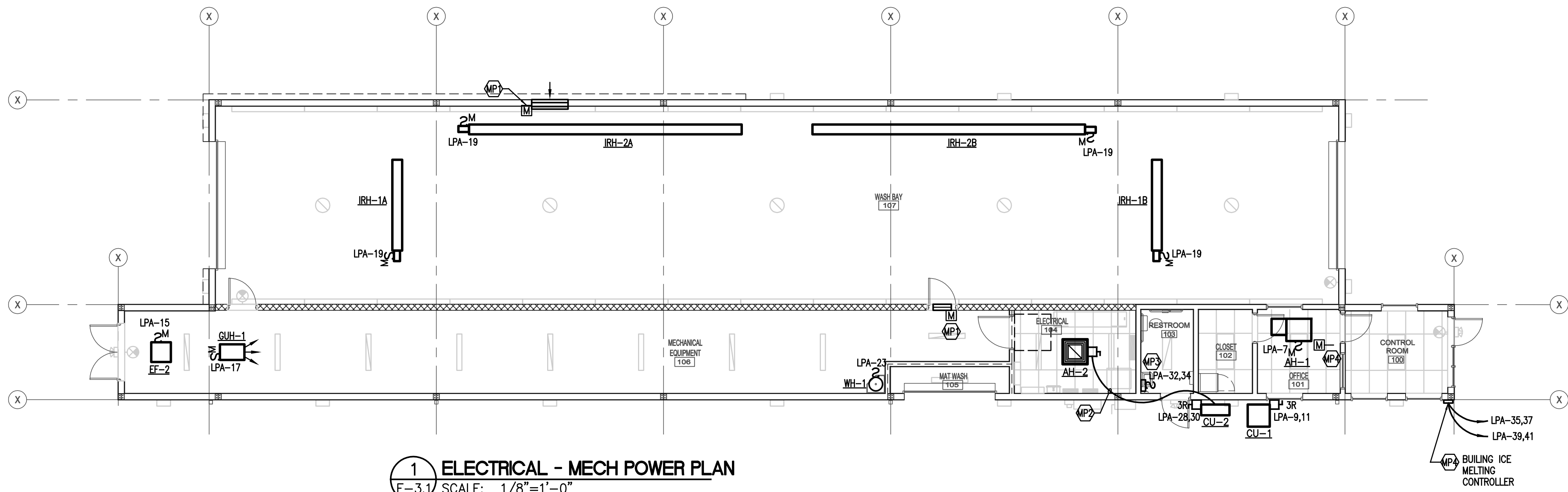
Date : 6/10/2022

Sheet No.

E-3.1

MECH POWER KEYED NOTES

- (MP1) INTERLOCK MOTORIZED OUTSIDE AIR DAMPER WITH EF-2 FAN.
- (MP2) PROVIDE WIRING INTERCONNECTION BETWEEN OUTDOOR UNIT AND INDOOR UNITS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- (MP3) WH-2, 4180W @ 208V/1PH
PROVIDE WALL SWITCH UNDER SINK FOR CONNECTION TO INSTANTANEOUS WATER HEATER
- (MP4) INTERLOCK MOTORIZED OUTSIDE AIR DAMPER WITH AH-1 FAN.
- (MP5) PROVIDE (2) 208V ELECTRICAL CONNECTIONS FOR ROOF AND GUTTER HEATING CABLE. PROVIDE ONE CABLE AT 8W/FT FOR GUTTER AND DOWNSPOUTS. PROVIDE SECOND CABLE AT 8W/FT FOR FIRST 12' OF METAL BUILDING ROOF. PROVIDE MANUFACTURER RECOMMENDED DS-9C ICE MELTING CONTROLLER, TEMPERATURE SENSOR, MOISTURE SENSOR, METAL BUILDING ROOF CLIPS AND ANY OTHER REQUIRED ACCESSORIES/COMPONENTS FOR A COMPLETE AND FULLY OPERATIONAL SYSTEM. MOUNT CONTROLLER RIGHT BELOW END OF THE GUTTER. INSTALL ICE MELT SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
CONTACT ERNIE PETERSON AT KING ELECTRIC, (206-999-0251) OR EMAIL
ERNIEPETERSON@KING-ELECTRIC.COM FOR FINAL DESIGN AND PRICING. PROVIDE KING ELECTRIC WITH LENGTH OF GUTTER, NUMBER OF DOWNSPOUTS AND LENGTH OF DOWNSPOUTS.

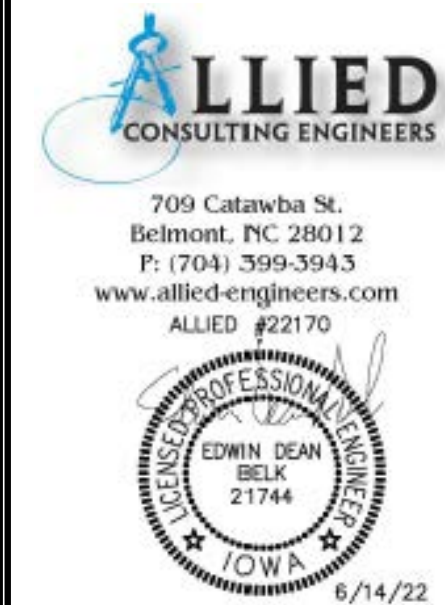


1 ELECTRICAL - MECH POWER PLAN
E-3.1 SCALE: 1/8"=1'-0"

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
PAY STATIONS
POWER AND
LOW VOLTAGE PLAN

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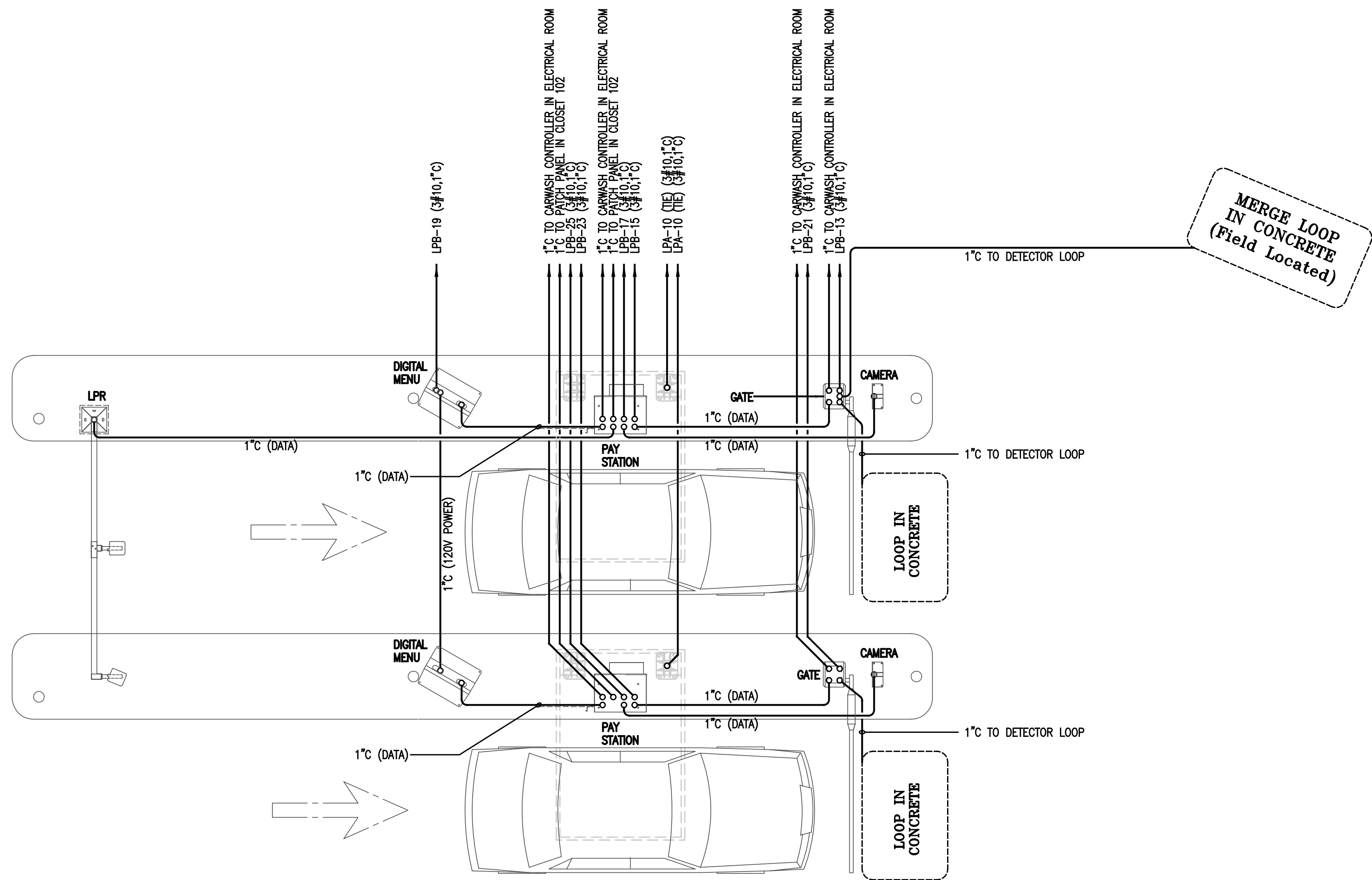
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Sheet No.

E-3.2



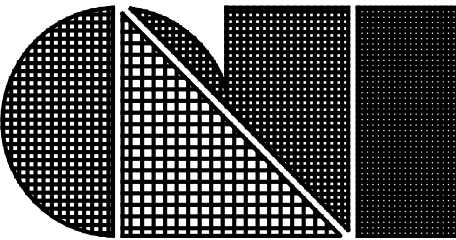
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E3.2 PAY STATIONS WITH TSS LIGHTED CANOPIES
POWER AND LOW VOLTAGE PLAN
SCALE: DIAGRAMMATIC

NOTE:
REFER TO CIVIL PLANS AND ARCHITECTURAL PLANS FOR EXACT LOCATION
OF PAY STATIONS AND LAYOUT OF PAY STATION SYSTEMS EQUIPMENT.

ALL 120V CIRCUITS TO PAY STATIONS SHALL BE DEDICATED AND RUN IN
SEPARATE 1" UNDERGROUND CONDUITS. CONDUIT SHALL NOT SHARE
ANY OTHER CIRCUITS. REFER TO SONNYS CAR WASH EQUIPMENT
DRAWINGS FOR ADDITIONAL DETAILS AND CONDUIT STUB-UP LOCATIONS.

PROVIDE EMPTY CONDUITS EACH WITH TWO (2) PULL STRINGS.

TSS CANOPY IS FURNISHED WITH LIGHT. CONTRACTOR SHALL INSTALL
LIGHT AND PROVIDE CIRCUITING.



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
CAR WASH EQUIP
UNDERGROUND
CONDUIT PLAN

Seal



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ALLIED #22170



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D. BELK

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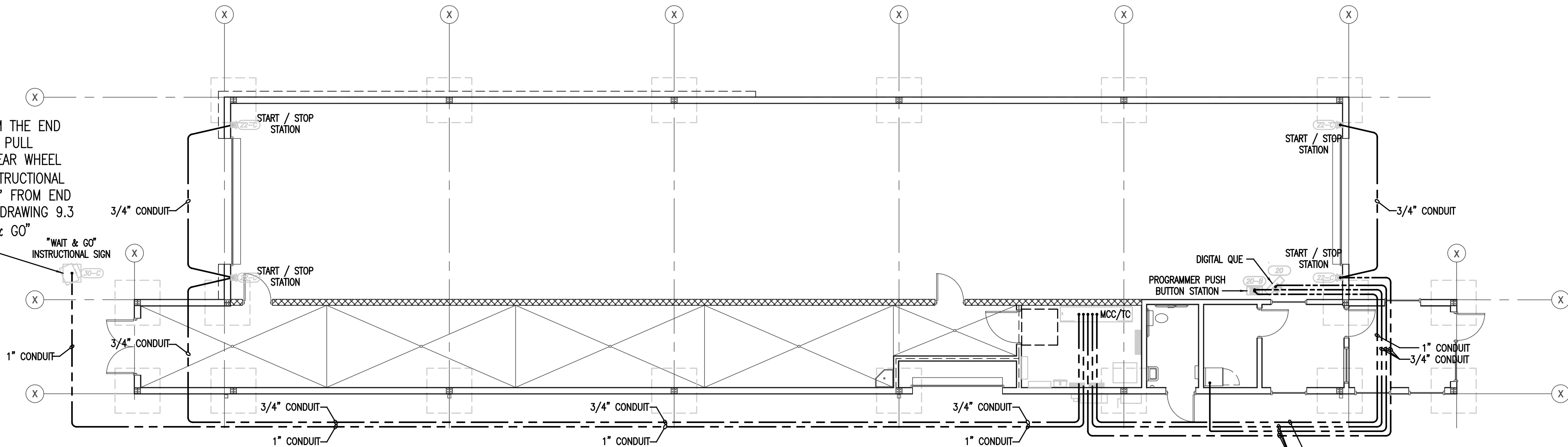
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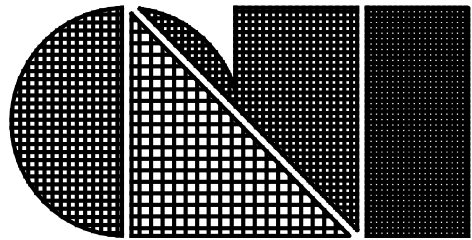
E-3.3

NOTE:
LOCATION SHOWN IS APPROXIMATELY 15' FROM THE END
OF THE TUNNEL AND IS FOR A FRONT WHEEL PULL
TUNNEL DESIGN. IF CAR WASH UTILIZES A REAR WHEEL
PUSH TUNNEL DESIGN THEN "WAIT & GO" INSTRUCTIONAL
SIGN SHOULD BE LOCATED APPROXIMATELY 25' FROM END
OF TUNNEL. REFER TO SONNY'S EQUIPMENT DRAWING 9.3
FOR FINAL DIMENSIONED LOCATION OF "WAIT & GO"
INSTRUCTIONAL SIGN.



1
E-3.3 CAR WASH EQUIP
UNDERGROUND CONDUIT PLAN
SCALE: 1/8"=1'-0"

NOTE:
ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING UNDERGROUND
ELECTRICAL CONDUIT FOR CAR WASH EQUIPMENT CONTROL. PIPING SHOWN IS FOR
PRICING AND SCOPE OF WORK ONLY AND IS NOT TO BE USED FOR CONSTRUCTION.
SITE SPECIFIC CAR WASH EQUIPMENT DRAWINGS PREPARED BY SONNY'S WILL BE
PROVIDED TO CONTRACTOR FOR CONSTRUCTION. REFER TO SHEET 9.2 IN THE
SONNY'S EQUIPMENT PACKAGE FOR FINAL DESIGN OF UNDERGROUND ELECTRICAL
CONDUIT FOR CAR WASH EQUIPMENT CONTROL.



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :
ELECTRICAL
CAR WASH EQUIP
POWER PLAN

Seal

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EDWIN DEAN BELK
21744
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D. BELK

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D. BELK

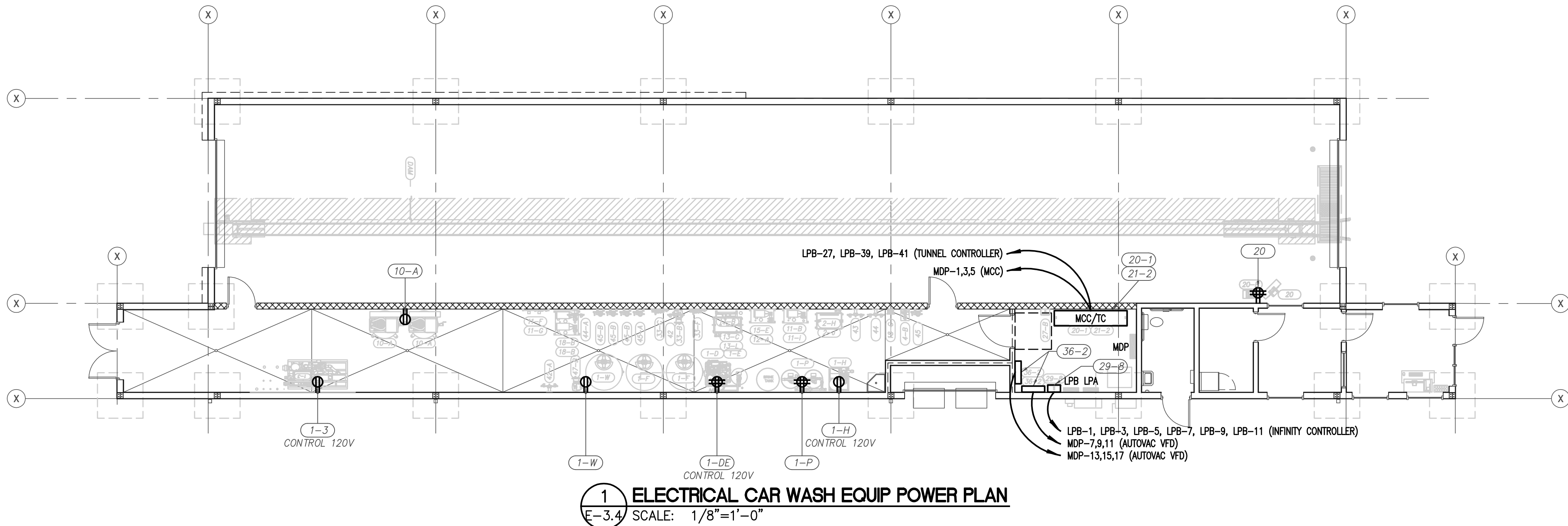
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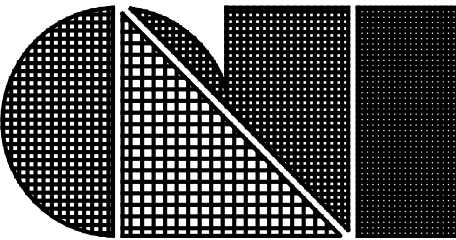
E-3.4

CAR WASH EQUIPMENT CONNECTION SCHEDULE								
ITEM #	DESCRIPTION	ELECTRICAL						CIRCUIT NO.
		VOLTS	PHASE	AMPS/HP	WATTS	CONN.	A.F.F.	
(1-3) CONTROL 120V	RECLAIM UNIT CONTROL	120	1	-	500	5-15R	60"	LPB-26
(1-DE) CONTROL 120V	RO UNIT CONTROL	120	1	-	500	5-15R	48"	LPB-28
(1-H) CONTROL 120V	WATER REPRESSURIZATION PUMP CONTROL	120	1	-	500	5-15R	48"	LPB-30
(1-P)	WATER SOFTNER SYSTEM	120	1	4.0 A	-	5-15R	60"	LPB-32
(1-W)	REJECT TANK	120	1	-	500	5-15R	60"	LPB-34
(10-A)	AIR COMPRESSOR (120V POWER)	120	1	-	1000	5-15R	36"	LPB-36
(20)	DIGITAL QUE	120	1	-	-	5-15R	12"	LPB-37
(20-1)	TUNNEL CONTROLLER INPUT POWER	120	1	-	500			LPB-27
	TUNNEL CONTROLLER OUTPUT POWER #1	120	1	-	1000			LPB-39
	TUNNEL CONTROLLER OUTPUT POWER #2	120	1	-	1000			LPB-41
(21-2)	MOTOR CONTROL CENTER (MCC)	480	3	SEE EQUIP. DRAWINGS	-			MDP-1,3,5
(29-8) QTY. 6	G & G INFINITY CONTROLLER CIRCUIT #1	120	1	-	500			LPB-1
	G & G INFINITY CONTROLLER CIRCUIT #1	120	1	-	500			LPB-3
	G & G INFINITY CONTROLLER CIRCUIT #1	120	1	-	500			LPB-5
	G & G INFINITY CONTROLLER CIRCUIT #1	120	1	-	500			LPB-7
	G & G INFINITY CONTROLLER CIRCUIT #1	120	1	-	500			LPB-9
	G & G INFINITY CONTROLLER CIRCUIT #1	120	1	-	500			LPB-11
(36-2) QTY. 2	AUTOVAC IQ PANEL #1 (VFD'S)	480	3	2 x 25HP	-			MDP-7,9,11
	AUTOVAC IQ PANEL #2 (VFD'S)	480	3	2 x 25HP	-			MDP-13,15,17



1 ELECTRICAL CAR WASH EQUIP POWER PLAN
E-3.4 SCALE: 1/8"=1'-0"

NOTE:
ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ELECTRICAL
POWER TO THE CAR WASH EQUIPMENT LISTED IN SCHEDULE ON THIS SHEET.
ELECTRICAL POWER SHOWN IS FOR PRICING AND SCOPE OF WORK ONLY AND IS
NOT TO BE USED FOR CONSTRUCTION. SITE SPECIFIC CAR WASH EQUIPMENT
DRAWINGS PREPARED BY SONNY'S WILL BE PROVIDED TO CONTRACTOR FOR
CONSTRUCTION. REFER TO SONNY'S EQUIPMENT DRAWINGS FOR FINAL LOCATION OF
ALL EQUIPMENT.



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :

ELECTRICAL
SNOW MELT
SYSTEM

Seal



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Revisions :

Date :
6/10/2022

Sheet No.

E-3.5

SAVE THESE INSTRUCTIONS

INSTALLATION INSTRUCTIONS

Prepare the base material

Prepare the site that you want to heat with the SC/SCM cable/mat. This includes making sure all utilities and obstructions are accounted for.

Lay a smooth, well-compacted gravel base. Ensure proper slope and drainage to avoid water buildup in any heated or surrounding areas. This is especially important for brick paver applications, as melted water may re-freeze and heave surrounding sand and paver areas. Follow local building code and construction guidelines for grade thickness and type.

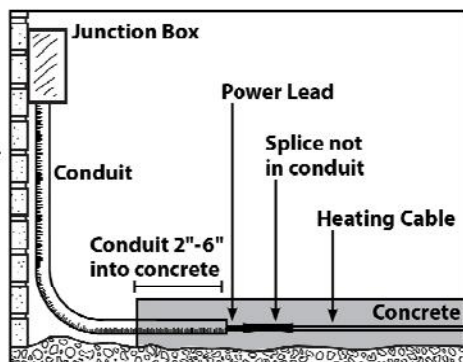
Make sure you account for the total grade and slab thickness as required for pedestrian and vehicular traffic use. If the cable/mat is to be placed on an existing pavement, make sure it is inspected for any sharp objects, loose sections, or other potentially damaging issues that could cause problems later. It is very important for the cable to be completely embedded.

Prepare to install

Determine a time to install the cable/mat when equipment, heavy tools, and site traffic will be minimal to keep from possibly damaging the product. Be prepared to apply the surfacing courses over the cable/mat the same day so it will be protected from damage.

If installing cable/mat in the upper layer of a two-stage concrete slab or the upper layer of an asphalt application, the cable or mat should be completely ready for the stage. There is limited time between stages, as the slab should not be allowed to fully cure or the asphalt to completely cool. Therefore, if using SC/SCM cable, you may want to lay it out and tie it to rewire that can be quickly lifted into place after the first is laid. This might also be preferable for a mat installation, although if mats are precut and shaped to the area, they generally can be rolled into place fairly quickly. If a slab sensor is installed in the second layer, plan ahead so this does not cause the first layer to cure or cool too much.

Inspect the area and remove any sharp objects. Install in temperatures at least 40 degrees F (4.5 degrees C)



Begin by test-fitting the cable or mat in the area to be heated

For mat, unroll it completely. Turn and flip it by cutting the tape where needed. Make sure it fits the area properly. For cable, make sure it fits the area with no excess cable.

Important Cable CANNOT be cut shorter to fit. Do not overlap or cross over heating cable on itself. Do not space heating cable closer than 2".

- Cable/mat cannot be laid closer than 6 inches from the edges of slabs. In asphalt, no closer than 12" from the edge where no curb.
- Avoid crossing expansion joints in a slab, unless proper technique and protection steps are followed
- Avoid placing the heating cable any closer than 2" from other items such as underground cable or piping to keep from overheating them.
- Allow at least 2", but not more than 4", between adjacent mats or sections of a mat where the mat tape is cut and turned to fill the area.
- Do not repeatedly bend the heating cable, and never bend factory splices.
- Place the power leads of the cable/mat next to the conduit entry. The electrician will pull this through the conduit later. Make sure it is positioned so that the no part of the splice connection or the heating cable will be pulled into the conduit.

WARNING The heating cable and factory splices of the SC/SCM cable/mat must be completely embedded in the concrete, sand, or asphalt. Never try to use up excess cable in surrounding soil, walls, or other unprotected applications.

11

SAVE THESE INSTRUCTIONS

INSTALLATION — CONCRETE

Installation for Concrete Application:

Step 1: Attach reinforcement, such as wire mesh or rebar, over the base at about 2" to 3" below the level of the intended top surface. You must use "chairs" or other appropriate objects to raise the wire mesh to the correct level. The SC/SCM cable/mat will be attached to this reinforcement later. It is very important for the cable to be completely embedded in concrete.

Protect or remove sharp protrusions by bending them over, capping, or cutting. Sharp edges may damage the heating cable.

Step 2A: (For SC cable installation) Begin securing the heating cable at the desired spacing to the reinforcement mesh or rebar using plastic cable ties. These cable ties should be applied roughly every 12" and also at the ends of each run. Turn the cable ends downward so they will not poke up through the surface layers. Do not use metal ties as they may damage the cable.

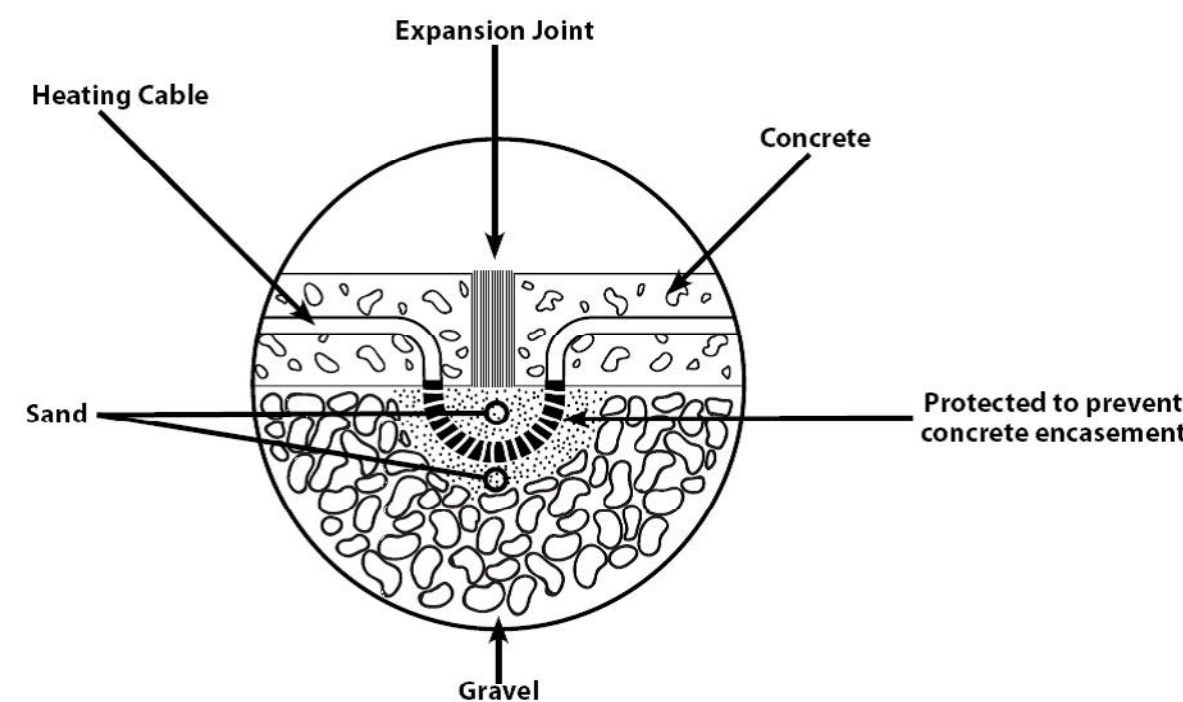
Step 2B: (For SCM Mat installation) Begin laying out and securing the mat about every 12" to the reinforcement mesh or rebar using plastic cable ties around the heating cable. Turn the cable tie ends downward so they will not poke up through the surface layers. Do not use metal ties as they may damage the cable.

If installing on top of existing slab, secure the mat by nailing through the tape every 2 ft. or so. NEVER strike the heating cable with a hammer.



IMPORTANT Expansion Joints: SC heating cable must never be run through an expansion joint. Doing so may cause damage to the cable with slab movement. It is recommended to lay the mat so these joints are avoided.

However, if it is necessary, a portion of the heating cable may be dropped into the grade below the expansion joint as shown below. (Fill around the cable with at least 1" thick sand. The loop of the heating cable should be long enough to allow flexing, and must not be embedded into the concrete (the sand will protect this) since this would not allow the cable to flex with slab movement.



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12

SAVE THESE INSTRUCTIONS

INSTALLATION — CONCRETE

Concrete Application continued

Step 3: Use a digital multi-meter to measure the resistance between the conductors of the cable/mat power leads again. Record these resistances in the **SC Cable / SCM Mat Testing Log under the section "Test Record # 2 After Installation"**.

Step 4: Feed the power leads through the conduit into the junction box, leaving at least 6 inches of free lead length. Securing the heating cable and splice so that they will not be pulled into conduit.

Insert a generous amount of electrical conduit sealant into the conduit end around the power leads to prevent water entry.

Step 5: If a slab sensor is being installed, place the sensor socket according to the instructions. Secure and seal it to the conduit installed earlier. It should be located halfway between heating cables and in an area recommended by the sensor manufacturer. Make sure the top of the sensor will be flush with the surface of the finish layer. Make sure it is protected with a cap or seal.

Step 6: Take a photo of the cable/mat installation. This can be very helpful later for utility work, changes to the site, etc to avoid possible damage. Keep the photos with this installation manual.

Step 7: Before beginning work, inspect the cable/mat for damage and secure any cable/mat that may have come loose.

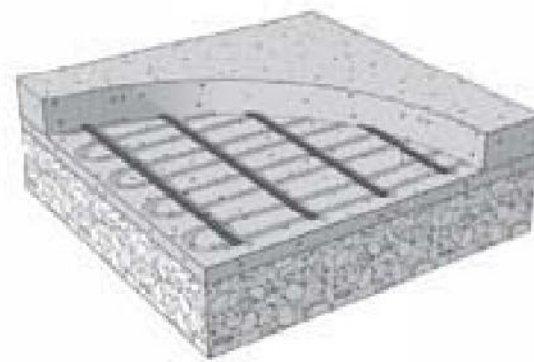
To avoid burying any possible damage that may have occurred since the mat was laid, the following tests should be performed:

Use a digital multi-meter to measure the resistance between the conductors of the cable/mat power leads again. If possible, your electrician should perform an insulation resistance test on the cable/mat. A mega ohm meter adjusted to a minimum 1000 VDC should give a measured value at least 20 mega ohm (MO).

Important

Be prepared to install a marker plate or other identification indicating the presence of SC/SCM in the slab. This helps alert and avoid possible damage from future on-site. Install a marker plate where clearly visible in each snow-melted area. A marker plate is placed flush in the wet concrete surface or soft asphalt surface. Other types of surfaces should be made to allow the marker plate to be installed flush with the surface. Do not damage the heating cable.

Step 8: Pour concrete over the base and SC/SCM cable/mat so that no less than 1-1/2" and no more than 3" covers the top of the heating cables. The slab should be a minimum of 4" thick total. Driveways normally require thicker. Follow building code requirements for required thickness.



Important

Do not use sharp tools which could damage the SC/SCM. Blunted shovels should allow you to work the concrete carefully into all areas.

Make sure the heating cable is fully embedded, as well as 2 to 6 inches of the conduits enclosing the power lead and slab sensor wiring (if used). Allow the concrete to fully cure as required by the concrete supplier. Do not energize the SC/SCM cable/mat except to briefly test it, as this would improperly accelerate the curing and potentially cause concrete damage.

Step 9: Use a digital multi-meter to measure the resistance between the conductors of the cable/mat power leads again. Record these resistances in **SC Cable / SCM Mat Testing Log under the section "Test Record # 3 After Covering is Applied"**.

DO NOT energize the SC/SCM system until the asphalt is fully cooled and cured per the manufacturer.

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13

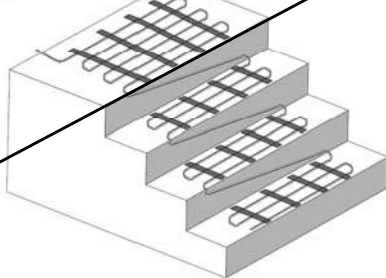
SAVE THESE INSTRUCTIONS

INSTALLATION — CONCRETE

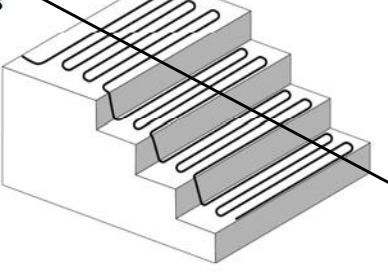
Stairs (Concrete Only) Application: If you are installing TC Cable onto stairs, secure a single run of cable to the side of a riser. Lay 4 or runs of cable on the tread area as needed and continue up each stair following these guidelines:

- Lay cable no greater than 3" from the front edge of the finished stair. Not doing so, cable will not melt snow properly.
- Lay cable no less than 6" from the side edges of the finished stair.
- Account for future hand railings that could be mounted onto staircase, especially in the middle of a long staircase if required. Use a marker on drawings on the next page to indicate where railing may be installed safely later.
- Avoid pinching or sharply bending the cable. At the corner of the stair, keep a minimum 1" radius bend, but secure it flat enough that the surface concrete or pavers will not pinch the cable.
- Do not install the cable on or under non-masonry stairs such as wooden or composite construction.

SCM Mat on Stairs



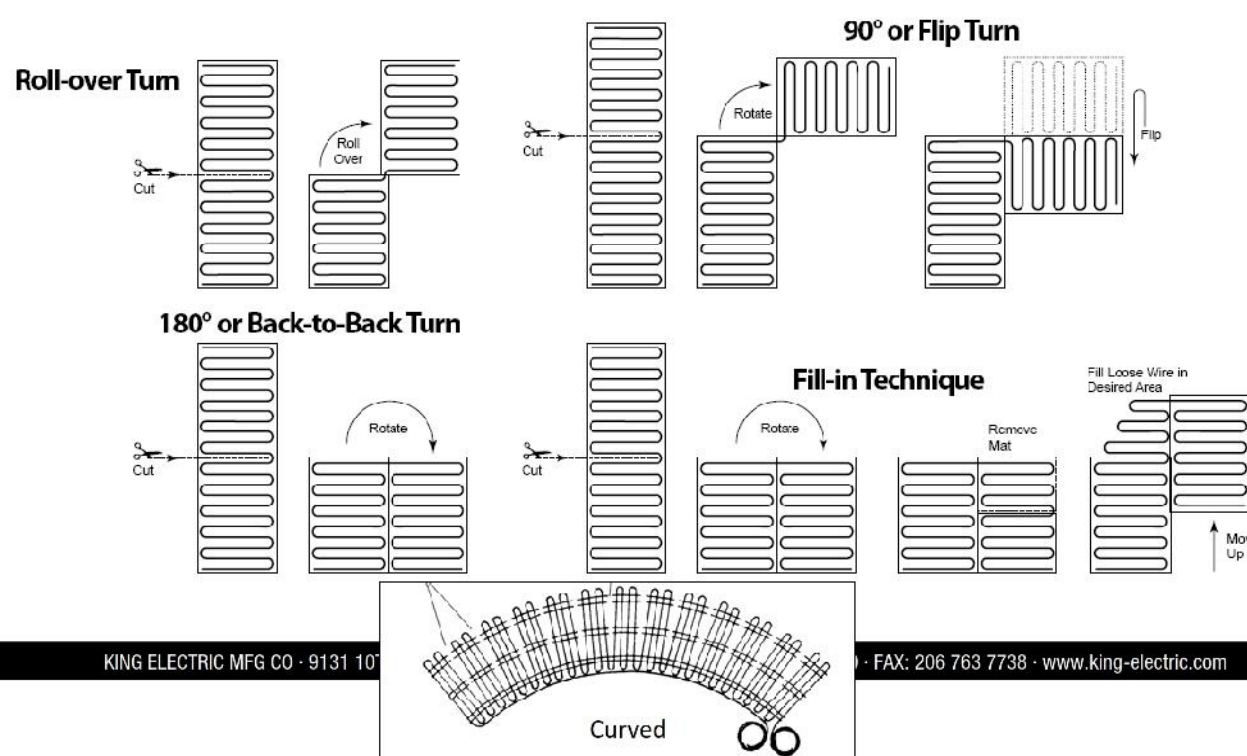
SC Cable on Stairs



Turn Techniques for SCM mats

If you need to cut and turn the mat, or fill odd areas, you may use scissors to carefully cut the tape holding the heating cables. Heating cables should be secured at about 3" apart, and no less than 2" apart.

Important—Be careful not to kink or sharply bend the heating cable. A minimum bend radius of 1" should be maintained.



KING ELECTRIC MFG CO - 9131 10

FAX: 206 763 7738 - www.king-electric.com

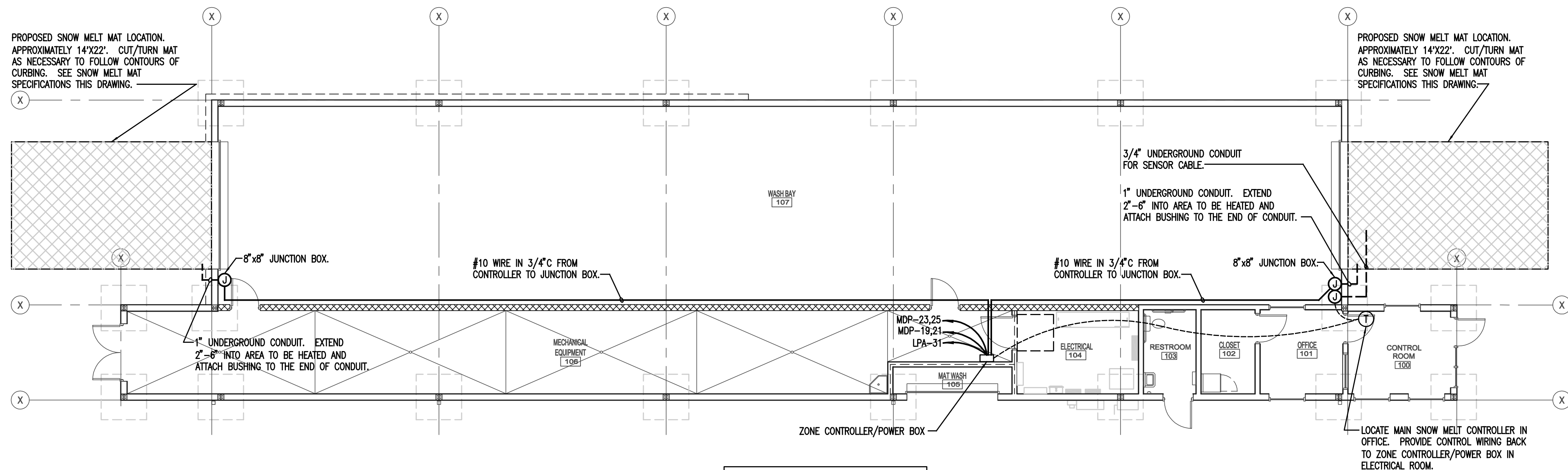
14

SNOW MELT MAT SPECIFICATIONS:

PROVIDE SNOW MELT CABLE MATS FOR APPROXIMATELY 14'X22' AREA IN FRONT OF TUNNEL ENTRANCE AND EXIT.
KING ELECTRIC MODEL SCW483624-156

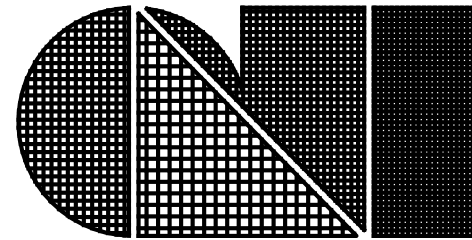
24" WIDE MAT, 480V, 313.3 SF HEATED AREA (4" SPACING), 11280 WATTS (36 W/SF), 23.9 AMPS.
PROVIDE MANUFACTURER RECOMMENDED ZONE CONTROLLER/POWER BOX, OUTDOOR SNOW SENSOR WITH MOUNTING BRACKET, UPPER LIMIT TEMPERATURE SENSOR AND CONTROLLER AND USER INTERFACE PANEL AND ANY OTHER REQUIRED ACCESSORIES/COMPONENTS FOR A COMPLETE AND FULLY OPERATIONAL SYSTEM.
INSTALL SNOW MELT SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
PROVIDE KING'S CABLE ALARM MONITOR (MODEL #FCS11) PER MAT TO BE USED DURING THE ENTIRE INSTALLATION PROCESS.

CONTACT ERNIE PETERSON AT KING ELECTRIC, (206-999-0251) OR EMAIL ERNIEPETERSON@KING-ELECTRIC.COM FOR FINAL DESIGN AND PRICING.



1 ELECTRICAL - SNOW MELT SYSTEM
E-3.5 SCALE: 1/8"=1'-0"

NOTE:
PROVIDE ADDITIONAL CONDUITS AND
CONTROL WIRING FOR ANY ADDITIONAL
SENSORS THAT ARE RECOMMENDED BY THE
MANUFACTURER TO BE INSTALLED.



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :

ELECTRICAL
PANEL SCHEDULES
AND DETAILS

Seal



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Belmont, NC 28012
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TIMOTHY JOHNSTON, ARCHITECT

Drawn By :
D. BELK

Checked By :
D. BELK

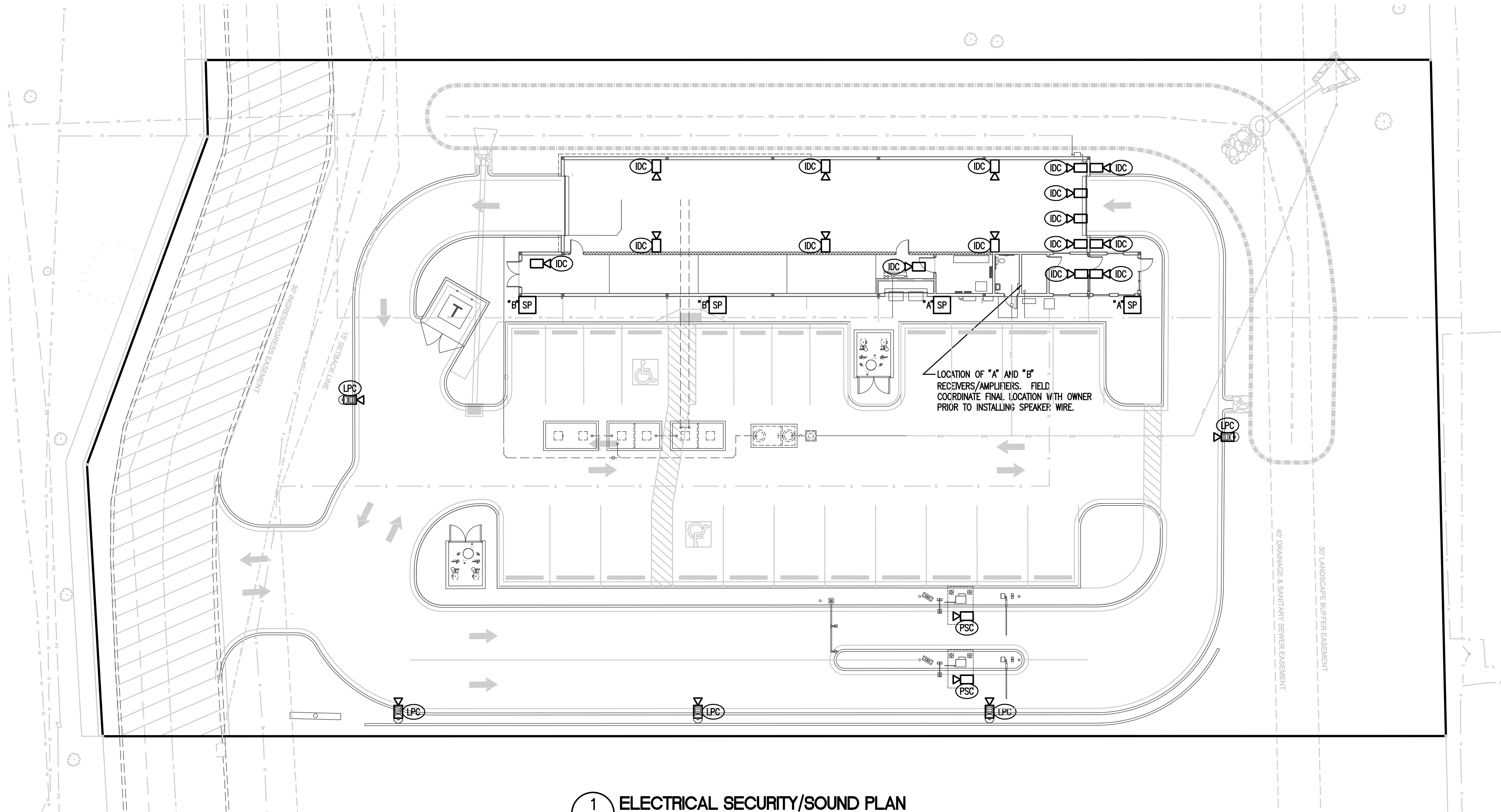
Revisions :

Date :
6/10/2022

Sheet No.

E-4

VOLTAGE: 480Y/277V AMPS: 800A MLO										PANEL: 'MDP'										3 PHASE 4 WIRE SURFACE MOUNTED									
— DESCRIPTION —										LOAD PER PHASE										— DESCRIPTION —									



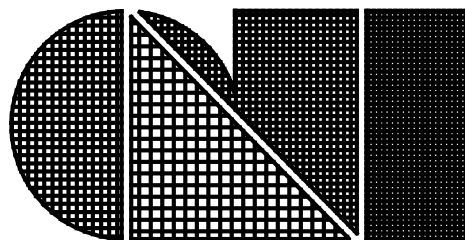
1 ELECTRICAL SECURITY/SOUND PLAN
E-5 SCALE: 1/16"=1'-0"

NOTE:
STUB-UP LOW VOLTAGE CONDUITS FOR VACUUM STATION CAMERAS AND LIGHT POLE CAMERAS TO 8" ABOVE TOP OF FOUNDATION PIER FOR APPLICABLE VACUUM BOOM OR POLE LIGHT. FIELD COORDINATE FINAL FOUNDATION PIER LOCATIONS WITH CIVIL AND STRUCTURAL DRAWINGS. FIELD COORDINATE FINAL STUB-UP LOCATION WITH SONNY'S CAR WASH EQUIPMENT DRAWINGS AND LIGHT POLE MANUFACTURER CUTSHEET. DO NOT RUN CONDUITS EXPOSED ON OUTSIDE FACE OF FOUNDATION PIER.

ELECTRICAL SECURITY PLAN KEYED NOTES

- IDC** INDOOR/OUTDOOR CAMERA (WIRED)
PROVIDE LOW VOLTAGE WIRING (RG59 & 18/2 SIAMESE) FROM CAMERA TO CLOSET AND CONNECT TO POWER SUPPLY AND DVR.
- VSC** VACUUM STATION CAMERA (WIRED)
PROVIDE LOW VOLTAGE WIRING (RG59 & 18/2 SIAMESE) FROM CAMERA UNDERGROUND TO CLOSET AND CONNECT TO POWER SUPPLY AND DVR. PROVIDING TRENCHING AND CONDUIT AS REQUIRED.
- PSC** PAY STATION CAMERA (WIRED)
PROVIDE LOW VOLTAGE WIRING (RG59 & 18/2 SIAMESE) FROM CAMERA UNDERGROUND TO CLOSET AND CONNECT TO POWER SUPPLY AND DVR. PROVIDING TRENCHING AND CONDUIT AS REQUIRED.
- LPC** LIGHT POLE CAMERA (WIRED)
PROVIDE LOW VOLTAGE WIRING (RG59 & 18/2 SIAMESE) FROM CAMERA UNDERGROUND TO CLOSET AND CONNECT TO POWER SUPPLY AND DVR. PROVIDING TRENCHING AND CONDUIT AS REQUIRED.
- SP** SPEAKER (WIRED)
SPEAKER SHALL BE RATED FOR OUTDOOR USE. MOUNT TO WALL AT 12'-0" AFF.
RUN 14 GAUGE SPEAKER WIRE TO RECEIVER/AMPLIFIER. LEAVE 2 FEET OF SPEAKER WIRE ROLLED UP AT SPEAKER LOCATION. LEAVE 4 FEET OF SPEAKER ROLLED UP AT RECEIVER/AMPLIFIER LOCATION.
- SPEAKERS LABELED "A" SHALL BE WIRED TO RECEIVER/AMPLIFIER "A"
- SPEAKERS LABELED "B" SHALL BE WIRED TO RECEIVER/AMPLIFIER "B"

NOTES:
- CAMERA SYSTEM SHALL BE HIKVISION. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL LOW VOLTAGE WIRING/CONDUIT, 120V WIRING/CONDUIT, COMPONENTS, ACCESSORIES, ETC., AS REQUIRED FOR COMPLETE INSTALLATION.



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INFO@CLHELT.COM

C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :

ELECTRICAL
SECURITY/SOUND
PLAN

Seal



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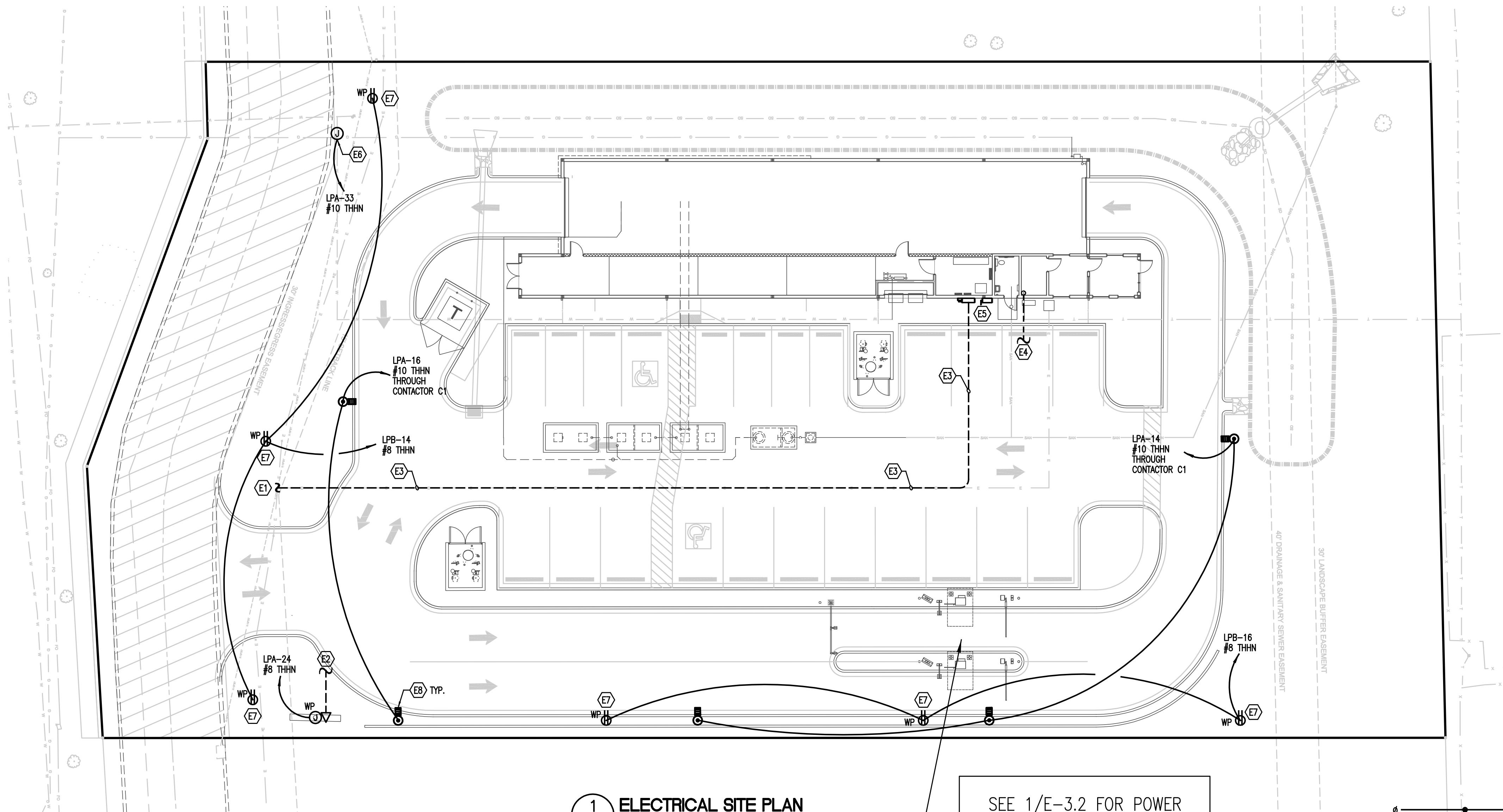
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Revisions :

Date :
6/10/2022

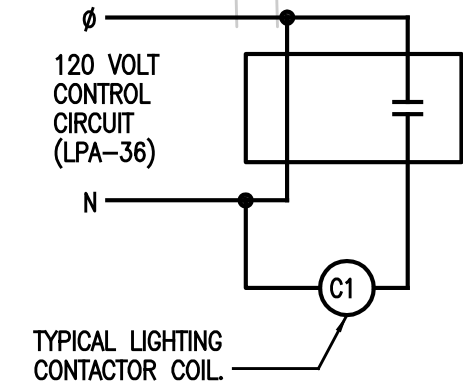
Sheet No.

E-5



1 ELECTRICAL SITE PLAN
ES-1 SCALE: 1/16"=1'-0"

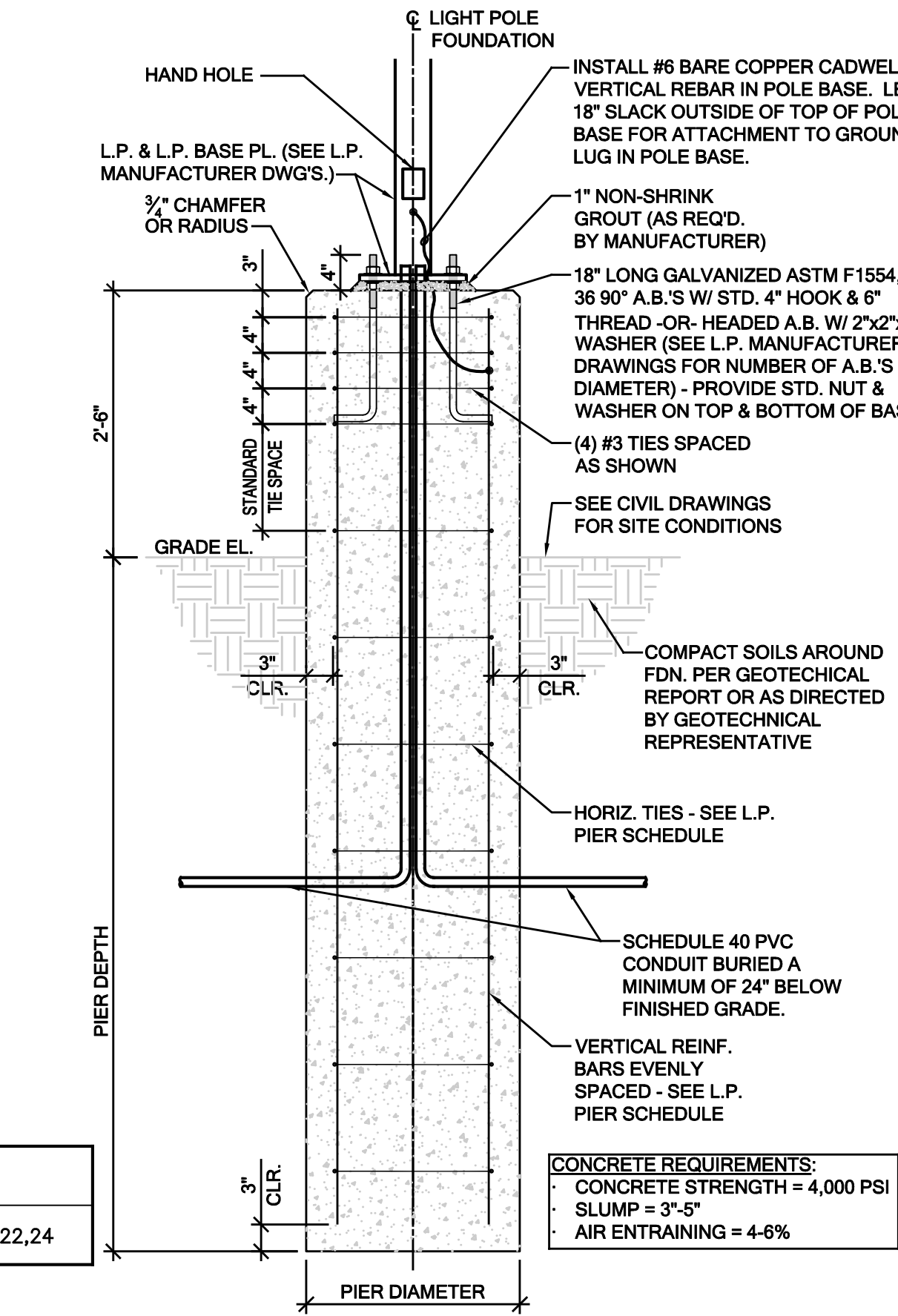
SEE 1/E-3.2 FOR POWER AND LOW VOLTAGE REQUIREMENTS TO PAY STATIONS.



CONT.	POLES	AMPS	COIL	CIRCUITS SWITCHED
C1	10	20	120V	LPA-8,10,12,14,16,18,20,22,24

2 CONTACTOR DETAIL
ES-1 NO SCALE

LIGHT POLE BASE FOUNDATION PIER SCHEDULE				
ULTIMATE WIND SPEED (MPH)	PIER DIAMETER (IN.)	PIER DEPTH (FT.)	VERTICAL REINFORCING BARS	HORIZONTAL TIES
115	2'-0"	5'-6"	(8) #5	#3 @ 12" O.C.
120	2'-0"	5'-9"	(8) #5	#3 @ 12" O.C.
130	2'-0"	6'-0"	(8) #5	#3 @ 12" O.C.
140	2'-0"	7'-0"	(8) #5	#3 @ 12" O.C.
150	2'-0"	7'-3"	(8) #5	#3 @ 12" O.C.
160	2'-0"	7'-6"	(8) #5	#3 @ 12" O.C.



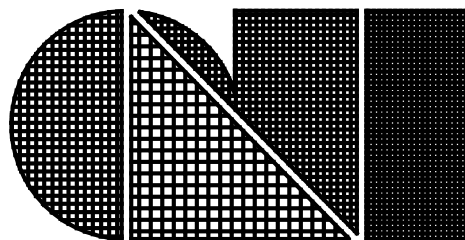
3 LIGHT POLE BASE FOUNDATION PIER DETAIL
ES-1 SCALE: NONE
MAXIMUM POLE HEIGHT = 25-FT.
MAXIMUM FIXTURES ON POLE = 3

ELECTRICAL SITE GENERAL NOTES:

- A. VERIFY EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EARTHWORK.
- B. VERIFY ALL ELECTRICAL INSTALLATIONS WITH LOCAL CODES AND CITY ORDINANCES PRIOR TO INSTALLATION.
- C. COORDINATE WITH THE UTILITY SERVICE PROVIDERS FOR REQUIREMENT FOR DELIVERING POWER AND COMMUNICATIONS TO THE NEW BUILDING.
- D. VERIFY LINE OF DEMARCATION FOR TELEPHONE AND DATA CONDUITS WITH COMMUNICATION UTILITY COMPANIES.
- E. COORDINATE LOCATION OF PERIMETER POLE MOUNTED LIGHT FIXTURES WITH UTILITY COMPANY PRIOR TO INSTALLATION TO AVOID CLEARANCE ISSUES WITH UTILITY LINES.

ELECTRICAL SITE KEYED NOTES:

- E1 SECONDARY CONDUCTORS BY CONTRACTOR TO TRANSFORMER. COORDINATE EXACT SERVICE REQUIREMENTS WITH POWER COMPANY PRIOR TO BID. CONTRACTOR SHALL INCLUDE IN BID ALL COSTS FROM POWER COMPANY FOR NEW ELECTRICAL SERVICES. PROVIDE CONDUIT AND WIRE TO "POINT OF SERVICE" AS COORDINATED WITH POWER COMPANY. COORDINATE FINAL TRANSFORMER LOCATION WITH CIVIL PLANS PRIOR TO BID.
- E2 1" CONDUIT STUBBED TO CORNER OF CLOSET 102.
- E3 NEW UNDERGROUND ELECTRICAL SERVICE. REFER TO ELECTRICAL RISER DIAGRAM.
- E4 PROVIDE 2" CONDUIT WITH PULL STRING FOR TELEPHONE/DATA SERVICE. STUP UP TO 6' AFF IN CORNER OF CLOSET 102 AND PROVIDE END BUSHING. EXTEND OTHER END TO UTILITY EASEMENT AS DIRECTED BY UTILITY COMPANIES.
- E5 CT CABINET AND METER LOCATION AS DIRECTED BY POWER COMPANY. PROVIDE NEMA 3R 800A SERVICE DISCONNECT SWITCH ADJACENT TO CT CABINET. REFER TO RISER DIAGRAM.
- E6 PROVIDE ELECTRICAL CONNECTION FOR HEAT TAPE/HOT BOX FOR RP2'S.
- E7 MOUNT RECEPTACLE 12" AFG TO POST IN GROUND.
- E8 SITE POLE LIGHT. REFER TO ES-2 FOR LIGHT FIXTURE SPECIFICATION AND PHOTOMETRIC STUDY.



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C.L. HELT PROJECT # 22088

Project : CHAMPION
EXPRESS CAR WASH
FOR
7B BUILDING AND DEVELOPMENT
1807 N JEFFERSON WAY
INDIANOLA, IA, 50125

Sheet Description :

ELECTRICAL
SITE PLAN

Seal



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D. BELK

Checked By :
D. BELK

Revisions :

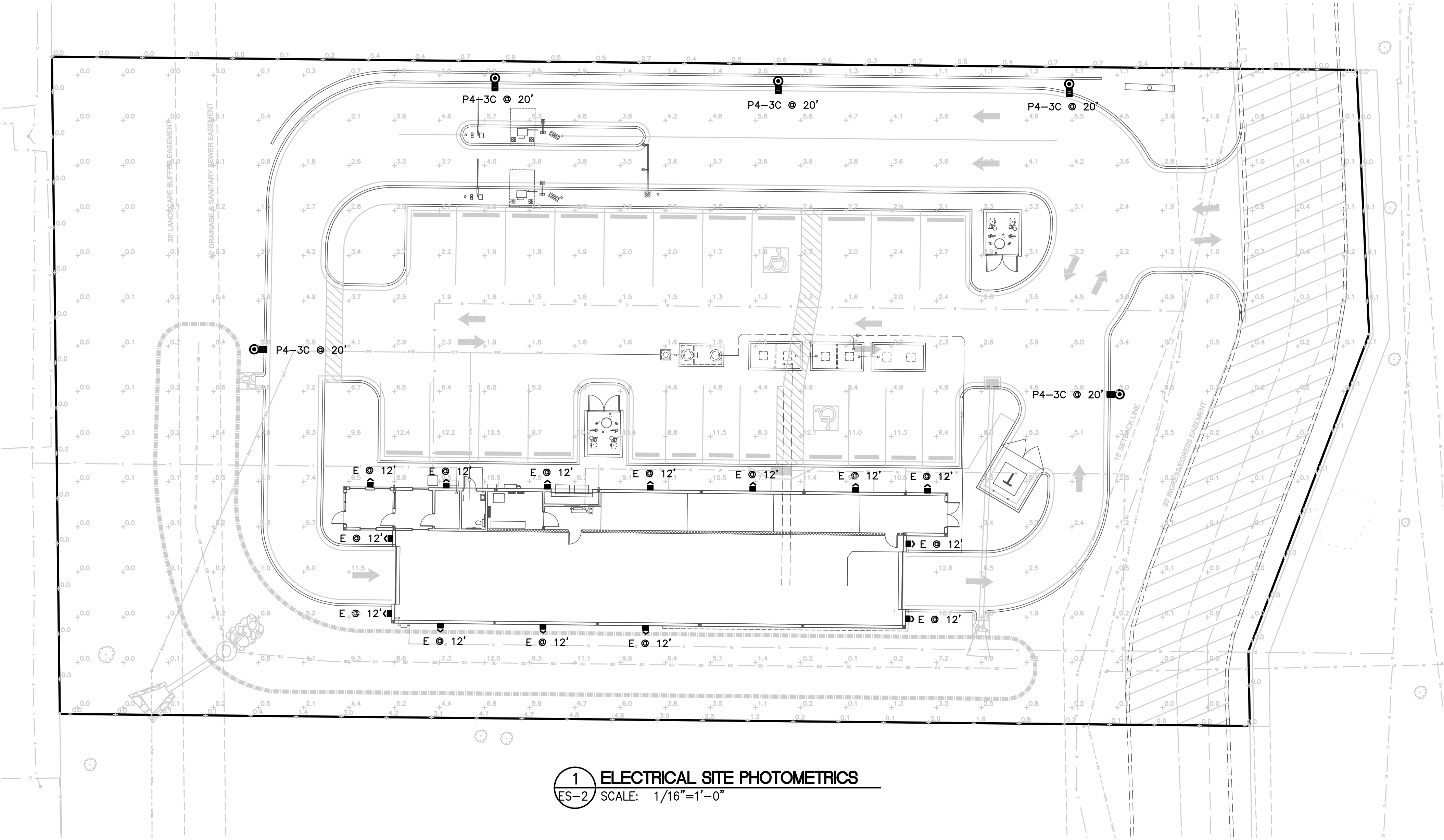
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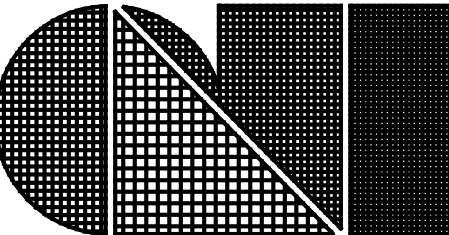
Sheet No.

ES-1

Schedule						
Symbol	Label	Quantity	Catalog Number	Description	Lamp	Wattage
	P4-3C	5	GLEON-SA3C-740-U-SL4-HSS	Single Head Eaton McGraw Edison Galleon Series LED Area Unit w/Type SL4 (Spill Light Control Type 4 Distribution & 17.5ft. Pole Height w/2.5ft. Base) House Side Shielding (Full Cutoff Design)	LED/4000K (FULL CUTOFF DESIGN w/SHIELDING)	166
	E	14	RWL2-160L-50-4K7-4W-UNV	Hubbell Outdoor Lighting Ratio RWL2 Series Wall Mounted LED Sconce Unit w/Type 4W Optics (12ft. Mounting Height)	LED/4000K (FULL CUTOFF DESIGN)	54

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Overall Site Light Levels	+	2.9 fc	12.6 fc	0.0 fc	N/A	N/A
Parking Lot Light Levels	✱	4.6 fc	12.6 fc	1.0 fc	12.6:1	4.6:1
Property Line Light Levels	+	0.6 fc	4.8 fc	0.0 fc	N/A	N/A





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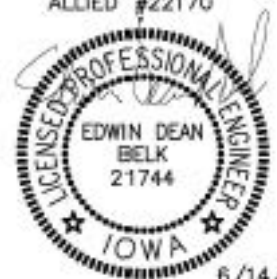
Project : CHAMPION
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FOR
7B BUILDING AND DEVELOPMENT
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INDIANOLA, IA, 50125

Sheet Description :
ELECTRICAL
SITE PHOTOMETRICS

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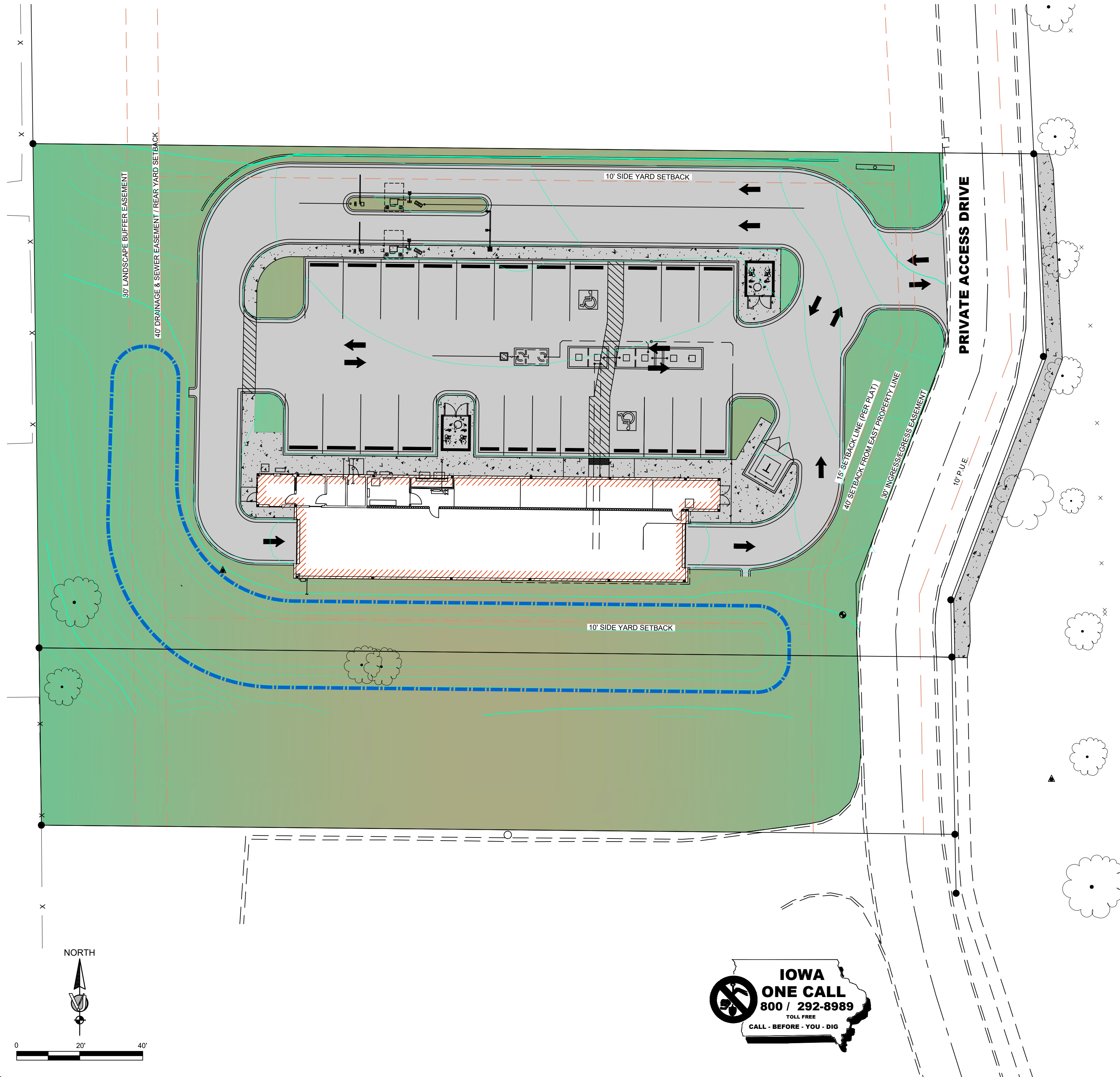
Drawn By :
D. BELK

Checked By :
D. BELK

Revisions :

Date :
6/10/2022

CITY OF INDIANOLA, IOWA
WARREN COUNTY
PLANS FOR THE PROPOSED BUILDING AND SITE
PLAN CONSTRUCTION OF THE CHAMPION XPRESS
CAR WASH AT 1807 N JEFFERSON WAY
PREPARED BY VJ ENGINEERING
AUGUST, 2022



OWNER/ DEVELOPER
VIA REAL ESTATE, LLC

PROJECT SITE ADDRESS
1807 NORTH JEFFERSON STREET
INDIANOLA, WARREN COUNTY, IA 50125

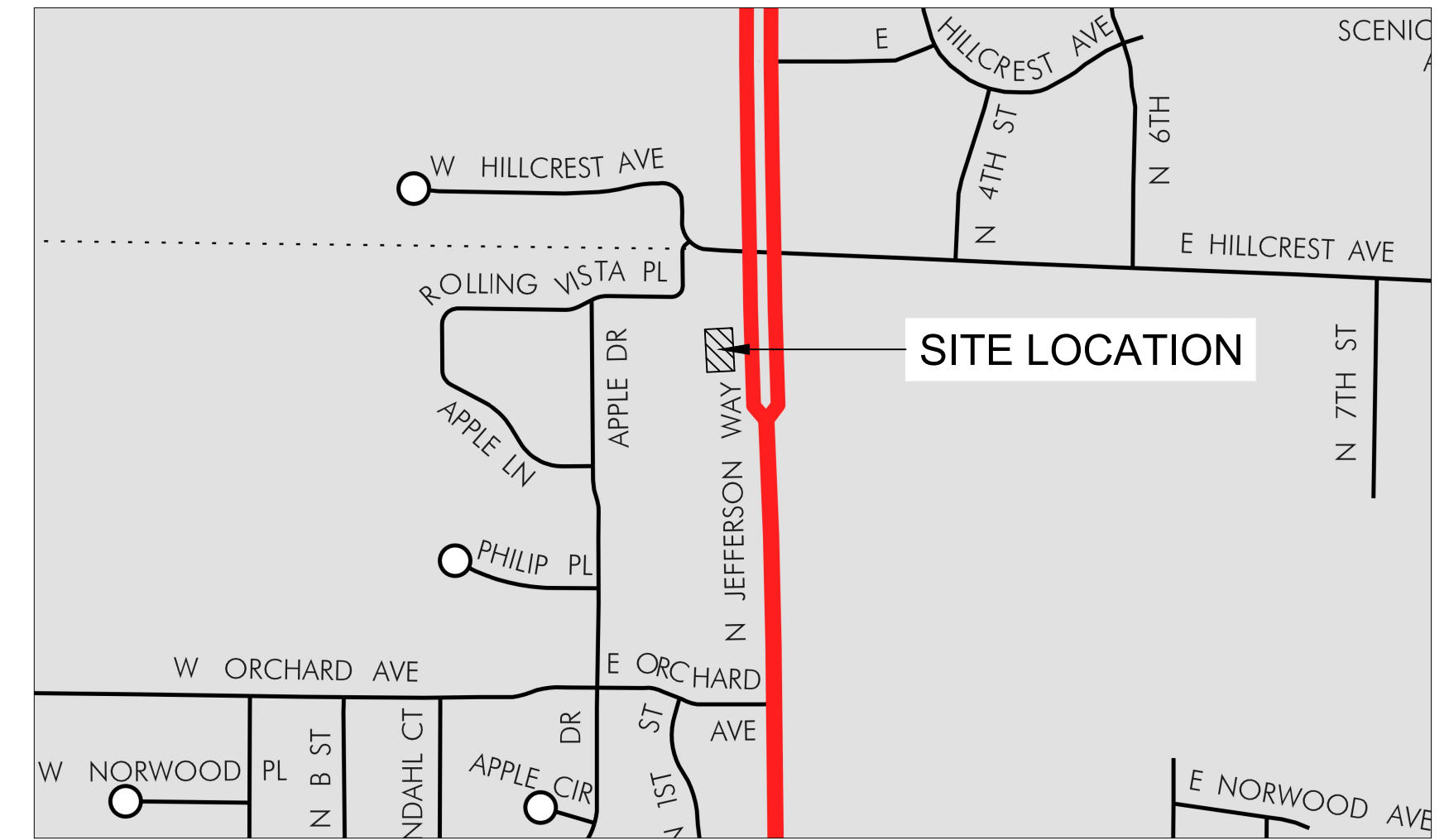
CURRENT ZONING
C-2 HIGHWAY COMMERCIAL DISTRICT
MOTOR VEHICLE AND MOTOR
EQUIPMENT-ORIENTED BUSINESS
(AUTOMOTIVE WASHING/CAR WASH)

TOTAL LOT SIZE = 1.51 ACRES
SITE GREEN SPACE = 0.73 ACRES
PAVED AREA = 0.52 ACRES
PROPOSED BUILDING = 4,350 SF
GRADED AREA = 1.35 ACRES
MIN OPEN SPACE(20%) = 13,155 SF

FINISHED FLOOR ELEVATION
FFE = 911.50

LEGEND	
Existing	Proposed
---	BOUNDARY LINE
---	EASEMENT LINE
---	PROPERTY LINE
---	SECTION/R.O.W. LINE
---	SETBACK LINE
---	CONTOUR LINE
---	ELECTRIC LINE
---	FENCE LINE
---	FIBER LINE
---	GAS LINE
---	OVERHEAD UTILITY LINE
---	SANITARY SEWER LINE
---	SILT FENCE LINE
---	STORM SEWER LINE
---	TELEPHONE LINE
---	TELEVISION LINE
---	WATER LINE
---	PROPERTY CORNER
---	BENCH MARK
---	CONIFEROUS TREE
---	DECIDUOUS TREE
---	GAS MANHOLE
---	GAS VALVE
---	SANITARY MANHOLE
---	SIGN
---	STORM INTAKE
---	STORM MANHOLE
---	TELEPHONE PEDESTAL
---	UTILITY POLE
---	WATER HYDRANT
---	WATER SHUT OFF
---	WATER VALVE

HATCH LEGEND	
---	PCC PAVEMENT
---	PCC SIDEWALK
---	SEED AND MULCH
---	EXISTING PCC PAVEMENT



UTILITY CONTACTS
CITY OF INDIANOLA
SANITARY SEWER

RICK GRAVES
RGRAVES@INDIANOLAIAOWA.GOV
515-961-9416

CITY OF INDIANOLA
STREETS AND STORM WATER

AKHILESH PAL
APAL@INDIANOLAIAOWA.GOV
515-961-9415

INDIANOLA MUNICIPAL UTILITIES
WATER

LOU ELBERT
LELBERT@INDIANOLAIAOWA.GOV
515-962-5330

INDIANOLA MUNICIPAL UTILITIES
FIBER OPTICS

KURT RIPPERGER
KRIPPERGER@INDIANOLAIAOWA.GOV
515-962-5283

INDIANOLA MUNICIPAL UTILITIES
ELECTRIC

MIKE METCALF
MMETCALF@INDIANOLAIAOWA.GOV
515-962-5308

INDEX OF SHEETS

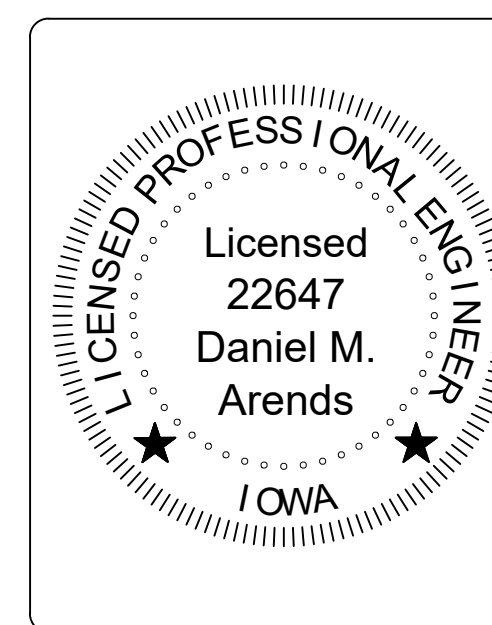
SHEET. NO.	SHEET NAME	REVISION DATE
1	COVER SHEET	
2	EXISTING CONDITIONS AND DEMO	
3	CIVIL SITE PLAN	
4	GRADING PLAN	
5	SITE DETAILS	
6	SUDAS DETAILS	
7	SWPPP PLAN	
8	SWPPP DETAILS	
9	SITE LANDSCAPE PLAN	

NOTE: SCALE NOTED ON TITLE BLOCK RELATES TO FULL-SIZED PLOTS (22x34).

UTILITY STATEMENT
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES DECLARE THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

THE CONSTRUCTION OF THE SANITARY SEWER, STORM SEWER, AND WATER SYSTEMS SHALL BE IN ACCORDANCE WITH THE STATEWIDE URBAN DESIGNS AND SPECIFICATIONS (SUDAS) AND CITY OF INDIANOLA SUDAS SUPPLEMENTAL SPECIFICATIONS ([HTTPS://WWW.INDIANOLAIAOWA.GOV/969/SUDAS](https://www.indianolaiaowa.gov/969/SUDAS))

THE DEVELOPER SHALL CONDUCT AS-BUILT SURVEYS OF BASINS AND OVERFLOW CHANNELS TO PROVIDE A REPORT THAT DEMONSTRATES THE SURFACE ELEVATIONS AND BASIN VOLUMES MEET OR EXCEED THOSE INDICATED ON APPROVED CONSTRUCTION DOCUMENTS.



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

DANIEL M. ARENDS, P.E.

DATE

License number 22647

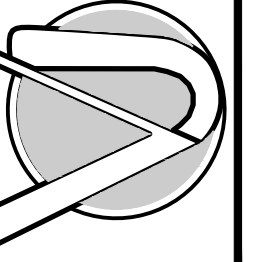
My license renewal date is December 31, 2022

Pages or sheets covered by this seal:

All sheets in Index

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1501 Technology Parkway
Cedar Falls, Iowa - 319-266-5829

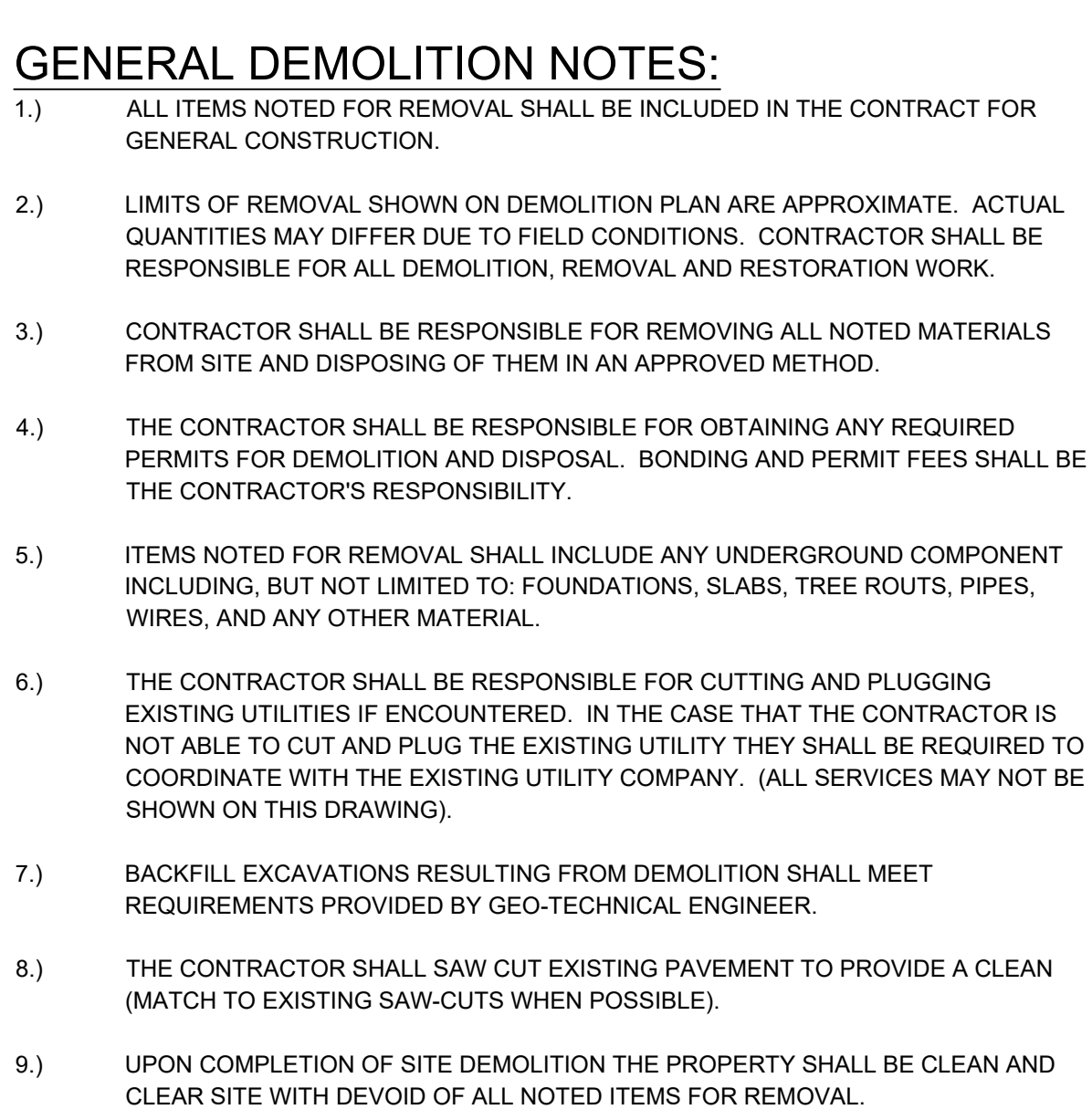


CHAMPION XPRESSCAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, WARREN COUNTY, IOWA

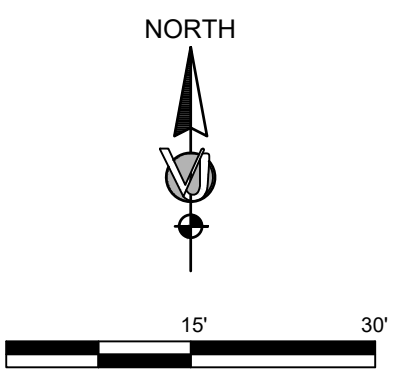
COVER SHEET

1	OF	9
Scale		
1" = 20'		
Drawn		
SJC		
Reviewed		
DMA		
Date		
2022.08.17		
Revisions		

228054



LEGEND		
Existing	Proposed	
		BOUNDARY LINE
		EASEMENT LINE
		PROPERTY LINE
		SECTION/R.O.W. LINE
		SETBACK LINE
		CONTOUR LINE
		ELECTRIC LINE
		FENCE LINE
		FIBER LINE
		GAS LINE
		OVERHEAD UTILITY LINE
		SANITARY SEWER LINE
		SILT FENCE LINE
		STORM SEWER LINE
		TELEPHONE LINE
		TELEVISION LINE
		WATER LINE



228054

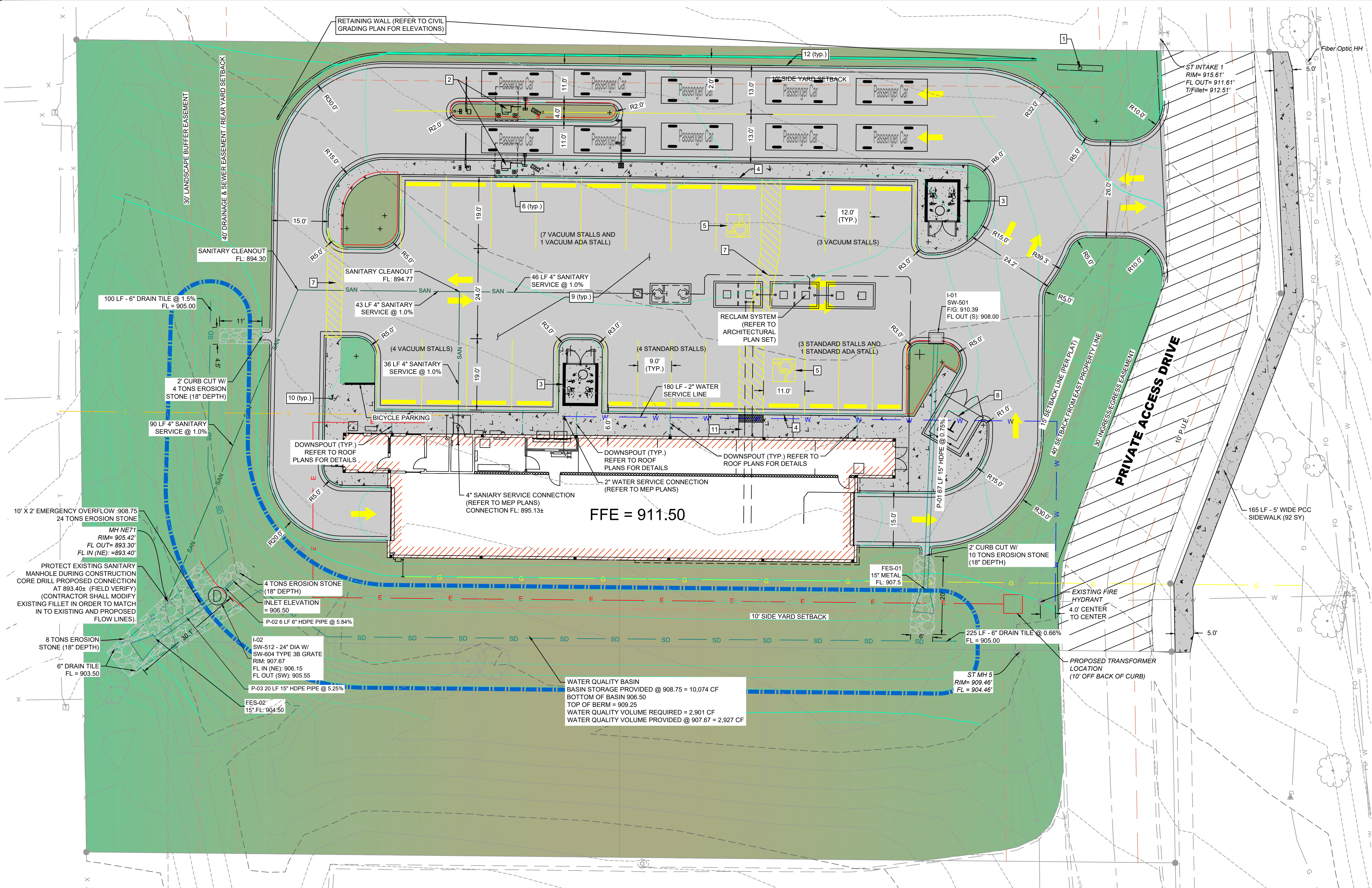
VJ Engineering
1501 Technology Parkway
Cedar Falls, Iowa – 319-266-5829

CHAMPION XPRESSCAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, WARREN COUNTY, IOWA

EXISTING CONDITIONS

2 OF 9
Scale 1"=15'
Drawn SJC
Reviewed DMA
Date 2022.08.17
Revisions

228054



GENERAL SITE NOTES:

- DIMENSIONS AND RADII ARE REFERENCED TO THE BACK OF CURB OR EDGE OF PAVING UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS TO BUILDING ARE REFERENCED TO THE OUTSIDE FACE OF STRUCTURE'S FACADE.
- BUILDING DIMENSIONS SHOWN ARE FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL USE THE ARCHITECTURAL AND STRUCTURAL PLAN SET FOR EXACT BUILDING DIMENSIONS.
- ALL PROJECT COMPONENTS THAT FALL WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO LOCAL AND/OR STATE SPECIFICATIONS AND REQUIREMENTS.
- ALL PROPOSED HANDICAP RAMPS, PARKING AREAS, AND ACCESSIBLE ROUTES SHALL STRICTLY COMPLY WITH CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING BUT NOT NECESSARILY LIMITED TO THE ADA ACCESSIBILITY GUIDELINES (ADAAG).
- ALL ADA ACCESSIBLE ROUTES SHALL HAVE DETECTABLE WARNINGS INSTALLED AS REQUIRED BY THE ADAAG. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH CONTRAST VISUALLY WITH THE ADJOINING SURFACES.
- CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT TO PROVIDE A CLEAN, STRAIGHT JOINT AND ENSURE POSITIVE DRAINAGE.
- ALL CONCRETE PAVEMENT SHALL HAVE JOINTS IN ACCORDANCE WITH ACI 330R-08, SECTION 3.7 AND APPENDIX C. CONTRACTION JOINTS SHALL BE 1/4 OF THE SLAB THICKNESS. ISOLATION JOINTS SHALL BE PLACED BETWEEN PAVEMENT AND FOUNDATIONS, INLETS, AND OTHER FIXED STRUCTURES. CONTRACTION JOINTS SHALL BE TOOL FINISHED AND SPACED AS FOLLOWS:
CURBING: 10'-0" (MAX) SPACING
SIDEWALKS: 5'-0" (MAX) SPACING
VEHICULAR TRAFFIC AREAS: 24' X CONCRETE
PAVEMENT THICKNESS (FEET), 15'-0" (MAX) SPACING.
REFER TO LOCAL SPECIFICATIONS FOR WORK WITHIN PUBLIC RIGHT-OF-WAY.

EQUIVALENT RESIDENTIAL UNIT (ERU):

IMPERVIOUS AREA = 26,641 SQ. FT.
28,905 SQ. FT. - 3,400 SQ. FT. = 23,241 SQ. FT.
25,505 SQ. FT. / 340 SQ. FT. = 68.4
68.4 x 0.1 ERU = 6.8 ERU
7.5 ERU + 1 ERU = 7.8 ERU TOTAL

PARKING REQUIREMENTS:

REQUIRED PARKING STALLS = 5 (1 STALL PER EMPLOYEE AT MAX SHIFT)
PROVIDED PARKING STALLS = 21 + 2 ADA ACCESSIBLE STALL

SITE KEYNOTES:

- NEW PYLON SIGN
-COORDINATE SIZE, LOCATION AND PERMITTING WITH CHAMPION XPRESS PROJECT MANAGER.
- PAY STATION & VACUUM CANOPY
-SEE ARCHITECTURAL PLANS FOR DETAILS.
- VACUUM EQUIPMENT ENCLOSURE
-SIDEWALK DRAIN TO BE COVERED BY CANOPY FOR MAT WASH STATION.
-SEE ARCHITECTURAL PLANS FOR DETAILS.
- ADA PARKING SIGNAGE
-PER DETAIL/SHEET 5 OF 9
- ADA PARKING STALL SYMBOL
-PER DETAIL/ SHEET 5 OF 9
- CONCRETE WHEEL STOP
-PER DETAIL/SHEET 5 OF 9
- PARKING STRIP/HATCH
-4" WIDE PAINTED STRIPES/24" FOR STOP BAR
-HATCHING TO BE AT 45 DEGREE AND 2'-0" O.C.
-STRIPING ON CONCRETE PAVEMENT TO BE PAINTED YELLOW.
- CONCRETE DUMPSTER PAD & APRON
-PAD SIZE = 12' x 12'
-PAD TO BE CONSTRUCTED OF MIN. 8 IN. THICK 4000 PSI CONCRETE REINFORCED WITH MIN. #4 REBARS @ 18 IN. O.C. EACH DIRECTION LOCATED IN THE UPPER THIRD OF SLAB.
-PROVIDE PIPE BOLLARDS PER DETAIL/SHEET 5 OF 10
-SEE ARCHITECTURAL PLANS FOR TRASH ENCLOSURE DETAILS AND PIPE BOLLARD LAYOUT.
- PCC PAVEMENT
-PER PAVEMENT SECTION DETAIL/SHEET 5 OF 9
- CONCRETE SIDEWALK WITH INTEGRAL CURB
-PER DETAIL/SHEET 5 OF 9
- SIDEWALK RAMP
-REFER TO SUDAS PARALLEL RAMP DETAIL PER DETAIL/SHEET 6 OF 9
- 6" STANDARD CURB AND GUTTER
-PER DETAIL/SHEET 6 OF 9
- STORM WATER SYSTEM STRUCTURE
-SEE SUDAS DETAIL SHEET FOR ADDITIONAL DETAILS

SITE SETBACK REQUIREMENTS:

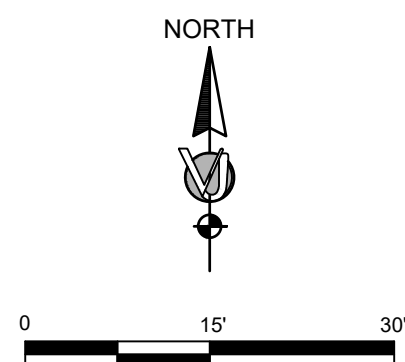
FRONT - 40'
SIDE - 10'
REAR - 40'
MAX BUILDING HEIGHT 50'
MIN OPEN SPACE - 20% (13,155.12 SF)

HATCH LEGEND

	PCC PAVEMENT
	PCC SIDEWALK
	SEED AND MULCH
	EXISTING PCC PAVEMENT
	TOP OF BASIN

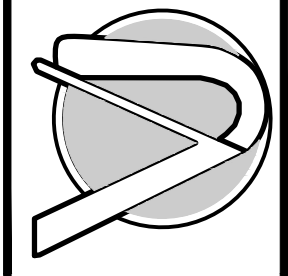
LEGEND

Existing	Proposed
	BOUNDARY LINE
	EASEMENT LINE
	PROPERTY LINE
	SECTION/R.O.W. LINE
	SETBACK LINE
	CONTOUR LINE
	ELECTRIC LINE
	FENCE LINE
	FIBER LINE
	GAS LINE
	OVERHEAD UTILITY LINE
	SANITARY SEWER LINE
	SILT FENCE LINE
	STORM SEWER LINE
	SUBDRAIN/RAIN TILE
	TELEPHONE LINE
	TELEVISION LINE
	WATER LINE
	PROPERTY CORNER
	BENCH MARK
	CONIFEROUS TREE
	DECIDUOUS TREE
	GAS MANHOLE
	GAS VALVE
	SANITARY MANHOLE
	SIGN
	STORM INTAKE
	STORM MANHOLE
	TELEPHONE PEDESTAL
	UTILITY POLE
	WATER HYDRANT
	WATER SHUT OFF
	WATER VALVE



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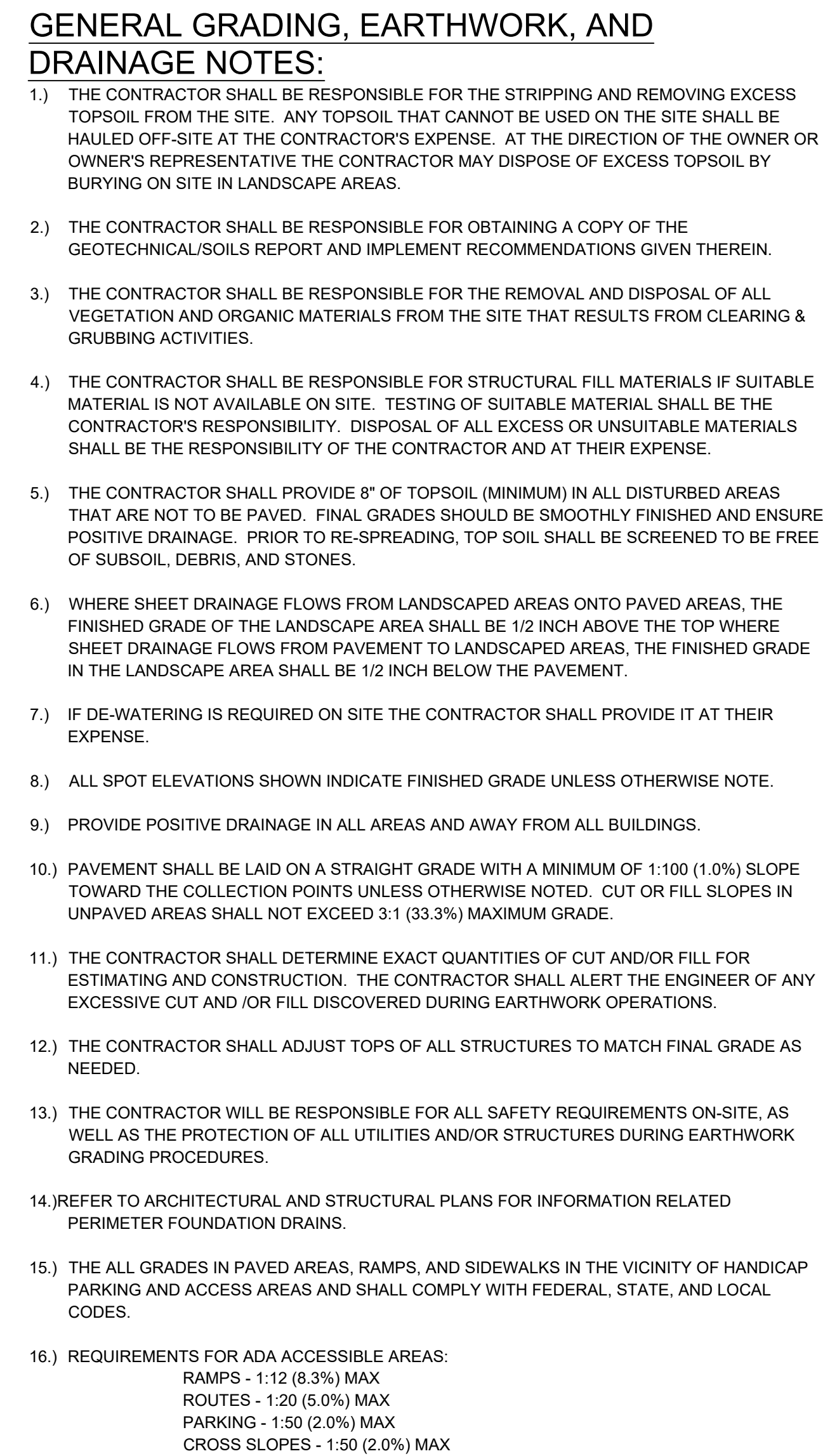


CHAMPION XPRESSCAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, WARREN COUNTY, IOWA
CIVIL SITE PLAN

3 OF 9

Scale
1"=15'
Drawn
SJC
Reviewed
DMA
Date
2022.08.17
Revisions

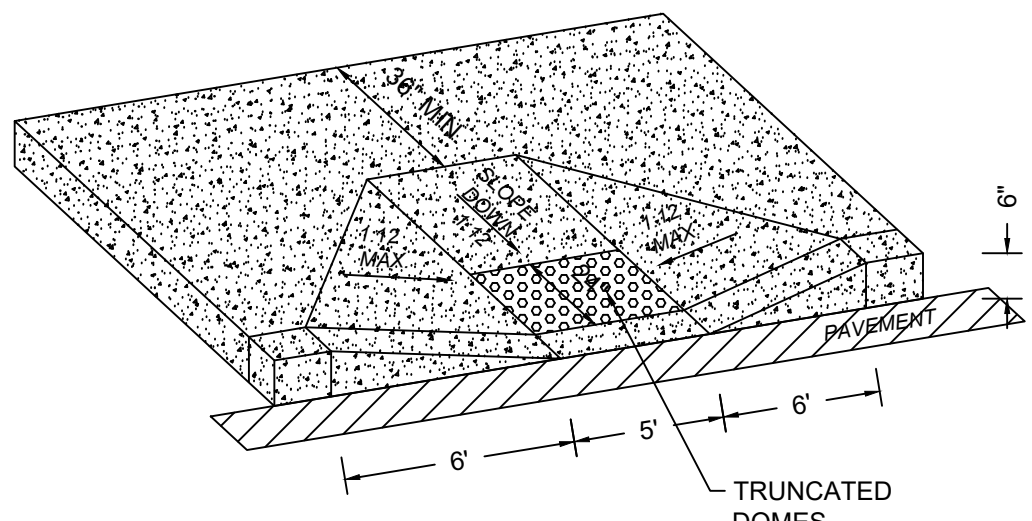
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HATCH LEGEND

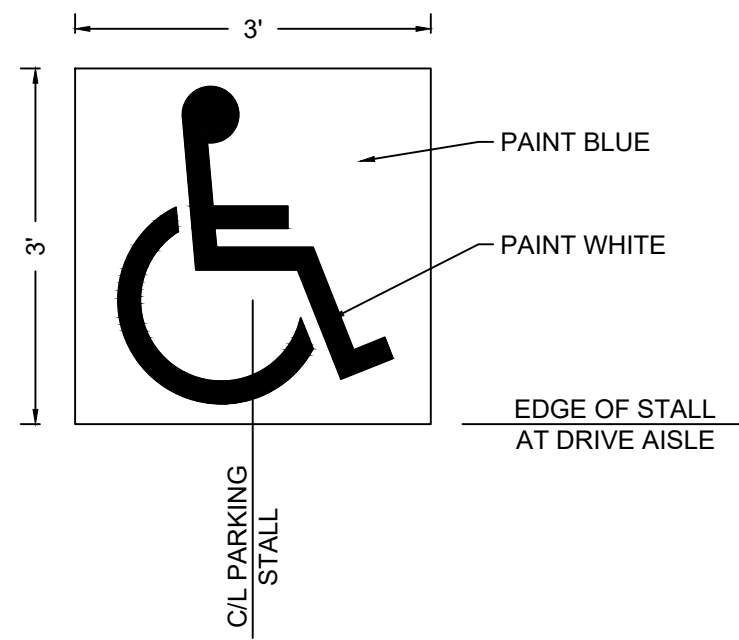
	PCC PAVEMENT
	PCC SIDEWALK
	SEED AND MULCH
	EXISTING PCC PAVEMENT



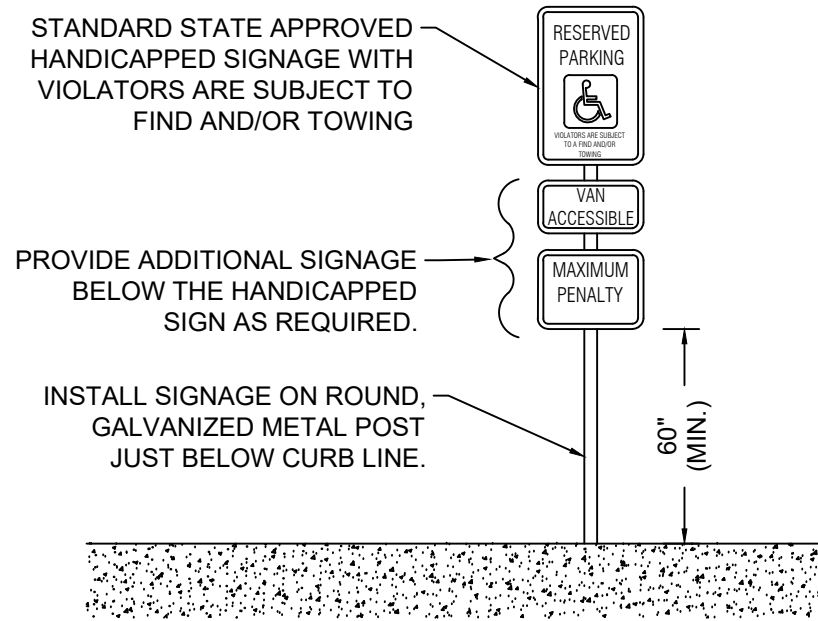


- NOTES:
- HANDICAP RAMP TO BE INSTALLED PER ADA REQUIREMENTS.
 - TRUNCATED DOMES TO BE CAST IN PLACE PER MANUFACTURE'S SPECIFICATIONS.

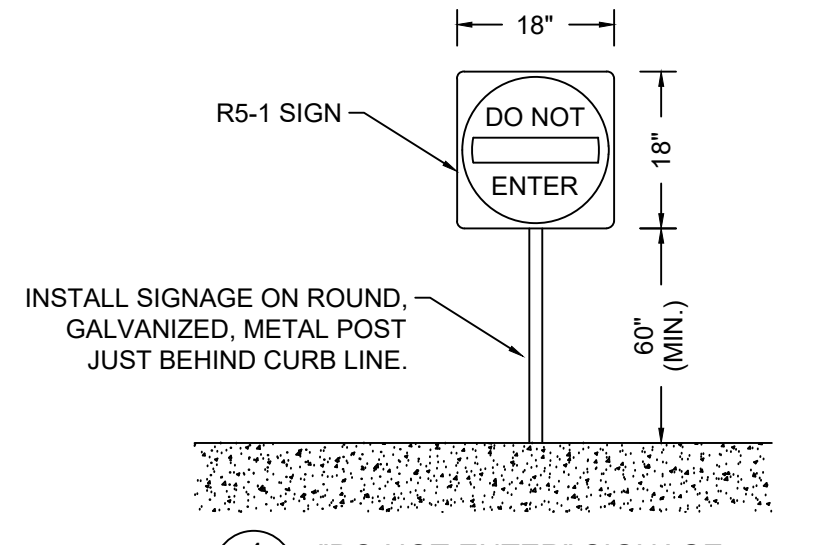
1
5 ADA ACCESSIBLE RAMP DETAIL
SCALE - NTS



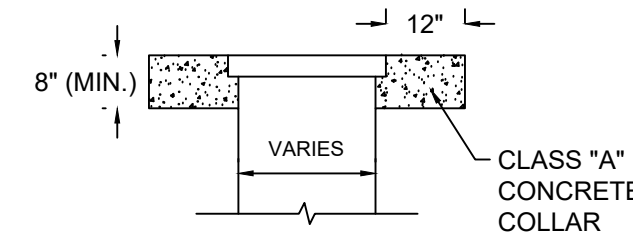
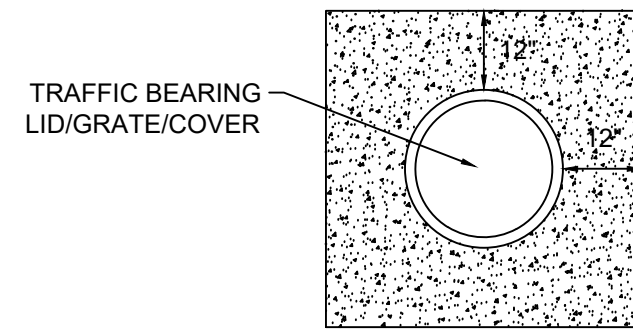
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5 ADA PARKING SYMBOL
SCALE - NTS



3
5 ADA PARKING SIGNAGE
SCALE - NTS

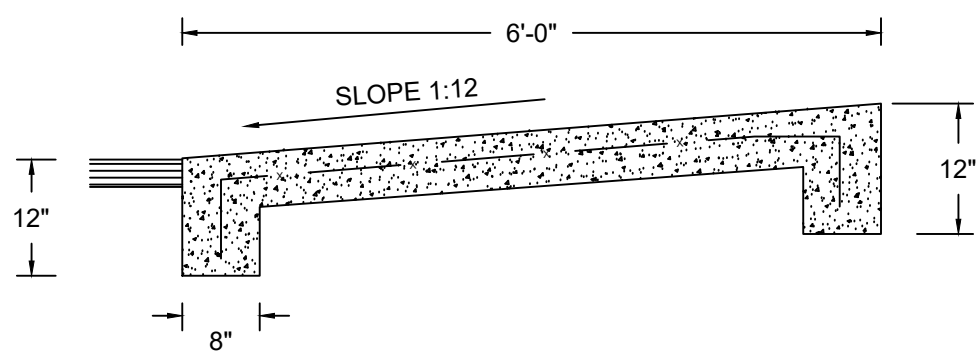


4
5 "DO NOT ENTER" SIGNAGE
SCALE - NTS

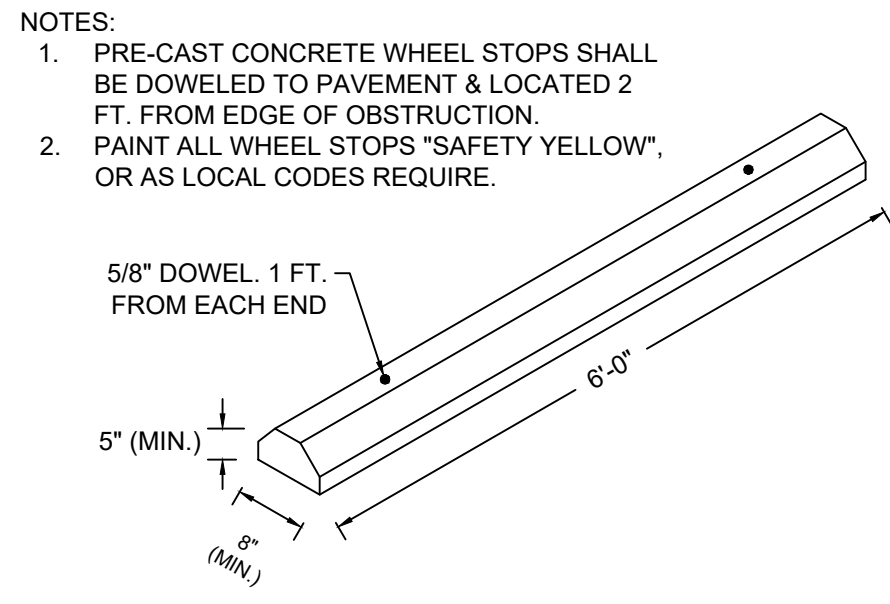


NOTE: COLLAR TO BE INSTALLED AROUND ALL STORM INLETS, MANHOLES, CLEANOUTS, PULL BOXES, VALVES, ETC. WHICH ARE LOCATED IN PAVEMENT AREAS.

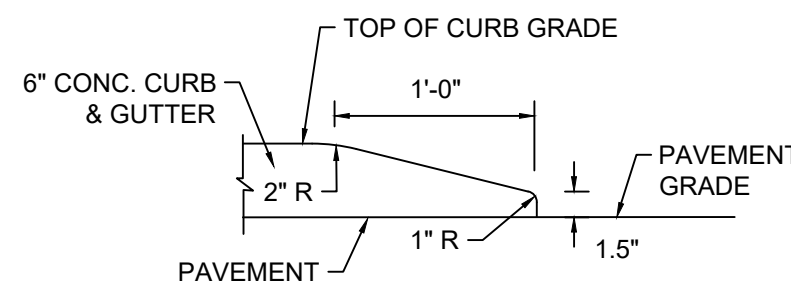
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5 CONCRETE COLLAR
SCALE - NTS



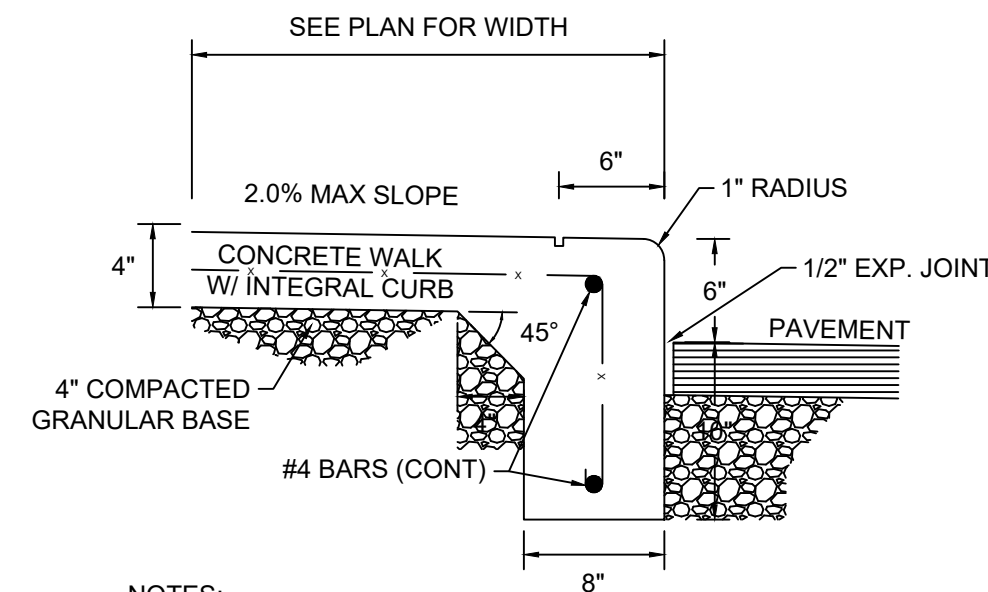
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5 CONCRETE ADA RAMP SECTION
SCALE - NTS



7
5 CONCRETE WHEEL STOP
SCALE - NTS

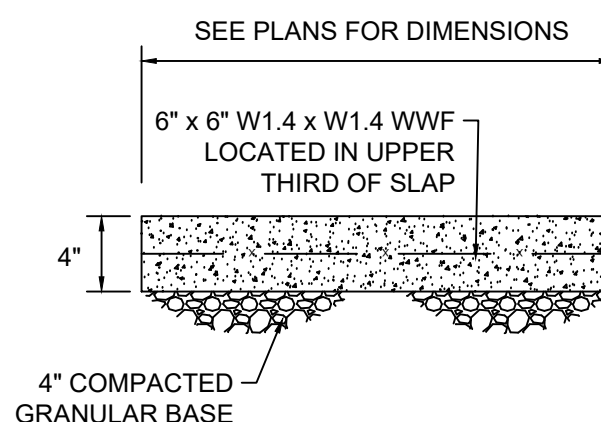


8
5 CURB END TAPER DETAIL
SCALE - NTS



- NOTES:
- SIDEWALK WITH INTEGRAL CURB TO BE CONSTRUCTED OF 3500 PSI CONCRETE (MIN.).
 - SIDEWALK TO HAVE JOINTS NOT EXCEEDING 5 FT. SPACING IN ANY DIRECTION.

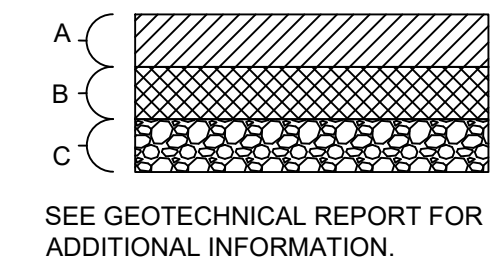
9
5 CONCRETE SIDEWALK WITH INTEGRAL CURB
SCALE - NTS



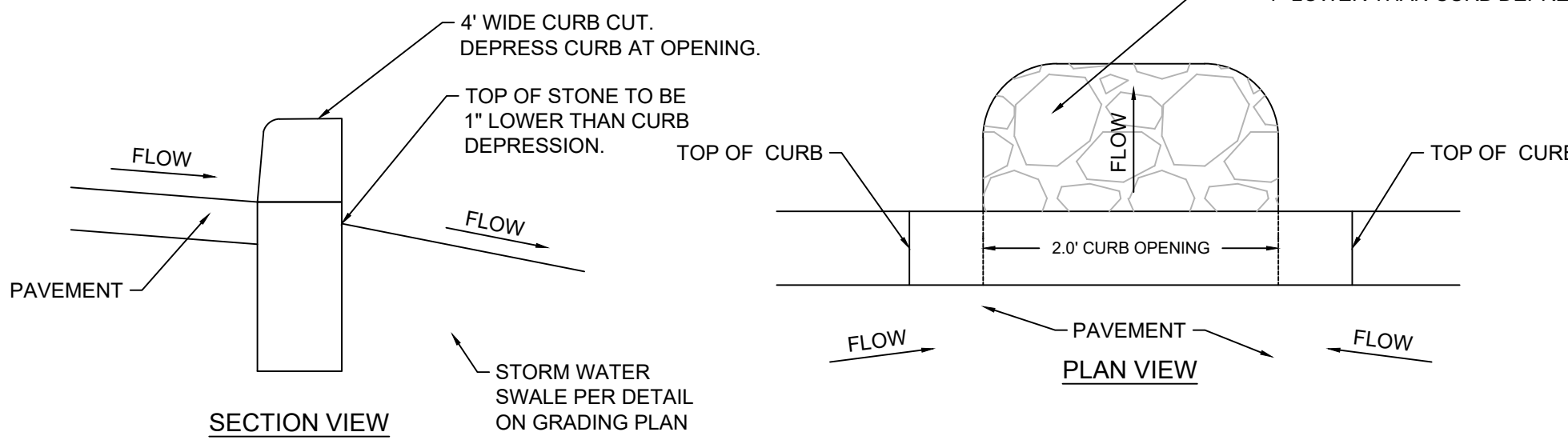
- NOTES:
- SIDEWALK TO BE CONSTRUCTED USING 3500 PSI CONCRETE.
 - SIDEWALK TO HAVE TOOLED CONTROL JOINTS NOT EXCEEDING 5 FT. SPACING IN ANY DIRECTION.

10
5 CONCRETE SIDEWALK PAVEMENT SECTION
SCALE - NTS

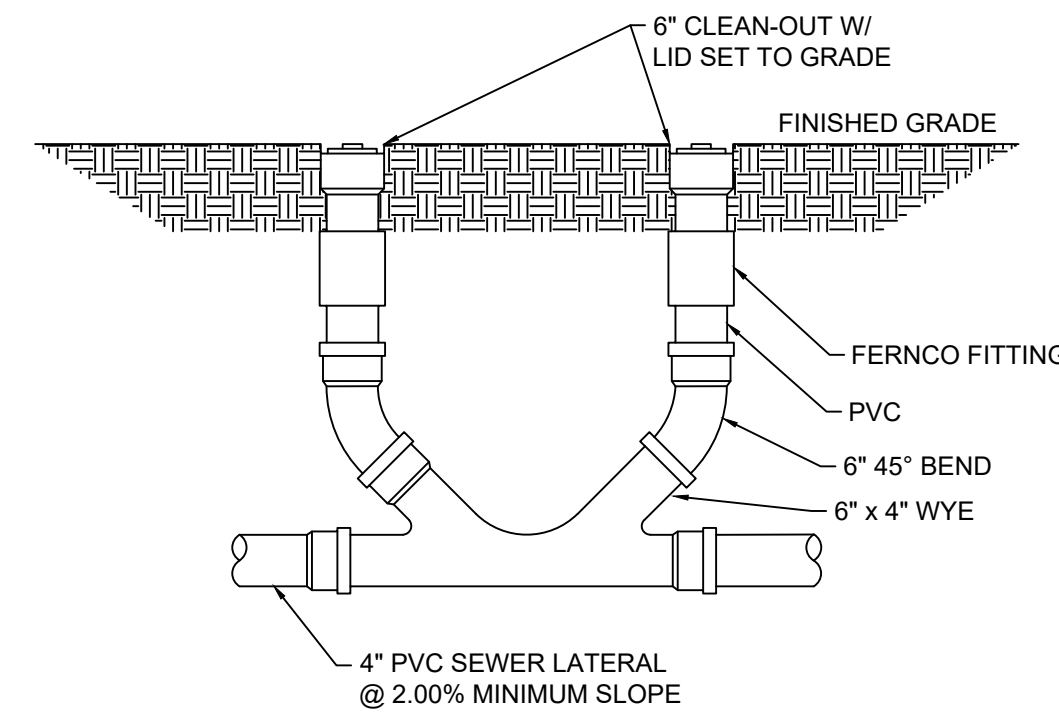
- KEY
- A - 6" PORTLAND CEMENT CONCRETE
 - B - 6" MODIFIED BASE
 - C - 8" COMPACTED SUBGRADE



11
5 PCC PAVEMENT SECTION
SCALE - NTS

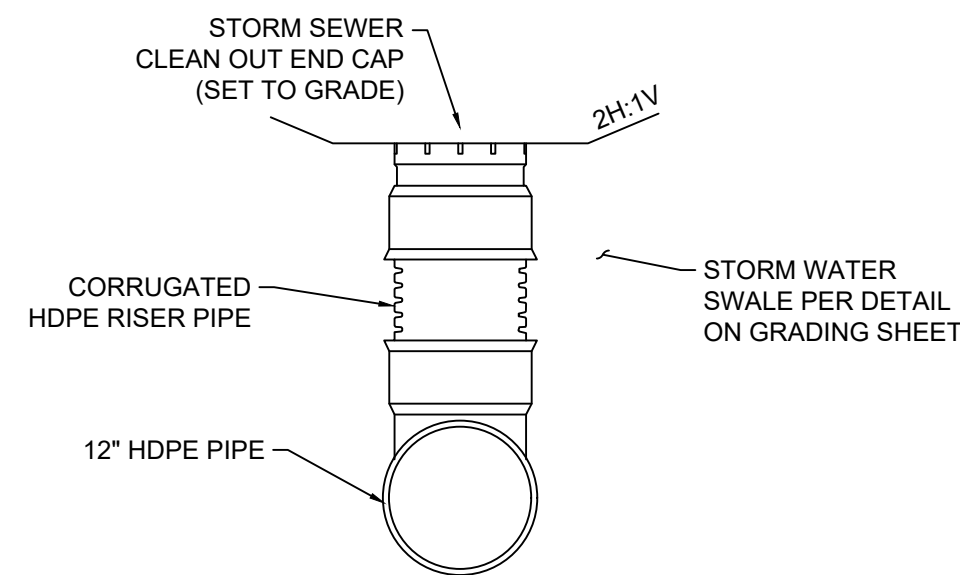


12
5 CURB CUT FOR CROSS DRAINAGE DETAIL
SCALE - NTS



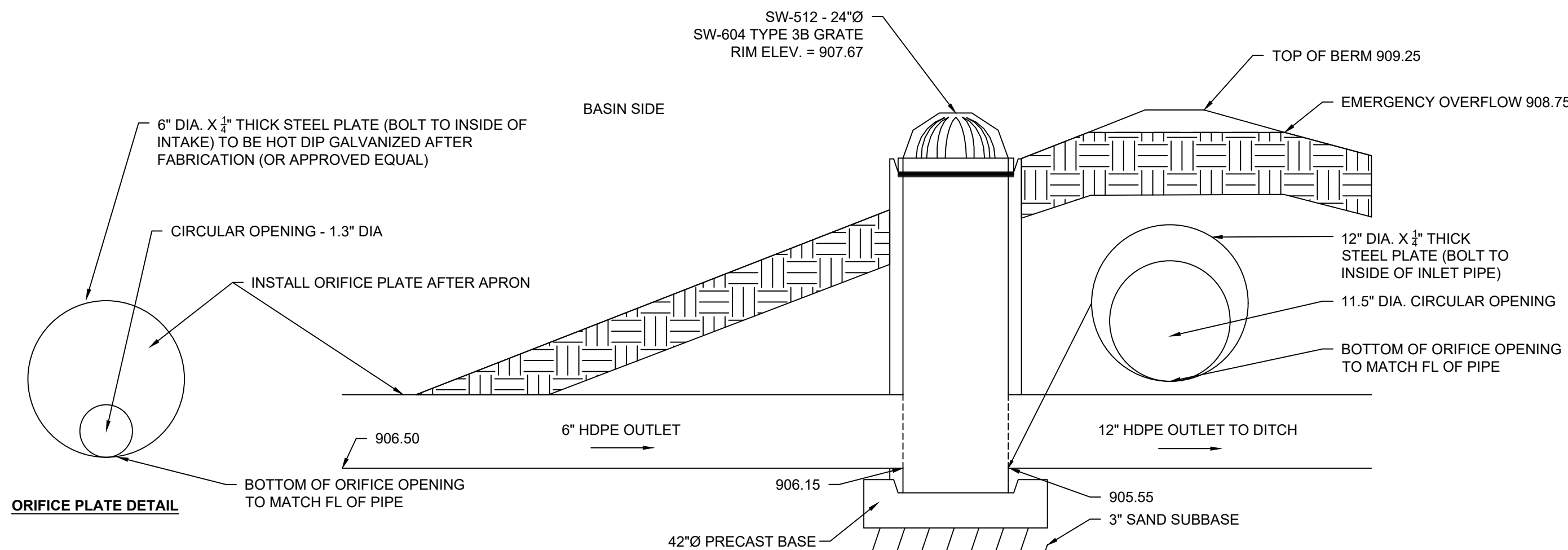
NOTE: CLEAN OUT TO HAVE TRAFFIC BEARING LID AND CONCRETE COLLAR IF INSTALLED IN PAVED AREAS.

13
5 SANITARY TWO-WAY CLEAN OUT DETAIL
SCALE - NTS

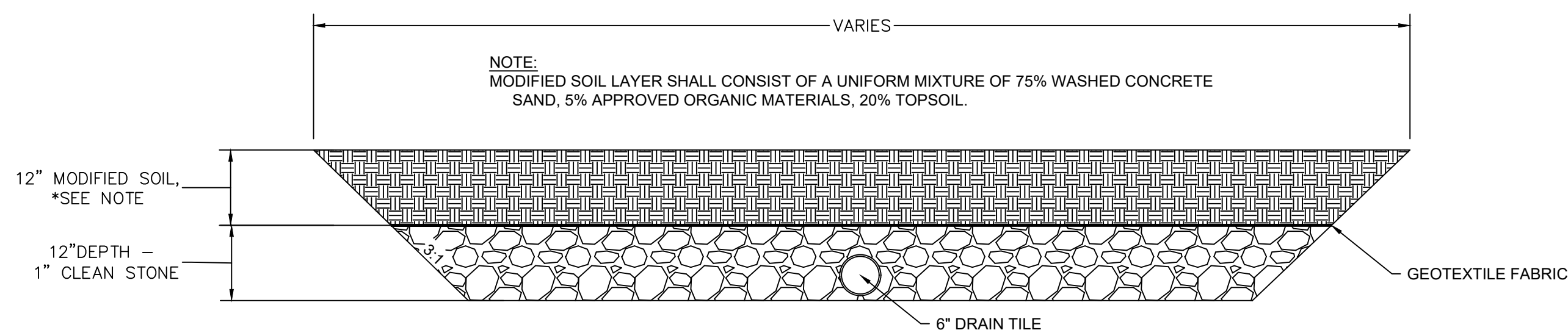


- NOTES:
- HDPE PIPE MAY BE SUBSTITUTED WITH PVC PIPE.
 - ALL JOINTS ARE TO BE WATERTIGHT.
 - CLEAN OUT TO HAVE TRAFFIC BEARING LID AND CONCRETE COLLAR IF INSTALLED IN PAVED AREAS.

14
5 STORM CLEAN-OUT DETAIL
SCALE - NTS



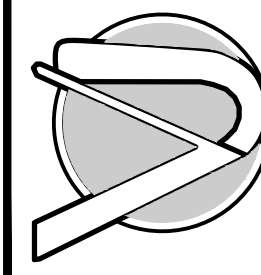
15
6 WATER QUALITY BASIN CONTROLLED RELEASE RATE STRUCTURE
SCALE - NTS



16
5 WATER QUALITY BASIN - TYPICAL SECTION
SCALE - NTS

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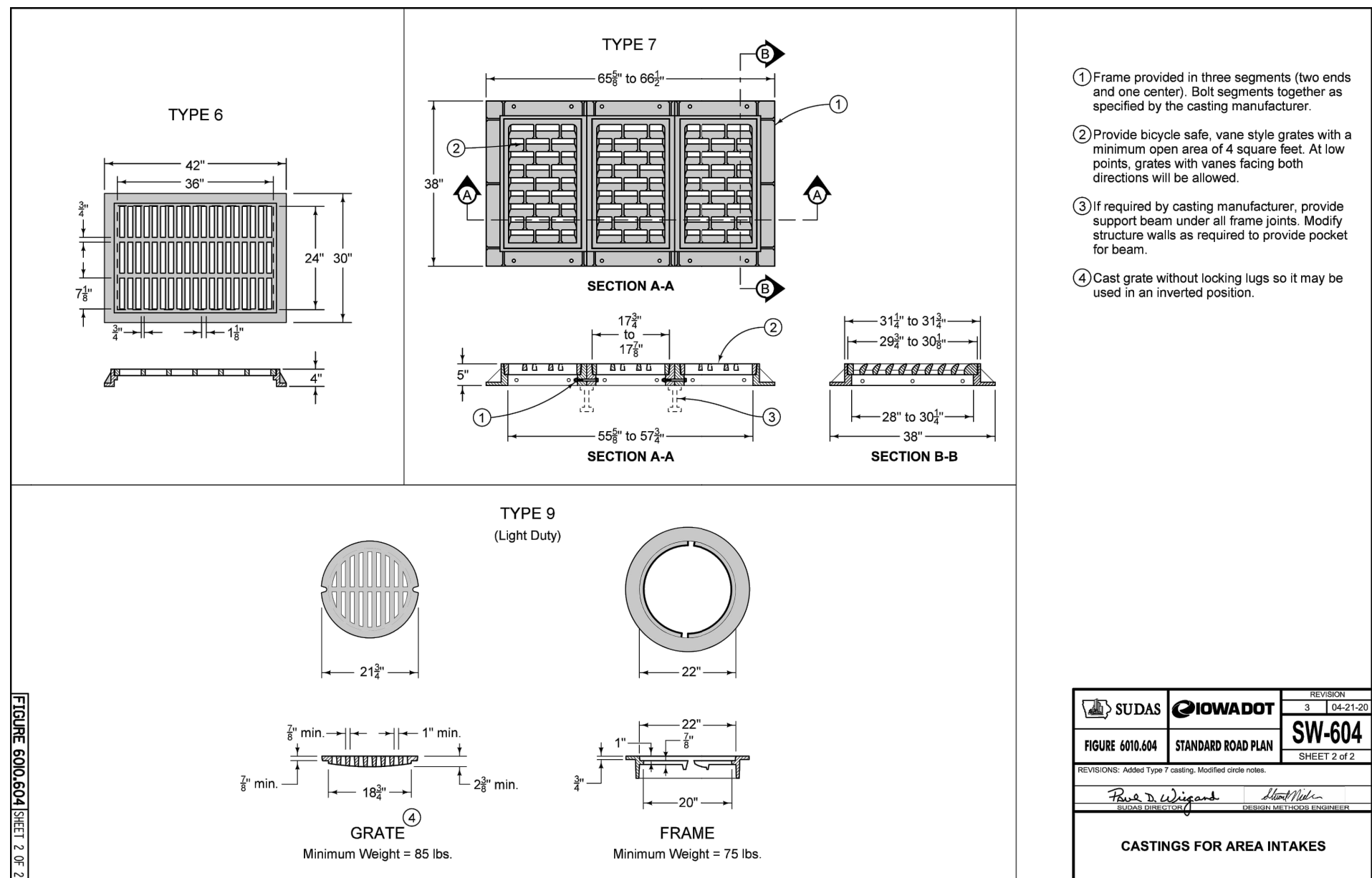
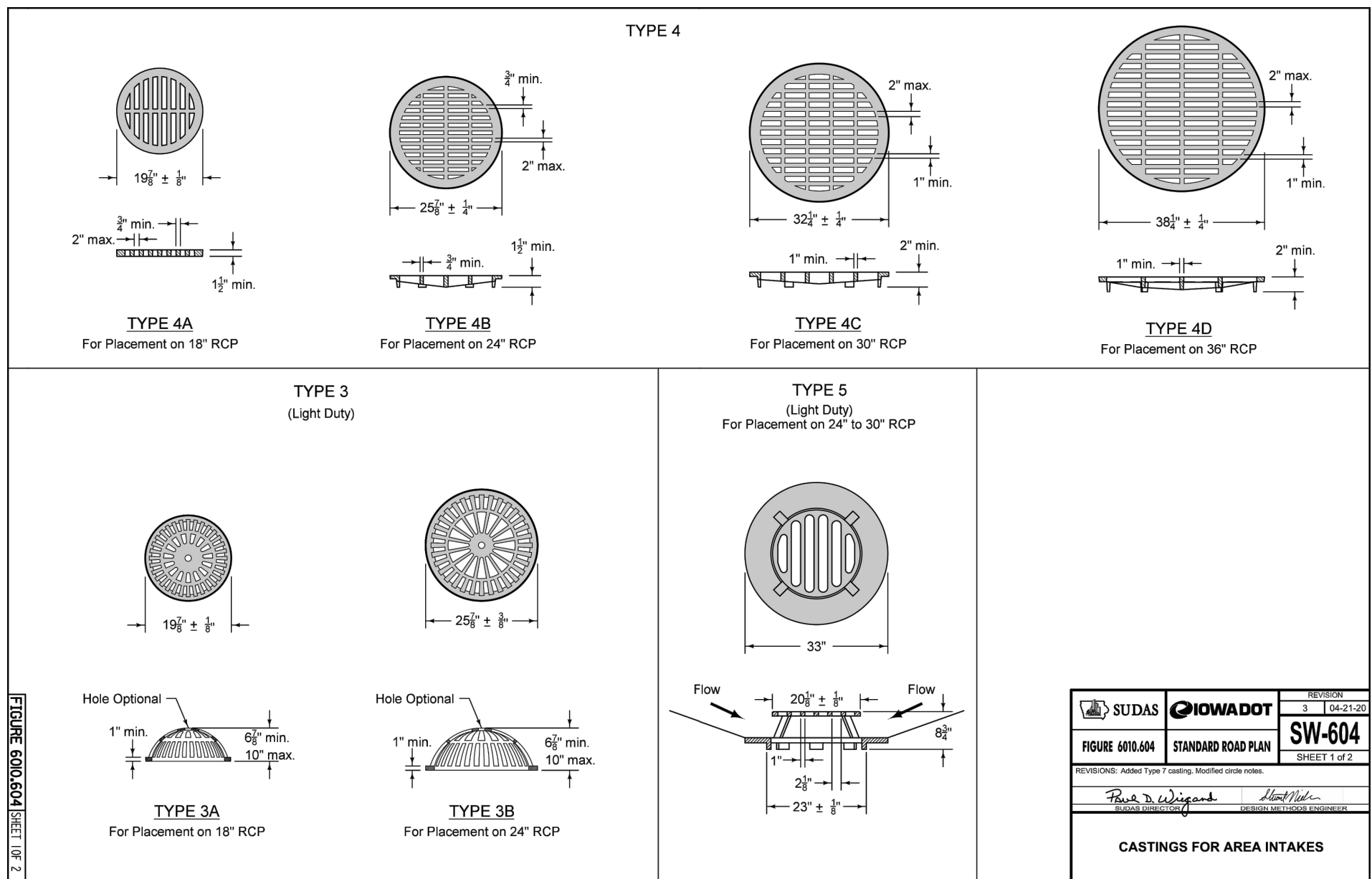
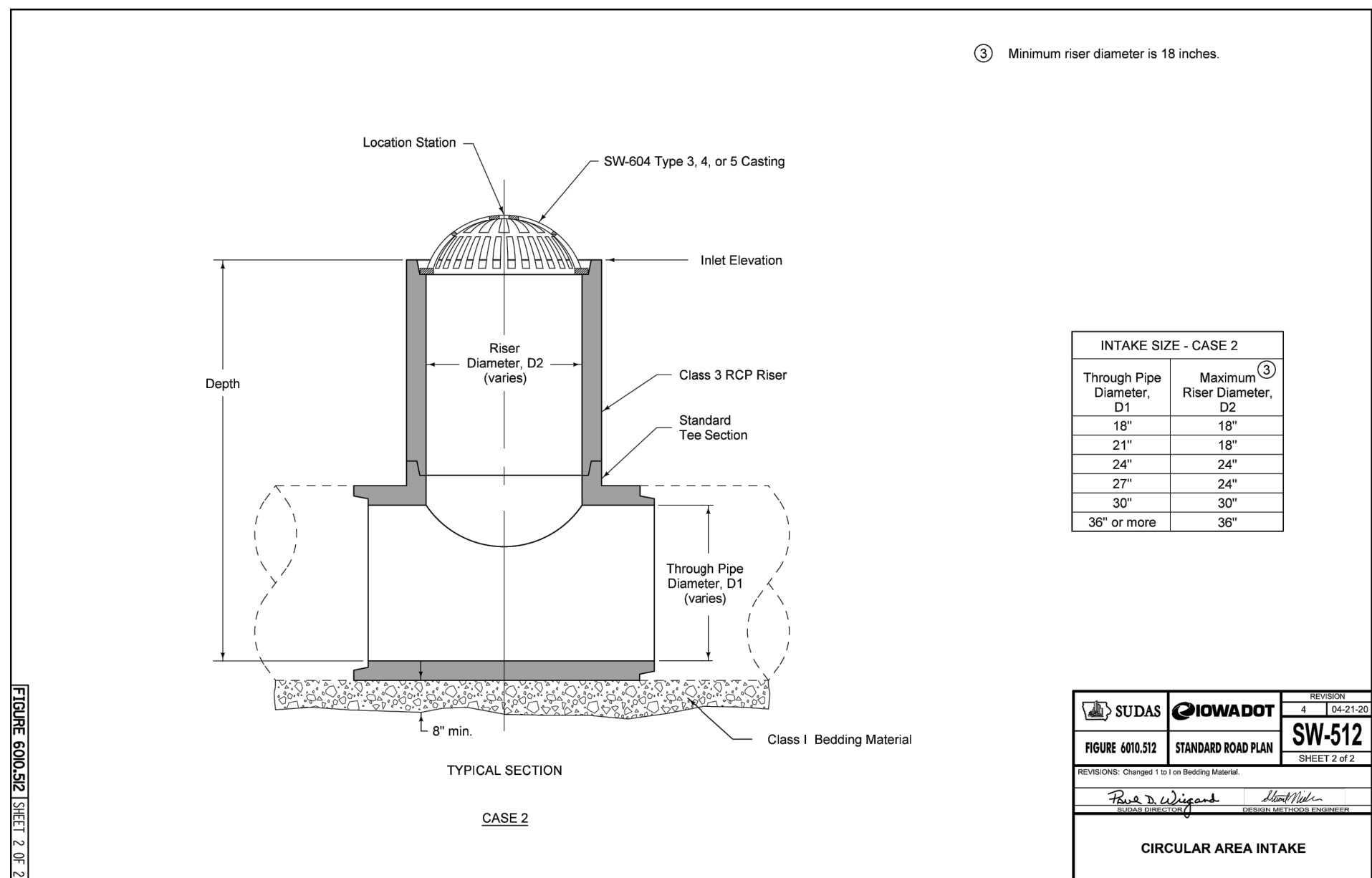
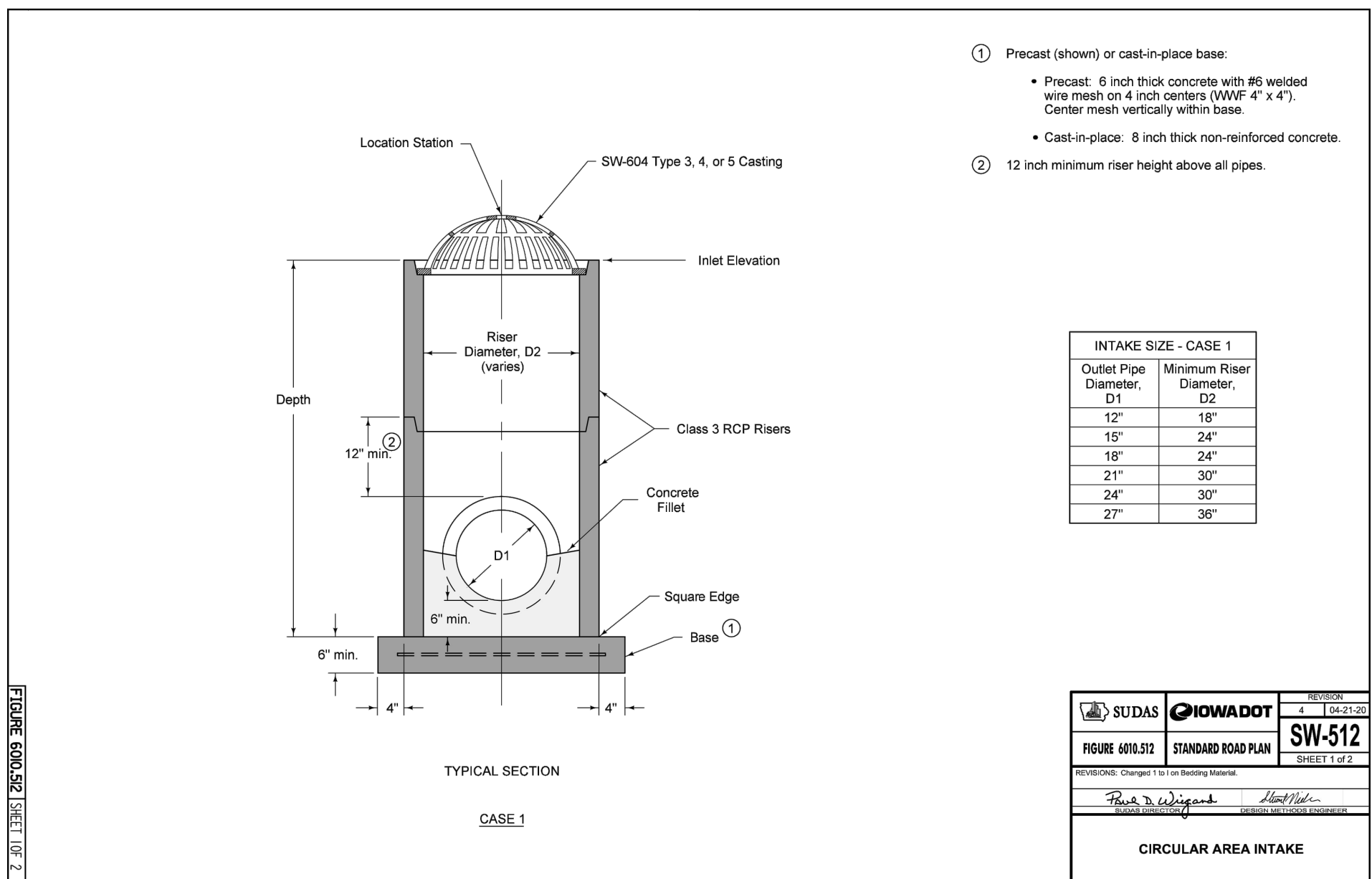
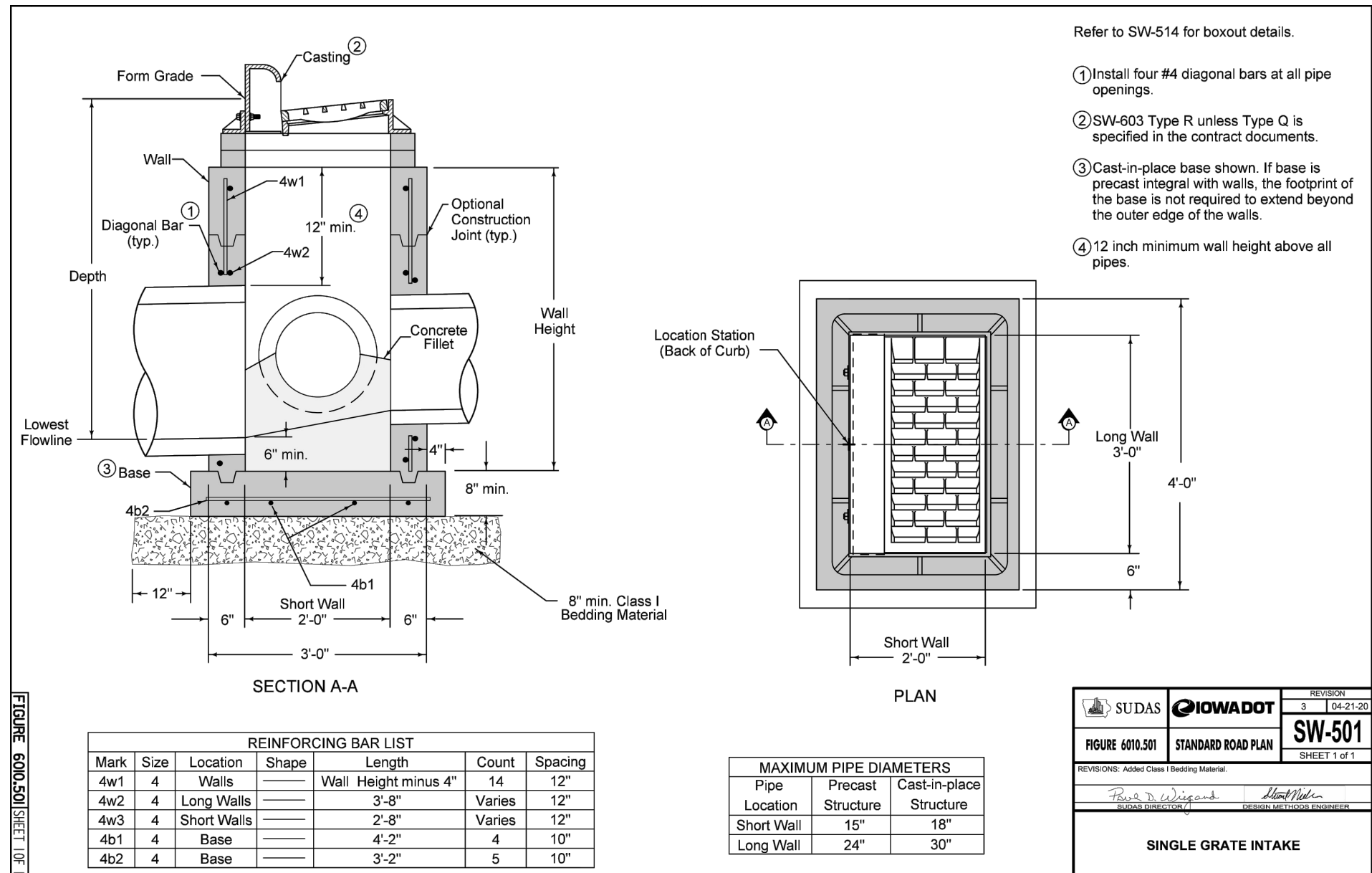
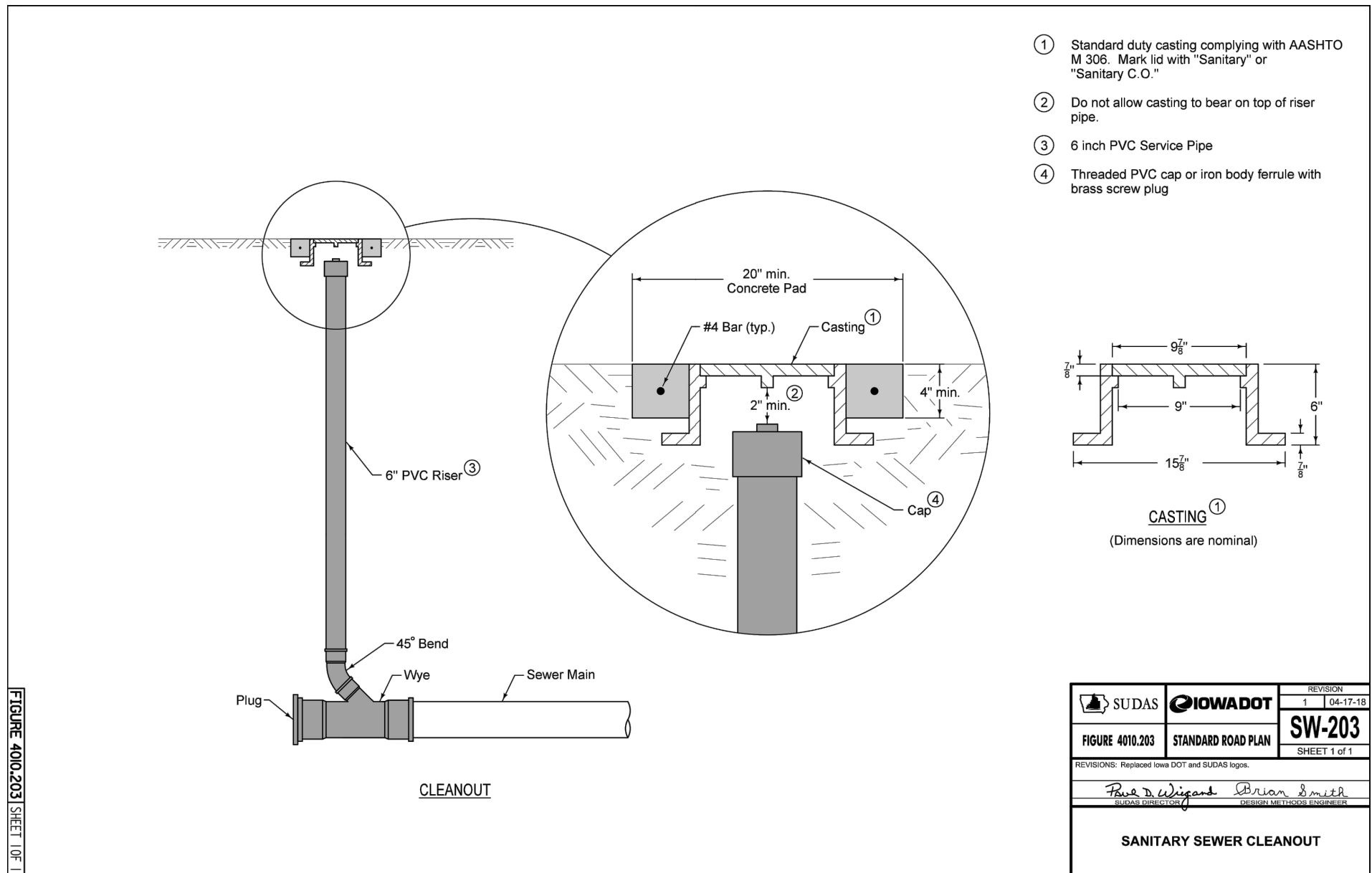


CHAMPION XPRESSCAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, WARREN COUNTY, IOWA

5
OF
9

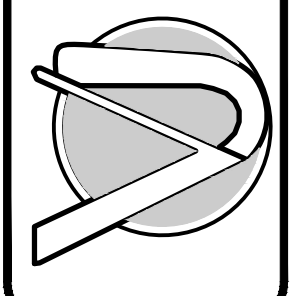
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Revisions

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CHAMPION XPRESSCAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, WARREN COUNTY, IOWA

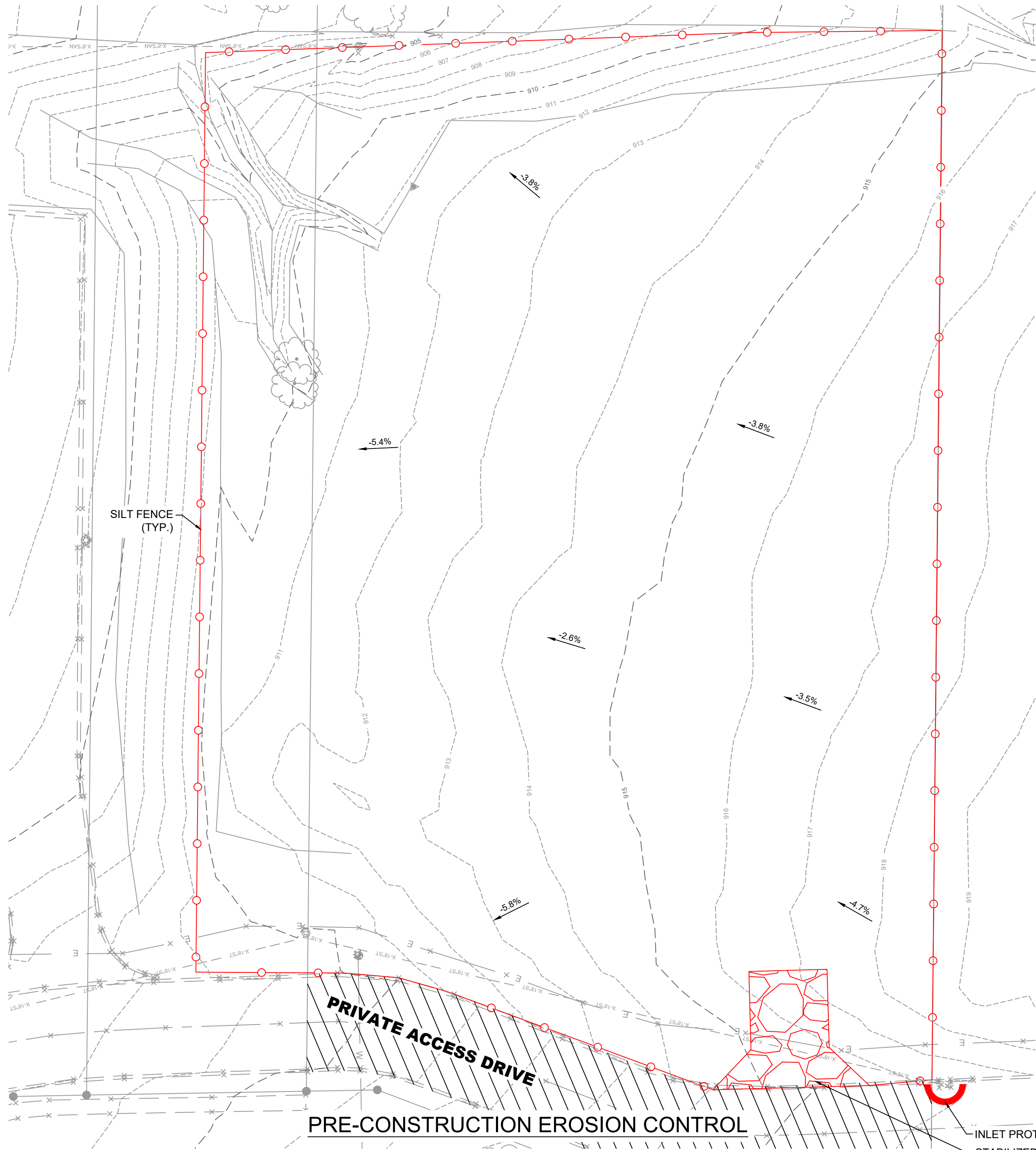
SUDAS DETAILS

6 OF 9

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228054



PRIVATE ACCESS DRIVE

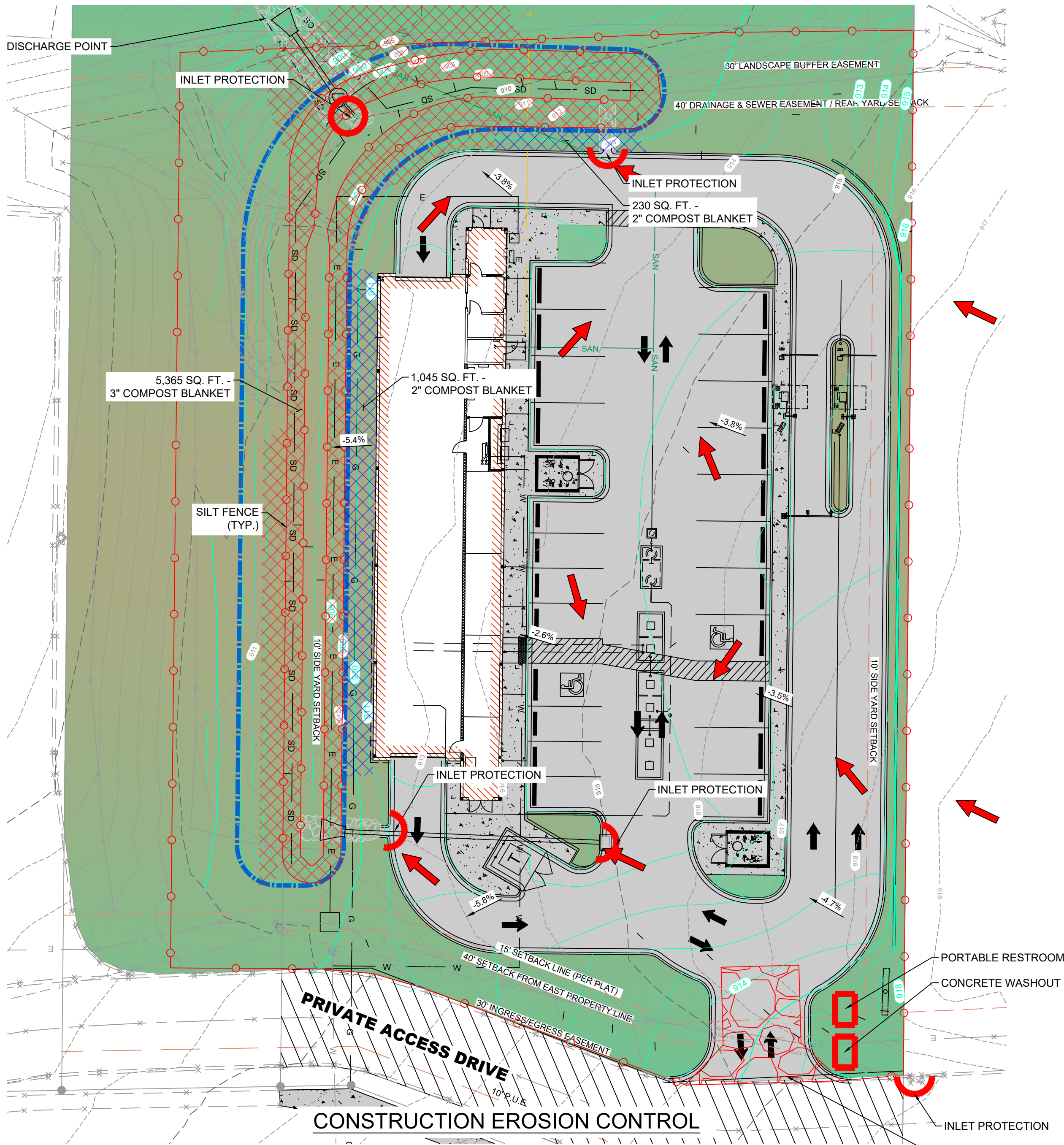
PRE-CONSTRUCTION EROSION CONTROL

EROSION CONTROL NOTES:

- THE SWPPP PLAN IS CONSIDERED TO BE A LIVE DOCUMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION ON THE PROJECT SITE, INSTALLING, AND UPDATING LOCATION ON THIS PLAN OF THE THE FOLLOWING ITEMS:
 - SPILL KIT
 - STABILIZED CONSTRUCTION ENTRANCE
 - CONSTRUCTION MATERIALS AND EQUIPMENT STORAGE AREA
 - SOIL AND TOPSOIL STOCKPILE AREA
 - PORTABLE TOILETS- SHALL BE STAKED DOWN
 - WASTE DISPOSAL AREA
 - CONCRETE WASHOUT AREA
- EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED, MAINTAINED, AND REMOVED IN ACCORDANCE WITH SUDAS SECTION 9040 AND THE FOLLOWING FIGURES:
 - FILTER BERM AND FILTER SOCK: FIGURE 9040.102
 - WATTLE FIGURE 9040.105
 - SILT FENCE: FIGURE 9040.119 AND IDOT EC-201
 - STABILIZED CONSTRUCTION ENTRANCE: FIGURE 9040.120
 - INTAKE PROTECTION: IDOT STANDARD ROAD PLAN EC-204
- PRE-CONSTRUCTION STAGE SWPPP MANAGEMENT CONTROLS SHALL REMAIN THROUGH PROJECT COMPLETION.
- IN THE EVENT OF AN INFILTRATION BASIN ON SITE, THE BASIN SHALL NOT BE USED FOR SEDIMENTATION PURPOSES DURING CONSTRUCTION.
- REFER TO GRADING PLAN FOR PERMANENT DRAINAGE FEATURES ON SITE.
- ALL SLOPES 4:1 AND STEEPER ARE REQUIRED TO USE SEED MATTING OR OTHER APPROVED METHODS (REFER TO SUDAS SECTION 9040 FOR THE APPROPRIATE APPLICATION).
- EMPLOYEE PARKING AND CONSTRUCTION STAGING AREAS SHALL BE STABILIZED DURING CONSTRUCTION (ROCK OR OTHER OWNER APPROVED METHOD).
- SITE STABILIZATION: DISTURBED AREAS THAT HAVE CEASED TEMPORARILY OR PERMANENTLY (WHERE WORK WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS) SHALL BE STABILIZED IMMEDIATELY. ONCE WORK IS COMPLETED THE AREA SHALL RECEIVE FINAL STABILIZATION.
- CONCRETE WASHOUT AND OTHER NON-STORM RELATED WASTE WATER SHALL BE COLLECTED AND DISPOSED OF PROPERLY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EXCESS MATERIALS FROM THE SITE AND DISPOSING OF THEM IN AN APPROVED MANNER AT THEIR EXPENSE.
- ANY WASTE DISPOSAL AREAS ON SITE SHALL BE COVERED.

LEGEND

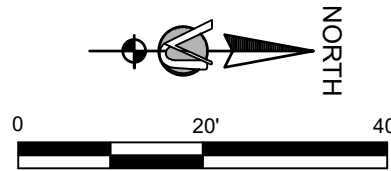
- PCC PAVEMENT
- PCC SIDEWALK
- SEED AND MULCH
- INLET PROTECTION (FILTER SOCK, TYP.)
- SILT FENCE
- COMPOST BLANKET
- STABILIZED CONSTRUCTION ENTRANCE
- DRAINAGE PATTERN



PRIVATE ACCESS DRIVE

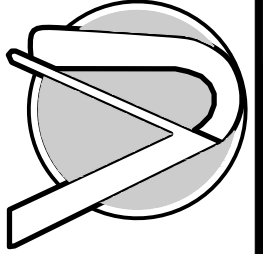
CONSTRUCTION EROSION CONTROL

EROSION CONTROL QUANTITY TABLE			
QTY	UNIT	BID ITEM	NOTES
1,275	SF	COMPOST BLANKET, 2"	REFER TO SUDAS SECTION 9040, 1.08, B FOR MEASUREMENT AND PAYMENT.
5365	SF	COMPOST BLANKET, 3"	REFER TO SUDAS SECTION 9040, 1.08, B FOR MEASUREMENT AND PAYMENT.
72	LF	FILTER SOCK, 6" (SIZE)	REFER TO SUDAS SECTION 9040, 1.08, C FOR MEASUREMENT AND PAYMENT. REFER TO SUDAS DESIGN MANUAL 7E-20 FOR INLET PROTECTION LAYOUT AND DESIGN CONSIDERATIONS.
1960	LF	SILT FENCE	REFER TO SUDAS SECTION 9040, 1.08, N, 1 FOR MEASUREMENT AND PAYEMTN.
15	SY	STABILIZED CONSTRUCTION ENTRANCE	REFER TO SUDAS SECTION 9040, 1.08, P, 1 FOR MEASUREMENT AND PAYMENT.
0.73	AC	CONVENTIONAL SEEDING, SEEDING, FERTILIZING, AND MULCHING	REFER TO SUDAS SECTION 9010, 1.08, A FOR MEASUREMENT AND PAYMENT. REFER TO SUDAS DESIGN MANUAL 7E-24 FOR SEED MIXTURES AND ADDITIONAL DESIGN CONSIDERATIONS.
057	AC	TEMPORARY SEEDING	REFER TO SUDAS SECTION 9040, 1.08, A FOR MEASUREMENT AND PAYMENT. REFER TO SUDAS DESIGN MANUAL 7E-22 FOR SEED MIXTURES AND ADDITIONAL DESIGN CONSIDERATIONS.



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CHAMPION XPRESSCAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, WARREN COUNTY, IOWA

SWPPP PLAN

7 OF 9
Scale

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GENERAL SWPPP NOTES:

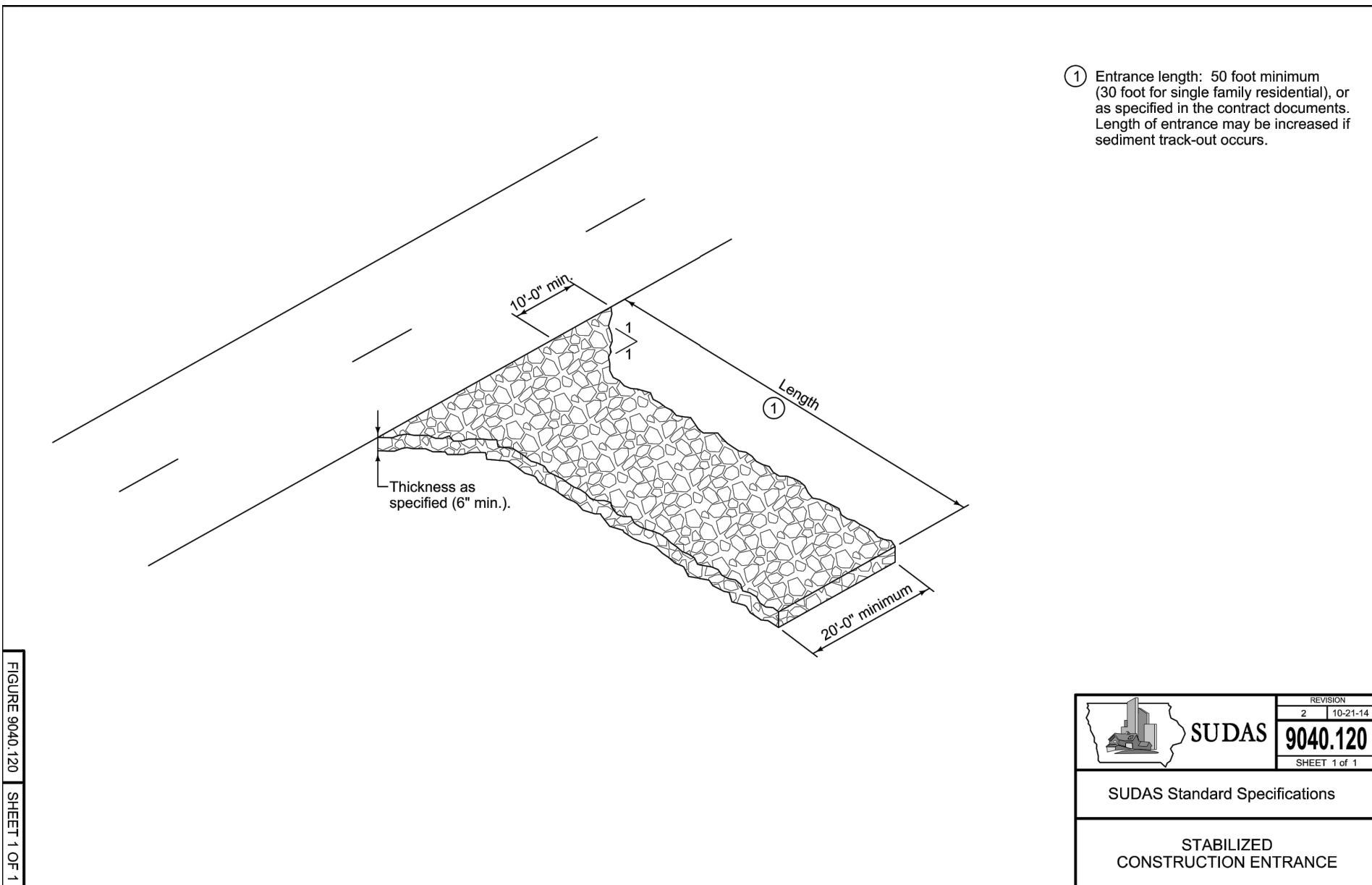
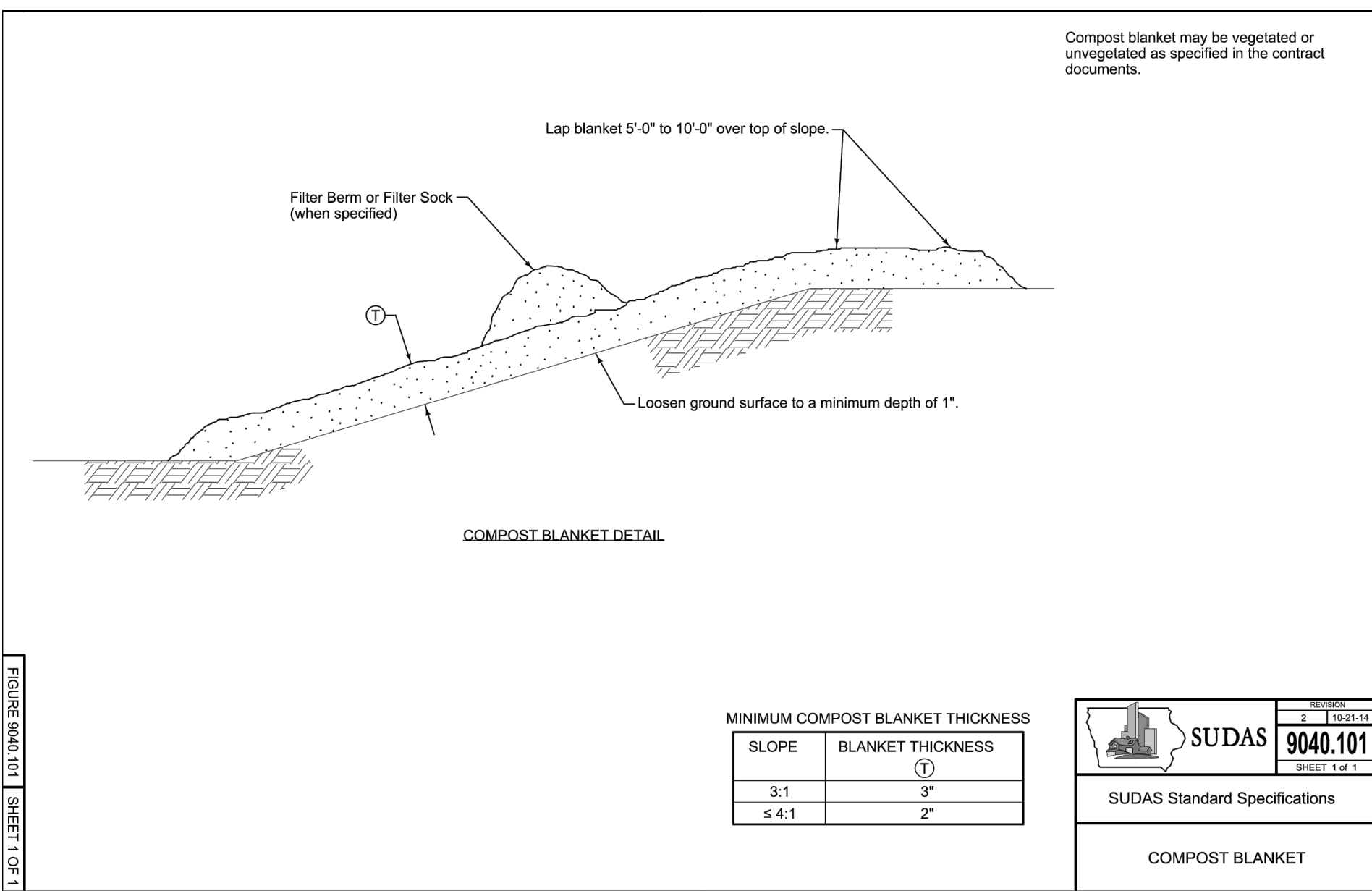
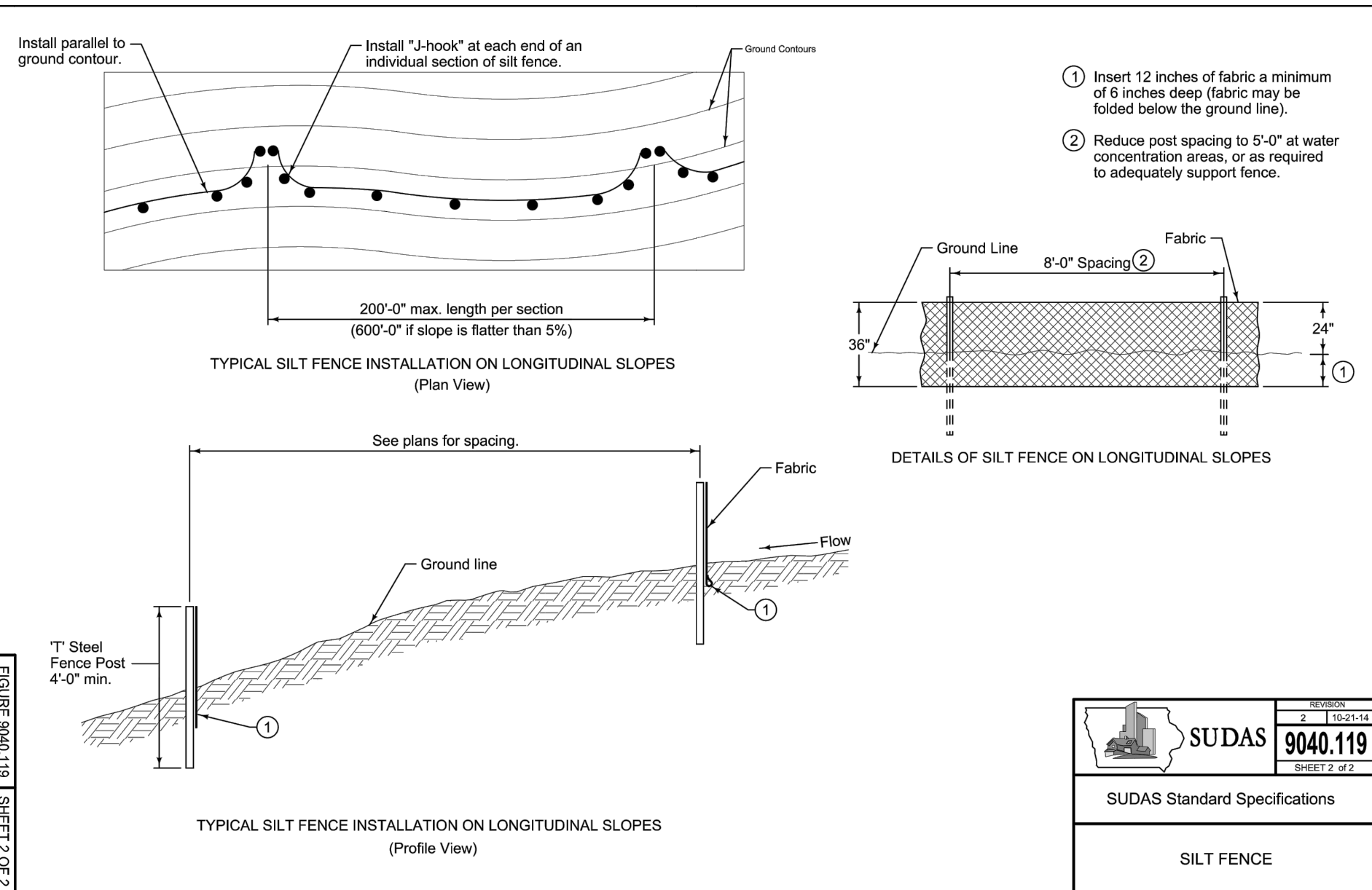
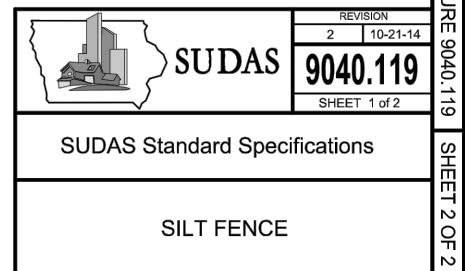
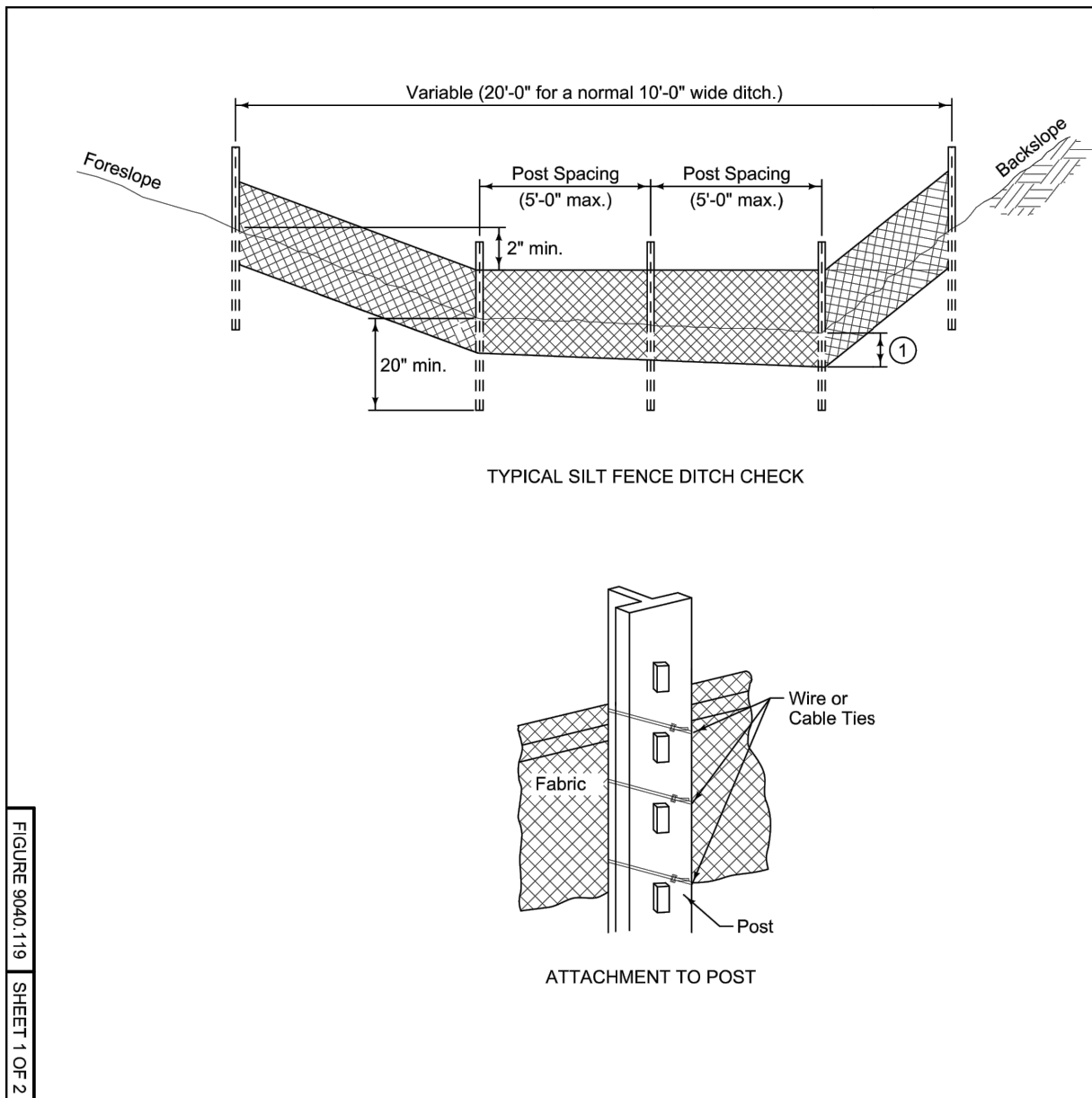
- 1.) EROSION AND SEDIMENT CONTROL PRACTICES SHALL CONFORM TO THE STANDARDS SET FORTH BY LOCAL, STATE, AND FEDERAL AUTHORITIES.
- 2.) THE SOIL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS OF ANY 0.25 INCH (OR GREATER) RAIN EVENT. A WRITTEN LOG OF THESE INSPECTIONS AND IMPROVEMENTS TO SITE CONTROLS SHALL BE KEPT ON-SITE. THESE LOGS SHALL INCLUDE THE DATE OF INSPECTION, NAME OF INSPECTOR, OBSERVED WEATHER CONDITIONS, CORRECTIVE ACTIONS TAKE TO CORRECT EXISTING PROBLEMS AND THE DATE THAT THE ACTIONS TOOK PLACE.
- 3.) TEMPORARY SOIL STABILIZATION SHALL OCCUR WITHIN 7 DAYS OF ROUGH GRADING IF THE AREA IS TO REMAIN IDLE LONGER THAT 14 DAYS. ANY DISTURBED AREA THAT WILL NOT BE WORKED ON WITHIN THE NEXT 14 DAYS MUST BE SEEDED AND MULCHED.
- 4.) SITE CLEANUP WILL BE DONE IN A MANNER THAT ENSURES THAT EROSION CONTROL MEASURED ARE NOT DISTURBED.
- 5.) CONSTRUCTION ACTIVITIES SHALL BE SCHEDULED TO REDUCE THE AMOUNT OF DISTURBED AREA AT ANY POINT IN TIME. OPERATIONS SHALL BE SCHEDULED AND PERFORMED ENSURING THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS. OPERATIONS SHALL BE SCHEDULED AND PERFORMED TO ENSURE TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS. CONTRACTOR SHALL REDUCE EFFECTS OF STORM WATER BY USING BEST MANAGEMENT PRACTICES LAID OUT IN SUDAS SECTION 9040.
- 6.) TRENCHES FOR UNDERGROUND UTILITY LINES AND PIPES SHALL BE TEMPORARILY STABILIZED WITHIN 7 DAYS IF THEY ARE TO REMAIN INACTIVE FOR 14 DAYS. TRENCH DE-WATERING DEVICES SHALL DISCHARGE IN A MANNER THAT FILTERS SOIL-LADEN WATER BEFORE DISCHARGING IT TO A RECEIVING DRAINAGE DITCH OR POND. IF SEEDING, MULCHING OR OTHER EROSION AND SEDIMENT CONTROL MEASURES WERE PREVIOUSLY INSTALLED; THESE PROTECTIVE MEASURES SHALL BE REINSTALLED. PIPELINES WITH JOINTS THAT ALLOW A MANUFACTURED LENGTH OF PIPE TO BE PLACED IN THE TRENCH WITH THE PIPE JOINT ASSEMBLED/MADE IN THE TRENCH REQUIRE AN OPEN PIPELINE TRENCH THAT IS ONLY SLIGHTLY LONGER THAN THE LENGTH OF THE PIPE BEING INSTALLED. THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY TIME SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF PIPELINE/UTILITY THAT CAN BE PLACED IN THE TRENCH AND BACKFILLED IN ONE WORKING DAY. NO MORE THAN 50 LINEAR FEET OF OPEN TRENCH SHOULD EXIST WHEN PIPELINE/UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORK DAY.
- 7.) WHEN USING CONSTRUCTION EQUIPMENT PRECAUTIONS SHALL BE TAKEN TO ENSURE THAT THEY ARE NOT PROMOTING SOIL EROSION.
- 8.) PREVENTATIVE MEASURES SHALL BE TAKEN TO STABILIZE AND PROTECT SOIL STOCKPILES TO MINIMIZE ANY SOIL LOSS.
- 9.) SILT FENCE SHALL BE A MINIMUM 2 FEET FROM THE PROPERTY LINE IN ARES WHERE WORK IS NEAR ADJACENT PROPERTIES.
- 10.) ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING. EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED, AT WHICH POINT TEMPORARY MEASURES SHALL BE REMOVED. PERMANENT VEGETATION IS A GROUND COVER THAT IS DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE AND MATURE ENOUGH TO SURVIVE WINTER WEATHER CONDITIONS.
- 11.) ALL STORM-WATER MANAGEMENT AND WATER QUALITY BASINS SHALL BE CLEARED OF CONSTRUCTION SEDIMENT UPON PROJECT COMPLETION.
- 12.) THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING A PERMANENT ON-SITE BENCHMARK PRIOR TO CLEARING, GRUBBING, AND/OR DEMOLITION ACTIVITIES.
- 13.) NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO THE STORM-WATER RUNOFF.
- 14.) SOLID, SANITARY, AND TOXIC WASH SHALL BE DISPOSED OF IN A PROPER MANNER IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. BURNING, BURYING, POURING ONTO GROUND, OR INTO STORM SEWER ARE ALL PROHIBITED ACTIONS. ITEMS INCLUDE, BUT ARE NOT LIMITED TO SOLVENTS, PAINTS, STAINS, GASOLINE, DIESEL FUEL, USED MOTOR OIL, HYDRAULIC FLUID, ANTIFREEZE, CEMENT CURING COMPOUNDS AND OTHER SUCH TOXIC OR HAZARDOUS WASTE.
- 15.) WASH OUT OF READY-MIX CONCRETE TRUCKS SHOULD OCCUR IN THE DESIGNATED AREA WHERE THE WASHING CAN COLLECT AND BE DISPOSED OF PROPERLY WHEN IT HARDENS.
- 16.) NO FUEL STORAGE SHALL BE PERMITTED ON-SITE.
- 17.) THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) AS REQUIRED BY THE IOWA DNR.

CONSTRUCTION SEQUENCE:

- 1.) INSTALL STABILIZED CONSTRUCTION ENTRANCE.
- 2.) INSTALL SILT FENCE AND EXISTING INTAKE PROTECTION.
- 3.) INITIAL SITE CLEARING, GRUBBING, AND DEMOLITION.
- 4.) STRIP AND STOCKPILE TOPSOIL.
- 5.) ROUGH GRADE SITE.
- 6.) INSTALL UNDERGROUND UTILITIES.
- 7.) CONSTRUCT BUILDING FOUNDATION.
- 8.) PLACE INTAKE PROTECTION ON ALL NEW STRUCTURES.
- 9.) INSTALL FRANCHISE UTILITIES (GAS, ELECTRIC, TELEPHONE, CABLE TV, ETC.)
- 10.) FINAL GRADE SITE.
- 11.) INSTALL PAVEMENT, CURB, AND OTHER HARDSCAPES.
- 12.) STABILIZE DITCHES, SWALES, COMMON AREAS, AND SLOPES.
- 13.) ESTABLISH PERMANENT VEGETATION IN ALL DISTURBED AREAS.
- 14.) REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.
- 15.) CLEAN OUT STORM SEWER SYSTEM AND STORM-WATER MANAGEMENT AREAS UPON COMPLETION OF CONSTRUCTION.

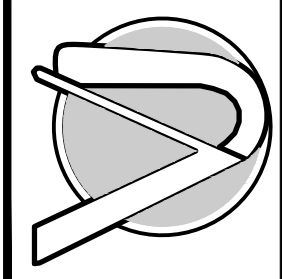
IOWA GENERAL PERMIT NO. 2 NOTES:

- 1.) SITE DESCRIPTION
A.) NATURE OF CONSTRUCTION ACTIVITIES - ROUGH GRADE SITE, INSTALL UNDERGROUND UTILITIES, CONSTRUCT BUILDING, INSTALL FRANCHISE UTILITIES (GAS, ELECTRIC, TELEPHONE, CABLE TV, ETC.), INSTALL PAVEMENT, CURB, AND OTHER HARDSCAPES. ESTABLISH PERMANENT VEGETATION IN ALL DISTURBED AREAS.
B).TOTAL DISTURBED AREA = 1.35 ACRES
C)EXISTING SITE RUNOFF CURVE NUMBER = 74
PROPOSED SITE RUNOFF CURVE NUMBER = 81
D) REFER TO DRAINAGE ARROWS SHOWN ON SHEET 7 OF 9.
E) SURFACE DRAINAGE DISCHARGES TO UNNAMED TRIBUTARY TO CAVITT CREEK.
- 2.) CERTIFICATION STATEMENT ALL CONTRACTORS AND SUBCONTRACTORS IDENTIFIED IN A STORM WATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH PART IV.D.7.A. OF THIS PERMIT SHALL SIGN A COPY OF THE FOLLOWING CERTIFICATION STATEMENT BEFORE CONDUCTING ANY PROFESSIONAL SERVICE AT THE SITE IDENTIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN: "I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE AS PART OF THIS CERTIFICATION. FURTHER, BY MY SIGNATURE, I UNDERSTAND THAT I AM BECOMING A CO-PERMITTEE, ALONG WITH THE OWNER(S) AND OTHER CONTRACTORS AND SUBCONTRACTORS SIGNING SUCH CERTIFICATIONS, TO THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2 FOR "STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES" AT THE IDENTIFIED SITE. AS A CO-PERMITTEE, I UNDERSTAND THAT I, AND MY COMPANY, ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE CODE OF IOWA, TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN DEVELOPED UNDER THIS NPDES PERMIT AND THE TERMS OF THIS NPDES PERMIT." THE CERTIFICATION MUST INCLUDE THE NAME AND TITLE OF THE PERSON PROVIDING THE SIGNATURE; THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE CONTRACTING FIRM; THE ADDRESS (OR OTHER IDENTIFYING DESCRIPTION) OF THE SITE; AND THE DATE THE CERTIFICATION IS MADE.
- 3.) CONTRACTORS A. THE STORM WATER POLLUTION PREVENTION PLAN MUST CLEARLY IDENTIFY FOR EACH MEASURE IN THE PLAN, THE CONTRACTOR(S) AND/OR SUBCONTRACTOR(S) THAT WILL IMPLEMENT THE MEASURE. ALL CONTRACTORS AND SUBCONTRACTORS IDENTIFIED IN THE PLAN MUST SIGN A COPY OF THE CERTIFICATION STATEMENT IN PART IV.D.7.B. OF THIS PERMIT IN ACCORDANCE WITH PART VI.G. OF THIS PERMIT. UPON SIGNING THE CERTIFICATION, THE CONTRACTOR OR SUB-CONTRACTOR IS A CO-PERMITTEE WITH THE OWNER AND OTHER CO-PERMITTEE CONTRACTORS. ALL CERTIFICATIONS MUST BE INCLUDED IN THE STORM WATER POLLUTION PREVENTION PLAN.



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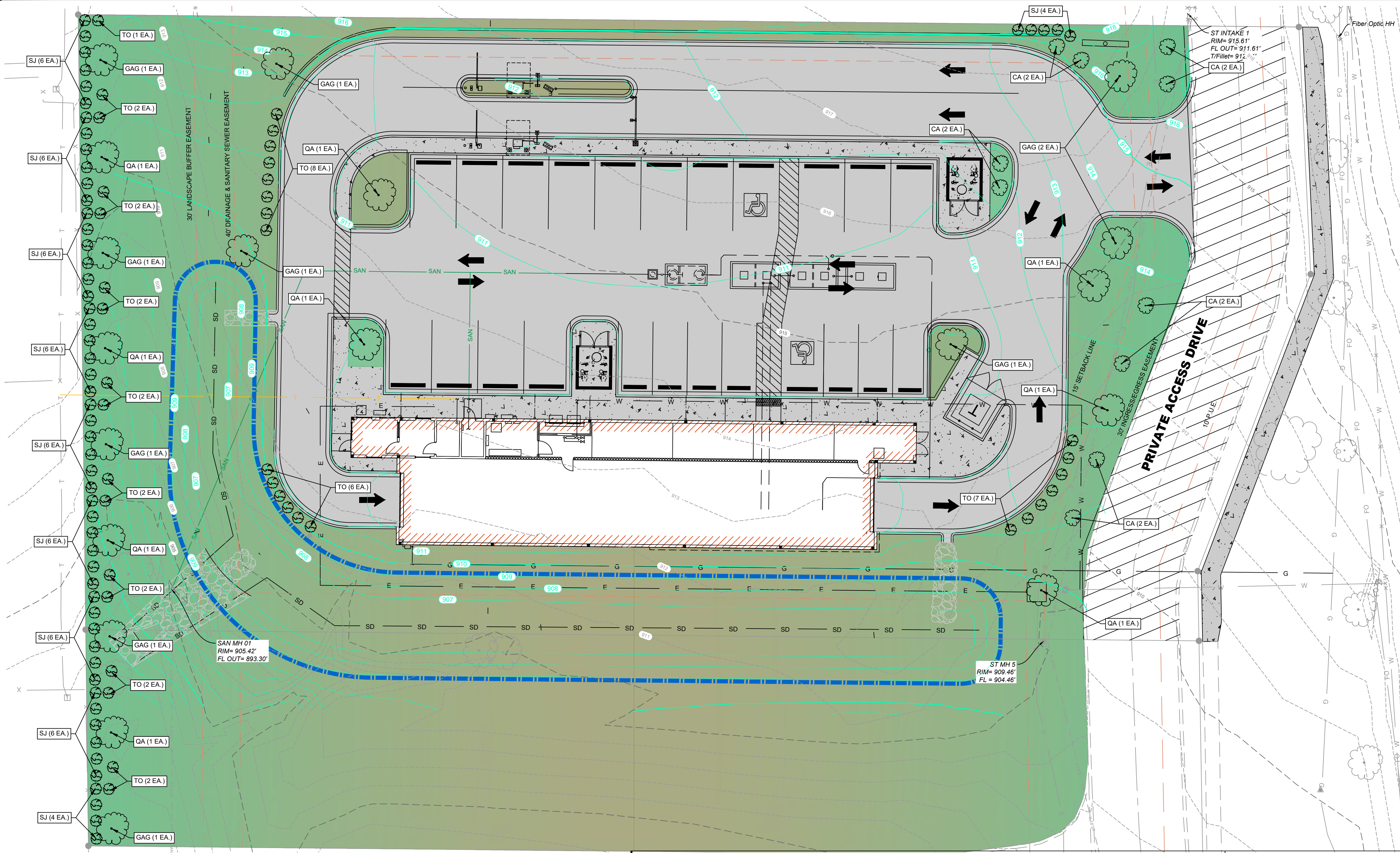


CHAMPION XPRESSCAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, WARREN COUNTY, IOWA

SWPPP NOTES

8	OF	9
Scale		
Drawn		
SJC		
Reviewed		
DMA		
Date		
2022.08.17		
Revisions		

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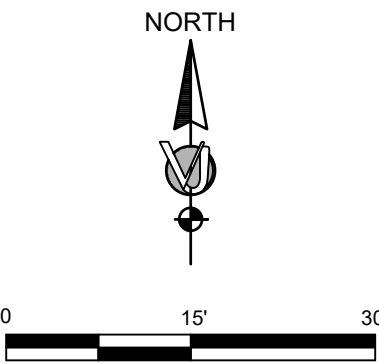


GENERAL LANDSCAPING NOTES:

- 1.) ADJUSTMENTS TO LOCATIONS OF PLANTINGS MAY BE NECESSARY DUE TO SITE CONDITIONS. ANY ADJUSTMENTS MUST BE APPROVED BY OWNER'S REPRESENTATIVE.
- 2.) COORDINATE PLANT INSTALLATION WITH IRRIGATION CONTRACTOR.
- 3.) DIAMETERS OF PLANTINGS SHOWN REFLECT PLANTS CLOSER TO MATURITY (RATHER THAN AT INITIAL PLANTING)
- 4.) THIS PLANT LIST IS INTENDED AS A GUIDE FOR THE LANDSCAPE CONTRACTOR (IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND LIST THE LARGER NUMBER SHALL BE APPLY)
- 5.) SHRUBS OCCURRING IN IN CONTINUOUS ROW SHALL HAVE UNIFORM HEIGHT AND SPREAD. AREA TO BE FILLED WITH QUANTITY OF SPECIFIED PLANTS, EVENLY SPACED.
- 6.) A MINIMUM 8" DEPTH OF NEW TOPSOIL SHALL BE PLACED IN ALL NEW BED AREAS PRIOR TO PLANT INSTALLATION. BACKFILL ALL SHRUBS AND TREES WITH BACKFILL MIX OF ONE PART COMPOST TO THREE PARTS TOPSOIL.
- 7.) MULCH TRESS AND SHRUBS WITH A MINIMUM DEPTH OF 4" OF SHREDDED HARDWOOD MULCH. MULCH SHALL EXTEND IN A CONTINUOUS LAYER WITHIN PLANTING BEDS.
- 8.) ALL BED EDGES SHALL BE SPADE-CUT AND CLOSELY ALIGNED WITH EDGES AS SHOWN ON DRAWING. KEEP MULCH A MINIMUM OF 1/2 INCH BELOW ADJACENT PAVED SURFACES.
- 9.) THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL NEW PLANTS, LAWN AREAS, AND PLANT BEDS FOR A MINIMUM OF 30 DAY S AFTER ACCEPTANCE OF THE WORK BY PROJECT ARCHITECTS REPRESENTATIVE. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO REGULAR WATERING, WEEDING, AND MOWING.
- 10.) THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE-YEAR FROM DATE OF ACCEPTANCE. PRIOR TO END OF WARRANTY PERIOD CONTRACTOR SHALL REPLACE ALL TREES, SHRUBS OR PLANTINGS NOT ALIVE OR IN A HEALTHY GROWING CONDITION.
- 11.) SEED OR SOD ALL LAWN DISTURBED AREAS AS NOTED ON CIVIL DRAWINGS; INCLUDING OUT TO PAVEMENT EDGES. REFER TO CIVIL DRAWINGS AND VERIFY EXTENT WITH PROJECT ARCHITECTS REPRESENTATIVE.

DESIGN-BUILD IRRIGATION REQUIREMENTS:

- 1.) THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, FURNISHING, AND INSTALLATION OF ALL UNDERGROUND IRRIGATION SYSTEM COMPONENTS INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES FOR A COMPLETE AND OPERABLE SYSTEM.
- 2.) SHRUB BEDS AND LAWN AREAS SHALL BE ON SEPARATE ZONES PROVIDING A MINIMUM OF 95% COVERAGE. CONTRACTOR TO VERIFY EXTENT OF IRRIGATION WITH PROJECT MANAGER. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.
- 2.) THE IRRIGATION CONTRACTOR WILL BE RESPONSIBLE FOR THE EXCAVATION AND BACK FILL FOR THE SYSTEM INSTALLATION.
- 3.) IRRIGATION CONTRACTOR SHALL VERIFY CONTROLLER LOCATIONS WITH PROJECT MANAGER.
- 4.) THE IRRIGATION CONTRACTOR SHALL FURNISH AN AS-BUILT DRAWING TO THE OWNER UPON COMPLETION OF PROJECT FOR ACCEPTANCE OF WORK.

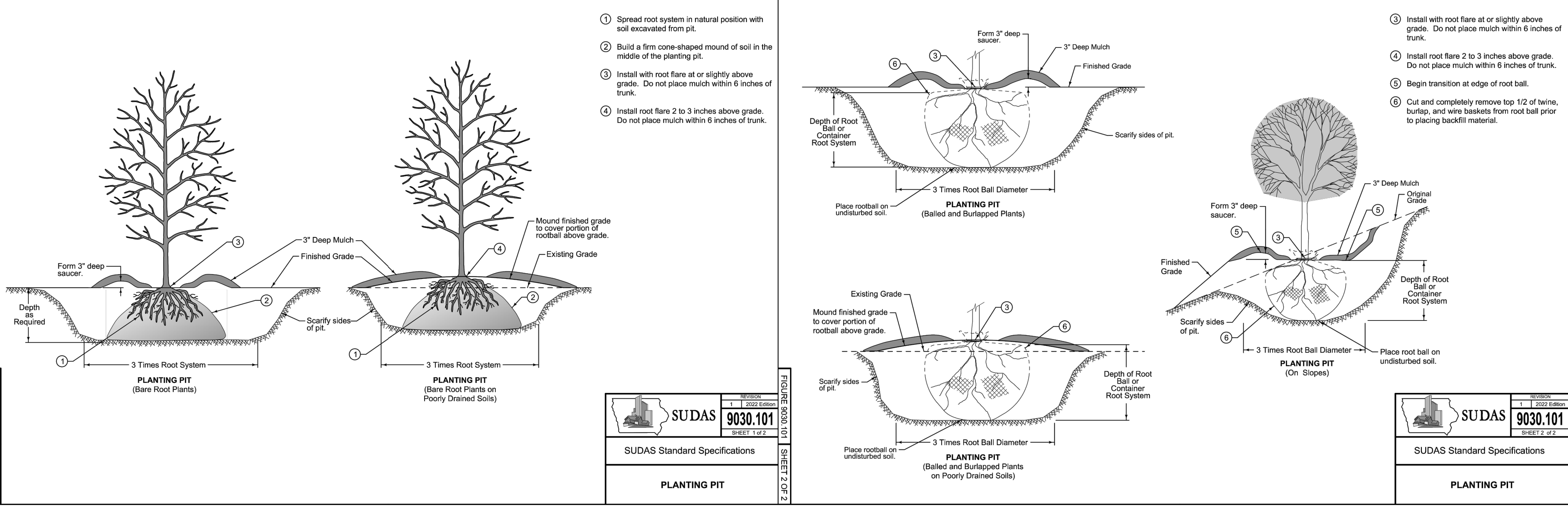


LANDSCAPING LEGEND

- PROPOSED SHADE/ORNAMENTAL TREE
- PROPOSED EVERGREEN TREE OR SHRUB

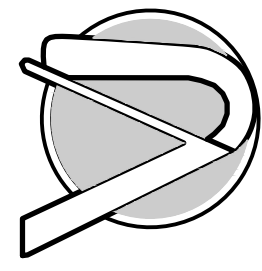
TABLE 2: PLANTING SCHEDULE

QTY	ID	DESCRIPTION	SIZE	ROOT	SPACING	NOTES
SHRUBS						
56	SJ	Juniper Sea Green JUNIPERUS CHINENSIS	5 GAL	CONT	SEE PLAN	36" MIN. HEIGHT. NURSERY MATCHED QUALITY SPECIMEN.
EVERGREEN TREES						
38	TO	Arborvitae (White Cedar) THUJA OCCIDENTALIS	6' Height	BB	SEE PLAN	NURSERY MATCHED, QUALITY SPECIMEN
MIDSTORY STREET TREES						
9	QA	Oak, White QUERCUS ALBA	1.5" CAL	BB	SEE PLAN	50"-80" MATURE HEIGHT. NURSERY MATCHED, QUALITY SPECIMEN
10	GAG	Ginko, Autumn Gold	1.5" CAL	BB	SEE PLAN	50' MATURE HEIGHT. NURSERY MATCHED, QUALITY SPECIMEN
ORNAMENTAL TREES						
10	CA	Pagoda Dogwood, Cornus Alternifolia	1.5" CAL	BB	SEE PLAN	NURSERY MATCHED, QUALITY SPECIMEN.



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Cedar Falls, Iowa – 319-266-5829



CHAMPION XPRESSCAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, WARREN COUNTY, IOWA

SITE LANDSCAPE PLAN

9	OF	9
Scale 1"=15'		
Drawn SJC		
Reviewed DMA		
Date 2022.08.17		
Revisions		

228054

STORMWATER MANAGEMENT PLAN
“CHAMPION XPRESS” CARWASH
INDIANOLA, IA

July 22, 2022

Prepared For:

7B Building and Development / VIA Real Estate

13105 Dover Avenue

Lubbock, Texas 79424

Prepared by:



Engineering – Surveying

1501 Technology Parkway, Suite 100

Cedar Falls, Iowa 50613

Phone 319-266-5829

Fax 319-266-5160

Project Number: 22-8054



Table of Contents

List of Appendices	1
1.0 Introduction.....	2
2.0 Existing Conditions	2
3.0 Proposed Development	2
4.0 Jurisdictional Requirements	3
5.0 Stormwater Design Approach.....	3
6.0 Calculations and Data.....	4
7.0 Conclusion	5

List of Appendices

Appendix A – Drainage Exhibits

Appendix B – Pipe Flow Calcs/Intake Calcs

Appendix C – RIP RAP Calcs

Appendix D – Soils Information

Appendix E – Hydrocad reports



1.0 Introduction

The following is in reference to the Stormwater Management Plan for the proposed construction of the “Champion Xpress” car wash Project in Indianola, IA. The project is located at 1807 North Jefferson Way Indianola IA. The project consists of construction of a new car wash and parking facilities as well as practices for stormwater management. The property area is 1.51 acres of which 1.06 will be disturbed. The remaining area is a private street (North Jefferson Way) and will not be disturbed.

2.0 Existing Conditions

Existing site conditions include 46,440 sf of lawn/grassed area or 0% impervious. The proposed condition increases the amount of impervious from 0% to 58% of the site with 26,879 sf of impervious and 19,561 sf of lawn/grassed areas. The site has an existing SCS curve number of 74. There are 2 trees which will be removed for construction of the new car wash/proposed basin and surrounding access drive on the southern edge of the property. These trees will be replaced as per the landscaping plan included with the civil construction plans. The sites allowable runoff rate is determined using the predeveloped 5 year runoff rate for the site area as well as the 100 year developed rate for the offsite pass-through discharge. The predeveloped on site Q5 is 2.01 cfs and the Q100 for the offsite pass-through runoff is 4.27 cfs.

3.0 Proposed Development

To provide the necessary stormwater detention and water quality volume, a dry detention basin will provide the necessary storage. Basin 1P is located on the south and west side of the proposed building and pavement and will catch all of the new impervious runoff. Basin 1P will control the release rate of the water quality volume as determined by the 24 hr draw-down time for the required volume. Runoff will be routed to basin 1P via subcatchments 1.1S (CN 92), 1.2S (CN 95), and 1.3S (CN 77) from surface and roof runoff which will be collected via a grate intake (type SW-501) as well as a curb drops as shown on the site plan (sheet 3/9). Off-site pass through drainage will also be routed to this basin from upstream subcatchment OS (CN 71).

The predeveloped on site Q5 is 2.01 cfs and the Q100 for the offsite pass-through runoff is 4.27 cfs for a total design runoff of 6.28 cfs. However, there is a small amount of area that cannot be captured and treated. This area yields a 100 yr runoff of 0.61 cfs which will be deducted from the allowable developed site discharge. In all, this gives an allowable developed site discharge rate of 5.67 cfs.

Basin 1P provides 10,074 cf of storage at an elevation of 908.75 as well as 4,175 cf of Water Quality Volume at 907.67’.

The designed release rate for the developed site as well as the pass-through discharge from the north totals 5.45 cfs, below the allowable 5.67 cfs.

See Appendix ‘A’ for the Existing Drainage Exhibit and soils information.



4.0 Jurisdictional Requirements

The project will be required to comply with the Iowa Stormwater Management Manual, the City of Indianola Stormwater Regulations and the Iowa NPDES Construction General Permit #2 which has the following requirements:

- Implement BMP's to control sedimentation during construction, i.e. silt fence, sediment basins, temporary stabilization, etc.
- Develop a Storm Water Pollution Prevention Plan (SWPPP).
- Submittal of a Notice of Intent
- Post Construction water quality volume – retain the water quality volume onsite, released over 24 hours. The water quality volume is defined as 1.25 inches of runoff from new impervious surfaces that replace existing vegetated areas.

5.0 Stormwater Design Approach

Design Assumptions

- Existing soils identified as lean clays, and sandy lean clays with underlying sand are HSG type C
- SCS curve number for undeveloped grassed/meadow areas for soil type C is 74
- SCS curve number for roofs/paved areas for type C soil is 98
- SCS curve number for developed grassed areas for soil type C is 74
- Seasonal high groundwater elevation is well below the elevation of any stormwater management area onsite.

The proposed project will replace 26,569 sf of grassed meadow with impervious paving/building surface. A dry detention basin will provide storage for volume to be detained up to the 100 year rainfall event while being released at the 5 year undeveloped site release rate combined with the 100 yr offsite pass-through release rate. To accomplish this, two separate orifice plates will be installed in the inlet and outlet pipes of the release rate control structure (I-02). The low flow release rate will be controlled by an orifice plate in the inlet pipe to the structure. This orifice will control the water quality volume release rate (0.7 cfs). The structure will have a grated open top set at 907.67 providing 4,175 cf or Water Quality Volume. The outlet from the structure will have a second orifice plate to control the 5 year developed rate & 100yr pass-through off site release rate (< 5.67 cfs). An 11.5" orifice plate will be used to achieve this release rate. There will also be an emergency overflow with rip-rap protection for a plugged outlet scenario or a greater than 100 year rainfall event (see appendix C for calcs). The emergency overflow will be set at 908.75 and the top of the berm to the basin will be 909.25.

Ground cover around the basins will be a short/medium height lawn type grass. The proposed stormwater basins will be seeded and vegetation established before completion of the site construction.



6.0 Calculations and Data

SITE REQUIRED WATER QUALITY VOLUME			
I=	60.42%	IMPERVIOUS AREA (%)	
Rv = 0.05 + (0.009) (I%)			
Rv =	0.59		
A =	44,490	(SITE STORM MANAGEMENT AREA IN SQ FT)	
P =	1.25	(90% RAINFALL EVENT IN INCHES)	
WATER QUALITY VOL.		WQv =	[(Rv)(A)(P)] / 12
		WQv =	2,752 CUBIC FEET
WATER QUALITY OUTLET PIPE SIZING PROGRAM			
PROJECT :		INDIANOLA CHAMPION XPRESS	
TOTAL SITE		PREPARED BY :	
VJE#	22-8054	DATE :	PTA 6/24/2022
<i>1.25 IN. / 24 HR OUTLET PIPE SIZING</i>			
POND OVERFLOW ELEV		908.75	
OUTLET PIPE INV ELEV		906.5	
2C-12.C.2 METHOD 2			
h (POND DEPTH) =		2.25	FEET
h _{AVG} = h / 2			
h _{AVG} =		1.13	FEET
Q _{AVG} = WQv / (24 HR) (3600 S/HR) =		0.03	CFS
Q _{MAX} = 2 (Q _{AVG}) =		0.07	CFS
C =	0.6 (orifice coefficient)		
g =	32.2 (gravitational constant)		

While only 2,752 cf of storage is necessary for the developed site, 4,175 cf was provided due to minimum structure clearances.

Basin 1P Stage Storage



Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
906.50	2,604	0
906.60	2,769	269
906.70	2,933	554
906.80	3,098	855
906.90	3,263	1,173
907.00	3,428	1,508
907.10	3,592	1,859
907.20	3,757	2,226
907.30	3,922	2,610
907.40	4,086	3,011
907.50	4,251	3,428
907.60	4,421	3,861
907.70	4,592	4,312
907.80	4,762	4,779
907.90	4,933	5,264
908.00	5,103	5,766
908.10	5,273	6,285
908.20	5,444	6,821
908.30	5,614	7,374
908.40	5,785	7,944
908.50	5,955	8,531
908.60	6,130	9,135
908.70	6,306	9,757
908.80	6,481	10,396
908.90	6,656	11,053
909.00	6,832	11,727
909.10	7,007	12,419
909.20	7,182	13,129

7.0 Conclusion

Construction phase stormwater requirements of this project are met by obtaining the NPDES permit required by the Iowa DNR, which includes generating a SWPPP and implementing erosion control BMP's sufficient to satisfy the permit requirements. Post construction phase stormwater requirements are met by installing the onsite detention/water quality basins to the south/west of the paving and car wash facility.

Construction phase stormwater requirements of this project are met by obtaining the NPDES permit required by the Iowa DNR, which includes generating a SWPPP and implementing erosion control BMP's sufficient to satisfy the permit requirements. Post construction phase stormwater requirements are met by installing water quality volume and release rate control structures

**Professional Certification**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa and was prepared in accordance with the Iowa Stormwater Management Manual, Statewide Urban Design and Specifications Manual as well as the Indianola Code of Ordinances.

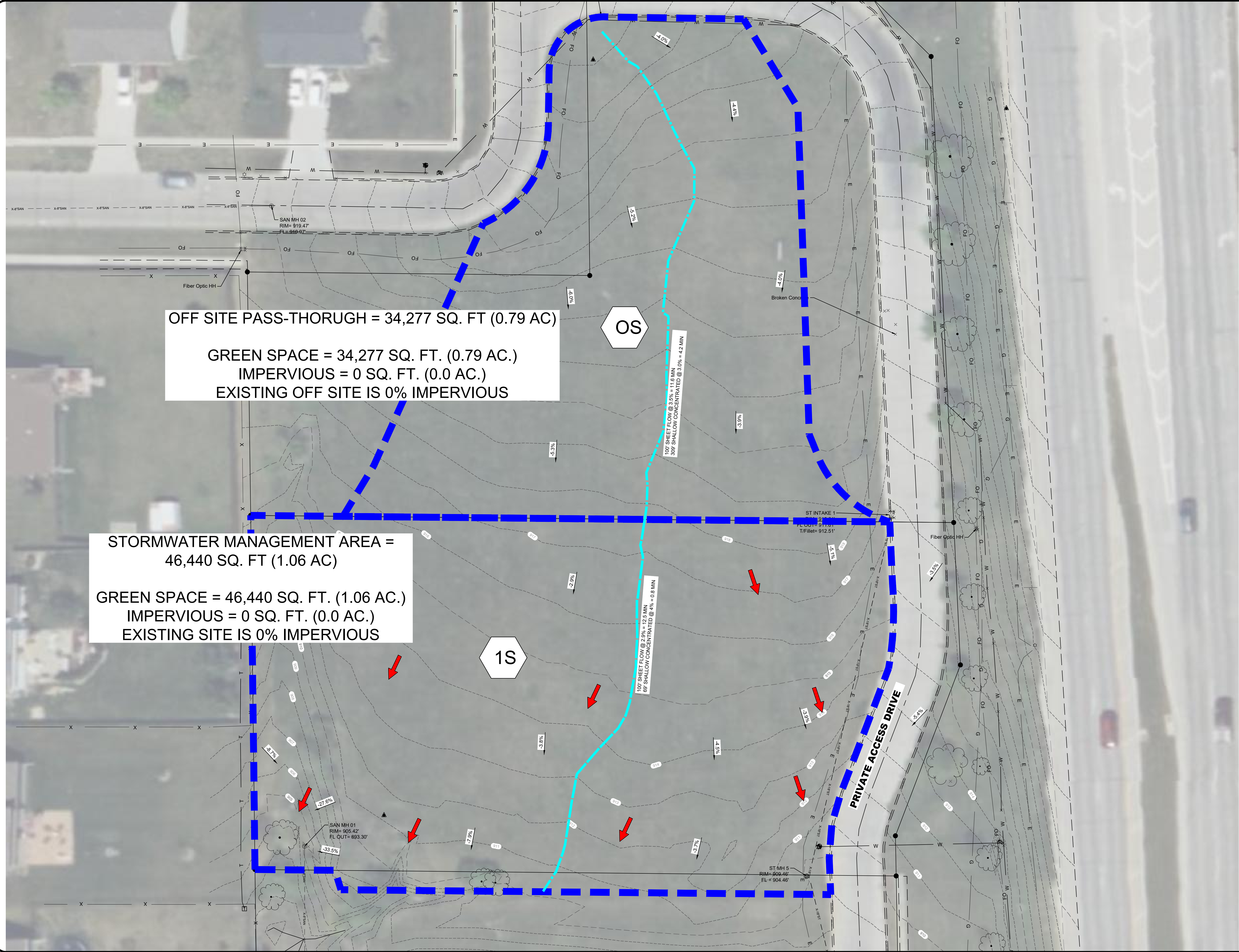
<u>Paul Arch</u>		08/17/2022	P26099
Name	Signature	Date	License #



Stormwater Report

Appendix A

Drainage Maps



OFF SITE PASS-THORUGH = 34,277 SQ. FT (0.79 AC)
GREEN SPACE = 34,277 SQ. FT. (0.79 AC.)
IMPERVIOUS = 0 SQ. FT. (0.0 AC.)
EXISTING OFF SITE IS 0% IMPERVIOUS

STORMWATER MANAGEMENT AREA =
46,440 SQ. FT (1.06 AC)
GREEN SPACE = 46,440 SQ. FT. (1.06 AC.)
IMPERVIOUS = 0 SQ. FT. (0.0 AC.)
EXISTING SITE IS 0% IMPERVIOUS

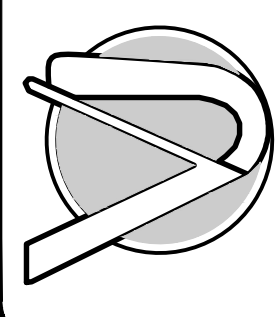
- LEGEND
- PROPERTY CORNER SET
 - PROPERTY CORNER FOUND
 - ▲ SECTION CORNER FOUND
 - 100.00 DIMENSION OF SURVEY
 - (100.00) DIMENSION OF RECORD
 - COMM- EXISTING COMMUNICATION
 - G - EXISTING GAS
 - ST - EXISTING STORM SEWER
 - SAN - EXISTING SANITARY SEWER
 - T - EXISTING TELEPHONE
 - C - EXISTING CABLE
 - W - EXISTING WATER
 - OHU - EXISTING OVERHEAD UTIL.
 - FO - EXISTING FIBER OPTIC
 - // EXISTING FENCE
 - EXISTING LIGHT POLE
 - EXISTING UTILITY POLE
 - EXISTING ELECTRICAL BOX
 - EXISTING MANHOLE
 - EXISTING FIRE HYDRANT
 - EXISTING WATER VALVE
 - EXISTING GAS VALVE
 - EXISTING TELEPHONE PED.
 - EXISTING TREE
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - ×000.00 PROPOSED GRADES
 - ×000.00 EXISTING GRADES
 - PROPOSED SILT FENCE
 - SUB-CATCHMENT BOUNDARY
 - TC FLOWPATH
 - DRAINAGE PATTERN

NORTH



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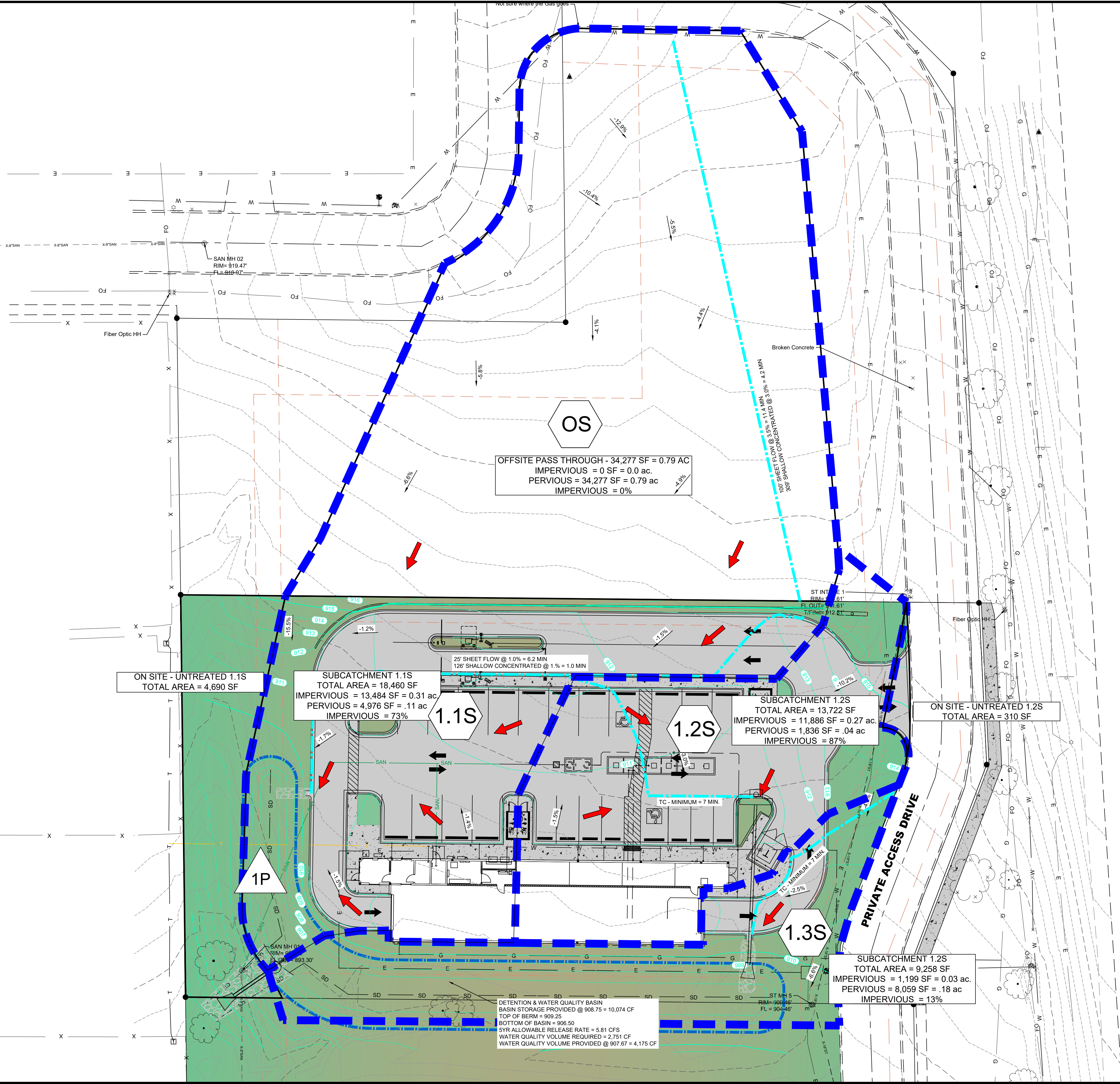
VJ Engineering
1501 Technology Parkway
Cedar Falls, Iowa - 319-266-5829



CHAMPION XPRESS CAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, WARREN COUNTY, IOWA
EXISTING CONDITION DRAINAGE MAP

1 OF 2
Scale
1" = 20'
Drawn
PTA
Reviewed
PTA
Date
2022.08.16
Revisions

228054
Page 73 of 271



ON SITE - UNTREATED 1.1S
TOTAL AREA = 4,690 SF

SUBCATCHMENT 1.1S
TOTAL AREA = 18,460 SF
IMPERVIOUS = 13,484 SF = 0.31 ac
PERVIOUS = 4,976 SF = .11 ac
IMPERVIOUS = 73%

SUBCATCHMENT 1.2S
TOTAL AREA = 13,722 SF
IMPERVIOUS = 11,886 SF = 0.27 ac
PERVIOUS = 1,836 SF = .04 ac
IMPERVIOUS = 87%

ON SITE - UNTREATED 1.2S
TOTAL AREA = 310 SF

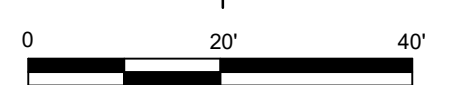
SUBCATCHMENT 1.2S
TOTAL AREA = 9,258 SF
IMPERVIOUS = 1,199 SF = 0.03 ac
PERVIOUS = 8,059 SF = .18 ac
IMPERVIOUS = 13%

OFFSITE PASS THROUGH - 34,277 SF = 0.79 AC
IMPERVIOUS = 0 SF = 0.0 ac
PERVIOUS = 34,277 SF = 0.79 ac
IMPERVIOUS = 0%

DETENTION & WATER QUALITY BASIN
BASIN STORAGE PROVIDED @ 908.75 = 10,074 CF
TOP OF BERM = 908.25
BOTTOM OF BASIN = 906.50
5YR ALLOWABLE RELEASE RATE = 5.81 CFS
WATER QUALITY VOLUME REQUIRED = 2,751 CF
WATER QUALITY VOLUME PROVIDED @ 907.67 = 4,175 CF

- LEGEND**
- PROPERTY CORNER SET
 - PROPERTY CORNER FOUND
 - ▲ SECTION CORNER FOUND
 - 100.00 DIMENSION OF SURVEY
 - (100.00) DIMENSION OF RECORD
 - COMM- EXISTING COMMUNICATION
 - G- EXISTING GAS
 - ST- EXISTING STORM SEWER
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 - OHU- EXISTING OVERHEAD UTIL.
 - FO- EXISTING FIBER OPTIC
 - /- EXISTING FENCE
 - EXISTING LIGHT POLE
 - EXISTING UTILITY POLE
 - EXISTING ELECTRICAL BOX
 - EXISTING MANHOLE
 - EXISTING FIRE HYDRANT
 - EXISTING WATER VALVE
 - EXISTING GAS VALVE
 - EXISTING TELEPHONE PED.
 - EXISTING TREE
 - 000- EXISTING CONTOURS
 - 000- PROPOSED CONTOURS
 - ×000.00 PROPOSED GRADES
 - ×000.00 EXISTING GRADES
 - PROPOSED SILT FENCE
 - SUB-CATCHMENT BOUNDARY
 - TC FLOWPATH
 - DRAINAGE PATTERN

NORTH



228054

VJ Engineering
1501 Technology Parkway
Cedar Falls, Iowa - 319-266-5829

CHAMPION XPRESS CAR WASH
1807 NORTH JEFFERSON WAY
INDIANOLA, IA

PROPOSED CONDITION DRAINAGE MAP

2 OF 2

Scale
1" = 15'

Drawn
PTA

Reviewed
PTA

Date
2022.08.17

Revisions

228054

Page 74 of 271



Stormwater Report

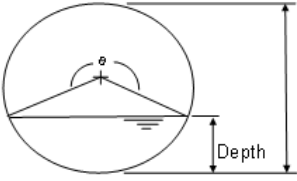
Appendix B

Pipe and Intake Information

Circular Pipe Flow Capacity

By: PTA
Date: 2022.06.24

Project Name **Indianola Champion Xpress Car Wash**
Project No. **22-8054**
Pipe No. **P-01 100 yr Q = 2.93 cfs**

Circular Pipe		15 inch Pipe at 0.75 % slope																	
Diameter = 1.25																			
Depth = 0.552	ft																		
Slope = 0.0075	ft/ft																		
n = 0.01																			
r = 0.63																			
theta = 3.376	radians or	193.4	degrees																
Area = 0.522	ft ²	Cross Sectional area of flow																	
Manning's Equation																			
W _p = 1.817	ft	$R_h = A / W_p$ $V = 1.486/n R^{2/3} S^{1/2}$ $Q = A V$																	
R _h = 0.287	ft																		
V = 5.603	fps																		
Q = 2.925	cfs																		
		1312.66 gpm	1.89 mgd																
<table style="width: 100%; border: none;"> <tr> <td style="width: 30%; padding: 5px;">Tw = 1.24</td> <td style="width: 10%;"></td> <td style="width: 30%; padding: 5px;">Top Width</td> <td style="width: 30%;"></td> </tr> <tr> <td style="padding: 5px;">dm = 0.42</td> <td></td> <td style="padding: 5px;">Hydraulic mean depth</td> <td></td> </tr> </table>				Tw = 1.24		Top Width		dm = 0.42		Hydraulic mean depth									
Tw = 1.24		Top Width																	
dm = 0.42		Hydraulic mean depth																	
<table style="width: 100%; border: none;"> <tr> <td style="width: 30%; padding: 5px;">F = 1.52</td> <td style="width: 10%;"></td> <td style="width: 30%; padding: 5px;">Froude Number</td> <td style="width: 30%;"></td> </tr> <tr> <td style="padding: 5px;">supercritical</td> <td></td> <td style="padding: 5px;">F > 1</td> <td style="padding: 5px;">supercritical flow</td> </tr> <tr> <td></td> <td></td> <td style="padding: 5px;">F = 1</td> <td style="padding: 5px;">critical flow</td> </tr> <tr> <td></td> <td></td> <td style="padding: 5px;">F < 1</td> <td style="padding: 5px;">sub-critical flow</td> </tr> </table>				F = 1.52		Froude Number		supercritical		F > 1	supercritical flow			F = 1	critical flow			F < 1	sub-critical flow
F = 1.52		Froude Number																	
supercritical		F > 1	supercritical flow																
		F = 1	critical flow																
		F < 1	sub-critical flow																

Nominal Sewer Size	Minimum Slope in Feet Per 100 Feet (m/100 m)
8 inch (200 mm)	0.40
10 inch (250 mm)	0.28
12 inch (300 mm)	0.22
14 inch (350 mm)	0.17
15 inch (375 mm)	0.15
16 inch (400 mm)	0.14
18 inch (450 mm)	0.12
21 inch (525 mm)	0.10
24 inch (600 mm)	0.08
27 inch (675 mm)	0.067
30 inch (750 mm)	0.058
33 inch (825 mm)	0.052
36 inch (900 mm)	0.046
39 inch (975 mm)	0.041
42 inch (1050 mm)	0.037

Type of Pipe	Manning's "n"
Vitrified clay pipe	0.013
Plastic pipe (smooth wall)	0.010
Concrete pipe	0.013
Corrugated plastic pipe	0.020
CMP (2-2/3" x 1/2" corrugations)	0.024
(spun asphalt lined)	0.015
CMP (3" x 1" corrugations)	0.027
Structural Plate	0.032



Stormwater Report

Appendix C

RIP RAP Calcs

FES 01 - 1.25 + 1.35 (FES 02 + 03
 < 4.25 cfs)
 use same

$Q_{100} = 4.25$ cfs $L = 6$

DESIGN OF OUTLET PROTECTION MINIMUM TAIL WATER CONDITION ($T_w < 0.5$ diameter)

Median Stone Diameter, d_{50} , represents the size at which 50% of the stones, by weight, are smaller than the specified diameter.

d = pipe diameter for pipes flowing full, or depth of flow for partially full pipes and box culverts.

v = velocity of flow for partially full pipes and box culverts.

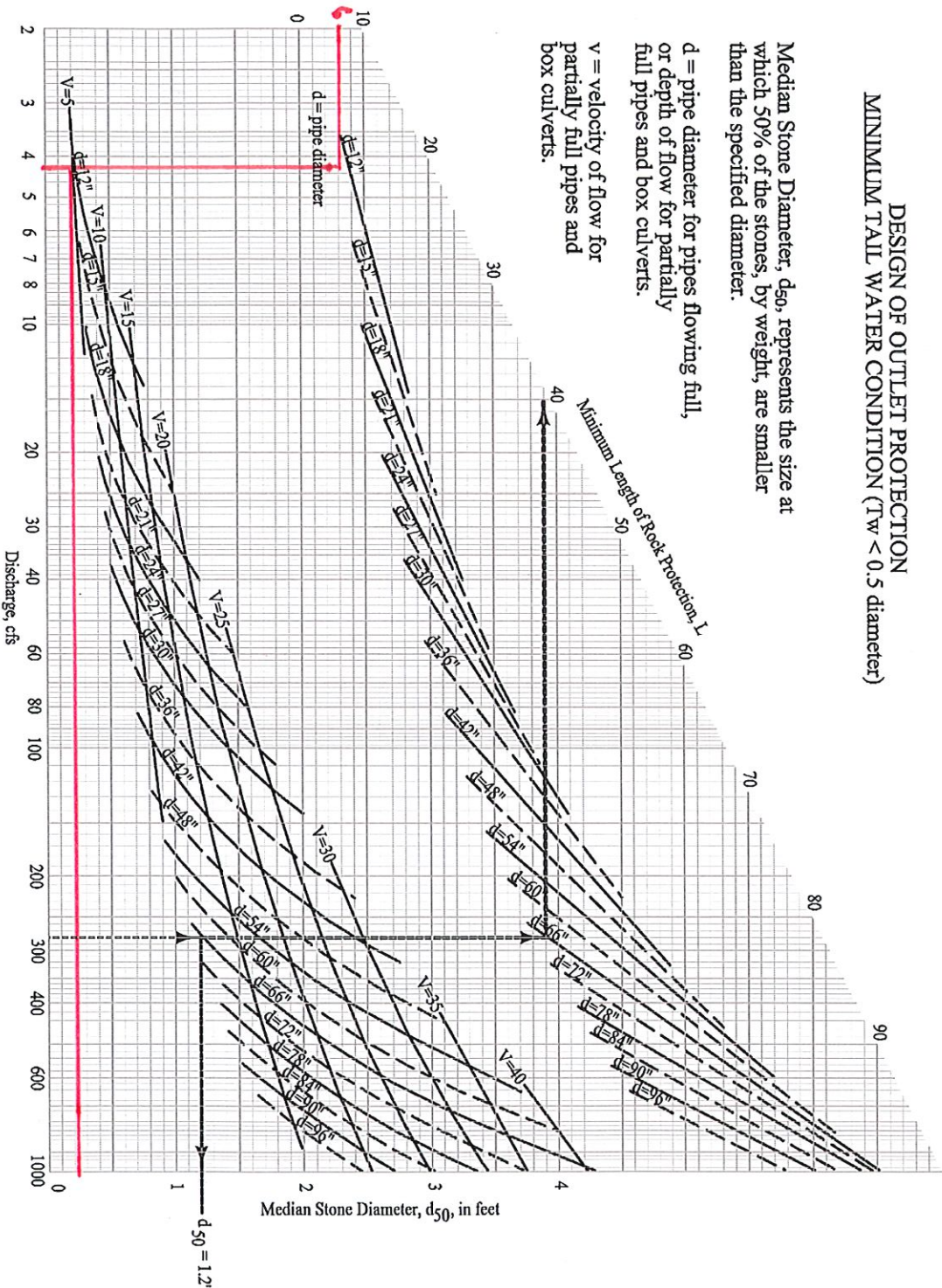


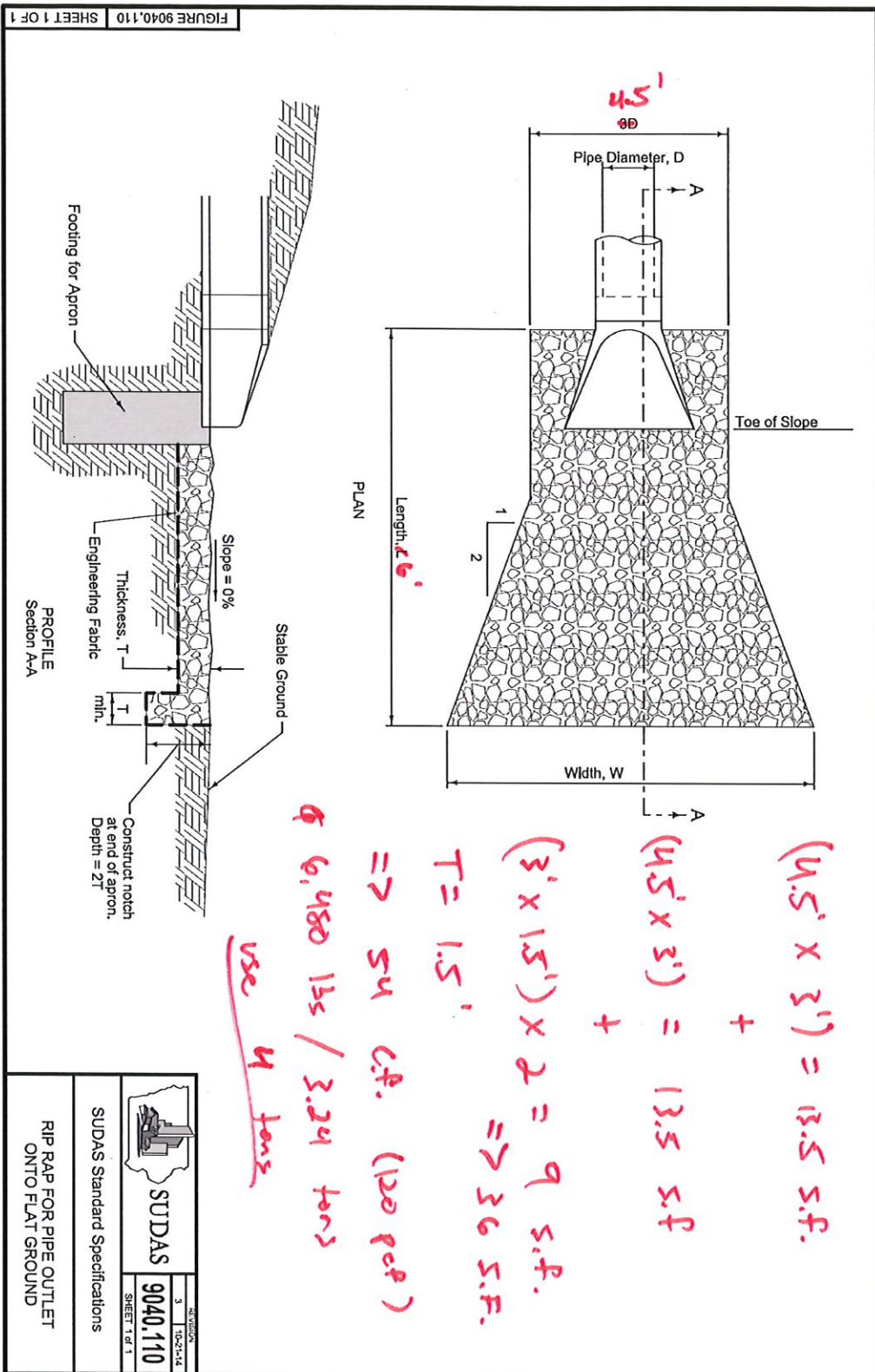
Figure 7E-10.03: Design of Outlet Protection, Minimum Tailwater Condition

Source: USDA NRCS, 2004

$L = 6'$

d_{50} - use 0.5'
 (erosion stone)
 (120 pcf - IRIOT)

Figure 7E-10.02: Rip Rap Apron for Pipe Outlet onto Flat Ground
(SUDAS Specifications Figure 9040.110)



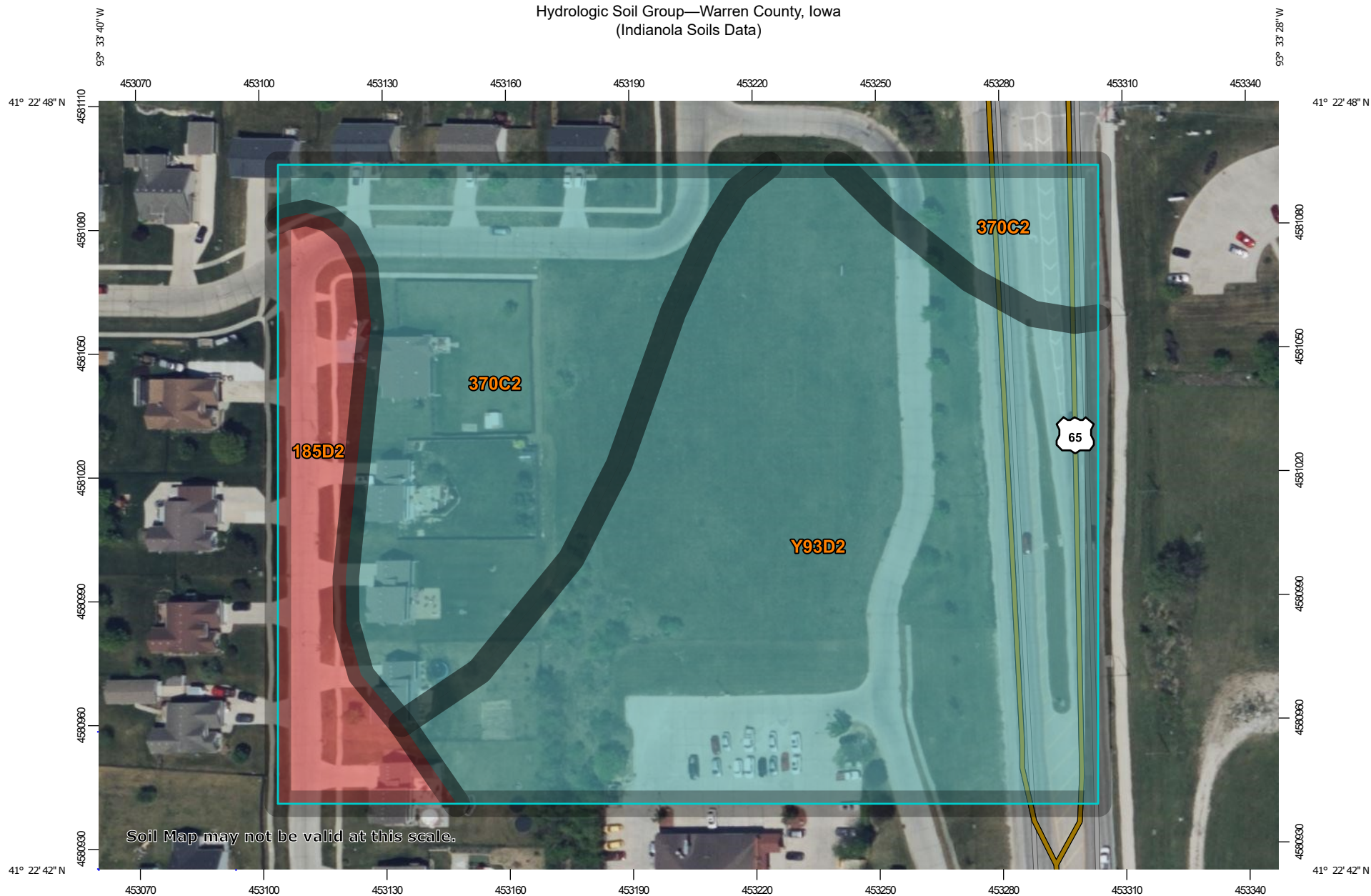


Stormwater Report

Appendix D

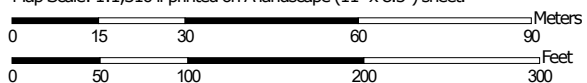
Soils Information

Hydrologic Soil Group—Warren County, Iowa (Indianola Soils Data)



Soil Map may not be valid at this scale.

Map Scale: 1:1,310 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Warren County, Iowa
 Survey Area Data: Version 26, Sep 15, 2021

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

Date(s) aerial images were photographed: May 7, 2021—May 26, 2021

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
185D2	Bauer silt loam, 9 to 14 percent slopes, moderately eroded	D	0.8	10.2%
370C2	Sharpsburg silty clay loam, 5 to 9 percent slopes, eroded	C	2.5	32.7%
Y93D2	Shelby-Adair clay loams, dissected till plain, 9 to 14 percent slopes, eroded	C	4.4	57.2%
Totals for Area of Interest			7.7	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

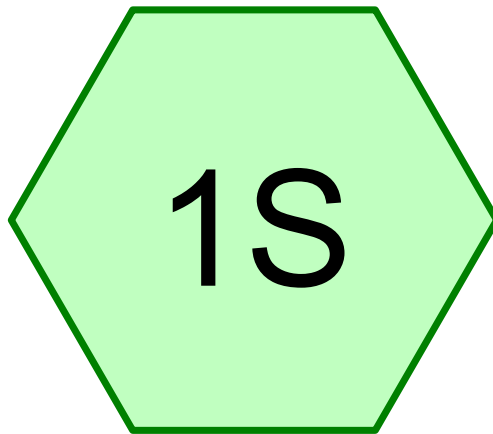
Tie-break Rule: Higher



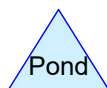
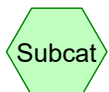
Stormwater Report

Appendix E

Existing and Proposed Hydorcad Models/Reports



1S



Routing Diagram for EX COND

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EX COND

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Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 1490 IA Warren

EX COND

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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.066	74	Pasture/grassland/range, Good, HSG C (1S)
1.066	74	TOTAL AREA

EX COND*MSE 24-hr 4 5-Year Rainfall=3.99"*

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Page 4

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

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

Subcatchment1S: 1S

Runoff Area=46,440 sf 0.00% Impervious Runoff Depth>1.49"

Flow Length=169' Tc=13.3 min CN=74 Runoff=2.01 cfs 0.132 af

Total Runoff Area = 1.066 ac Runoff Volume = 0.132 af Average Runoff Depth = 1.49"**100.00% Pervious = 1.066 ac 0.00% Impervious = 0.000 ac**

EX COND

Prepared by Microsoft

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MSE 24-hr 4 5-Year Rainfall=3.99"

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Page 5

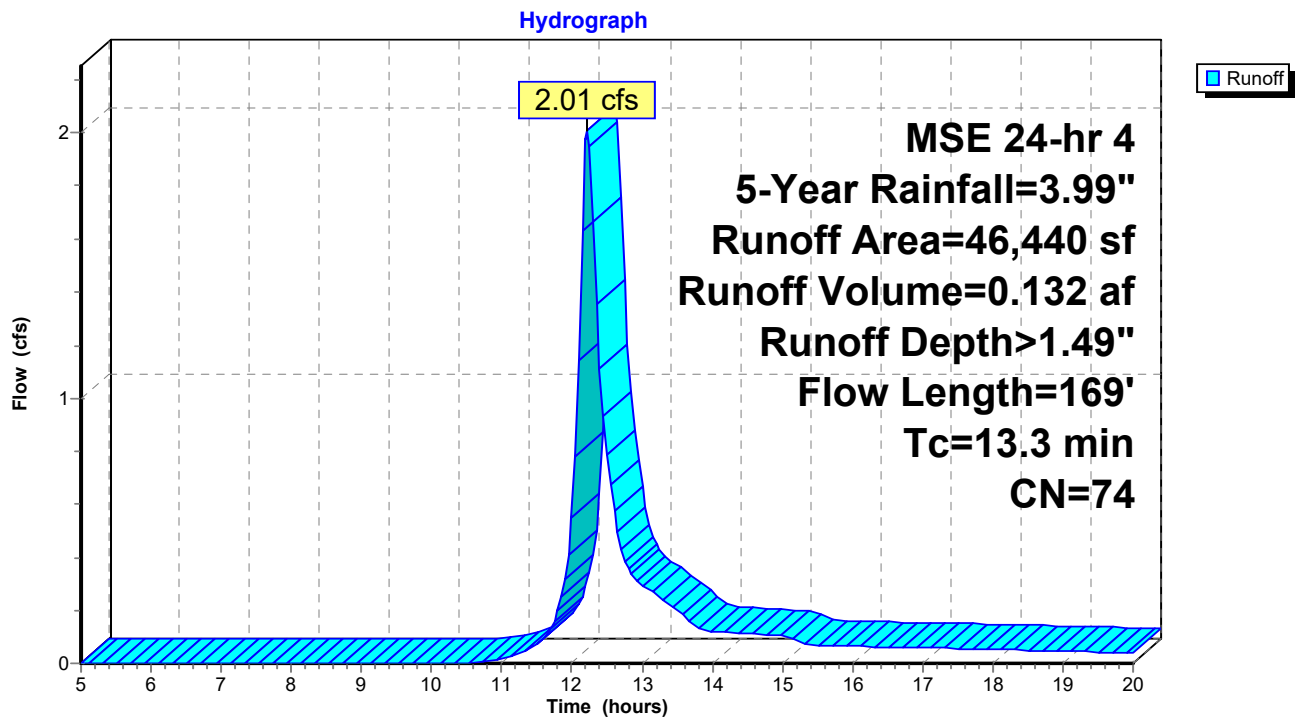
Summary for Subcatchment 1S: 1S

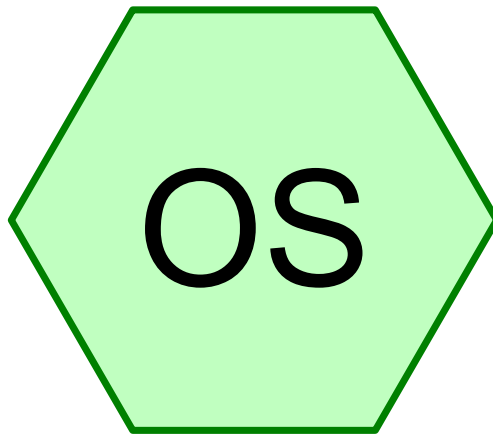
Runoff = 2.01 cfs @ 12.22 hrs, Volume= 0.132 af, Depth> 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 5-Year Rainfall=3.99"

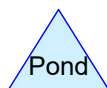
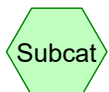
Area (sf)	CN	Description
46,440	74	Pasture/grassland/range, Good, HSG C
46,440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0290	0.13		Sheet Flow, Grass: Dense n= 0.240 P2= 3.11"
0.8	69	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
13.3	169	Total			

Subcatchment 1S: 1S



OS



Routing Diagram for OFFSITE EX COND PASS THROUGH
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OFFSITE EX COND PASS THROUGH

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OFFSITE EX COND PASS THROUGH

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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.787	74	Pasture/grassland/range, Good, HSG C (OS)
0.787	74	TOTAL AREA

OFFSITE EX COND PASS THROUGH

MSE 24-hr 4 100-Year Rainfall=7.98"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

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

Subcatchment OS: OS

Runoff Area=34,277 sf 0.00% Impervious Runoff Depth>4.66"

Flow Length=409' Tc=15.8 min CN=74 Runoff=4.27 cfs 0.305 af

Total Runoff Area = 0.787 ac Runoff Volume = 0.305 af Average Runoff Depth = 4.66"
100.00% Pervious = 0.787 ac 0.00% Impervious = 0.000 ac

OFFSITE EX COND PASS THROUGH

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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 5

Summary for Subcatchment OS: OS

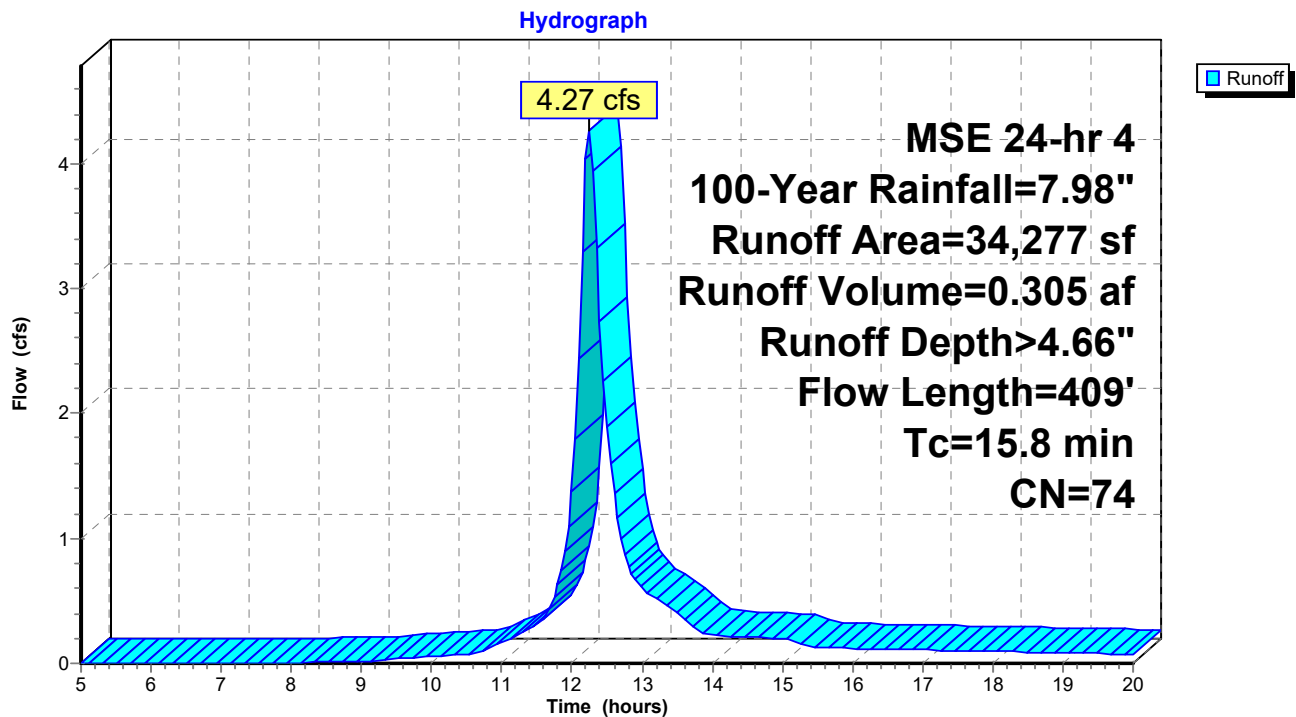
Runoff = 4.27 cfs @ 12.25 hrs, Volume= 0.305 af, Depth> 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=7.98"

Area (sf)	CN	Description
34,277	74	Pasture/grassland/range, Good, HSG C
34,277		100.00% Pervious Area

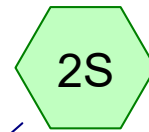
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.6	100	0.0350	0.14		Sheet Flow, Grass: Dense n= 0.240 P2= 3.11"
4.2	309	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.8	409	Total			

Subcatchment OS: OS

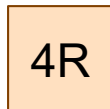




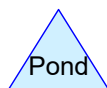
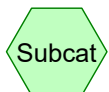
1.1S UT



1.2S UT



OS



Routing Diagram for OFFSITE UNDETAINED

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OFFSITE UNDETAINED

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Project Notes

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OFFSITE UNDETAINED

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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.108	71	Meadow, non-grazed, HSG C (1S)
0.007	98	Paved parking, HSG C (2S)
0.115	73	TOTAL AREA

OFFSITE UNDETAINED*MSE 24-hr 4 100-Year Rainfall=7.98"*

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Page 4

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: 1.1S UT

Runoff Area=4,690 sf 0.00% Impervious Runoff Depth>4.56"
Flow Length=100' Slope=0.0250 '/' Tc=13.1 min CN=71 Runoff=0.59 cfs 0.041 af

Subcatchment2S: 1.2S UT

Runoff Area=310 sf 100.00% Impervious Runoff Depth>7.74"
Tc=0.0 min CN=98 Runoff=0.08 cfs 0.005 af

Reach 4R: OS

Inflow=0.61 cfs 0.045 af
Outflow=0.61 cfs 0.045 af

Total Runoff Area = 0.115 ac Runoff Volume = 0.045 af Average Runoff Depth = 4.75"
93.80% Pervious = 0.108 ac 6.20% Impervious = 0.007 ac

OFFSITE UNDETAINED

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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 5

Summary for Subcatchment 1S: 1.1S UT

Runoff = 0.59 cfs @ 12.21 hrs, Volume= 0.041 af, Depth> 4.56"

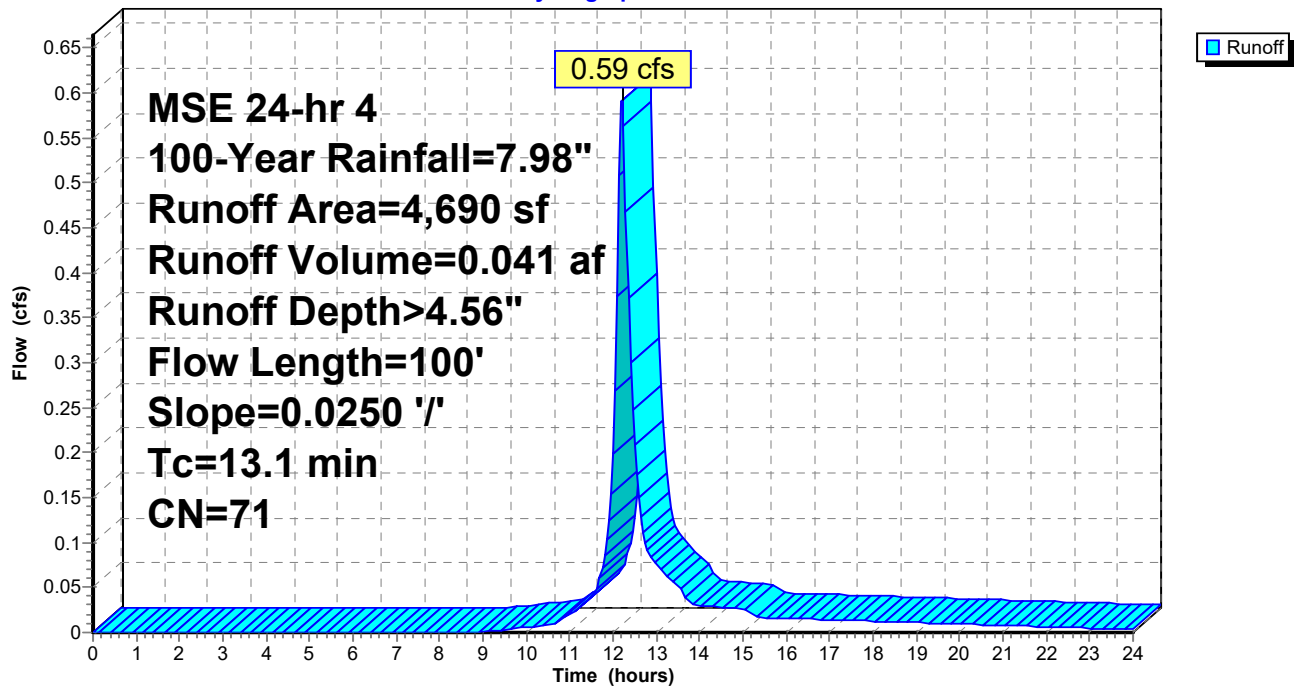
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=7.98"

Area (sf)	CN	Description
4,690	71	Meadow, non-grazed, HSG C
4,690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0250	0.13		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"

Subcatchment 1S: 1.1S UT

Hydrograph



OFFSITE UNDETAINED

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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 6

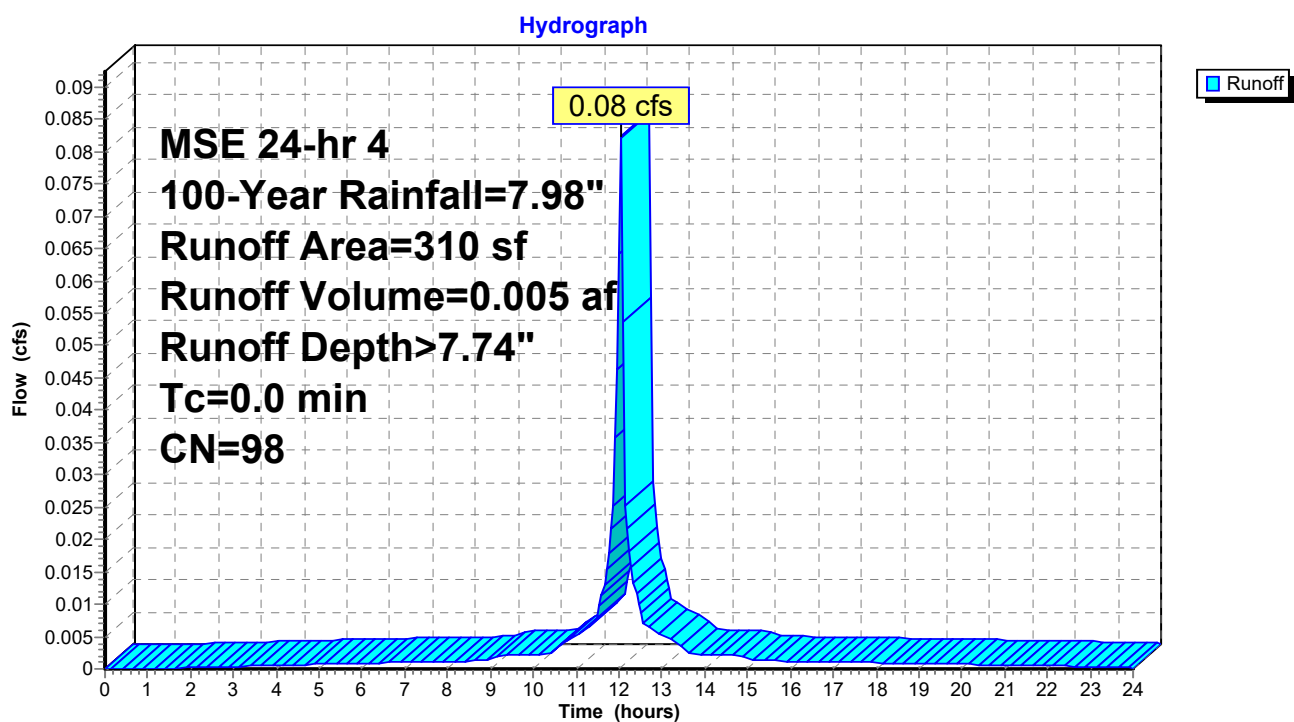
Summary for Subcatchment 2S: 1.2S UT

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.08 cfs @ 12.04 hrs, Volume= 0.005 af, Depth> 7.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=7.98"

Area (sf)	CN	Description
310	98	Paved parking, HSG C
310		100.00% Impervious Area

Subcatchment 2S: 1.2S UT

OFFSITE UNDETAINED

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MSE 24-hr 4 100-Year Rainfall=7.98"

Printed 8/17/2022

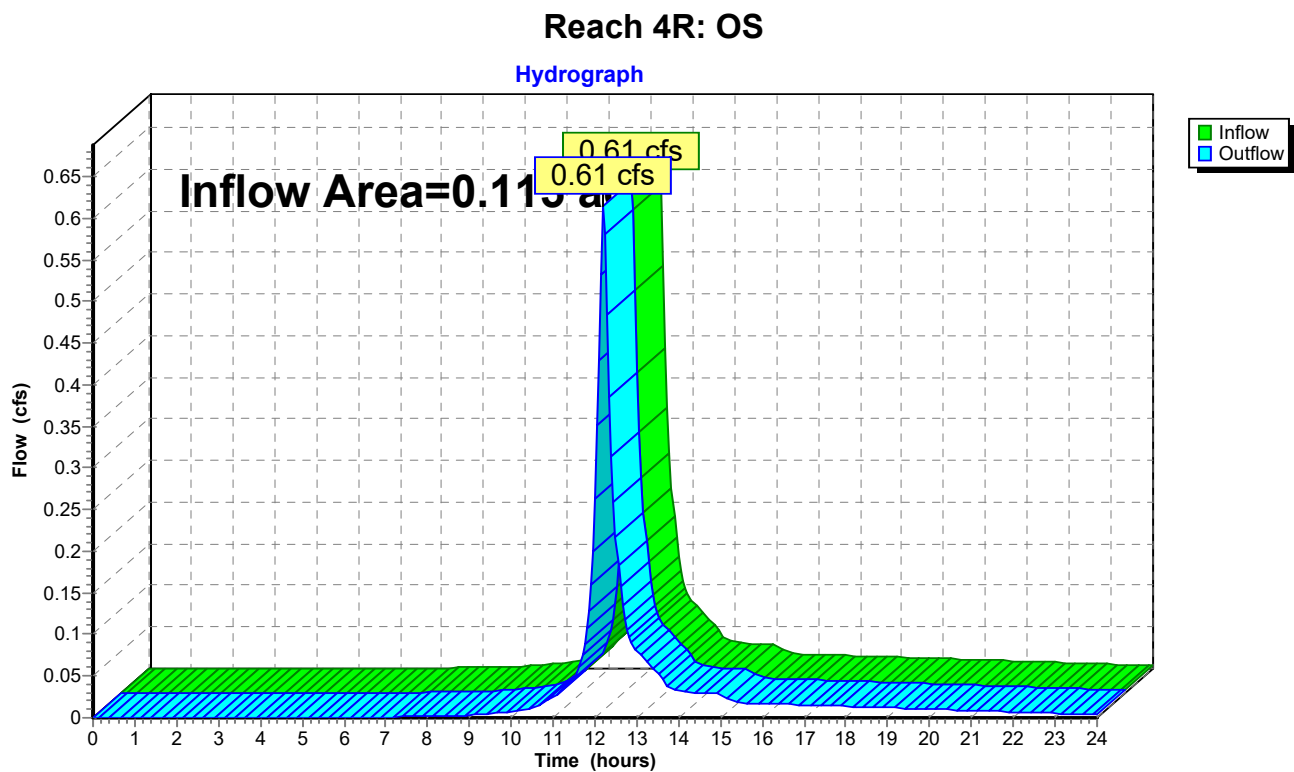
Page 7

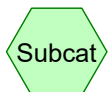
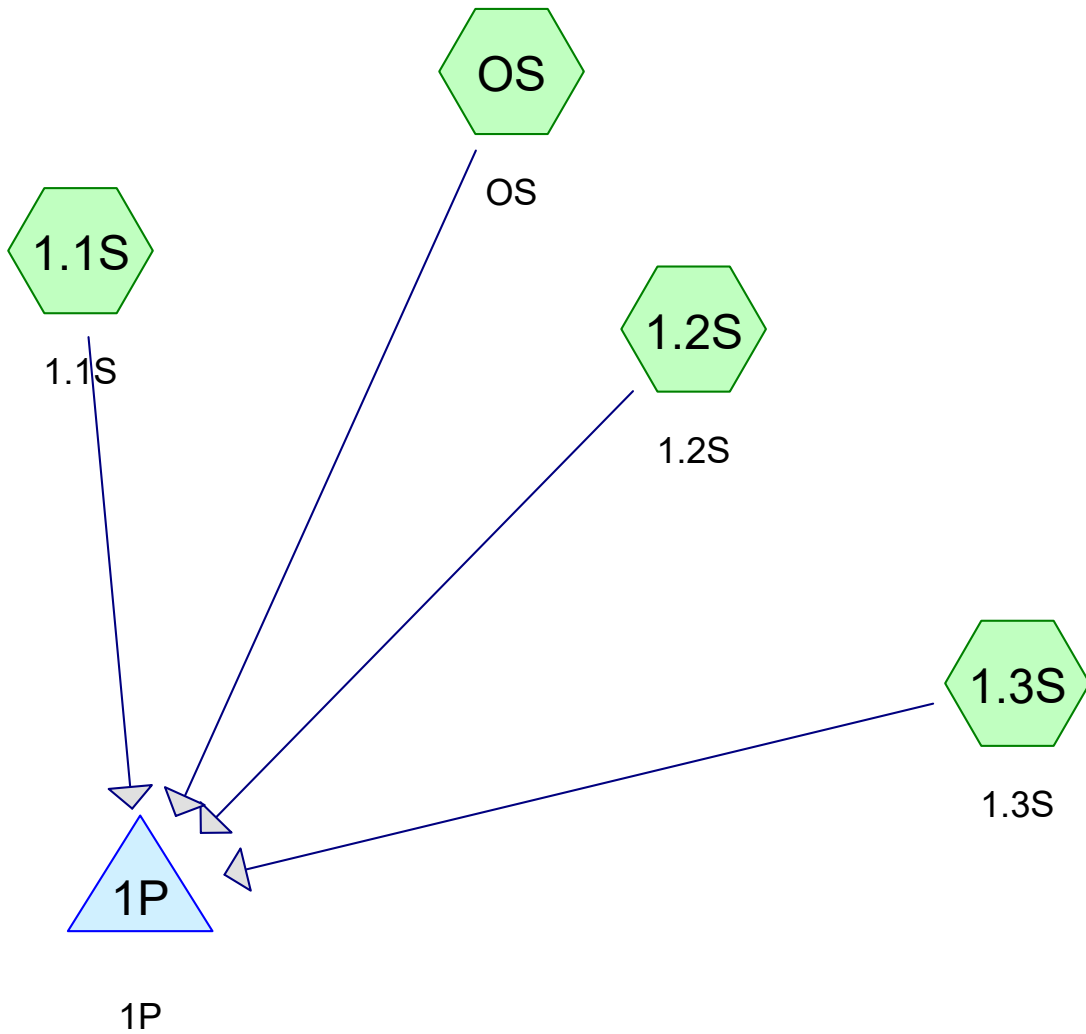
Summary for Reach 4R: OS

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.115 ac, 6.20% Impervious, Inflow Depth > 4.75" for 100-Year event
Inflow = 0.61 cfs @ 12.21 hrs, Volume= 0.045 af
Outflow = 0.61 cfs @ 12.21 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

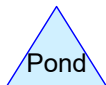




Subcat



Reach



Pond



Link

Routing Diagram for PROP COND

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PROP COND

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Page 2

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 1490 IA Warren

Rainfall events imported from "NRCS-Rain.txt" for 1490 IA Warren

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Page 3

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	MSE 24-hr	4	Default	24.00	1	2.77	2
2	2-Year	MSE 24-hr	4	Default	24.00	1	3.20	2
3	5-Year	MSE 24-hr	4	Default	24.00	1	3.99	2
4	10-Year	MSE 24-hr	4	Default	24.00	1	4.74	2
5	25-Year	MSE 24-hr	4	Default	24.00	1	5.90	2
6	50-Year	MSE 24-hr	4	Default	24.00	1	6.90	2
7	100-Year	MSE 24-hr	4	Default	24.00	1	7.98	2

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Page 4

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.341	74	>75% Grass cover, Good, HSG C (1.1S, 1.2S, 1.3S)
0.787	71	Meadow, non-grazed, HSG C (OS)
0.610	98	Paved parking, HSG C (1.1S, 1.2S, 1.3S)
1.738	81	TOTAL AREA

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Page 5

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: 1.1S Runoff Area=18,460 sf 73.04% Impervious Runoff Depth>3.11"
Flow Length=151' Slope=0.0100 '/' Tc=7.2 min CN=92 Runoff=1.87 cfs 0.110 af

Subcatchment1.2S: 1.2S Runoff Area=13,722 sf 86.62% Impervious Runoff Depth>3.42"
Tc=7.0 min CN=95 Runoff=1.49 cfs 0.090 af

Subcatchment1.3S: 1.3S Runoff Area=9,258 sf 12.95% Impervious Runoff Depth>1.80"
Tc=7.0 min CN=77 Runoff=0.58 cfs 0.032 af

SubcatchmentOS: OS Runoff Area=34,277 sf 0.00% Impervious Runoff Depth>1.38"
Flow Length=409' Tc=15.6 min CN=71 Runoff=1.19 cfs 0.091 af

Pond 1P: 1P Peak Elev=907.89' Storage=5,211 cf Inflow=4.75 cfs 0.322 af
Discarded=0.19 cfs 0.179 af Primary=1.64 cfs 0.125 af Secondary=0.00 cfs 0.000 af Outflow=1.82 cfs 0.304 af

Total Runoff Area = 1.738 ac Runoff Volume = 0.322 af Average Runoff Depth = 2.22"
64.91% Pervious = 1.128 ac 35.09% Impervious = 0.610 ac

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MSE 24-hr 4 5-Year Rainfall=3.99"

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Page 6

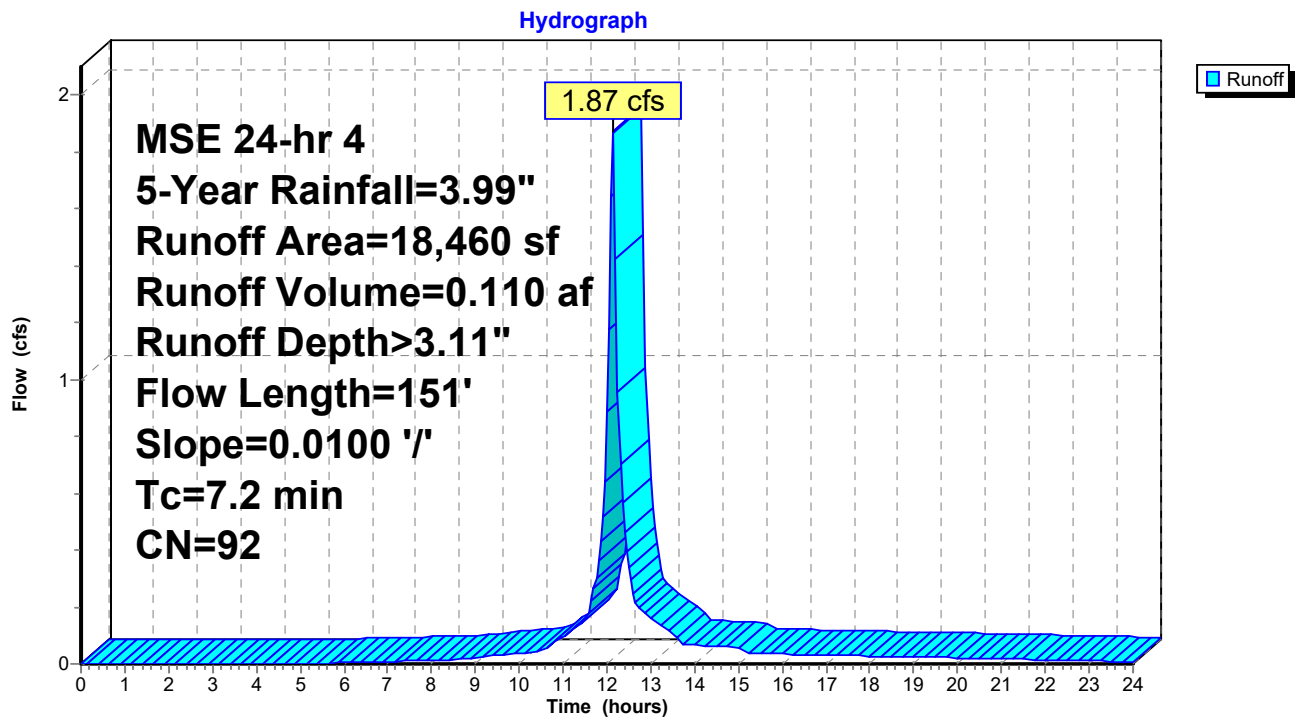
Summary for Subcatchment 1.1S: 1.1S

Runoff = 1.87 cfs @ 12.14 hrs, Volume= 0.110 af, Depth> 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 5-Year Rainfall=3.99"

Area (sf)	CN	Description
13,484	98	Paved parking, HSG C
4,976	74	>75% Grass cover, Good, HSG C
18,460	92	Weighted Average
4,976		26.96% Pervious Area
13,484		73.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	25	0.0100	0.07		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.0	126	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.2	151	Total			

Subcatchment 1.1S: 1.1S

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MSE 24-hr 4 5-Year Rainfall=3.99"

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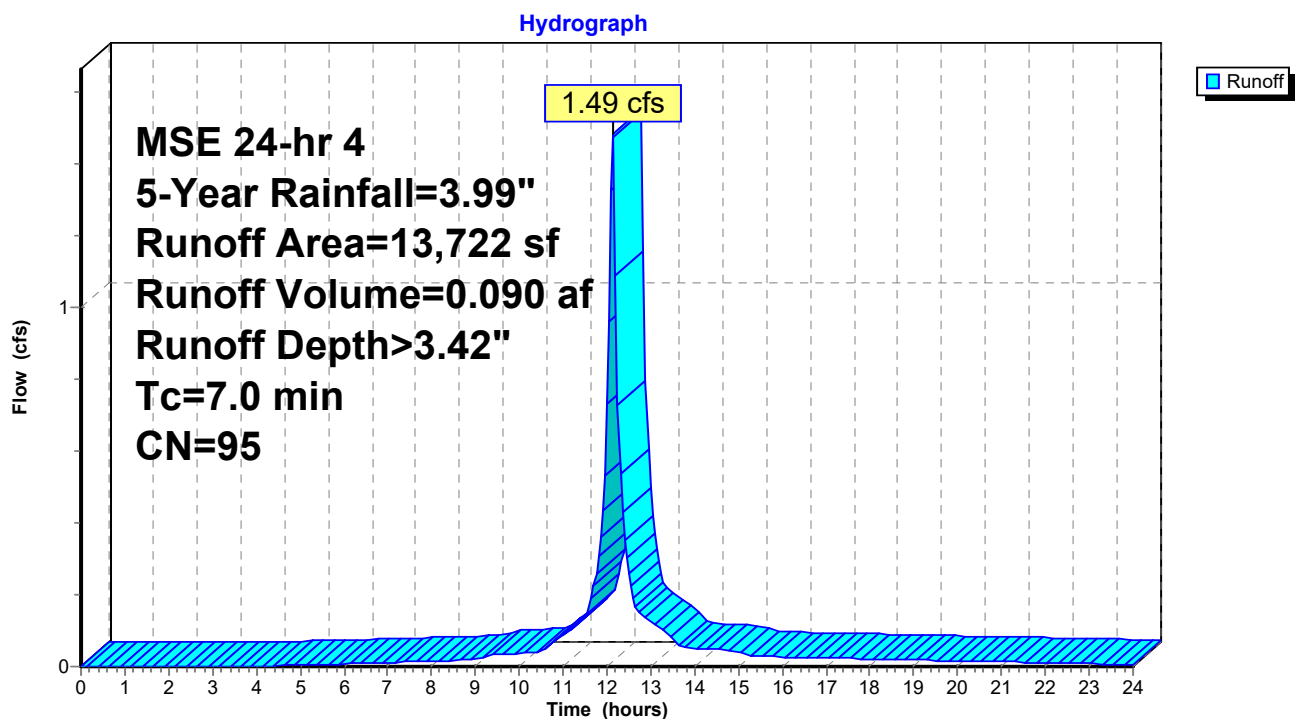
Summary for Subcatchment 1.2S: 1.2S

Runoff = 1.49 cfs @ 12.14 hrs, Volume= 0.090 af, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 5-Year Rainfall=3.99"

Area (sf)	CN	Description
11,886	98	Paved parking, HSG C
1,836	74	>75% Grass cover, Good, HSG C
13,722	95	Weighted Average
1,836		13.38% Pervious Area
11,886		86.62% Impervious Area

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

Subcatchment 1.2S: 1.2S

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MSE 24-hr 4 5-Year Rainfall=3.99"

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Page 8

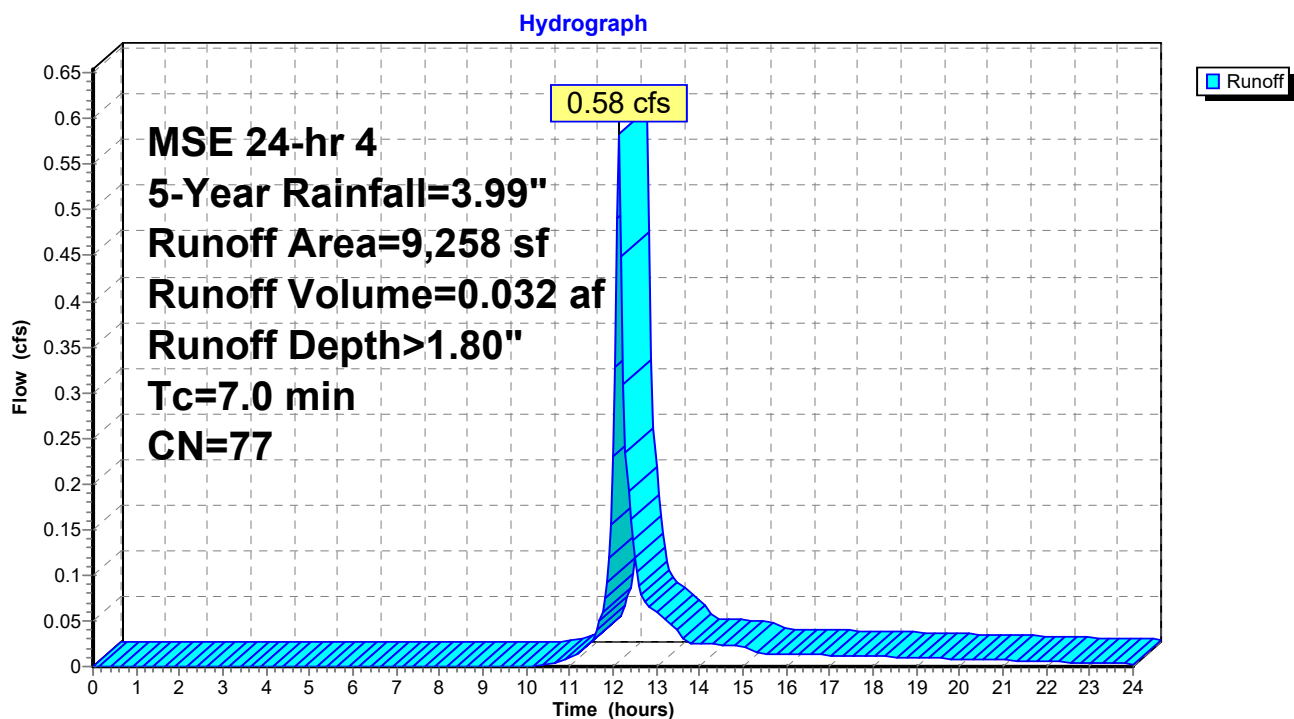
Summary for Subcatchment 1.3S: 1.3S

Runoff = 0.58 cfs @ 12.15 hrs, Volume= 0.032 af, Depth> 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 5-Year Rainfall=3.99"

Area (sf)	CN	Description
1,199	98	Paved parking, HSG C
8,059	74	>75% Grass cover, Good, HSG C
9,258	77	Weighted Average
8,059		87.05% Pervious Area
1,199		12.95% Impervious Area

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

Subcatchment 1.3S: 1.3S

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MSE 24-hr 4 5-Year Rainfall=3.99"

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Page 9

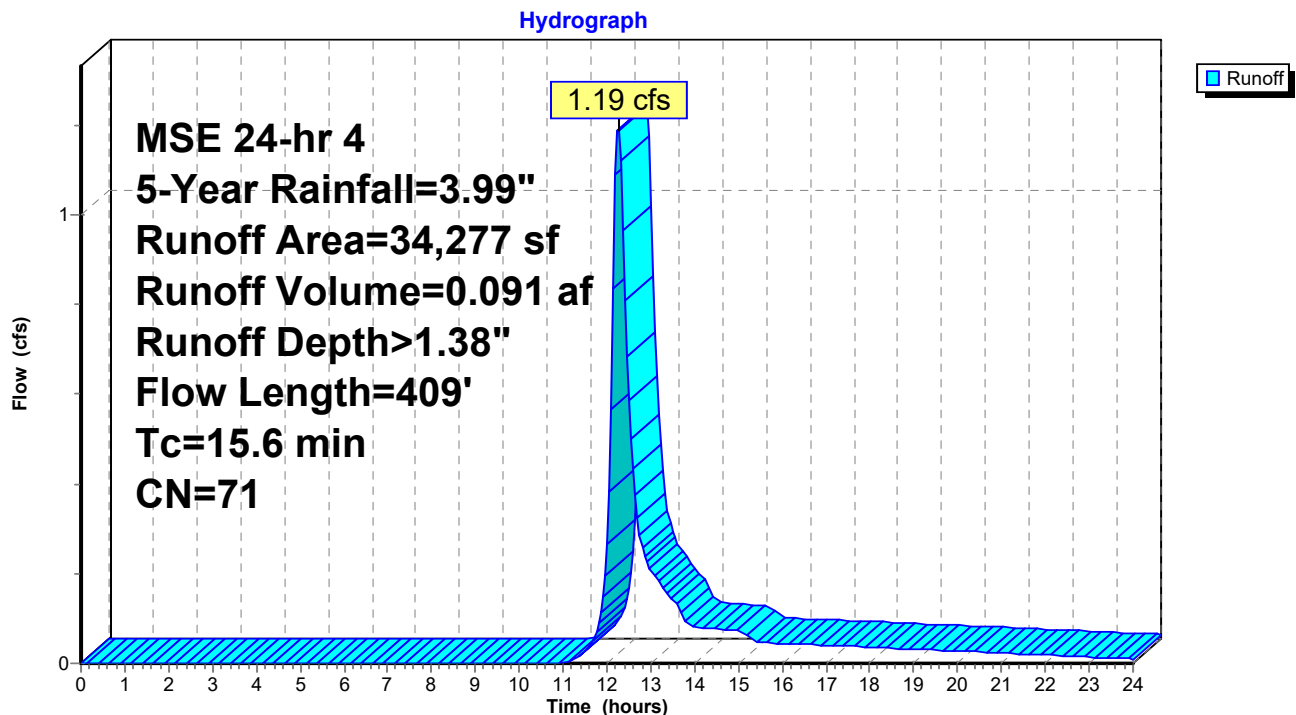
Summary for Subcatchment OS: OS

Runoff = 1.19 cfs @ 12.25 hrs, Volume= 0.091 af, Depth> 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 5-Year Rainfall=3.99"

Area (sf)	CN	Description
34,277	71	Meadow, non-grazed, HSG C
34,277		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0350	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
4.2	309	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.6	409	Total			

Subcatchment OS: OS

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MSE 24-hr 4 5-Year Rainfall=3.99"

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Page 10

Summary for Pond 1P: 1P

Inflow Area = 1.738 ac, 35.09% Impervious, Inflow Depth > 2.22" for 5-Year event
 Inflow = 4.75 cfs @ 12.15 hrs, Volume= 0.322 af
 Outflow = 1.82 cfs @ 12.40 hrs, Volume= 0.304 af, Atten= 62%, Lag= 15.2 min
 Discarded = 0.19 cfs @ 12.40 hrs, Volume= 0.179 af
 Primary = 1.64 cfs @ 12.40 hrs, Volume= 0.125 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 907.89' @ 12.40 hrs Surf.Area= 4,914 sf Storage= 5,211 cf

Plug-Flow detention time= 158.2 min calculated for 0.304 af (94% of inflow)
 Center-of-Mass det. time= 129.8 min (931.8 - 802.0)

Volume	Invert	Avail.Storage	Storage Description
#1	906.50'	13,490 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
906.50	2,604	0	0
907.50	4,251	3,428	3,428
908.50	5,955	5,103	8,531
909.25	7,270	4,959	13,490

Device	Routing	Invert	Outlet Devices
#1	Discarded	906.50'	1.630 in/hr Exfiltration over Surface area
#2	Primary	905.55'	11.2" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 905.55' / 904.50' S= 0.0525 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.68 sf
#3	Device 2	906.50'	1.3" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	907.67'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	908.75'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.19 cfs @ 12.40 hrs HW=907.89' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=1.63 cfs @ 12.40 hrs HW=907.89' (Free Discharge)
 ↳ **2=Culvert** (Passes 1.63 cfs of 4.51 cfs potential flow)
 ↳ **3=Orifice/Grate** (Orifice Controls 0.05 cfs @ 5.56 fps)
 ↳ **4=Orifice/Grate** (Weir Controls 1.58 cfs @ 1.53 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=906.50' (Free Discharge)
 ↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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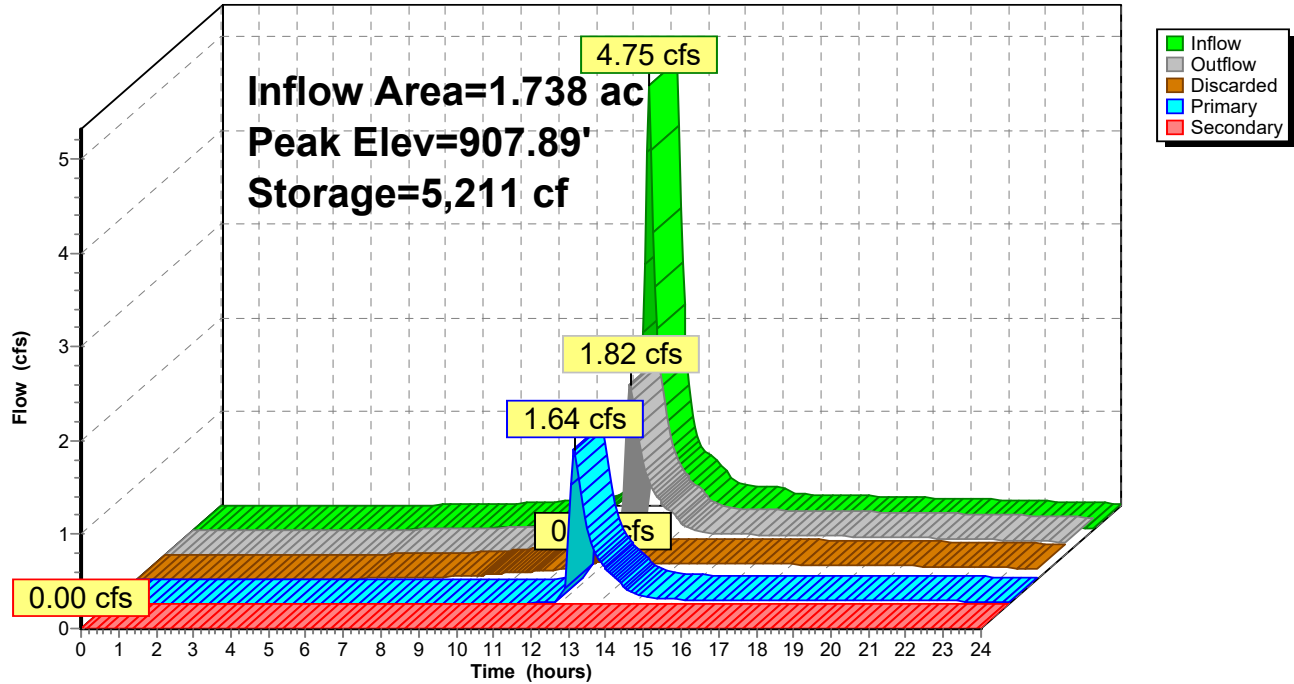
MSE 24-hr 4 5-Year Rainfall=3.99"

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Page 11

Pond 1P: 1P

Hydrograph



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Page 12

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: 1.1S Runoff Area=18,460 sf 73.04% Impervious Runoff Depth>3.83"
Flow Length=151' Slope=0.0100 '/' Tc=7.2 min CN=92 Runoff=2.28 cfs 0.135 af

Subcatchment1.2S: 1.2S Runoff Area=13,722 sf 86.62% Impervious Runoff Depth>4.16"
Tc=7.0 min CN=95 Runoff=1.78 cfs 0.109 af

Subcatchment1.3S: 1.3S Runoff Area=9,258 sf 12.95% Impervious Runoff Depth>2.41"
Tc=7.0 min CN=77 Runoff=0.78 cfs 0.043 af

SubcatchmentOS: OS Runoff Area=34,277 sf 0.00% Impervious Runoff Depth>1.92"
Flow Length=409' Tc=15.6 min CN=71 Runoff=1.67 cfs 0.126 af

Pond 1P: 1P Peak Elev=908.01' Storage=5,823 cf Inflow=6.03 cfs 0.413 af
Discarded=0.19 cfs 0.190 af Primary=3.13 cfs 0.196 af Secondary=0.00 cfs 0.000 af Outflow=3.32 cfs 0.386 af

Total Runoff Area = 1.738 ac Runoff Volume = 0.413 af Average Runoff Depth = 2.85"
64.91% Pervious = 1.128 ac 35.09% Impervious = 0.610 ac

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MSE 24-hr 4 10-Year Rainfall=4.74"

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Page 13

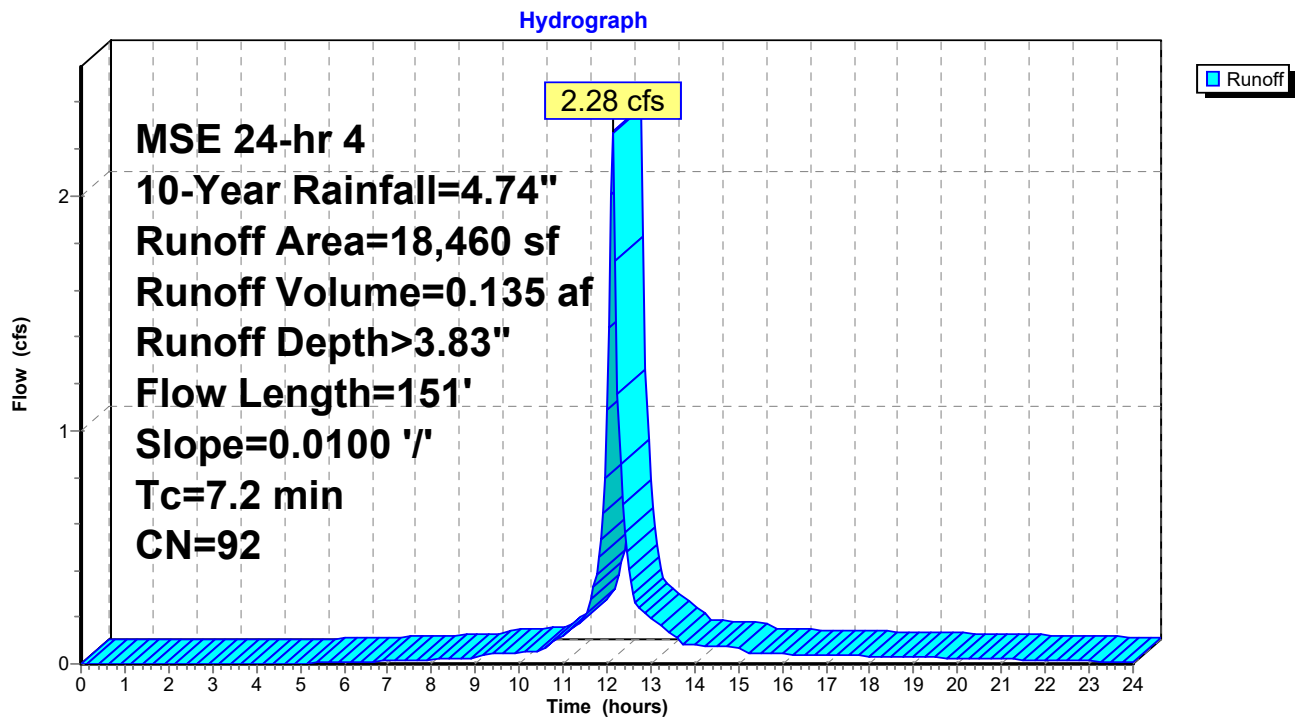
Summary for Subcatchment 1.1S: 1.1S

Runoff = 2.28 cfs @ 12.14 hrs, Volume= 0.135 af, Depth> 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.74"

Area (sf)	CN	Description
13,484	98	Paved parking, HSG C
4,976	74	>75% Grass cover, Good, HSG C
18,460	92	Weighted Average
4,976		26.96% Pervious Area
13,484		73.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	25	0.0100	0.07		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.0	126	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.2	151	Total			

Subcatchment 1.1S: 1.1S

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MSE 24-hr 4 10-Year Rainfall=4.74"

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Page 14

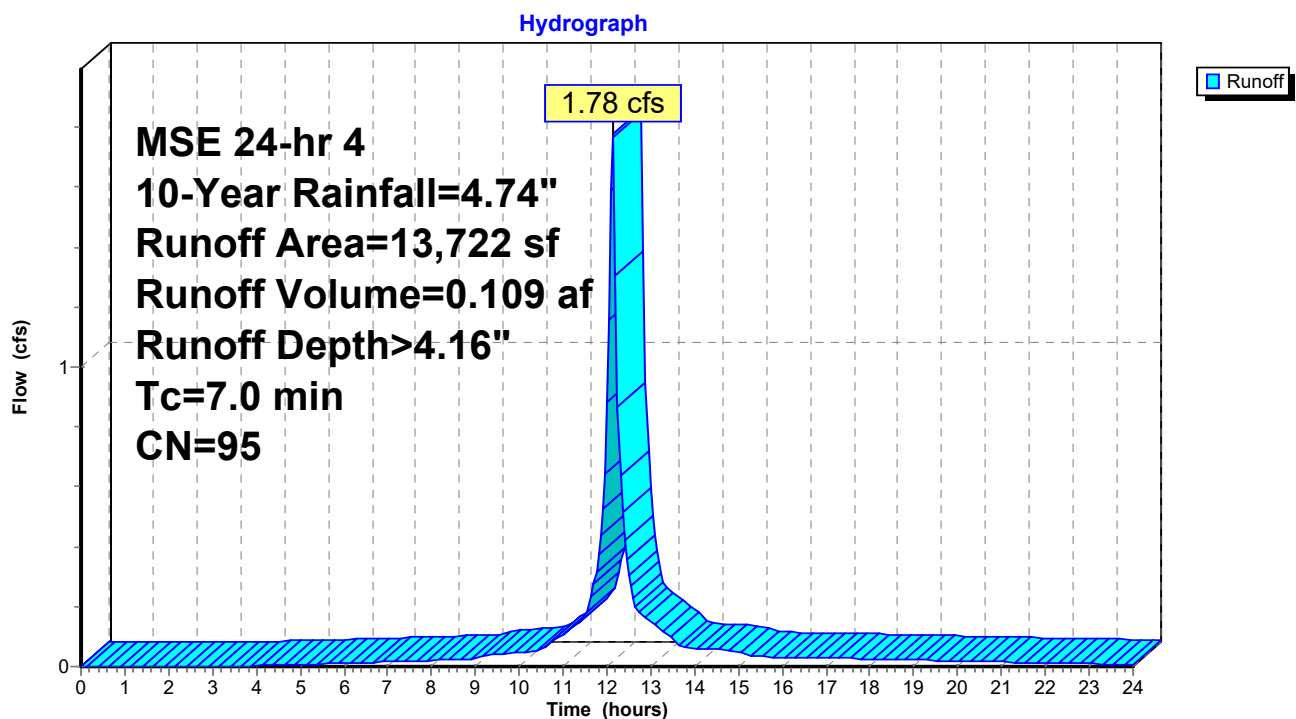
Summary for Subcatchment 1.2S: 1.2S

Runoff = 1.78 cfs @ 12.14 hrs, Volume= 0.109 af, Depth> 4.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.74"

Area (sf)	CN	Description
11,886	98	Paved parking, HSG C
1,836	74	>75% Grass cover, Good, HSG C
13,722	95	Weighted Average
1,836		13.38% Pervious Area
11,886		86.62% Impervious Area

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

Subcatchment 1.2S: 1.2S

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MSE 24-hr 4 10-Year Rainfall=4.74"

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Page 15

Summary for Subcatchment 1.3S: 1.3S

Runoff = 0.78 cfs @ 12.14 hrs, Volume= 0.043 af, Depth> 2.41"

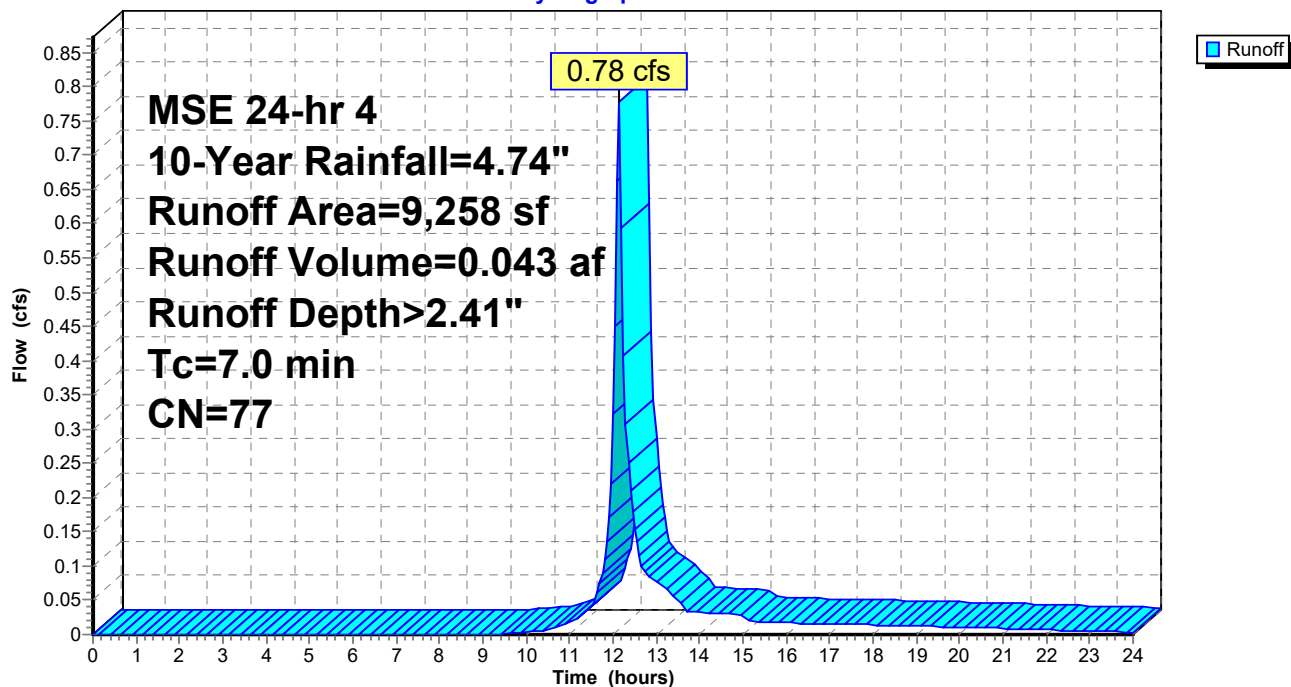
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.74"

Area (sf)	CN	Description
1,199	98	Paved parking, HSG C
8,059	74	>75% Grass cover, Good, HSG C
9,258	77	Weighted Average
8,059		87.05% Pervious Area
1,199		12.95% Impervious Area

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

Subcatchment 1.3S: 1.3S

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.74"

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Page 16

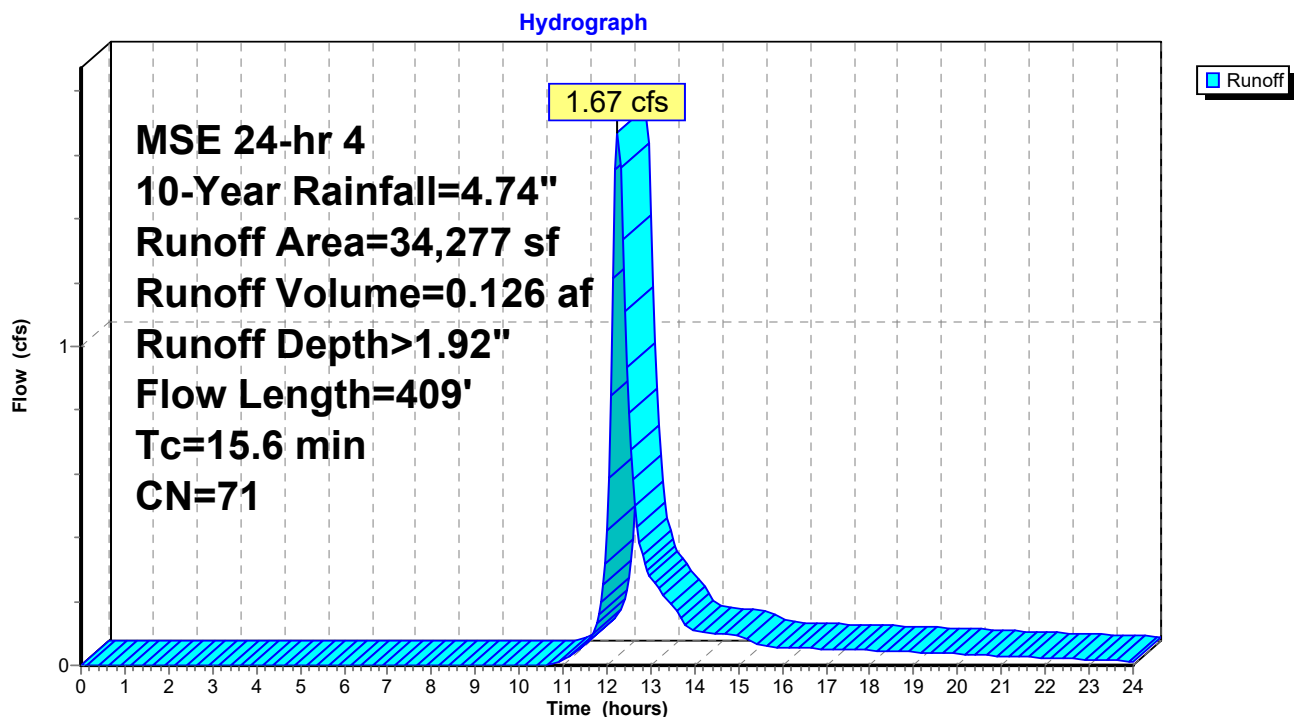
Summary for Subcatchment OS: OS

Runoff = 1.67 cfs @ 12.25 hrs, Volume= 0.126 af, Depth> 1.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.74"

Area (sf)	CN	Description
34,277	71	Meadow, non-grazed, HSG C
34,277		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0350	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
4.2	309	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.6	409	Total			

Subcatchment OS: OS

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MSE 24-hr 4 10-Year Rainfall=4.74"

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Page 17

Summary for Pond 1P: 1P

Inflow Area = 1.738 ac, 35.09% Impervious, Inflow Depth > 2.85" for 10-Year event
 Inflow = 6.03 cfs @ 12.15 hrs, Volume= 0.413 af
 Outflow = 3.32 cfs @ 12.31 hrs, Volume= 0.386 af, Atten= 45%, Lag= 9.7 min
 Discarded = 0.19 cfs @ 12.31 hrs, Volume= 0.190 af
 Primary = 3.13 cfs @ 12.31 hrs, Volume= 0.196 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 908.01' @ 12.31 hrs Surf.Area= 5,122 sf Storage= 5,823 cf

Plug-Flow detention time= 133.8 min calculated for 0.386 af (93% of inflow)
 Center-of-Mass det. time= 101.0 min (898.9 - 798.0)

Volume	Invert	Avail.Storage	Storage Description
#1	906.50'	13,490 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
906.50	2,604	0	0
907.50	4,251	3,428	3,428
908.50	5,955	5,103	8,531
909.25	7,270	4,959	13,490

Device	Routing	Invert	Outlet Devices
#1	Discarded	906.50'	1.630 in/hr Exfiltration over Surface area
#2	Primary	905.55'	11.2" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 905.55' / 904.50' S= 0.0525 ' S= 0.0525 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.68 sf
#3	Device 2	906.50'	1.3" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	907.67'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	908.75'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.19 cfs @ 12.31 hrs HW=908.01' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=3.09 cfs @ 12.31 hrs HW=908.01' (Free Discharge)
 ↳ **2=Culvert** (Passes 3.09 cfs of 4.65 cfs potential flow)
 ↳ **3=Orifice/Grate** (Orifice Controls 0.05 cfs @ 5.81 fps)
 ↳ **4=Orifice/Grate** (Weir Controls 3.04 cfs @ 1.90 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=906.50' (Free Discharge)
 ↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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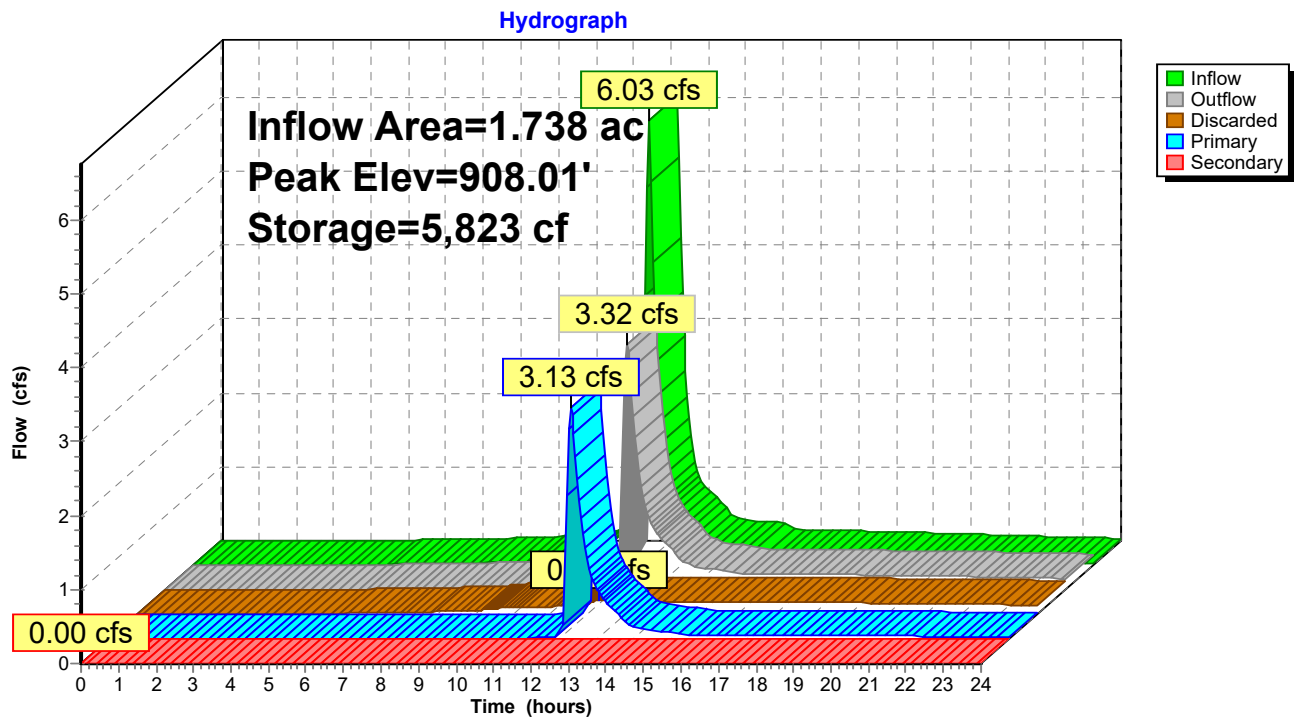
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Page 18

Pond 1P: 1P



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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 19

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1.1S: 1.1S Runoff Area=18,460 sf 73.04% Impervious Runoff Depth>7.02"
Flow Length=151' Slope=0.0100 '/' Tc=7.2 min CN=92 Runoff=4.02 cfs 0.248 af

Subcatchment 1.2S: 1.2S Runoff Area=13,722 sf 86.62% Impervious Runoff Depth>7.38"
Tc=7.0 min CN=95 Runoff=3.07 cfs 0.194 af

Subcatchment 1.3S: 1.3S Runoff Area=9,258 sf 12.95% Impervious Runoff Depth>5.25"
Tc=7.0 min CN=77 Runoff=1.66 cfs 0.093 af

Subcatchment OS: OS Runoff Area=34,277 sf 0.00% Impervious Runoff Depth>4.56"
Flow Length=409' Tc=15.6 min CN=71 Runoff=4.02 cfs 0.299 af

Pond 1P: 1P Peak Elev=908.75' Storage=10,076 cf Inflow=11.79 cfs 0.833 af
Discarded=0.24 cfs 0.227 af Primary=5.45 cfs 0.546 af Secondary=0.00 cfs 0.000 af Outflow=5.69 cfs 0.773 af

Total Runoff Area = 1.738 ac Runoff Volume = 0.833 af Average Runoff Depth = 5.75"
64.91% Pervious = 1.128 ac 35.09% Impervious = 0.610 ac

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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 20

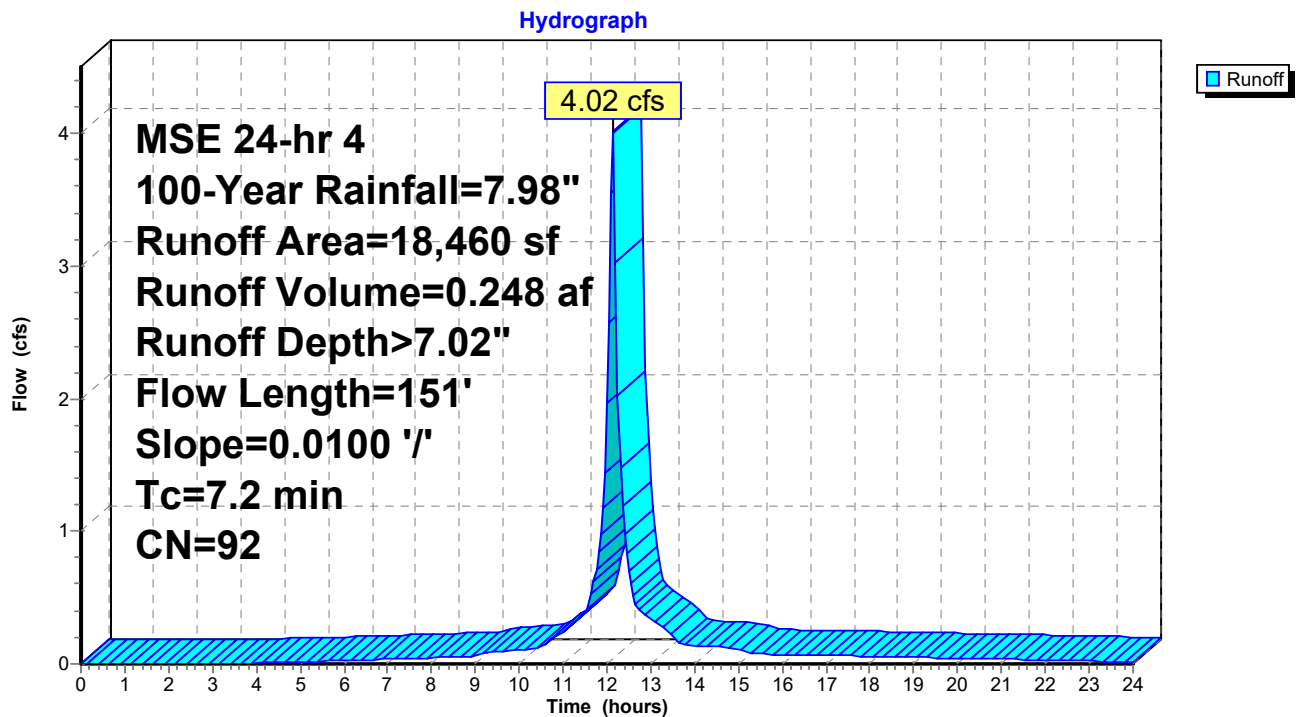
Summary for Subcatchment 1.1S: 1.1S

Runoff = 4.02 cfs @ 12.14 hrs, Volume= 0.248 af, Depth> 7.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=7.98"

Area (sf)	CN	Description
13,484	98	Paved parking, HSG C
4,976	74	>75% Grass cover, Good, HSG C
18,460	92	Weighted Average
4,976		26.96% Pervious Area
13,484		73.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	25	0.0100	0.07		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
1.0	126	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.2	151	Total			

Subcatchment 1.1S: 1.1S

PROP COND

Prepared by Microsoft

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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 21

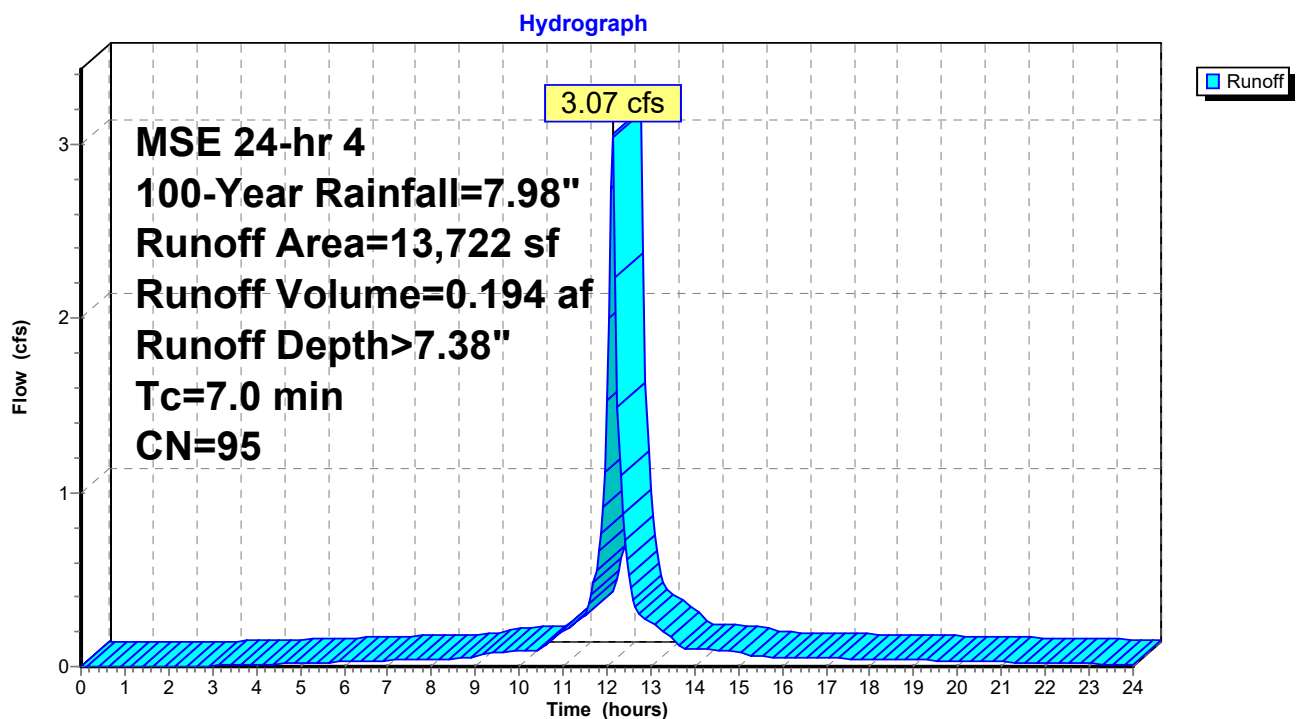
Summary for Subcatchment 1.2S: 1.2S

Runoff = 3.07 cfs @ 12.14 hrs, Volume= 0.194 af, Depth> 7.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=7.98"

Area (sf)	CN	Description
11,886	98	Paved parking, HSG C
1,836	74	>75% Grass cover, Good, HSG C
13,722	95	Weighted Average
1,836		13.38% Pervious Area
11,886		86.62% Impervious Area

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

Subcatchment 1.2S: 1.2S

PROP COND

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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 22

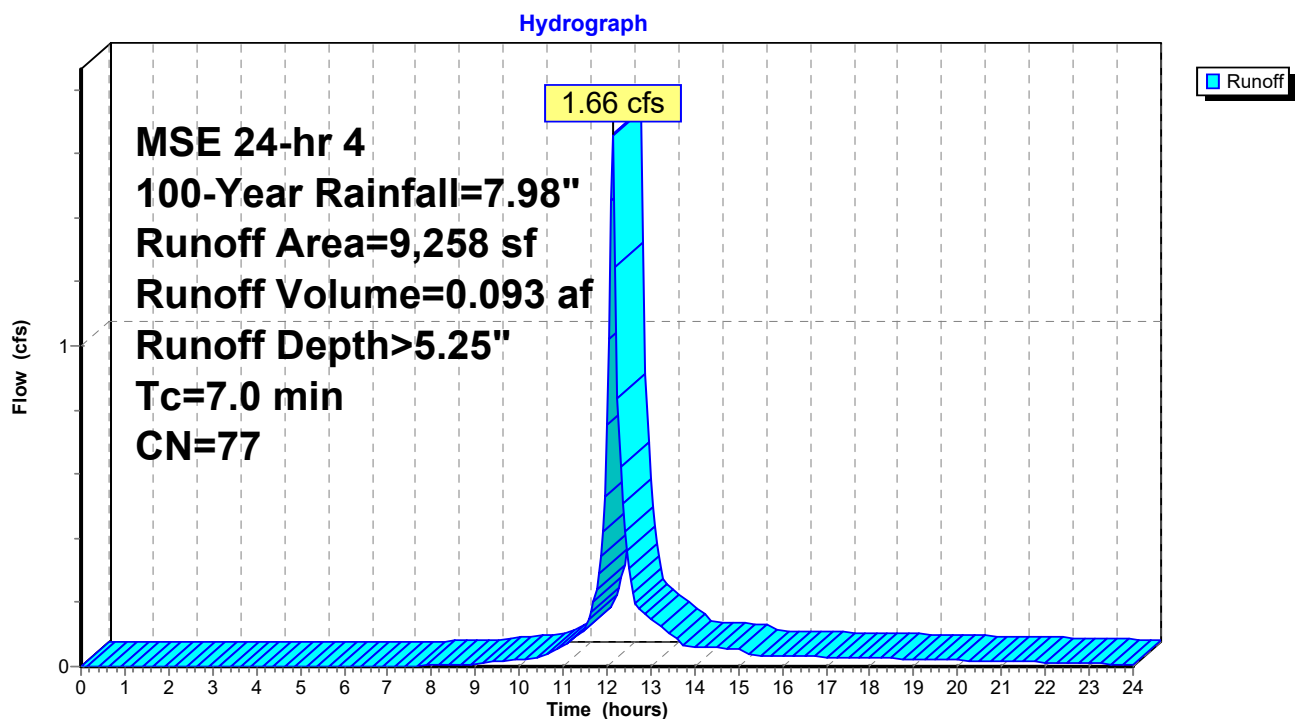
Summary for Subcatchment 1.3S: 1.3S

Runoff = 1.66 cfs @ 12.14 hrs, Volume= 0.093 af, Depth> 5.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=7.98"

Area (sf)	CN	Description
1,199	98	Paved parking, HSG C
8,059	74	>75% Grass cover, Good, HSG C
9,258	77	Weighted Average
8,059		87.05% Pervious Area
1,199		12.95% Impervious Area

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

Subcatchment 1.3S: 1.3S

PROP COND

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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 23

Summary for Subcatchment OS: OS

Runoff = 4.02 cfs @ 12.24 hrs, Volume= 0.299 af, Depth> 4.56"

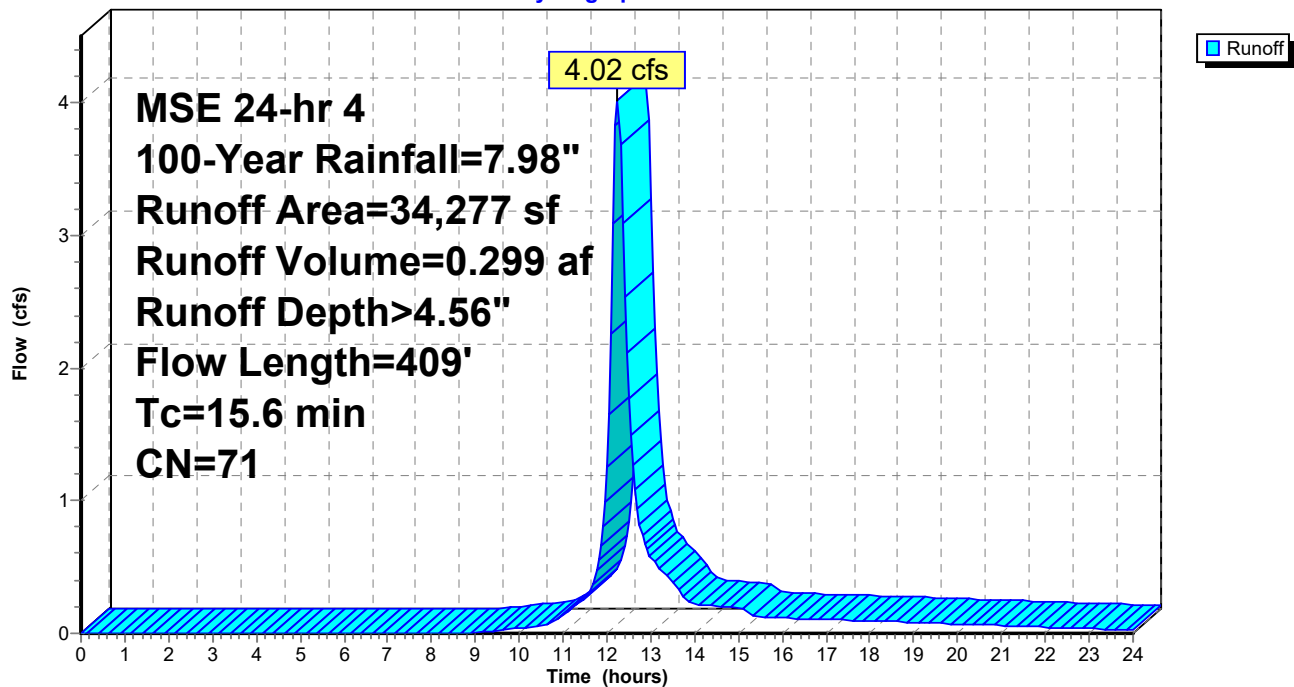
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=7.98"

Area (sf)	CN	Description
34,277	71	Meadow, non-grazed, HSG C
34,277		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0350	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.20"
4.2	309	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.6	409	Total			

Subcatchment OS: OS

Hydrograph



PROP COND

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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 24

Summary for Pond 1P: 1P

Inflow Area = 1.738 ac, 35.09% Impervious, Inflow Depth > 5.75" for 100-Year event
 Inflow = 11.79 cfs @ 12.15 hrs, Volume= 0.833 af
 Outflow = 5.69 cfs @ 12.35 hrs, Volume= 0.773 af, Atten= 52%, Lag= 12.0 min
 Discarded = 0.24 cfs @ 12.35 hrs, Volume= 0.227 af
 Primary = 5.45 cfs @ 12.35 hrs, Volume= 0.546 af
 Secondary = 0.00 cfs @ 12.35 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 908.75' @ 12.35 hrs Surf.Area= 6,394 sf Storage= 10,076 cf

Plug-Flow detention time= 83.6 min calculated for 0.771 af (93% of inflow)
 Center-of-Mass det. time= 48.5 min (834.6 - 786.0)

Volume	Invert	Avail.Storage	Storage Description
#1	906.50'	13,490 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
906.50	2,604	0	0
907.50	4,251	3,428	3,428
908.50	5,955	5,103	8,531
909.25	7,270	4,959	13,490

Device	Routing	Invert	Outlet Devices
#1	Discarded	906.50'	1.630 in/hr Exfiltration over Surface area
#2	Primary	905.55'	11.2" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 905.55' / 904.50' S= 0.0525 ' S= 0.0525 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.68 sf
#3	Device 2	906.50'	1.3" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	907.67'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	908.75'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.24 cfs @ 12.35 hrs HW=908.75' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.24 cfs)

Primary OutFlow Max=5.45 cfs @ 12.35 hrs HW=908.75' (Free Discharge)
 ↳ **2=Culvert** (Inlet Controls 5.45 cfs @ 7.96 fps)
 ↳ **3=Orifice/Grate** (Passes < 0.07 cfs potential flow)
 ↳ **4=Orifice/Grate** (Passes < 8.84 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 12.35 hrs HW=908.75' (Free Discharge)
 ↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 0.00 cfs @ 0.04 fps)

PROP COND

Prepared by Microsoft

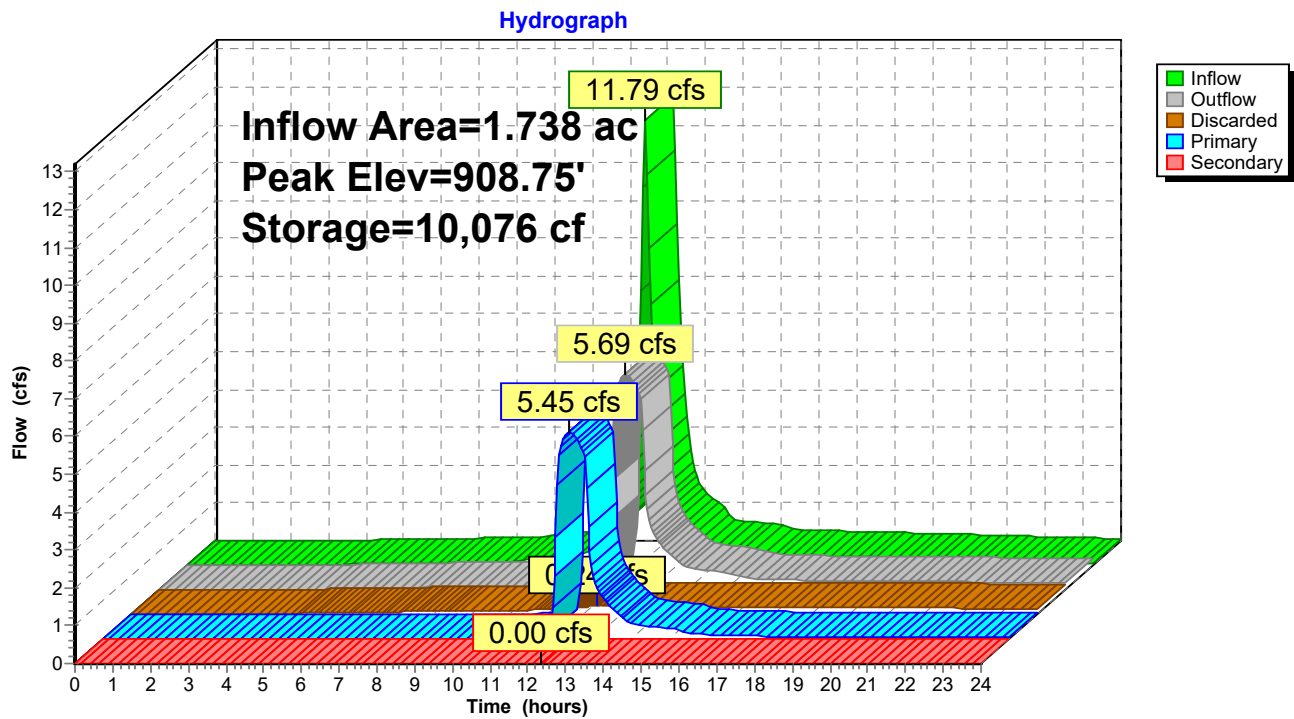
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MSE 24-hr 4 100-Year Rainfall=7.98"

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Page 25

Pond 1P: 1P





MEMORANDUM

To: Planning and Zoning Commission

From:

Date: September 13, 2022

Subject: Consider recommendation on a major site plan application for a bank at 1401 North Jefferson Way

Recommendation:

- Attachments:**
- 1. 0. Staff Report
 - 2. 1. Application
 - 3. 2. Site Plan
 - 4. 3. Drainage Report
 - 5. 4. Lighting Specifications



Community Development

110 N. First St., Indianola, IA 50125-0299 • www.indianolaiowa.gov
515-961-9430 • comdev@indianolaiowa.gov

Staff Report

Planning and Zoning Commission

Date of Meeting: September 13, 2022

Agenda Item: 7.B. Consider recommendation on a major site plan application for a bank at 1401 North Jefferson Way

Proposed Use: Bank and Financial Services

Applicant: Hal Snow of Kirk Gross Company

Property Owner: Trubank (Keith Welling)

Property Address: 1401 N Jefferson Way

Zoning: C-2 Highway Commercial Zoning District

Application Summary: Approval of a major site plan at 1401 North Jefferson Way is requested to allow for the construction of new a 15,050 square foot commercial building that is proposed for bank and financial service use.

AERIAL MAP



APPLICABLE CODE SECTIONS

The following sections of the Code of Ordinances of Indianola, Iowa apply to this request:

SECTION 165.06 SITE PLAN REGULATIONS AND PROCEDURES

1. SITE PLAN REQUIRED

Site plans, as provided herein this section, are required prior to approval of a building permit for the erection, relocation, expansion, or alteration of any structure or for the change in use of any structure or parcel.

2. SITE PLAN APPLICATION

The following site plans are required for all uses:

A. All Other New Uses, Buildings, and Structures. All other new uses, buildings, structures, conversions or changes of use, changes or modifications to building facades, and related additions and accessory structures that are not included in Section A herein above shall require the following:

(1) Major Site Plan. A Major Site Plan Application is required for the development of a property, the construction of a new building or improvement, the redevelopment of an existing property (including a significant change in use), or an amendment or change to a previously approved site plan.

a. **Major Site Plan Application** - A site plan (including required site plan details and number of copies), application form, and any additional information and details as specified and required by the Zoning Administrator as necessary to determine compliance with all applicable codes and requirements shall be submitted to the Zoning Administrator along with the Major Site Plan Application fee as established by resolution of the City Council.

b. **Major Site Plan Review Procedure** - The Major Site Plan Application shall be reviewed by the Zoning Administrator, or their designee, for completeness. Incomplete applications shall be returned to the applicant with a list of the missing items or details. Applications deemed completed shall be distributed to other city departments and other agencies as necessary for review and comment as to its compliance with all zoning regulations and other pertinent city

codes, regulations, and policies.

- c. **Major Site Plan Review by Zoning Commission** - Subsequent to review by the Zoning Administrator and other city departments and agencies, the Zoning Administrator, or their designee, shall submit to all members of the Zoning Commission a copy of the Major Site Plan Application along with a written recommendation as to the plan's conformity with the rules and regulations of the city.
- d. The Commission shall subsequently hold a meeting as prescribed by their rules of procedures and review the Major Site Plan Application for conformity with the zoning regulations and standards and may confer with the applicant on changes deemed advisable in such Site Plan.
- e. The Commission shall forward its recommendation to the City Council for approval, approval with conditions, or denial of the Major Site Plan Application within 45 days of the receipt of a Major Site Plan Applicant deemed complete by the Zoning Administrator. If the Commission does not act within the 45 days as prescribed above, the Major Site Plan Application shall be deemed to be recommended for approved by the Commission unless the applicant agrees to an extension of time.
- f. **Findings for Approval** – In order for the Commission to make a recommendation for approval of a Major Site Plan, the Commission shall make the following findings:
 - i. The proposed use, site improvements, and site plan comply with the minimum requirements of the zoning district in which it is proposed to be located;
 - ii. The property is of adequate size to accommodate the proposed use and site improvements including setbacks, open space, stormwater management, and off-street parking;
 - iii. The proposed use and site improvements will not unduly impact the health, safety, and general welfare of persons residing or working in adjoining property or surrounding area;
 - iv. The proposed use and site improvements shall not unduly increase traffic congestion;
 - v. The proposed use and site improvements will not unduly burden public utilities or increase risk to flooding;
 - vi. The proposed use and site improvements are compatible with the surrounding neighborhood and shall not diminish or impair established property values in adjoining or surrounding property; and,
 - vii. The proposed use and site improvements will not endanger, jeopardize or harm the health, safety or welfare of the properties and the community.
- g. **Major Site Plan Review by City Council** - The City Council, upon receipt of the recommendation of the Commission, shall either approve, approve with conditions, or disapprove the Major Site Plan Application. In order for the Council to approve a Major Site Plan, the Council shall confirm or make the aforementioned findings in subsection f. herein above.

ANALYSIS

Hal Snow of Kirk Gross Company is requesting approval of a major site plan to allow for the construction of a new 15,050 square foot commercial building that is proposed to house bank and financial services. The property, which is located at 1401 North Jefferson Way, is located within the C-2, Highway Commercial Zoning District. The site plan proposes a trash enclosure, equipment screening and exterior lighting that meets Section 165.05. The subject property was previously home to a commercial building used for bank and financial services for TruBank, however the structure was destroyed due to a fire in late 2021. This site plan proposes to rebuild a new facility with the same use at the site.

The property is currently zoned for the C-2, Highway Commercial Zoning District. To the North, exists commercial property including a restaurant use and a real estate agency office. To the east exists a commercial property currently utilized as a drive-through fast food restaurant. To the south exists a fifty-five (55) unit motel/hotel use. To the west exists a single-family residential development that is part of the Apple Valley Estates 2 Subdivision.

The Elevate Indianola Comprehensive Plan designates the future land use of this area as Regional Mixed Use. Regional Mixed Use includes retail, office, restaurants, bars, personal and business services, and other similar uses, generally of a large scale. It also includes automobile oriented uses. This includes drive-up ATM's as is proposed in the site plan.

Though the property is addressed North Jefferson Way, the property currently has three accessways, all of which take place on Valley Place. One of the accessways consists of a shared driveway that provides access to the parcel to the South/East. Valley Place is a local street and the intersection at Valley Place and North Jefferson Way is a lighted intersection.

North Jefferson Way is a 60' major arterial roadway. Major arterials are high-capacity roadways that primarily provide for the movement of through traffic and limit access to adjacent land. When the road is part of the State's Road system, it services to move regional through traffic. Major arterials typically provide four to five lanes for traffic and turn lanes, are often spaced one-mile to two-miles apart and have a higher speed limit ranging from 35 to 55 miles per hour (mph). Major arterials also have limited access spacing with lower capacity roads and site entrances, generally between ½- to ¼-mile spacing. Facilities for biking and walking, when deemed necessary, should have a comfortable buffer from vehicle travel lanes.

Chapter 165.07 requires one (1) off-street parking spot per 250 square feet of ground floor area for the use and three (3) vehicle queuing spaces per drive-up or ATM lane. The building is proposed to be 15,050 square feet, which would require sixty (60) off-street parking spaces. Sixty-one (61) parking spaces are provided in the site plan, including three (3) handicap parking spaces, one of which is van accessible. Three drive-up lanes are proposed for the facility. Each drive-up lane can queue up to four (4) vehicles.

A drainage report regarding the existing storm sewer system at the subject property was submitted as part of this application. The current site accepts storm water drainage from a portion of the residential area along Valley Place. The stormwater is captured via a box culvert under Jefferson Way.

The total area of this site is 101,369 square feet, or 2.327 acres. With the 20% required open space, the site would require 11 deciduous shade trees, 21 deciduous ornamental trees, and 21 shrubs. The proposed plan includes 11 shade trees, 21 ornamental trees and 52 shrubs. A thirty-foot (30') buffer park is required on the site to buffer the site from existing residential properties to the West and is shown on the site plan. Additionally, the subject property does not contain any floodplain or environmentally sensitive features such as a stream or waterway.

Regarding the building design standards, each primary façade shall contain no less than three (3) different class 1 or class 2 façade materials, together composing at least 75% of the primary façade area. Class 3 and class 4 façade materials in aggregate shall not exceed 25% of any primary façade area. Class 4 façade materials shall not exceed 5% of any primary façade area. At least one street-facing building façade and the façade containing the main building entry, if different from the street façade, shall consist of no less than 20% clear glass fenestrations (windows and full glass doors) on the first level. EIFS shall not be permitted within ten (10) feet of the finished floor elevation of the façade on which it is located. All structures shall utilize Class 1 or 2 roofing materials. No primary façade shall exceed 60 feet in length without interruption by one or more of the following architectural features:

- Projection or recess in the wall plane of at least two (2) feet in depth.
- Columns, piers, pilasters or other equivalent structural and/or decorative elements.

The primary façade is located on the east exterior elevation. The applicant proposes to use a combination of brick (class 1), stone veneer (class 1), clear glass (class 1) and pre-cast stone (class 1). Applicable elevations meet all aspects of the code.

FINDINGS FOR APPROVAL

In order for the Commission to make a recommendation for approval of a Major Site Plan, the Commission shall make the following findings:

- 1. The proposed use, site improvements, and site plan comply with the minimum requirements of the zoning district in which it is proposed to be located**

The applicant has provided a site plan with their application that shows the proposed use and proposed site improvements will comply with the minimum requirements of the C-2 Zoning District. This site plan has been reviewed by all members of the City's development review team, which includes Community Development, Fire, Parks and Recreation, Public Works, Water Pollution Control, IMU Electric, IMU Fiber and IMU Water.

2. The property is of adequate size to accommodate the proposed use and site improvements including setbacks, open space, stormwater management, and off-street parking

The total area of this site is 101,369 square feet, or 2.327 acres. The site plan has been reviewed as to proposed setbacks, open space, and off-street parking. Additionally, Snyder and Associates has reviewed the proposed Stormwater Management Plan submitted by the applicant. After these reviews, staff has no concerns regarding the size of the property and its proposed use.

3. The proposed use and site improvements will not unduly impact the health, safety, and general welfare of persons residing or working in adjoining property or surrounding areas

A buffer yard will be implemented to buffer between the commercial use and residential properties that exist to the west. Based on the proposed use and improvements, the health, safety, and welfare of citizens should not be impacted.

4. The proposed use and site improvements shall not unduly increase traffic congestion

Traffic congestion should not increase with the proposed improvements. North Jefferson Way is a major arterial high-capacity roadway that primarily provide for the movement of through traffic and limit access to adjacent land and to move regional through traffic. It provides five lanes with turn lanes, with a higher speed limit ranging from 35 to 55 mph in town. Additionally, because the use was previously established, it is not anticipated traffic congestion would unduly increase.

5. The proposed use and site improvements will not unduly burden public utilities or increase risk to flooding

The proposed use will not unduly burden the existing public utilities available in this area. The proposed site improvements do connect sanitary sewer to the existing sanitary sewer line and connects its water service to a water main located along Valley Place. A drainage report was submitted for the subject property. Impervious surface area is proposed to not increase significantly on the subject property any greater than what currently exists. As a result, it may be concluded that there will not be an increased risk to flooding from the proposed improvements.

6. The proposed use and site improvements are compatible with the surrounding neighborhood and shall not diminish or impair established property values in adjoining or surrounding property

To the North, South, and East of the subject property is zoned C-2 Highway Commercial. To the West is zoned R-1 single-family residential. To the south is zoned R-3 Multi-family Residential Zoning. Because the use was established previously, these improvements should not diminish or impair established property values in adjoining or surrounding property.

7. The proposed use and site improvements will not endanger, jeopardize, or harm the health, safety or welfare of the properties and the community

As previously mentioned, the proposed use and site improvements will not endanger or harm the health safety and welfare of properties or the community.

ALTERNATIVES

The City of Indianola Planning and Zoning Commission may consider the following alternatives:

- 1) The City of Indianola Planning and Zoning Commission concludes that all findings of approval have been satisfied, and recommends the Major Site Plan be approved, as submitted.**
- 2) The City of Indianola Planning and Zoning Commission concludes that all findings of approval have been satisfied, and recommends the Major Site Plan be approved, with conditions.**

- 3) The City of Indianola Planning and Zoning Commission concludes that all findings of approval have not been satisfied and recommends the Major Site Plan be denied.
- 4) The City of Indianola Planning and Zoning Commission remands the Major Site Plan, back to the applicant and/or staff for further review and/or modifications and directs staff to place this item on a future Planning and Zoning agenda.

RECOMMENDATION

Staff recommends that the Indianola Planning and Zoning Commission concludes that all findings of approval have been satisfied, and recommends the Major Site Plan be approved, as submitted.

SITE DEVELOPMENT APPLICATION

Community Development

110 North 1st Street, Indianola, Iowa 50125-0299
(515) 961-9430 • comdev@indianolaiowa.gov



PROPERTY OWNER

(Last Name) Welling
(First Name) Keith
(Address) 1401 North Jefferson
(City) Indianola (State) IA (Zip) 50125
(Phone) 5159615880 (Email) kwelling@trubank.bank

APPLICANT (if not Property Owner)

(Last Name) Snow
(First Name) Hal
(Address) 4015 Alexandra Drive
(City) Waterloo (State) IA (Zip) 50704

☐ CONSTRUCTION DOCUMENTS

Submittal Requirements:

All submittal requirements must be completed. Incomplete applications will not be considered

- ☐ Completed Application
- ☐ Filing Fee: \$100, plus OEC
- ☐ Subdivision: _____
- ☐ Proposed construction documents (hard copy)
- ☐ Proposed construction documents (electronic copy)
- ☐ Stormwater Management Plan
- ☐ Other Information as required by Director

☒ SITE PLAN

Submittal Requirements:

All submittal requirements must be completed. Incomplete applications will not be considered

- ☒ Completed Application
- ☒ Property Address: 1401 North Jefferson Way
- ☒ Filing Fee: \$225, plus OEC
- ☒ Current Zoning: C-2
- ☒ All items as required by Chapter 165.06 of the Code of Ordinances of Indianola, Iowa
- ☒ Proposed site plan hard copy)
- ☒ Proposed site plan (electronic copy)
- ☒ Stormwater Management Plan
- ☒ Other Information as required by Director

I certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owner(s) of the property. Pursuant to said authority, I hereby permit City officials to enter upon the property for the purpose of inspection related to this application.

Signature 
Name (printed) Hal D Snow, AIA NCARB

Date 2022-06-24

FOR OFFICE USE ONLY: Code to 45683 (Const Docs)
45680 (Site Plan)

Date Received: _____
Receipt No: _____
Receipt Amount: _____

8/15/2022 8:11:16 AM Autodesk Docs/2022 - Indianola IA - Tru Bank.vrt

A NEW MAIN FACILITY FOR TruBank

1401 NORTH JEFFERSON WAY
INDIANOLA, IA 50125



BOX 2097
4015 ALEXANDRA DR.
WATERLOO, IA 50704
PH: (319) 234-6641

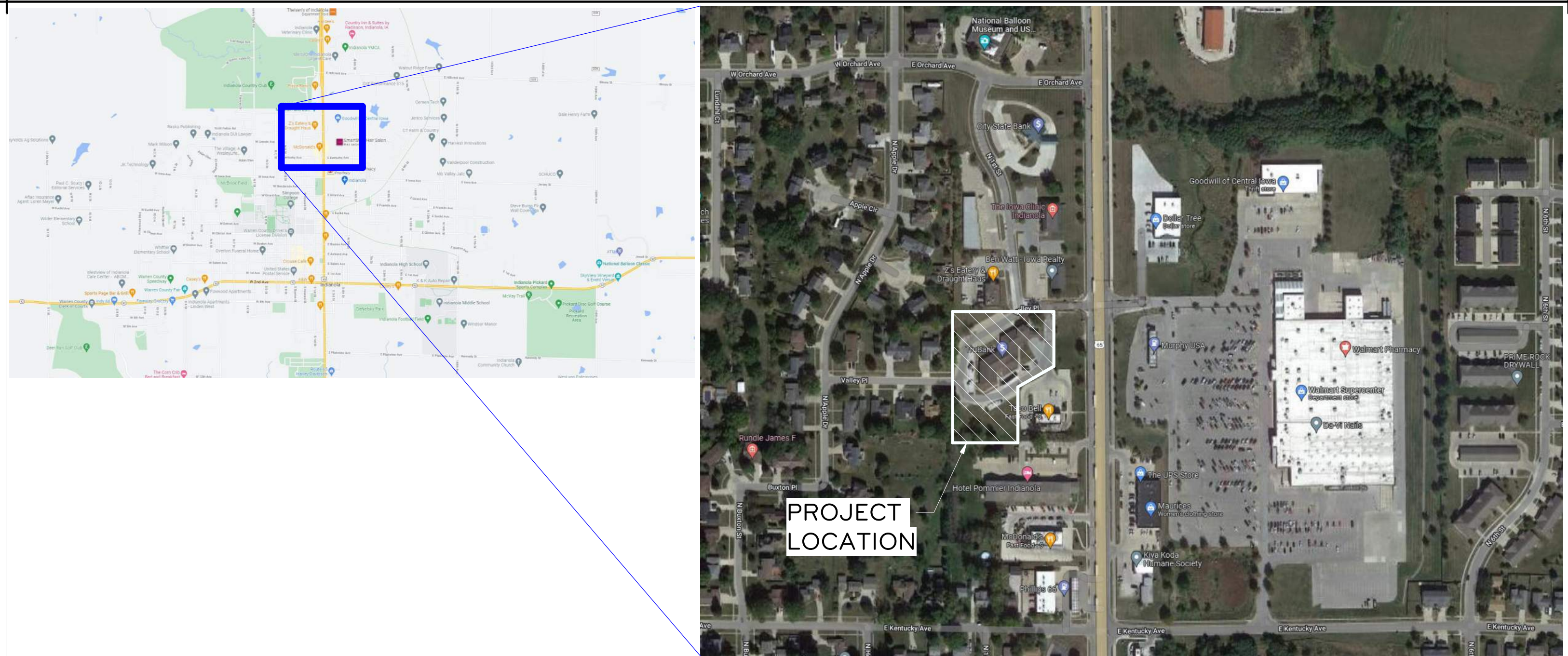
INFO@KIRKGROSS.CO

SHEET LIST

SHEET NUMBER	SHEET NAME	ISSUED FOR:	BID	CONSTR
GENERAL				
G0.0	TITLE SHEET			
G0.1	SITE PLAN			
G0.2	CODE DIAGRAMS			
G0.3	3D VIEWS			
CIVIL				
C0.2	SITE DEVELOPMENT PLAN			
C0.3	GENERAL NOTES			
C1.1	EXISTING CONDITIONS & REMOVALS PLAN			
C2.1	UTILITIES PLAN			
C3.1	PAVING PLAN - NORTH			
C3.2	PAVING PLAN - SOUTH			
C4.1	SWPPP - INITIAL DISTURBANCE			
C4.2	SWPPP - CONSTRUCTION PHASE			
C4.3	SWPPP - FINAL STABILIZATION			
LANDSCAPING				
L100	LANDSCAPE PLAN			
L200	LANDSCAPE DETAILS & NOTES			
L300	IRRIGATION CONTROL WIRE PLAN			
L301	IRRIGATION PLAN			
L390	IRRIGATION DETAILS			
L391	IRRIGATION DETAILS			
L392	IRRIGATION SPECIFICATION			
L393	IRRIGATION SPECIFICATION			
STRUCTURAL				
S-000	GENERAL STRUCTURAL NOTES			
S-101	FOOTING & FOUNDATION PLAN			
S-111	FRAMING PLAN			
S-301	FRAMING SECTIONS			
S-302	CANOPY DETAILS			
S-303	CANOPY DETAILS			
S-304	CANOPY DETAILS			
S-305	CANOPY DETAILS			
S-306	DRIVE THRU DETAILS			
S-307	DRIVE THRU DETAILS			
S-501	TYPICAL CONCRETE DETAILS			
S-502	TYPICAL FRAMING DETAILS			
S-503	FRAMING DETAILS			
ARCHITECTURAL				
A0.1	SCHEDULES			
A0.2	SCHEDULES			
A1.0	FLOOR PLAN			
A2.0	REFLECTED CEILING PLAN			
A3.0	ROOF PLAN			
A4.0	EXTERIOR ELEVATIONS			
A4.1	EXTERIOR ELEVATIONS			
A5.0	INTERIOR ELEVATIONS			
A5.1	INTERIOR ELEVATIONS			
A5.2	INTERIOR ELEVATIONS			
A5.3	INTERIOR ELEVATIONS			
A5.4	ENLARGED TOILET PLANS			
A6.0	BUILDING SECTIONS			
A7.0	WALL SECTIONS			
A7.1	WALL SECTIONS			
A7.2	WALL SECTIONS			
A7.3	WALL SECTIONS			
A7.4	WALL SECTIONS			
A8.0	SITE DETAILS			
A8.1	EXTERIOR DETAILS			
A8.2	WINDOW DETAILS			
A8.3	DOOR DETAILS			
A8.4	INTERIOR DETAILS			
A8.5	CASEWORK DETAILS			
A8.6	CASEWORK DETAILS			
A9.0	FINISH PLAN			
A9.1	FINISH SCHEDULES			
SECURITY				
Q1.0	SECURITY PLAN			
FURNITURE				
F1.0	FURNITURE PLAN			
MEP				
CS1	COVER SHEET			
PLUMBING				
PL090	PLUMBING PLAN - UNDERFLOOR			
PL101	PLUMBING PLAN - LEVEL 1			
P401	ENLARGED PLUMBING PLANS			
P501	PLUMBING DETAILS			
P601	PLUMBING SCHEDULES			
P602	PLUMBING SCHEDULES			
MECHANICAL				
MH101	HVAC PLAN - LEVEL 1			
M601	HVAC SCHEDULES			
ELECTRICAL				
E000	ELECTRICAL SYMBOLS & ABBREVIATIONS			
ES101	ELECTRICAL SITE PLAN			
ES102	SITE LIGHTING PHOTOMETRIC			
EL101	LIGHTING PLAN - LEVEL 1			
EP101	POWER PLAN - LEVEL 1			
E501	ELECTRICAL DETAILS			
E600	ELECTRICAL ONE-LINE DIAGRAM			
E601	ELECTRICAL SCHEDULES			



LOCATION MAP



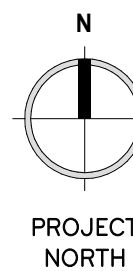
PROJECT DESCRIPTION

THIS PROJECT CONSIST OF A NEW 15,000 SF BANK FACILITY. BUILDING TO BE CONSTRUCTED OF POURED CONCRETE FOOTINGS/FOUNDATION, CONCRETE SLAB ON GRADE, WOOD FRAME EXTERIOR WALLS WITH BRICK/STONE MASONRY VENEER, WOOD ROOF TRUSSES WITH STANDING SEAM METAL ROOF OVER PLYWOOD DECK. INTERIOR TO BE CONSTRUCTED OF WOOD FRAME WALLS WITH GYPSUM BOARD, SUSPENDED ACOUSTICAL CEILING, CARPET TILE/PORCELAIN TILE/LUXURY VINYL TILE FLOORS, WOOD DOORS WITH WOOD FRAMES AND CASEWORK.

PROJECT TEAM

OWNER:	TRUBANK 1401 NORTH JEFFERSON INDIANOLA, IA 50125-0257 CONTACT: KEITH WELLING 515.961.5880 kwelling@trubank.bank
ARCHITECT & INTERIOR DESIGN:	KIRK GROSS COMPANY 4015 ALEXANDRA DRIVE WATERLOO, IA 50704-2097 CONTACT: HAL D SNOW, AIA NCARB 319.433.6508 halsnow@kirkgross.com
GENERAL CONTRACTOR:	KIRK GROSS COMPANY 4015 ALEXANDRA DRIVE WATERLOO, IA 50704-2097 CONTACT: JOEL GEELS 319.234.6522 joelgeels@kirkgross.com
CIVIL ENGINEER:	ROBINSON ENGINEERING COMPANY 819 SECOND STREET, NE INDEPENDENCE, IA 50644 CONTACT: MONICA SMITH, PE 319.334.7211 monica.smith@robinsoneng-ia.com
STRUCTURAL ENGINEER:	SELECT STRUCTURAL ENGINEERING 606 14TH AVENUE, SW CEDAR RAPIDS, IA 52404 CONTACT: MATT PAPIK 319.449.0015 mpapik@select-structural.com
MECHANICAL ENGINEER & PLUMBING ENGINEER:	THE BAKER GROUP 1600 SE CORPORATE WOODS DRIVE ANKENY, IA 50021 CONTACT: JOHN THOMAS 515.299.4278 thomasjha@thebakergroup.com
ELECTRICAL ENGINEER:	ABC ELECTRIC 5299 NE 15TH STREET DES MOINES, IA 50313 CONTACT: LEROY CLAIR 515.309.5608 lclair@abcelectric.com
SECURITY SYSTEM:	CONVERGINT 4601 NW URBANDALE DRIVE, SUITE 120 & 122 URBANDALE, IA 50322 CONTACT: MEGAN HEATHERINGTON 515.351.0166 megan.heatherington@convergint.com
CITY OF INDIANOLA:	110 N 1ST STREET INDIANOLA, IA 50125 SANITARY SEWER CONTACT: RICK GRAVES 515.961.9416 rgraves@indianolaia.gov STREETS & STORM WATER CONTACT: AKHILESH PAL 515.961.9415 apal@indianolaia.gov
INDIANOLA MUNICIPAL UTILITIES	210 W 2ND AVENUE INDIANOLA, IA 50125 WATER CONTACT: LOU ELBERT 515.962.5330 lelbert@indianolaia.gov FIBER OPTICS CONTACT: KURT RIPPERGER 515.962.5283 kripperger@imufiber.com POWER/ELECTRIC CONTACT: MIKE METCALF 515.962.5305 mmetcalf@indianolaia.gov

A NEW MAIN FACILITY FOR TruBank
PROJECT NO. 2122
1401 NORTH JEFFERSON WAY
INDIANOLA, IA 50125



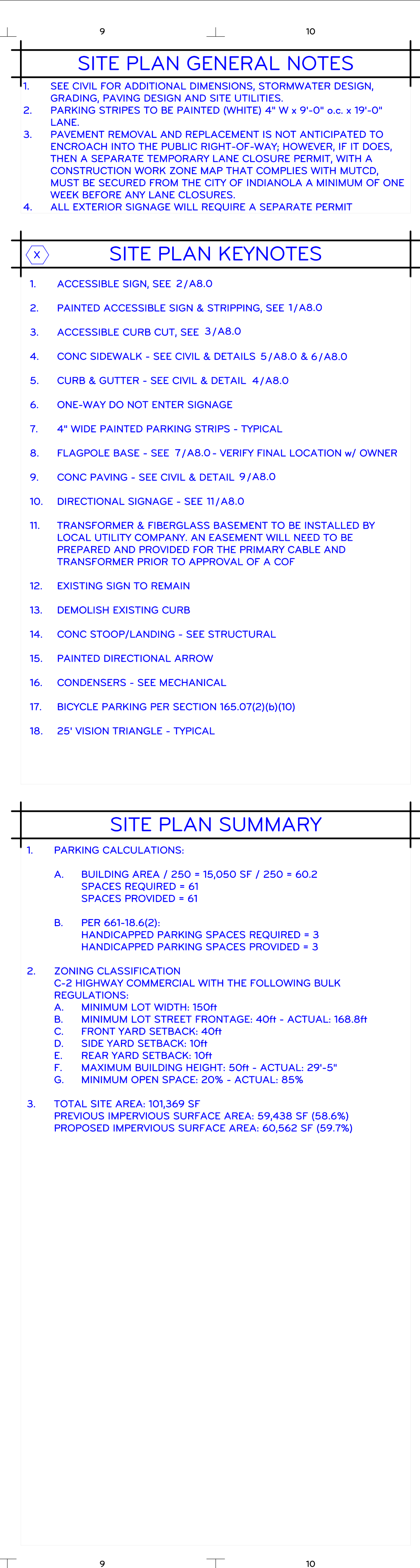
DATE	#	DESCRIPTION
08/17/2022		Major Site Plan Resubmital
08/26/2022		Major Site Plan Resubmital

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TITLE SHEET

GO.0





1 CODE DIAGRAM
G0.2 1/8" = 1'-0"

ROOM OCCUPANT LOAD				
RM #	ROOM NAME	AREA	AREA / OCC	ASSIGNED O.L.
Assembly: Group A-3				
124	TRAINING ROOM / COMMUNITY ROOM	1,863 SF	15 SF	100
Assembly: Group A-3				
Grand total		1,863 SF	100	223

ROOM OCCUPANT LOAD				
RM #	ROOM NAME	AREA	AREA / OCC	ASSIGNED O.L.
Business: B				
101	LOBBY	640 SF	15 SF	20
102	WAITING	396 SF	150 SF	4
103	OFFICE	158 SF	150 SF	2
104	OFFICE	164 SF	150 SF	2
105	C.W.R.	96 SF	150 SF	1
106	DRIVE-THRU TELLERS	143 SF	150 SF	1
107	TELLER STATIONS	316 SF	150 SF	3
108	OFFICE	93 SF	150 SF	1
112	STORAGE	97 SF	300 SF	1
113	VIEWING	55 SF	150 SF	1
126	STORAGE	301 SF	300 SF	1
127	FILE STORAGE	230 SF	300 SF	1
131	WORKSTATIONS	1,228 SF	150 SF	9
132	MECH	281 SF	300 SF	1
133	BOARD ROOM	383 SF	15 SF	18
134	OFFICE	163 SF	150 SF	2
135	OFFICE	163 SF	150 SF	2
136	OFFICE	318 SF	150 SF	3
137	OFFICE	319 SF	150 SF	3
140	STORAGE	144 SF	300 SF	1
141	OFFICE	158 SF	150 SF	2
142	OFFICE	158 SF	150 SF	2
143	OFFICE	158 SF	150 SF	2
144	OFFICE	158 SF	150 SF	2
145	OFFICE	158 SF	150 SF	2
146	OFFICE	158 SF	150 SF	2
147	MEETING ROOM	161 SF	15 SF	11
148	OFFICE	162 SF	150 SF	2
151	OFFICE	305 SF	150 SF	3
152	OFFICE	157 SF	150 SF	2
153	OFFICE	159 SF	150 SF	2
154	MEETING ROOM	174 SF	15 SF	12
155	ELEC	57 SF	300 SF	1
156	WATER	58 SF	300 SF	1
Business: B		7,869 SF		123

CODES		CODE SUMMARY	
2018 IBC	2018 IMC	PROJECT TYPE:	NEW BUILDING
2018 IFC	2018 UPC	PROJECT AREA:	15,128 GSF
2012 IECC	2017 NEC	STORIES ABOVE GRADE:	1
2010 AMERICAN WITH DISABILITIES ACT		BUILDING HEIGHT:	29'-5"
		CONSTRUCTION AND OCCUPANCY	
		OCCUPANCY(S)	(CHAPTER 3) B (PROFESSIONAL)
		CHANGE OF OCCUPANCY	(CHAPTER 3) NO
		NON-SEPARATED OCCUPANCIES (SECTION 508.3)	NO
		CONSTRUCTION TYPE	(CHAPTER 6) V B
		SPECIAL REQUIREMENTS	(CHAPTER 4) NONE
		GENERAL BUILDING HEIGHTS AND AREAS	CHAPTER 5
		BASIC ALLOWABLE AREA (VB-S1)	(TABLE 506.2) 36,000 SF
		ALLOWABLE BUILDING HEIGHT	(TABLE 504.3) 60'-0"
		ALLOWABLE STORIES ABOVE GRADE	(TABLE 504.4) 3
		FIRE RESISTANCE RATING REQUIREMENTS (HOURS)	TABLE 601
		PRIMARY STRUCTURAL FRAME	0
		BEARING WALLS - EXTERIOR	0
		BEARING WALLS - INTERIOR	0
		NON-BEARING WALLS AND PARTITIONS - EXTERIOR	0
		NON-BEARING WALLS AND PARTITIONS - INTERIOR	0
		FLOOR CONSTRUCTION	0
		ROOF CONSTRUCTION	0
		EXCEPTIONS	NONE
		FIRE RESISTANCE RATINGS FOR EXTERIOR WALLS (HRS)	TABLE 602
		ALL SIDES	>30'-0" 0
		FIRE PROTECTION	CHAPTER 9
		SPRINKLERED	(SECTION 903) YES (NOT REQ'D)
		FIRE ALARM	(SECTION 907) NO
		SMOKE CONTROL	(SECTION 909) NO
		CARBON MONOXIDE DETECTION	(SECTION 915) NO
		MEANS OF EGRESS	CHAPTER 10
		EXIT ACCESS TRAVEL DISTANCE	(TABLE 1017.2) 300"
		CORRIDOR FIRE-RESISTANCE	(TABLE 1020.1) 0
		MINIMUM CORRIDOR WIDTH	(TABLE 1020.2) 44"
		DOOR WIDTH SIZING REQUIRED	(SECTION 1005) 0.2 x 223 = 44.6"
		DOOR WIDTH SIZING PROVIDED	(SECTION 1005) 233"
		OCCUPANT LOAD	TABLE 1004.5
		SEE ROOM OCCUPANT LOAD TABLE THIS SHEET	
		PLUMBING SYSTEMS - FIXTURE CALCULATIONS	TABLE 2902.1
		BUSINESS: 123 / 2 = 61.5	
		1 TOILET PER 25 FOR THE FIRST 50 THEN 1 PER 50 FOR REMAINDER EXCEEDING 50	
		MALE - 2.23 REQUIRED	
		FEMALE - 2.23 REQUIRED	
		1 LAV PER 40 FOR THE FIRST 80 THEN 1 PER 80 FOR REMAINDER EXCEEDING 80	
		LAV - 2.54 REQUIRED	
		1 DRINKING FOUNTAIN PER 100	
		DF - 1.23	
		ASSEMBLY: 100 / 2 = 50	
		TOILET	
		MALE - 1 TOILET PER 125 = 0.4 REQUIRED	
		FEMALE - 1 TOILET PER 65 = 0.77 REQUIRED	
		LAV - 1 PER 200 = 0.5	
		DRINKING FOUNTAIN - 1 PER 500 = 0.2 REQUIRED	
		PLUMBING FIXTURES REQUIRED PROVIDED	
		TOILET (MALE)	2.63 REQUIRED 3 PROVIDED
		TOILET (FEMALE)	3.00 REQUIRED 3 PROVIDED
		LAVATORIES	3.04 REQUIRED 6 PROVIDED
		DF	1.43 REQUIRED 2 PROVIDED
		SERVICE SINKS	1 REQUIRED 1 PROVIDED

KIRK GROSS COMPANY

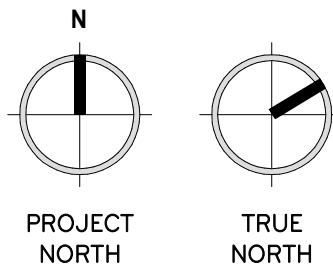
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BOX 2097
4015 ALEXANDRA DR.
WATERLOO, IA 50704
PH: (319) 234-6641
INFO@KIRKGROSS.CO

A NEW MAIN FACILITY FOR TruBank

PROJECT NO. - 2122

1401 NORTH JEFFERSON WAY
INDIANOLA, IA 50125



DESCRIPTION

#

DATE

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CODE DIAGRAMS

G0.2



Community Room



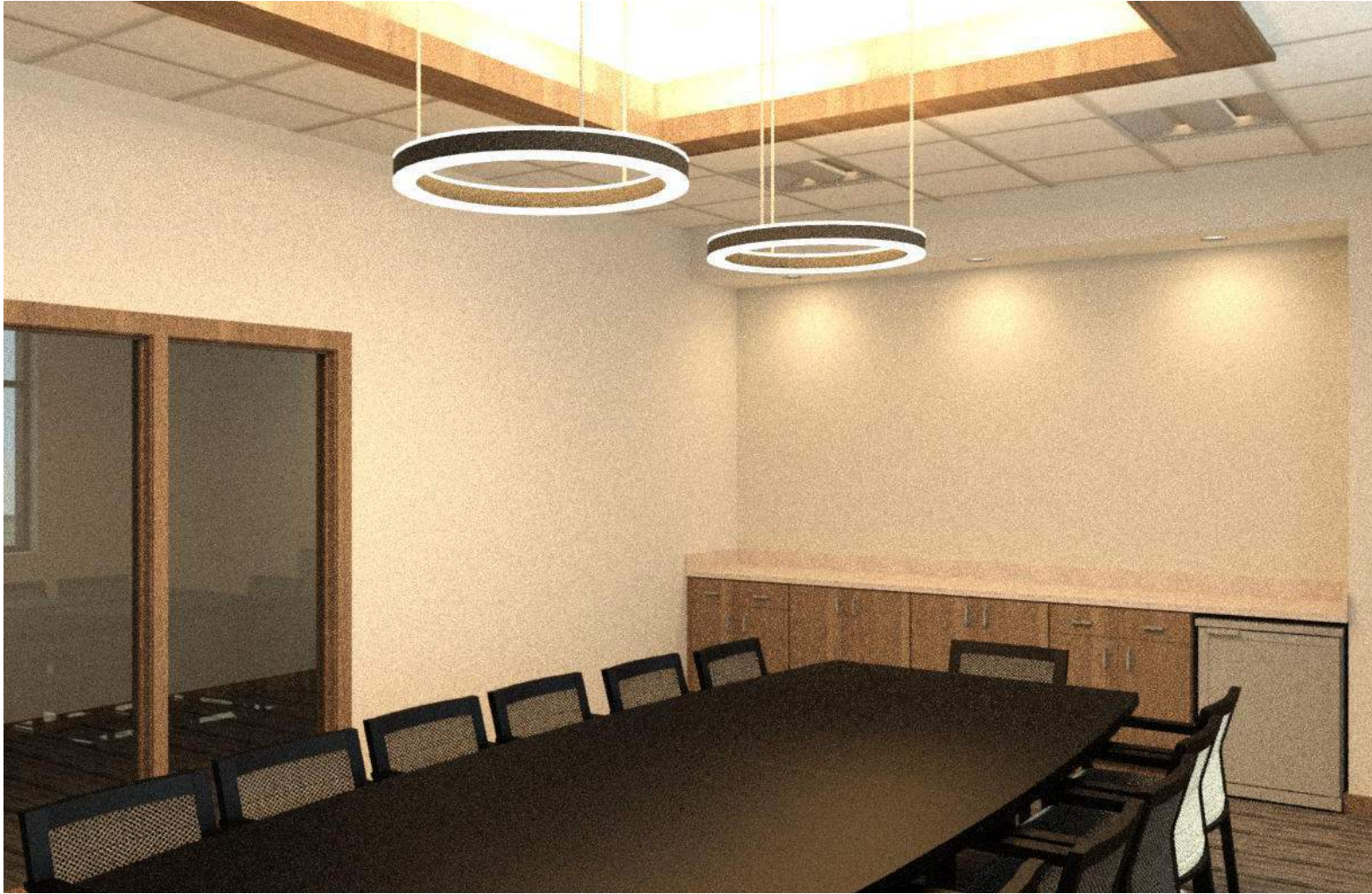
Teller Line



Waiting



Lobby



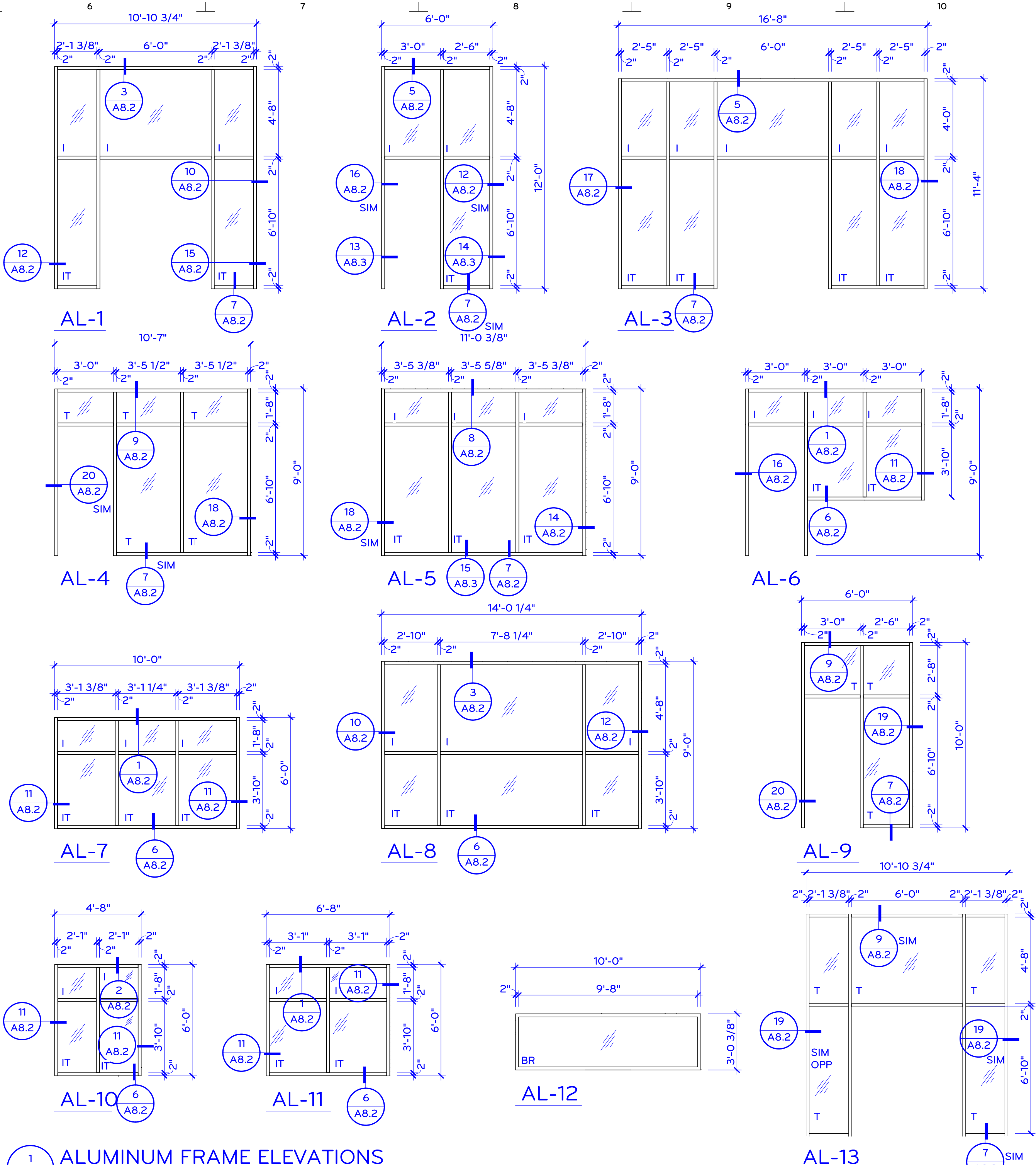
Board Room



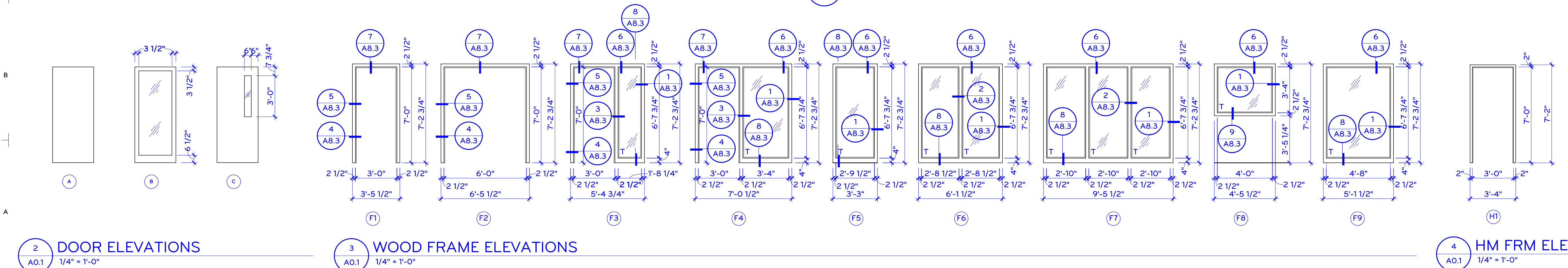
Exterior

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DOOR SCHEDULE																
FIRE RATING			GLAZING TYPE			DOOR MATERIAL TYPE				DOOR FRAME MATERIAL TYPE						
3 HOUR			BR - BULLET RESISTANT GLASS			AL/GL - ALUMINUM & GLASS				AL - ALUMINUM						
2 HOUR			C - FIRE RATED CERAMIC GLASS			BIRCH - BIRCH WOOD				HM - HOLLOW METAL						
1 1/2 HOUR			I - INSULATED			FIB - FIBERGLASS				HMI - HOLLOW METAL INSULATED						
1 HOUR			IT - INSULATED & TEMPERED			HM - HOLLOW METAL				STL - STEEL						
3/4 HOUR			T - CLEAR TEMPERED GLASS			OAK - OAK WOOD				WD - WOOD						
20 MINUTE			TT - TINTED & TEMPERED			PLAM - PLASTIC LAMINATE CLAD										
NR - NO RATING						WD - WOOD (AS SPECIFIED)										
ROOM NAME	ROOM NUMBER	DOOR NUMBER	FIRE RATING	DOOR WIDTH	HEIGHT	SINGLE	PAIR	ELEVATION	GLAZING	MATERIAL	FRAME ELEVATION	WIDTH	GLAZING	MATERIAL	HARDWARE GROUP	REMARKS
VEST.	100	100	NR	3'-0"	7'-0"		X	B	IT	AL/GL	AL1	4 1/2"	IT	AL	01	
LOBBY	101	101	NR	3'-0"	7'-0"			B	IT	AL/GL	AL1	4 1/2"	IT	AL	02	
LOBBY	101	102	NR	3'-0"	7'-0"	X		B	IT	AL/GL	AL6	4 1/2"	IT	AL	03	
OFFICE	103	103	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	104	104	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
VAULT	109	109	60 MIN	4'-0"	7'-3"	X		*	*	*	*	6"	*	*	*	1
CASH VAULT	110	110	60 MIN	4'-0"	7'-3"	X		*	*	*	*	8 5/8"	*	*	*	1
HALL	111	111	NR	3'-0"	7'-0"		X	C	T	WD	F2	4 3/4"	N/A	WD	14	
STORAGE	112	112	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	05	
VIEWING	113	113	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
JANITOR	114	114	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	05	
TLT	115	115	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	06	
TLT	116	116	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	06	
WELLNESS	118	118	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	06	
TLT	119	119	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	06	
TLT	120	120	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	06	
BREAKROOM	122	122	NR	3'-0"	7'-0"	X		B	IT	AL/GL	AL4	4 1/2"	IT	AL	04	
FOYER	123	123	NR	3'-0"	7'-0"		X	B	IT	AL/GL	AL3	4 1/2"	IT	AL	07	
TRAINING ROOM / COMMUNITY ROOM	124	124A	NR	3'-0"	7'-0"	X		A	N/A	WD	F2	4 3/4"	T	WD	09	
TRAINING ROOM / COMMUNITY ROOM	124	124B	NR	3'-0"	7'-0"	X		A	T	WD	F2	4 3/4"	T	WD	09	
TRAINING ROOM / COMMUNITY ROOM	124	124C	NR	3'-0"	7'-1"	X		A	N/A	HM	H1	5 3/4"	N/A	HM	08	
TRAINING ROOM / COMMUNITY ROOM	124	124D	NR	3'-0"	7'-0"	X		C	T	WD	F1	4 3/4"	N/A	WD	10	
VEST.	125	125A	NR	3'-0"	7'-0"	X		B	IT	AL/GL	AL2	4 1/2"	IT	AL	11	
VEST.	125	125B	NR	3'-0"	7'-0"	X		B	IT	AL/GL	AL9	4 1/2"	IT	AL	12	
STORAGE	126	126	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
FILE STORAGE	127	127	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
TLT	128	128	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	06	
TLT	129	129	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	06	
HALL	130	130	NR	2'-6"	7'-0"		X	C	T	WD	F2	6 3/4"	N/A	WD	13	
MECH	132	132	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	14	
BOARD ROOM	133	133	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	134	134	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	135	135	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	136	136	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	137	137	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
STORAGE	140	140	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	14	
OFFICE	141	141	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	142	142	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	6 3/4"	N/A	WD	04	
OFFICE	143	143	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	144	144	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	6 3/4"	N/A	WD	04	
OFFICE	145	145	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	146	146	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	6 3/4"	N/A	WD	04	
MEETING ROOM	147	147	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	148	148	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	6 3/4"	N/A	WD	04	
VEST.	149	149A	NR	3'-0"	7'-0"	X		B	IT	AL/GL	AL2	4 1/2"	IT	AL	16	
VEST.	149	149B	NR	3'-0"	7'-0"	X		B	IT	AL/GL	AL2	4 1/2"	IT	AL	15	
OFFICE	151	151	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	152	152	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
OFFICE	153	153	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
MEETING ROOM	154	154	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	04	
ELEC	155	155	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	14	
WATER	156	156	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	14	
IT	157	157	NR	3'-0"	7'-0"	X		A	N/A	WD	F1	4 3/4"	N/A	WD	17	
REMARKS:																
1. * VAULT DOOR & FRAME BY SECURITY VENDOR																



1 ALUMINUM FRAME ELEVATIONS
1/4" = 1'-0"



2 DOOR ELEVATIONS
1/4" = 1'-0"

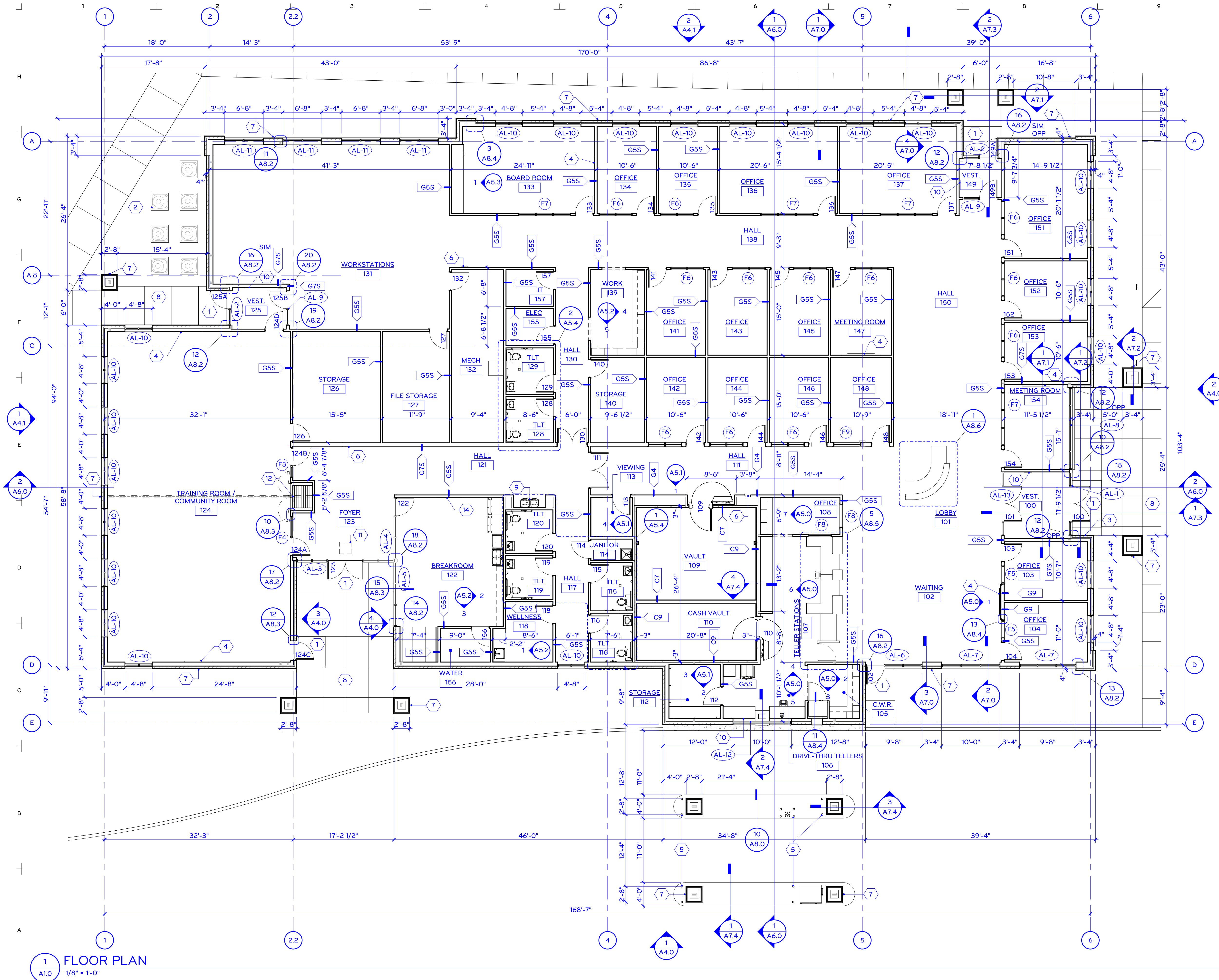
3 WOOD FRAME ELEVATIONS
1/4" = 1'-0"

4 HM FRM ELEV
1/4" = 1'-0"

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PARTITION & WALL TYPES																				
H		STONE VENEER MORTAR BED SCRATCH COAT METAL LATH (2) - LAYERS 15# FELT 5/8" PLYWD SHEATHING 2x6 WD STUD - 16" o.c.	W9	8 5/8"		FACE BRICK AIR SPACE WEATHER BARRIER 1/2" SHEATHING 2x6 WD STD - 16" o.c. w/ FULL BATT INSUL 6 MIL POLY VAPOR BARRIER 5/8" GYP BD	W12	1'-0 5/8"		STONE AIR SPACE WEATHER BARRIER 1/2" SHEATHING 2x6 WD STD - 16" o.c. w/ FULL BATT INSUL 6 MIL POLY VAPOR BARRIER 5/8" GYP BD	W12A	1'-0 5/8"		STONE AIR SPACE WEATHER BARRIER 1/2" SHEATHING 2x6 WD STD - 16" o.c. w/ FULL BATT INSUL 6 MIL POLY VAPOR BARRIER 5/8" GYP BD	W12B	1'-0 5/8"		FACE BRICK AIR SPACE WEATHER BARRIER 1/2" SHEATHING 2x10 WD STD - 16" o.c. w/ FULL BATT INSUL 6 MIL POLY VAPOR BARRIER 5/8" GYP BD	W16	1'-4 3/8"
F		FACE BRICK AIR SPACE WEATHER BARRIER 1/2" SHEATHING 2x6 WD STD - 16" o.c. w/ FULL BATT INSUL 4" VAULT WALL BY OTHERS 1 1/2" FURRING 5/8" GYP BD	W18	1'-6 1/8"		PARTITION TYPE G2 1 1/2" WD FURRING 5/8" GYP BD	G2	2 1/8"		PARTITION TYPE G4 2x4 WD STUD - 16" o.c. 5/8" GYP BD	G4	4 1/8"		PARTITION TYPE G5S 5/8" GYP BD 2x4 WD STUD - 16" o.c. FULL BATT INSULATION 5/8" GYP BD	G5S	4 3/4"		PARTITION TYPE G7S 5/8" GYP BD 2x6 WD STUD - 16" o.c. FULL BATT INSULATION 5/8" GYP BD	G7S	6 3/4"
D		STONE VENEER MORTAR BED SCRATCH COAT METAL LATH (2) - LAYERS 15# FELT 5/8" PLYWD SHEATHING 2x4 WD STUD - 16" o.c. w/ FULL BATT INSUL 6 MIL POLY VAPOR BARRIER 5/8" GYP BD	W7	6 5/8"		STONE VENEER MORTAR BED SCRATCH COAT METAL LATH (2) - LAYERS 15# FELT 5/8" PLYWD SHEATHING 2x6 WD STUD - 16" o.c. w/ FULL BATT INSUL 6 MIL POLY VAPOR BARRIER 5/8" GYP BD	G9	8 5/8"		5/8" GYP BD 7/8" FURRING 3" VAULT WALL BY OTHERS 7/8" FURRING 5/8" GYP BD	C7	5 3/4"	FOR RATED PENETRATIONS SEE DETAIL 5/A8.4		5/8" GYP BD 1 1/2" FURRING 3" VAULT WALL BY OTHERS 2x4 WD STUD - 16" o.c. 5/8" GYP BD	C9	9 1/4"			

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1 FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES

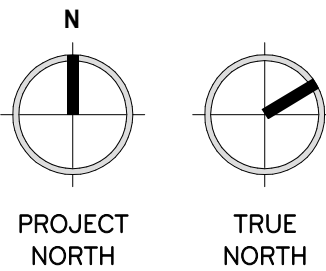
- SEE SHEET AC1 FOR CODE INFORMATION.
- SEE SHEET AO.2 FOR WALL & PARTITION TYPES.
- ALL WALLS TO BE BUILT UP TO BO ROOF TRUSSES U.N.O.

WALL KEY

- 1hr WALL RATING
G4XSL WALL TYPE
UL # UL NUMBER
- G INTERIOR GYPSUM BOARD PARTITION
M MASONRY WALL
SW SHAFT WALL
W EXTERIOR WALL SYSTEM
C CONCRETE WALL
4 WALL OR PARTITION SIZE. SEE SCHEDULE
X FIRE RATED
S INSULATED WALL OR PARTITION
L LEAD LINED WALL OR PARTITION

KEYNOTES

- X
- CONCRETE STOOP - SEE STRUCTURAL
 - MECH UNIT - SEE MECHANICAL
 - KNOX BOX
 - TV
 - STEEL PIPE BOLLARD. SEE 8/A8.0
 - FE & FE CABINET - SEE DETAIL 1/A8.4
 - DOWNSPOUT LOCATION - CONNECT TO DRAINAGE TILE BELOW
 - CONCRETE SIDEWALK
 - HI-LO DRINKING FOUNTAIN w/ BOTTLE FILL
 - CABINET UNIT HEATER
 - CABINET UNIT HEATER (ABOVE)
 - WALL POCKET - VERIFY REQUIRED WIDTH & DEPTH WITH OPERABLE PARTITION MANUFACTURER



DESCRIPTION

#

DATE

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FLOOR PLAN

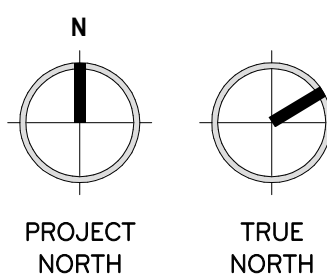
A1.0

SYMBOL KEY

-  **ACOUSTICAL CEILING TILE AND SUSPENDED GRID SYSTEM**
-  **GYPSUM BOARD OR PLASTER CEILING**
-  **2X2 INDIRECT LED LIGHT FIXTURE**
-  **LINEAR LIGHT FIXTURE**
-  **RECESSED LIGHT FIXTURE**
-  **PENDANT LIGHT FIXTURE**
-  **2X2 SUPPLY AIR GRILL**
-  **2X2 RETURN AIR GRILL**
-  **6X2 RETURN AIR GRILL**
-  **EXHAUST FAN**

KEYNOTES

1. GUTTER
2. DOWNSPOUT
3. GYPSUM BOARD SOFFIT SYSTEM
4. PRE-FIN METAL PANEL SOFFIT SYSTEM (VENTED)
5. PRE-FIN METAL PANEL SOFFIT SYSTEM
6. REMOTE DRIVE-UP TRANSPORT TUBE (UPSEND TYPE - NIC)
7. OPEN/CLOSE LANE SIGN - SEE SECURITY PLAN
8. 24 HOUR ATM LANE SIGN
9. ACCESS PANEL & LADDER - SEE DETAIL 12/A8.4
10. RECESSED CEILING MOUNTED CABINET HEATER



DESCRIPTION

#

PATI

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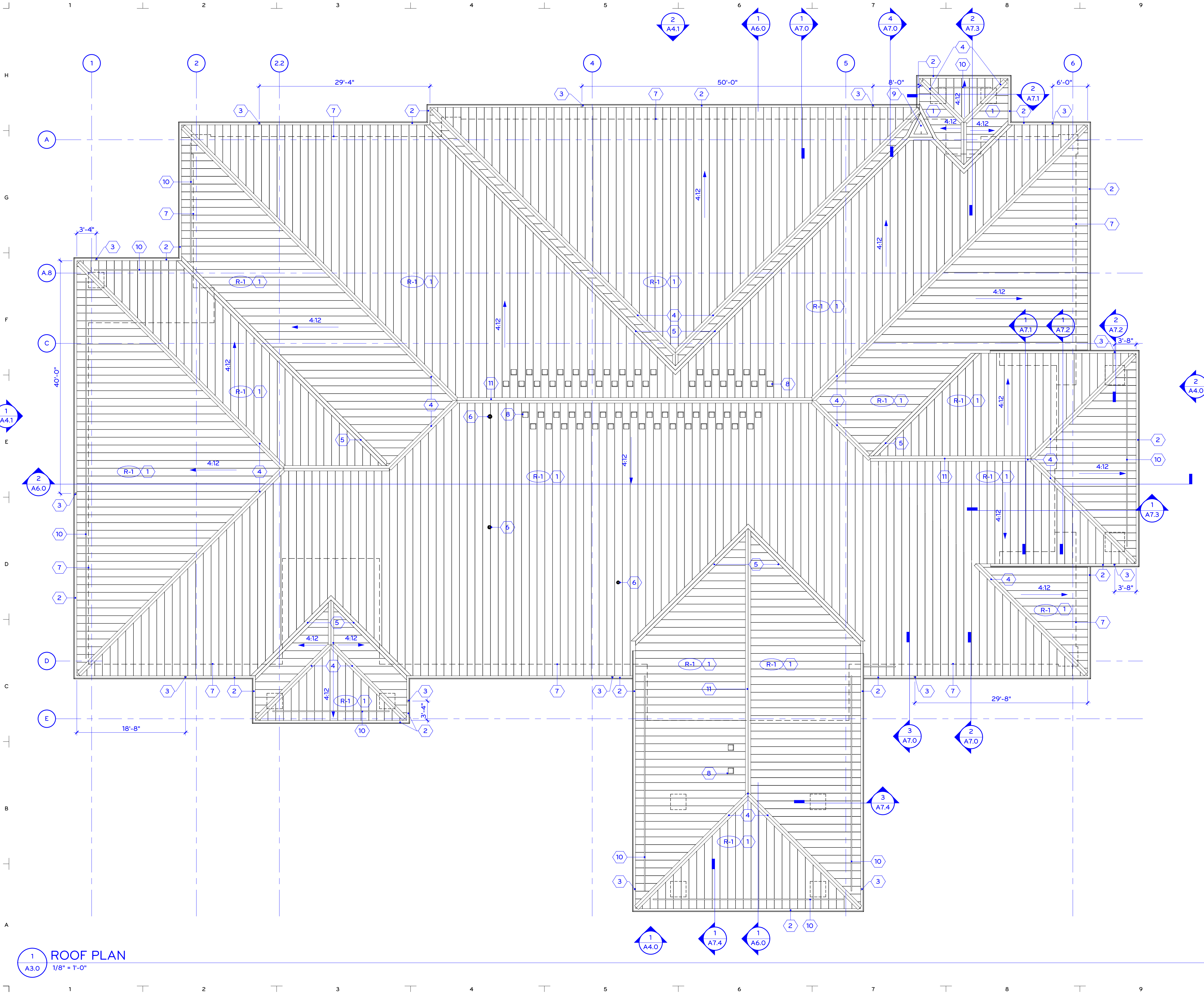
REFLECTED
CEILING PLAN

A2.0

1 CEILING PLAN

2 UPPER CEILING PLAN
A2.0 1/8" = 1'-0"

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GENERAL NOTES

- SEE SHEET AC1 FOR CODE INFORMATION.
- INDICATES DIRECTION OF SLOPE TO ROOF DRAIN, SCUPPER OR GUTTER SYSTEM
- ROOF R-VALUE = 40

KEYNOTES

- STANDING SEAM METAL ROOF SYSTEM
- GUTTER
- DOWNSPOUT
- RIDGE
- VALLEY
- PLUMBING VENT
- LINE OF WALL BELOW
- HAT VENT
- CRICKET
- SNOW GUARDS
- RIDGE VENT

KIRK GROSS
COMPANY
kg

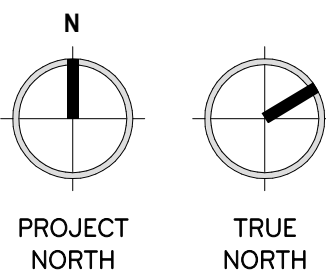
BOX 2097
4015 ALEXANDRA DR.
WATERLOO, IA 50704
PH: (319) 234-6641

INFO@KIRKGROSS.COM

A NEW MAIN FACILITY FOR TruBank

1401 NORTH JEFFERSON WAY
INDIANOLA, IA 50125

PROJECT NO.: 2122



DESCRIPTION

#

DATE

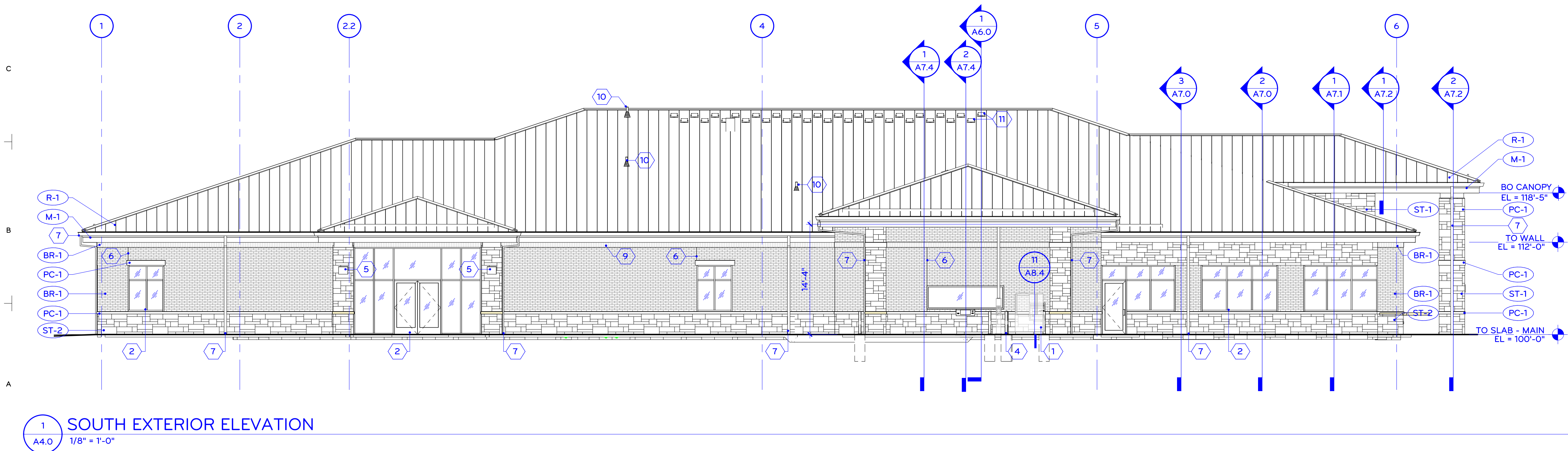
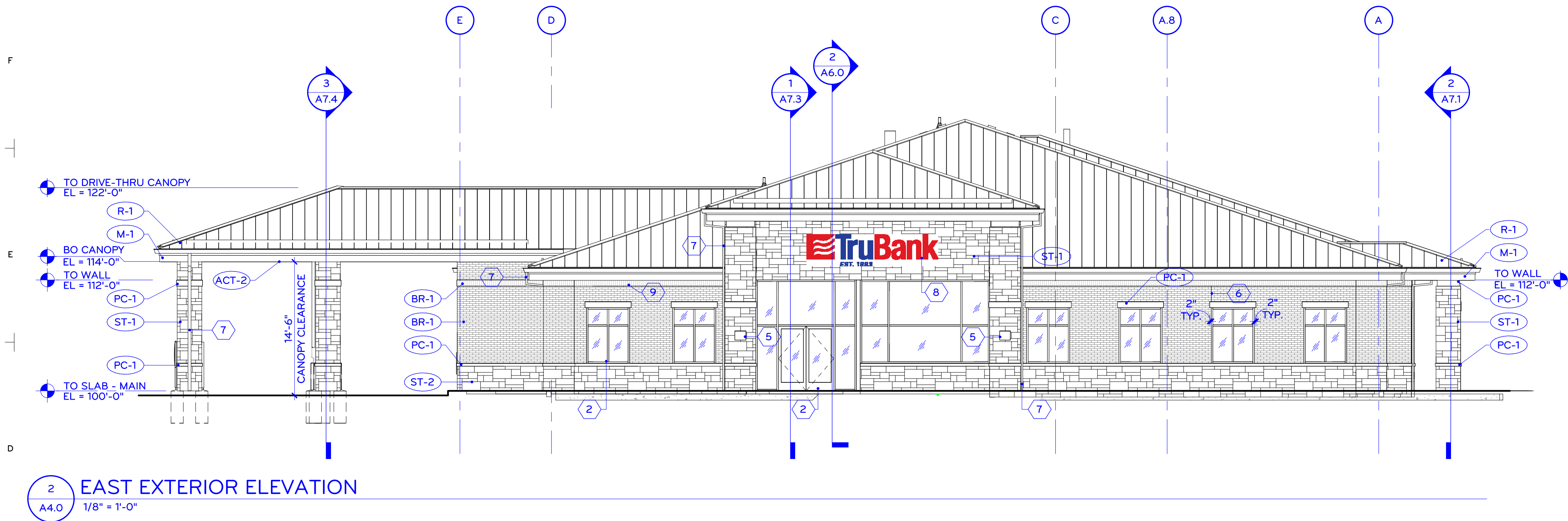
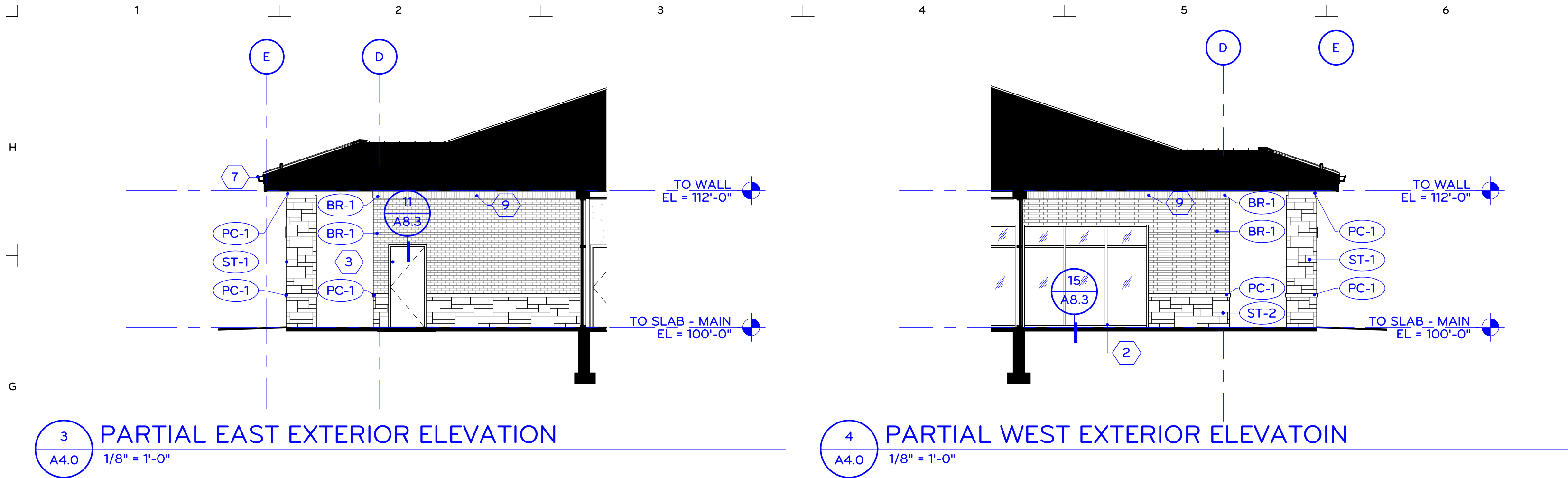
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ROOF PLAN

A3.0

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EXTERIOR ELEVATION GENERAL NOTES

- SEE SHEET A0.1 FOR FRAME ELEVATIONS AND GLASS TYPES.
- BRICK RACKING (RECESSING) AND CORBELING (PROJECTIONS) ARE 1/2" TYPICAL - PROVIDE MORTAR WASH AT ALL RACKS.
- SEE SECTIONS AND DETAILS FOR ADDITIONAL MATERIAL AND FINISH INFORMATION.
- (X) MATERIAL KEYNOTE - SEE MATERIAL & COLOR SCHEDULE SHEET A9.1.

(X) EXTERIOR ELEVATION KEYNOTES

- ATM - BY OWNER
- ALUM FRAME & GLAZING SYSTEM
- HM DOOR & FRAME - PAINTED
- CONC FILLED PIPE BOLLARD - SEE
- EXTERIOR LIGHT FIXTURE
- CONTROL JOINT
- PRE-FIN METAL GUTTER & DOWNSPOUT
- SIGNAGE
- BRICK SOLDIER COURSE
- PLUMBING VENT
- HAT VENT

FACADE MATERIALS

MATERIAL	SF	PERCENT	CLASS
BRICK	3,643	39.7%	1
STONE VENEER	3,513	38.2%	1
CLEAR GLASS	1,711	18.6%	1
PRE-CAST STONE	318	3.5%	1

TOTAL 9,185 100% 1

ROOF MATERIAL

STANDING SEAM METAL ROOF	19,440	100%	1
--------------------------	--------	------	---

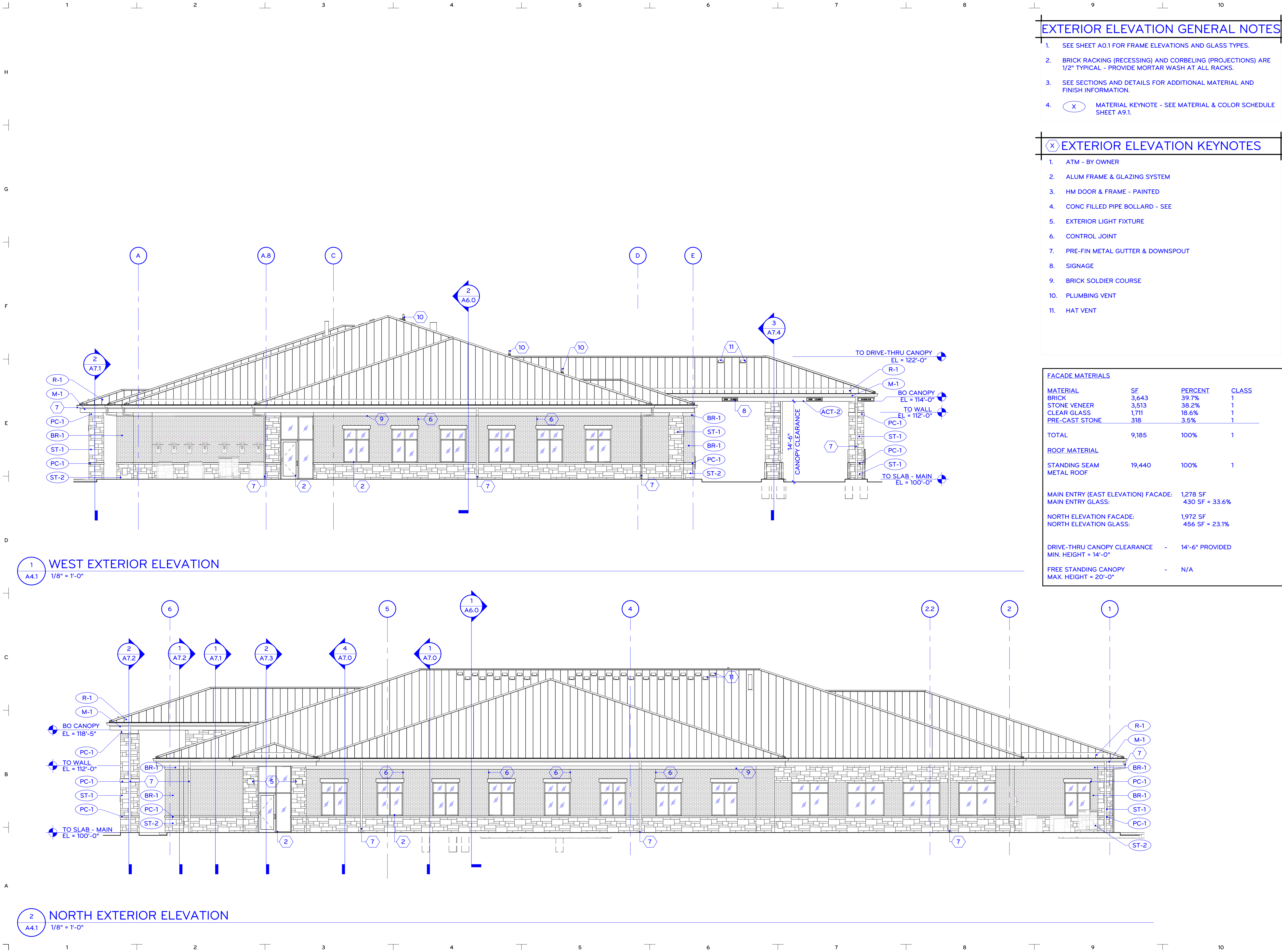
MAIN ENTRY (EAST ELEVATION) FACADE: 1,278 SF
MAIN ENTRY GLASS: 430 SF = 33.6%

NORTH ELEVATION FACADE: 1,972 SF
NORTH ELEVATION GLASS: 456 SF = 23.1%

DRIVE-THRU CANOPY CLEARANCE - 14'-6" PROVIDED
MIN. HEIGHT = 14'-0"

FREE STANDING CANOPY - N/A
MAX. HEIGHT = 20'-0"

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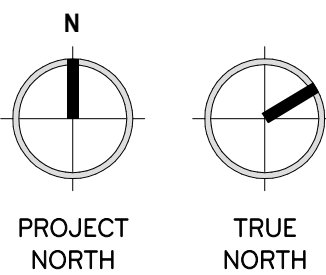


EXTERIOR ELEVATION GENERAL NOTES

- SEE SHEET A0.1 FOR FRAME ELEVATIONS AND GLASS TYPES.
- BRICK RACKING (RECESSING) AND CORBELING (PROJECTIONS) ARE 1/2" TYPICAL - PROVIDE MORTAR WASH AT ALL RACKS.
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(X) EXTERIOR ELEVATION KEYNOTES

- ATM - BY OWNER
- ALUM FRAME & GLAZING SYSTEM
- HM DOOR & FRAME - PAINTED
- CONC FILLED PIPE BOLLARD - SEE
- EXTERIOR LIGHT FIXTURE
- CONTROL JOINT
- PRE-FIN METAL GUTTER & DOWNSPOUT
- SIGNAGE
- BRICK SOLDIER COURSE
- PLUMBING VENT
- HAT VENT



DESCRIPTION

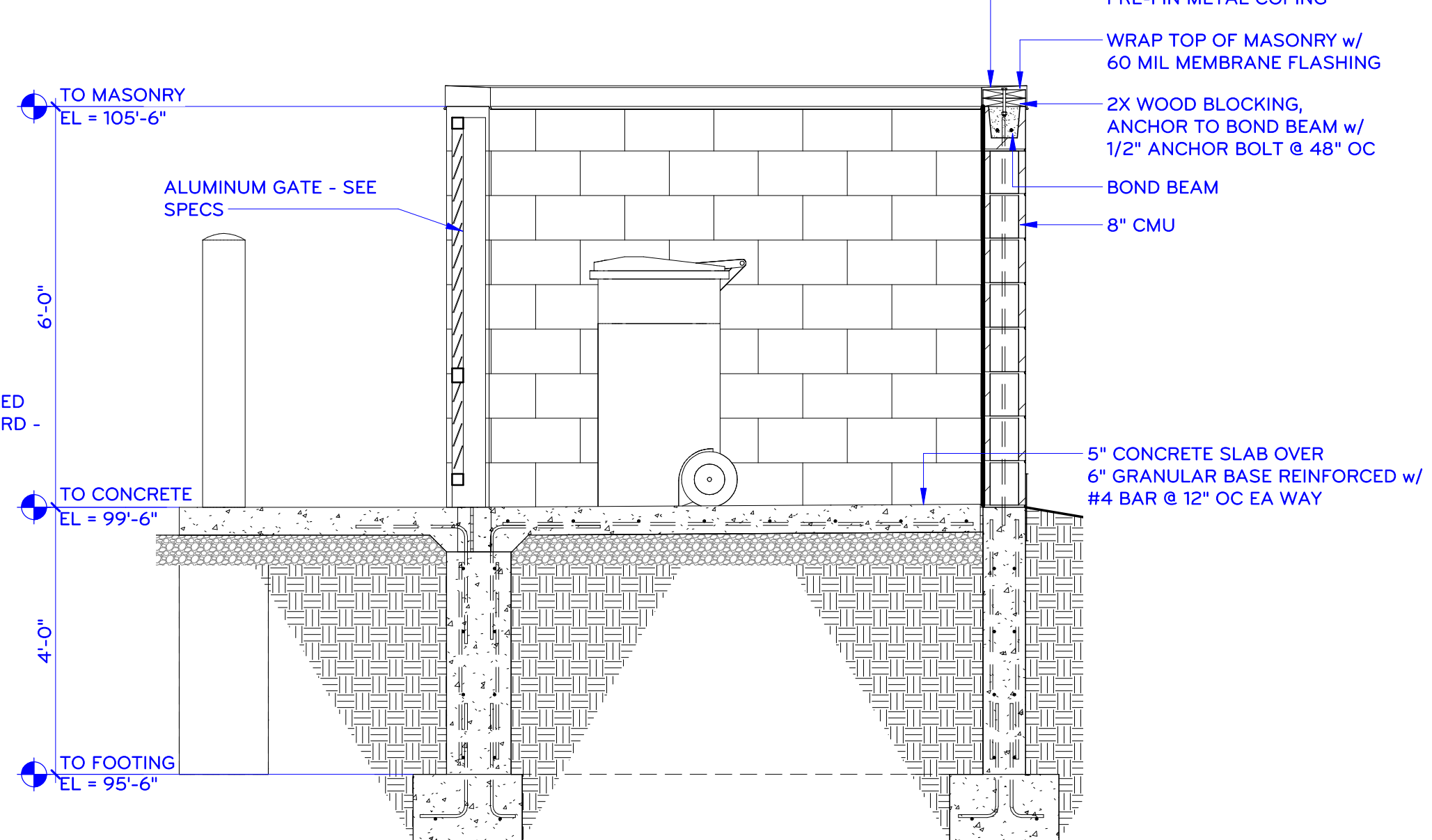
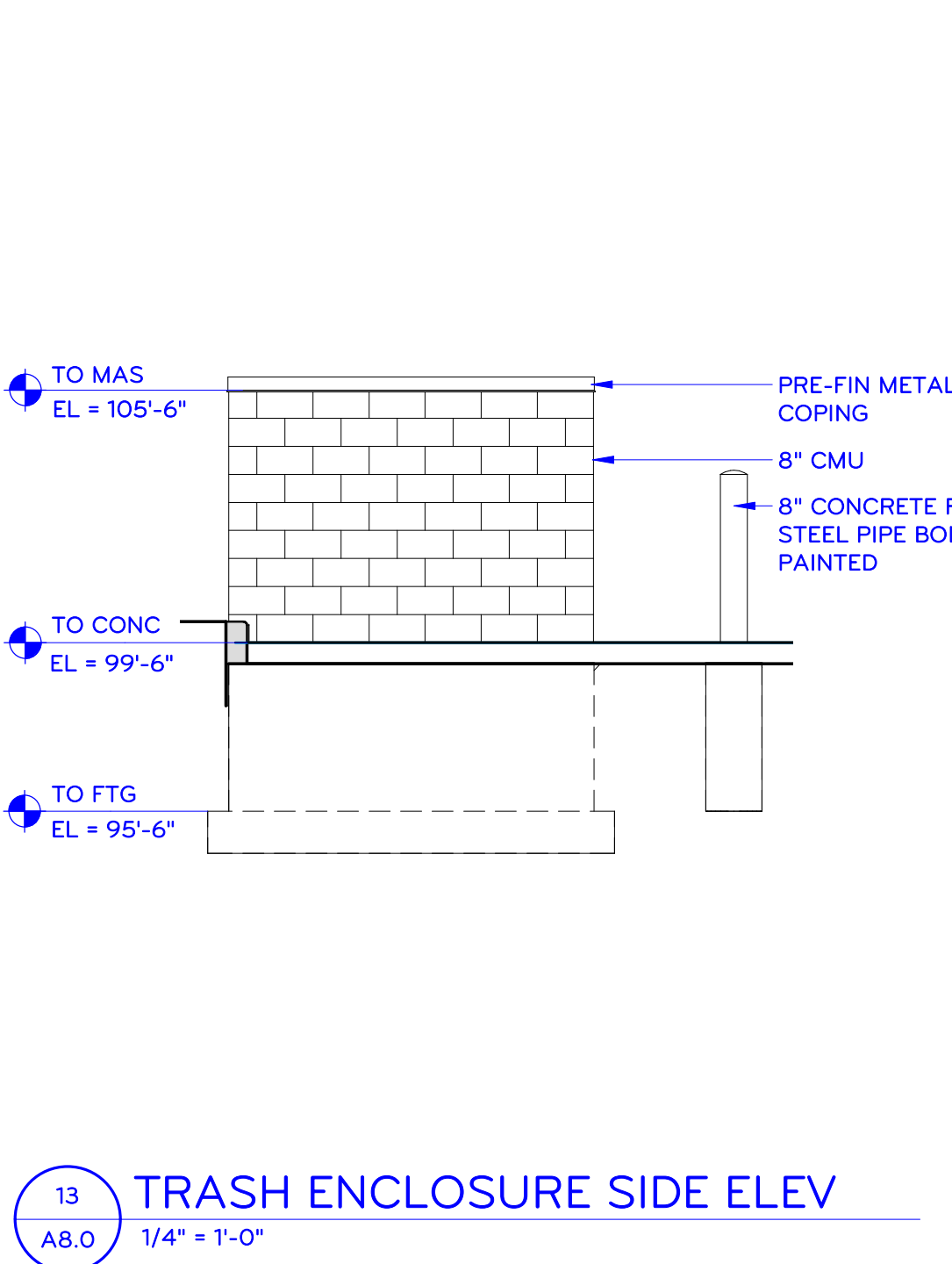
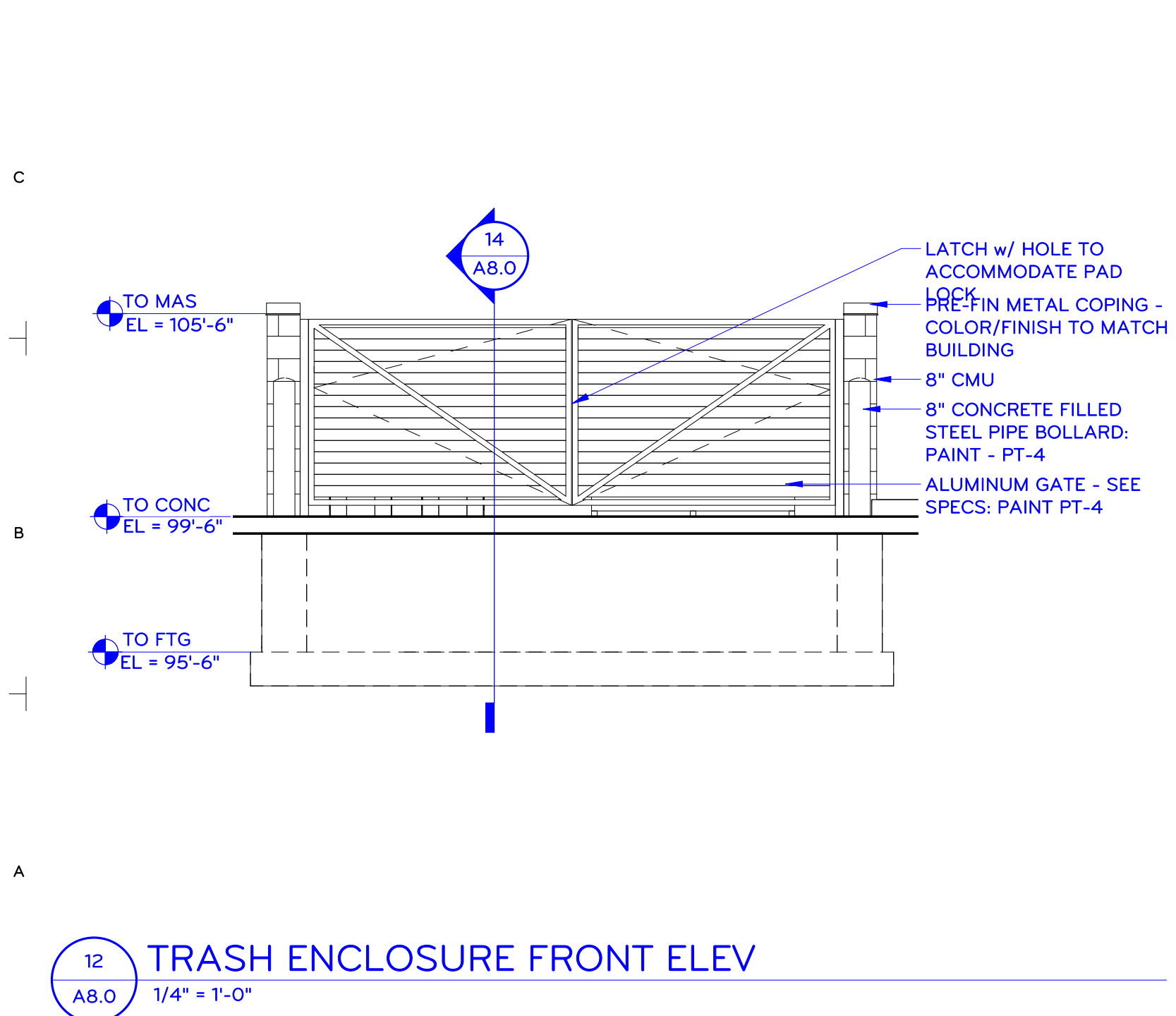
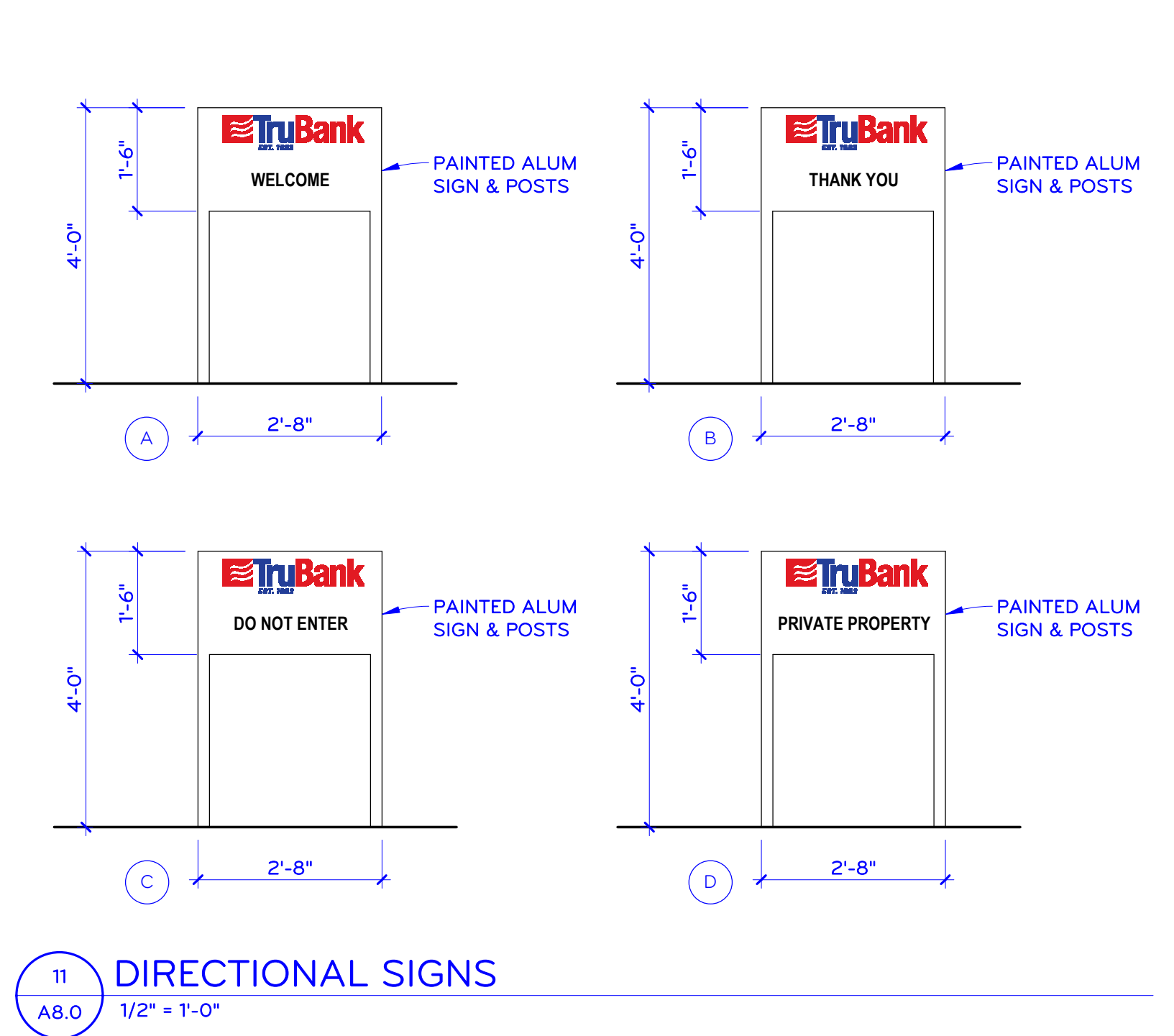
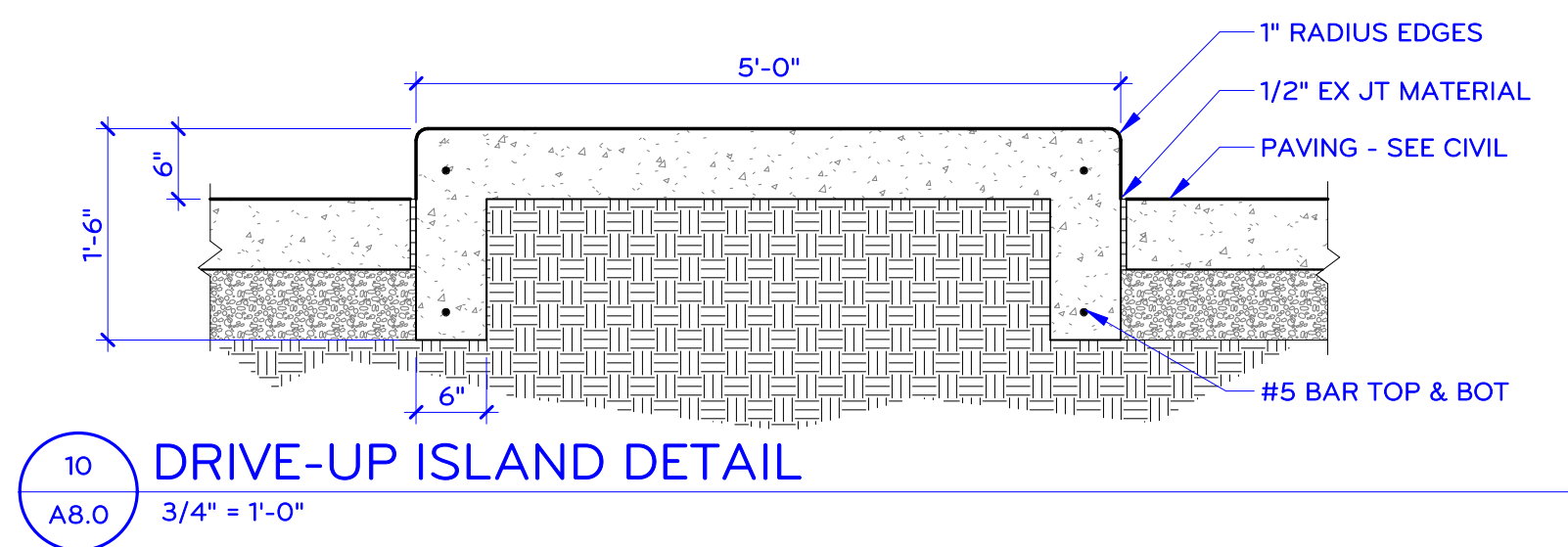
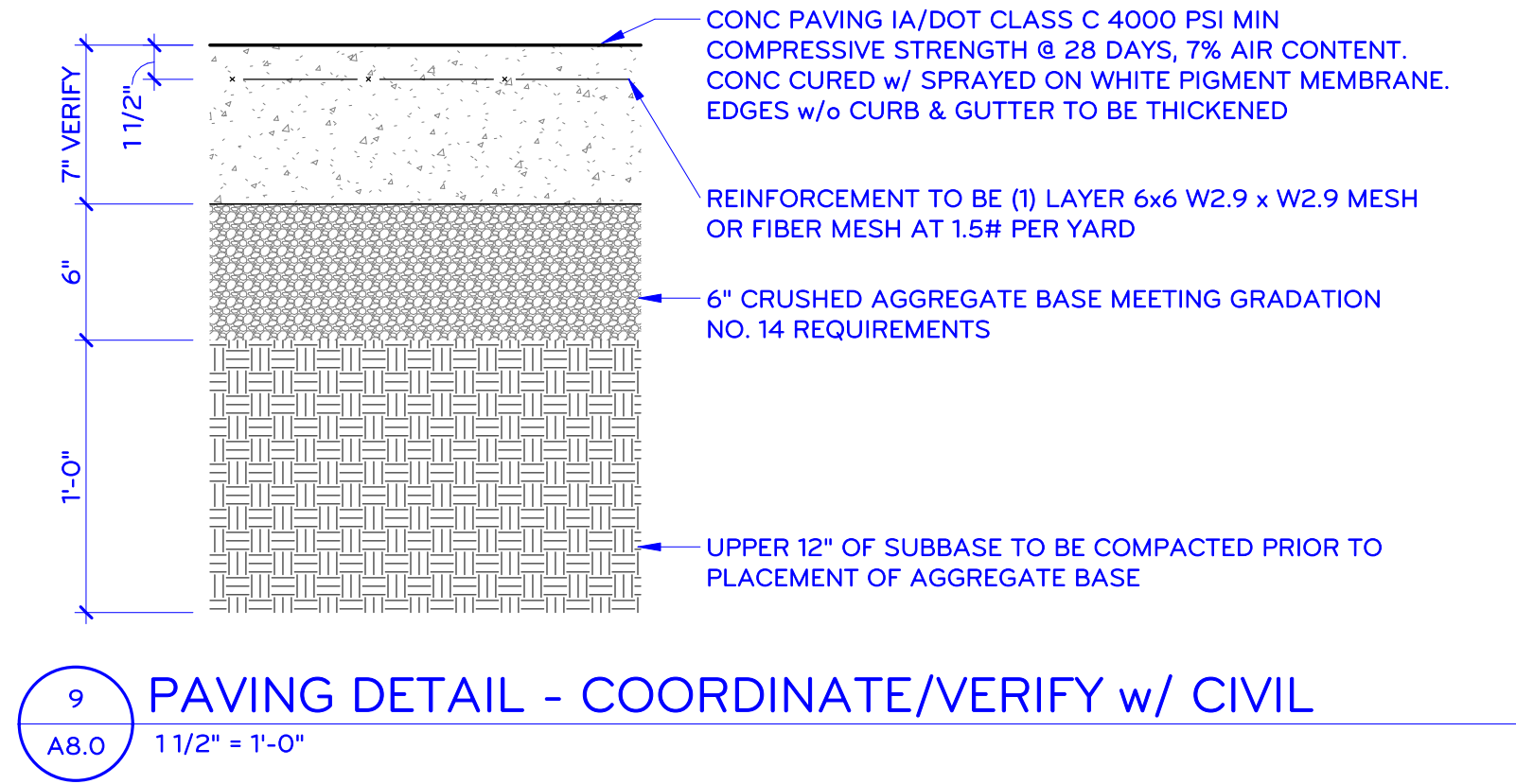
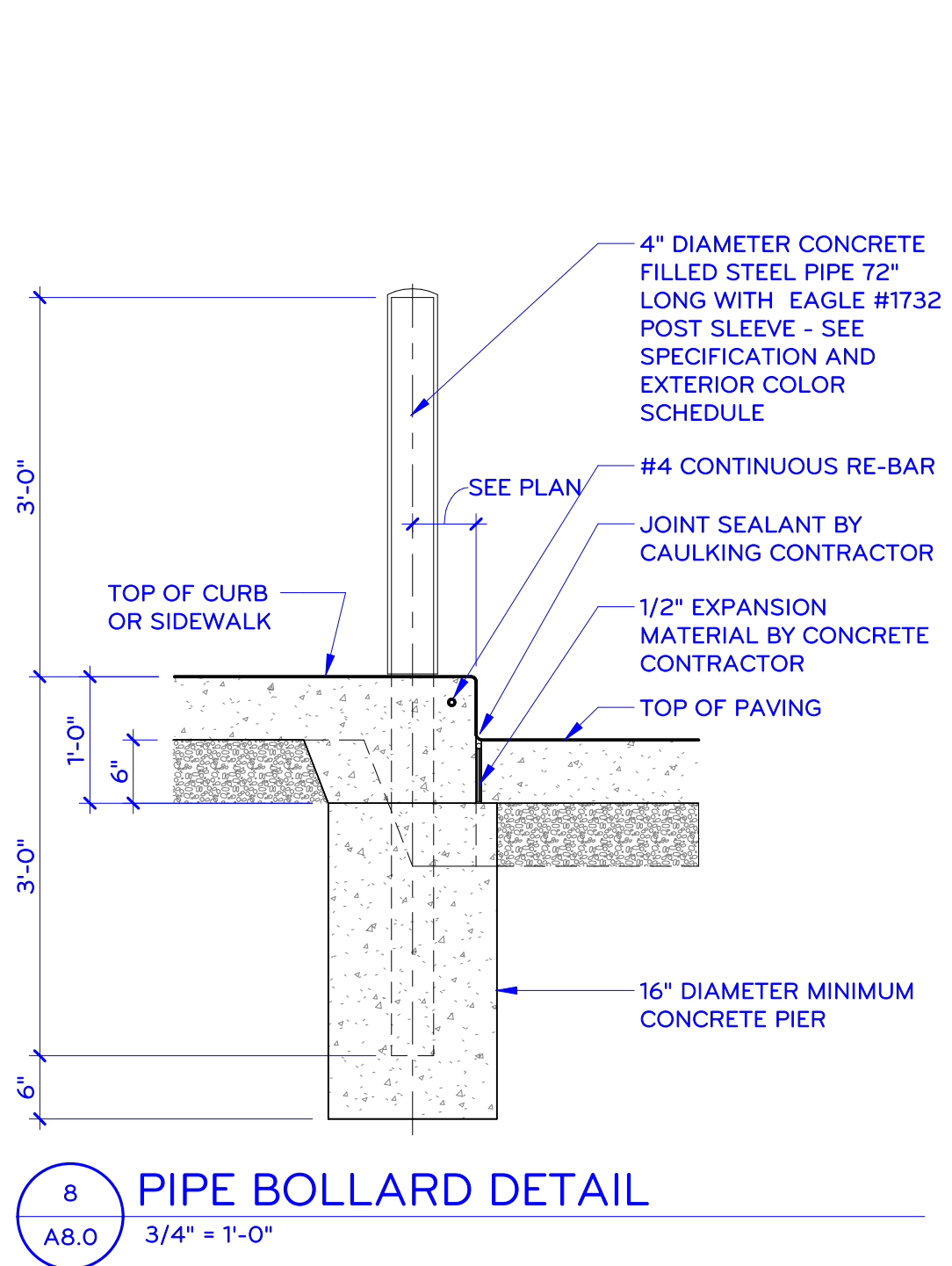
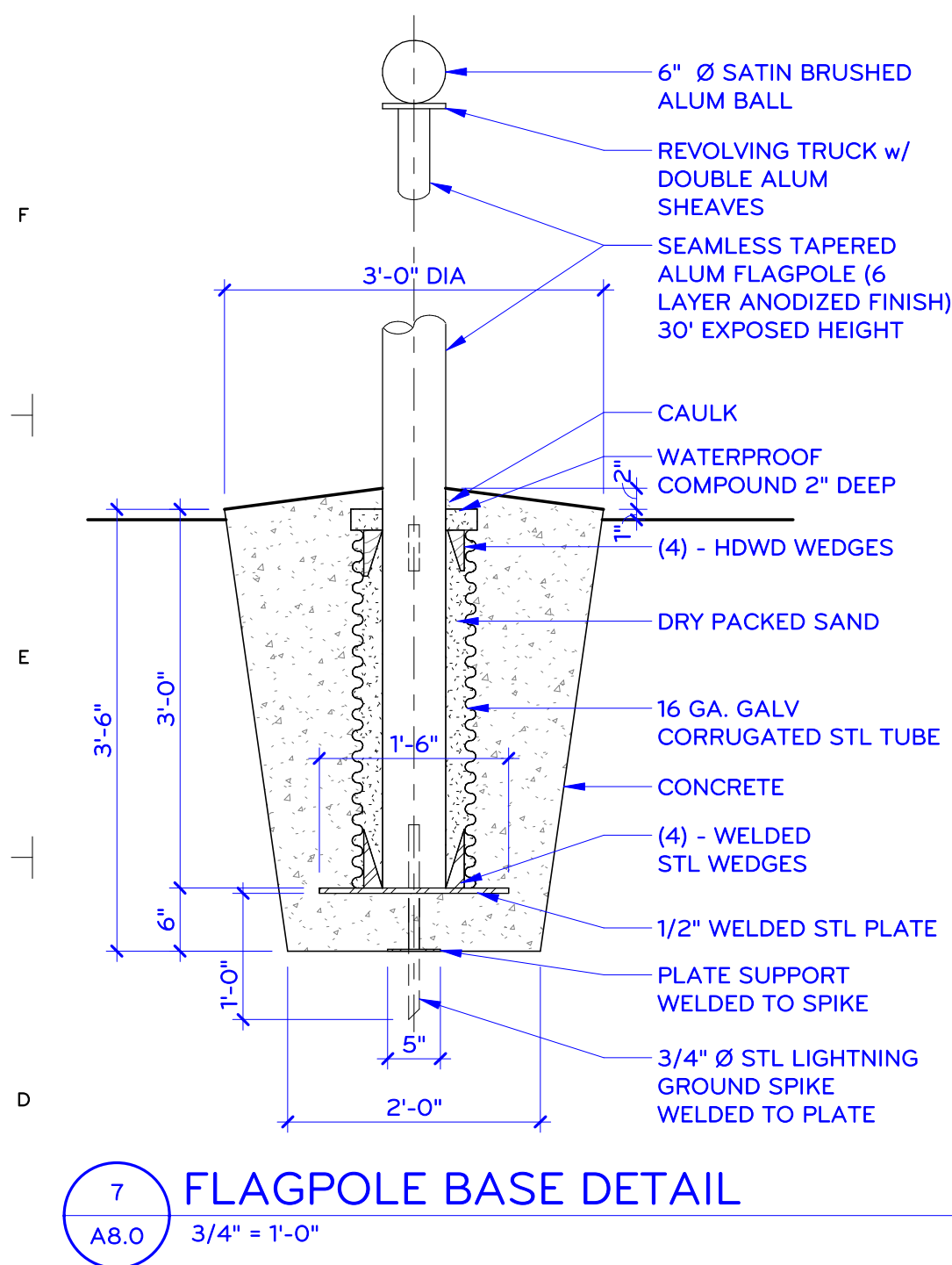
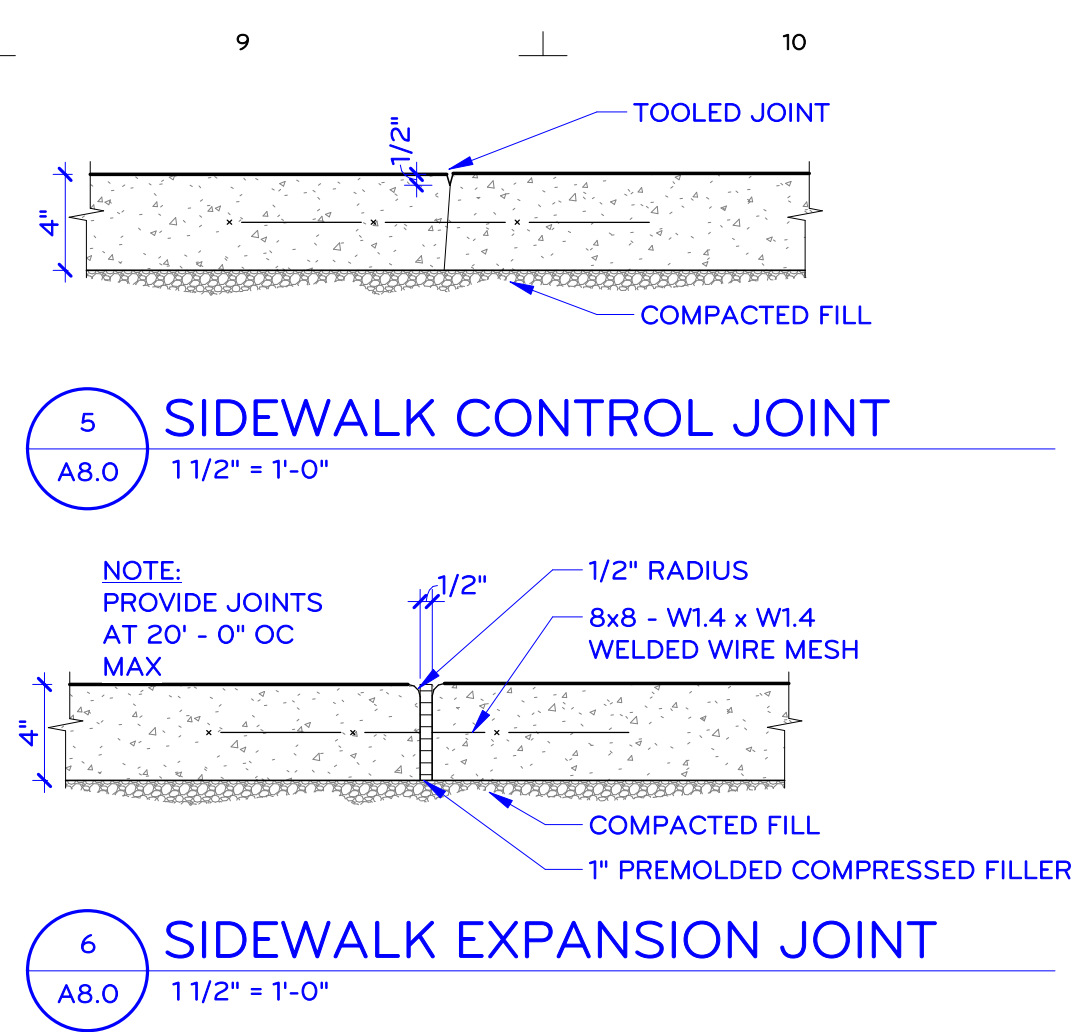
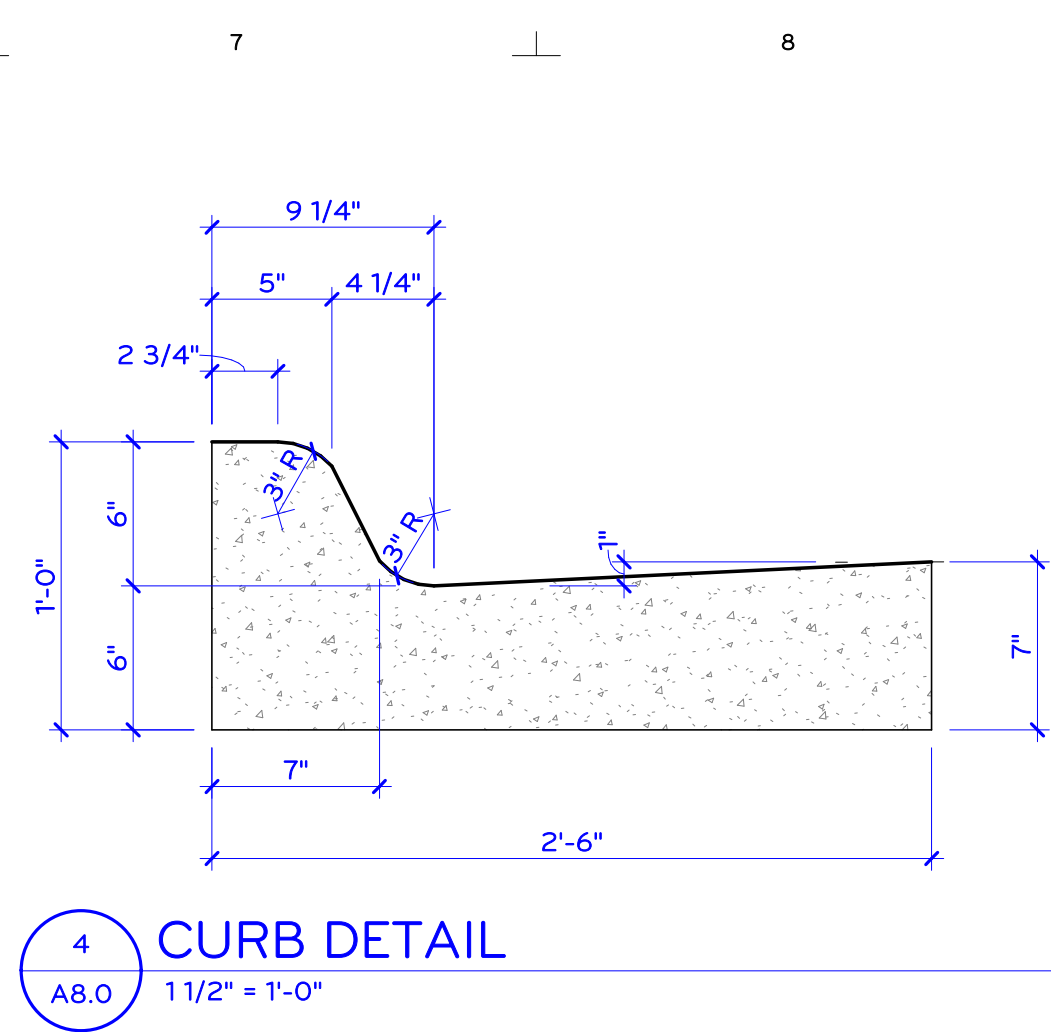
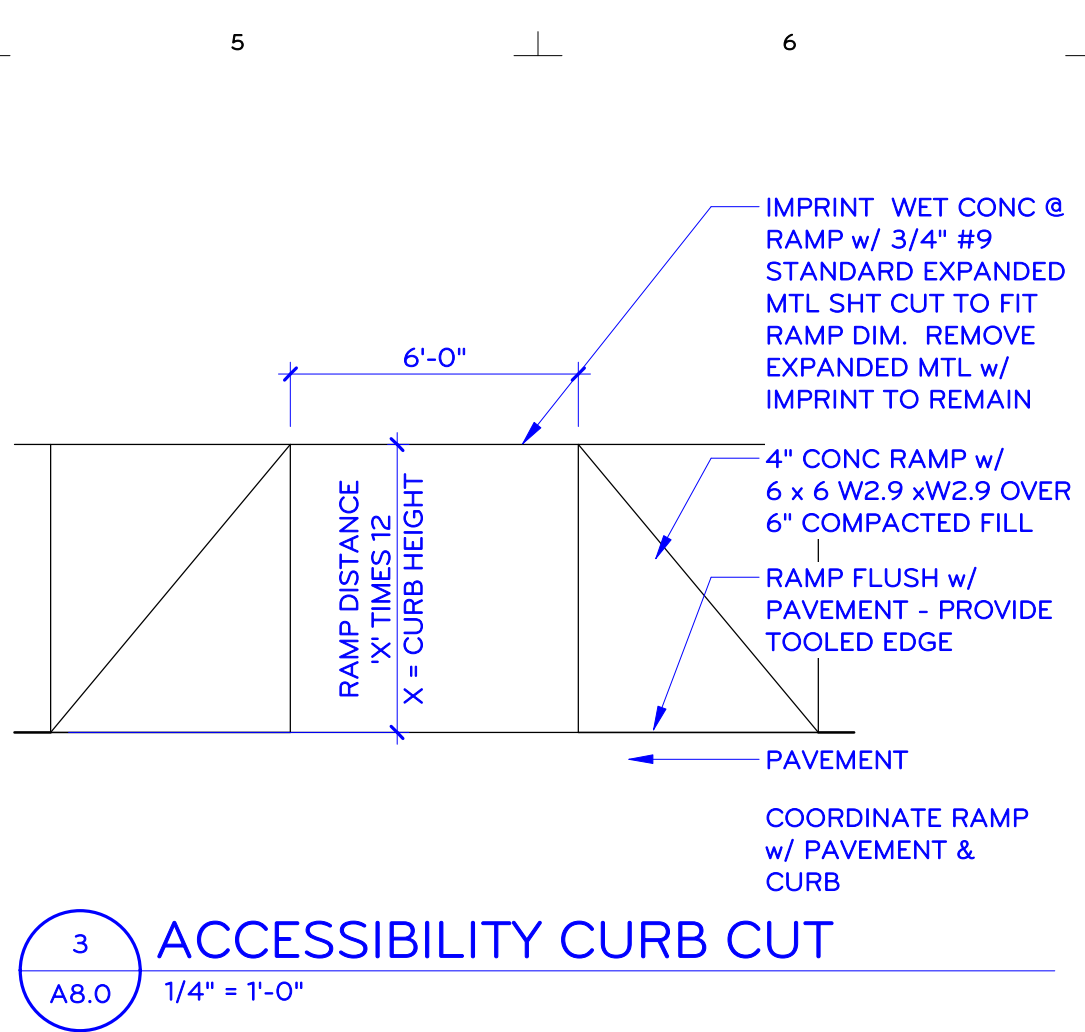
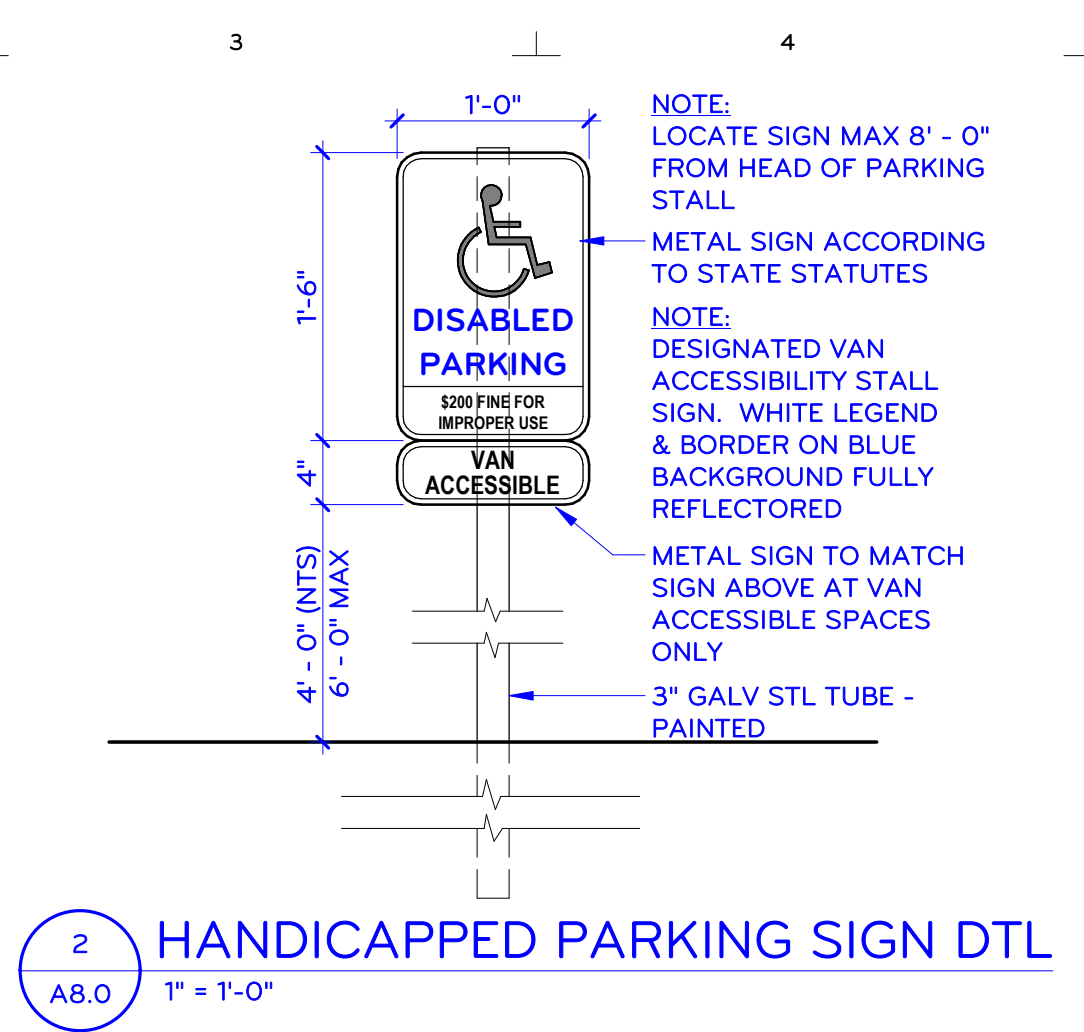
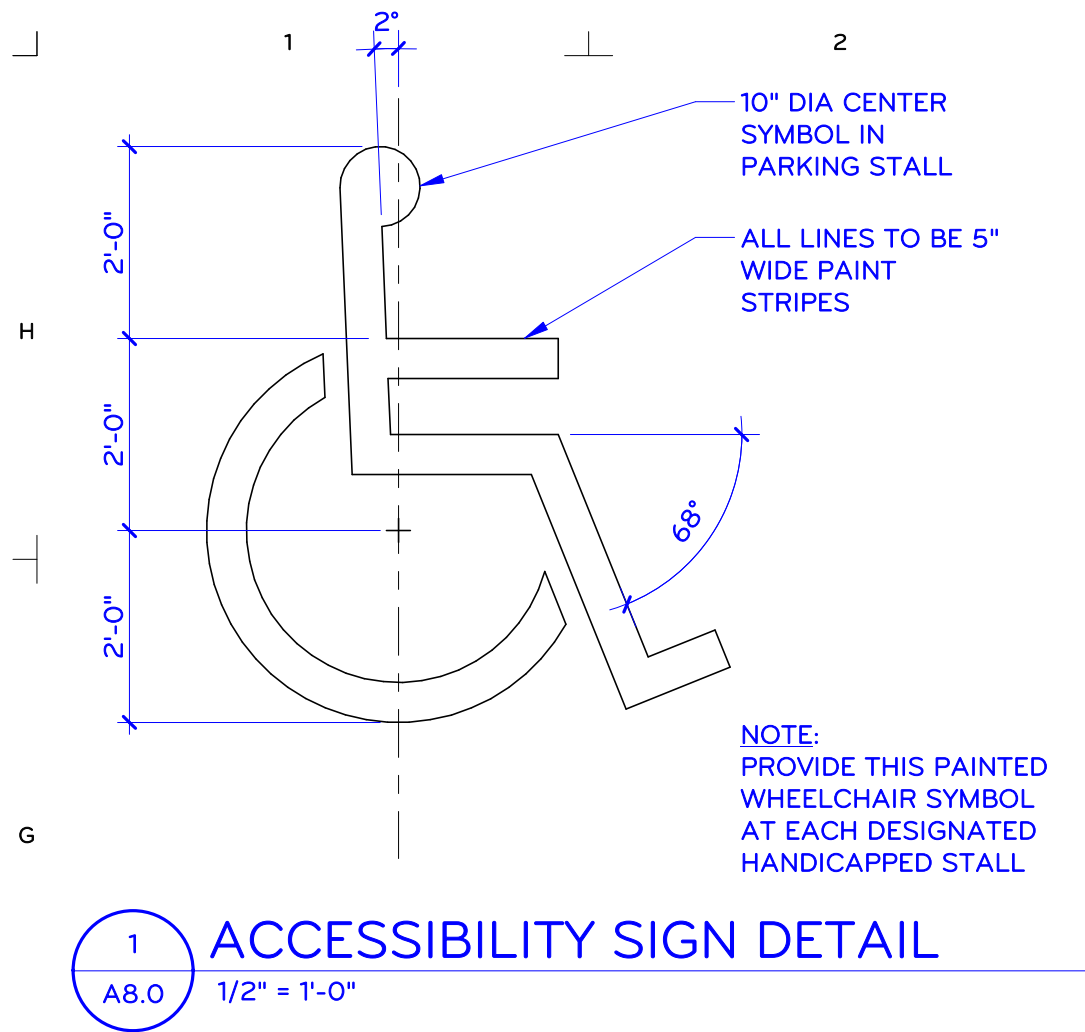
DATE

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EXTERIOR ELEVATIONS

A4.1

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Material & Color Schedule X			
Tag	Item	Manufacturer	Type Finish
Section 03 35 00 - Concrete Finishing			
CS-1	Concrete Sealer/Hardener/Densifier	L&M Seal Hard www.laticrete.com	Finish: Clear
Section 04 00 00 - Masonry			
ST-1	Stone - Thin Veneer	Eden Valders Stone www.evstone.net	Type: Dimensional Splitface (Thin Veneer) Color/Pattern: Eden
ST-2	Stone - Full Veneer	Eden Valders Stone www.evstone.net	Type: Dimensional Splitface (Full Veneer) Color/Pattern: Eden
MO-1	Mortar	Spec Mix www.specmix.com	Color: Parchment
BR-1	Brick	Glen-Gery www.glengery.com/brick	Type: Molded Color Blend: Brandywine
PC-1	Precast	Edwards Cast Stone Company www.edcstone.com	Color: 10-010
Section 06 40 00 - Architectural Woodwork			
WD-1	Cabinets/Casework @ Tellers, Board Rm, Welcome Desk, Office 108, Doors and Trim		Species: Maple - Stain to match Wilsonart Laminate Florence Walnut #7993-38
WD-2	Accent @ Teller and Welcome Desk		Species: Maple - Stain to match JSI Furniture Finish Weatherd Ash Laminate (WEA)
WB-1	4" Wood Wallbase @ Lobby, Tellers, Offices, Boardroom and Halls		Species: Maple - Stain to match JSI Furniture Finish Weatherd Ash Laminate (WEA)
Section 06 60 00 - Plastic Fabrications			
Q-1	Countertops @ Tellers, Board Rm, Welcome	Wilsonart www.wilsonart.com	Quartz Sangda Falls #Q4012
SP-1	Countertops @ Break Room, Wellness	Wilsonart www.wilsonart.com	Solid Surface Cloud Mist #9243SS
SP-2	Window Sills	Wilsonart www.wilsonart.com	Solid Surface Hot Stone #9201GS
PL-1	Countertops @ C.W.R., Viewing	Formica www.formica.com	Formica Standard Laminate Finish: Neo Cloud-Matte #6314-58
PL-2	Vertical Surfaces @ Break Room, Wellness	Wilsonart www.wilsonart.com	Wilsonart Standard Laminate Finish: Florence Walnut #7993-38 - Vertical Grain Application
FRP	Janitor	Crane Composites www.cranecomposites.com	Glasbord Wall Panels with Surfaseal Finish Finish: White, Embossed
Section 07 41 13 - Standing Seam Roof			
R-1	Metal Roofing	Firestone www.firestonebpco.com	Type: 24 Gauge - G-90 Galvanized Steel Color: Slate Gray
Section 07 62 00 - Sheet Metal Flashing & Trim			
M-1	Flashing at Fascia	Firestone www.firestonebpco.com (or equal)	Finish: Dark Bronze
M-2	Prefinished Breakmetal Trim	Firestone www.firestonebpco.com (or equal)	Finish: Dark Bronze
M-3	Exterior Vented Soffits	Firestone www.firestonebpco.com (or equal)	Finish: Dark Bronze
M-4	Exterior Soffits at Entries	Macmetalarchitectural.com	Type: Harrywood Finish: Smoked Birch
M-5	Exterior Vented Soffits at Main Entry	Macmetalarchitectural.com	Type: Harrywood Finish: Smoked Birch
Section 08 41 13 - Aluminum Framed Entrances & Storefronts			
AL-1	Doors, Frames, Windows	Kawneer www.kawneer.com (or equal)	Finish: Dark Bronze
Section 09 30 00 - Tiling			
T-1	Floors @ Lobby, Toilets and Vestibule 100	Virginia Tile www.virginiatile.com	VITL Collection - Nola Color:Taupe Porcelain #VTLNATA1224R Pattern: 1/3 Running Bond Size 12"x24"
T-2	Walls @ Restrooms	Virginia Tile www.virginiatile.com	Atlas Concorde Usa - Liberty Color:New England #AUSLINE1224 Pattern: 1/3 Running Bond Size 12"x24"
G-1	Floors @ Lobby ,Toilets and Vestibule 100	Bostik www.bostik.com	True Color Rapid Cure # H160 Delorean Gray
G-2	Walls @ Restrooms	Bostik www.bostik.com	True Color Rapid Cure # H152 White
T-1	Tile to Carpet	Schluter www.schluter.com	Schluter Schiene Finish: Satin Anodized Aluminum
T-2	Resilient Flooring to Carpet	Johnsonite Flooring Adaptor	Color: Charcoal #20
T-3	Cove base at Restrooms	Schluter www.schluter.com	Schulter Cove Base Dilex-AHK Finish: Satin Anodized Aluminum
Section 09 50 00 - Ceilings			
ACT-1	Building Interior	Armstrong Ceilings www.armstrongceilings.com	Ultima 1912 Tegular - See Specification
ACT-2	Drive-Thru Canopy	Armstrong Ceilings www.armstrongceilings.com	Ceraguard Fine Fissured 607 - See Specification
ACT-3	Community Room	Armstrong Ceilings www.armstrongceilings.com (or equal)	Type: Techzone w/Ultima Technical Panels Finish: White
WC-1	Lobby	Knopi by Armstrong Ceilings www.kanopibyarmstrong.com	Woodhaven Planks Item #1273 Finish: Weathered
Section 09 65 00 - Resilient Flooring			
LVT-1	Floors @ Breakroom, Halls 117/121 and Foyer	Shaw Contract www.shawcontract.com	Solitude 0648V plank Color:#48761 Umber - 5mm thick Size: 6" x 48" Installation: Ashlar
VB-1	Wallbase @ Training, Foyer, Halls and Vestibules	Shaw Contract www.shawcontract.com	Detail Profile Base 150VS 4.5" Color :Dark #00680
VB-2	Wallbase @ Mech and Storage Rooms, Viewing, Breakroom, Training, Vault and Elec/IT	Johnsonite	Vinyl Cove Base 4" Roll goods - Color: #167 Fudge
Section 09 68 00 - Carpeting			
CPT-1	Field	J & J Flooring Group www.jjflooringgroup.cocm	Style: Variant Plank 7926 Color:3063 Synthesize Size:12"x48" Backing: Nexus Modular Installation: Stagger/Basketweave
CPT-2	Accent @ Waiting, Offices and Board Room	J & J Flooring Group www.jjflooringgroup.cocm	Style: Emusion Modular 7712 Color: 2312 Glazed Backing: Nexus Modular Size: 24"x24" Installation: Quarter Turn
CPT-3	Walk Off Tile @ Vestibules	Mohawk Group www.mohawkgroup.com	Style: Step Up II GT311 Color: 983 Iron Ore Walk Off Tile Size:24"x24" Installation: Quarterturn
Section 09 90 00 - Painting			
PT-1	Field Color @ Corridors, Mech, Storage, Break and Workrooms and Restrooms	PPG Paints	Latex Paint #PPG1006-3 Early Evening
PT-2	Accent Color @ Offices, Conference and Board Rooms, Tellers	Sherwin Williams	Latex Paint #PSW7017 Dorain Gray
PT-3	Ceiling Soffits	PPG Paints	Latex Paint #PPG1009-1 Tundra Frost
PT-4	Accent Color @ Trash Enclosure	Sherwin Williams	Latex Paint #SNT048 Urbane Bronze
Section 10 22 39 - Folding Panel Partitions			
FP-1	Operable Partition @ Community Room	Hufcoramericas.com (or equal)	Type: Hufcor 600 Series Finish: Standard Vinyl Color:Ashen 46-104
Section 12 24 13 - Roller Shades			
WT-1	Exterior Window Treatment	Draper Inc. www.draperinc.com	Flexshade Manual Clutch PW4440-U63 3% Color: Pewter (Soft Gray) Small Bronze Fascia



BOX 2097
4015 ALEXANDRA DR.
WATERLOO, IA 50704
PH: (319) 234-6641
INFO@KIRKGROSS.COM

A NEW MAIN FACILITY FOR TruBank

PROJECT NO. 2122

1401 NORTH JEFFERSON WAY
INDIANOLA, IA 50125

DESCRIPTION

#

DATE

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FINISH SCHEDULES

A9.1

Page 148 of 271

SITE DEVELOPMENT PLAN
A NEW MAIN FACILITY FOR TRUBANK

SITE ADDRESS
1401 NORTH JEFFERSON, INDIANOLA, IA

PARCEL ID:
48595000040

OWNER
TRUBANK
1401 NORTH JEFFERSON
INDIANOLA, IA 50125

DEVELOPER
TRUBANK
1401 NORTH JEFFERSON
INDIANOLA, IA 50125

ZONING
C-2 'HIGHWAY COMMERCIAL'

LOT SIZE
2.32 ACRES OR 101,269 SQ FEET

SETBACK REQUIREMENTS
FRONT: 40 FT
REAR: 10 FT
SIDE: 10 FT

LOT USE
EXISTING
BUILDING DEMO: 17,820 S.F. (17.6%)
TOTAL PAVEMENT & SIDEWALKS: 41,618 S.F. (41.0%)
TOTAL VEGETATED SURFACE: 41,931 S.F. (41.4%)
PROPOSED
BUILDING FOOTPRINT: 15,050 S.F. (14.8%)
TOTAL PAVEMENT & SIDEWALKS: 45,512 S.F. (44.9%)
TOTAL VEGETATED SURFACE: 40,807 S.F. (40.3%)

PARKING
REQUIRED PER SEC. 165.07, 2, B, (2).
1. 1 per 250 sq. ft. GFA plus 3 vehicle queuing spaces
per drive-up or ATM lane.
CALCULATIONS:
TOTAL FLOOR AREA = 15,050 SF / 250 = 61 SPACES

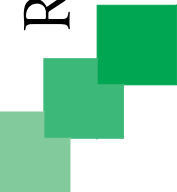
REQUIRED PARKING = 61 SPACES
PROVIDED PARKING = 61 SPACES

ERU CALCULATIONS: (PER SECTION 165.06(4)(B)(5))
TOTAL IMPERVIOUS AREA = 60,562 S.F.
1ST ERU = 3,400 (60,562 - 3,400) = 57,162
ADDITIONAL ERU = 57,162 / 340 = 168.12
168.12 * 0.10 = 16.812 = 17 ERU
TOTAL ERU = 1 + 17 = 18

FINISHED FLOOR ELEVATION = 926'-10"

PROPERTY DESCRIPTION:
LOT 4, ORCHARD PLAZA, CITY OF INDIANOLA, WARREN COUNTY, IOWA
EXCEPT A TRACT OF LAND LOCATED IN THE NE CORNER OF SECTION 24, TOWNSHIP 76 NORTH, RANGE 24 WEST OF THE 5TH P.M. IN THE CITY OF INDIANOLA, WARREN COUNTY, IOWA, MORE PARTICULARLY DESCRIBED AS:
BEGINNING AT THE E $\frac{1}{4}$ CORNER OF SAID SECTION 24, THENCE DUE WEST ALONG THE SOUTH LINE OF SAID NE $\frac{1}{4}$ A DISTANCE OF 66.02' TO AN IRON PIN SAID PIN BEING ON THE WEST RIGHT-OF-WAY LINE OF U.S. HIGHWAY NO. 65 AND 69 AND THE TRUE POINT OF BEGINNING (SAID POINT ALSO BEING THE SE CORNER OF LOT 4, ORCHARD PLAZA) THENCE DUE WEST ALONG THE S LINE OF SAID NE $\frac{1}{4}$ A DISTANCE OF 180.00' TO AN IRON PIN, THENCE N01 25'40"W A DISTANCE OF 160.17' TO AN IRON PIN, THENCE N59 24'55"E A DISTANCE OF 121.11' TO AN IRON PIN, THENCE N00 42'05"W A DISTANCE OF 95.85' TO AN IRON PIN, THENCE N89 17'55"W A DISTANCE OF 21.00' TO AN IRON PIN, THENCE N00 42'05"W A DISTANCE OF 10.00' TO AN IRON PIN, THENCE S89 17'55"W A DISTANCE OF 21.00' TO AN IRON PIN, THENCE N00 42'05"W A DISTANCE OF 66.04' TO AN IRON PIN, THENCE N87 57'35"E A DISTANCE OF 34.64' TO AN IRON PIN, AND PIN BEING ON THE WESTERLY RIGHT-OF-WAY OF U.S. HIGHWAY NO. 65 AND 69, THENCE S14 47'05"W ALONG SAID RIGHT-OF-WAY LINE A DISTANCE OF 45.17' TO AN IRON PIN, THENCE S12 45'55"E ALONG SAID R.O.W. LINE A DISTANCE OF 50.98' TO AN IRON PIN, THENCE S01 25'40"E ALONG SAID R.O.W. LINE A DISTANCE OF 202.39' TO THE TRUE POINT OF BEGINNING.

Robinson Engineering Company
Consulting Engineers



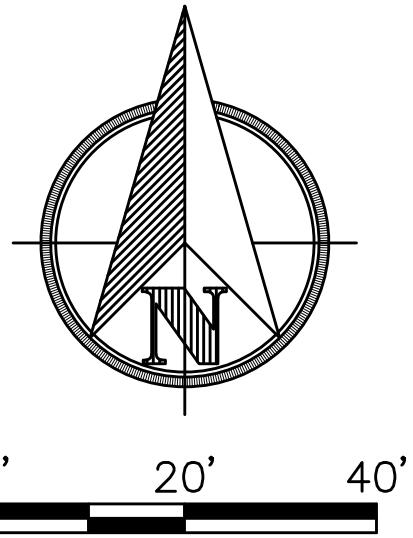
819 Second Street NE
Indianola, Iowa 50644
319-334-7211

SITE DEVELOPMENT PLAN

A NEW MAIN FACILITY FOR TRUBANK
PN: PROJECT #
TRUBANK
1401 NORTH JEFFERSON
INDIANOLA, IA 50125

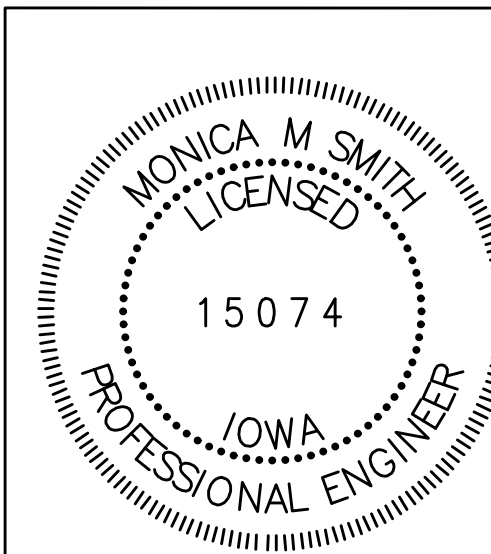
C0.2

08/25/2022
FINAL



PROJECT CONTROL

CP 500 N-500318.254, E-1624030.282, Z-926.338
CP 503 N-500557.121, E-1623988.334, Z-929.250
CP 504 N-500602.558, E-1624102.522, Z-926.887
CP 505 N-500411.411, E-1623934.978, Z-929.580
CP 506 N-500451.890, E-1624248.450, Z-925.450



I hereby certify that this Engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

MONICA M. SMITH LICENSE NO. 15074

Signature _____ Date _____
My renewal date is December 31, 2023
Pages or sheets covered by this seal: 'C' SHEETS

TRAFFIC CONTROL

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH ALL APPLICABLE JURISDICTIONAL REQUIREMENTS.

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
2. THE SITE IMPROVEMENTS SHOWN WITHIN THIS PLAN SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE 2022 VERSION OF THE URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, ALSO KNOWN AS SUDAS (2022) AS AMENDED BY THE CITY OF INDIANOLA UNLESS SPECIFICALLY STATED OTHERWISE IN THESE PLANS, THE PROJECT MANUAL (IF APPLICABLE), OR CITY AND OTHER APPLICABLE ORDINANCES. THIS INCLUDES, IF PROVIDED, PROJECT SPECIFIC SUPPLEMENTAL SPECIFICATIONS.
3. ANY QUANTITIES SHOWN ON THE CIVIL SHEETS (C#.#) ARE TO ASSIST THE BIDDER. THE BIDDER/CONTRACTOR SHALL MAKE A FINAL DETERMINATION OF THE QUANTITIES REQUIRED TO COMPLETE THE WORK AND THE BID SHALL BE ON THE BASIS OF THE BIDDER/CONTRACTOR'S OWN CALCULATIONS. ANY COMMENT RELATED TO QUANTITY OR PAYMENT ON THE CIVIL SHEETS IS SOLELY PROVIDED TO ASSIST THE BIDDER/CONTRACTOR IN THE PREPARATION OF BIDDING AND SHALL NOT BE CAUSE FOR CHANGE ORDER REQUEST.
4. CONSTRUCTION SURVEY FOR THIS PROJECT SHALL BE PROVIDED BY THE <OWNER OR CONTRACTOR>.
5. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE ENGINEERING DEPARTMENTS AND UTILITY COMPANIES PRIOR TO CONSTRUCTION. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO ANY EXISTING UTILITY. IOWA CODE 480, UNDERGROUND FACILITIES INFORMATION, REQUIRES NOTICE TO IOWA ONE CALL (1-800-292-8989) NOT LESS THAN 48 HOURS BEFORE EXCAVATION, EXCLUDING WEEKENDS AND LEGAL HOLIDAYS.
6. THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, LOCATE AND DETERMINE THE UNDERGROUND UTILITIES ON THE PROJECT SITE. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO LOCATE AND PRESERVE ANY UNDERGROUND UTILITIES.
7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING TO BECOME FULLY FAMILIAR WITH THE EXISTING CONDITIONS OF THE SITE. FAILURE TO VISIT THE SITE SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING THE WORK IN ACCORDANCE WITH THESE DRAWINGS.
8. THE CONTRACTOR SHALL VERIFY AT THE SITE, ALL DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS, AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES, OMISSIONS, AND/OR CONFLICT PRIOR TO PROCEEDING WITH THE WORK.
9. DRAWING DIMENSIONS SHALL GOVERN OVER SCALING OF DRAWINGS. LARGE SCALE DRAWINGS SHALL GOVERN OVER SMALL SCALE DRAWINGS. NOTES AND DETAILS ON THE DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES OUTSIDE THE CONSTRUCTION LIMITS RESULTING FROM NEGLIGENCE.
11. CONTRACTOR SHALL PROTECT EXISTING FACILITIES, BUILDINGS, AND OTHER APPURTENANCES NOT TO BE REMOVED FROM THE SITE DURING THE CONSTRUCTION ACTIVITIES.
12. CONTRACTOR SHALL CONFINE WORK TO THE CONSTRUCTION LIMITS AND EASEMENTS PROVIDED OR EASEMENTS OBTAINED. COPIES OF ANY EASEMENTS THE CONTRACTOR OBTAINS FOR CONSTRUCTION WORK ON THIS PROJECT SHALL BE PROVIDED TO THE OWNER.
13. CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SCHEDULE AND STAGING PLAN A MINIMUM OF TWO (2) DAYS PRIOR TO THE PRECONSTRUCTION MEETING.
14. CONTRACTOR SHALL NOT INTERRUPT ACCESS TO OTHER PROPERTIES, WHERE INGRESS/EGRESS IS PERMITTED, DURING CONSTRUCTION.
15. CONTRACTOR SHALL INSTALL INITIAL EROSION CONTROL MEASURES FOR INSPECTION BY THE CITY PRIOR TO EARTH MOVING ACTIVITIES.
16. CONTRACTOR SHALL COORDINATE TEMPORARY DISRUPTION OF UTILITY SERVICES WITH THE CITY OF FAIRFIELD, AFFECTED UTILITY COMPANIES, AND/OR AFFECTED PROPERTY OWNERS WHEN UTILITY SERVICES ARE INTERRUPTED DUE TO CONSTRUCTION ACTIVITIES ON THIS PROJECT.
17. TYPE A COMPACTION SHALL BE REQUIRED FOR EXCAVATION/EMBANKMENT WORK ON THIS PROJECT. ADDITIONAL COMPACTION REQUIREMENTS MAY BE REQUIRED FOR BUILDING CONSTRUCTION. REFER TO APPLICABLE SPECIFICATIONS FOR THAT WORK.
18. PROPOSED LINEWORK IS PROVIDED IN .DWG FORMAT AND THE EXISTING AND PROPOSED SURFACES ARE PROVIDED IN .XML FORMAT FOR BIDDING PURPOSES. NO OTHER ELECTRONIC DATA WILL BE PROVIDED FOR BIDDING PURPOSES. ALL ENTITIES WHO CHOSE TO USE THESE ELECTRONIC DOCUMENTS WEATHER ISSUED FOR BIDDING OR ISSUED DURING CONSTRUCTION SHALL ASSUME RESPONSIBILITY FOR ENSURING ITS ACCURACY TO THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.

APPLICABLE SUDAS SECTIONS:

Iowa Statewide Urban Design and Specifications (SUDAS) is available publicly at <https://iowasudas.org>

The following specifications sections are brought to the attention of the contractor for work on this project. Exclusion from this list shall not exempt other sections from applicability to work on this project.
For all items called out in subsection 1.08 MEASUREMENT AND PAYMENT, '1. Measurement:' and '2. Payment:' shall be excluded. '3. Includes:' shall still apply to all sections. Any reference to 'Unit price' or similar context shall refer to The Contract arrangement for payment in the Project Manual for this project. EXAMPLE: where a 6" Gate valve is called out in the Plans all incidentals under Division 5, Section 5020, Part 1, Sub Section 1.08, A., 3, shall apply.

DIVISION 2: Earthwork
2010: Earthwork, Subgrade, and Subbase

DIVISION 3: Trench Excavation and Backfill
3010: Trench Excavation and Backfill
3020: Trenchless Construction (Boring, Jacking, and Tunneling)

DIVISION 4: Sewers and Drains
4010: Sanitary Sewers
4020: Storm Sewers
4060: Cleaning, Inspection, and Testing of Sewers

DIVISION 5: Water Mains and Appurtenances
5010: Pipe Fittings
5020: Valves, Fire Hydrants, and Appurtenances
5030: Testing and Disinfection

DIVISION 6: Structures for Sanitary and Storm Sewers
6010: Structures for Sanitary and Storm Sewers
6030: Cleaning, Inspection, and Testing of Structures

DIVISION 7: Streets and Related Work
7010: Portland Cement Concrete Pavement
7030: Sidewalks, Shared Used Paths, and Driveways

DIVISION 8: Traffic Control
8020: Pavement Markings
8030: Temporary Traffic Control

DIVISION 9: Site Work and Landscaping
9010: Seeding
9030: Plant Material and Planting
9040: Erosion and Sediment Control
9060: Chain Link Fence

Division 11: Miscellaneous
11,010: Construction Survey
11,050: Concrete Washout

APPLICABLE SUDAS DETAILS:

Iowa Statewide Urban Design and Specifications (SUDAS) is available publicly at <https://iowasudas.org>

The following details are brought to the attention of the contractor for work on this project. Exclusion from this list shall not exempt other details from applicability to site work on this project.

DIVISION 2: Earthwork
2010.101 - DETAILS OF EMBANKMENTS AND REBUILDING EMBANKMENTS
2010.102 - DESIGNATION OF ROADWAY EARTHWORK ITEMS

DIVISION 3: Trench Excavation and Backfill
3010.101 - Trench Bedding and Backfill Zones
3010.103 - Flexible Gravity Pipe Trench Bedding
3010.104 - Pressure Pipe Trench Bedding

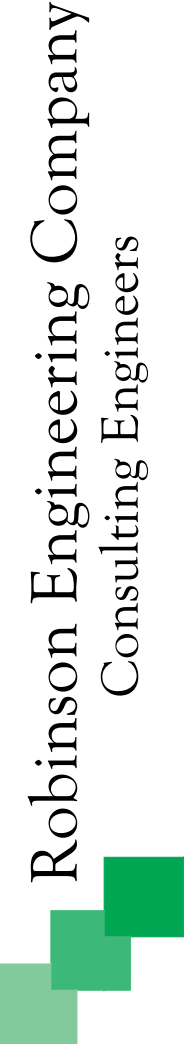
DIVISION 4: Sewers and Drains
4010.201 - Sanitary Sewer Service Stub
4010.203 - Sanitary Sewer Cleanout
4020.211 - Storm sewer Pipe Connections

DIVISION 5: Water Mains and Appurtenances
5010.101 - Thrust Blocks
5010.102 - Tracer System
5010.901 - Minimum Clearance Between Water Service and Structure
5020.201 - Fire Hydrant Assembly

DIVISION 7: Streets and Related Work
7010.101 - Joints
7010.102 - PCC Curb Details [6" Standard Curb]
7010.904 - Typical Jointing Layout
7030.102 - Concrete Driveway, Type B [With Radii]
7030.202 - Curb Details for Class A Sidewalk [Detail 3]

DIVISION 8: Traffic Control
8030-102 - Work off of Pavement with Minor Encroachment onto Traveled Way
8030.104 - Lane Closure on Low Volume Street (Self-Regulating)

DIVISION 9: Site Work and Landscaping
9030.101 - Planting Pit
9030.102 - Tree Staking, Guying, And Wrapping
9040.102 - Filter Berm and Filter Sock
9040.103 - Rolled Erosion Control Product (RECP) Installation on Slopes
9040.104 - Rolled Erosion Control Product (RECP) Installation in Channel
9040.105 - Rip Rap for Pipe Outlet onto Flat Ground
9040.111 - Rap Rap Apron for Piope Outlet into Channel
9040.114 - Sediment Basin with Emergency Spillway
9040.119 - Silt Fence
9040.120 - Stabilized Construction Entrance
9060.101 - Chain Link Fence
9060.102 - Chain Link Gate



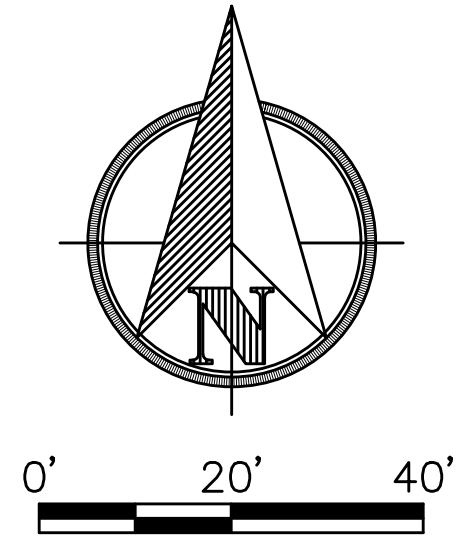
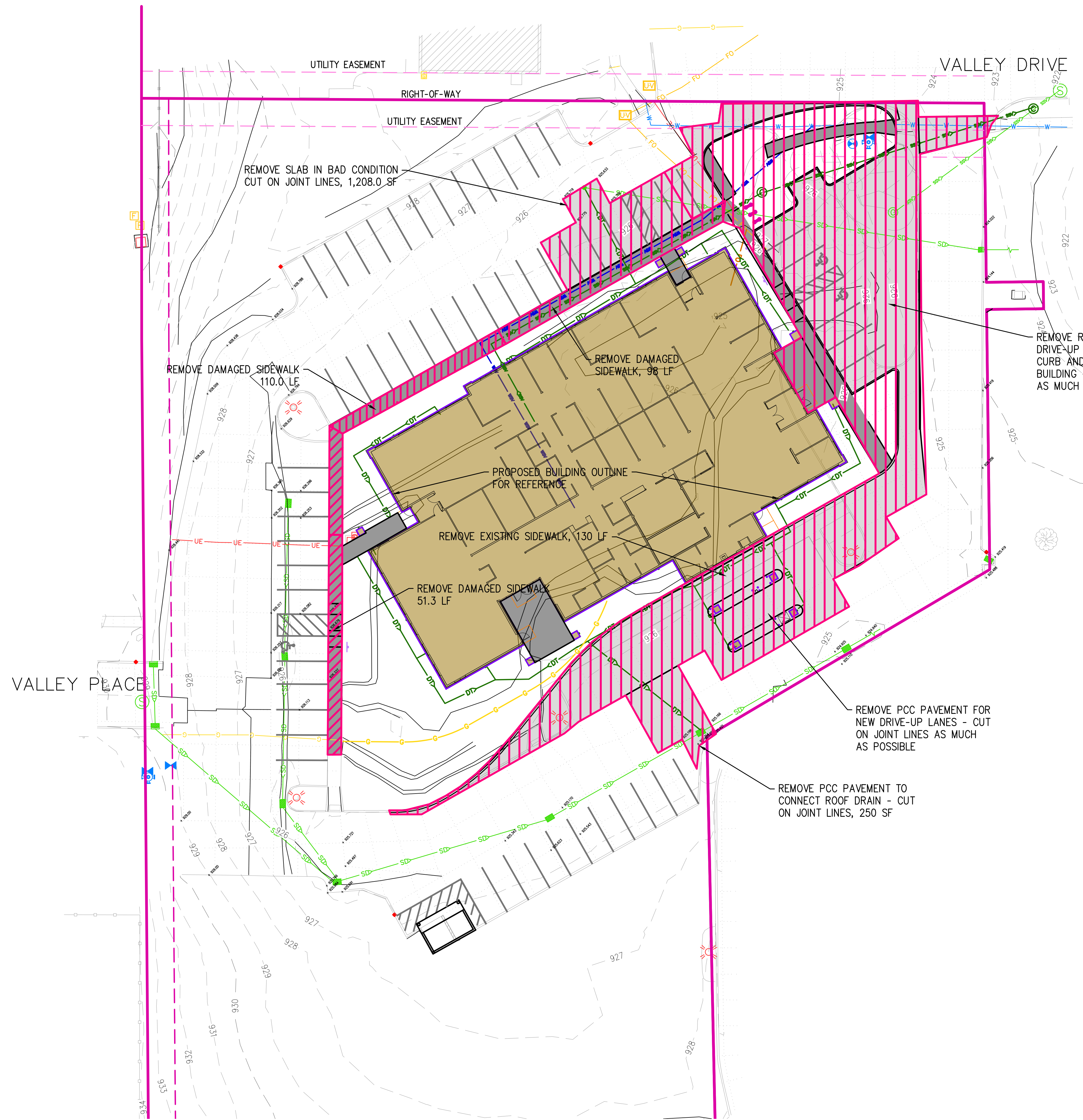
819 Second Street NE
Independence, Iowa 50644
319-334-7211

GENERAL NOTES AND APPLICABLE SPECIFICATIONS

A NEW MAIN FACILITY FOR TRUBANK
PN: PROJECT #
TRUBANK
1401 NORTH JEFFERSON
INDIANOLA, IA 50125

C0.3

08/25/2022
FINAL



REMOVE REMNANTS OF OLD BANK
DRIVE-UP LANES, PAVEMENT AND
CURB AND GUTTER FROM OLD
BUILDING - CUT ON JOINT LINES
AS MUCH AS POSSIBLE

- NOTES:
1. ALL REMOVAL MUST BE COMPLETED WITHOUT DAMAGING SURROUNDING SURFACES.
 2. ALL SAW CUTS SHOULD FOLLOW EXISTING PAVEMENT JOINTS, IF POSSIBLE.
 3. ALL PAVEMENT REMOVALS FROM PUBLIC STREETS SHOULD BE THE REPLACEMENT OF ENTIRE PANELS.
 4. JOINTING PATTERNS MUST MATCH EXISTING PATTERNS.
 5. PAVEMENT REMOVALS WITHIN PUBLIC STREETS WILL NEED TEMPORARY LANE CLOSURES THAT COMPLY WITH MUTCD STANDARDS.

EXISTING CONDITIONS AND
REMOVALS PLAN

A NEW MAIN FACILITY FOR TRUBANK
PN: PROJECT #
TRUBANK
1401 NORTH JEFFERSON
INDIANOLA, IA 50125

C1.1

08/25/2022
FINAL

Robinson Engineering Company
Consulting Engineers



819 Second Street NE
Independence, Iowa 50644
319-334-7211

PAVEMENT NOTES:

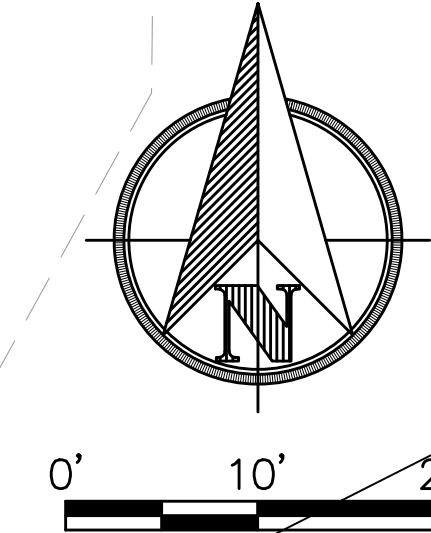
- 1. SIDEWALKS ARE DESIGNED AT 1.5% CROSS SLOPE OR LESS. AS CONSTRUCTED CROSS SLOPS SHALL NOT EXCEED 2%.
- 2. LONGITUDINAL SLOPE OF WALKS SHALL NOT EXCEED 5% (1:20) UNLESS AT CURB RAMPS IN WHICH CASE THE LONGITUDINAL SLOPE SHALL NOT EXCEED 8.3% (1:12). CARE SHALL BE TAKEN TO INSTALL WALKS IN ACCORDANCE WITH THE SURFACE DESIGN HEREIN.
- 3. END STALLS ARE 10' WIDE MEASURED FROM BACK OF CURB TO CENTER PAVEMENT MARKING. STANDARD STALLS ARE 9' WIDE MEASURED CENTER TO CENTER OF PAVEMENT MARKING. HANDICAP STALLS ARE AS NOTED.
- 4. PROVIDE AND INSTALL HANDICAP PARKING SIGNS. SIGNS SHALL BE ALUMINUM ON GALVANIZED STEEL SQUARE TUBE UNLESS MOUNTED TO BUILDING.
- 5. ALL PAVEMENT SHALL BE INSTALLED TO MAINTAIN EXISTING STORM WATER FLOWS.

HATCHING LEGEND

	PCC SIDEWALK, 5" PCC ON 4" MODIFIED SUBBASE
	PCC PAVEMENT, 6" PCC ON 6" MODIFIED SUBBASE
	PCC PAVEMENT, 8" PCC ON 6" MODIFIED SUBBASE

EXISTING PAVEMENT: 5" PCC ON 6" SUBBASE
(VERIFY IN FIELD)
PROPOSED PAVEMENT: 6" PCC ON 6" SUBBASE
USE IOWA DOT CLASS C CONCRETE

VALLEY DRIVE



REMOVE EXISTING CONCRETE
CONNECT ROOF DRAINS TO INTAKE
REPLACE CONCRETE AT SAME ELEVATION

REPLACE SIDEWALK TO MATCH EXISTING

FFE = 926'-10"

MATCH EXISTING PAVEMENT
AND EXISTING DRAINAGE
PATTERNS

1% Slope

1.2% Slope

PAVING PLAN - NORTH

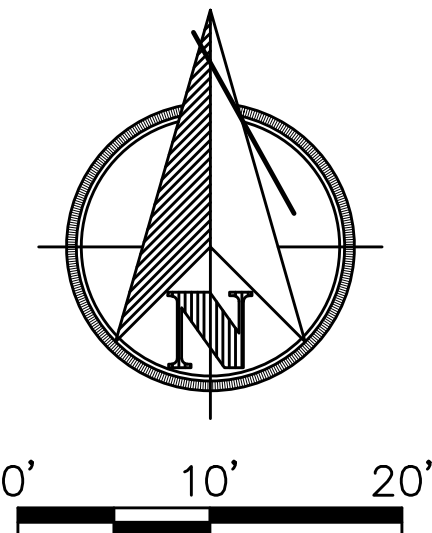
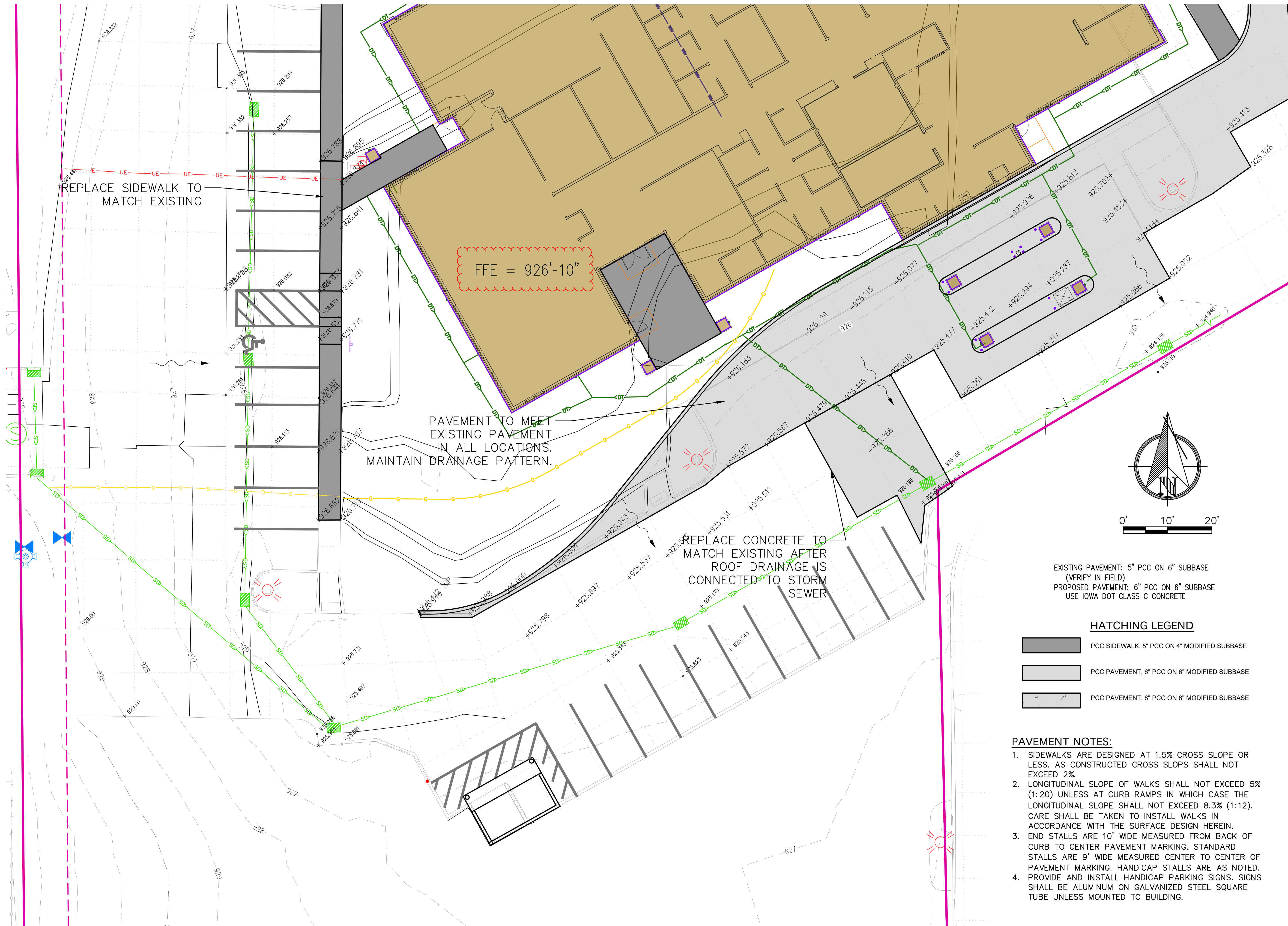
A NEW MAIN FACILITY FOR TRUBANK
PN: PROJECT #
TRUBANK
1401 NORTH JEFFERSON
INDIANOLA, IA 50125

C3.1

08/25/2022
FINAL

Robinson Engineering Company
Consulting Engineers

819 Second Street NE
Indianola, Iowa 50644
319-334-7211



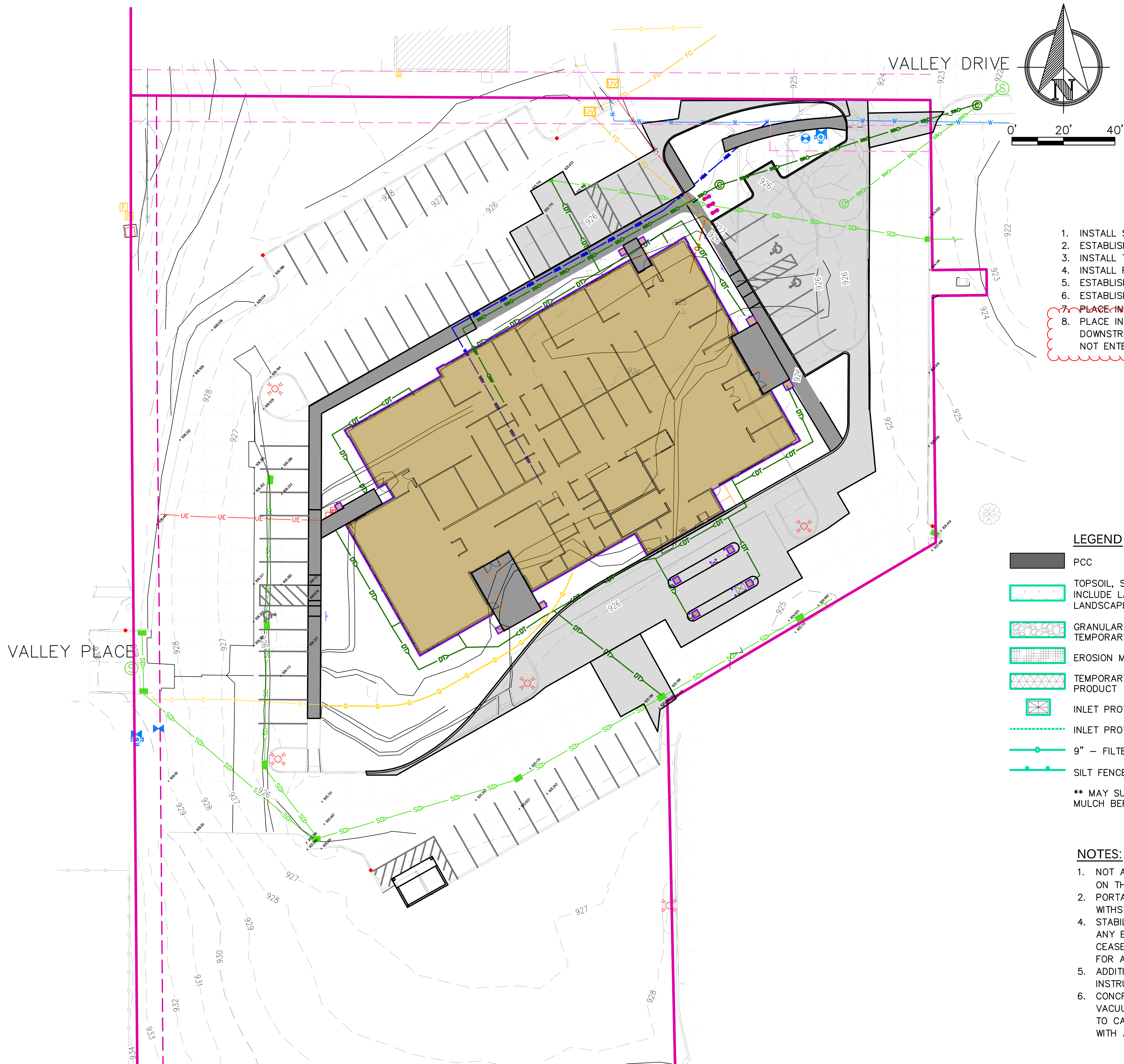
EXISTING PAVEMENT: 5" PCC ON 6" SUBBASE
(VERIFY IN FIELD)
PROPOSED PAVEMENT: 6" PCC ON 6" SUBBASE
USE IOWA DOT CLASS C CONCRETE

HATCHING LEGEND

- [Hatched Box] PCC SIDEWALK, 5" PCC ON 4" MODIFIED SUBBASE
- [Hatched Box] PCC PAVEMENT, 6" PCC ON 6" MODIFIED SUBBASE
- [Hatched Box] PCC PAVEMENT, 8" PCC ON 6" MODIFIED SUBBASE

PAVEMENT NOTES:

- SIDEWALKS ARE DESIGNED AT 1.5% CROSS SLOPE OR LESS. AS CONSTRUCTED CROSS SLOPS SHALL NOT EXCEED 2%.
- LONGITUDINAL SLOPE OF WALKS SHALL NOT EXCEED 5% (1:20) UNLESS AT CURB RAMPS IN WHICH CASE THE LONGITUDINAL SLOPE SHALL NOT EXCEED 8.3% (1:12). CARE SHALL BE TAKEN TO INSTALL WALKS IN ACCORDANCE WITH THE SURFACE DESIGN HEREIN.
- END STALLS ARE 10' WIDE MEASURED FROM BACK OF CURB TO CENTER PAVEMENT MARKING. STANDARD STALLS ARE 9' WIDE MEASURED CENTER TO CENTER OF PAVEMENT MARKING. HANDICAP STALLS ARE AS NOTED.
- PROVIDE AND INSTALL HANDICAP PARKING SIGNS. SIGNS SHALL BE ALUMINUM ON GALVANIZED STEEL SQUARE TUBE UNLESS MOUNTED TO BUILDING.



SEQUENCE OF ACTIVITIES

INITIAL
PREPARATION OF SITE FOR MOBILIZATION
AND COMMENCEMENT OF WORK

1. INSTALL SWPPP BOX
2. ESTABLISH PERIMETER CONTROLS
3. INSTALL TEMPORARY CONSTRUCTION ENTRANCE
4. INSTALL PORTABLE SANITARY FACILITY
5. ESTABLISH STAGING & PARKING AREAS
6. ESTABLISH STOCK PILE CONTROLS (IF NEEDED)
- ~~7. PLACE INLET PROTECTION DEVICES ON ROADWAY INLETS.~~
8. PLACE INLET PROTECTION DEVICES ON PUBLIC INLETS
DOWNSTREAM OF THIS PROJECT TO ENSURE SEDIMENT DOES
NOT ENTER THE CITY STORM SEWER SYSTEM.

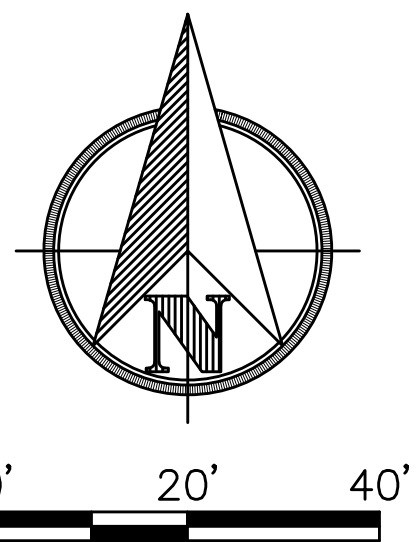
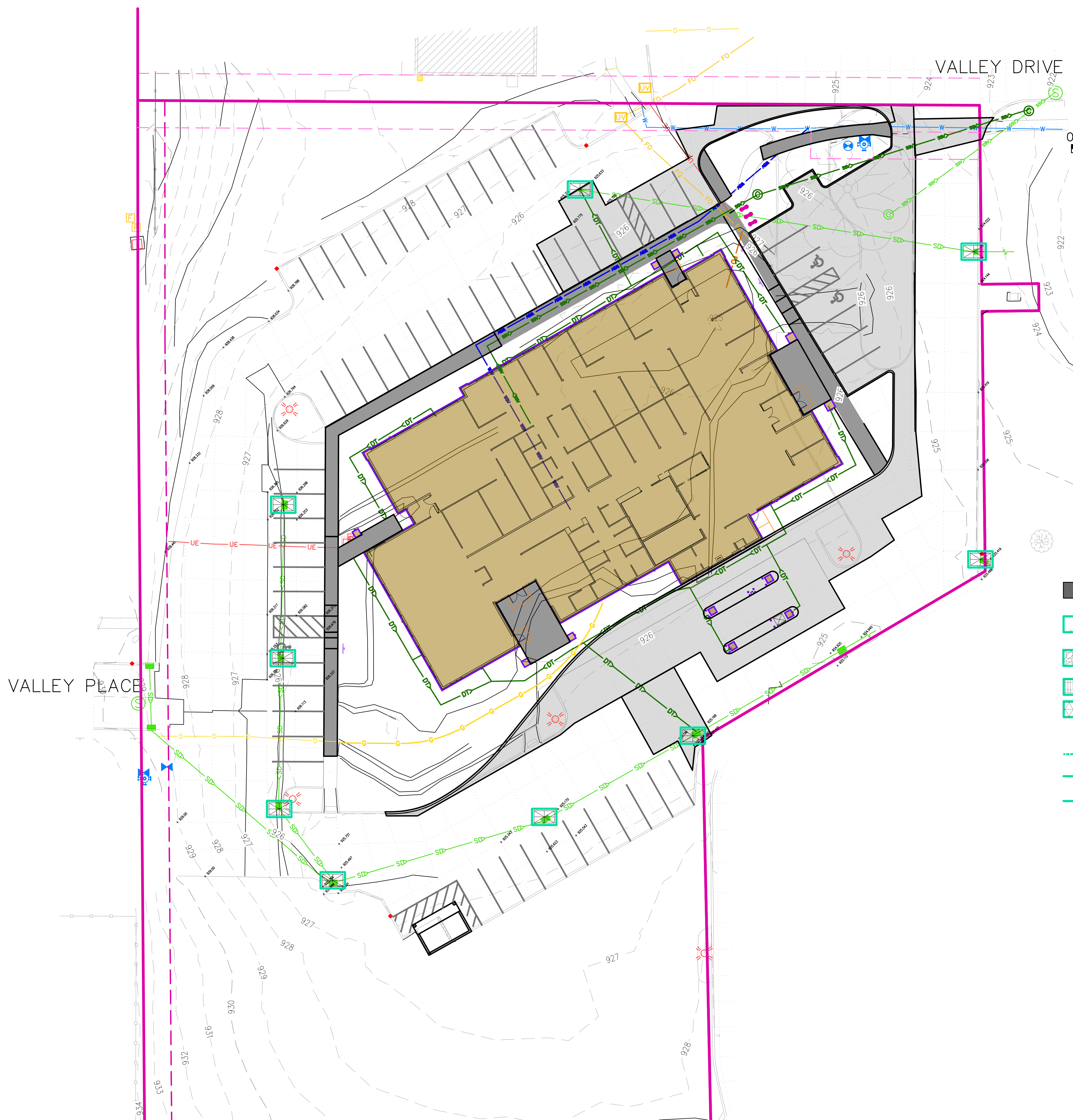
LEGEND

- PCC
- TOPSOIL, SEEDING, AND MULCHING (MAY INCLUDE LANDSCAPING, REFER TO LANDSCAPING PLAN)
- GRANULAR SURFACING PERMANENT OR TEMPORARY
- EROSION MULCHING
- TEMPORARY ROLLED EROSION CONTROL PRODUCT
- INLET PROTECTION – SILT BAG
- INLET PROTECTION – SOCK
- 9" – FILTER SOCK, MULCH FILL**
- SILT FENCE

- LOCATION TO BE ESTABLISHED
BY CONTRACTOR:
- SWPPP BOX
 - PORTABLE SANITARY FACILITY
 - CONSTRUCTION DUMPSTER
 - CONSTRUCTION PARKING
 - CONSTRUCTION TRAILER
 - MATERIAL STORAGE
 - STABILIZED CONSTRUCTION
ENTRANCE COMPLY WITH
SUDAS 9040.12
 - CONCRETE WASHOUT

NOTES:

1. NOT ALL KEY AND/OR LEGEND ITEMS MAY BE USED AND SHOWN ON THIS PLAN. THEY ARE AVAILABLE FOR USE IF NEEDED.
2. PORTABLE SANITARY FACILITY SHALL BE STAKED DOWN TO WITHSTAND ANY ANTICIPATED WINDS
4. STABILIZATION MEASURES SHALL BE INITIATED IMMEDIATELY ON ANY EXPOSED SOILS IF EARTH DISTURBING ACTIVITIES HAVE CEASED TEMPORARILY OR PERMANENTLY AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
5. ADDITIONAL AND MORE COMPREHENSIVE DETAILS AND INSTRUCTIONS CONTAINED WITHIN THE SWPPP DOCUMENT
6. CONCRETE SLURRY GENERATED BY WET SAWING SHALL BE VACUUMED OR UTILIZE OTHER ACCEPTABLE CONTAINMENT METHOD TO CAPTURE AND DISPOSE OF THE MATERIAL IN ACCORDANCE WITH APPLICABLE LAWS.



SEQUENCE OF ACTIVITIES

CONSTRUCTION
CONTINUED MAINTENANCE, IMPLEMENTATION,
AND EVOLUTION OF SWPPP

1. MAINTENANCE
 - 1.A. SWPPP DOCUMENTS
 - 1.B. PERIMETER CONTROLS
 - 1.C. TEMPORARY CONSTRUCTION ENTRANCE
 - 1.D. STOCK PILES
2. SITE GRADING
 - 2.A. PLACE EROSION MULCHING WHEN AREAS ARE NOT BEING WORKED OR ONCE GRADE IS ESTABLISHED
 - 2.B. PLACE PAVEMENT SUBBASE ONCE SUBGRADE PREPARED
 - 2.C. SWEEP STREETS WHEN EROSION IS TRACKED
3. UTILITIES
 - 3.A. PLACE EROSION MULCHING THROUGH DISTURBED AREAS
 - 3.B. PLACE INLET PROTECTION DEVICES FOR NEWLY INSTALLED INTAKES
 - 3.C. SWEEP STREETS WHEN EROSION IS TRACKED
4. BUILDING CONSTRUCTION
 - 4.A. MAINTAIN ONSITE CONTROLS
 - 4.B. PLACE EROSION MULCHING AROUND BUILDING WHEN SOILS NOT BEING DISTURBED
5. SITE PAVING
 - 5.A. INSTALL CONCRETE WASHOUT
 - 5.B. DURING PAVEMENT PATCHING, USE HEAVY DUTY SEDIMENT LOGS TO ENSURE STORM WATER FLOWS DO NOT LEAVE SITE.
 - 5.C. REMOVE TEMPORARY CONSTRUCTION ENTRANCE ONCE REQUIRED TO PREPARE SUBBASE AND PLACE PAVEMENT

SWEEP STREET WEEKLY, AT A MINIMUM, TO ENSURE NO TRACKING FROM SITE.

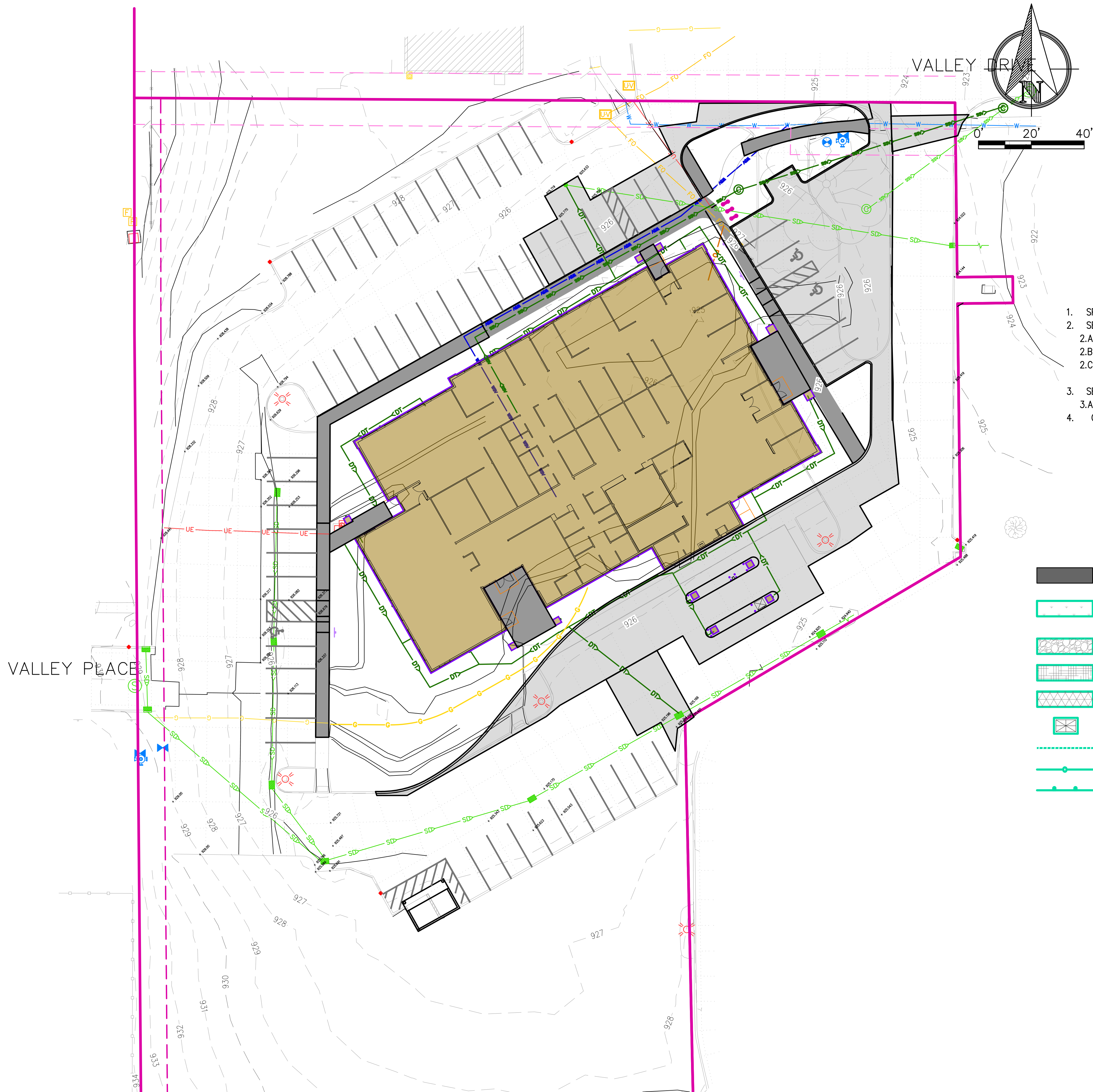
LEGEND

- | | |
|---|---|
| | PCC |
| | TOPSOIL, SEEDING, AND MULCHING (MAY INCLUDE LANDSCAPING, REFER TO LANDSCAPING PLAN) |
| | GRANULAR SURFACING PERMANENT OR TEMPORARY |
| | EROSION MULCHING |
| | TEMPORARY ROLLED EROSION CONTROL PRODUCT |
| | INLET PROTECTION - SILT BAG |
| | INLET PROTECTION - SOCK |
| | 9" - FILTER SOCK, MULCH FILL** |
| | SILT FENCE |
| ** MAY SUBSTITUTE WITH SILT FENCE OR MULCH BERM WHERE PERMITTED | |

- LOCATIONS TO BE ESTABLISHED BY CONTRACTOR:
- SWPPP BOX
 - PORTABLE SANITARY FACILITY
 - CONSTRUCTION DUMPSTER
 - CONSTRUCTION PARKING
 - CONSTRUCTION TRAILER
 - MATERIAL STORAGE
 - STABILIZED CONSTRUCTION ENTRANCE COMPLY WITH SUDAS 9040.12
 - CONCRETE WASHOUT

NOTES:

1. NOT ALL KEY AND/OR LEGEND ITEMS MAY BE USED AND SHOWN ON THIS PLAN. THEY ARE AVAILABLE FOR USE IF NEEDED.
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5. ADDITIONAL AND MORE COMPREHENSIVE DETAILS AND INSTRUCTIONS CONTAINED WITHIN THE SWPPP DOCUMENT
6. CONCRETE SLURRY GENERATED BY WET SAWING SHALL BE VACUUMED OR UTILIZE OTHER ACCEPTABLE CONTAINMENT METHOD TO CAPTURE AND DISPOSE OF THE MATERIAL IN ACCORDANCE WITH APPLICABLE LAWS.



SEQUENCE OF ACTIVITIES
FINAL STABILIZATION

1. SPREAD TOP SOIL
2. SEEDING
 - 2.A. REMOVE EROSION FROM DEVICES TO FINISHED GRADE AND PREP SEEDING AREAS
 - 2.B. PLACE SEEDING, MULCHING, AND FERTILIZER
 - 2.C. WATER AS NECESSARY
3. SEEDING ESTABLISHED
 - 3.A. REMOVE ALL TEMPORARY CONTROLS.
4. CLEAN STORM SEWER SYSTEM TO ENSURE IT OPERATES AS DESIGNED.

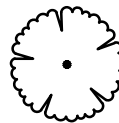
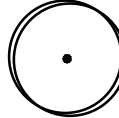
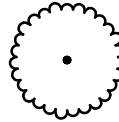
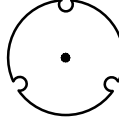
LEGEND

	PCC	LOCATION TO BE DETERMINED BY CONTRACTOR:
	TOPSOIL, SEEDING, AND MULCHING (MAY INCLUDE LANDSCAPING, REFER TO LANDSCAPING PLAN)	SWPPP BOX
	GRANULAR SURFACING PERMANENT OR TEMPORARY	PORTABLE SANITARY FACILITY
	EROSION MULCHING	CONSTRUCTION DUMPSTER
	TEMPORARY ROLLED EROSION CONTROL PRODUCT	CONSTRUCTION PARKING
	INLET PROTECTION - SILT BAG	CONSTRUCTION TRAILER
	INLET PROTECTION - SOCK	MATERIAL STORAGE
	9" - FILTER SOCK, MULCH FILL**	STABILIZED CONSTRUCTION ENTRANCE COMPLY WITH SUDAS 9040.12
	SILT FENCE	CONCRETE WASHOUT
** MAY SUBSTITUTE WITH SILT FENCE OR MULCH BERM WHERE PERMITTED		

NOTES:

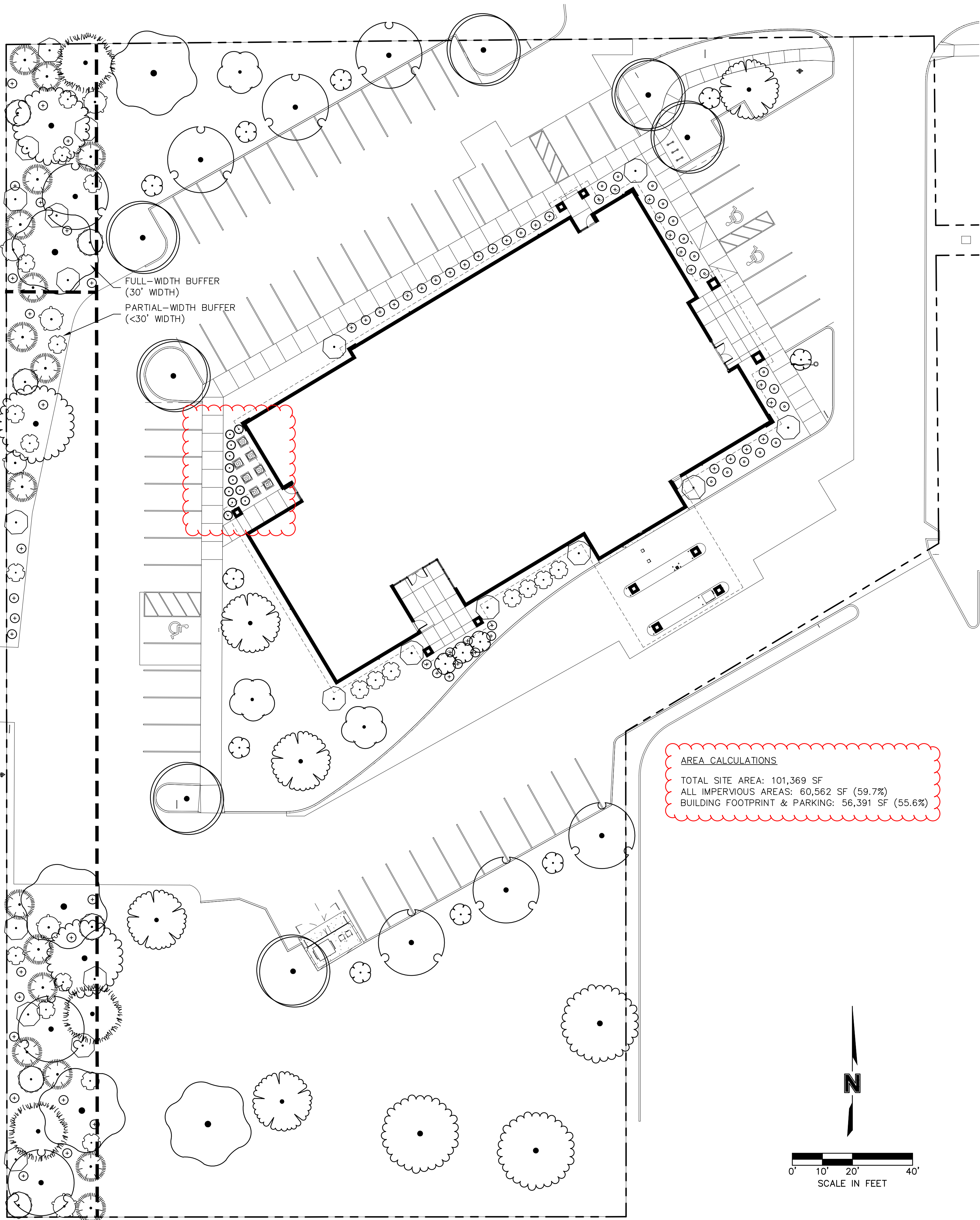
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4. STABILIZATION MEASURES SHALL BE INITIATED IMMEDIATELY ON ANY EXPOSED SOILS IF EARTH DISTURBING ACTIVITIES HAVE CEASED TEMPORARILY OR PERMANENTLY AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
5. ADDITIONAL AND MORE COMPREHENSIVE DETAILS AND INSTRUCTIONS CONTAINED WITHIN THE SWPPP DOCUMENT
6. CONCRETE SLURRY GENERATED BY WET SAWING SHALL BE VACUUMED OR UTILIZE OTHER ACCEPTABLE CONTAINMENT METHOD TO CAPTURE AND DISPOSE OF THE MATERIAL IN ACCORDANCE WITH APPLICABLE LAWS.

PLANT SCHEDULE

EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	CONDITION	CALIPER	HEIGHT	IA NATIVE?
	16	JUNIPERUS VIRGINIANA 'KETELEERI' KETELEERI EASTERN REDCEDAR	N/A	B & B		5' HT.	YES
	3	PINUS STROBUS WHITE PINE	N/A	B & B		5' HT.	YES
ORNAMENTAL TREES	QTY	BOTANICAL / COMMON NAME	SIZE	CONDITION	CALIPER	HEIGHT	IA NATIVE?
	13	CERCIS CANADENSIS 'RISING SUN' RISING SUN EASTERN REDBUD	N/A	B & B	1.5"		YES
	3	CORNUS ALTERNIFOLIA PAGODA DOGWOOD	N/A	B & B	1.5"		YES
	5	CRATAEGUS CRUS-GALLI COCKSPUR HAWTHORN	N/A	B & B	1.5"		YES
OVERSTORY TREES	QTY	BOTANICAL / COMMON NAME	SIZE	CONDITION	CALIPER	HEIGHT	IA NATIVE?
	7	GLEDITSIA TRIACANTHOS INERMIS THORNTLESS HONEY LOCUST	N/A	B & B	2"		YES
	5	GYMNOCLADUS DIOICA 'ESPRESSO' KENTUCKY COFFEETREE	N/A	B & B	2"		YES
	6	QUERCUS RUBRA RED OAK	N/A	B & B	2"		YES
	9	TILIA AMERICANA 'BOULEVARD' AMERICAN LINDEN	N/A	B & B	2"		YES
SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	CONDITION	CALIPER	HEIGHT	IA NATIVE?
	11	BUXUS X 'GREEN MOUND' GREEN MOUND BOXWOOD	5 GAL				YES
	20	CORNUS SERICEA RED TWIG DOGWOOD	3 GAL				YES
	6	EUONYMUS ATROPURPUREUS EASTERN WAHOO	5 GAL				YES
	6	SAMBUCUS CANADENSIS AMERICAN ELDERBERRY	5 GAL				YES
	61	TAXUS CANADENSIS CANADA YEW	3 GAL				YES
	20	VIBURNUM LENTAGO NANNYBERRY	5 GAL				IA NATIVE? YES
GRASSES	QTY	BOTANICAL / COMMON NAME	SIZE	CONDITION	CALIPER	HEIGHT	IA NATIVE?

- NOTES:
1. PRELIMINARY. NOT FOR CONSTRUCTION.
 2. ALL DISTURBED AREA NOT OTHERWISE SPECIFIED WITH GROUND COVER SHALL BE PLANTED WITH TURF SEED - DROUGHT TOLERANT DWARF FESCUE BLEND.
 3. PLANTING BEDS AND TREE PLANTING AREAS SHALL RECEIVE BROWN HARDWOOD MULCH AT A DEPTH OF 3" WITH SHOVEL-CUT EDGE.
 4. GREEN SPACE SHALL BE REGULARLY MAINTAINED TO KEEP VEGETATION LIVELY AND ATTRACTIVE VIA REGULAR MOWING AND PRUNING & WATERING AS NEEDED.
 5. SEE PLANT LIST SCHEDULE FOR LIST OF IOWA NATIVE VEGETATION. 100% OF PROPOSED VEGETATION IS IOWA NATIVE.
 6. DECIDUOUS SHADE TREES AND ORNAMENTAL TREES WILL HAVE A MINIMUM HEIGHT OF 6 INCHES ABOVE THE IMMEDIATE GROUND LEVEL.
 7. TREES AND LANDSCAPING SHALL MEET MINIMUM SETBACK REQUIREMENTS OUTLINED IN SECTION 165.08.06(A)(6).

LANDSCAPE CALCULATIONS			
CATEGORY	RATIO	REQUIRED	PROVIDED
OPEN SPACE	PER 2000 SF REQUIRED OPEN SPACE: 1 SHADE TREE 2 ORNAMENTAL TREES 2 SHRUBS	(101,369 SF LOT AREA * 20%) = 20,274 SF REQUIRED OPEN SPACE 11 SHADE TREES 21 ORNAMENTAL TREES 21 SHRUBS	39,981 SF OPEN SPACE 11 SHADE TREES 21 ORNAMENTAL TREES 52 SHRUBS 16 GRASSES
PARKING	1 SHADE TREE PER PARKING LOT ISLAND	7 SHADE TREES	7 SHADE TREES
30' BUFFER TO RESIDENTIAL	PER 25 LF: 1 SHADE TREE 2 EVERGREEN TREES 6 SHRUBS	193 LF COMPLETE-WIDTH BUFFER 8 SHADE TREES 16 EVERGREEN TREES 47 SHRUBS	8 SHADE TREES 16 EVERGREEN TREES 47 SHRUBS
		PARTIAL-WIDTH BUFFER (SEE PLAN)	1 SHADE TREE 3 EVERGREEN TREES 14 SHRUBS
PARKING LOT SETBACK	PER 50 LF: 1 SHADE TREE 2 ORNAMENTAL TREES	39 LF 1 SHADE TREE 2 ORNAMENTAL TREES	1 SHADE TREE 2 ORNAMENTAL TREES



Olsson

Olsson - Civil Engineering
1301 Burlington Street
North Kansas City, MO 64116

[illegible]

LANDSCAPE PLAN

TRUBANK
SITE PLAN

INDIANOLA, IA

2022

REVISIONS

drawn by: _____ CJH
checked by: _____ CJH
approved by: _____
QA/QC by: _____ ENG
project no.: _____ A22-02507
drawing no.: C LSC01 A2202507
date: _____ 2022.06.17

SHEET
L100

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LIGHTING SYMBOLS	
SYMBOL	DESCRIPTION
	WALL MOUNT - NORMAL, CRITICAL BRANCH, LIFE SAFETY
	SURFACE - NORMAL SURFACE - CRITICAL BRANCH SURFACE - LIFE SAFETY
	PENDANT - NORMAL PENDANT - CRITICAL BRANCH PENDANT - LIFE SAFETY
	RECESSED - NORMAL RECESSED - CRITICAL BRANCH RECESSED - LIFE SAFETY
	STRIP TRACK
	EXIT - WALL, CEILING (ARROW INDICATES CHEVRON) EXIT EMERGENCY EMERGENCY BATTERY EMERGENCY REMOTE HEAD
	FLOOD POLE

DATA SYMBOLS	
SYMBOL	DESCRIPTION
	DATA OUTLET - WALL, CEILING, FLOOR
	DATA JUNCTION BOX - WALL, CEILING, FLOOR
	TELEPHONE WALL OUTLET
	WIRELESS ACCESS POINT
	TV BACKBOX
	TV OUTLET
	SPEAKER - WALL, CEILING

POWER SYMBOLS	
SYMBOL	DESCRIPTION
	SIMPLEX RECEPTACLE - WALL, CEILING, FLOOR
	DUPLEX RECEPTACLE - WALL, CEILING, FLOOR
	DUPLEX RECEPTACLE - GROUND FAULT
	DUPLEX RECEPTACLE - WEATHERPROOF COVER (WHILE IN USE)
	DUPLEX RECEPTACLE - SURGE PROTECTION
	DUPLEX RECEPTACLE - ABOVE COUNTER
	DUPLEX RECEPTACLE - PLUG LOAD
	FOURPLEX RECEPTACLE - WALL, CEILING, FLOOR
	SPECIAL RECEPTACLE - WALL, CEILING, FLOOR
	FOURPLEX RECEPTACLE - PLUG LOAD
	DUPLEX RECEPTACLE, EMERGENCY POWER
	JUNCTION BOX - WALL, CEILING, FLOOR
	JUNCTION BOX - WALL, CEILING, FLOOR
	ELECTRICAL CONNECTION
	CORD REEL
	PLUS MOLD

SWITCH SYMBOLS	
SYMBOL	DESCRIPTION
	SINGLE POLE
	TWO POLE
	3-WAY
	4-WAY
	OCCUPANCY SENSOR
	DIMMER
	TIMER
	TIME DELAY
	KEYED
	PILOT LIGHT
	MOMENTARY CONTACT
	LOW VOLTAGE (SUBSCRIPT INDICATES TYPE)
	OCCUPANCY SENSOR - WALL, CEILING, CEILING CORNER (SUBSCRIPT INDICATES TYPE), INFRARED, U-ULTRASONIC, D-DUAL
	RF OCCUPANCY SENSOR - WALL, CEILING (SUBSCRIPT INDICATES TYPE), INFRARED, U-ULTRASONIC, D-DUAL
	DAYLIGHT HARVEST SENSOR - WALL, CEILING
	PHOTOCELL - WALL, CEILING
	RELAY
	ROOM CONTROLLER - POWER
	ROOM CONTROLLER - ONE, TWO, THREE
	ROOM CONTROLLER - EMERGENCY
	BRIDGE CONTROLLER
	TOUCHPAD CONTROL

FIRE ALARM SYMBOLS	
SYMBOL	DESCRIPTION
	PULL STATION
	PULL STATION - DOUBLE ACTION
	STROBE - WALL, CEILING
	HORN / STROBE - WALL, CEILING
	BELL / STROBE
	BELL
	SPEAKER / STROBE
	SPEAKER
	SPEAKER / HORN
	DOOR HOLDER
	SMOKE DETECTOR
	DUCT SMOKE DETECTOR
	HEAT DETECTOR
	BEAM SMOKE DETECTOR
	REMOTE ANNUNCIATOR PANEL
	FIRE ALARM CONTROL PANEL
	NAC POWER SUPPLY
	ADDRESSABLE RELAY MODULE
	INTERFACE MODULE, MINI, ADDRESSABLE
	POST INDICATOR VALVE
	FLOW SWITCH

SECURITY SYMBOLS	
SYMBOL	DESCRIPTION
	CAMERA
	CAMERA - PANTILT/ZOOM
	CARD READER
	CARD ACCESS CONTROL PANEL
	CCTV
	COMBINATION LOCK
	DOOR BELL
	DOOR BUZZER
	DOOR CONTACT
	DOOR SIGNAL
	DURESS PUSHBUTTON
	SINGLE PUSHBUTTON
	PUSHBUTTON STATION
	ELECTRIC STRIKE
	DOOR HOLDER
	DEVICE KEYPAD
	MAGNETIC LOCK
	MOTION DETECTOR - CEILING
	MOTION DETECTOR - WALL
	WALL INTERCOM
	SIREN

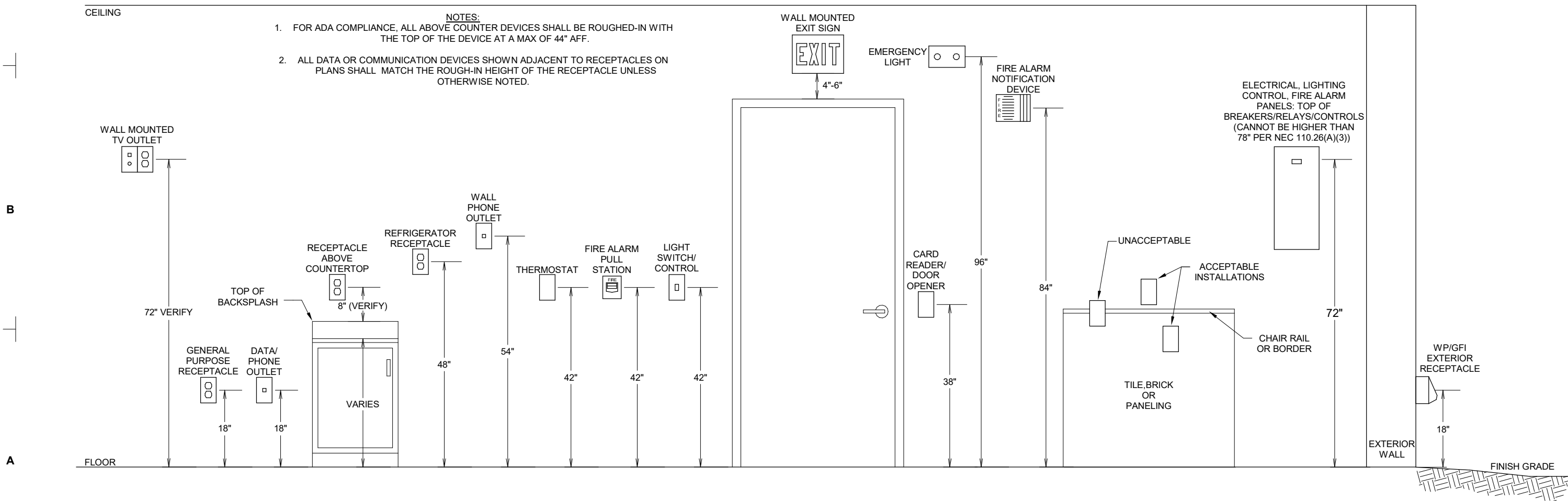
ELECTRICAL SHEET LIST			
SHEET NUMBER	SHEET NAME	CURRENT REVISION	CURRENT REVISION DATE
ES102	SITE LIGHTING PHOTOMETRIC	1	7/21/2022
E000	ELECTRICAL SYMBOLS AND ABBREVIATIONS	1	7/21/2022
ES101	ELECTRICAL SITE PLAN	1	7/21/2022
EL101	LIGHTING PLAN - LEVEL 1	1	7/21/2022
EP101	POWER PLAN - LEVEL 1	1	7/21/2022
EY101	SYSTEMS PLAN - LEVEL 1	1	7/21/2022
EF101	FIRE ALARM PLAN - LEVEL 1	1	7/21/2022
E501	ELECTRICAL DETAILS	1	7/21/2022
E600	ELECTRICAL ONE-LINE DIAGRAM	1	7/21/2022
E601	ELECTRICAL SCHEDULES	1	7/21/2022
E602	ELECTRICAL SCHEDULES	1	7/21/2022

ELECTRICAL ABBREVIATIONS LIST	
1P	1 POLE (2P, 3P, 4P, ETC.)
AC	ABOVE COUNTER
ACL	ABOVE CEILING
ACLG	ABOVE CEILING
AF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI	ARC FAULT CIRCUIT INTERRUPTER
AL	ALUMINUM
AMP	AMPERE
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY
C	CONDUIT
CAB	CABINET
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CONT	CONTINUATION OR CONTINUOUS
CU	COPPER
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DN	DOWN
DS	SAFETY DISCONNECT SWITCH
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EM	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EQUIP	EQUIPMENT
EX	EXISTING
EXR	EXISTING TO BE RELOCATED
FLR	FLOOR
FU	FUSE
FUSD	FUSED SAFETY DISCONNECT SWITCH
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND FAULTY CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTOR
GND	GROUND
IG	ISOLATED GROUND
KVA	KILOVOLT-AMPERE
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDC	MAIN DISTRIBUTION CENTER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MFS	MAIN-FUSED DISCONNECT SWITCH
MLO	MAIN LUGS ONLY
MMS	MANUAL MOTOR STARTER
MOA	MULTI-OUTLET ASSEMBLY
MSB	MAIN SWITCHBOARD
MT	MOUNT
MTS	MANUAL TRANSFER SWITCH
MTR	MOTOR, MOTORIZED
NFDS	NON-FUSED SAFETY DISCONNECT SWITCH
NOT	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OH	OVERHEAD
PB	PULL BOX OR PUSHBUTTON
PD	PEDESTAL
PH	PHASE
PNL	PANEL
PP	POWER POLE
PR	PRIMARY
PWR	POWER
SEC	SECONDARY
SM	SIMILAR
SP	SPARE
SWBD	SWITCHBOARD
TYP	TYPICAL
UC	UNDER COUNTER
UE	UNDERGROUND ELECTRICAL
UT	UNDERGROUND TELEPHONE
UTL	UTILITY
VFD	VARIABLE FREQUENCY DRIVE
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER

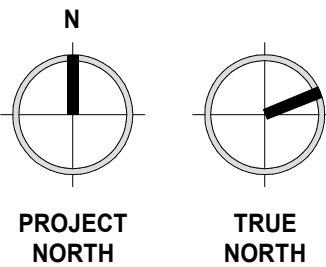
ELECTRICAL SYMBOL NOTES	
	THE LIGHTING FIXTURE TYPE IS INDICATED BY AN UPPER CASE LETTER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE 1: LIGHTING FIXTURE TYPE "F1" AND CONTROLLED BY SWITCH "N".
	SLASH MARK INDICATORS ARE: SHORT STRAIGHT = PHASE CONDUCTOR LONG STRAIGHT = NEUTRAL CONDUCTOR DOT = GROUND CONDUCTOR
	CONDUIT SHALL CONTAIN #12 CONDUCTORS IN 3/4" CONDUIT UNLESS INDICATED DIFFERENT ON PLANS OR SCHEDULES.
	HOMERUN TO BRANCH CIRCUIT PANELBOARD. THE PANELBOARD DESIGNATION IS SHOWN ADJACENT TO THE HOME RUN ARROW. CIRCUIT BREAKER SIZES (AMPS/NUMBER OF POLES) ARE SHOWN IN THE PANELBOARD SCHEDULE WITH THE CORRESPONDING PANELBOARD AND CIRCUIT DESIGNATION. EXAMPLE: HOMERUN TO PANELBOARD L102; CIRCUITS 1, 3, 5.
	DARK = NEW WORK LIGHT = EXISTING DASHED = DEMO

PANELBOARD IDENTIFICATION	
EQUIPMENT DESIGNATION	CODE
HIGH VOLTAGE 277/480	H
LOW VOLTAGE 120/208	L
SYSTEMS DESIGNATION	CODE
EMERGENCY	E
EQUIPMENT DESIGNATION	FLOOR OF STRUCTURE PANEL SEQUENCE NUMBER SYSTEMS DESIGNATION
	L102E

THESE ARE TYPICAL WALL MOUNTED ROUGH-IN HEIGHTS FOR ITEMS NOTE OTHERWISE NOTED ON PLANS. HEIGHTS MAY VARY ON A PROJECT BY PROJECT CASE. COORDINATE WITH GENERAL CONTRACTOR/ARCHITECT AND ARCHITECTURAL ELEVATIONS. ALSO COORDINATE LOCATIONS WITH EQUIPMENT AND MILLWORK DRAWINGS WHEN POSSIBLE.



3
E000
DEVICE MOUNTING ELEVATIONS
12" = 1'-0"



PROJECT
NORTH

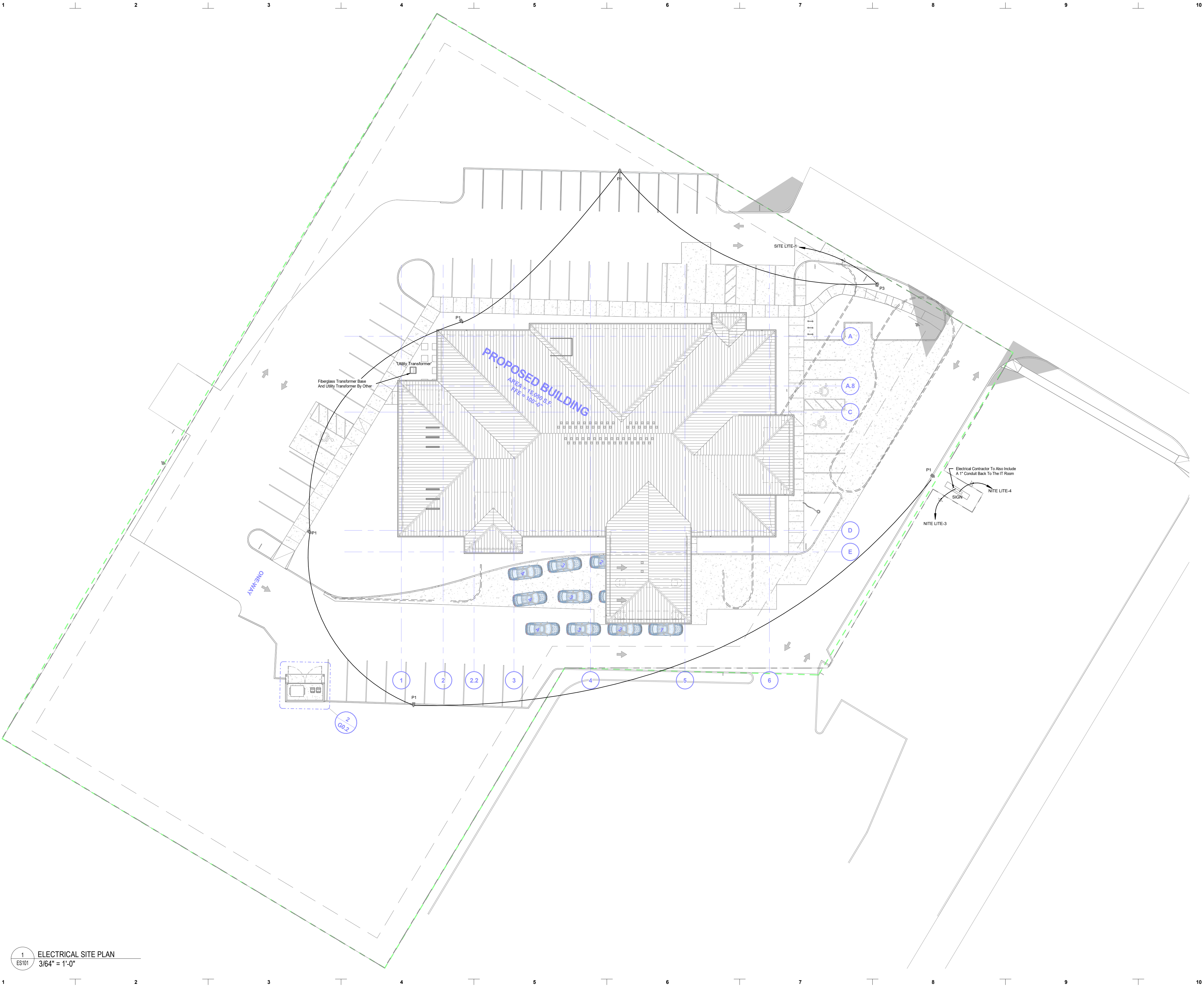
TRUE
NORTH

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ELECTRICAL SYMBOLS AND ABBREVIATIONS

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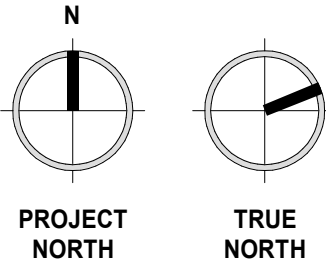
1
ES101
ELECTRICAL SITE PLAN
3/64" = 1'-0"

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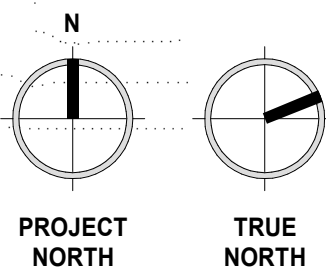
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**ELECTRICAL SITE
PLAN**

ES101



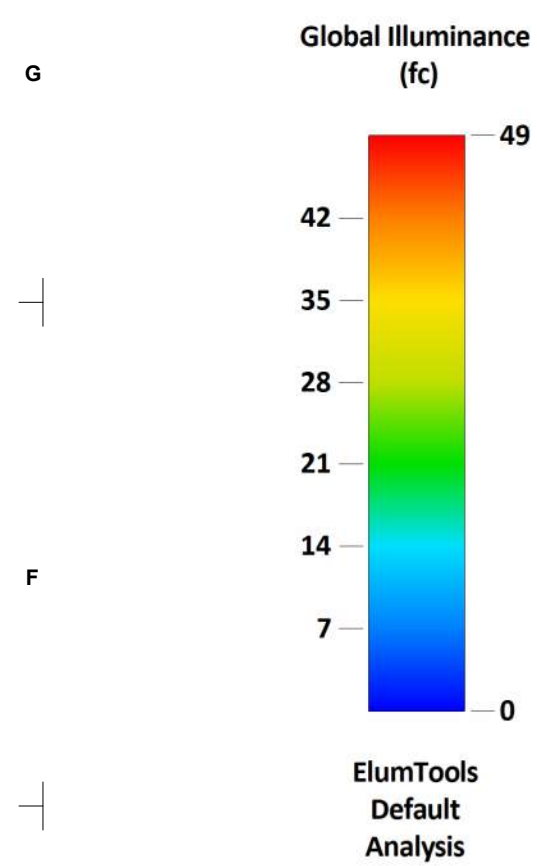
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SITE LIGHTING PHOTOMETRIC

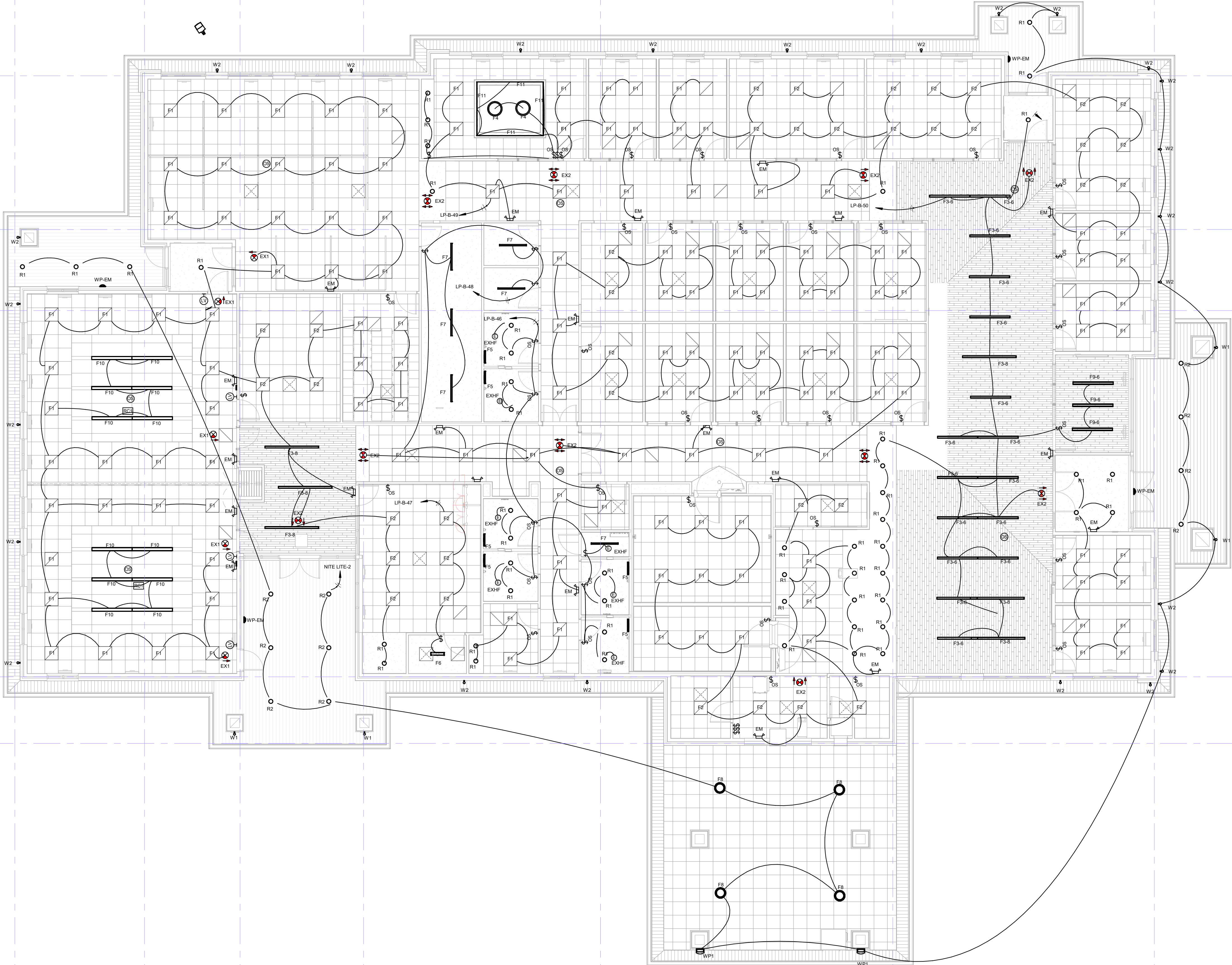
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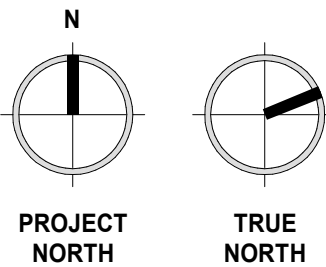
1 LIGHTING PLAN - LEVEL 1
EL101
1/8" = 1'-0"



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**LIGHTING PLAN -
LEVEL 1**

EL101

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1 POWER PLAN - LEVEL 1
1/8" = 1'-0"

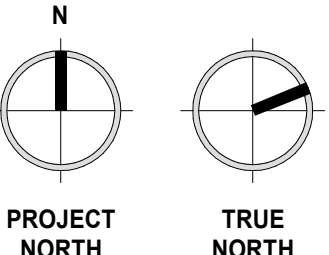
KEYNOTES
1 ALL SOFFIT MOUNTED RECEPTACLES ARE CONTROLLED FROM TIME CLOCK AND CONTACTOR FOR CHRISTMAS LIGHTS

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POWER PLAN - LEVEL 1

EP101

1
EY101
SYSTEMS PLAN - LEVEL 1
1/8" = 1'-0"

CAMERA TYPES

- A. Axis M3045-WV 2MP
B. Axis M3058-PLVE 12MP
C. Axis P3707-PE 4x2MP
D. Axis P1265 1080P

SYMBOL KEY

- Request To Exit Motion
Door Contact
Door Contact - Safe / Vault
Card Reader
Key Pad
ATM ATM Safe Protection
TCR TCR Protection
WHU Wireless Hold-Up
AD Alarmed Doors
EPB Electrified Panic Bars
IAP Intrusion Alarm Panel
ACP Access Control Panel
MD 360° Motion Detector
PNS POE Network Switch
VMS VMS Server
2 Category 6 Data Cables (Wall)
1 Category 6 Cable (Ceiling)
2 Category 6 Data Cables (Floor)
Coax TV Cable
1 Category 6 Cable (Ceiling) For Owner Supplied Camera System

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SYSTEMS PLAN -
LEVEL 1

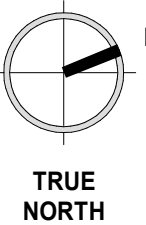
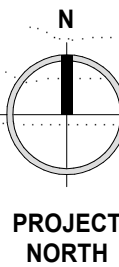
EY101

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DESCRIPTION



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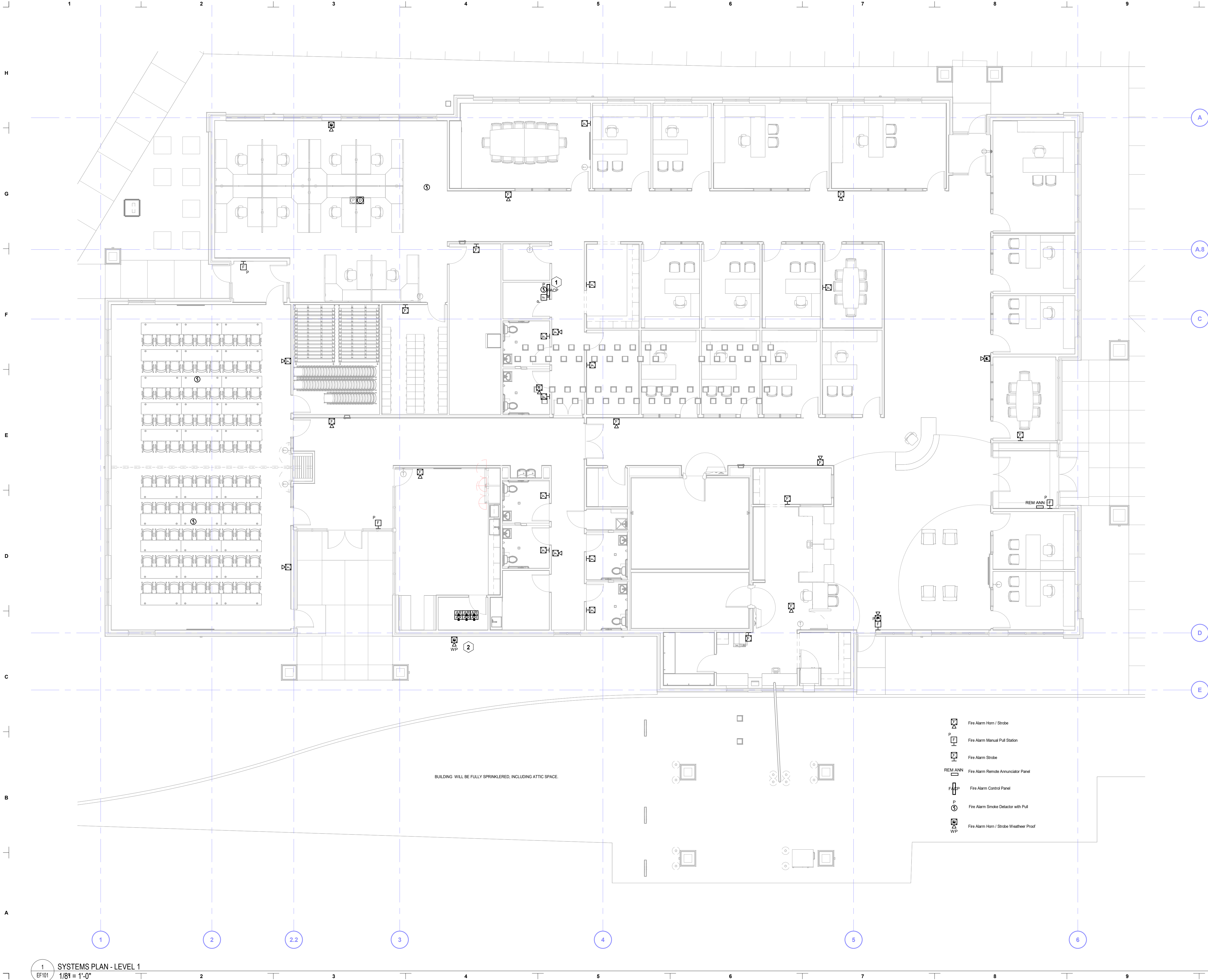
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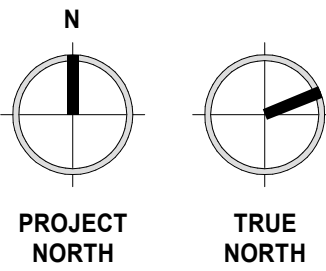
- Keynotes
- 1 Smoke Detector Will Pull Is Above Fire Alarm Control Panel In Ceiling
- 2 Weather Proof Fire Alarm Horn/Strobe Is To Be Mounted Above Fire Connection

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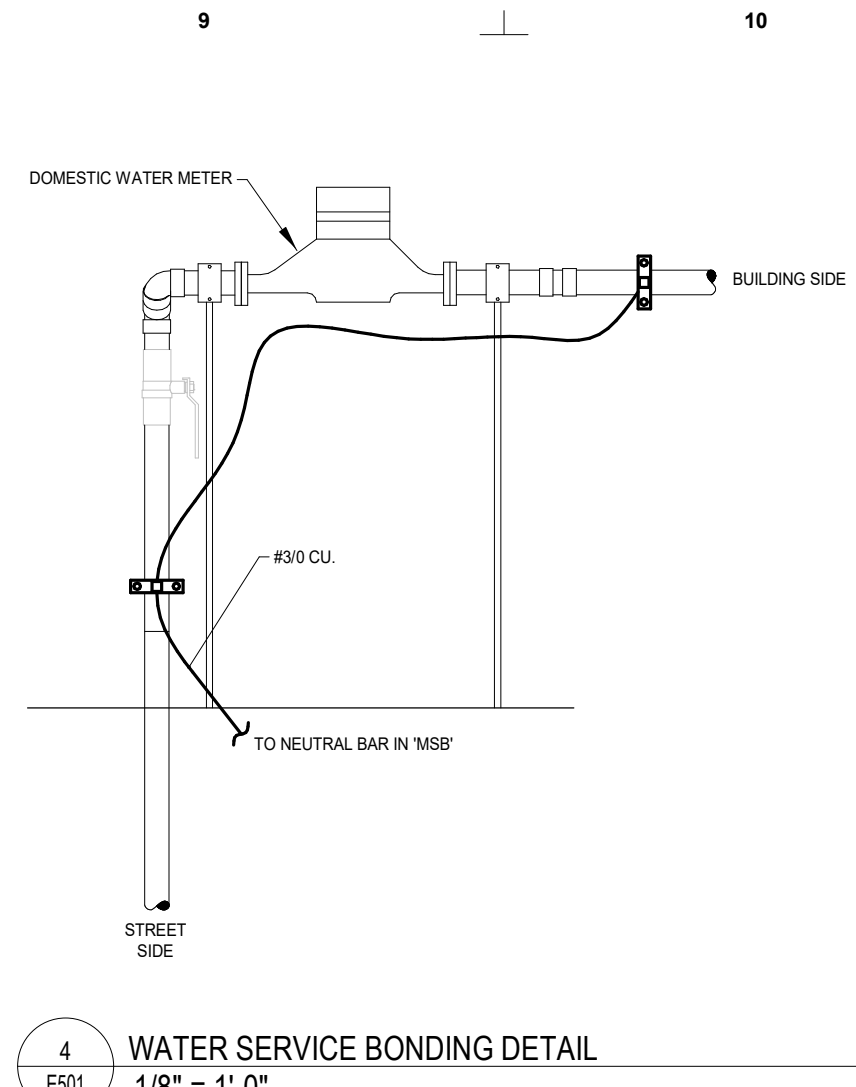
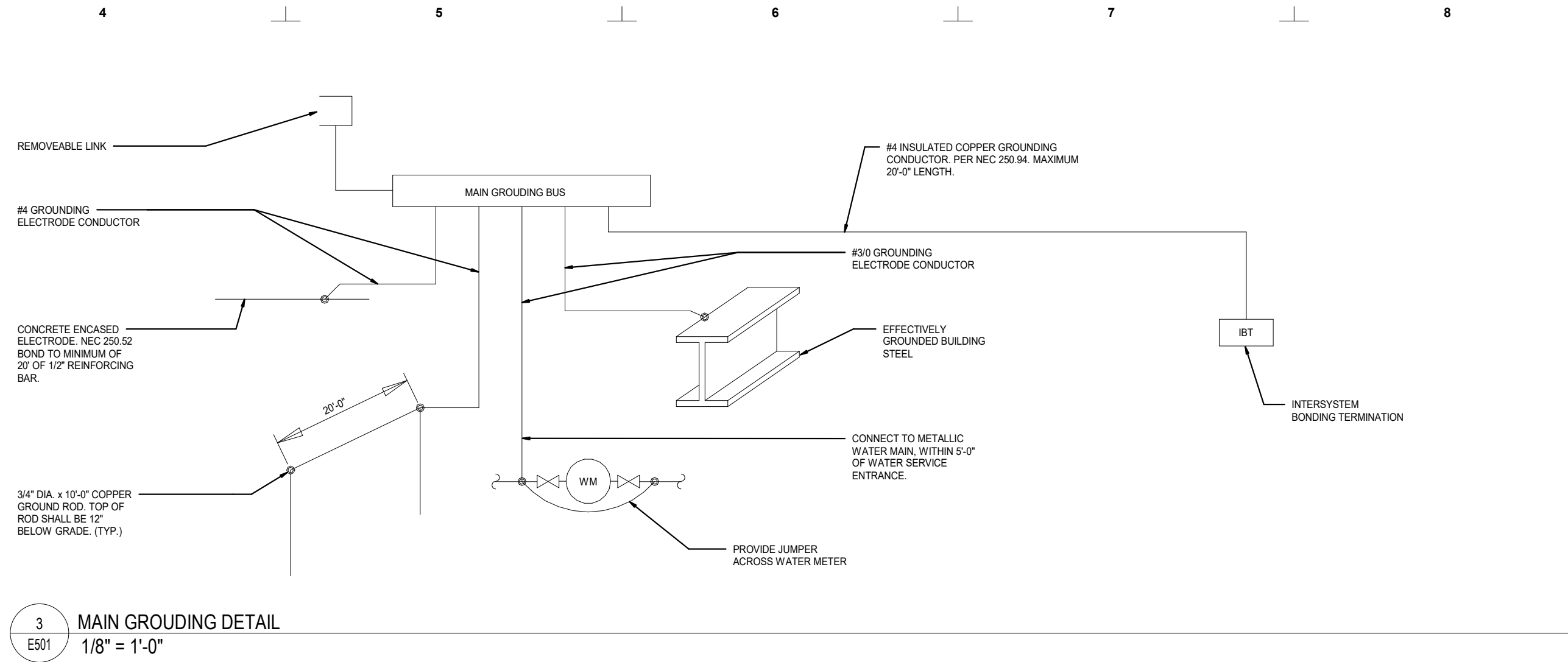
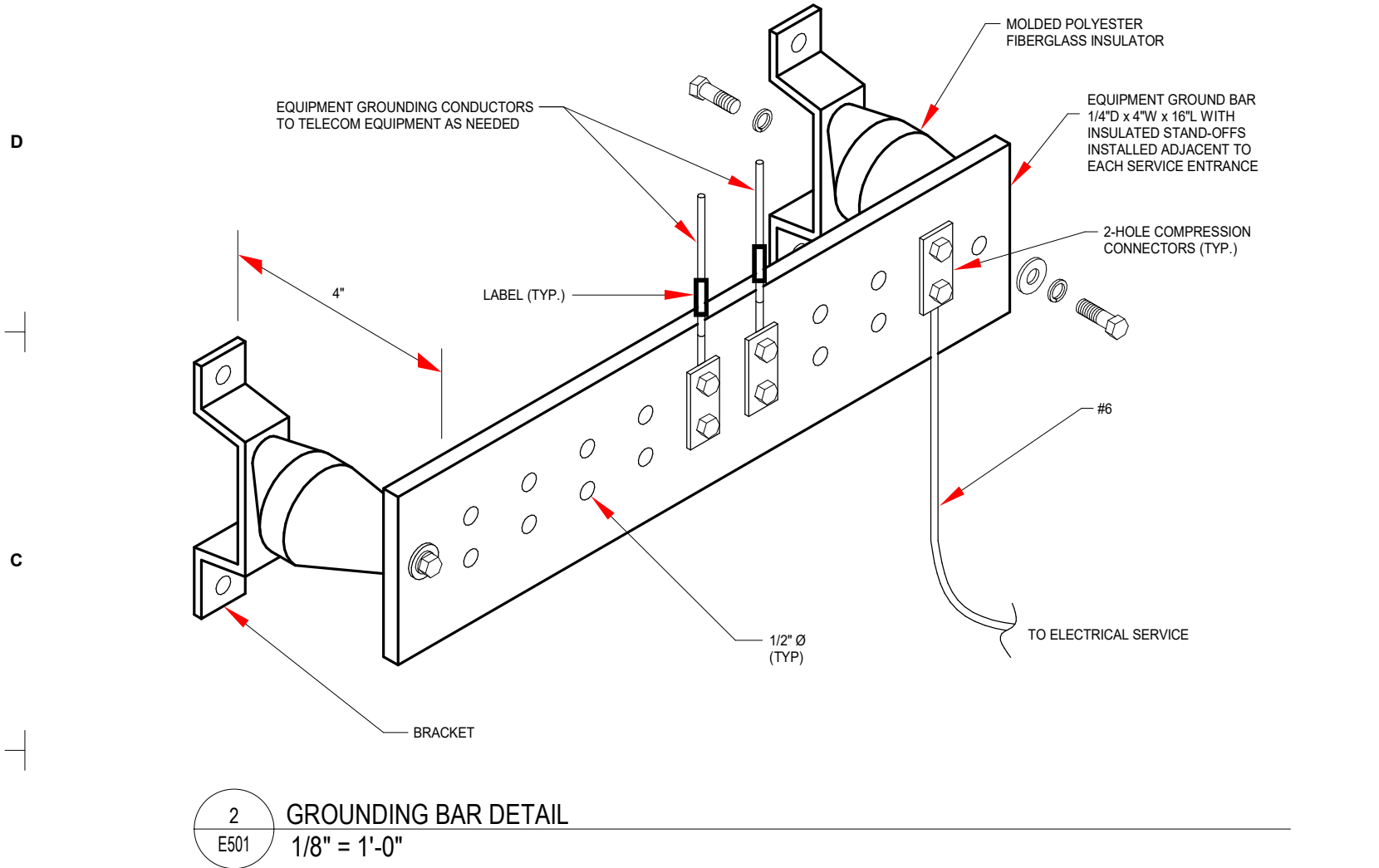
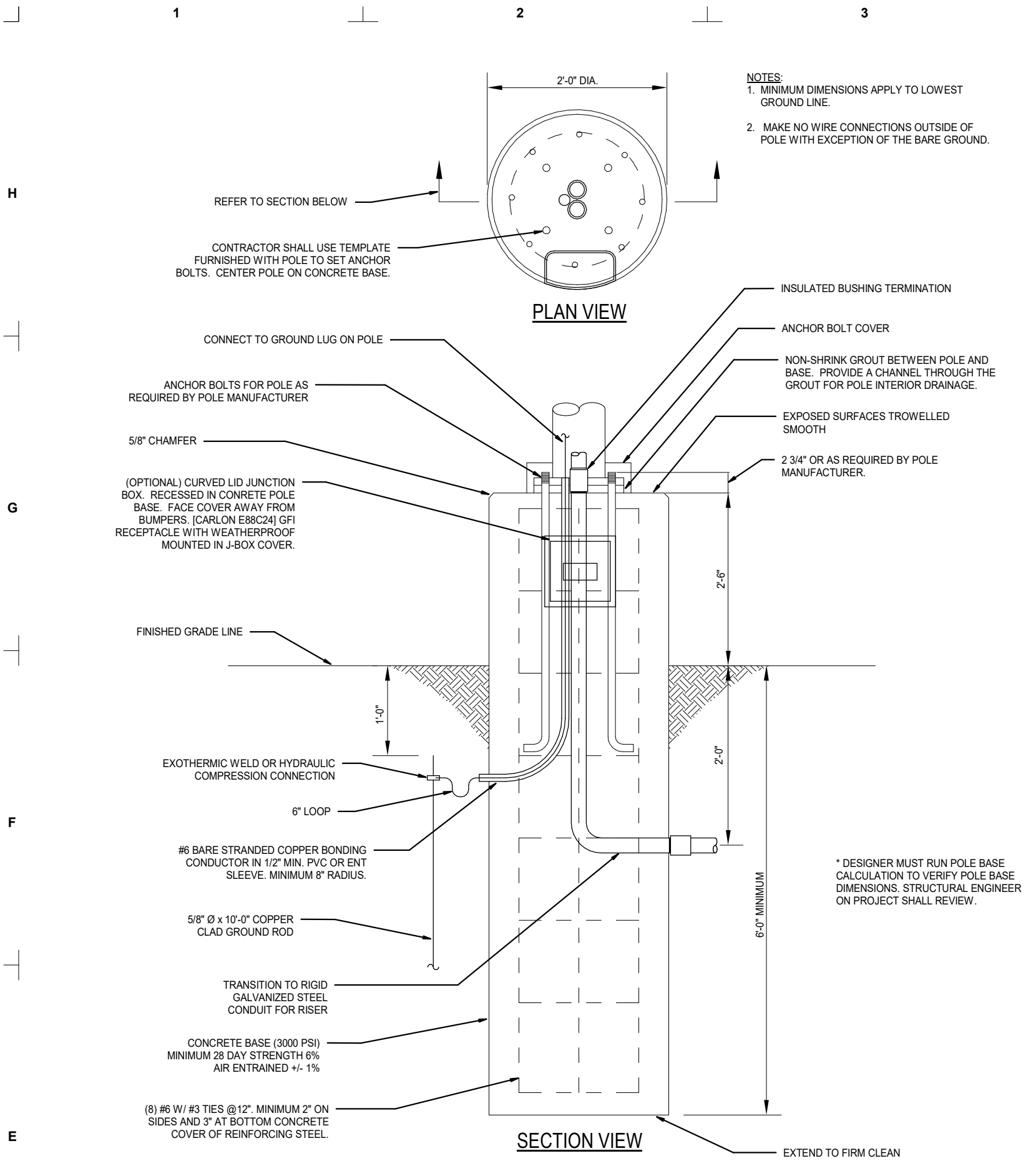
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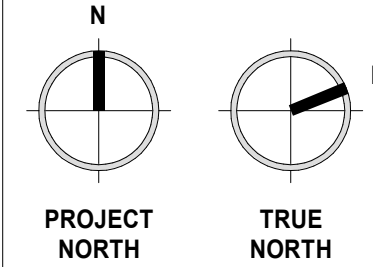
FIRE ALARM PLAN - LEVEL 1

EF101

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ELECTRICAL DETAILS

E501

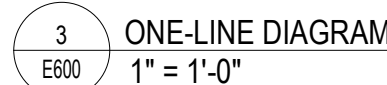


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BY

ELECTRICAL ONE-LINE DIAGRAM

E600



LUMINARE SCHEDULE						
MARK	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LUMENS	WATTS	Count
EM	2 Head High Lumen LED Emergency Light	Hubbel Compass Products	CU2HL	550 lm	3 W	21
EX1	Edge-Lit Exit, Surface Mount, Single Face, Red Letters, Brushed Aluminum, Battery	Hubbell Compass Products	CELS1RNE		3 W	5
EX2	Edge-Lit Exit, Surface Mount, Double Face, Red Letters, Brushed Aluminum, Battery	Hubbell Compass Products	CELS2RNE			10
F1	Recessed Center Element LED Lay in 2ftX2ft 3000 Nominal Lumens 80 CRI 3500K Curved Opal Lens 120-277V	Acuity Brands Lighting	STAKS 2X2 AL03 SWWW7 3000lm 3500K	3000 lm	26 W	142
F2	Recessed Center Element LED Lay in 2ftX2ft 4000 Nominal Lumens 80 CRI 3500K Curved Opal Lens 120-277V	Acuity Brands Lighting	STAKS 2X2 AL03 SWWW7 4000lm 3500K	4000 lm	36 W	38
F3-6	S4LID LOP 6FT 80CRI 35K 350 LMF [80CRI] 35K [500LMF SCT MIN1 MVOLT WHT ZT F1-36A RDCY WHTCY WCRD	Acuity Brands Lighting	SLOT 4 Pendant	5117 lm	37 W	16
F3-8	S4LID LOP 8FT 80CRI 35K 350 LMF [80CRI] 35K [500LMF SCT MIN1 MVOLT WHT ZT F1-36A RDCY WHTCY WCRD	Acuity Brands Lighting	SLOT 4 Pendant	8759 lm	64 W	6
F4	Zynn 2 Inch Ring	SPI Lighting	AIP12203 DIR-L21W IND-L21W - 120-277V 3500K-MCA24IN-BA	1510 lm	21 W	2
F5	Contemporary Cylinder 2ft Switchable White CCT	Acuity Brands Lighting	FMVCCLS 24IN MVOLT 30K35K40K 90CRI BN M6	1690 lm	27 W	6
F6	FMLWL 2ft 4000K CCT 0-10V Dimming Multi Volt	Acuity Brands Lighting	FMLWL 24 840	1312 lm	29 W	1
F7	4' Contractor Select CSS LED Strip Light 4000lm MVolt 40K 80CRI	Acuity Brands Lighting	CSS L48 4000LM MVOLT 40K 80CRI	4207 lm	34 W	6
F8	VCPG Ultimate LED Parking Garage Light	Acuity Brands Lighting	VCPGX LED V4 P3 40K 70CRI T5M MVOLT SRM DDBXD	6173 lm	43 W	4
F9-6	Slot 4 LED Recessed Linear Lighting With Static White & Tunable White	Acuity Brands Lighting	S4LID LOP 6FT 80CRI 35K 400LMF [80CRI] 35K 600LMF SCT MIN1 MVOLT WHT ZT F1-36A RDCY WHTCY WCRD	1199 lm	14 W	3
F10	SLOT 6LED Recessed Linear Lighting With Static White & Tunable White	Acuity Brands Lighting	S4L6 LOP 4FT FLP TG 80CRI 35K 600LMF MIN1 120ZT	3789 lm	35 W	12
F11	LED Lighting Tape	dioeled	Lot Diode LED Tape	<varies>	<varies>	4
P1	RSX Area Fixture Size 1 P4 Lumen Package 4000K CCT Type R4 Distribution	Acuity Brands Lighting	RSX1 LED Area Luminaire P4 40K R4	16573 lm	133 W	5
P3	RSX Area Fixture Size 1 P4 Lumen Package 4000K CCT Type R5 Distribution	Acuity Brands Lighting	RSX1 LED Area Luminaire P4 40K R5	16792 lm	133 W	1
R1	6" Downlight Can Light LED	Acuity Brands Lighting	LBR6 AL01 SSW1 AR LSS WD MVOLT UGZ / LBR6PFWQDS	1155 lm	13 W	50
R2	6" Downlight Can Light LED Exterior	Acuity Brands Lighting	LBR6 AL01 SSW1 AR LSS WD MVOLT UGZ / LBR6PFWQDS	1824 lm	19 W	10
W1	3.5in Integrated LED Cylinder: Up/Down Wall Mount	BEGA-US	66519	2465 lm	29 W	4
W2	3.5in Integrated LED Cylinder: Up/Down Wall Mount	BEGA-US	66516	1047 lm	21 W	24
WP1	ARC2 LED WITH P5 - PERFORMANCE PACKAGE 4000K	Acuity Brands Lighting	ARC2 LED P5 40K MVOLT DDBXD	6614 lm	51 W	2
WP-EM	Surface Mounted - Emergency and Always-On	DUALITE	PG Emergency LED Sconce			4

	MDP	159.4 kVA
TOTAL DEMAND kVA		131.7
SIZE FOR 65% OF ESTIMATED DEMAND LOAD		85622 VA
EXISTING TRANSFORMER		

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND LOAD
HVAC	30000 VA	100.00%	30000 VA
Other	5800 VA	100.00%	5800 VA
Power	50244 VA	100.00%	50244 VA
RCPT	5280 VA	100.00%	5280 VA
Lighting	2682 VA	100.00%	2682 VA
GENERAL RECEPTACLE LOAD	65440 VA	57.64%	37720 VA

TOTAL kVA	159.4		131.7
CALCULATED AMPERES	664.4 A		548.9 A

DEMAND FACTOR DETERMINATION:

GENERAL LIGHTING (LITES): 125% OF CONNECTED LOADS.
RECEPTACLES (RCPT): FIRST 10 KVA AT 100% REMAINDER AT 50%.
COMPUTER LOADS (COMP): INCLUDED WITH RECEPTACLES.
MOTOR LOADS (MTR): LARGEST MOTOR AT 125% REMAINDER AT 100%.
KITCHEN (KTCH): 1st & 2nd-100%, 3rd-90%, 4th-80%, 5th-70% REMAINDER 65%
HEATING OR AIR COND (HEAT OR AC): LARGEST TOTAL OF HEAT OR AC.
SPECIFIC LOADS (SPEC): LARGEST AT 100% REMAINDER AT 100%.
WELDERS (WELD): 1st & 2nd-100%, 3rd-85%, 4th-70%, REMAINDER 60%.

Location: ELEC 155
Supply From: Utility Transformer 1
Mounting: Surface
Enclosure: 1

Volts: 120/240
Phases: 1
Wires: 3

A.I.C. Rating: 10kA
Mains Type: MCB
Mains Rating: 800.0 A
MCB Rating: 800.0 A

Notes:

CKT	DESCRIPTION	BKR TYP	TRIP (A)	P	A	B	P	TRIP (A)	BKR TYP	DESCRIPTION	CKT
1	HVAC - 30A DISC. ACCU-1		30	2	2.6	2.9				HVAC - 40A DISC. ACCU-2	2
3							2.6	2.9	2	40	4
5	HVAC - 40A DISC. ACCU-3		40	2	2.9	2.9				HVAC - 40A DISC. ACCU-4	6
7							2.9	2.9	2	40	8
9	HVAC - 40A DISC. ACCU-5		40	2	2.9	2.9				HVAC - 40A DISC. ACCU-6	10
11							2.9	2.9	2	40	12
13	HVAC - 40A DISC. ACCU-7		40	2	2.9	2.5				HVAC - 5 kW HEATER - FRONT VESTIBULE	14
15							2.9	2.5	2	30	16
17	HVAC - 5 kW HEATER - DRIVE-THRU TELLER		30	2	2.5	2.5				HVAC - 5 kW HEATER - SIDE REAR VESTIBULE	18
19							2.5	2.5	2	30	20
21	HVAC - 5 kW HEATER - REAR VESTIBULE		30	2	2.5	2.5				HVAC - 5 kW HEATER - SIDE FRONT VESTIBULE	22
23							2.5	2.5	2	30	24
25	HVAC - 5 kW HEATER - WATER PUMP RM		30	2	2.5	0.8			1	20	26
27							2.5	0.7	1	0	28
29	HVAC - UNIT 2 & Unit 3		0	1	0.7	0.7			1	0	30
31											32
33											34
35											36
37											38
39	LP2		125	2			0.0	40.0	2	400	40
41					0.0	46.7				LP-A	42

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	30000 VA	100.00%	30000 VA	
Other	5800 VA	100.00%	5800 VA	Total Conn. Load: 159.4 kVA
Power	50244 VA	100.00%	50244 VA	Total Est. Demand: 131.7 kVA
RCPT	5280 VA	100.00%	5280 VA	Total Conn.: 684.4 A
Lighting	2682 VA	100.00%	2682 VA	Total Est. Demand: 548.9 A
GENERAL RECEPTACLE LOAD	65440 VA	57.64%	37720 VA	

Notes:

Location: ELEC 155
Supply From: MDP
Mounting:
Enclosure:

Volts: 208Y/120
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MAIN CB
Mains Rating: 125.0 A
MCB Rating: 1.0 A

Notes:

CKT	DESCRIPTION	BKR TYP	TRIP (A)	P	A (kVA)	B (kVA)	C (kVA)	P	TRIP (A)	BKR TYP	DESCRIPTION	CKT
1												2
3												4
5												6
7												8
9												10
11												12
13												14
15												16
17												18
19												20
21												22
23												24
25												26
27												28
29												30
31												32
33												34
35												36
37												38
39												40
41												42
Total Load:					0.0 kVA	0.0 kVA	0.0 kVA					
Total Amps:					0.0 A	0.0 A	0.0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0.0 kVA
				Total Est. Demand:	0.0 kVA
				Total Conn.:	0.0 A
				Total Est. Demand:	0.0 A

Notes:

Location: ELEC 155
Supply From: TC2
Mounting: Surface
Enclosure: GP3/4 Mini-Size Panels 1...

A.I.C. Rating: 10,000
Mains Type:
Mains Rating: 40.0 A
MCB Rating: 40.0 A

Notes:

CKT	DESCRIPTION	BKR TYP	TRIP (A)	P	B (kVA)	P	TRIP (A)	BKR TYP	DESCRIPTION	CKT
1	WP GFI IN SOFFIT		20	1	1.1 0.7	1	20		WP GFI IN SOFFIT	2
3	WP GFI IN SOFFIT		20	1	0.7 0.7	1	20		WP GFI IN SOFFIT	4
5										6
7										8
Total Load:					3.2 kVA					
Total Amps:					27.0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
RCPT	3240 VA	100.00%	3240 VA		
				Total Conn. Load:	3.2 kVA
				Total Est. Demand:	3.2 kVA
				Total Conn.:	27.0 A
				Total Est. Demand:	27.0 A

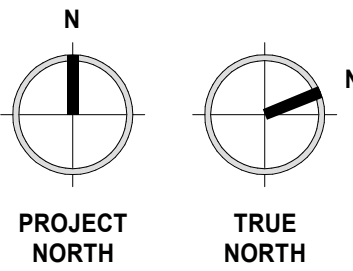
Notes:

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PROJECT NO.: 25416

TRUBANK
1401 North Jefferson
Indianola, IA 50125



PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR REVIEW

DATE	#	DESCRIPTION
7/21/2022	1	City Submittal Set

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ELECTRICAL SCHEDULES

E601

Branch Panel: LP-A

Location: ELEC 155
Supply From: MDP
Mounting: Surface
Enclosure: Nema Type 1

Volts: 120/240
Phases: 1
Wires: 3

A.I.C. Rating: 10,000
Mains Type: MAIN CB
Mains Rating: 400.0 A
MCB Rating: 400.0 A

Notes:

CKT	DESCRIPTION	BKR TYP	TRIP (A)	P	A	B	P	TRIP (A)	BKR TYP	DESCRIPTION	CKT	
1	REFRIGERATOR RECEPTACLE LOAD		20	1	1.5	1.5		1	20	REFRIGERATOR RECEPTACLE LOAD	2	
3	GARBAGE DISPOSAL RECPT. LOAD		20	1			0.7	1.5	1	20	GENERAL RECEPTACLE LOAD	4
5	GENERAL RECEPTACLE LOAD		20	1	0.7	0.7			1	20	GENERAL RECEPTACLE LOAD	6
7	GENERAL RECEPTACLE LOAD		20	1			1.5	1.5	1	20	GENERAL RECEPTACLE LOAD	8
9	GENERAL RECEPTACLE LOAD		20	1	1.5	1.5			1	20	MICROWAVE RECEPTACLE LOAD	10
11	MTG. RM. 147 & OFF. 148 GEN. RECPT....		20	1			1.1	1.6	1	20	TLT 115, 116, 119, 120, WELL & JTR. GE...	12
13	Cubicle Power (3)		20	1	1.7	0.5			1	20	TLT 128,129, STORAGE, GEN. RECPT....	14
15	Cubicle Power (3)		20	1			1.7	0.0	1	20	Cubicle Power (3)	16
17	GENERAL RECEPTACLE LOAD		20	1	1.3	1.1			1	20	Cubicle Power (2)	18
19	OFFICE 103 GEN. RECT. LOAD		20	1			1.1	1.1	1	20	MEETING ROOM 154 GEN. RECPT. LOAD	20
21	OFFICE 104 GEN. RECT. LOAD		20	1	1.1	1.6			1	20	BOARD ROOM 133 GEN. RECPT. LOAD	22
23	OFFICE 152 GEN. RECPT. LOAD		20	1			1.6	2.0	1	20	OFFICE 151 GEN. RECT. LOAD	24
25	OFFICE 153 GEN. RECPT. LOAD		20	1	1.1	1.4			1	20	TELLAR 107 #1 GEN. RECPT. LOAD	26
27	TELLAR 107 #2 GEN. RECPT. LOAD		20	1			1.4	0.7	1	20	TELLAR 107 #3 GEN. RECPT. LOAD	28
29	EQUIPT. TELLAR 107		20	1	1.7	0.9			1	20	OFFICE 108 GEN. RECT. LOAD	30
31	OFFICE 108 EQUIP. RECT. LOAD		20	1			1.1	0.4	1	20	DR-THRU EQUIP. RECT. LOAD	32
33	DR-THRU GENERAL RECPT. LOAD		20	1	0.4	1.7			1	20	C.W.R. GENERAL RECPT. LOAD	34
35	SW HALLWAY, WAITING 102, GEN....		20	1			1.6	1.5	1	20	WATER FOUNTAIN COOLER	36
37	NW HALLWAY GENERAL RECEPTACLE....		20	1	1.3	0.7			1	20	BRK RM TV AND GEN. RECPT. LOAD	38
39	TCR POWER RECEPTACLE		20	1			0.2	0.2	1	20	TCR POWER RECEPTACLE	40
41	RECEPTION DESK POWER		20	1	0.4	0.7			1	20	POWER FOR PNEUMATIC TUBE	42
43	POWER FOR ATM		20	1			1.5	0.4	1	20	DRIVE-THRU LANE OPEN/CLOSE LIT...	44
45	SPARE		20	1	0.0	0.0			1	20	SPARE	46
47	SPARE		20	1			0.0	0.0	1	20	SPARE	48
49	SPARE		20	1	0.0	0.0			1	20	SPARE	50
51	SPARE		20	1			0.0	0.0	1	20	SPARE	52
53	SPARE		20	1	0.0	0.0			1	20	SPARE	54
55	SPARE		20	1			0.0	0.0	1	20	SPARE	56
57	SPACE	--	1	--	--				1	--	SPACE	58
59	SPACE	--	1			--	--	1	--	SPACE	60	

Legend:					
Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	5800 VA	100.00%	5800 VA		
Power	10049 VA	100.00%	10049 VA	Total Conn. Load:	86.7 kVA
RCPT	5280 VA	100.00%	5280 VA	Total Est. Demand:	60.3 kVA
Lighting	2682 VA	100.00%	2682 VA	Total Conn.:	361.4 A
GENERAL RECEPTACLE LOAD	62920 VA	57.95%	36460 VA	Total Est. Demand:	251.1 A

Notes:

Branch Panel: SITE LITE

Location: ELEC 155
Supply From: TC
Mounting: Surface
Enclosure: GP3/4 Mini-Size Panels 1...

Volts: 120
Phases: 1
Wires: 2

A.I.C. Rating: 10,000
Mains Type:
Mains Rating: 40.0 A
MCB Rating: 40.0 A

Notes:

CKT	DESCRIPTION	BKR TYP	TRIP (A)	P	A (kVA)	P	TRIP (A)	BKR TYP	DESCRIPTION	CKT
1	PARKING LOT AREA LIGHTING		30	1	1.7					2
3										4
5										6
7										8
Total Load:					1.7 kVA					
Total Amps:					13.9 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	1662 VA	100.00%	1662 VA		
				Total Conn. Load:	1.7 kVA
				Total Est. Demand:	1.7 kVA
				Total Conn.:	13.9 A
				Total Est. Demand:	13.9 A

Notes:

Branch Panel: LP-B

Location: ELEC 155
Supply From: LP-A
Mounting: Surface
Enclosure: Nema Type 1

Volts: 120/240
Phases: 1
Wires: 3

A.I.C. Rating: 10,000
Mains Type: MAIN CB
Mains Rating: 400.0 A
MCB Rating: 400.0 A

Notes:

CKT	DESCRIPTION	BKR TYP	TRIP (A)	P	A	B	P	TRIP (A)	BKR TYP	DESCRIPTION	CKT	
1	OUTDOOR GFI GENERAL RECEPTAC...		20	1	0.2	1.8		1	20	OFFICE 137 GEN. RECT. LOAD	2	
3	OFFICE 136 GEN. RECT. LOAD		20	1			1.8	1.1	1	20	OFFICE 135 GEN. RECT. LOAD	4
5	OFFICE 134 GEN. RECT. LOAD		20	1	1.1	0.4			1	20	COMMUNITY ROOM 124 GEN. RECEPT...	6
7	COMMUNITY ROOM 124 GEN. RECEPT...		20	1			1.1	0.4	1	20	COMMUNITY ROOM 124 GEN. RECEPT...	8
9	GENERAL RECEPTACLE LOAD		20	1	0.7	0.4			1	20	IT RECEPTACLE LOAD	10
11	IT RECEPTACLE LOAD		20	1			0.4	0.4	1	20	IT RECEPTACLE LOAD	12
13	FIRE ALARM PANEL POWER		20	1	0.7	0.7			1	20	INTRUSION PANEL POWER	14
15	ACCESS PANEL POWER		20	1			0.7	0.2	1	20	WORK EQUIPMENT RECEPTACLE LOAD	16
17	WORK EQUIPMENT RECEPTACLE LOAD		20	1	0.2	0.4			1	20	WORK EQUIPMENT RECEPTACLE LOAD	18
19	WORK EQUIPMENT RECEPTACLE LOAD		20	1			0.2	0.9	1	20	ADA DOOR POWER	20
21	ADA DOOR POWER		20	1	0.9	0.7			1	20	REFRIGERATOR RECEPTACLE LOAD	22
23	PRINTER RECEPTACLE LOAD		20	1			0.7	0.7	1	20	REFRIGERATOR RECEPTACLE LOAD	24
25	MECH. RM. 132, ELEC.RM. 155...		20	1	0.7	0.4			1	20	DR-THRU OUTDR GFI GEN. RECEPT...	26
27	OFFICE 148 GEN. RECT. LOAD		20	1			1.1	1.1	1	20	OFFICE 146 GEN. RECEPT. LOAD	28
29	OFFICE 144 GEN. RECT. LOAD		20	1	1.1	1.1			1	20	OFFICE 142 GEN. RECT. LOAD	30
31	GENERAL RECEPTACLE LOAD		20	1			1.1	1.1	1	20	OFFICE 145 GEN. RECT. LOAD	32
33	OFFICE 141 GEN. RECT. LOAD		20	1	1.1	0.0			1	20	SPARE	34
35	SPARE		20	1			0.0	0.0	1	20	SPARE	36
37	SPARE		20	1	0.0	0.0			1	20	SPARE	38
39	SPARE		20	1			0.0	0.0	1	20	SPARE	40
41	SPARE		20	1	0.0	0.0			1	20	SPARE	42
43	SPARE		20	1			0.0	0.0	1	20	SPARE	44
45	SPARE		20	1	0.0	0.5			1	20	TLT LIGHTING & FANS	46
47	GENERAL LIGHTING		20	1			0.1	0.0	1	20	GENERAL LIGHTING	48
49	GENERAL LIGHTING		20	1	0.1	0.4			1	20	GENERAL LIGHTING	50
51	SPACE	--	1				--	--	1	--	SPACE	52
53	SPACE	--	1	--	--		--	--	1	--	SPACE	54
55	SPACE	--	1				--	--	1	--	SPACE	56
57	SPARE		20	1	0.0	1.7			1	20	SITE LITE	58
59	NITE LITE		70	1			6.3	3.2	1	35	XMAS LITES	60

Legend:				
Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	1320 VA	100.00%	1320 VA	
Power	8969 VA	100.00%	8969 VA	Total Conn. Load: 37.5 kVA
RCPT	3240 VA	100.00%	3240 VA	Total Est. Demand: 31.8 kVA
Lighting	2682 VA	100.00%	2682 VA	Total Conn.: 156.0 A
GENERAL RECEPTACLE LOAD	21240 VA	73.54%	15620 VA	Total Est. Demand: 132.6 A

Notes:

Branch Panel: NITE LITE

Location: ELEC 155
Supply From: TC1
Mounting: Surface
Enclosure: GP3/4 Mini-Size Panels 1...

Volts: 120
Phases: 1
Wires: 2

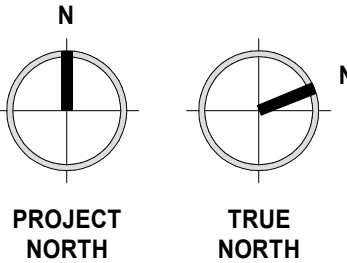
A.I.C. Rating: 10,000
Mains Type:
Mains Rating: 100.0 A
MCB Rating: 70.0 A

Notes:

CKT	DESCRIPTION	BKR TYP	TRIP (A)	P	B (kVA)		P	TRIP (A)	BKR TYP	DESCRIPTION	CKT
1	BUILDING SIGN POWER		20	1	1.7	1.6	1	20		EXTERIOR BUILDING LIGHTING	2
3	SIGN		20	1	1.5	1.5	1	20		MESSAGE CENTER POWER	4
5											6
7											8
Total Load:					6.3 kVA						
Total Amps:					52.1 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	1320 VA	100.00%	1320 VA		
Power	4680 VA	100.00%	4680 VA	Total Conn. Load:	6.3 kVA
Lighting	255 VA	100.00%	255 VA	Total Est. Demand:	6.3 kVA
				Total Conn.:	52.1 A
				Total Est. Demand:	52.1 A

Notes:



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TRUBANK PROJECT NO.: 25416

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ELECTRICAL SCHEDULES

E602



Robinson Engineering Company

Consulting Engineers

A New Main Facility For TruBank

Storm Water Information Existing Storm Sewer System

By: Robinson Engineering Company
Independence, IA 50644

Preliminary Report
June 23, 2022
Updated July 21, 2022
Updated August 16, 2022
Updated August 25, 2022

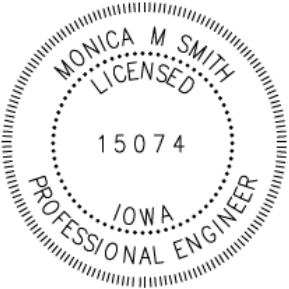
	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa. <i>Monica Smith</i> 08/16/2022 Monica Smith, P.E. Date License Number 15074 My license renewal date is December 31, 2023. Pages covered by this seal: All Sheets
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Table of Contents:

1. Site Characteristics	3
2. Existing Site Drainage	4
3. Site Changes – Impervious Area Calculations	5
4. References	6
5. Appendix	7

This drainage report shows storm water calculations for the construction of a new building for TruBank on North Jefferson in Indianola, Iowa. An analysis of the existing storm sewer system will be completed for the review of City of Indianola Staff. Additionally, information on the amount of impervious area occupied by the previous building will be compared to the new building.

The original site is shown in the figure below for reference. A plan sheet showing the proposed site and the local utilities is included in the Appendix of this document for reference.



Figure 1: TruBank Existing Site (Previous Building Shown)

1. Site Characteristics

- a. Pre-development Conditions: The existing site is located in Orchard Plaza Subdivision, Lot 4. The site had a building on it previously. That building has been razed. The parking lot and storm sewer system remains on site.
- b. Post-development Conditions: The proposed site will be used to construct a new facility for TruBank. The existing parking lot will remain as much as possible. The current site accepts storm water drainage from a portion of the residential area along **Valley Place**. The storm water then flows east into a box culvert under Jefferson Way. This drainage pattern will remain since the parking lots will generally not be reconstructed.
The TruBank Total Project Area = 3.23 acres
Drainage from Valley Place = 1.06 acres
- c. Contributing Off-site Drainage: The only off-site drainage comes from the **Valley Place** neighborhood as noted in the section above.

- d. Floodways, Floodplains, and Wetlands: The location of the site is such that no areas are currently located within a floodway, a floodplain or a wetland.

2. Existing Site Drainage

- a. Watershed Area: The watershed for this project includes the property that TruBank owns and a portion of the residential area along Valley Place. These two areas drain together into the existing storm sewer system. The drainage areas break down as follows:

Location	Total Drainage Area	TruBank Property	Run-on Area
North Intake	0.48	0.45	0.03
West Intake #1	0.14	0.14	
West Intake #2	0.11	0.11	
West Intake #3	0.12	0.11	0.01
Valley Place North	0.52	0.01	0.51
Valley Place South	0.54	0.01	0.53
South Intake #1	0.29	0.28	0.01
South Intake #2	0.42	0.38	0.04
South Intake #3	0.14	0.12	0.02
South Intake #4	0.09	0.08	0.01
South Intake #5	0.12	0.12	0.002
Roof – North Runoff	0.16	0.22	
Roof – South Runoff	0.22	0.16	
Northeast Intake	0.13	0.13	0.0009
Totals	3.48	2.32	1.16

Drainage Area for Entire System = 3.48 acres

Total Run-on Storm Flows to Site = 1.16 acres

TruBank Property Drainage Area = 2.32 acres

Valley Place Drainage Area Only = 1.06 acres

- b. Time of Concentration: The time of concentration was determined for each drainage area. For the TruBank site, these times were less than 5 minutes. For the Valley Place area, the time of concentration was determined to be about 10 minutes. These times were used in the storm water calculations shown in the Appendix.
- c. Precipitation Model: The Iowa SUDAS design manual was used to determine the rainfall on this project. This information is found in Chapter 2, Section 2B-2.
- d. Rainfall Loss Method: Runoff coefficients were determined using the SUDAS design manual. To use the SUDAS manual, the existing soil types must be known. Soil information was obtained from the Web Soil Survey (WSS) operated by the USDA and NRCS. This site listed the following soil information for the TruBank Site:
Lamoni Silty Clay Loam
Hydrologic Soil Group: C/D
Since the site has been developed for a number of years, and fill materials were assumed to be used on site, this analysis assumed a C/D Hydrology Soil Group for the site.

Runoff Coefficients were determined using the SUDAS design manual, Chapter 2, Section 2B-4. The values for the C and D type soils were averaged for this analysis.

Coefficients Used:

Neighborhood $C_{10} = 0.65$

Building/Parking $C_{10} = 0.90$

- e. Runoff Model: Due to the small size of this site, the Rational Method was used to calculate the runoff from this project. Although the TR-55 method is referenced in the city ordinances, for small sites the Rational Method is more accurate. This analysis was complete on each intake within the TruBank storm sewer system. The results of this analysis are shown in the Storm Sewer Capacity Check tabulation in the Appendix of this report.

The runoff for this system was analyzed using a 10-year storm frequency. This is a standard storm frequency for the design of a storm sewer system.

The storm sewer calculations were run using the existing system and drainage patterns. The only item that changed was the addition of the roof drainage from the proposed building. These flows were added to the North Intake and the South #3 Intake.

This analysis shows the existing pipe between Intake S2 and S3 is undersized. At this it is our understanding that the existing system can remain in place as long as it is cleaned and resurveyed at the end of construction. The owner has been made aware of the issue and will address any drainage issues that come up at that time.

- f. Secondary Overflow: An analysis was performed on the TruBank site to determine what would happen if the storm sewer system got plugged during a rainfall event. (The Secondary Drainage path is shown with wavy arrows on the attached site plan found in the Appendix.) Hills on the northwest and southwest portions of the TruBank property result in the site being the low spot at this location. Storm water drains into the parking lot and then through the lot towards the outlet under US Highway 65. The existing elevations confirm this drainage pattern. Stormwater will sheet flow over the curb along the east edge of the TruBank parking lot if the storm sewer system was not functioning properly. The ponding would only be the height of the curb, which is about six inches. The top of curb elevations are a foot or more below the finished floor elevation. This information can be seen on the site layout provided in the Appendix of this document.
- g. Intake Capacity: Spread and efficiency calculations were completed on the existing intake in the TruBank parking lot. Those calculation results are provided in the Appendix of this document. These calculations show that the storm water generally ponds to about a 1" depth over the intakes but could pond up to as much as 3" in depth. These ponding depths should not impact the proposed building.

3. Site Changes – Impervious Area Calculations

A calculation of the potential change in impervious area was requested by city staff for the TruBank site. Since the previous building was destroyed, the Google Earth view of the site, which still shows the previous building, was used for these calculations.

Overall, most of the site will not be changing. The most amount of change will be in the amount of grass that was around the previous building compared to the amount proposed for the new building. I used this metric to determine the change in impervious area on this site.

Old Building – 9364 sq feet of grassed area

New Building – 9328 sq feet of grassed area

Taking into account that the measurement from Google Earth may not be very accurate, even a difference of 200 – 300 sq feet in impervious space would only impact that amount of impervious area by about 0.2% across the entire site. Therefore, in my opinion, the new site has about the same amount of impervious area as the previous site.

4. References:

- a. Statewide Urban Design and Specifications 2021 Edition, accessed online 02/14/21.

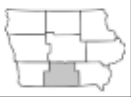
APPENDIX

Appendix: Figures used for Calculations

Chapter 2 – Stormwater, Section 2B-s – Rainfall and Runoff Periods

Table 2B-2.04: Section 8 – South Central Iowa

Table 2B-2.09: Section 8 - South Central Iowa
Rainfall Depth and Intensity for Various Return Periods

	Return Period															
	1 year		2 year		5 year		10 year		25 year		50 year		100 year		500 year	
Duration	D	I	D	I	D	I	D	I	D	I	D	I	D	I	D	I
5 min	0.38	4.64	0.45	5.45	0.56	6.81	0.67	8.05	0.81	9.81	0.94	11.3	1.07	12.8	1.39	16.7
10 min	0.56	3.39	0.66	3.98	0.83	4.98	0.98	5.89	1.19	7.19	1.38	8.28	1.56	9.39	2.04	12.2
15 min	0.69	2.76	0.80	3.23	1.01	4.05	1.19	4.78	1.46	5.85	1.68	6.72	1.91	7.64	2.49	9.98
30 min	0.98	1.96	1.15	2.30	1.45	2.90	1.71	3.43	2.10	4.20	2.41	4.83	2.75	5.50	3.59	7.19
1 hr	1.29	1.29	1.51	1.51	1.88	1.88	2.24	2.24	2.77	2.77	3.23	3.23	3.72	3.72	5.02	5.02
2 hr	1.62	0.81	1.86	0.93	2.32	1.16	2.76	1.38	3.45	1.72	4.04	2.02	4.69	2.34	6.45	3.22
3 hr	1.82	0.60	2.08	0.69	2.59	0.86	3.08	1.02	3.88	1.29	4.58	1.52	5.35	1.78	7.49	2.49
6 hr	2.15	0.35	2.45	0.40	3.05	0.50	3.64	0.60	4.60	0.76	5.45	0.90	6.40	1.06	9.04	1.50
12 hr	2.44	0.20	2.81	0.23	3.53	0.29	4.21	0.35	5.29	0.44	6.24	0.52	7.28	0.60	10.1	0.84
24 hr	2.77	0.11	3.20	0.13	3.99	0.16	4.74	0.19	5.90	0.24	6.90	0.28	7.98	0.33	10.8	0.45
48 hr	3.18	0.06	3.64	0.07	4.49	0.09	5.28	0.11	6.50	0.13	7.54	0.15	8.66	0.18	11.6	0.24
3 day	3.47	0.04	3.99	0.05	4.91	0.06	5.75	0.07	7.01	0.09	8.07	0.11	9.21	0.12	12.1	0.16
4 day	3.73	0.03	4.29	0.04	5.26	0.05	6.13	0.06	7.43	0.07	8.51	0.08	9.65	0.10	12.6	0.13
7 day	4.43	0.02	5.04	0.03	6.09	0.03	7.01	0.04	8.38	0.04	9.49	0.05	10.6	0.06	13.6	0.08
10 day	5.07	0.02	5.73	0.02	6.85	0.02	7.84	0.03	9.27	0.03	10.4	0.04	11.6	0.04	14.7	0.06

D = Total depth of rainfall for given storm duration (inches)

I = Rainfall intensity for given storm duration (inches/hour)

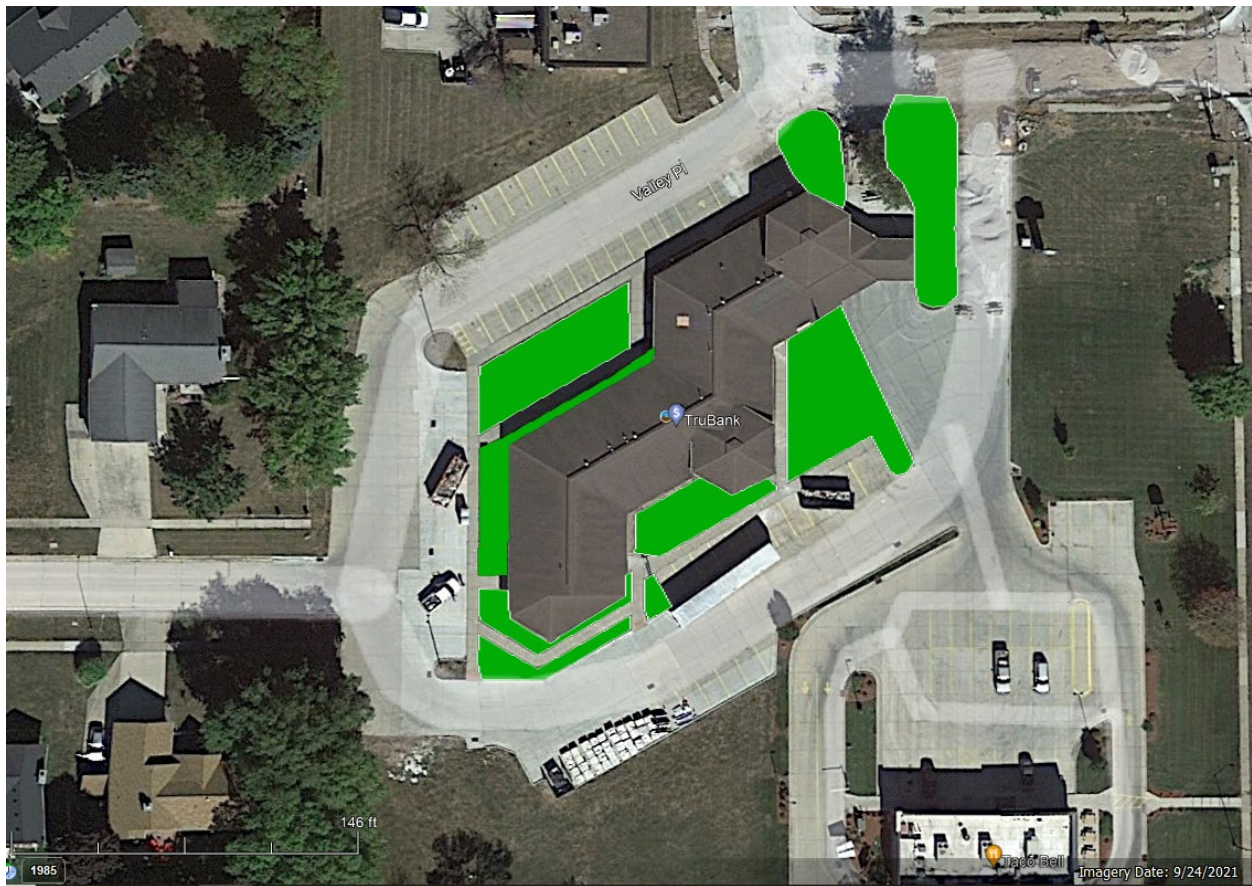
Chapter 2 – Stormwater, Section 2B-4 – Runoff and Peak Flow
 Table 2B-4.01: Runoff Coefficients for the Rational Method

Table 2B-4.01: Runoff Coefficients for the Rational Method

Cover Type and Hydrologic Condition		Runoff Coefficients for Hydrologic Soil Group											
		A			B			C			D		
		5	10	100	5	10	100	5	10	100	5	10	100
Recurrence Interval		5	10	100	5	10	100	5	10	100	5	10	100
Open Space (lawns, parks, golf courses, cemeteries, etc.)													
Poor condition (grass cover < 50%)		.25	.30	.50	.45	.55	.65	.65	.70	.80	.70	.75	.85
Fair condition (grass cover 50% to 75%)		.10	.10	.15	.25	.30	.50	.45	.55	.65	.60	.65	.75
Good condition (grass cover >75%)		.05	.05	.10	.15	.20	.35	.35	.40	.55	.50	.55	.65
Impervious Areas													
Parking lots, roofs, driveways, etc. (excluding ROW)		.95	.95	.98	.95	.95	.98	.95	.95	.98	.95	.95	.98
Streets and roads:													
Paved; curbs & storm sewers (excluding ROW)		.95	.95	.98	.95	.95	.98	.95	.95	.98	.95	.95	.98
Paved; open ditches (including ROW)		---	---	---	.70	.75	.85	.80	.85	.90	.80	.85	.90
Gravel (including ROW)		---	---	---	.60	.65	.75	.70	.75	.85	.75	.80	.85
Dirt (including ROW)		---	---	---	.55	.60	.70	.65	.70	.80	.70	.75	.85
Urban Districts (excluding ROW)													
Commercial and business (85% impervious)		---	---	---	---	---	---	.85	.85	.90	.90	.90	.95
Industrial (72% impervious)		---	---	---	---	---	---	.80	.80	.85	.80	.85	.90
Residential Districts by Average Lot Size (excluding ROW) ¹													
1/8 acre (36% impervious)		---	---	---	---	---	---	.55	.60	.70	.65	.70	.75
1/4 acre (36% impervious)		---	---	---	---	---	---	.55	.60	.70	.65	.70	.75
1/3 acre (33% impervious)		---	---	---	---	---	---	.55	.60	.70	.65	.70	.75
1/2 acre (20% impervious)		---	---	---	---	---	---	.45	.50	.65	.60	.65	.70
1 acre (11% impervious)		---	---	---	---	---	---	.40	.45	.60	.55	.60	.65
2 acres (11% impervious)		---	---	---	---	---	---	.40	.45	.60	.55	.60	.65
Newly Graded Areas (pervious areas only, no vegetation)													
Agricultural and Undeveloped													
Meadow - protected from grazing (pre-settlement)		.10	.10	.25	.10	.15	.30	.30	.35	.55	.45	.50	.65
Straight Row Crops													
Straight Row (SR)	Poor Condition	.33	.39	.55	.52	.58	.71	.70	.74	.84	.78	.81	.89
	Good Condition	.24	.30	.46	.45	.51	.66	.62	.67	.78	.73	.76	.86
SR + Crop Residue (CR)	Poor Condition	.31	.37	.54	.50	.56	.70	.67	.72	.82	.75	.79	.87
	Good Condition	.19	.25	.41	.38	.45	.61	.55	.60	.73	.62	.67	.78
Contoured (C)	Poor Condition	.29	.35	.52	.47	.53	.70	.60	.65	.77	.70	.74	.84
	Good Condition	.21	.26	.43	.38	.45	.61	.55	.60	.73	.65	.69	.80
C+CR	Poor Condition	.27	.33	.50	.45	.51	.66	.57	.63	.75	.67	.72	.82
	Good Condition	.19	.25	.41	.36	.43	.59	.52	.58	.71	.62	.67	.78
Contoured & Terraced (C&T)	Poor Condition	.22	.28	.45	.36	.43	.59	.50	.56	.70	.55	.60	.73
	Good Condition	.16	.22	.38	.31	.37	.54	.45	.51	.66	.52	.58	.71
C&T + CR	Poor Condition	.13	.19	.35	.31	.37	.54	.45	.51	.66	.52	.58	.71
	Good Condition	.10	.16	.32	.27	.33	.50	.43	.49	.65	.50	.56	.70

¹ The average percent impervious area shown was used to develop composite coefficients.

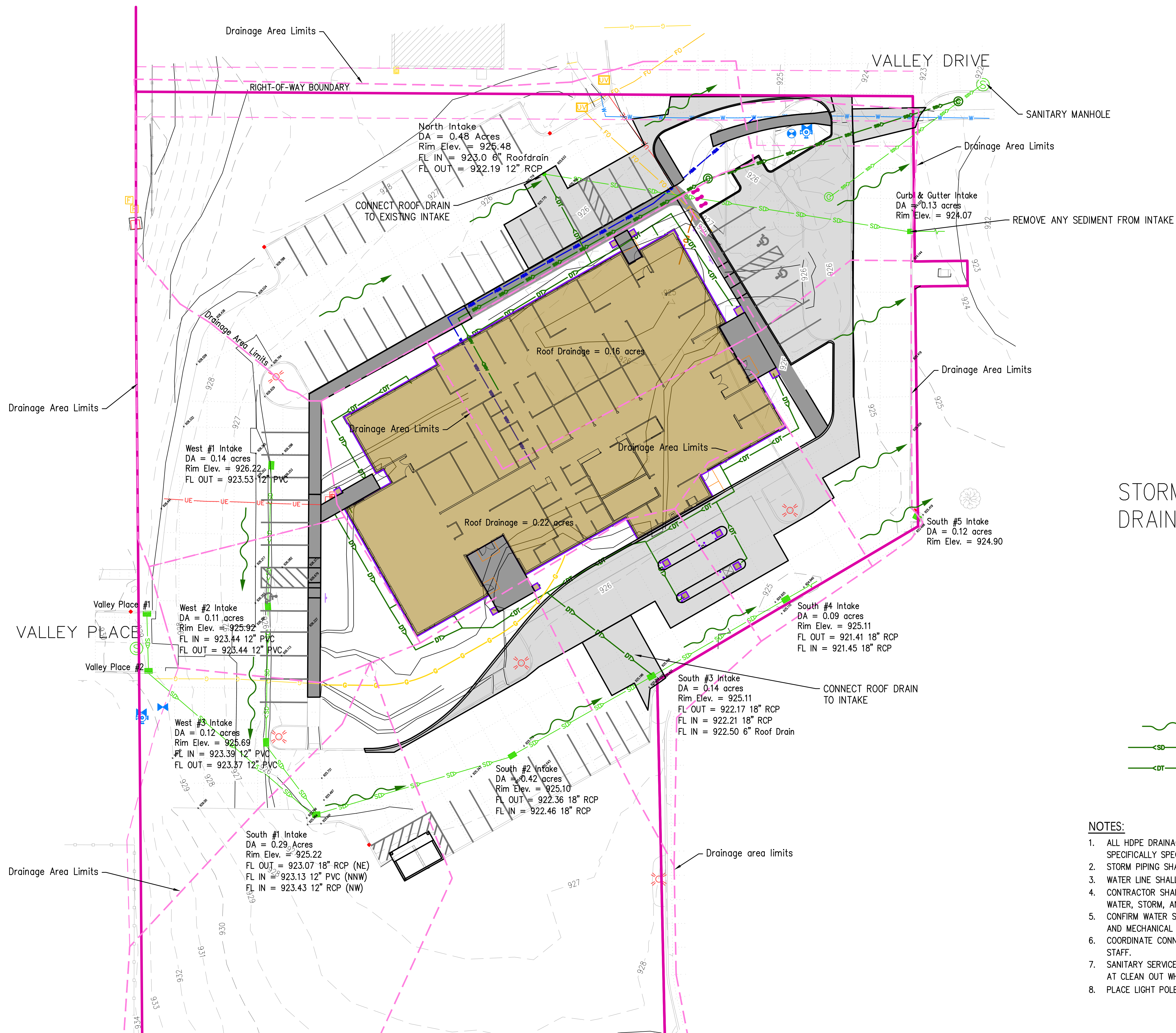
Note: Rational coefficients were derived from SCS CN method



Google Earth Calculated areas, July 21, 2022

Date: June, 2022 - Update																Page 1 of 1				
Project: TruBank in Indianola, Iowa																Storm Sewer Capacity Check				
Project #:																				
Event: 10-year Design																				
COLUMN																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		17	18	19	20
	Upstream Structure	Downstream Structure	Pipe			Upstream	Downstream		Roughness Coefficient	Time of Concentration	Runoff Coefficient	Rainfall Intensity	Drainage Area	Coeff x Area	Design Flow	Cum. Flow	Pipe Full Flow		Travel Time in Pipe Run	Add Column 11 & 19
Pipe Run	From	To	Diameter	Slope	Length	Invert	Invert	Material	n	Tc	C*	I*	A*	C x A*	Q	Q	Capacity	Velocity	Time	Total Tt
			(in)	(%)	(ft)	(ft)	(ft)			(min)		(in/hr)	(acres)		(cfs)	(cfs)	(cfs)	(ft/s)	(min)	(min)
Roof Drain				#DIV/0!						5	0.95	8.05	0.16	0.152	1.22	1.30	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
North	N - Area	C&G	12	1.49%	147.00	922.19	920.00	Concrete	0.013	10	0.95	5.89	0.48	0.456	2.69	3.99	4.35	1.27	1.931061	11.93106
West #1	W1 - Area	W2 - Area	12	0.17%	54.00	923.53	923.44	PVC	0.010	10	0.95	5.89	0.14	0.133	0.78	0.78	1.89	0.25	3.60932	13.60932
West #2	W2 - Area	W3-Area	12	0.10%	51.00	923.44	923.39	PVC	0.010	14	0.95	5	0.11	0.1045	0.52	1.31	1.45	0.42	2.044885	16.04488
West #3	W3 - Area	S1-Area	12	0.73%	33.00	923.37	923.13	PVC	0.010	16	0.95	4.69	0.12	0.114	0.53	1.84	3.95	0.59	0.938793	16.93879
Park Val.			12	0.00%	21.00			PVC	0.010	16	0.65	4.69	0.52	0.338	1.59	1.59	0.00	0.50	0.693631	16.69363
Park Val.		S1 - Area	12	0.54%	87.00	923.90	923.43	PVC	0.010	17	0.65	4.6	0.54	0.351	1.61	3.20	3.40	1.02	1.423614	18.42361
South #1	S1 - Area	S2 - Area	18	0.77%	79.00	923.07	922.46	Concrete	0.013	19	0.95	4.42	0.29	0.2755	1.22	6.26	9.23	0.89	1.487197	20.4872
South #2	S2 - Area	S3 - Area	18	0.25%	61.00	922.36	922.21	Concrete	0.013	21	0.95	4.24	0.42	0.399	1.69	7.95	5.21	1.12	0.903969	21.90397
Roof Drain										15	0.95	4.78	0.22	0.209	1.00					
South #3	S3 - Area	S4 - Area	18	1.22%	59.00	922.17	921.45	Concrete	0.013	22	0.95	4.15	0.14	0.133	0.55	9.50	11.60	1.34	0.7316	22.7316
South #4	S4 - Area	S5 - Area	18	1.02%	60.00	921.41	920.80	Concrete	0.013	23	0.95	4.06	0.09	0.0855	0.35	9.85	10.59	1.39	0.717774	23.71777

Location	Slope in X direction	Slope in Y direction	Spread	Ratio of Frontal flow to total flow	Frontal Flow Interception Ratio	Side Flow Interception Ratio	Efficiency	Intercepted Flow	Depth at Intake	
	Sx	Sy	T	E0	Rf	Rs	E	Qi	d	d
Intake	(ft/ft)	(ft/ft)	(ft)	(cfs)				(cfs)	(ft)	(in)
North	0.0033	0.0315	24.873	0.201	1.021	0.152	0.326	0.876	0.082	0.985
W1	0.0045	0.0013	23.457	0.212	1.113	0.821	0.882	0.691	0.106	1.267
W2	0.0015	0.003	34.279	0.148	1.098	0.378	0.485	0.253	0.051	0.617
W3	0.017	0.011	5.925	0.667	1.082	0.788	0.984	0.526	0.101	1.209
S1	0.0495	0.003	5.270	0.720	1.063	0.861	1.006	1.225	0.261	3.131
S2	0.002	0.005	40.414	0.127	1.041	0.135	0.250	0.422	0.081	0.970
S3	0.002	0.0207	20.343	0.241	1.022	0.099	0.322	0.178	0.041	0.488
S4	0.0083	0.035	6.354	0.635	1.017	0.299	0.756	0.262	0.053	0.633



STORM WATER DETAILS DRAINAGE AREA LAYOUTS

- SECONDARY DRAINAGE PATH
- NON PERFORATED STORM PIPE
- PERFORATED STORM PIPE

NOTES:

- ALL HDPE DRAINAGE PIPE SHALL BE OF DUAL WALL CONSTRUCTION UNLESS SPECIFICALLY SPECIFIED OTHERWISE.
- STORM PIPING SHALL BE RCP WHERE PLACED WITHIN CITY RIGHT OF WAY.
- WATER LINE SHALL BE BURIED TO MAINTAIN 6' COVER.
- CONTRACTOR SHALL FIELD VERIFY LOCATION, ELEVATION, AND MATERIAL OF ALL WATER, STORM, AND SANITARY CONNECTIONS.
- CONFIRM WATER SERVICE ENTRANCE LOCATION TO BUILDING WITH ARCHITECTURAL AND MECHANICAL PLANS.
- COORDINATE CONNECTION TO MUNICIPAL WATER MAIN WITH INDIANOLA UTILITIES STAFF.
- SANITARY SERVICE SHALL BE INSTALLED WITH TRACER WIRE. PLACE TRACER STATION AT CLEAN OUT WHERE SERVICE EXISTS BUILDING.
- PLACE LIGHT POLES 3' CLEAR FROM EDGE PAVING/BACK OF CURB.

Robinson Engineering Company
Consulting Engineers

819 Second Street NE
Indianola, Iowa 50644
319-334-7211

UTILITIES PLAN

A NEW MAIN FACILITY FOR TRUBANK
PN: PROJECT #
TRUBANK
1401 NORTH JEFFERSON
INDIANOLA, IA 50125

C2.1

DATE
PRELIM



Catalog Number	STAKS 2X2 ALO3 SWW7 (3000 lumen, 3500k CCT)
Notes	
Type	F1

Contractor Select™

STACK Switch

LED Center Element Low-In

Available in 2x2 and 2x4 configurations, STACK Switch allows the end user to select from three lumen packages and three color temperatures all at an affordable price. The wide center basked and curved matte reflector allow STACK Switch to deliver a high quality of light while maintaining optimal performance.

- Contractor Select™ STACK Switch offer the most popular and readily available configurations.
- Color and lumen switching allows for maximum flexibility for contractors, distributors, and end users. High lumen settings allow for more coverage and higher mounting heights. Low lumen settings allow for lower mounting heights and increased power reduction.
- 0-10V dimming to 10%
- Long-life LEDs deliver 80% lumen maintenance at 60,000 hours



Switchable Lumens



Catalog Number	UPC	Description	Lumens	Watts	Voltage	Color Temperature	Pallet qty.
STAKS 2X2 ALO3 SWW7	194995082056	2X2 Center Element Troffer	30L/40L/50L	26W - 45W	120V - 277V	35K/40K/50K	60
STAKS 2X4 ALO6 SWW7	194995082063	2X4 Center Element Troffer	40L/50L/60L	35W - 55W	120V - 277V	35K/40K/50K	30

Accessories: Order as separate catalog number.

DGA24	Drywall grid adapter for 2x4 recessed fixture
DGA22	Drywall grid adapter for 2x2 recessed fixture
2X4 SMKSH PAF	2X4 Surface Mount Troffer Kit
2X2 SMKSH PAF	2X2 Surface Mount Troffer Kit
ILB CP10 A	LED emergency battery pack, 10W 50VDC (Noncompliant with CA T20)
ILBLP CP10 HE SD A	LED emergency battery pack, 10W Constant Power, Self-Diagnostic, Certified in CA Title 20 MAEDB
ELA PSRME IC	Remote enclosure for battery for insulated ceiling
RK1BDP J40	Disconnect Plug (BDP) package of 40
RK1BDP J10	Disconnect Plug (BDP) Package of 10



PERFORMANCE DATA

SWITCHABLE TABLE						
Size	Nomenclature	Lumen Package	CCT	Lumens	Wattage	Efficacy
2X2	STAKS 2X2 AL03 SWW7	Low Lumens	35K	3561	26.92	132
			40K	3683	26.18	141
			50K	3583	27.01	133
		Medium Lumens	35K	4371	34.23	128
			40K	4563	33.13	138
			50K	4375	34.22	128
		High Lumens	35K	5035	40.92	123
			40K	5297	39.41	134
			50K	5053	40.99	123
2X4	STAKS 2X4 AL06 SWW7	Low Lumens	35K	4325	31.5	137
			40K	4470	30.61	146
			50K	4369	31.6	138
		Medium Lumens	35K	5310	40.09	132
			40K	5517	38.71	143
			50K	5357	40.26	133
		High Lumens	35K	6170	48.51	127
			40K	6492	46.6	139
			50K	6228	48.39	129



Specifications

INTENDED USE:

The STACK Switch troffer delivers soft, glare-free, ambient lighting in a popular center-basket design. The slim profile of the luminaire, coupled with energy-saving LED technology make the STACK switch an ideal choice for renovation or new construction. The STACK switch troffer offers a high-quality, cost-effective LED lighting solution for schools, offices, retail, healthcare facilities and other commercial spaces.

CONSTRUCTION:

The reflector is finished with a glare reducing matte white paint for improved aesthetics and increased light diffusion. End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available. Diffusers are extruded from impact modified acrylic for increased durability. LED boards are accessible from the room-side, and drivers are accessible from the plenum.

OPTICS:

Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution.

ELECTRICAL:

Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). 0-10 volt dimming driver. Dims to 10%.

LUMEN AND COLOR SWITCHING:

Integrated lumen and color switching module is easily accessible, and mounted on the driver box on the back of the fixture. Simply adjust the toggle switch for low, medium, and high setting of both lumens and color.

INSTALLATION:

With a depth of only 1.9", the STACK Switch makes for an easy installation, especially in restrictive plenum applications. The STACK Switch fits into standard 15/16" and narrow 9/16" T-grid ceiling systems. Suitable for damp location.

LISTINGS:

CSA Certified to meet U.S. and Canadian standards. IC rated.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY:

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

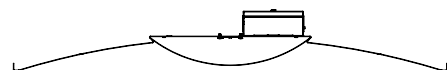
Dimensions

2X4 Length: 47-3/4 (121.3)

2X2 Length: 23-3/4 (60.3)

Width: 23-3/4 (60.3)

Depth: 1.9 (4.8)



All dimensions are inches (centimeters) unless otherwise indicated.





Catalog Number	STAKS 2X2 ALO3 SWW7 (4000 lumen, 3500k CCT)
Notes	
Type	F2

Contractor Select™

STACK Switch

LED Center Element Lory-In

Available in 2x2 and 2x4 configurations, STACK Switch allows the end user to select from three lumen packages and three color temperatures all at an affordable price. The wide center basked and curved matte reflector allow STACK Switch to deliver a high quality of light while maintaining optimal performance.

- Contractor Select™ STACK Switch offer the most popular and readily available configurations.
- Color and lumen switching allows for maximum flexibility for contractors, distributors, and end users. High lumen settings allow for more coverage and higher mounting heights. Low lumen settings allow for lower mounting heights and increased power reduction.
- 0-10V dimming to 10%
- Long-life LEDs deliver 80% lumen maintenance at 60,000 hours



Switchable Lumens



Catalog Number	UPC	Description	Lumens	Watts	Voltage	Color Temperature	Pallet qty.
STAKS 2X2 ALO3 SWW7	194995082056	2X2 Center Element Troffer	30L/40L/50L	26W - 45W	120V - 277V	35K/40K/50K	60
STAKS 2X4 ALO6 SWW7	194995082063	2X4 Center Element Troffer	40L/50L/60L	35W - 55W	120V - 277V	35K/40K/50K	30

Accessories: Order as separate catalog number.

DGA24	Drywall grid adapter for 2x4 recessed fixture
DGA22	Drywall grid adapter for 2x2 recessed fixture
2X4 SMKSH PAF	2X4 Surface Mount Troffer Kit
2X2 SMKSH PAF	2X2 Surface Mount Troffer Kit
ILB CP10 A	LED emergency battery pack, 10W 50VDC (Noncompliant with CA T20)
ILBLP CP10 HE SD A	LED emergency battery pack, 10W Constant Power, Self-Diagnostic, Certified in CA Title 20 MAEDB
ELA PSRME IC	Remote enclosure for battery for insulated ceiling
RK1BDP J40	Disconnect Plug (BDP) package of 40
RK1BDP J10	Disconnect Plug (BDP) Package of 10



PERFORMANCE DATA

SWITCHABLE TABLE						
Size	Nomenclature	Lumen Package	CCT	Lumens	Wattage	Efficacy
2X2	STAKS 2X2 AL03 SWW7	Low Lumens	35K	3561	26.92	132
			40K	3683	26.18	141
			50K	3583	27.01	133
		Medium Lumens	35K	4371	34.23	128
			40K	4563	33.13	138
			50K	4375	34.22	128
		High Lumens	35K	5035	40.92	123
			40K	5297	39.41	134
			50K	5053	40.99	123
2X4	STAKS 2X4 AL06 SWW7	Low Lumens	35K	4325	31.5	137
			40K	4470	30.61	146
			50K	4369	31.6	138
		Medium Lumens	35K	5310	40.09	132
			40K	5517	38.71	143
			50K	5357	40.26	133
		High Lumens	35K	6170	48.51	127
			40K	6492	46.6	139
			50K	6228	48.39	129



Specifications

INTENDED USE:

The STACK Switch troffer delivers soft, glare-free, ambient lighting in a popular center-basket design. The slim profile of the luminaire, coupled with energy-saving LED technology make the STACK switch an ideal choice for renovation or new construction. The STACK switch troffer offers a high-quality, cost-effective LED lighting solution for schools, offices, retail, healthcare facilities and other commercial spaces.

CONSTRUCTION:

The reflector is finished with a glare reducing matte white paint for improved aesthetics and increased light diffusion. End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available. Diffusers are extruded from impact modified acrylic for increased durability. LED boards are accessible from the room-side, and drivers are accessible from the plenum.

OPTICS:

Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution.

ELECTRICAL:

Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). 0-10 volt dimming driver. Dims to 10%.

LUMEN AND COLOR SWITCHING:

Integrated lumen and color switching module is easily accessible, and mounted on the driver box on the back of the fixture. Simply adjust the toggle switch for low, medium, and high setting of both lumens and color.

INSTALLATION:

With a depth of only 1.9", the STACK Switch makes for an easy installation, especially in restrictive plenum applications. The STACK Switch fits into standard 15/16" and narrow 9/16" T-grid ceiling systems. Suitable for damp location.

LISTINGS:

CSA Certified to meet U.S. and Canadian standards. IC rated.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY:

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

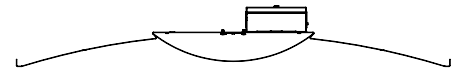
Dimensions

2X4 Length: 47-3/4 (121.3)

2X2 Length: 23-3/4 (60.3)

Width: 23-3/4 (60.3)

Depth: 1.9 (4.8)



All dimensions are inches (centimeters) unless otherwise indicated.



MARK ARCHITECTURAL LIGHTING™



Slot 4 LED Direct/Indirect Pendant

The Slot LED family of luminaires offers an unparalleled package of performance and features for your next lighting project. Precision lumen DIRECTIR optics deliver optimized light where needed for ceilings and walls. With other key features such as simplified installation, seamless controls integration and superior LED color constancy, the Slot LED family from Mark Lighting offers exceptional quality and design flexibility.

Type:

F3-(length)

Project:

TruBank, Indianola, IA

Catalog Number:

DO NOT TYPE HERE. Autopopulated field.

Specification Features

Housing

Nominal 3.5" x 5.25" extruded aluminum housing

Finish

White, Black or Silver powdercoat

Reflector

Formed steel with high reflectance white.

Distribution/Shielding

Extruded 90% transmissive acrylic lens with a textured surface providing diffuse illumination and a uniform appearance for direct lambertian distribution (No Optics). Wall Wash (WW) and Wall Graze (WG) distribution options incorporate co-extruded lenses. Shielding is available as an external blade louver for WW or WG options, or an internal blade louver in lieu of lambertian distribution diffuser. Clear Acrylic dustcover (DC) is available for the indirect distribution only.

LED Components

Linear: Nichia®- 757 series LED chips (>80 CRI)

Electrical

Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000).

Color Consistency

The Acuity Brands circuit boards for the linear LED components use a precise binning algorithm which creates a consistent color temperature from board to board. The color a variation of no greater than a 2.5 Step MacAdam (2.5SDCM) along the black body locus from board to board.

Driver

Factory tuned constant current electronic dimming driver is standard. Flicker free dimming available down to <1%. LED drivers perform within the recommended operating areas for flicker as a function of frequency and modulation (%) IEEE Standard 1789 2015 (IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers), in typical operating conditions at representative dimming levels. Electrical specifications at maximum driver load: PF > 0.9 and THD <20%. Meets FCC Title 47 Class A or Class B. Other available drivers include Lutron, DMX and DALI protocol drivers.

Certification

CSA tested to UL 1598 standards, assembled in the USA. Damp location listed.

Listings

DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Warranty

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

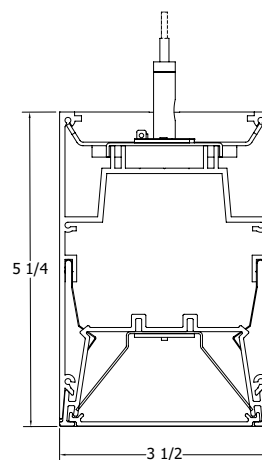
Fixture Performance

4FT INDIVIDUAL (35K)	DIRECT			
Lumens Output	400LMF	600LMF	800LMF	1000LMF
Delivered Lumens	1800	2707	3571	4103
Input Watts	15.4	23.5	32	37.3
Lumen/Watt	117	115	112	110

4FT INDIVIDUAL (35K)	INDIRECT			
Lumens Output	1600LMF	1800LMF	11000LMF	11200LMF
Delivered Lumens	2573	3309	4336	5067
Input Watts	16.6	21.7	29.3	35
Lumen/Watt	155	153	148	145

*Consult factory for customized lumen output and wattage between 350LMF and 1050LMF.

Technical Drawing



Direct/Indirect Pendant



Buy American



Buy American:

Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a **shaded background***
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a **shaded background***

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

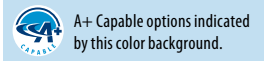
MARK

ARCHITECTURAL

LIGHTING™

Slot 4 LED

Direct/Indirect Pendant



Ordering

Example: S4LID 32FT MSL8 80CRI 30K 400LMF I80CRI I30K I600LMF NODIM SCT 277 WHT F1/36A RDCY WHTCY WCRD

S4LID		LOP		xFT			80CRI		35K		300LMF				
Series		Plan		Total Run Length		Max Section Length		Direct Light Source Color Rendering		Direct LED Color Temp		Direct LED Light Output		Direct Distribution (Optics)	
S4LID	Slot 4 Pendant - Indirect / Direct	LCB	Linear center balanced	_FT	Specify continuous run length (in whole feet, 2' minimum)	MSL4	4'	80CRI	80 CRI	27K	2700K	400LMF	400 lumens per FT	(blank)	Standard lambertian distribution
						MSL5	5'	90CRI	90 CRI	30K	3000K	600LMF	600 lumens per FT		
		LLP	Linear longest possible	Unit length may affect available options. 2' & 3' only available as individual units	MSL6	6'			35K	3500K	800LMF	800 lumens per FT	WW ²	Wallwash distributions	
					MSL7	7'			40K	4000K	1000LMF	1000 lumens per FT			
					For runs longer than 8FT: ALWAYS order the run by the TOTAL RUN LENGTH. Ordering the sections individually will not provide the correct joining hardware to allow connection in the field.	MSL8	8'			50K	5000K	_LMF ¹	# lumens per FT	WG	Wall graze distribution
WW and WG not available with Downlights, EGLD, LVRR or LVRR.A.															

I80CRI	35K	I500LMF					
Indirect Light Source Color Rendering	Indirect LED Color Temp	Indirect LED Light Output	Indirect Distribution (Optics)	Downlight	Downlight Shape	Downlight Color Rendering	Downlight Color Temp
I80CRI 80CRI	I27K 2700K	I600LMF 600 lumens per FT	(blank) No indirect distribution/ Standard lambertian	(blank) No Downlight modules in fixture	(blank) No Downlight modules in fixture	(blank) No Downlight modules in fixture	(blank) No Downlight modules in fixture
I90CRI 90CRI	I30K 3000K	I800LMF 800 lumens per FT	BW Batwing distribution	2DL LED Downlights (2 per unit)			S27K 2700K
	I35K 3500K	I1000LMF 1000 lumens per FT	AS Asymmetric distribution	_DL LED Downlights per run (3DL, 4DL, etc)	RDD Round	S80CRI 80CRI	S30K 3000K
	I40K 4000K	I1200LMF 1200 lumens per FT			SQD Square		S35K 3500K
	I50K 5000K	_LMF³ # lumens per FT		Must select all Downlight options. Specify number of downlights modules. Not available on 2' or 3' units. Not available with 347V. Maximum of 2DL in 4' & 5' units.	Not available with emergency options. Not available with 4' unit with DCT. Not available with any sensors on the same unit.		S40K 4000K

MIN1	SCT			MVOLT	WHT	
Minimum Dimming Level	Switching	Optional Shielding	Indirect Shielding	Voltage	Finish	Emergency Options
NODIM⁴ Non - dimming	SCT Single Circuit	(blank) No louver	(blank) No Indirect Shielding	MVOLT Multi-volt, 120 277	WHT White (gloss)	E10WLCF⁹ 4' emergency section w/ battery pack, 1250 lumens
MIN1 Constant current, dimming to 1%	DCT⁵ Dual Circuit	LVRD⁶ Dropped louver	TGLD Top Glow Lens	120 120V	BLK Black (gloss)	_E10WLCF⁹ 4' emergency section w/ battery pack, 1250 lumens
DARK Constant current, dimming to 0.1%		LVRR⁷ Regressed louver painted to match fixture finish		277 277V	SLV Silver (gloss)	# of emergency circuits
		LVRR.A⁷ Regressed louver, aluminum finish		347⁸ 347V	WHTT White (textured)	_EC¹⁰
		EGLD⁶ Edge View direct lens			BLKT Black (textured)	BGTD¹⁰,¹¹ Generator transfer device
		Not available with Downlights. Not available with NLTAIR2.			SLVT Silver (textured)	Not available with 347V.
					RALTBD RAL paint finishes	

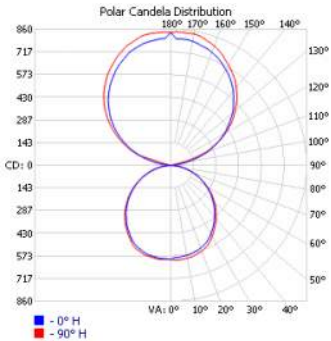
ZT				F1
Control Input	Sensor	Secondary Sensor	Tertiary Sensor	Mounting Type
(blank) Non-dimming, line voltage	(blank) Select if single zone/no zone without sensor	(blank) No additional zones/sensors	(blank) No additional zones/sensors	F1/ T-bar ceiling (universal mounting bracket)
ZT 0 10V control	NS Select if multi-zone fixture with no sensor in main zone	SNS Select if multi-zone fixture with no sensor in secondary zone	TNS Select if multi-zone fixture with no sensor in tertiary zone	F1A/ T-bar ceiling (UMB with integrated J-box)
NLIGHT¹² nLight enabled	PDT¹⁸ Occupancy sensor - dual technology (passive infrared & microphonics)	SPDT¹⁸ Occupancy sensor - dual technology (passive infrared & microphonics)		F2/ Hard ceiling (horizontal J-box)
NLTAIR2¹³ nLight AIR (wireless) enabled	ADC¹⁸ Photocell-daylight dimming sensor	SADC¹⁸ Photocell-daylight dimming sensor		
DALI¹⁴ DALI compatible	API¹⁹ PIR occupancy sensor & photocell	SAPI¹⁹ PIR occupancy sensor & photocell		
DMX¹⁴,¹⁵ DMX compatible	APD¹⁹ PDT occupancy sensor & photocell	SAPD¹⁹ PDT occupancy sensor & photocell		
ECOD¹⁵,¹⁶ Lutron Hi-Lume digital driver	Not available with Downlights. Not available with 347V & nLight. (Use ZT or NLTAIR2 Control Inputs where applicable.)	Not available with Downlights. Not available with 347V & nLight. (Use ZT or NLTAIR2 Control Inputs where applicable.)		
ECOD2¹⁵,¹⁶,¹⁷ Lutron Hi-Lume 2-wire (1% dimming)	Not available on 2' or 3' units.	Not available on 2' or 3' units.		
ECOD5¹⁵,¹⁶ Lutron 5-series digital driver (5% dimming)				

36A	RDCY	WHTCY	WCRD	
Overall Suspension	Canopy Form	Canopy Color	Cord Color	Options
36A 36" adjustable	RDCY Round Canopy	BLKCY Black canopy	WCRD White cord	BAA Buy America(n) Compliant
72A 72" adjustable	SQCY Square Canopy	WHTCY White canopy	CCRD Clear cord	DC²¹ Clear dust cover
144A 144" adjustable		SLVCY Silver Canopy	BCRD²⁰ Black cord	DCF²¹ Frosted dust cover
*Measured from ceiling to bottom of luminaire.				DPL Damp location listing

Notes:

1. Limited to 350LMF to 1050LMF in 50LMF increments. Not available with ECOD, ECOD2, ECOD5 or DMX control input. 50LMF increments not available for 2' units.
2. Not available with NLTAIR2.
3. Limited to 500LMF to 1300LMF in 50LMF increments. Not available with ECOD, ECOD2, ECOD5 or DMX control input. 50LMF increments not available for 2' units.
4. Not available with Control Input.
5. DCT not available with 2' or 3' units, sensors, NLTAIR2 or DMX. Not available on a 4' unit with E10WLCP.
6. Not available with Sensor Options.
7. Not available with sensors on 2', 3' & 5' units.
8. DCT not available with 2' & 3' units with 347, with ZT & sensors, with NLTAIR2, with emergency options, with NLIGHT in 5' units, with NLIGHT & downlights. Only available with WCRD.
9. Not available with 2' or 3' units, or 4' unit with DCT. Not available with DMX control option. One battery pack per unit. Only available on 8' unit with ECOD, ECOD2, ECOD5. Not available on 5' unit with NLTAIR. If with SCT, ZT & API, APD, or NLTAIR2 only available in 7' & 8' units. Not available with DCT & sensors. Not available with DCT & nLight in same unit.
10. Powers entire direct unit, (powers direct & indirect on 2' unit). Not available with DCT & sensors. Not available with DCT & NLTAIR2. Not available with DMX. Not available on individual units with NLTAIR2.
11. Must select 120 or 277 volt. Remote mounted. Not available with sensor and BGTD in same unit. Not available with DCT & NLTAIR2. Not available with DMX.
12. Comes with white CAT5 cord in addition to the standard power cord. Will require remote mounted nIO on 2' unit. One NLIGHT device per zone or sensor, for multiple zones consult factory.
13. Must select MIN1 or DARK Dim Level. Not available with WW or DCT options on 2' or 3' units. If ordered with E10WLCP, only available in 7' & 8' units. One NLTAIR2 device per zone or sensor, for multiple zones consult factory.
14. Must select DARK Dim Level.
15. Not available with 347V.
16. Must select MIN1 Dim Level. Not available on 2', 3' or 5' units.
17. 120V only.
18. Requires ZT or NLIGHT Control Input.
19. Requires ZT, NLIGHT or NLTAIR2 Control Input.
20. Longer lead time item.
21. DC & DCF are not available with TGLD option.

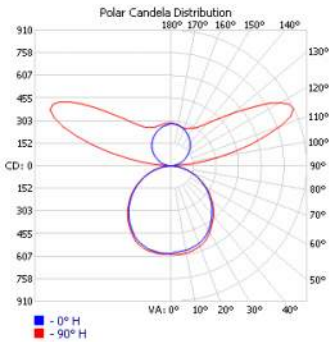
PHOTOMETRICS



Test Report: ISF 37287-37273P0
IES LM 79-08
S4LID 4FT 80CRI 30K 400LMF I600LMF
Lumens: **4205**
Wattage: **31.96W**
Efficacy: **131.5**

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	476.5	11.30%
0-40	778.9	18.50%
0-60	1369.7	32.60%
60-90	372.8	9%
70-100	174.7	4.20%
90-120	489.6	11.60%
0-90	1742.5	41.40%
90-180	2462.9	58.60%
0-180	4205.4	100%

Angle	Candlepower Distribution							
	Plane							
	0	22.5	45	67.5	90	112.5	135	157.5 180
0	596	596	596	596	596	596	596	596
5	585	594	602	599	602	601	601	600
10	579	589	595	596	597	598	599	597
15	569	581	584	587	590	589	592	588
20	556	563	572	574	578	577	578	575
25	536	543	553	553	555	553	555	545
30	505	513	519	518	523	524	523	522
35	470	477	484	484	483	484	488	479
40	431	440	447	445	447	445	447	438
45	391	397	403	404	404	403	409	405
50	348	356	358	359	359	358	361	363
55	304	312	312	312	315	311	318	316
60	256	265	264	263	263	263	264	268
65	209	215	214	213	214	214	215	218
70	163	166	166	167	168	166	165	166
75	117	119	117	118	118	117	117	116
80	69	70	71	72	72	72	71	70
85	30	32	32	33	33	32	30	29
90	0	0	0	0	0	0	0	0
95	28	4	5	5	6	6	4	4
100	89	86	7	7	6	7	20	93
105	163	160	151	145	103	143	157	170
110	246	240	239	231	227	228	241	247
115	317	321	322	315	312	313	324	327
120	383	396	400	395	394	395	401	402
125	449	467	468	466	469	465	467	469
130	509	530	533	529	530	528	532	538
135	560	587	591	589	594	592	594	596
140	615	639	645	643	644	643	648	651
145	660	686	687	685	691	692	697	697
150	697	729	730	728	731	732	742	738
155	734	771	772	770	772	769	773	773
160	760	801	804	797	804	803	801	802
165	779	823	826	822	827	820	828	825
170	797	840	842	840	844	838	846	844
175	803	845	849	845	844	846	851	851
180	841	841	841	841	841	841	841	841



Test Report: ISF 37287-37268
IES LM 79-08
S4LID 4FT 80CRI 30K 400LMF I600LMF BW
Lumens: **3630**
Wattage: **32.1W**
Efficacy: **113**

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	473.6	13.00%
0-40	774.2	21.30%
0-60	1361.3	38%
60-90	370.5	10.20%
70-100	264.1	7.30%
90-120	921	25.40%
0-90	1731.8	47.70%
90-180	1898.3	52.30%
0-180	3630.2	100%

Angle	Candlepower Distribution							
	Plane							
	0	22.5	45	67.5	90	112.5	135	157.5 180
0	592	592	592	592	592	592	592	592
5	581	590	598	595	598	597	597	596
10	575	585	591	592	593	594	595	593
15	566	577	580	583	586	585	588	584
20	553	560	568	570	574	573	574	571
25	533	540	550	550	552	550	552	542
30	502	510	516	515	520	521	520	519
35	467	474	481	481	480	481	485	476
40	428	437	444	442	444	442	444	435
45	389	395	401	402	402	401	406	403
50	346	354	356	357	357	356	359	361
55	302	310	310	310	313	309	316	314
60	254	263	262	261	261	261	262	266
65	208	214	213	212	213	213	214	217
70	162	165	165	166	167	165	164	165
75	116	118	116	117	117	116	116	115
80	69	70	71	72	72	72	71	70
85	30	32	32	33	33	32	30	29
90	0	0	0	0	0	0	0	0
95	16	79	131	139	130	125	113	68
100	37	120	319	338	317	320	291	109
105	59	146	417	569	555	548	390	134
110	82	161	455	741	783	718	421	148
115	102	171	441	787	906	763	410	159
120	122	182	394	707	847	684	368	174
125	144	193	347	582	696	568	328	186
130	165	202	309	478	555	467	295	196
135	185	208	281	394	443	386	271	203
140	203	217	267	337	368	329	265	214
145	218	229	259	302	318	296	259	226
150	232	240	255	286	292	278	253	238
155	248	254	257	270	277	264	254	249
160	261	268	264	264	267	262	260	261
165	271	279	274	269	269	266	269	272
170	279	287	284	277	277	274	278	281
175	281	290	287	284	283	283	286	286
180	288	288	288	288	288	288	288	288

EXPECTED LIFE: L85 @ 60,000
CALCULATED LIFE: L70 @ 120,000

Shielding



Co-Extruded WG



Co-Extruded WW



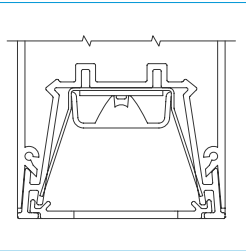
Edge View Lens



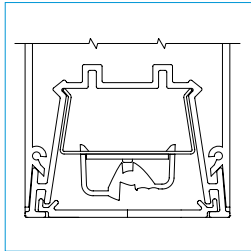
External Louver



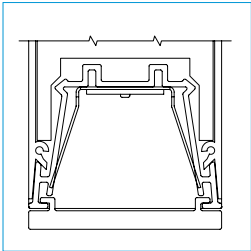
Regressed Louver



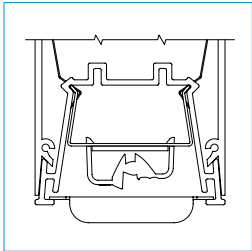
Co-Extruded WG
(Standard)



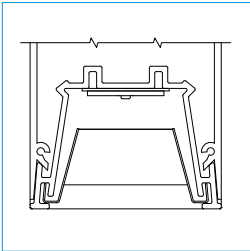
Co-Extruded WW
(Standard)



Edge View Lens
(Optional)



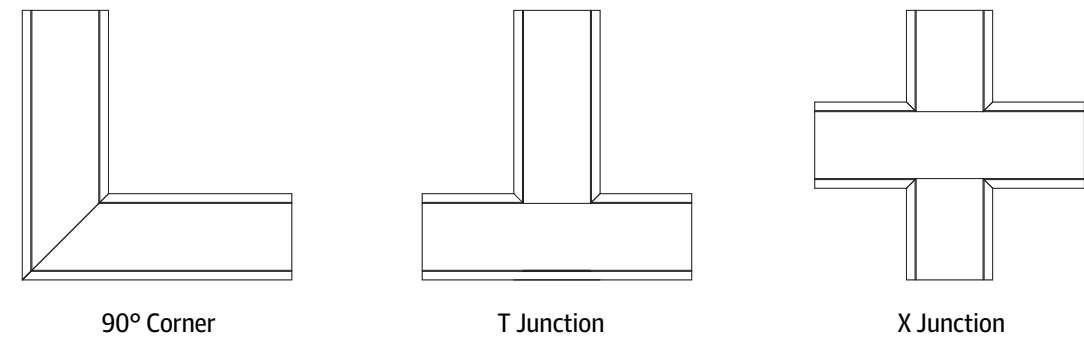
External Louver WW
(Painted to Match Housing)



Regressed Louver
(Natural Aluminum or
Painted to Match Housing)

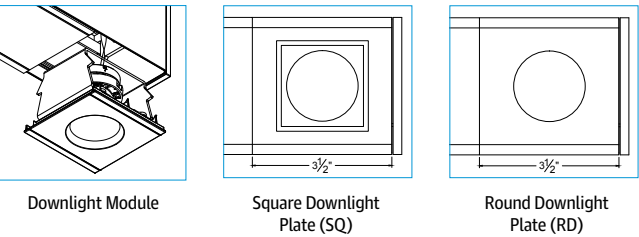
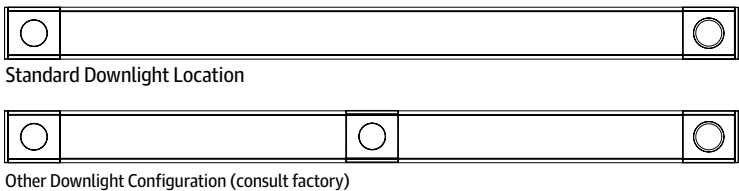
Run Patterns, Corners and Junction

Slot 4 LED patterns can be configured in 1' increments with illuminated 90° inside and outside corners, T junctions, and X junctions with standard 2' corner and junction lengths. For custom angles, corner or junction lengths, consult factory. See separate patterns spec sheet for details.



Downlights

Optional downlights powered by Xicato Spot Modules are available with 4', 5', 6', and 8' length luminaires, maximum (2) Xicato downlights per length. Each downlight module is 10W with 700 lumens delivered, 28 degree beam spread. Downlights are supplied with a dedicated feed-point and will be controlled separately.



MARK

ARCHITECTURAL
LIGHTING™

Slot 4 LED

Direct/Indirect Pendant

LINEAR PLAN:

Mark Lighting offers the ability to provide a continuous run plan to suit your requirements by optionally offering three different methods of configuration.

LLP- Linear Longest Possible

In this configuration, the longest length available is optimized, resulting in the fewest segments and mounting locations. Caution, should be used where balanced appearance is a concern. Example: 20 FT run would have 2, 8 FT segment and 1, 4 FT segment at the end of the run.

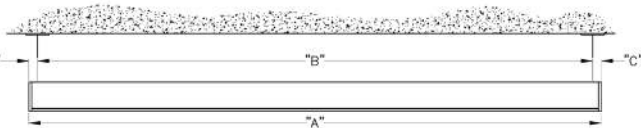
LLP	8 FT	8 FT	4FT
-----	------	------	-----

LCB- Linear Center Balanced:

This configuration incorporates the longest center segment(s) along with any additional lengths required to fill the run length, added to the run ends. Example: 16 FT run would have 2, 4 FT segments (one at each end) and 1, 8 FT segment in the center.

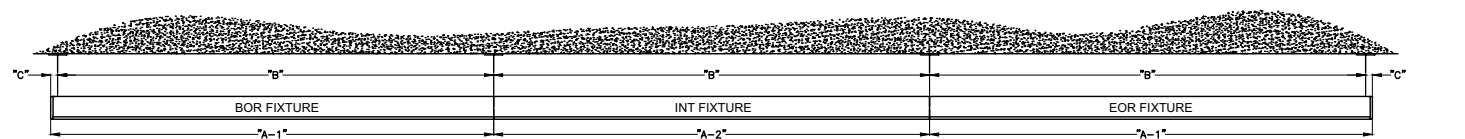
LCB	4 FT	8 FT	4FT
-----	------	------	-----

Individual Fixture Configurations



INDIVIDUAL UNITS (MOUNTING)			
LENGTH	"A" O.A.L.	"B" O.C.	"C" FROM END
2FT	2'- 5/8"	2'-0"	5/16"
3FT	3'- 5/8"	3'-0"	5/16"
4FT	4'- 5/8"	4'-0"	5/16"
5FT	5'- 5/8"	5'-0"	5/16"
6FT	6'- 5/8"	6'-0"	5/16"
7FT	7'- 5/8"	7'-0"	5/16"
8FT	8'- 5/8"	8'-0"	5/16"

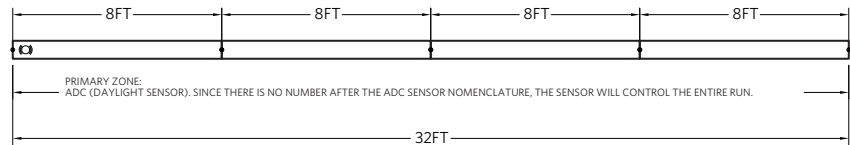
Run Configurations



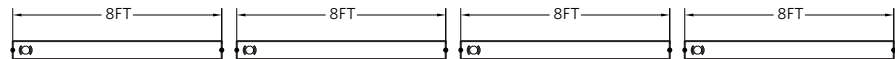
RUN LAYOUT (MOUNTING)				
LENGTH	"A-1" O.A.L.	"A-2" O.A.L.	"B" O.C.	"C" FROM END
4FT	4'-0 5/16"	4'-0"	4'-0"	5/16"
5FT	5'-0 5/16"	5'-0"	5'-0"	5/16"
6FT	6'-0 5/16"	6'-0"	6'-0"	5/16"
7FT	7'-0 5/16"	7'-0"	7'-0"	5/16"
8FT	8'-0 5/16"	8'-0"	8'-0"	5/16"

TOTAL RUN LENGTH

This system is not modular. Runs longer than 8FT will be automatically configured with Starter, Middle and Ender sections, based on how you specify the TOTAL RUN LENGTH and MAXIMUM SECTION LENGTH parameters in the ordering information. Always order the total run length, not the individual sections



Example: This run must be ordered as 1pc "S4LID LLP 32FT MSL8..."



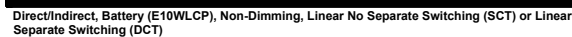
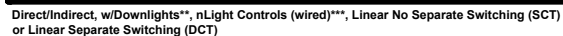
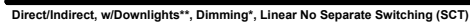
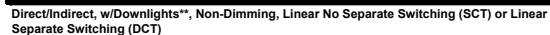
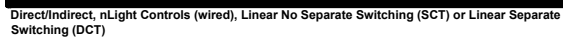
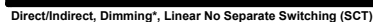
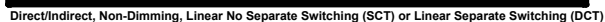
Example: If you order as 4pcs "S4LID LLP 8FT MSL8..." you will receive these INDIVIDUAL sections that cannot be joined together

MAXIMUM SECTION LENGTH

The run will be broken out using as many sections at the chosen MSL length as possible. Shorter sections will then complete the desired run length.

Examples:
S4LID LLP 21FT MSL5... = 5FT / 4FT / 4FT / 4FT / 4FT
S4LID LLP 21FT MSL6... = 6FT / 6FT / 5FT / 4FT
S4LID LLP 21FT MSL7... = 7FT / 7FT / 7FT
S4LID LLP 21FT MSL8... = 8FT / 8FT / 5FT

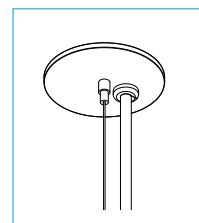
☐ Non-Power Feed Point / Aircraft Cable
☐ Power Feed
☒ Battery Power Feed
☐ CAT5
☐ Downlight Power Feed



** Downlights are supplied with a dedicated feed-point and will be controlled separately.

*** Downlights with nLight wired controls will use a J-Box mounted control module outside of fixture.

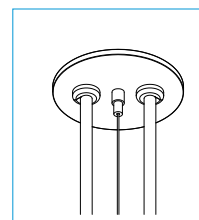
5" Square



5" Round

A schematic diagram of a three-core cable. It features a central conductor with a thick insulation layer, flanked by two other conductors with thinner insulation layers. All three conductors are enclosed within a common outer jacket.

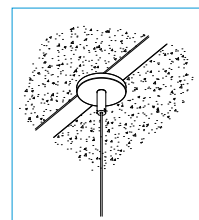
5" Square



5" Round

A diagram showing a square plate with a central circular hole. A vertical rod passes through the hole. The plate is surrounded by a circular field of dots, representing a material or medium. The rod is positioned vertically, passing through the center of the plate and the hole.

2" Square

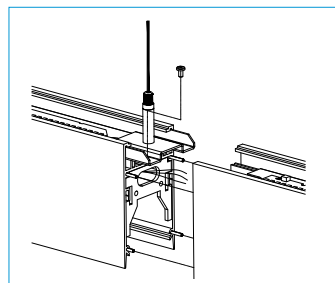


2" Round

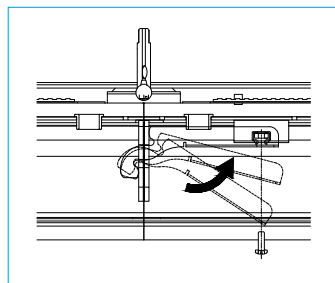
Refer to page 7 for mounting details.

Slot 4 LED continuous rows can be configured in 1' increments and featuring the AEL precision joiner to create a hairline seam between luminaires, providing a monolithic visual aesthetic. For custom run lengths less than a 1' increment, consult factory.

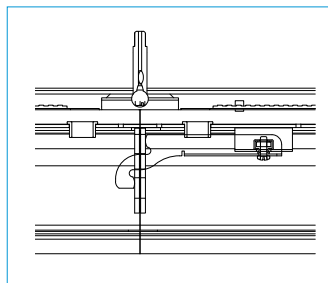
AEL Precision Row-Mount 3-step fixture-to-fixture connection method



Step 1: Align



Step 2: Engage



Step 3: Lock

MARK

ARCHITECTURAL
LIGHTING™

Slot 4 LED

Direct/Indirect Pendant

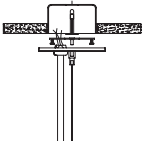
MOST COMMON MOUNTING TYPES AND OPTIONS

Options available for this specific luminaire are checked in the boxes below.

Mounting Type	Mounting Options
F1/ For use with most T-Bar grid ceilings. Designed for on-grid and off-grid applications.	MCS Matching canopy at support for aesthetics.
F2/ For use with recessed or surface mount horizontal J-box applications.	
F1A/ For use with most T-Bar and screw slot grid ceilings. Designed for on-grid applications. <i>Comes complete with J-box with built-in.</i>	

☑ Indicates mounting options available with this luminaire.

☑ F1/

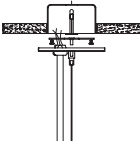


Power Feed

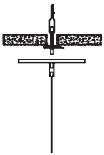


Support

☑ F1/ ordered with MCS

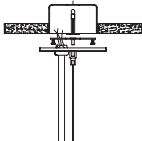


Power Feed

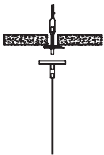


Support

☑ F1A/

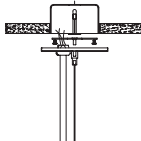


Power Feed



Support

☑ F1A/ ordered with MCS

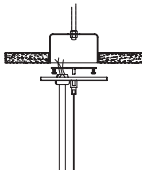


Power Feed

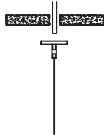


Support

☑ F2/

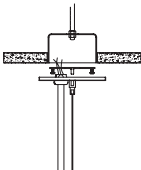


Power Feed

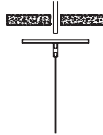


Support

☑ F2/ ordered with MCS



Power Feed



Support

MARK

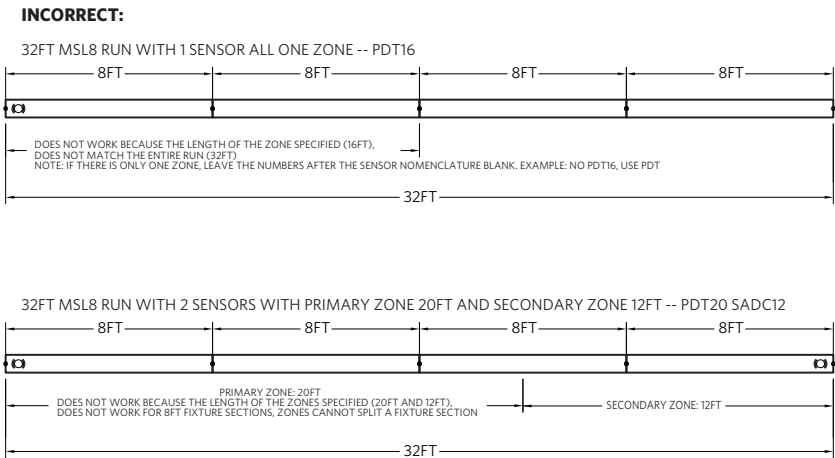
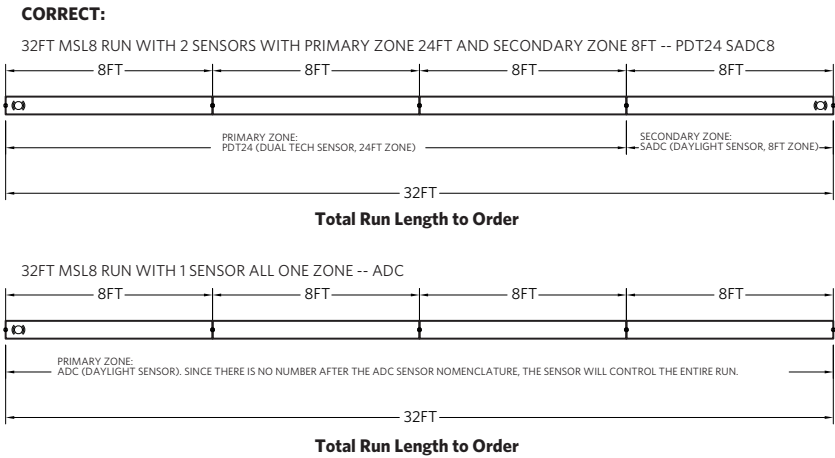
ARCHITECTURAL
LIGHTING™

Slot 4 LED

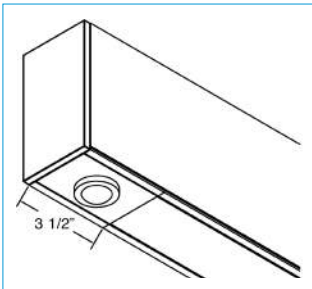
Direct/Indirect Pendant

INTEGRATED SENSOR LAYOUT

For runs longer than 8FT:
ALWAYS order the run by the TOTAL RUN LENGTH. Ordering the sections individually
will not provide the correct joining hardware to allow connection in the field.



Integrated Controls
Optional nLight® integrated controls make Slot LED luminaires addressable- allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Simply connect all the nLight enabled control devices using standard CAT5 Cabling.



Occupancy Sensor and/or Photocell

- Notes:**
- Only one sensor per zone
 - At the most, the entire run can only have 2 sensors (thus 2 sensors zones at the most)
 - Sensor zone can not split fixture sections
 - No overlapping zones

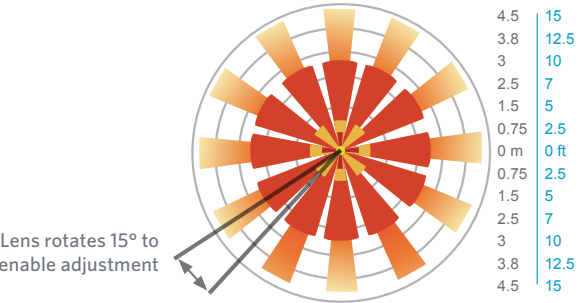
OCCUPANCY DETECTION COVERAGE

At the 7.5 ft (2.9 m) hanging height of a typical pendant mount fixture the sensor provides 10 ft (3.05 m) radial detection of small motion. At a 9 ft (2.74 m) hanging height the radius is 12 ft (3.66 m) for small motion.

Adequate for walking motion detection from mounting heights between 7.5 ft (2.29 m) and 20 ft (6.10 m).

Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor.

Initial detection of walking motion into long coverage segment will occur at distances of 2x the mounting height up to 15 ft (4.57 m) and 1.75x up to 20 ft (6.10 m). Lens assembly rotates 15° to enable adjustment in order to line up long segments.



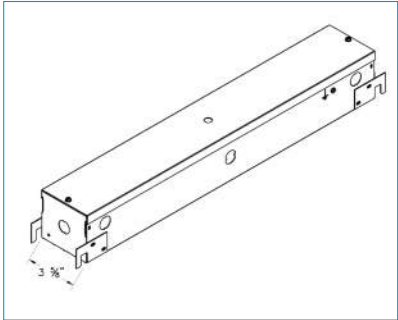
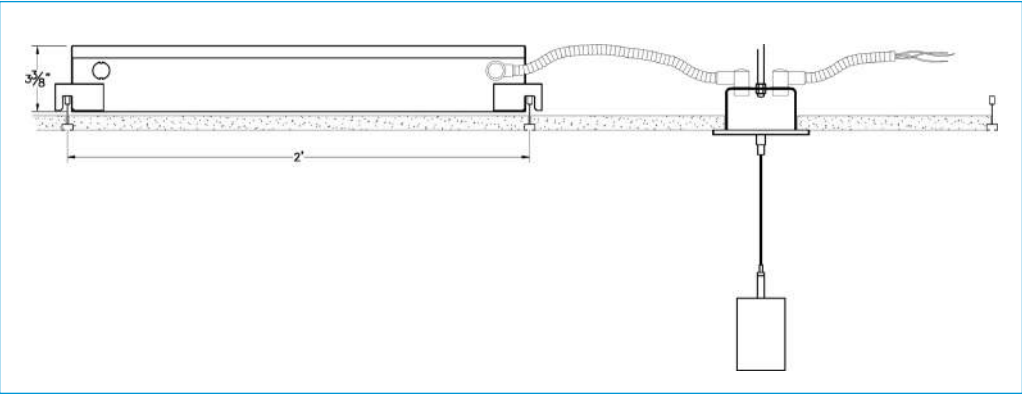
Intelligent Luminaire Technology Guide

Choose nomenclature from these columns							
Driver Configurations	Minimum Dimming Level		Control Input		Driver	Dimming Range	Notes
	NODIM	+	(blank)	=	0 10V Generic Driver	-	Includes no 0 10V leads from the driver.
	MIN10	+	ZT	=	0 10V Generic Driver	100 to 10%	Linear dimming
	MIN1	+	ZT	=	0 10V eldoLED ECOdrive	100 to 1%	Formerly (EZ1) nomenclature. Linear dimming
	MIN1	+	NLIGHT	=	0 10V eldoLED ECOdrive	100 to 1%	Logarithmic dimming
	MIN1	+	ECOD2	=	Lutron forward phase control	100 to 1%	LUTRON Hi-lume 1% 2-wire (model LTEA4U1U)
	MIN1	+	ECOD5	=	Lutron Ecosystem	100 to 5%	LUTRON 5 Seires EcoSystem LED Driver (model LDE5)
	MIN1		ECOD		Lutron Ecosystem	100 to 1%	LUTRON Hi-lume 1% EcoSystem LED Driver with Soft-on, Fade-to-Black (model LDE1)
	DARK		ZT		0 10V eldoLED SOLOdrive	100 to 0.1%	Formerly (EZB) nomenclature. Linear dimming
	DARK		NLIGHT		0 10V eldoLED SOLOdrive	100 to 0.1%	Logarithmic dimming
	DARK		DALI		DALI compatible eldoLED SOLOdrive	100 to 0.1%	"Compatible with DALI. Formerly (EDB & EDAB) nomenclature." Logarithmic dimming
	DARK		DMX		DMX compatible eldoLED POWERdrive	100 to 0.1%	"Compatible with DMX / Remote Device Management. Formerly (EXB & EDXB) nomenclature." Linear dimming

Choose nomenclature from these columns						
Control / Sensor Configurations	Control Input		Sensor		Sensor	Notes
	ZT	+	API	=	MSD 7 ADCX	Individual fixture control only. PIR integral occupancy sensor with automatic dimming control photocell. (Old nomenclature: ZT + PIR + ADC)
	ZT	+	APD	=	MSD PDT 7 ADCX	Individual fixture control only. PDT integral occupancy sensor with automatic dimming control photocell. (Old nomenclature: ZT + PDT + ADC)
	NLIGHT	+	(blank)	=	nIO EZ PH	nLight enabled only. No onboard sensor.
	NLIGHT		EMG	=	nIO EZ PH ER	Emergency nLight enabled only. No onboard sensor.
	NLIGHT	+	API	=	nIO EZ PH + nES 7 ADCX	nLight nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell. (Old nomenclature: NLIGHT + PIR + ADC)
	NLIGHT	+	PDT	=	nIO EZ PH + nES PDT 7	nLight nES PDT 7 dual technology integral occupancy sensor. (Old nomenclature: NLIGHT + PDT)
	NLIGHT	+	APD	=	nIO EZ PH + nES PDT 7 ADCX	nLight nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell. (Old nomenclature: NLIGHT + PDT + ADC)
	NLTAIR2		(blank)		RIO EZDL 90D G2	https://www.acuitybrands.com/products/detail/778845/nLight/rIO/Fixture-embedded-nLight-AIR-network-interface
	NLTAIR2		API		RES7 G2	https://www.acuitybrands.com/products/detail/593899/nLight/RES7_Sensor/nLight-AIR_Fixture-Integrated-Wireless-Sensor
	NLTAIR2		APD		RES7 PDT G2	https://www.acuitybrands.com/products/detail/593899/nLight/RES7_Sensor/nLight-AIR_Fixture-Integrated-Wireless-Sensor

Remote BGTD Mounting Option

Recessed in sheetrock ceiling; rod mounted to structure. Consult factory for other ceiling types or canopy options.
6 foot flexible conduit included, BGTD option should be mounted within 6 feet of junction box above fixture.



Accessible Ceiling

Emergency Battery Packs

The PS1055LCP battery is integral to the fixture and comes standard with a remote test switch and self-diagnostics.

Zynn 2" Ring - Pendant

AIP12203 26 in | Direct/Indirect

JOB NAME:

TYPE: **F4**

NOTES:

AIP12203-DIR-L21W-IND-L21-120-277V-3500K-MCA24IN-BA

DESCRIPTION

Zynn 2" Ring is the complete tool kit for lighting professionals. This is the line to specify when you need aesthetics you can count on, a wide range of scales, and the performance capabilities to light a space effectively and comfortably. Both the uplight and the downlight components of this luminaire are available in three output options – giving you the ability to select the combination of light that's best suited for your environment. Handcrafted with incredible attention to detail, the luminaire exhibits the exceptional refinement that matters to you. The Zynn 2" Ring family is offered in every size needed to fit your application, from 2' to 16' in diameter.

FEATURES & BENEFITS

- Sleek 2" x 3" profile
- Create a well-balanced combination of indirect and direct light to increase visual comfort and improve light uniformity
- Control up and down components independently
- Seamless housing is finished to your specification
- Clean, continuous lines of light with zero pixelation
- Superior fit and finish
- Keep ceilings clean with minimal mounting hardware
- Hidden internal aircraft cable grippers are easy to adjust
- Handcrafted in USA

SPECIFICATIONS

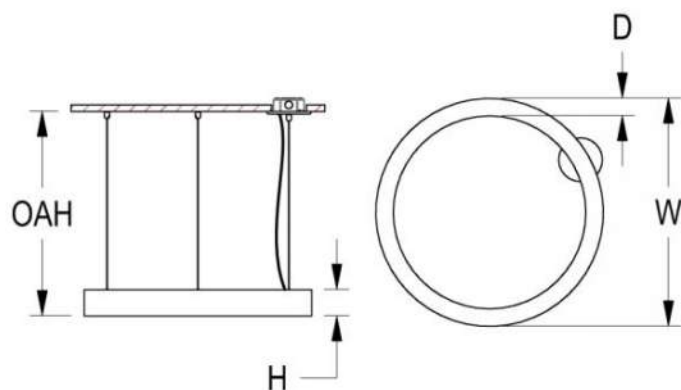
- **LIGHT SOURCE:** White LED light engine
- **DISTRIBUTION:** Direct/Indirect
- **CRI:** 80+ (contact factory for 90+)
- **LUMEN MAINTENANCE:** L80 = >60,000 Hrs.
- **EFFICACY:** Up to 115 lm/W delivered
- **CCT:** 3000K, 3500K, or 4000K
- **VOLTAGE:** 120-277V standard
- **DRIVER:** Remote Class 2 power supply. Max distance to the driver (including OAH) is: #18 AWG = 50', #16 AWG = 75', #14 AWG = 100'. For extended distances, contact factory.
- **MAX AMBIENT OPERATING TEMP:** 42°C (108°F)
- **DIMMING:** 0-10V controls standard to 1% on LED light engines



designed for
LED

- **INTEGRATED SURGE PROTECTION:** LED components are protected against minor surge events
- **DIFFUSER:** Seamless matte opal acrylic (bottom). Frosted clear acrylic (top).
- **CONSTRUCTION:** Housing fabricated from 6000 series aluminum extrusion
- **FINISH:** Housing and mounting components finished to match. To specify separately, contact factory. Choose from more than 30 thermoset polyester powder coat paint colors or various metal finishes. RAL®, Pantone®, or custom finishes available upon request.
- **MODIFICATIONS:** Consult factory for all modification requests, including alternate sizes
- **APPROVALS:** ETL listed to UL standards (US & Canada) for use in damp locations; not recommended for exterior applications

DIMENSIONS



W	H	D	OAH
26 in 66 cm	3 in 7.6 cm	2 in 5.1 cm	54 in 137.2 cm
Mounting Weight Approximate: 15 lb (7 kg)			

CONFIGURATOR

To configure your spec sheet online, go to www.spilighting.com/AIP12203. Not all options are available in all configurations; consult factory for details.

Required Field *

Catalog	Light Source*	Primary Finish*	Light Source 2*	Voltage*	Lamp Options*	Mounting*	Other Than Standard Options
AIP12203	DIR-L21W		IND-L21	120-277V	3500K		
	A		B	C	D	E	F

A - LIGHT SOURCE *

To ensure color consistency, SPI uses precise bin selection and strict quality processes to maintain a 3-step (MacAdam) SDCM on all white LED lampings. Published LED luminaire wattages are calculated using a typical power supply efficiency of 88%; exact wattages may vary based on

application. Alternative wattages available upon request. Choose a DIRECT light source below:

- ☒ **DIR-L21W** | White 21W LED Light Engine | Delivered Lumens: 1,510
- ☐ **DIR-L42W** | White 42W LED Light Engine | Delivered Lumens: 3,020
- ☐ **DIR-L85W** | White 85W LED Light Engine | Delivered Lumens: 6,112

See last page for finish options

B - LIGHT SOURCE 2 *

Choose an INDIRECT light source below:

- ☒ **IND-L21W** | White 21W LED Light Engine (Delivered Lumens: 2,644)
- ☐ **IND-L42W** | White 42W LED Light Engine (Delivered Lumens: 5,288)
- ☐ **IND-L85W** | White 85W LED Light Engine (Delivered Lumens: 10,702)

C - VOLTAGE *

- ☒ **120-277V** | Universal Voltage

D - LAMP OPTIONS *

Delivered lumens shown are at 4000K CCT; apply multiplier for delivered lumens at other CCT.

- ☐ **3000K**¹ | 3000K CCT
- ☒ **3500K**² | 3500K CCT
- ☐ **4000K** | 4000K CCT

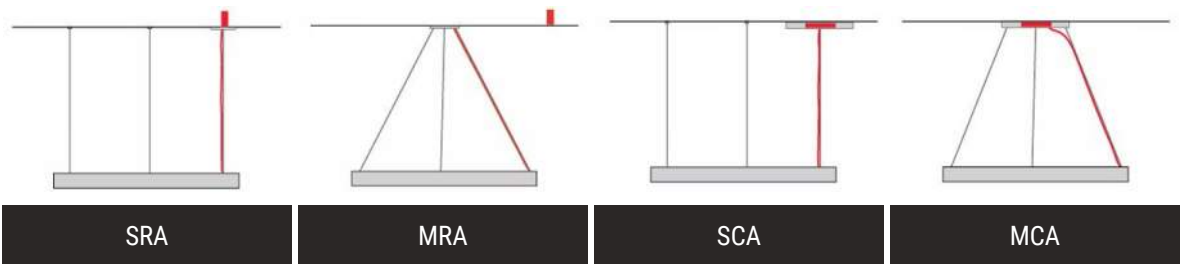
¹ Apply .95 multiplier for delivered lumens

² Apply .97 multiplier for delivered lumens

E - MOUNTING *

Mounts to standard 4" octagonal junction box. Field adjustable cables allow fixture to be mounted at an application appropriate height (up to 0AH).

- ☐ **SRA** | 5" Flat Canopy & 3 Straight Aircraft Cables with White Power Cord, Remote Supply
- ☐ **MRA** | 6" Flat Monopoint Canopy & 3 Aircraft Cables with White Power Cord , Remote Supply
- ☐ **SCA** | 12" Canopy with Power Supply & 3 Straight Aircraft Cables with White Power Cord
- ☒ **MCA** | 14" Monopoint Canopy with Power Supply & 3 Aircraft Cables with White Power Cord



F - OTHER THAN STANDARD OPTIONS

Specify overall height required from ceiling to the bottom of the fixture.

OAH | Pendant suspension length other than standard Length: 24"

Available Finishes

Not all finishes are available in all configurations; consult factory for details.

Brushed Aluminum

BAL Brushed Aluminum	MAL Microbrushed Aluminum
--------------------------------	-------------------------------------

Paint Colors

PT01 Super White (Gloss)	PT02 White (Textured)	PT03 Morning Light (Textured)	PT04 Warm White (Textured)	PT05 Putty (Textured)
PT06 Warm Beige (Textured)	PT07 Light Taupe (Textured)	PT08 Medium Taupe (Textured)	PT09 Medium Grey (Textured)	PT10 Dark Grey (Textured)
PT11 Black (Textured)	PT12 Dark Chocolate (Textured)	PT13 Warm Grey (Textured)	PT14 Light Grey (Textured)	PT15 Sage (Textured)
PT16 Spruce (Textured)	PT17 Red (Textured)	PT18 Deep Red (Textured)	PT19 Blue (Textured)	PT20 Dark Green (Textured)
PT21 Pearl White (Metallic Gloss)	PT22 Platinum (Metallic Gloss)	PT27 Deep Copper (Metallic Gloss)	PT28 Dark Stainless (Metallic Gloss)	PT29 Red Brass (Metallic Gloss)
PT31 Medium Bronze (Metallic Gloss)	PT32 Dark Bronze (Metallic Gloss)	PT33 Dark Blue (Textured)	PT40 Yellow (Textured)	PT41 Orange (Textured)
PT42 Sky Blue (Textured)	PT43 Teal (Textured)	PT44 Green (Textured)	PT45 Purple (Textured)	PT46 Aluminum (Metallic Textured)
PT47 Deep Red Brass (Metallic Textured)	PT48 Brass (Metallic Textured)	PT49 Bronze (Metallic Textured)	PT51 Matte White (Textured)	



Catalog Number	FMVCCL 24IN MVOLT 30K 90CRI BN
Notes	
Type	F5

Contractor Select™

FMVCCLS Vanity LED

Contemporary Switchable
Cylinder Vanity



Provides an LED lighting platform to deliver general or task lighting for residential and light commercial applications. Light engine delivers long life and excellent color to ensure a quality, low-maintenance light installation. Ideal for use in bathrooms, lavatories, hallways, corridors, stairways, utility areas and more.

FEATURES:

- 2' delivers 1690 lumens and 27 watts
- Fixture is rated to deliver L70 performance at 50,000 hours and operates at 120-277 volts.



ADA



Catalog Number	UPC	Description	Lumens	Input Watts	Voltage	Color Temperature	Pallet qty.
FMVCCLS 24IN MVOLT 30K35K40K 90CRI BN M6	191848780770	2' LED Vanity	1690	27W	MVOLT	3000K, 3500K, 4000K	72



Specifications

INTENDED USE:

Provides an LED lighting platform to deliver general or task lighting for residential and light commercial applications. Light engine delivers long life and excellent color to ensure a quality, low-maintenance light installation. Ideal for use in bathrooms, lavatories, hallways, corridors, stairways, utility areas and more.

CONSTRUCTION:

The Contemporary Cylinder is constructed of an acrylic diffuser with brushed nickel housing. The included canopy/junction box cover is removable for a more low-profile look. The white acrylic diffuser provides even illumination and softens the appearance of the LEDs for improved aesthetics.

OPTICS:

The FMVCCLS Contemporary Cylinder Vanity has an integrated switch to select 3000K, 3500K or 4000K color temperature at the time of installation.

2' delivers 1690 lumens at 3000K CCT with 50,000 hours of life. See table to the right for delivered lumens at the different CCT color switch settings.

Extruded acrylic diffuser is of highly transmissive material to minimize LED image and provides highangle brightness control.

ELECTRICAL:

Long-life LEDs, coupled with a multivolt and dual dimmable capable driver, provide extended service life.

Standard input = 27 watts, (2'). Fixture is rated to deliver L70 performance at 50,000 hours and operates at 120-277 volts.

This fixture is dimmable by either triac or 0-10V dimming. Use with approved triac or 0-10V dimmer only.

LISTINGS:

UL Listed to US and Canadian safety standards. Listed for damp locations. ENERGY STAR® certified.

WARRANTY:

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

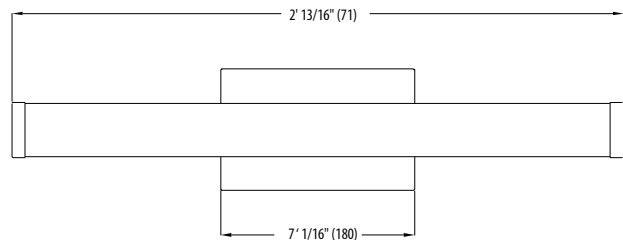
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Dimensions

SPECIFICATIONS	2FT
Length:	22-3/8 (568)
Weight:	2.1 (95)
3000K Lumens (LPW)	1690 (94)
3500K Lumens (LPW)	1800 (103)
4000K Lumens (LPW)	1850 (102)

All dimensions are inches (millimeters) unless otherwise indicated. Weights are pounds (kilograms).



FEATURES & SPECIFICATIONS

INTENDED USE

Provides an LED lighting platform to deliver general ambient lighting for surface-mount ceiling and wall applications. Light engine delivers long life and excellent color to ensure a quality, low-maintenance light installation. Ideal for use in closets, foyers, hallways, corridors, bedrooms, offices, utility work areas, and more.

CONSTRUCTION

The LED wrap is constructed of a metal housing with decorative plastic end caps. The white polycarbonate diffuser provides even illumination and softens the appearance of the LEDs for a uniform appearance from below the ceiling.

OPTICS

MVOLT: 2' wrap produces 3,000 lumens and 4' produces 4,600 lumens, both at 50,000 hours life.

120V: 2' wrap produces 1,400 lumens and the 4' produces 2,900 lumens, both at 50,000 hours life.

Thermal formed diffuser is of highly transmissive material to minimize lamp image and provides high-angle brightness control. One piece contemporary design wrap around diffuser softens appearance for improved aesthetics.

ELECTRICAL

Long-life LEDs, coupled with a high-efficiency driver, provide extended service life. Standard input = 29/42 watts (2'/4'), 107/111 lumens per watt (2'/4'). FMLWL is rated to deliver L70 performance at 50,000 hours. Fixture operates at 120/277 volts, 60Hz. FMLWL MVOLT is 0-10V dimmable.

LISTINGS

UL certified to US and Canadian standards. Listed for damp locations.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified

WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed.

Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

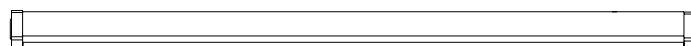
Specifications subject to change without notice.

Catalog Number	FMLWL 24 840
Notes	
Type	F6

FMLWL

Low Profile LED Wraparound

LINEAR LED



Specifications

	2'	4'
Width:	5-1/2 (14.0)	5-1/2 (14.0)
Length:	24-1/2 (62.2)	47-2/5 (120.4)
Depth:	2-3/5 (6.6)	2-3/5 (6.6)
Weight:	2.5 lbs (1.0 kg)	5.0 lbs (2.3 kg)

All dimensions are inches (centimeters) unless otherwise indicated.



Looking for Contractor Select readily available configurations? Click here to visit Contractor Select™ specsheet or go to www.contractorselect.com

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: FMLWL 48 840 ZT MVOLT

Series		CRI	Color temperature	Dimming	Voltage
FMLWL 24 2' LED Wrap	[Blank] Static White	8 > 85 CRI	27 2700K ¹	[Blank] Non-Dimming	[Blank] 120V
FMLWL 48 4' LED Wrap			30 3000K ¹	ZT 0-10V ²	MVOLT 120-277V ²
			35 3500K ¹		
			40 4000K ³		

Replacement parts

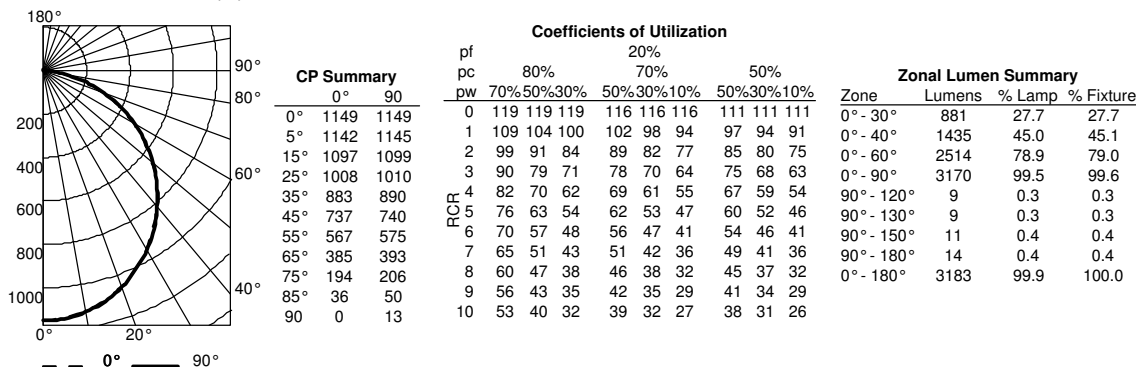
DFMLWL24	2' white polycarbonate diffuser
DFMLWL48	4' white polycarbonate diffuser

Notes

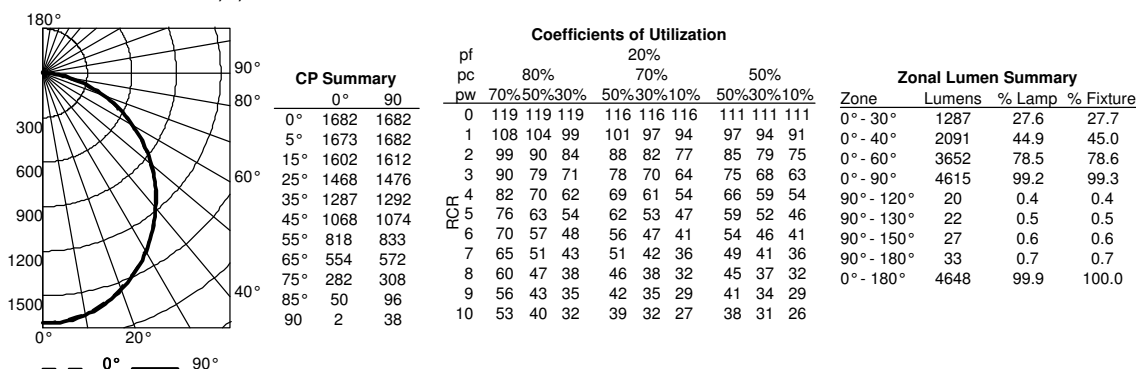
1. Non-stock color temperature is subject to 90-day lead time; minimum 50 order quantity.
2. ZT and MVOLT options must be ordered together.
3. Only 840 version is ENERGY STAR® listed

PHOTOMETRICS

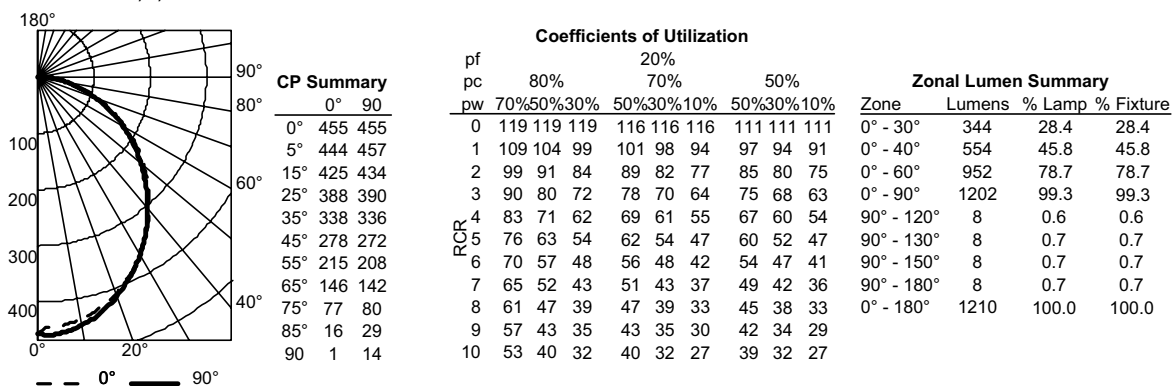
FMLWL 24 840 ZT MVOLT, 3,186 delivered lumens



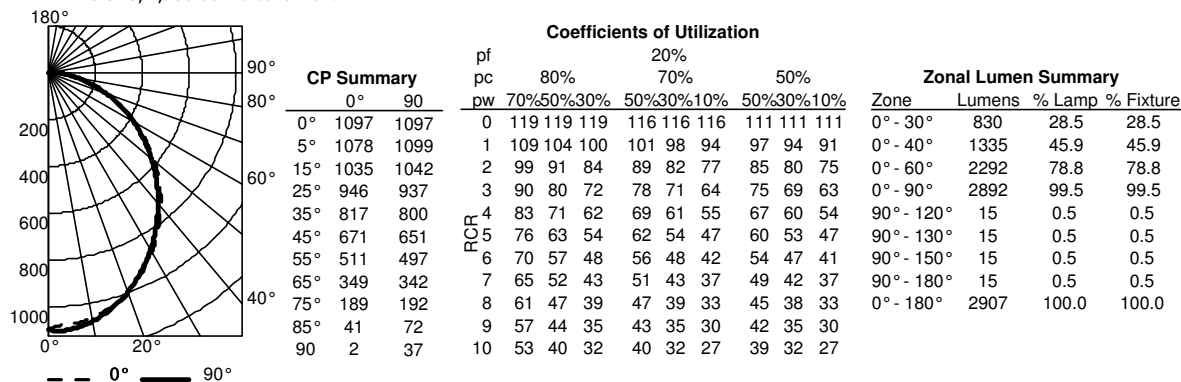
FMLWL 48 840 ZT MVOLT, 4,654 delivered lumens



FMLWL 24 840, 1,200 delivered lumens



FMLWL 48 840, 2,900 delivered lumens





Catalog Number	CSS L48 4000LM MVOLT 40K 80CRI
Notes	
Type	F7

Contractor Select™

CSS

LED Strip Light

The light-duty, dimmable, damp-location and DLC® listed CSS LED strip light can easily mount individually to a ceiling, horizontal and vertical wall, or by continuous row. The size and versatility makes it suitable for tight spaces, task lighting, restrooms, under/over cabinet and storage closets.

FEATURES:

- Inspired by classic fluorescent strip channels, this LED fixture offers a traditional appearance that incorporates the latest technology
- Quick and simple to install with the snap-lock tool-less channel cover
- Features a low-glare diffuse lens for enhanced aesthetic



Catalog Number	UPC	Description	Lumens	Wattage	Voltage	Color Temperature	Color Rendering Index	Pallet Quantity
CSS L48 4000LM MVOLT 40K 80CRI	00193048852622	4' MVOLT LED Strip Light	4298	35.3	MVOLT (120-277)	4000K	80CRI	98
CSS L96 8000LM MVOLT 40K 80CRI	00193048852721	8' MVOLT LED Strip Light	8596	72	MVOLT (120-277)	4000K	80CRI	102
CSS L48 ALO3 MVOLT SWW3 80CRI	00193048852677	4' MVOLT Switchable LED Strip Light	3247-5150	28, 36, 44	MVOLT (120-277)	35K/40K/50K	80CRI	98
CSS L96 ALO4 MVOLT SWW3 80CRI	00193048852738	8' MVOLT Switchable LED Strip Light	6495-10300	55, 72, 88	MVOLT (120-277)	35K/40K/50K	80CRI	102

More configurations are available. [Click here](#) or visit www.acuitybrands.com and search for CSS LED.

Accessories: Order as separate catalog number.

HC36 M12	Chain hanger and jack chain, 36" (pair)
ZACVH	Aircraft cable 10' (one pair)
SQ	5/8" Swivel-stem hanger (specify length in 2" increments up to 48")
Y J10	Y hanger in multiples of 10 (five pair)
WGCSS	Wireguard with Mounting hardware (one 4ft)
MNLK JBOXCVR M12	Junction box cover with hardware, white



Specifications

INTENDED USE:

Inspired by classic fluorescent strip channels, this LED fixture offers a traditional appearance that incorporates the latest technology. Available in several color temperatures, lumen packages and lengths. Ideal for use in commercial, retail, office, warehouse and display applications. **Certain airborne contaminants can diminish integrity of acrylic.** [Click here for Acrylic Environmental Compatibility table for suitable uses.](#)

Certain airborne contaminants may adversely affect the functioning of LEDs and other electronic components, depending on various factors such as concentrations of the contaminants, ventilation, and temperature at the end-user location. [Click here for a list of substances that may not be suitable for interaction with LEDs and other electronic components.](#)

CONSTRUCTION:

Compact-design channel and cover are formed from code-gauge, cold-rolled steel.

Easy to install row aligner bracket included for continuous row mounting.

Finish: High-gloss, baked white enamel (standard).

OPTICS:

LEDs provide 80+ color rendering index (CRI) at 3500 K, 4000 K and 5000 K. Diffuse acrylic lens provides smooth, linear illumination. Lumen output exceeds 1,000 lumens per foot.

ELECTRICAL:

Luminaire Surge Protection Level: Designed to withstand up to 2.5kV/0.75kA per ANSI C82.77-5-2015. For applications requiring higher level of protection additional surge protection must be provided. Driver is standard 0-10V dimming class 2.

INSTALLATION:

Fixture may be surface or suspension mounted with appropriate mounting options (see accessories). Aligner locks in place for easy continuous row mounting.

LISTINGS:

CSA certified to US and Canadian safety standards and listed suitable for damp locations.

Minimum starting temperature at -40°F (-40°C). Maximum ambient operating temperature of 95°F (35°C).

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY:

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

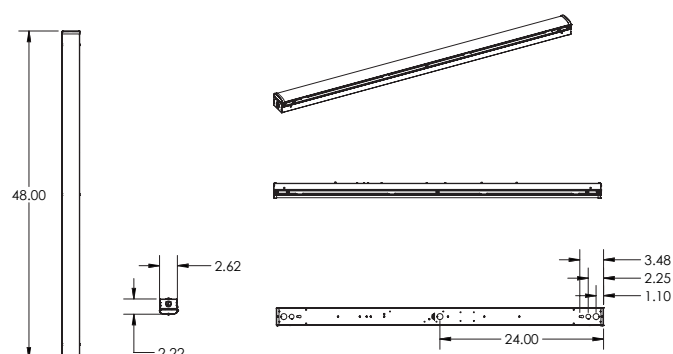
All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

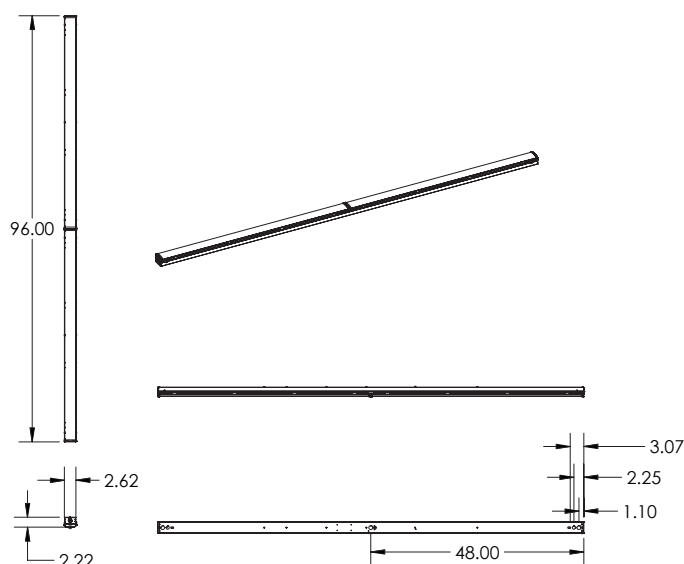
Dimensions

All dimensions are inches (centimeters) unless otherwise indicated.

4FT ASSEMBLY



8FT ASSEMBLY





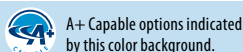
Diameter: 19"

Height: 4.95"

(6" with Up-Light)

Weight 25 lbs

(max, with
no options):



Ordering Information

EXAMPLE: VCPGX LED V8 P3 40K 70CRI T5M MVOLT PM UPL2 DWHXD

Options		Finish <i>(required)</i>
Shipped installed		DWHD White
UPL1	Up-Light: 500 lumens	DNAXD Natural aluminum
UPL2	Up-Light: 700 lumens	DDBXD Dark bronze
E8WC	Emergency battery backup, CEC compliant (8W, -20°C min) ^{3,4,5}	DBLXD Black
E10WH	Emergency battery backup, CEC compliant (10W, 5°C min) ^{3,4,5}	
HA	High ambient (50°C, only P1-P4)	
SF	Single fuse (120V, 277V, 347V)	
DF	Double fuse (208V, 240V, 480V)	
SPD10KV	10KV Surge Pack	
LDS36	36in (3ft) lead length	
LDS72	72in (6ft) lead length	
LDS108	108in (9ft) lead length	
DMG	External 0-10V leads (no controls) ⁶	
Shipped Separately		
BDS	Bird Shroud	
Standalone Sensors/Controls		
PIR	Motion/ambient sensor for 8-15' mounting heights	
PIRH	Motion/ambient sensor for 15-30' mounting heights	
PIR3FC3V	Motion/ambient sensor for 8-15' mounting heights, pre programmed to 3fc and 35% light output	
PIRH3FC3V	Motion/ambient sensor for 15-30' mounting heights, pre programmed to 3fc and 35% light output	
PIR3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 8-15' mounting heights, pre programmed to 3fc and 35% light output ⁷	
PIRH3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 15-30' mounting heights, pre programmed to 3fc and 35% light output ⁷	
Networked Sensors/Controls		
NLTAIR2 PIR	nLIGHT AIR Wireless enabled motion/ambient sensor for 8-15' mounting heights	
NLTAIR2 PIRH	nLIGHT AIR Wireless enabled motion/ambient sensor for 15'-30' mounting heights	
NLTAIR2 PIR924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights ⁸	
NLTAIR2 PIRH924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights ⁸	



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VCPGX LED
Rev. 08/31/21

Ordering Information Cont.

Accessories

Ordered and shipped separately.

VCPGBDS DWHXD U	Bird shroud for PM (specify finish)
VCPGBDS YK DWHXD U	Bird shroud for YK (specify finish)
VCPGUBDS DWHXD U	Bird shroud for PM with Up-Light (specify finish)
VCPGUBDS YK DWHXD U	Bird shroud for YK with Up-Light (specify finish)
VCPGSRM U	Surface mount kit, with no Up-Light
VCPGUSRM U	Surface mount kit, with Up-Light
VCPGWG U	Wire guard
SLVSQ	Quick mount pendant swivel kit, square
SLVRD	Quick mount pendant swivel kit, round
VCPG YK DWHXD U	Yoke mount kit (specify finish)
RSXWBA DWHXD U	RSX WBA wall bracket (specify finish)

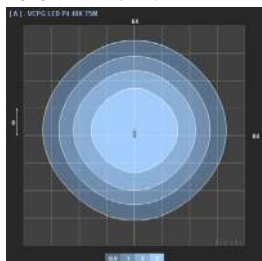
NOTES

- 1 Not available in P7 package or with V8 option.
- 2 Only vertical height adjustment. No angle adjustment. Use PM and SLVSQ or SLVRD for mounting to angled ceiling or canopies.
- 3 Not available with 347V or 480V.
- 4 E8WC and E10WH only rated up to 35°C ambient.
- 5 E8WC & E10WH only available with P1-P4 packages.
- 6 DMG option not available with standalone or networked sensors/controls.
- 7 Power interruption delay >30 milliseconds required for operation. Refer sequence of operations on page 4 for more details.
- 8 Not available with P6 & P7. Power interruption delay >200 milliseconds required for operation. Refer sequence of operations on page 4 for more details.

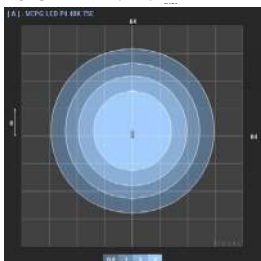
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the [VCPG Ultimate LED Parking Garage Luminaire homepage](#). Tested in accordance with IESNA LM-79 and LM-80 standards

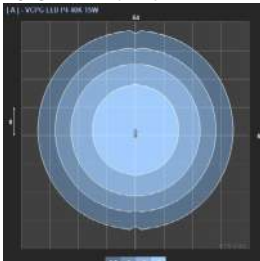
VCPG LED P4 T5M 40K



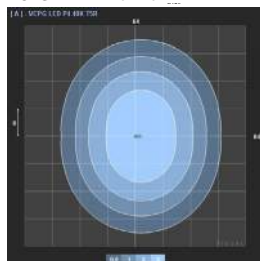
VCPG LED P4 T5E 40K



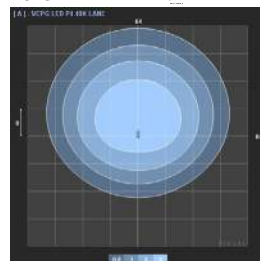
VCPG LED P4 T5W 40K



VCPG LED P4 T5R 40K



VCPG LED P4 LANE 40K



Performance Data

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	1.03
10°C	1.02
20°C	1.01
25°C	1
30°C	0.99
40°C	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.97	0.94	0.89

Electrical Load

Power Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	27W	0.22	0.13	0.12	0.10	0.08	0.06
P2	34W	0.28	0.16	0.14	0.13	0.10	0.08
P3	43W	0.37	0.21	0.18	0.16	0.13	0.09
P4	56W	0.48	0.28	0.24	0.21	0.16	0.12
P5	82W	0.68	0.40	0.35	0.30	0.24	0.18
P6	108W	0.91	0.52	0.45	0.39	0.32	0.23
P7	124W	1.03	0.59	0.51	0.44	0.37	0.27



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VCPGX LED
Rev. 08/31/21

Performance Data

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Lumen Output, V4 Option

Performance Package	Watts	Distribution Type	30K (3000K, 70 CRI)		35K (3500K, 70 CRI)		40K (4000K, 70 CRI)		50K (5000K, 70 CRI)	
			Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
P1	27W	TSE	3,546	133	3,634	137	3,778	142	3,838	144
		TSM	3,573	134	3,662	138	3,807	143	3,867	146
		TSW	3,509	132	3,596	135	3,738	141	3,798	143
		TSR	3,421	129	3,506	132	3,645	137	3,703	139
		LANE	3,380	127	3,464	130	3,601	136	3,658	138
P2	34W	TSE	4,532	133	4,644	137	4,828	142	4,905	144
		TSM	4,567	134	4,680	138	4,865	143	4,942	146
		TSW	4,484	132	4,595	135	4,777	141	4,853	143
		TSR	4,372	129	4,481	132	4,658	137	4,732	139
		LANE	4,320	127	4,427	130	4,602	136	4,676	138
P3	43W	TSE	5,750	133	5,893	136	6,126	141	6,223	143
		TSM	5,795	134	5,938	137	6,173	142	6,271	145
		TSW	5,690	131	5,832	134	6,062	140	6,158	142
		TSR	5,548	128	5,686	131	5,910	136	6,004	138
		LANE	5,482	126	5,618	130	5,840	135	5,933	137
P4	56W	TSE	7,318	130	7,500	133	7,796	138	7,920	141
		TSM	7,375	131	7,558	134	7,856	140	7,981	142
		TSW	7,242	129	7,421	132	7,714	137	7,837	139
		TSR	7,061	125	7,236	129	7,522	134	7,641	136
		LANE	6,977	124	7,150	127	7,432	132	7,550	134
P5	82W	TSE	10,088	123	10,339	126	10,747	131	10,918	133
		TSM	10,166	124	10,418	127	10,830	132	11,002	134
		TSW	9,982	122	10,230	125	10,634	129	10,803	132
		TSR	9,733	118	9,974	121	10,368	126	10,534	128
		LANE	9,617	117	9,856	120	10,245	125	10,408	127
P6	108W	TSE	12,751	118	13,067	121	13,583	126	13,799	128
		TSM	12,849	119	13,168	122	13,688	127	13,906	129
		TSW	12,617	117	12,930	120	13,441	125	13,655	127
		TSR	12,302	114	12,607	117	13,105	122	13,313	124
		LANE	12,155	113	12,457	116	12,948	120	13,155	122

Up-light Lumen Output

Up-light Option	Watts	Lumens
UPL1	6.5W	519
UPL2	8.5W	715

Lumen Multiplier for 80CRI

CCT	Multiplier
30K	0.926
35K	0.945
40K	0.967
50K	0.965

Lumen Output, V8 Option

Performance Package	Watts	Distribution Type	30K (3000K, 70 CRI)		35K (3500K, 70 CRI)		40K (4000K, 70 CRI)		50K (5000K, 70 CRI)	
			Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
P1	26W	TSE	3,639	140	3,729	143	3,876	149	3,938	151
		TSM	3,667	141	3,758	145	3,906	150	3,968	153
		TSW	3,600	138	3,690	142	3,835	148	3,897	150
P2	33W	TSE	4,650	140	4,765	143	4,954	149	5,033	151
		TSM	4,686	141	4,802	144	4,992	150	5,071	152
		TSW	4,601	138	4,715	142	4,901	147	4,980	150
P3	42W	TSE	5,900	139	6,047	143	6,286	148	6,386	151
		TSM	5,946	140	6,093	144	6,334	149	6,435	152
		TSW	5,839	138	5,984	141	6,220	147	6,319	149
P4	55W	TSE	7,509	136	7,696	139	7,999	145	8,127	147
		TSM	7,567	137	7,755	140	8,061	146	8,189	148
		TSW	7,431	135	7,615	138	7,916	143	8,042	146
P5	81W	TSE	10,351	129	10,608	132	11,027	137	11,203	139
		TSM	10,431	130	10,690	133	11,112	138	11,289	140
		TSW	10,242	127	10,497	130	10,911	136	11,085	138
P6	106W	TSE	13,083	124	13,408	127	13,937	132	14,159	134
		TSM	13,184	125	13,511	128	14,045	133	14,268	135
		TSW	12,946	123	13,267	126	13,791	131	14,011	133
P7	124W	TSE	15,350	124	15,730	127	16,351	132	16,612	134
		TSM	15,468	125	15,851	128	16,477	133	16,740	135
		TSW	15,189	122	15,566	126	16,180	130	16,438	133

Control/Sensor Options

Motion/Ambient Sensor (PIR, PIRH)

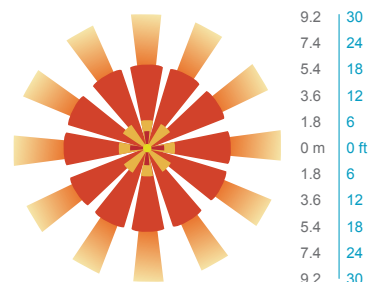
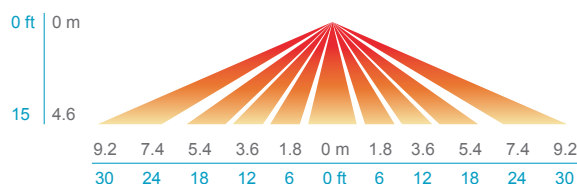
Motion/Ambient sensor (Sensor Switch MSOD, nLight AIR RMSOD) is integrated into the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

Networked Control (NLTAIR2)

nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

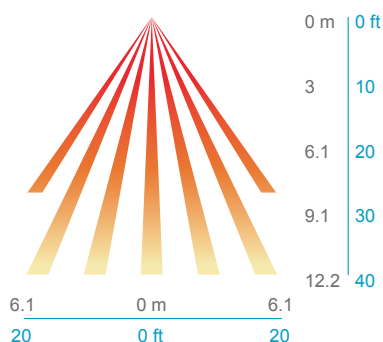
PIR

HIGH VIEW

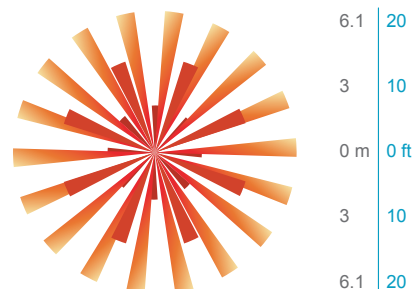


PIRH

SIDE VIEW



TOP VIEW



Motion/Ambient Sensor Default Settings

Option	Dim Level	High Level (when triggered)	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR3FC3V or PIRH3FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 3fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec

Sequence of Operations for UL924 Listed Controls/Sensors

(PIR3FC3V924, PIRH3FC3V924, XAD924, NLTAIR2 PIR924, NLTAIR2 PIRH924)

The UL924 listed control/sensor ("device") is designed to provide full light output for 90 minutes following power loss ("Egress Mode"), ignoring both manual and automatic dimming/occupancy/daylight control signals during this time. The sequence of operations is as follows:

- Normal condition: device can dim and turn off the luminaire as normal, in response to automatic and manual control.
- Utility power fails, and luminaire loses power.
- Backup power source activates, transfer switch moves the emergency circuit powering the luminaire onto the backup source, and luminaire regains power.
- The device detects this power interruption, if it is >30ms (for PIR3FC3V924, PIRH3FC3V924, XAD924) or >200ms (for NLTAIR2 PIR924, NLTAIR2 PIRH924).
- The device ignores all dimming commands and controls the driver to full light output for 90 minutes.
- The device resumes normal dimming controls after 90 minutes.

These UL924 listed controls/sensors are not intended for use with central emergency power systems with >30ms transfer time. The power interruption, when transferring from normal utility power to emergency backup power, is required for the controller to activate its Egress Mode and provide full light output.



COMMERCIAL OUTDOOR

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VCPGX LED
Rev. 08/31/21

Mounting, Options & Accessories



PM – Pendant Mount
(compatible with ¾ NPT,
pendant stem provided by
others)

D = 19"
H = 4.1"



SRM – Surface Mount

D = 19"
H = 4.1"



**SRM – Surface Mount
with Up-Light**

D = 19"
H = 5.3"



YK – Yoke/Trunnion Mount

D = 19"
H (Yoke) = 10"-18"



ARM – Arm Mount

L = 28"
W = 19"
H = 8"



**PIR & PIRH – Motion/
Ambient sensor**

L = 20.4"
W = 19"
H = 5.45" (no up-light)
or 6.45" (with up-light)



**NLTAIR2 PIR – nLight AIR
Motion/Ambient Sensor**

L = 20.4"
W = 19"
H = 5.45" (no up-light)
or 6.45" (with up-light)



**BDS – Bird shroud for
pendant mount**

D = 19"
H = 8.85"



**BDS – Bird shroud for
yoke mount**

D = 19"
H (Yoke) = 10"-18"

FEATURES & SPECIFICATIONS

INTENDED USE

The visually comfortable optics, energy savings, and long life of the VCPGX LED Parking Garage luminaire make it an ideal choice for new commercial installations and retrofit parking garage opportunities. It is designed to meet or exceed recommended illuminance criteria when installed as a direct replacement of most HID parking garage luminaires. Its modern dayform and aesthetics also make it appealing for indoor low-bay applications.

CONSTRUCTION

Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. The LED driver is separated from the heat generating light engines and mounted in direct contact with the casting to promote low operating temperatures, higher lumen maintenance and long life. The housing is completely sealed against moisture and environmental contaminants (IP66) and is suitable for hose-down application.

FINISH

Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

OPTICS

Light guide technology provides a diffused light source, reducing glare from direct view of the LEDs. The light source is recessed into the luminaire, further reducing the high angle glare from the luminaire. A combination of precision molded micro prismatic acrylic lenses and back reflectors provide five different photometric distributions tailored specifically to parking garage applications. Up-light option comes with a dedicated light engine and custom optic designed to efficiently spread light on to the ceiling, thus reducing the cave effect.

ELECTRICAL

Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L89/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%, and a minimum 6.0 KV surge rating. When ordering the SPD10KV option, a separate 10kV (5kA) surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2). Luminaire is 0-10V dimmable down to 10% or lower.

INSTALLATION

Standard configuration accepts a rigid or free-swinging ¾" NPT stem for pendant mounting. The surface mount option attaches to a 4x4" recessed or surface mount outlet box using a quick-mount kit (included); kit contains galvanized steel luminaire and outlet box plates and a full pad gasket. Kit has an integral mounting support that allows the luminaire to hinge down for easy electrical connections. Luminaire and plates are secured with set screws. Also, available with a yoke/trunnion mount option with ¾" NPT provision for flexible conduit entry (conduit by others); height can be adjusted from 10-18". Supply leads are 24" in length as standard. Longer supply leads are available as additional options. Design can withstand up to a 3.0 G vibration load rating per ANSI C136.31.

LISTINGS

CSA certified to U.S. and Canadian standards. IP66 rated for outdoor applications. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN

This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FARS, DFARS and DOT. Please refer to www.acuitybrands.com/resources/buy-american for additional information.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note:

Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



COMMERCIAL OUTDOOR

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VCPGX LED
Rev. 08/31/21

MARK ARCHITECTURAL LIGHTING™



Slot 4 LED Direct/Indirect Pendant

The Slot LED family of luminaires offers an unparalleled package of performance and features for your next lighting project. Precision lumen DIRECTIR optics deliver optimized light where needed for ceilings and walls. With other key features such as simplified installation, seamless controls integration and superior LED color constancy, the Slot LED family from Mark Lighting offers exceptional quality and design flexibility.

Type:

F3-(length)

Project:

TruBank, Indianola, IA

Catalog Number:

DO NOT TYPE HERE. Autopopulated field.

Specification Features

Housing

Nominal 3.5" x 5.25" extruded aluminum housing

Finish

White, Black or Silver powdercoat

Reflector

Formed steel with high reflectance white.

Distribution/Shielding

Extruded 90% transmissive acrylic lens with a textured surface providing diffuse illumination and a uniform appearance for direct lambertian distribution (No Optics). Wall Wash (WW) and Wall Graze (WG) distribution options incorporate co-extruded lenses. Shielding is available as an external blade louver for WW or WG options, or an internal blade louver in lieu of lambertian distribution diffuser. Clear Acrylic dustcover (DC) is available for the indirect distribution only.

LED Components

Linear: Nichia®- 757 series LED chips (>80 CRI)

Electrical

Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000).

Color Consistency

The Acuity Brands circuit boards for the linear LED components use a precise binning algorithm which creates a consistent color temperature from board to board. The color a variation of no greater than a 2.5 Step MacAdam (2.5SDCM) along the black body locus from board to board.

Driver

Factory tuned constant current electronic dimming driver is standard. Flicker free dimming available down to <1%. LED drivers perform within the recommended operating areas for flicker as a function of frequency and modulation (%) IEEE Standard 1789 2015 (IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers), in typical operating conditions at representative dimming levels. Electrical specifications at maximum driver load: PF > 0.9 and THD <20%. Meets FCC Title 47 Class A or Class B. Other available drivers include Lutron, DMX and DALI protocol drivers.

Certification

CSA tested to UL 1598 standards, assembled in the USA. Damp location listed.

Listings

DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Warranty

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

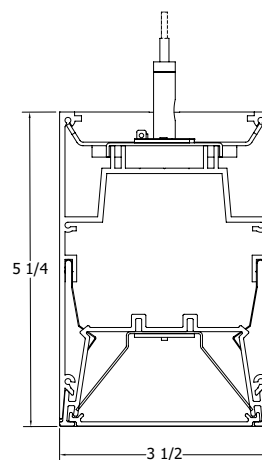
Fixture Performance

4FT INDIVIDUAL (35K)	DIRECT			
Lumens Output	400LMF	600LMF	800LMF	1000LMF
Delivered Lumens	1800	2707	3571	4103
Input Watts	15.4	23.5	32	37.3
Lumen/Watt	117	115	112	110

4FT INDIVIDUAL (35K)	INDIRECT			
Lumens Output	I600LMF	I800LMF	I1000LMF	I1200LMF
Delivered Lumens	2573	3309	4336	5067
Input Watts	16.6	21.7	29.3	35
Lumen/Watt	155	153	148	145

*Consult factory for customized lumen output and wattage between 350LMF and 1050LMF.

Technical Drawing



Direct/Indirect Pendant



Buy American



Buy American:

Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a **shaded background***
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a **shaded background***

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

Ordering

Example: S4LID 32FT MSL8 80CRI 30K 400LMF I80CRI I30K I600LMF NODIM SCT 277 WHT F1/36A RDCY WHTCY WCRD

S4LID	LOP	xFT		80CRI	35K	300LMF	
Series	Plan	Total Run Length	Max Section Length	Direct Light Source Color Rendering	Direct LED Color Temp	Direct LED Light Output	Direct Distribution (Optics)
S4LID Slot 4 Pendant - Indirect / Direct	LCB Linear center balanced LLP Linear longest possible	_FT Specify continuous run length (in whole feet, 2' minimum) Unit length may affect available options. 2' & 3' only available as individual units For runs longer than 8FT: ALWAYS order the run by the TOTAL RUN LENGTH. Ordering the sections individually will not provide the correct joining hardware to allow connection in the field.	MSL4 4' MSL5 5' MSL6 6' MSL7 7' MSL8 8'	80CRI 80 CRI 90CRI 90 CRI	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	400LMF 400 lumens per FT 600LMF 600 lumens per FT 800LMF 800 lumens per FT 1000LMF 1000 lumens per FT _LMF¹ # lumens per FT	(blank) Standard lambertian distribution WW² Wallwash distributions WG Wall graze distribution WW and WG not available with Downlights, EGLD, LVRR or LVRR A.
I80CRI	35K	I500LMF					
Indirect Light Source Color Rendering	Indirect LED Color Temp	Indirect LED Light Output	Indirect Distribution (Optics)	Downlight	Downlight Shape	Downlight Color Rendering	Downlight Color Temp
I80CRI 80CRI I90CRI 90CRI	I27K 2700K I30K 3000K I35K 3500K I40K 4000K I50K 5000K	I600LMF 600 lumens per FT I800LMF 800 lumens per FT I1000LMF 1000 lumens per FT I1200LMF 1200 lumens per FT _LMF³ # lumens per FT	(blank) No indirect distribution/ Standard lambertian BW Batwing distribution AS Asymmetric distribution	(blank) No Downlight modules in fixture 2DL LED Downlights (2 per unit) _DL LED Downlights per run (3DL, 4DL, etc) Must select all Downlight options. Specify number of downlights modules. Not available on 2' or 3' units. Not available with 347V. Maximum of 2DL in 4' & 5' units.	(blank) No Downlight modules in fixture RDD Round SQD Square Not available with emergency options. Not available with 4' unit with DCT. Not available with any sensors on the same unit.	(blank) No Downlight modules in fixture S80CRI 80CRI	(blank) No Downlight modules in fixture S27K 2700K S30K 3000K S35K 3500K S40K 4000K
MIN1	SCT			MVOLT	WHT		
Minimum Dimming Level	Switching	Optional Shielding	Indirect Shielding	Voltage	Finish	Emergency Options	
NODIM⁴ Non - dimming MIN1 Constant current, dimming to 1% DARK Constant current, dimming to 0.1%	SCT Single Circuit DCT⁵ Dual Circuit	(blank) No louver LVRD⁶ Dropped louver LVRR⁷ Regressed louver painted to match fixture finish LVRR A⁷ Regressed louver, aluminum finish EGLD⁸ Edge View direct lens Not available with Downlights. Not available with NLTAIR2.	(blank) No Indirect Shielding TGLD Top Glow Lens	MVOLT Multi-volt, 120 277 120 120V 277 277V 347⁸ 347V	WHT White (gloss) BLK Black (gloss) SLV Silver (gloss) WHTT White (textured) BLKT Black (textured) SLVT Silver (textured) RALTB RAL paint finishes	E10WLC⁹ 4' emergency section w/ battery pack, 1250 lumens _E10WLC⁹ 4' emergency section w/ battery pack, 1250 lumens _EC¹⁰ # of emergency circuits BGTD^{10,11} Generator transfer device Not available with 347V.	
ZT							F1
Control Input	Sensor	Secondary Sensor	Tertiary Sensor	Mounting Type			
(blank) Non-dimming, line voltage ZT 0 10V control NLIGHT¹² nLight enabled NLTAIR2¹³ nLight AIR (wireless) enabled DALI¹⁴ DALI compatible DMX^{14,15} DMX compatible ECOD^{15,16} Lutron Hi-Lume digital driver ECOD2^{15,16,17} Lutron Hi-Lume 2-wire (1% dimming) ECOD5^{15,16} Lutron 5-series digital driver (5% dimming)	(blank) Select if single zone/no zone without sensor NS Select if multi-zone fixture with no sensor in main zone PDT¹⁸ Occupancy sensor - dual technology (passive infrared & microphonics) ADC¹⁸ Photocell-daylight dimming sensor API¹⁹ PIR occupancy sensor & photocell APD¹⁹ PDT occupancy sensor & photocell Not available with Downlights. Not available with 347V & nLight. (Use ZT or NLTAIR2 Control Inputs where applicable.) Not available on 2' or 3' units.	(blank) No additional zones/sensors SNS Select if multi-zone fixture with no sensor in secondary zone SPDT¹⁸ Occupancy sensor - dual technology (passive infrared & microphonics) SADC¹⁸ Photocell-daylight dimming sensor SAPI¹⁹ PIR occupancy sensor & photocell SAPD¹⁹ PDT occupancy sensor & photocell Not available with Downlights. Not available with 347V & nLight. (Use ZT or NLTAIR2 Control Inputs where applicable.) Not available on 2' or 3' units.	(blank) No additional zones/sensors TNS Select if multi-zone fixture with no sensor in tertiary zone	F1/ T-bar ceiling (universal mounting bracket) F1A/ T-bar ceiling (UMB with integrated J-box) F2/ Hard ceiling (horizontal J-box)			
36A	RDCY	WHTCY	WCRD				
Overall Suspension	Canopy Form	Canopy Color	Cord Color	Options			
36A 36" adjustable 72A 72" adjustable 144A 144" adjustable *Measured from ceiling to bottom of luminaire.	RDCY Round Canopy SQCY Square Canopy	BLKCY Black canopy WHTCY White canopy SLVCY Silver Canopy	WCRD White cord CCRD Clear cord BCRD²⁰ Black cord	BAA Buy America(n) Compliant DC²¹ Clear dust cover DCF²¹ Frosted dust cover DPL Damp location listing	GLR¹⁵ Fast-blow fuse GMF¹⁵ Slow-blow fuse MCS 5" support canopy to match feed canopy PIF Power Feed Installed		

MARK

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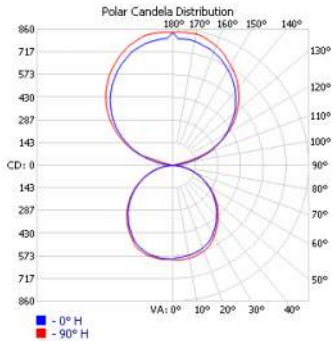
Slot 4 LED

Direct/Indirect Pendant

Notes:

3. Limited to 350LMF to 1050LMF in 50LMF increments. Not available with ECOD, ECOD2, ECOD5 or DMX control input. 50LMF increments not available for 2' units.
2. Not available with NLTAIR2.
3. Limited to 500LMF to 1300LMF in 50LMF increments. Not available with ECOD, ECOD2, ECOD5 or DMX control input. 50LMF increments not available for 2' units.
4. Not available with Control Input.
5. DCT not available with 2' or 3' units, sensors, NLTAIR2 or DMX. Not available on a 4' unit with E10WLCP.
6. Not available with Sensor Options.
7. Not available with sensors on 2', 3' & 5' units.
8. DCT not available with 2' & 3' units with 347, with ZT & sensors, with NLTAIR2, with emergency options, with NLIGHT in 5' units, with NLIGHT & downlights. Only available with WCRD.
9. Not available with 2' or 3' units, or 4' unit with DCT. Not available with DMX control option. One battery pack per unit. Only available on 8' unit with ECOD, ECOD2, ECOD5. Not available on 5' unit with NLTAIR. If with SCT, ZT & API, APD, or NLTAIR2 only available in 7' & 8' units. Not available with DCT & sensors. Not available with DCT & nLight in same unit.
10. Powers entire direct circuit, (powers direct & indirect on 2' unit). Not available with DCT & sensors. Not available with DCT & NLTAIR2. Not available with DMX. Not available on individual units with NLTAIR2.
11. Must select 120 or 277 volt. Remote mounted. Not available with sensor and BGTD in same unit. Not available with DCT & NLTAIR2. Not available with DMX.
12. Comes with white CAT5 cord in addition to the standard power cord. Will require remote mounted nIO on 2' unit. One NLIGHT device per zone or sensor, for multiple zones consult factory.
13. Must select MINI or DARK Dim Level. Not available with WW or DCT options on 2' or 3' units. If ordered with E10WLCP, only available in 7' & 8' units. One NLTAIR2 device per zone or sensor, for multiple zones consult factory.
14. Must select DARK Dim Level.
15. Not available with 347V.
16. Must select MINI1 Dim Level. Not available on 2', 3' or 5' units.
17. 120V only.
18. Requires ZT or NLIGHT Control Input.
19. Requires ZT, NLIGHT or NLTAIR2 Control Input.
20. Longer lead time item.
21. DC & DCF are not available with TGLD option.

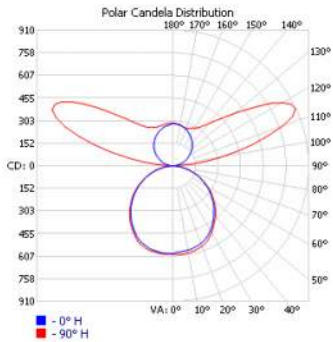
PHOTOMETRICS



Test Report: ISF 37287-37273P0
IES LM 79-08
S4LID 4FT 80CRI 30K 400LMF I600LMF
Lumens: **4205**
Wattage: **31.96W**
Efficacy: **131.5**

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	476.5	11.30%
0-40	778.9	18.50%
0-60	1369.7	32.60%
60-90	372.8	9%
70-100	174.7	4.20%
90-120	489.6	11.60%
0-90	1742.5	41.40%
90-180	2462.9	58.60%
0-180	4205.4	100%

Angle	Candlepower Distribution							
	Plane							
	0	22.5	45	67.5	90	112.5	135	157.5 180
0	596	596	596	596	596	596	596	596
5	585	594	602	599	602	601	601	600
10	579	589	595	596	597	598	599	597
15	569	581	584	587	590	589	592	588
20	556	563	572	574	578	577	578	575
25	536	543	553	553	555	553	555	545
30	505	513	519	518	523	524	523	522
35	470	477	484	484	483	484	488	479
40	431	440	447	445	447	445	447	438
45	391	397	403	404	404	403	409	405
50	348	356	358	359	359	358	361	363
55	304	312	312	312	315	311	318	316
60	256	265	264	263	263	263	264	268
65	209	215	214	213	214	214	215	218
70	163	166	166	167	168	166	165	166
75	117	119	117	118	118	117	117	116
80	69	70	71	72	72	72	71	70
85	30	32	32	33	33	32	30	29
90	0	0	0	0	0	0	0	0
95	28	4	5	5	6	6	4	4
100	89	86	7	7	6	7	20	93
105	163	160	151	145	103	143	157	170
110	246	240	239	231	227	228	241	247
115	317	321	322	315	312	313	324	327
120	383	396	400	395	394	395	401	402
125	449	467	468	466	469	465	467	469
130	509	530	533	529	530	528	532	538
135	560	587	591	589	594	592	594	596
140	615	639	645	643	644	643	648	651
145	660	686	687	685	691	692	697	697
150	697	729	730	728	731	732	742	738
155	734	771	772	770	772	769	773	773
160	760	801	804	797	804	803	801	802
165	779	823	826	822	827	820	828	825
170	797	840	842	840	844	838	846	844
175	803	845	849	845	844	846	851	851
180	841	841	841	841	841	841	841	841



Test Report: ISF 37287-37268
IES LM 79-08
S4LID 4FT 80CRI 30K 400LMF I600LMF BW
Lumens: **3630**
Wattage: **32.1W**
Efficacy: **113**

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	473.6	13.00%
0-40	774.2	21.30%
0-60	1361.3	38%
60-90	370.5	10.20%
70-100	264.1	7.30%
90-120	921	25.40%
0-90	1731.8	47.70%
90-180	1898.3	52.30%
0-180	3630.2	100%

Angle	Candlepower Distribution							
	Plane							
	0	22.5	45	67.5	90	112.5	135	157.5 180
0	592	592	592	592	592	592	592	592
5	581	590	598	595	598	597	597	596
10	575	585	591	592	593	594	595	593
15	566	577	580	583	586	585	588	584
20	553	560	568	570	574	573	574	571
25	533	540	550	550	552	550	552	542
30	502	510	516	515	520	521	520	519
35	467	474	481	481	480	481	485	476
40	428	437	444	442	444	442	444	435
45	389	395	401	402	402	401	406	403
50	346	354	356	357	357	356	359	361
55	302	310	310	310	313	309	316	314
60	254	263	262	261	261	261	262	266
65	208	214	213	212	213	213	214	217
70	162	165	165	166	167	165	164	165
75	116	118	116	117	117	116	116	115
80	69	70	71	72	72	72	71	70
85	30	32	32	33	33	32	30	29
90	0	0	0	0	0	0	0	0
95	16	79	131	139	130	125	113	68
100	37	120	319	338	317	320	291	109
105	59	146	417	569	555	548	390	134
110	82	161	455	741	783	718	421	148
115	102	171	441	787	906	763	410	159
120	122	182	394	707	847	684	368	174
125	144	193	347	582	696	568	328	186
130	165	202	309	478	555	467	295	196
135	185	208	281	394	443	386	271	203
140	203	217	267	337	368	329	265	214
145	218	229	259	302	318	296	259	226
150	232	240	255	286	292	278	253	238
155	248	254	257	270	277	264	254	249
160	261	268	264	264	267	262	260	261
165	271	279	274	269	269	266	269	272
170	279	287	284	277	277	274	278	281
175	281	290	287	284	283	283	286	286
180	288	288	288	288	288	288	288	288

EXPECTED LIFE: L85 @ 60,000
CALCULATED LIFE: L70 @ 120,000

Shielding



Co-Extruded WG



Co-Extruded WW



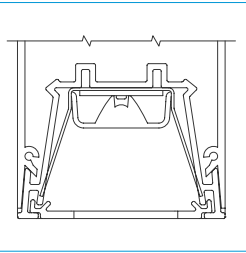
Edge View Lens



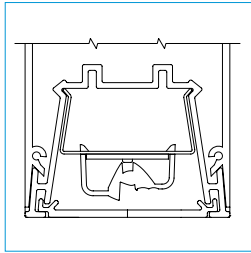
External Louver



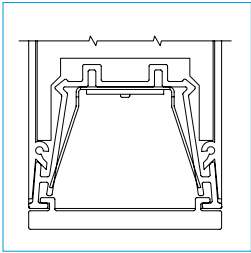
Regressed Louver



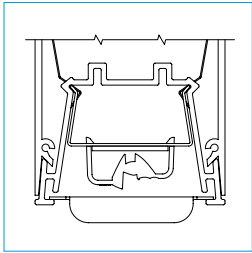
Co-Extruded WG
(Standard)



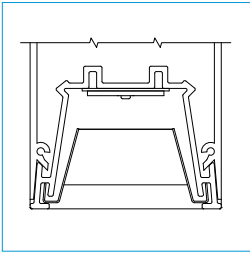
Co-Extruded WW
(Standard)



Edge View Lens
(Optional)



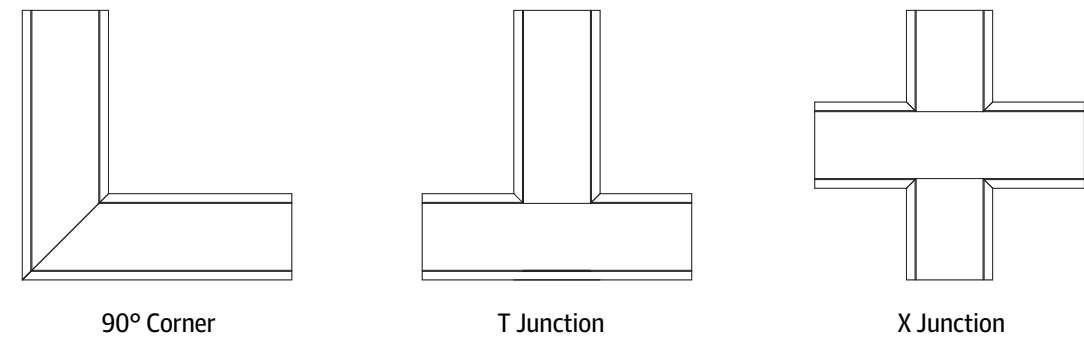
External Louver WW
(Painted to Match Housing)



Regressed Louver
(Natural Aluminum or
Painted to Match Housing)

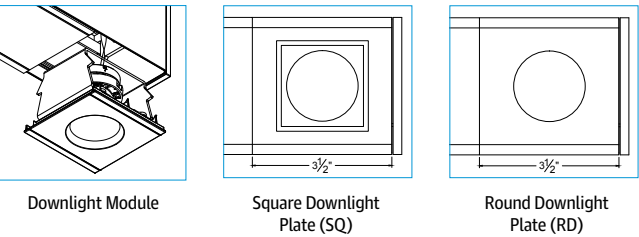
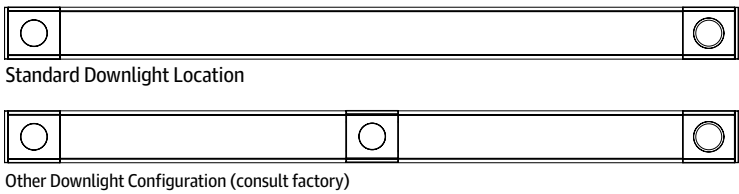
Run Patterns, Corners and Junction

Slot 4 LED patterns can be configured in 1' increments with illuminated 90° inside and outside corners, T junctions, and X junctions with standard 2' corner and junction lengths. For custom angles, corner or junction lengths, consult factory. See separate patterns spec sheet for details.



Downlights

Optional downlights powered by Xicato Spot Modules are available with 4', 5', 6', and 8' length luminaires, maximum (2) Xicato downlights per length. Each downlight module is 10W with 700 lumens delivered, 28 degree beam spread. Downlights are supplied with a dedicated feed-point and will be controlled separately.



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Slot 4 LED

Direct/Indirect Pendant

LINEAR PLAN:

Mark Lighting offers the ability to provide a continuous run plan to suit your requirements by optionally offering three different methods of configuration.

LLP- Linear Longest Possible

In this configuration, the longest length available is optimized, resulting in the fewest segments and mounting locations. Caution, should be used where balanced appearance is a concern. Example: 20 FT run would have 2, 8 FT segment and 1, 4 FT segment at the end of the run.

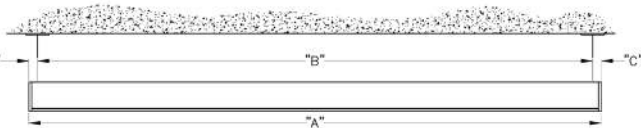
LLP	8 FT	8 FT	4FT
-----	------	------	-----

LCB- Linear Center Balanced:

This configuration incorporates the longest center segment(s) along with any additional lengths required to fill the run length, added to the run ends. Example: 16 FT run would have 2, 4 FT segments (one at each end) and 1, 8 FT segment in the center.

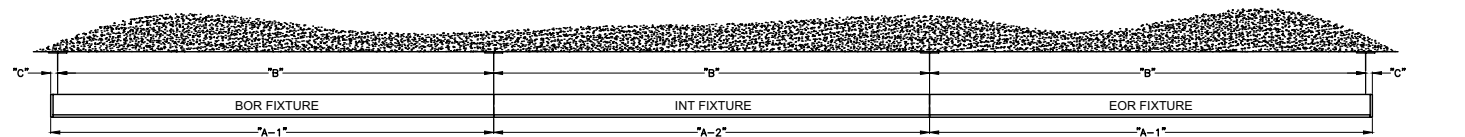
LCB	4 FT	8 FT	4FT
-----	------	------	-----

Individual Fixture Configurations



INDIVIDUAL UNITS (MOUNTING)			
LENGTH	"A" O.A.L.	"B" O.C.	"C" FROM END
2FT	2'- 5/8"	2'-0"	5/16"
3FT	3'- 5/8"	3'-0"	5/16"
4FT	4'- 5/8"	4'-0"	5/16"
5FT	5'- 5/8"	5'-0"	5/16"
6FT	6'- 5/8"	6'-0"	5/16"
7FT	7'- 5/8"	7'-0"	5/16"
8FT	8'- 5/8"	8'-0"	5/16"

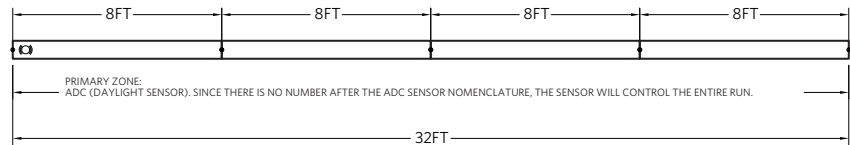
Run Configurations



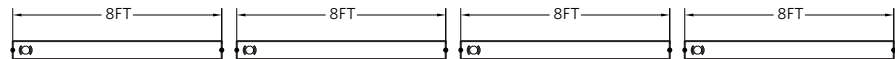
RUN LAYOUT (MOUNTING)				
LENGTH	"A-1" O.A.L.	"A-2" O.A.L.	"B" O.C.	"C" FROM END
4FT	4'-0 5/16"	4'-0"	4'-0"	5/16"
5FT	5'-0 5/16"	5'-0"	5'-0"	5/16"
6FT	6'-0 5/16"	6'-0"	6'-0"	5/16"
7FT	7'-0 5/16"	7'-0"	7'-0"	5/16"
8FT	8'-0 5/16"	8'-0"	8'-0"	5/16"

TOTAL RUN LENGTH

This system is not modular. Runs longer than 8FT will be automatically configured with Starter, Middle and Ender sections, based on how you specify the TOTAL RUN LENGTH and MAXIMUM SECTION LENGTH parameters in the ordering information. Always order the total run length, not the individual sections



Example: This run must be ordered as 1pc "S4LID LLP 32FT MSL8..."



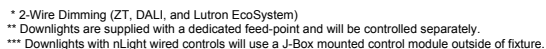
Example: If you order as 4pcs "S4LID LLP 8FT MSL8..." you will receive these INDIVIDUAL sections that cannot be joined together

MAXIMUM SECTION LENGTH

The run will be broken out using as many sections at the chosen MSL length as possible. Shorter sections will then complete the desired run length.

Examples:
S4LID LLP 21FT MSL5... = 5FT / 4FT / 4FT / 4FT / 4FT
S4LID LLP 21FT MSL6... = 6FT / 6FT / 5FT / 4FT
S4LID LLP 21FT MSL7... = 7FT / 7FT / 7FT
S4LID LLP 21FT MSL8... = 8FT / 8FT / 5FT

- ☐ Non-Power Feed Point / Aircraft Cable
- ☐ Power Feed
- ☐ Battery Power Feed
- ☐ CAT5
- ☐ Downlight Power Feed



5" Square

5" Round

5" Square

5" Round

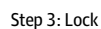
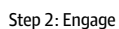
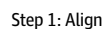
2" Square

2" Round

Refer to page 7 for mounting details.

Slot 4 LED continuous rows can be configured in 1' increments and featuring the AEL precision joiner to create a hairline seam between luminaires, providing a monolithic visual aesthetic. For custom run lengths less than a 1' increment, consult factory.

AEL Precision Row-Mount 3-step fixture-to-fixture connection method



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Slot 4 LED

Direct/Indirect Pendant

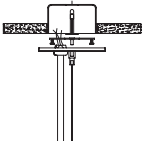
MOST COMMON MOUNTING TYPES AND OPTIONS

Options available for this specific luminaire are checked in the boxes below.

Mounting Type	Mounting Options
F1/ For use with most T-Bar grid ceilings. Designed for on-grid and off-grid applications.	MCS Matching canopy at support for aesthetics.
F2/ For use with recessed or surface mount horizontal J-box applications.	
F1A/ For use with most T-Bar and screw slot grid ceilings. Designed for on-grid applications. <i>Comes complete with J-box with built-in.</i>	

☑ Indicates mounting options available with this luminaire.

☑ F1/

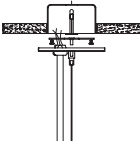


Power Feed

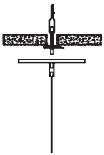


Support

☑ F1/ ordered with MCS

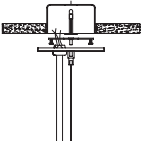


Power Feed

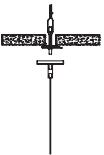


Support

☑ F1A/

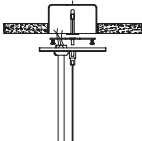


Power Feed



Support

☑ F1A/ ordered with MCS

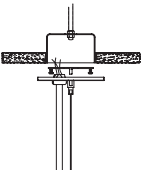


Power Feed

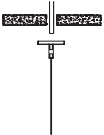


Support

☑ F2/

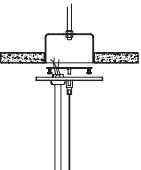


Power Feed

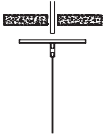


Support

☑ F2/ ordered with MCS



Power Feed



Support

MARK

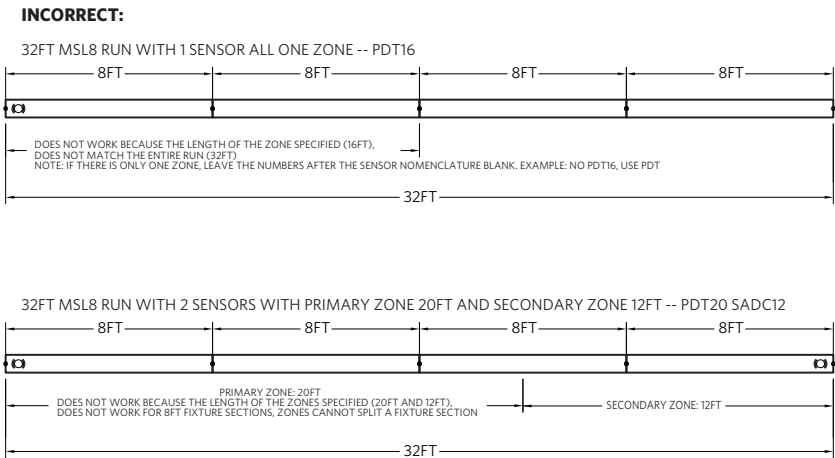
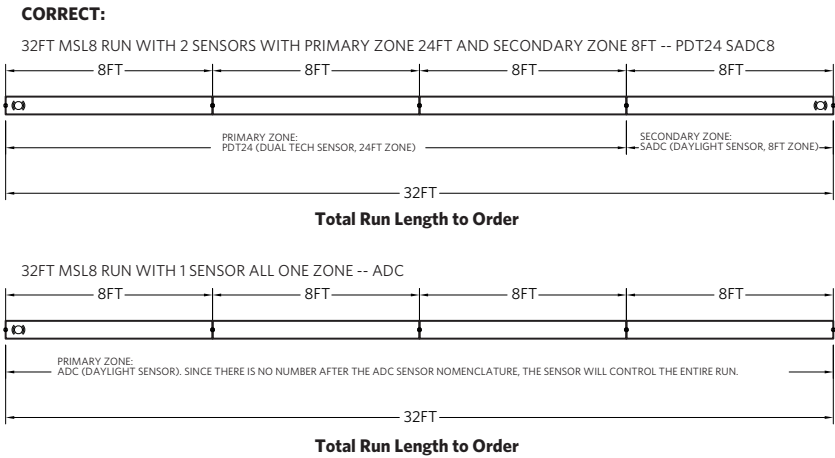
ARCHITECTURAL
LIGHTING™

Slot 4 LED

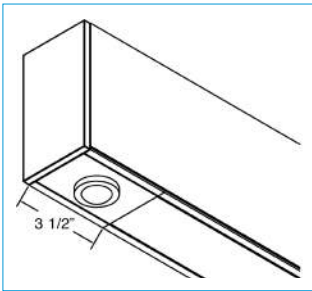
Direct/Indirect Pendant

INTEGRATED SENSOR LAYOUT

For runs longer than 8FT:
ALWAYS order the run by the TOTAL RUN LENGTH. Ordering the sections individually
will not provide the correct joining hardware to allow connection in the field.



Integrated Controls
Optional nLight® integrated controls make Slot LED luminaires addressable- allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Simply connect all the nLight enabled control devices using standard CAT5 Cabling.



Occupancy Sensor and/or Photocell

- Notes:**
- Only one sensor per zone
 - At the most, the entire run can only have 2 sensors (thus 2 sensors zones at the most)
 - Sensor zone can not split fixture sections
 - No overlapping zones

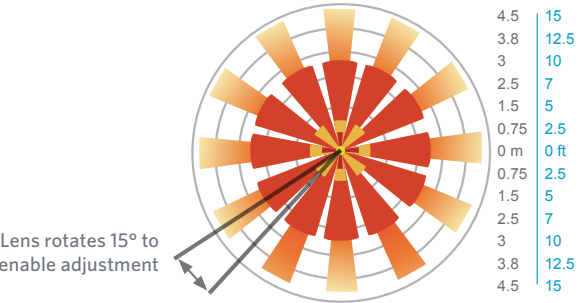
OCCUPANCY DETECTION COVERAGE

At the 7.5 ft (2.9 m) hanging height of a typical pendant mount fixture the sensor provides 10 ft (3.05 m) radial detection of small motion. At a 9 ft (2.74 m) hanging height the radius is 12 ft (3.66 m) for small motion.

Adequate for walking motion detection from mounting heights between 7.5 ft (2.29 m) and 20 ft (6.10 m).

Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor.

Initial detection of walking motion into long coverage segment will occur at distances of 2x the mounting height up to 15 ft (4.57 m) and 1.75x up to 20 ft (6.10 m). Lens assembly rotates 15° to enable adjustment in order to line up long segments.



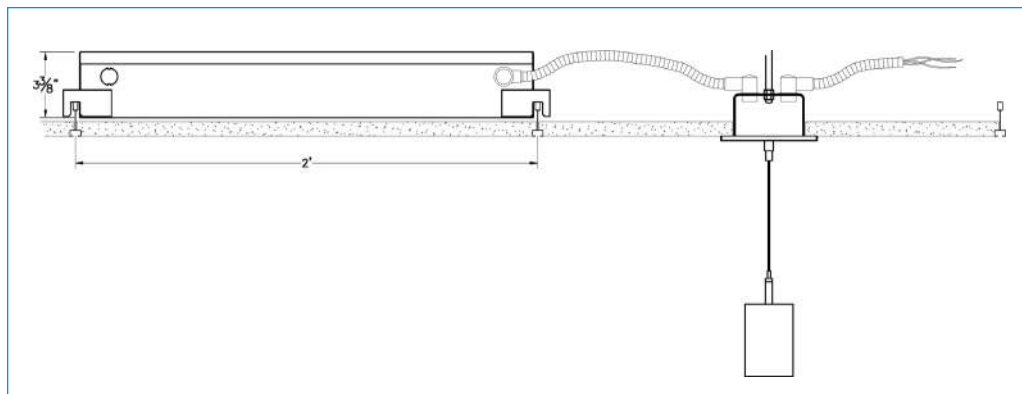
Driver Configurations	Choose nomenclature from these columns						
	Minimum Dimming Level		Control Input		Driver	Dimming Range	Notes
	NODIM	+	(blank)	=	0 10V Generic Driver	-	Includes no 0 10V leads from the driver.
	MIN10	+	ZT	=	0 10V Generic Driver	100 to 10%	Linear dimming
	MIN1	+	ZT	=	0 10V eldoLED ECOdrive	100 to 1%	Formerly (EZ1) nomenclature. Linear dimming
	MIN1	+	NLIGHT	=	0 10V eldoLED ECOdrive	100 to 1%	Logarithmic dimming
	MIN1	+	ECOD2	=	Lutron forward phase control	100 to 1%	LUTRON Hi-lume 1% 2-wire (model LTEA4U1U)
	MIN1	+	ECOD5	=	Lutron Ecosystem	100 to 5%	LUTRON 5 Seires EcoSystem LED Driver (model LDE5)
	MIN1		ECOD		Lutron Ecosystem	100 to 1%	LUTRON Hi-lume 1% EcoSystem LED Driver with Soft-on, Fade-to-Black (model LDE1)
	DARK		ZT		0 10V eldoLED SOLOdrive	100 to 0.1%	Formerly (EZB) nomenclature. Linear dimming
	DARK		NLIGHT		0 10V eldoLED SOLOdrive	100 to 0.1%	Logarithmic dimming
	DARK		DALI		DALI compatible eldoLED SOLOdrive	100 to 0.1%	"Compatible with DALI. Formerly (EDB & EDAB) nomenclature." Logarithmic dimming
DARK		DMX		DMX compatible eldoLED POWERdrive	100 to 0.1%	"Compatible with DMX / Remote Device Management. Formerly (EXB & EDXB) nomenclature." Linear dimming	

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Remote BGTD Mounting Option

Recessed in sheetrock ceiling; rod mounted to structure. Consult factory for other ceiling types or canopy options.

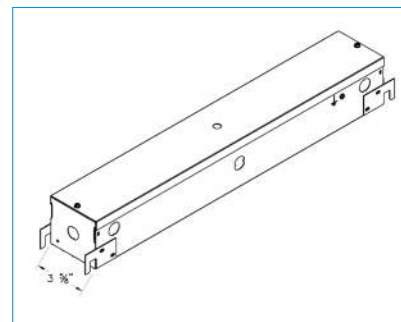
6 foot flexible conduit included, BGTD option should be mounted within 6 feet of junction box above fixture.



Accessible Ceiling

Emergency Battery Packs

The PS1055LCP battery is integral to the fixture and comes standard with a remote test switch and self-diagnostics.





Catalog Number	LBR6 ALO1 SWW1 AR LSS WD MVOLT UGZ/ LBR6PFWQDS
Notes	Set at 1000L and 3500K
Type	R1

Contractor Select™

Lithonia LBR

Retrofit Downlight



LBR retrofit downlight offers a seamless install-from-below design, abundant energy savings, glare-free aesthetics, and mounting frame options for any renovation or new construction project.

FEATURES:

- 55° cutoff
- 90-100 Lumens/Watt typical
- 1.0 Spacing/Mounting Height ratio
- Open wallwash kicker also available
- MVOLT (120-277V 0-10V & 120V phase dimming combo driver) dims to 10%
- Available in 1000lm, 1500lm, or 2000lm



Catalog Number	UPC	Description	Replaces Up To	Lumens	Input Watts	CCT	CRI	Voltage	Pallet Quantity	Finish	Flange Range
LBR4 ALO2 SWW1 AR LSS MWD MVOLT UGZ QDS	194994822912	4" Retrofit, switchable CCT/Lumens, 10% dimming 0-10V/phase dimming, quick disconnects	1/42TRT or 2/26TRT	1000- 1500- 2000	13-19- 25W	3000- 3500- 4000- 5000K	80	MVOLT (120-277V)	180	Clear, Semi- specular	5-7/16"
LBR6 ALO2 SWW1 AR LSS MWD MVOLT UGZ QDS	194994825081	6" Retrofit, switchable CCT/Lumens, 10% dimming 0-10V/phase dimming, quick disconnects	1/42TRT or 2/26TRT	1000- 1500- 2000	13-19- 25W	3000- 3500- 4000- 5000K	80	MVOLT (120-277V)	180	Clear, Semi- specular	7-5/8"
LBR8 ALO2 SWW1 AR LSS MWD MVOLT UGZ QDS	194994827757	8" Retrofit, switchable CCT/Lumens, 10% dimming 0-10V/phase dimming, quick disconnects	1/42TRT or 2/26TRT	1000- 1500- 2000	13-19- 25W	3000- 3500- 4000- 5000K	80	MVOLT (120-277V)	120	Clear, Semi- specular	9-3/16"

Accessories: Order as separate catalog number.

Catalog Number	UPC	Description
LBR4PEWQDS	194994809937	4" new construction frame
LBR6PFWQDS	194994809951	6" new construction frame
LBR8PFWQDS	194994810001	8" new construction frame
LBRGR56WR J10	194994622758	5-6" goof ring job pack of 10 for use with LBR4
LBRGR78WR J10	194994622819	7-8" goof ring job pack of 10 for use with LBR6
LBRGR910WR J10	194994622871	9-10" goof ring job pack of 10 for use with LBR8
LBRGR56WR U	194994622741	5-6" goof ring unit pack for use with LBR4
LBRGR78WR U	194994622802	7-8" goof ring unit pack for use with LBR6
LBRGR910WR U	194994622864	9-10" goof ring unit pack for use with LBR8



Specifications

INTENDED USE:

Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION:

Retrofit, remodel, and new construction mounting types. See table for compatible ceiling openings and thickness range.

Optional goof rings available for additional overlap trim coverage.

1/2"-1-1/2" ceiling thickness

25° ambient temperature

OPTICS:

55° cutoff

New construction frame accessories approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.

1.0 S/MH standard

80CRI standard

ELECTRICAL:

Adjustable lumen output for 1000-1500-2000lms

MVOLT 120/277V 50/60Hz driver (0-10V & 120V Phase Dimming to 10% min dimming level)

100LPW typical

L80 at 60,000 hours

3 SDCM

LISTINGS:

Certified to US and Canadian safety standards. Damp location standard. Some configurations are ENERGY STAR® certified, please visit www.energystar.gov for specific products. TAA compliant.

WARRANTY:

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

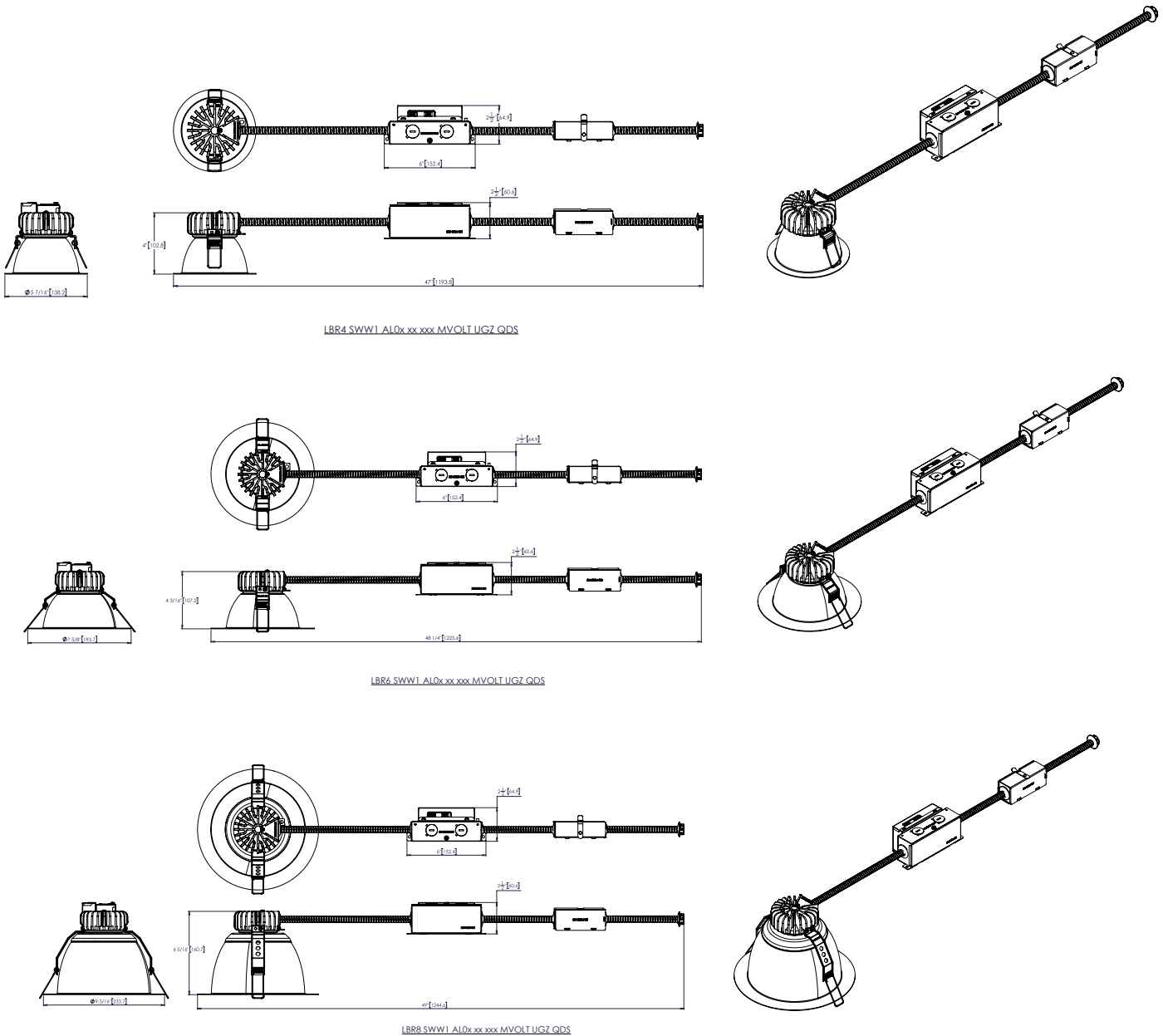
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

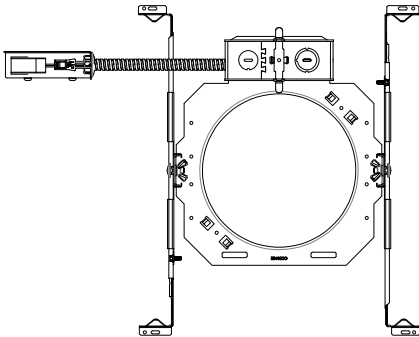
Dimensions



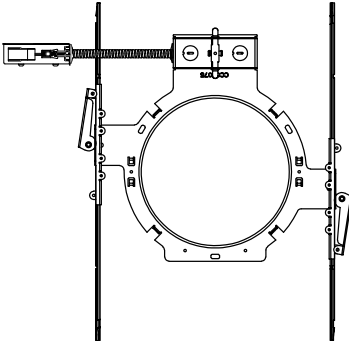
All dimensions are inches (centimeters) unless otherwise indicated.



Dimensions



4" & 6" New Construction Frame, QDS



8" New Construction Frame, QDS

Aperture Size	Ceiling Cutout
4 In	5-1/8"
6 In	7-1/8"
8 In	8-3/4"



Catalog Number	LBR6 ALO1 SWW1 AR LSS WD MVOLT UGZ/ LBR6PFWQDS
Notes	Set at 1500L and 3500K
Type	R2

Contractor Select™

Lithonia LBR

Retrofit Downlight



LBR retrofit downlight offers a seamless install-from-below design, abundant energy savings, glare-free aesthetics, and mounting frame options for any renovation or new construction project.

FEATURES:

- 55° cutoff
- 90-100 Lumens/Watt typical
- 1.0 Spacing/Mounting Height ratio
- Open wallwash kicker also available
- MVOLT (120-277V 0-10V & 120V phase dimming combo driver) dims to 10%
- Available in 1000lm, 1500lm, or 2000lm



Catalog Number	UPC	Description	Replaces Up To	Lumens	Input Watts	CCT	CRI	Voltage	Pallet Quantity	Finish	Flange Range
LBR4 ALO2 SWW1 AR LSS MWD MVOLT UGZ QDS	194994822912	4" Retrofit, switchable CCT/Lumens, 10% dimming 0-10V/phase dimming, quick disconnects	1/42TRT or 2/26TRT	1000-1500-2000	13-19-25W	3000-3500-4000-5000K	80	MVOLT (120-277V)	180	Clear, Semi-specular	5-7/16"
LBR6 ALO2 SWW1 AR LSS MWD MVOLT UGZ QDS	194994825081	6" Retrofit, switchable CCT/Lumens, 10% dimming 0-10V/phase dimming, quick disconnects	1/42TRT or 2/26TRT	1000-1500-2000	13-19-25W	3000-3500-4000-5000K	80	MVOLT (120-277V)	180	Clear, Semi-specular	7-5/8"
LBR8 ALO2 SWW1 AR LSS MWD MVOLT UGZ QDS	194994827757	8" Retrofit, switchable CCT/Lumens, 10% dimming 0-10V/phase dimming, quick disconnects	1/42TRT or 2/26TRT	1000-1500-2000	13-19-25W	3000-3500-4000-5000K	80	MVOLT (120-277V)	120	Clear, Semi-specular	9-3/16"

Accessories: Order as separate catalog number.

Catalog Number	UPC	Description
LBR4PEWQDS	194994809937	4" new construction frame
LBR6PFWQDS	194994809951	6" new construction frame
LBR8PFWQDS	194994810001	8" new construction frame
LBRGR56WR J10	194994622758	5-6" goof ring job pack of 10 for use with LBR4
LBRGR78WR J10	194994622819	7-8" goof ring job pack of 10 for use with LBR6
LBRGR910WR J10	194994622871	9-10" goof ring job pack of 10 for use with LBR8
LBRGR56WR U	194994622741	5-6" goof ring unit pack for use with LBR4
LBRGR78WR U	194994622802	7-8" goof ring unit pack for use with LBR6
LBRGR910WR U	194994622864	9-10" goof ring unit pack for use with LBR8



Specifications

INTENDED USE:

Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION:

Retrofit, remodel, and new construction mounting types. See table for compatible ceiling openings and thickness range.

Optional goof rings available for additional overlap trim coverage.

1/2"-1-1/2" ceiling thickness

25° ambient temperature

OPTICS:

55° cutoff

New construction frame accessories approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.

1.0 S/MH standard

80CRI standard

ELECTRICAL:

Adjustable lumen output for 1000-1500-2000lms

MVOLT 120/277V 50/60Hz driver (0-10V & 120V Phase Dimming to 10% min dimming level)

100LPW typical

L80 at 60,000 hours

3 SDCM

LISTINGS:

Certified to US and Canadian safety standards. Damp location standard. Some configurations are ENERGY STAR® certified, please visit www.energystar.gov for specific products. TAA compliant.

WARRANTY:

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

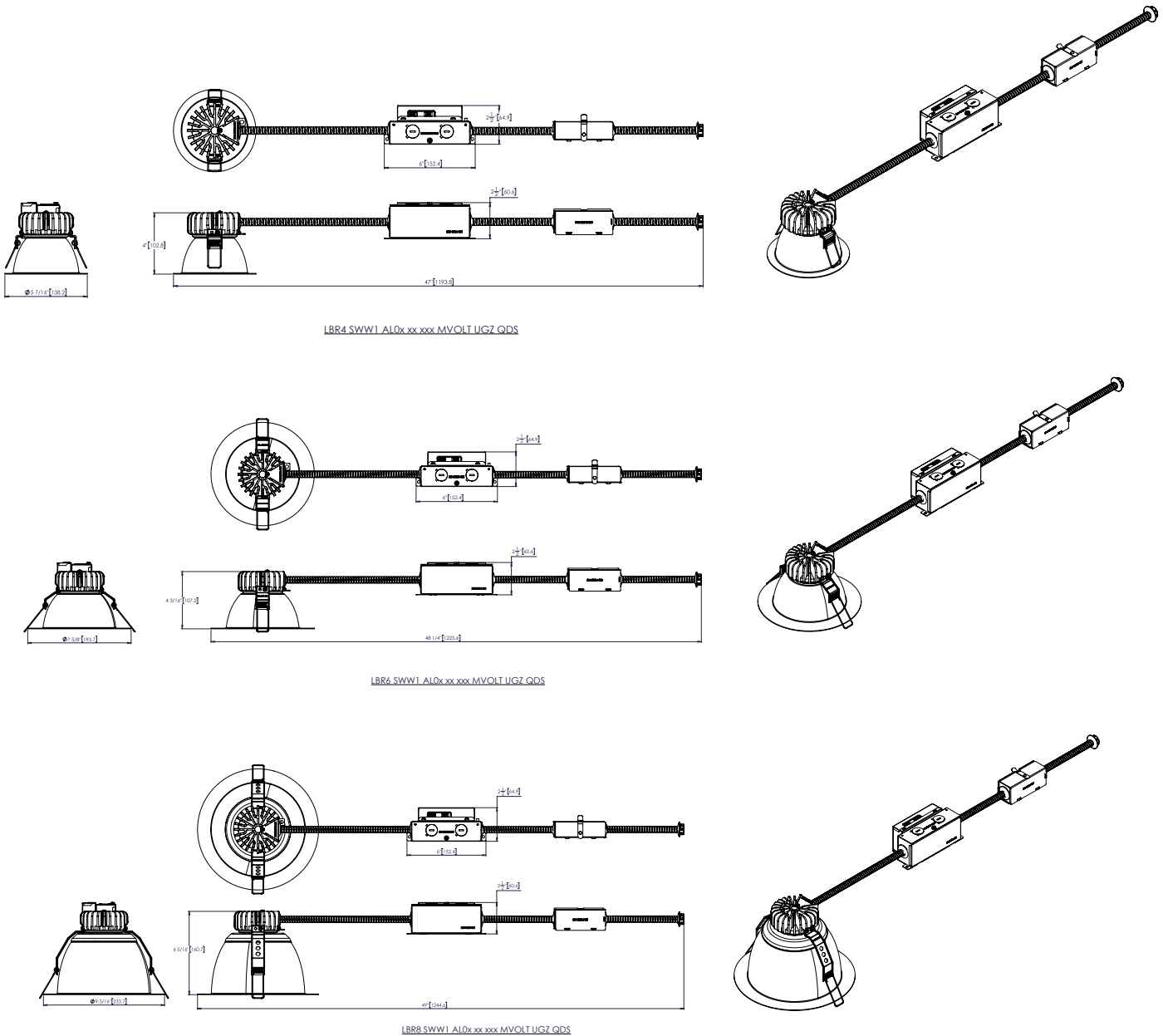
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

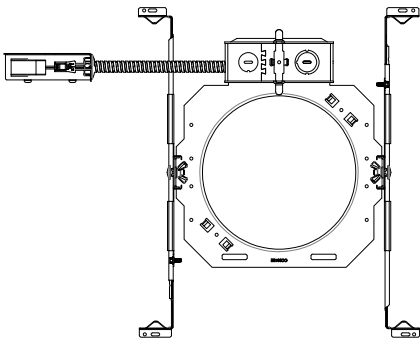
Dimensions



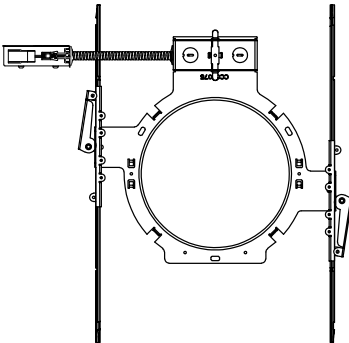
All dimensions are inches (centimeters) unless otherwise indicated.



Dimensions



4" & 6" New Construction Frame, QDS



8" New Construction Frame, QDS

Aperture Size	Ceiling Cutout
4 In	5-1/8"
6 In	7-1/8"
8 In	8-3/4"

CU2HL

HIGH LUMEN LED EMERGENCY LIGHT

FEATURES

- 2.7W units provide 55' spacing;
5.4W units have 95' spacing
- Battery recharge within 24 hours
- Damp Location Listed 10°C to 40°C (50°F to 104°F)
- Dual-voltage 120 through 277V AC, 50/60 Hz. input
- Includes long-life Lithium Iron Phosphate battery at 9.6Vdc for UL recognized 90 minute emergency lighting
- Provided with test switch and AC-On indicator
- Self-Test/Self-Diagnostic models available



SPECIFICATIONS

DESCRIPTION

- The CU2HL Series is a high lumen output emergency light which includes a long-life Lithium Iron Phosphate battery, and adjustable high-power LED lamp heads
- The emergency light is designed to provide UL924 compliant emergency lighting for the full 90 minutes
- Emergency illumination is provided by 3 high-power LEDs per lamp-head. The CU2HL has a total lumen output of 550 lumens, and the CU2HLHO has a total lumen output of 1300 lumens

CONSTRUCTION

- The CU2HL is constructed of UL5VA flame-rated and UV-stable corrosion resistant thermoplastic
- Lamp head construction is in polycarbonate
- Housing is available in white or black textured finish

APPLICATION

- The CU2HL Series is designed for high ceiling height applications, long hallways, large open areas like warehouses, factories, retail stores, schools and other commercial applications
- Designed for wall or ceiling mount to electrical outlet boxes

tradeSELECT®



COMPLIANCES

- CEC T20 Compliant
- UL924 Listed for Damp Location
- NFPA 101 and NFPA 70
- OSHA

WARRANTY

- 2 year full unit warranty
- See [HLI Standard Warranty](#) for additional information

ORDERING GUIDE

Catalog Number	Description
CU2HL	White housing, 2.7W LED lamps, 550 lumens
CU2HLSD	White housing, 2.7W LED lamps, 550 lumens, Self Diagnostics
CU2HLHO	White housing, 5.4W LED lamps, 1300 lumens
CU2HLHOSD	White housing, 5.4W LED lamps, 1300 lumens, Self Diagnostics
CU2HLB	Black housing, 2.7W LED lamps, 550 lumens
CU2HLSDB	Black housing, 2.7W LED lamps, 550 lumens, Self Diagnostics
CU2HLHOB	Black housing, 5.4W LED lamps, 1300 lumens
CU2HLHOSDB	Black housing, 5.4W LED lamps, 1300 lumens, Self Diagnostics

Accessories

(Order Separately)

WGLZ wireguard 6.25"H x 14"W x 4" D

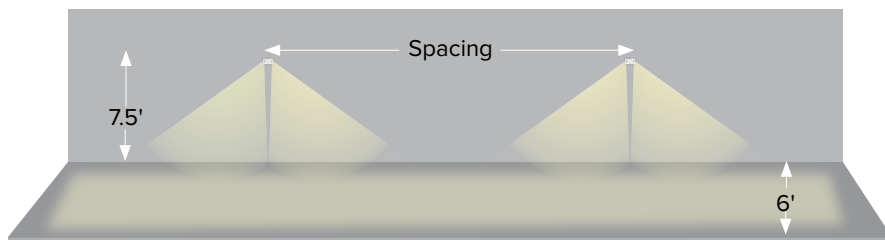
Single Carton Weight	2.6 lbs.
Master Carton Quantity	6 each

CU2HL

HIGH LUMEN LED EMERGENCY LIGHT

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

APPLICATION INFORMATION



Multiple Unit Spacing
(7.5' Mounting Height)

	Spacing	Path Width
CU2HL (2.7 Watt lamps)	55'	6'
CU2HL (5.4 Watt lamps)	95'	6'

Meets Life Safety Code minimum illuminance of 0.1 fc and average illumination of 1.0 fc. Photometry files available at www.compasslightingproducts.com

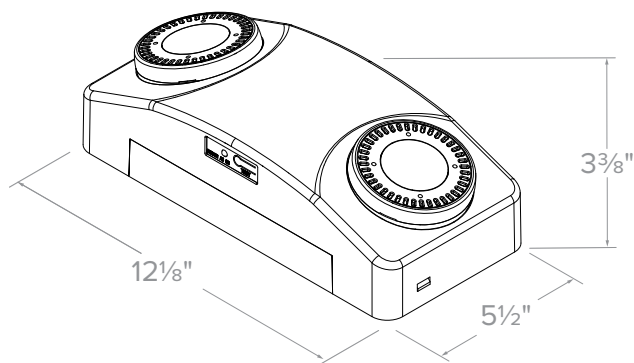
SELF-TEST / SELF-DIAGNOSTIC FUNCTIONALITY

- Unit performs a Self-Test for 3 minutes once per month, and a 90 minute annual test
- Unit Monitors Battery Voltage, Charger function, Transfer Circuit and Lamp, and will provide a blinking fault code for each of these conditions

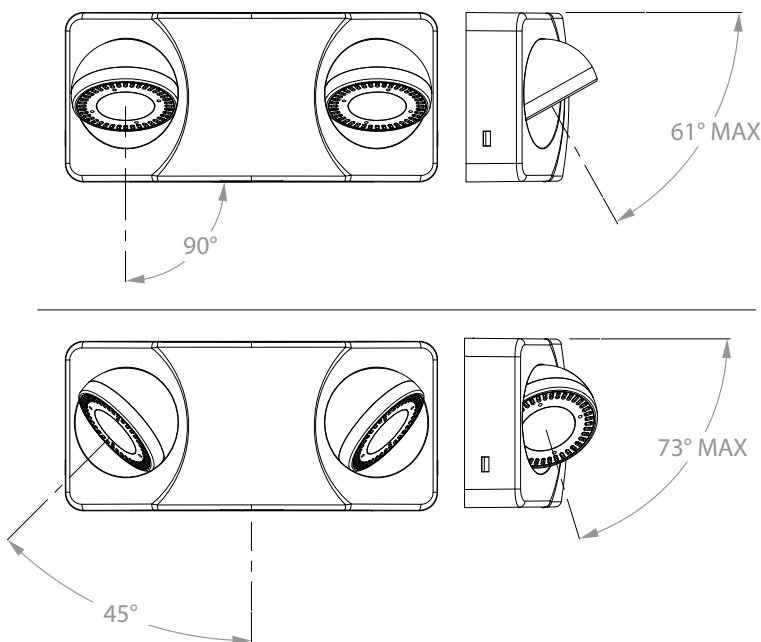
INPUT POWER CONSUMPTION

	120VAC, 60Hz		277VAC, 60Hz	
	Watts	Amps	Watts	Amps
93130907 CU2HL	0.9W	18mA	1.0W	12mA
93130908 CU2HLSD	1.69W	30mA	1.97W	18mA
93130909 CU2HLHO	2.58W	44mA	2.6W	25mA
93130910 CU2HLHOSD	2.8W	43mA	3.1W	27mA
93130911 CU2HLB	0.9W	18mA	1.0W	12mA
93130912 CU2HLSDB	1.69W	30mA	1.97W	18mA
93130913 CU2HLHOB	2.58W	44mA	2.6W	25mA
93130914 CU2HLHOSDB	2.8W	43mA	3.1W	27mA

DIMENSIONS



LAMP ADJUSTABILITY



CEL

EDGE-LIT LED EMERGENCY EXIT

tradeSELECT®

FEATURES

- AC only or Emergency Models
- Superior panel illumination with Red or Green letters
- LED life-cycle of more than 10 years
- Damp Location Listed 20°C to 30°C (68°F to 86°F)
- Dual-voltage 120 or 277V AC input
- Low Input Power Consumption at 3.72 Watts
- Includes long-life Nickel Cadmium battery for UL recognized 90 minute emergency lighting
- Field installed directional arrow indicators with template
- Mirror divider on single and double-face models
- Provided with test switch and AC-On indicator
- Canopy included for surface mount model



SPECIFICATIONS

APPLICATION

- The CEL Series is applied in stairwells, hallways, offices and other commercial applications
- The housing finish and trim-plate is brushed aluminum
- Recessed mount model comes with a full recessed box complete with integrated caddy-bar assembly
- Surface mount model has a clam-shell design for easy installation and access to internal circuitry

CONSTRUCTION

- The acrylic panels are ultrasonically welded and taped at the edges to maximize illumination and visibility

INSTALLATION

- The CEL is ideal for architectural applications and offers surface and recessed mounting options
- The Exit panel can be ratcheted to various angles for mounting to angled surfaces
- Canopy and mounting hardware included

RELATED PRODUCTS

- [CU2 - LED Emergency Light](#)
- [CU2SQ - LED Emergency Light](#)

ELECTRICAL

- LED based emergency exit
- Emergency models include NiCad battery, status LED and Push-to-test switch

CERTIFICATIONS

- Listed to UL924 Standard
- UL924 Listed for Damp Location
- NFPA 101 and NFPA 70
- OSHA

WARRANTY

- 2 year full unit warranty
- See [HLI Standard Warranty](#) for additional information

ORDERING GUIDE

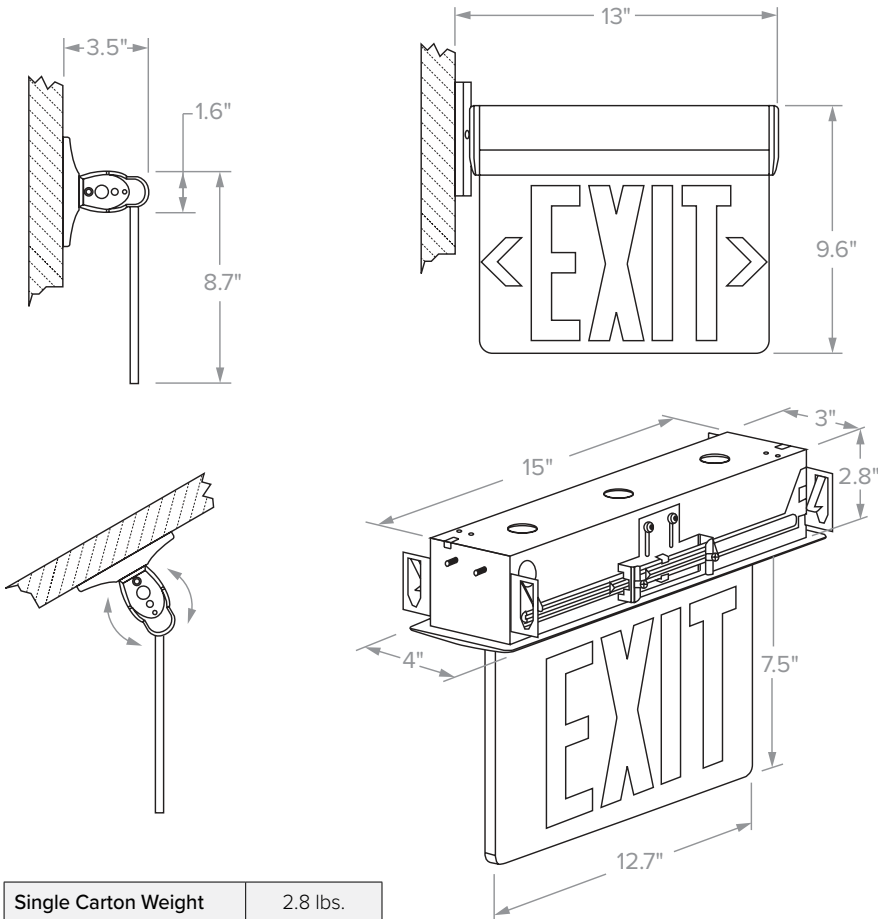
Catalog Number	Description
☒ CELS1RNE	Edge-Lit Exit, Surface Mount, Single Face, Red Letters, Brushed Aluminum, Battery
☐ CELS1GNE	Edge-Lit Exit, Surface Mount, Single Face, Green Letters, Brushed Aluminum, Battery
☐ CELS2RNE	Edge-Lit Exit, Surface Mount, Double Face, Red Letters, Brushed Aluminum, Battery
☐ CELS2GNE	Edge-Lit Exit, Surface Mount, Double Face, Green Letters, Brushed Aluminum, Battery
☐ CELS1RN	Edge-Lit Exit, Surface Mount, Single Face, Red Letters, Brushed Aluminum, AC only
☐ CELS2RN	Edge-Lit Exit, Surface Mount, Double Face, Red Letters, Brushed Aluminum, AC only
☐ CELS1GN	Edge-Lit Exit, Surface Mount, Single Face, Green Letters, Brushed Aluminum, AC only
☐ CELS2GN	Edge-Lit Exit, Surface Mount, Double Face, Green Letters, Brushed Aluminum, AC only
☐ CELR1RNE	Edge-Lit Exit, Recessed Mount, Single Face, Red Letters, Brushed Aluminum, Battery
☐ CELR1GNE	Edge-Lit Exit, Recessed Mount, Single Face, Green Letters, Brushed Aluminum, Battery
☐ CELR2RNE	Edge-Lit Exit, Recessed Mount, Double Face, Red Letters, Brushed Aluminum, Battery
☐ CELR2GNE	Edge-Lit Exit, Recessed Mount, Double Face, Green Letters, Brushed Aluminum, Battery
☐ CELR1RN	Edge-Lit Exit, Recessed Mount, Single Face, Red Letters, Brushed Aluminum, AC only
☐ CELR2RN	Edge-Lit Exit, Recessed Mount, Double Face, Red Letters, Brushed Aluminum, AC only
☐ CELR1GN	Edge-Lit Exit, Recessed Mount, Single Face, Green Letters, Brushed Aluminum, AC only
☐ CELR2GN	Edge-Lit Exit, Recessed Mount, Double Face, Green Letters, Brushed Aluminum, AC only



CEL
EDGE-LIT LED EMERGENCY EXIT

DATE: 6/2/22	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

DIMENSIONS



Single Carton Weight	2.8 lbs.
Master Carton Quantity	8 each

INPUT POWER REQUIREMENTS

Catalog Number	Input Power Consumption
CELSIRNE	3.14W
CELS2RNE	
CELRIRNE	
CELR2RNE	
CELRIRN	2.38W
CELR2RN	
CELSIRN	
CELS2RN	
CELSIGNE	2.94W
CELS2GNE	
CELRIGNE	
CELR2GNE	
CELRIGN	2.39W
CELR2GN	
CELSIGN	
CELS2GN	



ARC2 LED

Architectural Wall Luminaire



Catalog Number **ARC2 LED P5 40K MVOLT DDBXD**

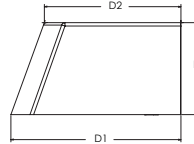
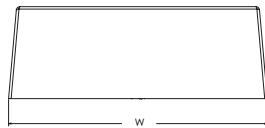
Notes **F3-(length)**

Type **WP1, Indianola, IA**

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1): 9.25"
Depth (D2): 7.5"
Height: 5"
Width: 14"
Weight: 11 lbs
 (without options)



Introduction

The Lithonia Lighting ARC LED wall-mounted luminaires provide both architectural styling and visually comfortable illumination while providing the high energy savings and low initial costs for quick financial payback.

ARC2 delivers up to 6,500 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. It offers integrated emergency battery backup options, including an 8W cold temperature option, making it suitable for pedestrian scale applications in any environment.

ARC LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Approximate Lumens (4000K)				
			P1	P2	P3	P4	P5
ARC1 LED	4W	--	1,500	2,000	3,000	--	--
ARC2 LED	4W	8W	1,500	2,000	3,000	4,000	6,500

Ordering Information

EXAMPLE: ARC2 LED P2 40K MVOLT PE DDBXD

Series	Package	Color Temperature	Voltage	Options	Finish
ARC2 LED	P1 1,500 Lumens	30K 3000K	MVOLT 347 ¹	E4WH Emergency battery backup, CEC compliant (4W, 0°C min) ¹	DDBXD Dark bronze
	P2 2,000 Lumens	40K 4000K		E8WC Emergency battery backup, CEC compliant (8W, -20°C min) ¹	DBLXD Black
	P3 3,000 Lumens	50K 5000K		PE Button type photocell for dusk-to-dawn operation	DNAXD Natural aluminum
	P4 4,000 Lumens			DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) ²	DWHXD White
	P5 6,500 Lumens			SPD6KV 6kV surge protection ¹	DSSXD Sandstone
				FAO Field adjustable light output device. Allows for easy adjustment to the desired light levels, from 20% to 100% ²	DDBTXD Textured dark bronze
					DBLBXD Textured black
					DNATXD Textured natural aluminum
					DWHGXD Textured white
					DSSTXD Textured sandstone

Accessories

Ordered and shipped separately.

WSBBW DDBXD U

Surface - mounted back box (specify finish)

NOTES

- 347V not available with E4WH, E8WC and SPD6KV.
- FAO not available with DMG.



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ARC2 LED
 Rev. 03/02/22

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	30K (3000K, 80 CRI)					40K (4000K, 80 CRI)					50K (5000K, 80 CRI)				
		Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1	11W	1,502	142	0	0	1	1,587	150	0	0	1	1,598	151	0	0	1
P2	16W	2,250	140	0	0	1	2,377	147	0	0	1	2,393	148	0	0	1
P3	24W	3,206	135	0	0	1	3,387	143	0	0	1	3,410	144	0	0	1
P4	30W	3,903	128	1	0	1	4,124	136	1	0	1	4,152	136	1	0	1
P5	51W	6,260	122	1	0	1	6,615	129	1	0	1	6,659	130	1	0	1

Electrical Load

Performance Package	System Watts	Current (A)				
		120V	208V	240V	277V	347V
P1	11W	0.090	0.055	0.049	0.046	0.045
P2	16W	0.141	0.081	0.072	0.064	0.059
P3	24W	0.202	0.117	0.103	0.091	0.079
P4	30W	0.280	0.162	0.144	0.128	0.095
P5	51W	0.471	0.272	0.239	0.212	0.158

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Lumens
E4WH	693
E8WC	1,413

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
10°C	50°F	1.03
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11). To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.93	>0.88

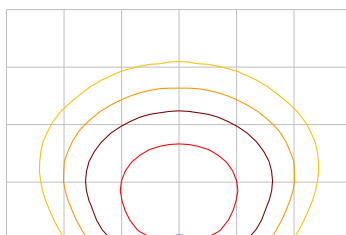
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting ARC LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.

LEGEND

0.25 fc
0.5 fc
1.0 fc
3.0 fc

MH = 15ft
Grid = 15ft x 15ft



ARC2 LED P3 40K



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ARC2 LED
Rev. 03/02/22

Emergency Egress Options

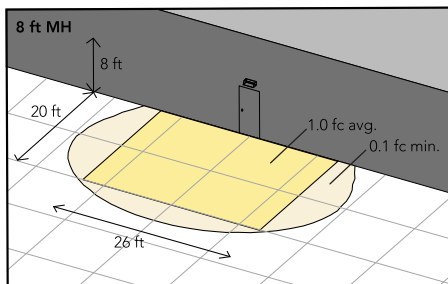
Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain a minimum of 60% of the light output at the end of 90 minutes.

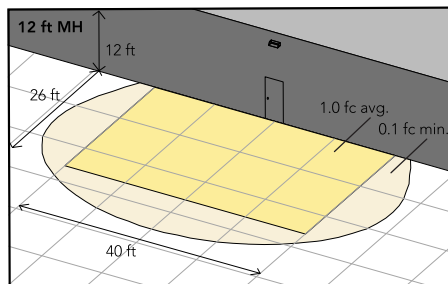
Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9

The example below shows illuminance of 1 fc average and 0.1 fc minimum in emergency mode.

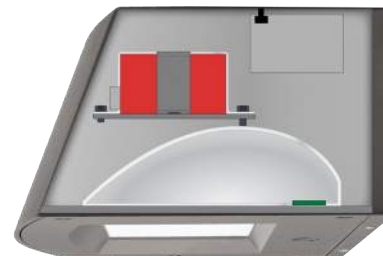
Grid = 10ft x 10ft



ARC2 LED 40K MVOLT E4WH



ARC2 LED 40K MVOLT E8WC



Self-contained solution for clean aesthetic

Mounting, Options & Accessories



E4WH and E8WC – Emergency Battery Backup

D = 6.5"

H = 5"

W = 11"



BBW – Standard Back Box

D = 1.5"

H = 4"

W = 5.5"

For surface conduit applications.
3/4" conduit entry holes.

FEATURES & SPECIFICATIONS

INTENDED USE

The clean architectural shape of the ARC LED was designed for applications such as hospitals, schools, malls, restaurants, and commercial buildings. The long-life LEDs and driver make this luminaire nearly maintenance-free.

CONSTRUCTION

The die-cast aluminum housing and door act as heat sinks to optimize thermal transfer from the light engine and driver to promote long-life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP65 rating for the luminaire.

FINISH

Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

OPTICS

Recessed lens to cut off high angle light and reduce glare. Combination of diffused lens and reflector design has low surface brightness creating a visually comfortable environment with great distribution. LEDs are fully hidden from view to eliminate pixelization and harsh glare. The ARC LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine consists of high-efficiency LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long-life (up to L88/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire is 0-10V dimmable.

INSTALLATION

The universal wall plate, supplied with the luminaire, fits multiple size junction boxes and supports it during wiring for easy installation. Built-in wet location wiring compartment on the luminaire to accommodate wiring connections for applications with no junction box. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

LISTINGS

CSA certified to U.S. and Canadian standards. Luminaire is IP65 rated. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified. International DarkSky Association (IDA) Fixture Seal of approval (FSA) is available for all products on this page utilizing 3000K color temperature only. Rated for -40°C minimum ambient.

WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

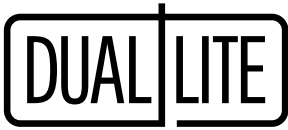
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



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ARC2 LED
Rev. 03/02/22



PG

Emergency LED Sconce

FEATURES

Application

The PG is an indoor/outdoor, die-cast architectural emergency unit. It is a wet location listed, emergency luminaire with high-output LED technology that provides path of egress illumination for mounting over entrance/exit ways and perimeter walkways. Spectron® self-testing/self-diagnostic electronics are included standard. A battery heater for cold temperature operation is available as an option.

Construction

Housing and mounting plate are constructed of 0.125" die-cast aluminum and 0.125" closed-cell, medium density, neoprene gasket. The acrylic lens allows 92% light transmission. The reflector is electro-polished aluminum with 95% reflectance. Housing finish is powder coated electro-deposition paint available in four colors: dark bronze, white, platinum silver and black.

Installation

Universal housing knockouts for mounting to standard 31/2" and 4" octagon and 4" square electrical boxes. A 1/2" – 1/4 NPT threaded conduit opening is provided at the top of the housing and sealed with a closure plug. The back plate mounts to the wall surface using installer supplied hardware. The housing “snaps” to the back plate by a “pin and socket” arrangement, and is secured with two Fillister head screws. AC Lockout feature prevents battery discharge prior to initial unit power-up saving installation time.

Lamps

Four high-output, long life LED lamps arranged in redundant pairs.

Compliances

- UL 924 Listed (emergency models only)
- UL Wet Location Listed
- NFPA 101 Life Safety Code
- NFPA 70 National Electrical Code
- OSHA
- U.S. Patent No. D627,916

Warranty

- Fixture: 5 Years Full
- Battery: 2 Years Full, 8 Years Pro Rata
- Lifetime LED Warranty

ORDERING GUIDE

PG	Z	—	HTR
Model	Finish		Options
	W White		HTR Battery Heater
	Z Dark Bronze		(Add Suffix to Model)
	P Platinum Silver		
	B Black		

Catalog Number	F3-(length)		
Comments	TruBank, Indianola, IA	Type	WP-EM



White



Dark Bronze



Platinum Silver

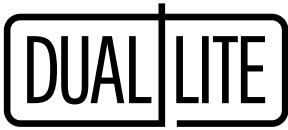


Black

Reference "Remote Heads and Fixtures" specification sheet for information on matching PG remote



PGR Remote LED



SPECIFICATIONS

Electronics

Upon failure of the normal utility power, a solid-state transfer switch automatically activates the emergency lamp. Upon resumption of the normal utility power, the battery is disconnected from the load and recharged through a solid-state charging unit. A low voltage battery disconnect feature protects the battery from severe damage during prolonged power failures. Spectron® self-testing/self-diagnostic circuitry provides automatic system testing on a monthly and semi-annual basis. Manual testing is available at any time using the push-to-test button: push once for a 60-second system test; push twice for a 90-minute system test.

Number of Lamps: Four high output LEDs

Lamp Configuration: Two sets of 2 LEDs provide illumination. In the unlikely event that any single LED should fail the remaining LEDs will continue to function.

Lamp Type: Solid state high output LEDs

Lamp Color: Cool White, 6350K

Total Lamp Output: 405 Lumens

Input: 120/277VAC, 60 Hz

Battery Charger: Temperature compensating, constant current

Transfer: Solid state

Functional Circuitry: AC lockout, transformer isolation, transient surge protection, low voltage battery disconnect, brownout detection, time delay retransfer

Battery Recharge Cycle: per UL time standards

Test Means: Integral test switch

Battery: Sealed, maintenance-free Nickel-Cadmium

Operating Temperature Range for Models without Heater:
0°C to 50°C (32°F to 122°F)

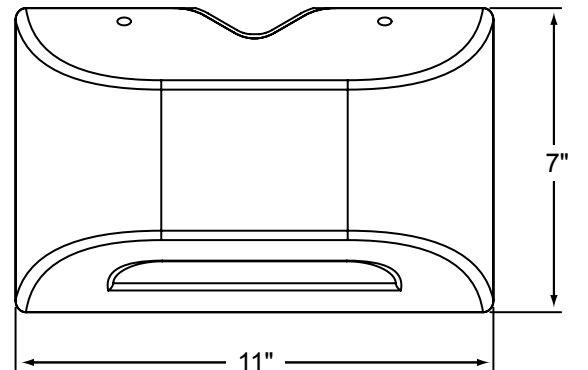
Operating Temperature Range for Models with Heater:
-30°C to 50°C (-22°F to 122°F)

Power Consumption

Models Without Heater		Models With Heater	
120VAC	2.78 watts	120VAC	15.2 watts
277VAC	2.88 watts	277VAC	15.7 watts

Power factor, average: 0.8 (lagging)

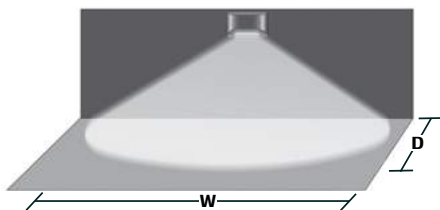
DIMENSIONS



ILLUMINATION PATTERN

SINGLE UNIT COVERAGE

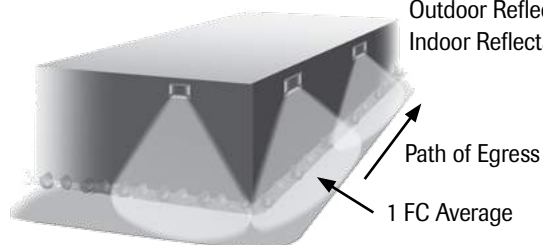
Mounting Height: 9'
Outdoor Reflectance: 0/30/10
Indoor Reflectance: 80/50/20



	Indoor	Outdoor
1 FC Average (W x D)	33' X 10'	27' X 10'
1 FC Minimum (W x D)	10' X 10'	9' X 10'

MULTIPLE UNIT SPACING

Mounting Height: 9'
Illuminated Path Depth: 6'
Outdoor Reflectance: 30/10
Indoor Reflectance: 80/50/20



	Indoor	Outdoor
1 FC Average	44'	33'
1 FC Minimum	16'	15'



MEMORANDUM

To: Planning and Zoning Commission

From:

Date: September 13, 2022

Subject: Consider recommendation on the request for approval of a Plat of Survey for Warren & Nataliya Burge for Block 14 of Windle's Addition (405 E Franklin)

Recommendation:

Attachments:

- 1. 0. Staff Report
- 2. 1. Application
- 3. 2. Plat of Survey



Community Development

110 N. First St., Indianola, IA 50125-0299 • www.indianolaiowa.gov
515-961-9430 • comdev@indianolaiowa.gov

Staff Report

Planning and Zoning Commission

Date of Meeting: September 13, 2022

Agenda Item: 7.C. Consider recommendation on the request for approval of a Plat of Survey for Warren & Nataliya Burge for Block 14 of Windle's Addition (405 E Franklin).

Application Type: Plat of Survey

Applicant: Chad Daniels of Daniels Land Surveying

Property Owner: Warren & Nataliya Burge

Comprehensive Plan Designation: Regional Mixed-Use

Application Summary: Request for plat of survey approval to create two (2) parcels.

AERIAL MAP



APPLICABLE CODE SECTIONS

The following sections of the Code of Ordinances of Indianola, Iowa apply to this request:

170.02 JURISDICTION. All plats of survey, plats, replats or subdivisions of land into three (3) or more parts for the purpose of laying out a portion of the City of Indianola, an addition thereto or suburban lots within two (2) miles of the corporate limits of the City for other than agricultural purposes shall be submitted to the Council and the Commission in accordance with the provisions of this chapter and shall be subject to the requirements established herein. This chapter shall regulate the subdividing of land within the City and all land within an area extending two miles beyond the corporate limits in accordance with the provisions of Section 354.9, Code of Iowa.

170.13 DESIGN STANDARDS — LOTS.

1. All lots shall abut on a street or place. Corner lots which abut on a thoroughfare or collector street shall have a minimum radius of 25 feet at the intersection.
2. Sidelines of lots shall approximate right angles to straight street lines and radial angles to curbed street lines except where a variation will provide better lot layout.
3. Lots with double frontage shall be avoided, except in specific locations where good planning indicates their use. In that event a planting screen shall be provided along the rear of the lot.
4. Corner lots shall not be less than 80 feet in width and interior lots shall not be less than 70 feet in width at the building line.
5. Lot depth shall not exceed 2½ times the width.
6. No lot shall have less area than required by the Zoning Ordinance for the district in which it is located.

170.38 ENFORCEMENT. In addition to other remedies and penalties prescribed by law, the provisions of this chapter shall not be violated subject to the following:

1. No plat of survey, plat or subdivision in the City or within two (2) miles thereof shall be recorded or filed with the County Auditor or County Recorder, nor shall any plat or subdivision have any validity until it complies with the provisions of this chapter and has been approved by the Council as prescribed herein.

ANALYSIS

Warren and Nataliya Burge own Lots 1 and 2 of Windles Addition Block 14 (405 E Franklin Avenue). Lot 1 is approximately 0.23 acres in size (9,976 sq. ft.) and contains a single-family home, and Lot 2 is approximately 0.19 acres in size (8296 sq. ft.) and is currently an empty lot. The applicant proposes a boundary line adjustment between the two parcels. If approved, the boundary line adjustment would leave Lot 1 a 0.13-acre lot and Lot 2 a 0.29-acre lot. The dwelling, built in 1910 and consisting of 809 square feet of gross living area, will remain on lot 1.

According to the future land use map in Elevate Indianola Comprehensive Plan, this property's designated future use is Regional Mixed Use. This designation includes retail, office, restaurants, bars, personal and business services, and similar commercial uses, generally of a large scale.

All aspects of the subdivision code will continue to be met with this plat of survey.

Letters were mailed to property owners within 200 feet of this property on September 2, 2022. No public comments have been submitted while writing this staff report.

ALTERNATIVES

The City of Indianola Planning and Zoning Commission may consider the following alternatives:

- 1) **The City of Indianola Planning and Zoning Commission recommends the plat of survey request be approved, as submitted.**
- 2) The City of Indianola Planning and Zoning Commission recommends the plat of survey request be approved, with conditions.
- 3) The City of Indianola Planning and Zoning Commission recommends the plat of survey request be denied.
- 4) The City of Indianola Planning and Zoning Commission remands the plat of survey request, back to the applicant and/or staff for further review and/or modifications and directs staff to place this item on a future Planning and Zoning agenda.

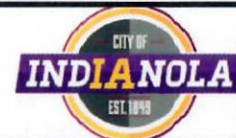
RECOMMENDATION

Staff recommends that the City of Indianola Planning and Zoning Commission move alternative 1, approving the plat of survey request, as submitted.

LAND DIVISION APPLICATION

Community Development

110 North 1st Street, Indianola, Iowa 50125-0299
(515) 961-9430 • comdev@indianolaiowa.gov



PROPERTY OWNER

(Last Name) BURGE
(First Name) NATALIYA
(Address) 4603 Little River Ln
(City) Fort Meyers (State) FL (Zip) 33905
(Phone) _____ (Email) _____

APPLICANT (if not Property Owner)

(Last Name) DANIELS
(First Name) CHAD
(Address) 22470 18th Ln
(City) New Virginia (State) IA (Zip) 50210
(Phone) 515-577-2583 (Email) PLS17532@gmail.com

☒ PLAT OF SURVEY

Submittal Requirements:

*All submittal requirements must be completed.
Incomplete applications will not be considered*

- ☐ Completed Application
- ☐ Filing Fee: \$75 per request
- ☐ Proposed plat of survey (hard copy)
- ☐ Proposed plat of survey (electronic copy)
- ☐ Legal description (electronic in word format)
- ☐ Other Information as required by Director

☐ PRELIMINARY PLAT

Submittal Requirements:

*All submittal requirements must be completed.
Incomplete applications will not be considered*

- ☐ Completed Application
- ☐ Filing Fee: \$250, plus \$10.00 for each lot in excess of 10 lots, land plus Outside Engineering Costs
- ☐ Proposed preliminary plat (hard copy)
- ☐ Proposed preliminary plat (electronic copy)
- ☐ Legal description (electronic in word format)
- ☐ All items as required by Section 170.09 of the Code of Ordinances of Indianola, Iowa
- ☐ Other Information as required by Director

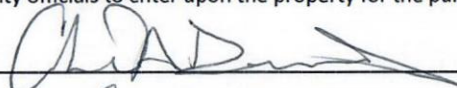
☐ FINAL PLAT

Submittal Requirements:

*All submittal requirements must be completed.
Incomplete applications will not be considered*

- ☐ Completed Application
- ☐ Filing Fee: \$150, plus \$10.00 for each lot in excess of 10 lots, land plus Outside Engineering Costs
- ☐ Proposed plat of survey (hard copy)
- ☐ Proposed plat of survey (electronic copy)
- ☐ Legal description (electronic in word format)
- ☐ All items as required by Section 170.10 of the Code of Ordinances of Indianola, Iowa
- ☐ Other Information as required by Director

I certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owner(s) of the property. Pursuant to said authority, I hereby permit City officials to enter upon the property for the purpose of inspection related to this application.

Signature 

Name (printed) Chad A Daniels

Date 31 Aug 2022

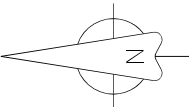
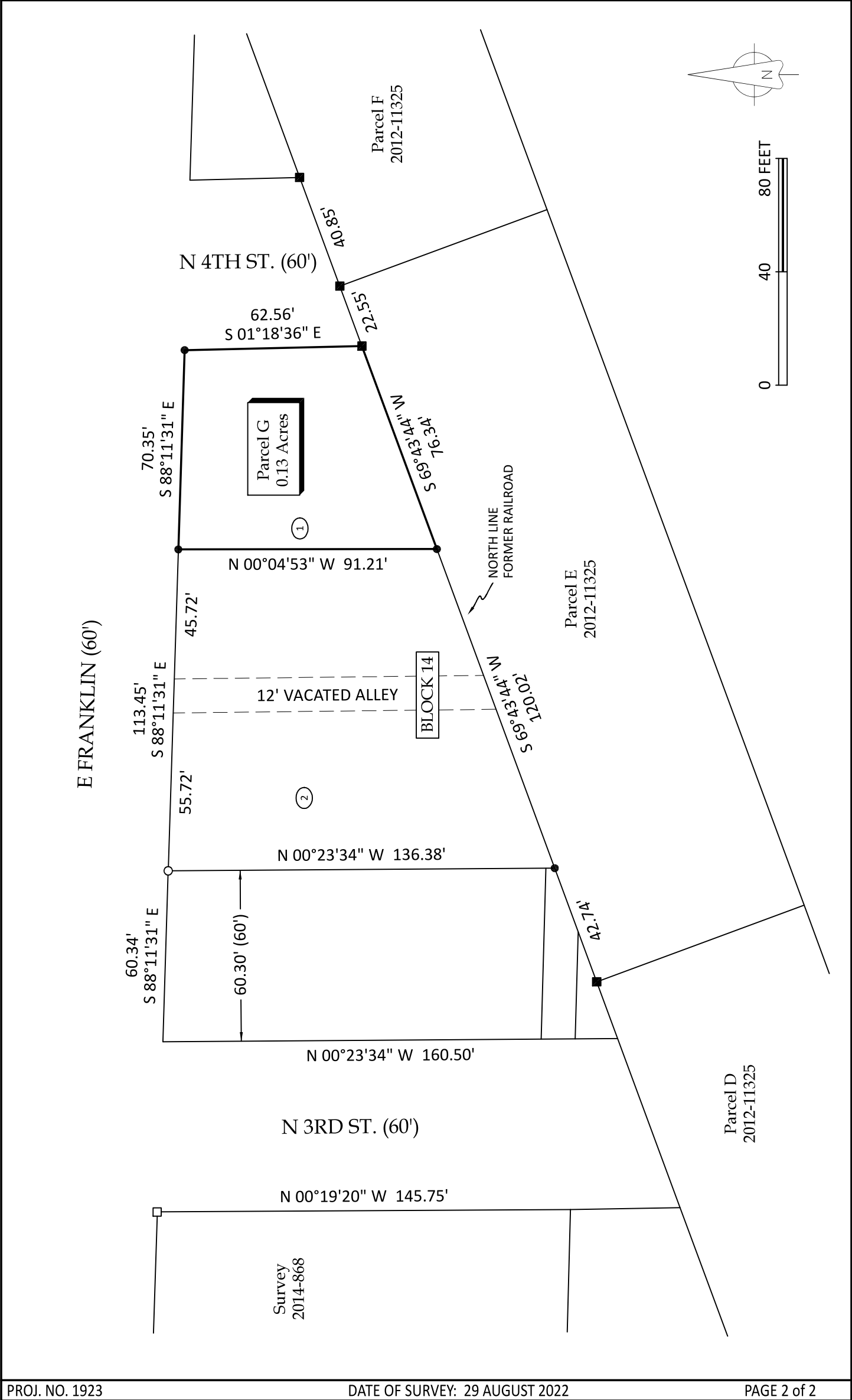
FOR OFFICE USE ONLY: Code to 45685 (prelim & final)
Code to 45686 (plat of survey)

Date Received: _____

Receipt No: _____

Receipt Amount: _____

PLAT OF SURVEY		SURVEY LEGEND () - Recorded Distance/Bearing — — — — Interior Lot Line — · — · — Section line — x — x — Fence line Monuments ▲ - Found section corner ● - Set 1/2" red plastic capped rebar, #17532 ○ - Found 1/2" rebar ■ - Found 1/2" red cr #17532 □ - Found 3/4" orange cp #12971 BASIS OF BEARINGS IS IA RCS ZONE 8
INDEX LEGEND LOCATION: BLOCK 14 OF WINDLE'S ADDITION TO THE CITY OF INDIANOLA WARREN COUNTY, IOWA OWNER: WARREN & NATALIYA BURGE 4603 LITTLE RIVER LN., FORT MEYERS FL 33905 SURVEY FOR: MISTI SOLDWISCH PREPARED BY CHAD A. DANIELS DANIELS LAND SURVEYING, 22470 18TH LN, NEW VIRGINIA IA 50210 RETURN TO: 515-577-2583		
DESCRIPTION - PARCEL G: That part of Block 14 of Windle's Addition to the City of Indianola, Warren County, Iowa, described as follows; Beginning at the Northeast corner of Lot 1 of said Block 14; thence South 01 degrees 18 minutes 36 seconds East, 62.56 feet along the East line of said Lot 1 to the North line of the former railroad also being the North line of Parcel E, recorded 2012-11325; thence South 69 degrees 43 minutes 44 seconds West, 76.34 feet along said North line; thence North 00 degrees 04 minutes 53 seconds West, 91.21 feet to the North line of said Lot 1 of Block 14; thence South 88 degrees 11 minutes 31 seconds East, 70.35 feet to the Point of Beginning, having an area of 0.13 Acres.		
PROJ. NO. 1923		CHAD A. DANIELS 17532 I hereby certify that this surveying document was prepared by me and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Professional Land Surveyor under the laws of the State of Iowa. Signed Chad A. Daniels Date 31 AUG 22 Iowa License No. 17532 My license renewal date is 12-31-2022 Page No.'s covered by this seal: 1 and 2
DATE OF SURVEY: 29 AUGUST 2022		PAGE 1 of 2





MEMORANDUM

To: Planning and Zoning Commission

From:

Date: September 13, 2022

Subject: Consider recommendation on the request for approval of a Plat of Survey for Indianola Lodge #70 IOOF for a property located at 1202 S Jefferson Way

Recommendation:

Attachments:

- 1. 0. Staff Report
- 2. 1. Application
- 3. 2. Plat of Survey



Community Development

110 N. First St., Indianola, IA 50125-0299 • www.indianolaiowa.gov
515-961-9430 • comdev@indianolaiowa.gov

Staff Report

Planning and Zoning Commission

Date of Meeting: September 13, 2022

Agenda Item: 7.D. Consider recommendation on the request for approval of a Plat of Survey for Indianola Lodge #70 IOOF for a property located at 1202 S Jefferson Way.

Application Type: Plat of Survey

Applicant: Chad Daniels of Daniels Land Surveying

Property Owner: Indianola Lodge #70 IOOF

Comprehensive Plan Designation: Public / Semi-public

Application Summary: Request for plat of survey approval to create two (2) parcels.

AERIAL MAP



APPLICABLE CODE SECTIONS

The following sections of the Code of Ordinances of Indianola, Iowa apply to this request:

170.02 JURISDICTION. All plats of survey, plats, replats or subdivisions of land into three (3) or more parts for the purpose of laying out a portion of the City of Indianola, an addition thereto or suburban lots within two (2) miles of the corporate limits of the City for other than agricultural purposes shall be submitted to the Council and the Commission in accordance with the provisions of this chapter and shall be subject to the requirements established herein. This chapter shall regulate the subdividing of land within the City and all land within an area extending two miles beyond the corporate limits in accordance with the provisions of Section 354.9, Code of Iowa.

170.13 DESIGN STANDARDS — LOTS.

1. All lots shall abut on a street or place. Corner lots which abut on a thoroughfare or collector street shall have a minimum radius of 25 feet at the intersection.
2. Sidelines of lots shall approximate right angles to straight street lines and radial angles to curbed street lines except where a variation will provide better lot layout.
3. Lots with double frontage shall be avoided, except in specific locations where good planning indicates their use. In that event a planting screen shall be provided along the rear of the lot.
4. Corner lots shall not be less than 80 feet in width and interior lots shall not be less than 70 feet in width at the building line.
5. Lot depth shall not exceed $2\frac{1}{2}$ times the width.
6. No lot shall have less area than required by the Zoning Ordinance for the district in which it is located.

170.38 ENFORCEMENT. In addition to other remedies and penalties prescribed by law, the provisions of this chapter shall not be violated subject to the following:

1. No plat of survey, plat or subdivision in the City or within two (2) miles thereof shall be recorded or filed with the County Auditor or County Recorder, nor shall any plat or subdivision have any validity until it complies with the provisions of this chapter and has been approved by the Council as prescribed herein.

ANALYSIS

Indianola Lodge #70 IOOF owns a property located at 1202 S Jefferson Way. The property is currently 10.37 acres in size (451,717 Sq. Ft.) and contains a private cemetery and fraternal building. The existing building, built in 1968, is a one-story 4,130 square foot building, and is utilized as a community center or similar type of use. The split proposed in the plat of survey would parcel out the area where the building is located and become Parcel H. The remaining portion area would consist of the existing cemetery.

According to the future land use map in Elevate Indianola Comprehensive Plan, this property's designated future use is public / semi-public. This designation includes governmental offices, museums, performing arts, libraries, community centers, schools, institutions, and educational buildings, parks, open space and trails, and similar.

All aspects of the subdivision code will continue to be met with this plat of survey.

Letters were mailed to property owners within 200 feet of this property on September 2, 2022. No public comments have been submitted while writing this staff report.

ALTERNATIVES

The City of Indianola Planning and Zoning Commission may consider the following alternatives:

- 1) **The City of Indianola Planning and Zoning Commission recommends the plat of survey request be approved, as submitted.**
- 2) The City of Indianola Planning and Zoning Commission recommends the plat of survey request be approved, with conditions.
- 3) The City of Indianola Planning and Zoning Commission recommends the plat of survey request be denied.
- 4) The City of Indianola Planning and Zoning Commission remands the plat of survey request, back to the applicant and/or staff for further review and/or modifications and directs staff to place this item on a future Planning and Zoning agenda.

RECOMMENDATION

Staff recommends that the City of Indianola Planning and Zoning Commission move alternative 1, approving the plat of survey request, as submitted.

LAND DIVISION APPLICATION

Community Development
110 North 1st Street, Indianola, Iowa 50125-0299
(515) 961-9430 • comdev@indianolaiowa.gov



PROPERTY OWNER

(Last Name) Indiana Lodge #70 100E
(First Name) _____
(Address) 1202 S Jefferson
(City) Indianola (State) IA (Zip) 50125
(Phone) _____ (Email) _____

APPLICANT (if not Property Owner)

(Last Name) Daniels
(First Name) Chad
(Address) 22470 18th Ln
(City) New Virginia (State) IA (Zip) 50210
(Phone) 515-577-2583 (Email) FL517532@gmail.com

☒ PLAT OF SURVEY

Submittal Requirements:

All submittal requirements must be completed.
Incomplete applications will not be considered.

- ☒ Completed Application
- ☒ Filing Fee: \$75 per request
- ☐ Proposed plat of survey (hard copy)
- ☐ Proposed plat of survey (electronic copy)
- ☐ Legal description (electronic in word format)
- ☐ Other Information as required by Director

☐ PRELIMINARY PLAT

Submittal Requirements:

All submittal requirements must be completed.
Incomplete applications will not be considered.

- ☐ Completed Application
- ☐ Filing Fee: \$250, plus \$10.00 for each lot in excess of 10 lots, land plus Outside Engineering Costs
- ☐ Proposed preliminary plat (hard copy)
- ☐ Proposed preliminary plat (electronic copy)
- ☐ Legal description (electronic in word format)
- ☐ All items as required by Section 170.09 of the Code of Ordinances of Indianola, Iowa
- ☐ Other Information as required by Director

☐ FINAL PLAT

Submittal Requirements:

All submittal requirements must be completed.
Incomplete applications will not be considered.

- ☐ Completed Application
- ☐ Filing Fee: \$150, plus \$10.00 for each lot in excess of 10 lots, land plus Outside Engineering Costs
- ☐ Proposed plat of survey (hard copy)
- ☐ Proposed plat of survey (electronic copy)
- ☐ Legal description (electronic in word format)
- ☐ All items as required by Section 170.10 of the Code of Ordinances of Indianola, Iowa
- ☐ Other Information as required by Director

I certify that the information and exhibits submitted are true and correct to the best of my knowledge and that in filing this application I am acting with the knowledge, consent and authority of the owner(s) of the property. Pursuant to said authority, I hereby permit City officials to enter upon the property for the purpose of inspection related to this application.

Signature

Chad A Daniels

Name (printed)

Chad A Daniels

Date

1 Sep 2022

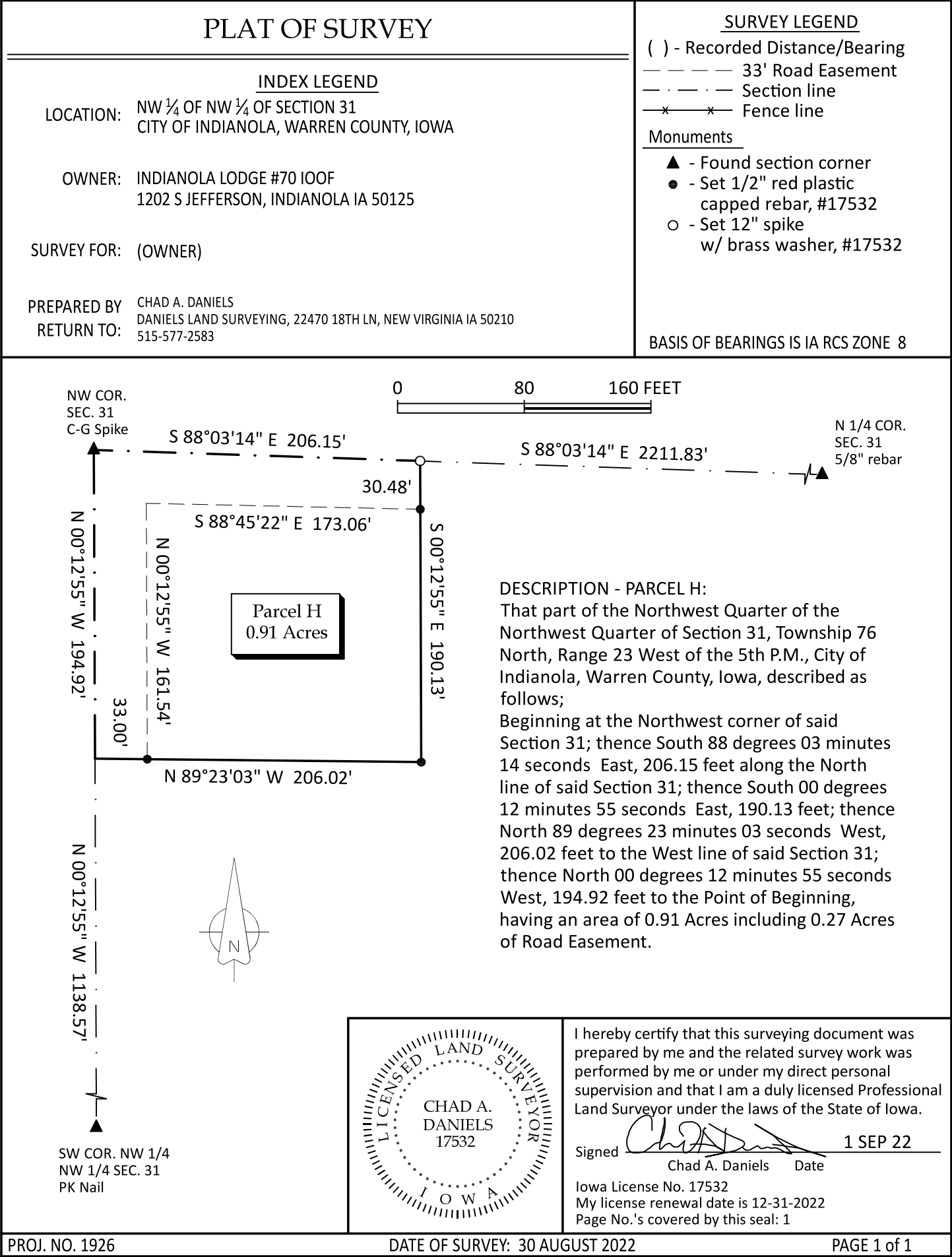
FOR OFFICE USE ONLY:

Code to 45685 (prelim & final)
Code to 45686 (plat of survey)

Date Received: _____

Receipt No: _____

Receipt Amount: _____





MEMORANDUM

To: Planning and Zoning Commission

From:

Date: September 13, 2022

Subject: Consider recommendation on an amendment to Chapter 165, regarding fireworks sales locations

Recommendation:

Attachments:

1. 1. Staff Report_Fireworks
2. 2. 20220722165152380
3. 3. SF2285_GovLetter
4. 4. Proposed Ordinance_CHAPTER 165_FIREWORK SALES



Community Development

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Staff Report

Planning and Zoning Commission

Date of Meeting: August 9, 2022

Agenda Item: 7. B. Consider recommendation on an amendment to Chapter 165, regarding fireworks sales locations.

Application Type: Ordinance Amendment

Applicant: City of Indianola

Application Summary: The proposed request would allow fireworks to be sold in all commercial and industrial zoning districts. On April 21, 2022, Governor Kim Reynolds signed Senate File 2285 which stated, “a city shall not adopt or enforce any regulation or restriction under this chapter to regulate, restrict, or prohibit the location of permanent buildings or temporary structures used for the sale of consumer fireworks pursuant to section 100.19, in any location zoned for commercial or industrial purposes.”

APPLICABLE CODE SECTIONS

The following sections of the Code of Ordinances of Indianola, Iowa apply to this request:

1.07 AMENDMENTS. All ordinances which amend, repeal or in any manner affect this Code of Ordinances shall include proper reference to chapter, section, subsection or paragraph to maintain an orderly codification of ordinances of the City.

165.02(5) AMENDMENTS

The City Council may, from time to time, on its own action or on petition, after public notice and hearings as provided by law, and after report by the Zoning Commission, amend, supplement, or change the boundaries or regulations herein or subsequently established, and such amendment shall not become effective except by the favorable vote of a majority of all the members of the Council. The procedures for amendment are as follows:

A. Request by Petition

Whenever any person desires that any amendment, or change be made in the Zoning Ordinance, including the text and/or map, as to any property covered by the Zoning Ordinance, and there is presented to the Council a petition requesting such change or amendment and clearly describing the property and its boundaries as to which the change or amendment is desired, duly signed by the owners of fifty percent (50%) of the area of all real estate included within the boundaries of said tract as described in said petition, and in addition, duly signed by the owners of fifty percent (50%) of the area of all real estate lying outside of said tract but within two hundred (200) feet of the boundaries thereof, and intervening streets and alleys not to be included in computing such two hundred (200) feet, it is the duty of the Council to receive and refer the request to the Zoning Commission for its review and consideration at a duly noticed public meeting in accordance to the Commission's rules of procedures and the noticing requirements contained herein. The findings and recommendations of the Zoning Commission shall then be forwarded to the City Council for consideration and action.

B. City Council Referral

The owner of a property may submit a written request to the Zoning Administrator for their property to be rezoned. If the requested rezoning is not consistent with the adopted Comprehensive Plan, the property owner may further request the Comprehensive Plan be amended as part of the requested rezoning. The Zoning Administrator will then present this request to the City Council, who, at their discretion, may adopt a motion to refer the request to the Zoning Commission for consideration at a duly noticed public meeting in accordance with their procedures and the noticing requirements contained herein. The findings and recommendations of the Zoning Commission shall then be forwarded to the City Council for consideration and action. The City Council may further by motion forward their own request to the Zoning Commission to review and consider an amendment to the adopted Comprehensive Plan, the rezoning of a given property or properties, or amendments to the zoning regulations.

C. Zoning Commission Disapproval or Protest Petition

In case the proposed amendment, supplement or change is disapproved by the Zoning Commission, or a protest is presented duly signed by the owners of twenty percent (20%) or more either of the area of the lots included in such proposed change, or of those immediately adjacent in the rear thereof, extending the depth of one lot or not to exceed two hundred (200) feet therefrom, or of those directly opposite thereto, extending the depth of one lot or not to exceed two hundred (200) feet from the street frontage of such opposite lots, such amendment shall not become effective except by the favorable vote of at least three-fourths ($\frac{3}{4}$) of all members of the Council. Whenever any petition for amendment, supplement or change of the zoning districts or regulations herein contained or subsequently established has been denied by the Council, then no new petition covering the same property or the same property and additional property shall be filed with or considered by the Council until one year shall have elapsed from the date of filing of the first petition.

D. Public Hearing Noticing

Not less than seven nor more than 20 days' notice of the time and place of the City Council hearing to consider any proposed amendment or change in the Zoning Ordinance or zoning district boundaries shall be published in a newspaper having general circulation in the City. The Commission shall not make any recommendation to the Council on an amendment to any zoning district boundaries until a sign 18 inches by 24 inches indicating the amendment requested has been prepared and posted by the City in a visible location on the premises for a period of 10 days. Notice of the Commission meeting shall be mailed by first class mail 10 days prior to the meeting to all property owners within 200 feet of the boundary of the property requesting an amendment to its zoning district boundaries.

E. Filing Fees

Before any action is taken as provided in this section, the owner or owners of the property requesting the proposed changed in the district regulations or district boundaries shall pay to the City Clerk the fee as established by resolution of the City Council.

ANALYSIS

On April 21, 2022, Governor Kim Reynolds signed Senate File 2285 which stated, "a city shall not adopt or enforce any regulation or restriction under this chapter to regulate, restrict, or prohibit the location of permanent buildings or temporary structures used for the sale of consumer fireworks pursuant to section 100.19, in any location zoned for commercial or industrial purposes." Currently, fireworks sales are only permitted in the C-2, M-1, and M-2 zoning districts. The proposed change would add the C-1 and C-3 zoning districts as permitted uses for fireworks retails sales facilities so to conform with Senate File 2285.

ALTERNATIVES

The City of Indianola Planning and Zoning Commission may consider the following alternatives:

- 1) The City of Indianola Planning and Zoning Commission recommends the zoning regulation amendment request be approved, as submitted.
- 2) The City of Indianola Planning and Zoning Commission recommends the zoning regulation amendment request be approved, with changes.
- 3) The City of Indianola Planning and Zoning Commission recommends the zoning regulation amendment request be denied.
- 4) The City of Indianola Planning and Zoning Commission remands the zoning regulation amendment request, back to staff for further review and/or modifications and directs staff to place this item on a future Planning and Zoning agenda.

RECOMMENDATION

Staff recommends alternative number 1, that the City of Indianola Planning and Zoning Commission recommends the zoning regulation amendment request be approved, as submitted.

2022 LEGISLATIVE SUMMARY

Enclosed is the 2022 edition of the summary of bills passed by the Iowa General Assembly that could potentially affect city codes. These pieces of legislation may result in sections of your code being inconsistent with certain State laws. The impact of these changes may differ depending on the language in your city code. Therefore, please review your code carefully to determine which amendments you may need.

As a service to our clients we are offering you an opportunity to purchase the following legislative changes which include a draft ordinance specific to your Code and the related supplementation of that ordinance once adopted. In an effort to keep the cost of the legislative changes as low as possible we kindly ask that you not share any purchased ordinances with other cities. You may feel free to direct them to us for assistance with their code update needs. The fees for these amendments are as listed on the order form.

If you wish to prepare your own amending ordinances, we would be happy to codify them for you after their adoption at the standard supplement rates.

This is also a good time to ensure that all your most current ordinances are supplemented into your code. If you have any ordinances which have not yet been sent to us for supplementation you may send them to us at this time. By regularly sending in ordinances as they are adopted, your city code can be amended to reflect the changes made by the ordinances and provide all readers with the most current language. These ordinances will be codified at the current supplement rates.

If you wish to order legislative changes at this time please complete the attached order form and return it to us by email at info@sc-ic.com or by mail to P.O. Box 244, Storm Lake, Iowa 50588. If you have any ordinances you would like supplemented at this time, please feel free to email those to us at info@sc-ic.com.

This summary is not intended to be an inclusive list of all legislative changes that could have an impact on your city; rather, it is a summary of legislative changes that affect a majority of our clients' codes.

If you have any questions, feel free to contact Steve at (641) 355-4074 or at steve@sc-ic.com.

Sincerely,

The Iowa Codification Team

2022 LEGISLATIVE CHANGES AFFECTING CITY CODES

HF 2130 — Relating to the Regulation of ATVs and UTVs. Chapter 321I.1 of the *Code of Iowa* has been amended to change restrictions on the use of ATVs and UTVs on streets within a City. Additionally, the new law prohibits the charging of fees for permits to operate ATVs and UTVs, however, it does not prohibit the requirement of a permit just the charging of a fee.

SF 2374 — Relating to the Retail Alcohol License. Changes to code regarding retail alcohol licenses and changes in terminology that impact multiple sections of the City Code.

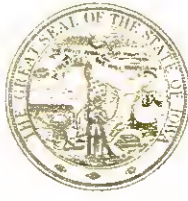
FOR YOUR INFORMATION ONLY:

The following information is provided for reference only. Some cities may have ordinances or language in their Codes that is impacted by these legislative changes and as such cities should review these new laws against their existing code to determine if any changes are needed.

SF 2285 — Restrictions on Fireworks Sales. Cities can no longer prohibit the sale of fireworks within commercial or industrial zoned districts.

SF 2285 – Planning and Zoning Commission and Board of Adjustment Membership. Cities with zoning jurisdiction outside of the City limits must try to have at least one of the two additional members on both the Planning and Zoning Commission and the Board of Adjustment be an agricultural landowner.

SF 2383 – Inspections of Manufactured Homes. Cities are not allowed to require an inspection of a manufactured home that has been inspected in accordance with the requirements of the United States Department of Housing and Urban Development and constructed in conformance with the federal manufactured home construction and safety standard provided in 24 C.F.R. Part 3280.



KIM REYNOLDS
GOVERNOR

OFFICE OF THE GOVERNOR

ADAM GREGG
LT GOVERNOR

April 21, 2022

The Honorable Paul Pate
Secretary of State of Iowa
State Capitol
Des Moines, Iowa 50319

Dear Mr. Secretary,

I hereby transmit:

Senate File 2285, an Act relating to zoning by counties and cities, and including effective date provisions.

The above Senate File is hereby approved on this date.

Sincerely,

A handwritten signature in black ink that reads "Kim Reynolds". The signature is fluid and cursive, with the first name "Kim" and last name "Reynolds" clearly distinguishable.

Kim Reynolds
Governor of Iowa

cc: Secretary of the Senate
Clerk of the House



Senate File 2285

AN ACT
RELATING TO ZONING BY COUNTIES AND CITIES, AND INCLUDING
EFFECTIVE DATE PROVISIONS.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

Section 1. NEW SECTION. 335.2A Sale of consumer fireworks
— limitation.

A county shall not adopt or enforce any ordinance under this chapter to regulate, restrict, or prohibit the location of permanent buildings or temporary structures used for the sale of consumer fireworks pursuant to section 100.19, in any location zoned for commercial or industrial purposes.

Sec. 2. Section 414.1, subsection 1, Code 2022, is amended by adding the following new paragraph:

NEW PARAGRAPH. *f.* A city shall not adopt or enforce any regulation or restriction under this chapter to regulate, restrict, or prohibit the location of permanent buildings or temporary structures used for the sale of consumer fireworks pursuant to section 100.19, in any location zoned for commercial or industrial purposes.

Sec. 3. Section 414.23, subsections 2 and 3, Code 2022, are amended to read as follows:

2. A municipality, during the time its zoning jurisdiction is extended under this section, shall increase the size of its planning and zoning commission and its board of adjustment each by two members. The planning and zoning commission shall include a member of the board of supervisors of the affected

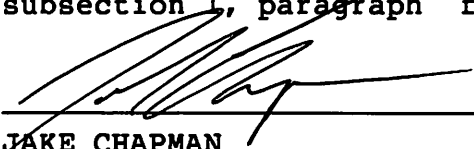
county, or the board's designee, and a resident of the area outside the city limits over which the zoning jurisdiction is extended. The member of the board of supervisors or the board's designee, if any, shall also be a resident of the county in which such extended area is located outside the city limits over which the zoning jurisdiction is extended. The additional members of the board of adjustment shall be residents of the area outside the city limits over which the zoning jurisdiction is extended. At least one of the additional members of the planning and zoning commission and at least one of the additional members of the board of adjustment shall own land that is actively used for an agricultural purpose as defined in section 570A.1, except when such requirement prevents the identification of an eligible and willing appointee for the planning and zoning commission or board of adjustment for at least six months from the effective date of the extension of zoning jurisdiction. The failure to identify an eligible and willing appointee who owns land that is actively used for an agricultural purpose shall be determined independently for the planning and zoning commission and the board of adjustment. The county supervisor, or the board's designee, and the residents shall be appointed by the board of supervisors of the county in which such extended area is located. The county supervisor, or the board's designee, and the residents shall serve for the same terms of office and have the same rights, privileges, and duties as other members of each of the bodies. However, if the extended zoning jurisdiction of a municipality extends into an adjacent county without a county zoning ordinance, the boards of supervisors of the affected counties, jointly, shall appoint one of their members, or a designee, to the planning and zoning commission.

3. Property owners affected by such zoning regulations pursuant to this section shall have the same rights of hearing, protest, and appeal as those property owners residing within the municipality exercising this power. A city may request, but shall not require, from a property owner affected by zoning regulations pursuant to this section the consent to annexation under chapter 368 as a condition of receiving approval for a zoning classification, special or conditional use, variance,

permit, or division of land into two or more tracts.

Sec. 4. EFFECTIVE DATE. The following, being deemed of immediate importance, take effect upon enactment:

1. The section of this Act enacting section 335.2A.
2. The section of this Act enacting section 414.1, subsection 1, paragraph "f".

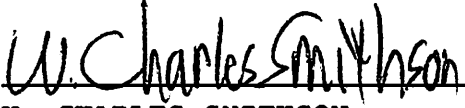

JAKE CHAPMAN

President of the Senate


PAT GRASSLEY

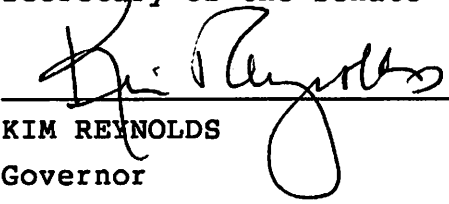
Speaker of the House

I hereby certify that this bill originated in the Senate and is known as Senate File 2285, Eighty-ninth General Assembly.


W. CHARLES SMITHSON

Secretary of the Senate

Approved April 21, 2022


KIM REYNOLDS

Governor

ORDINANCE NO. _____

AN ORDINANCE AMENDING THE CITY CODE OF THE CITY OF INDIANOLA, IOWA REGARDING FIREWORKS SALES LOCATIONS

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF INDIANOLA, IOWA:

Section 1. Section 165.05(4) be and is hereby amended by inserting the underlined language as follows:

PERMITTED AND SPECIAL USES TABLE										
USE	ZONING DISTRICT									
COMMERCIAL USES	A-1	R-1	R-2	R-3	R-4	C-1	C-2	C-3	M-1	M-2
Retail sale - intensive										
Convenience store with fuel sales							P	P	P	
Fireworks retail sales facility						<u>P</u>	P	<u>P</u>	P	P
Hardware store, lawn and garden store, or similar use with outdoor storage							P	P	P	P
Large retail (over 50,000 sq. ft. gross floor area, single user or tenant space)							P			
Liquor store							S	S		
Lumber yard and Construction Sales and Services							S		P	P
Medical cannabidiol dispensary							S	S		
Can and bottle redemption facility							P		P	P
Smoking lounge or hookah lounge							S	S		
Tobacco store (including vape shop)							S	S		
Adult oriented establishment										S

Section 2. Section 165.05(E)(2)(f) be and is hereby amended by inserting the underlined language as follows:

- f. Fireworks sales are only permitted in the C-1, C-2, C-3, M-1, and M-2 zoning districts.

Section 3. Repealer. All ordinances or parts of ordinances in conflict with the provision of this Ordinance are hereby repealed.

Section 4. Effective Date. This Ordinance shall be in full force and effect after its passage, approval and publication as provided by law.

Passed by the City Council on the _____ day of _____, 2022, and approved

this _____ day of _____, 2022.

Stephanie Erickson, Mayor

ATTEST:

Jackie Raffety, City Clerk

The foregoing Ordinance No. _____ was adopted by the Council for the City of Indianola, Iowa, on _____, 2022, and was published on _____, 2022.

Jackie Raffety, City Clerk



Community Development

110 N. First St., Indianola, IA 50125-0299 • www.indianolaiowa.gov
515-961-9430 • comdev@indianolaiowa.gov

Aug 2022 Permit Report

<u>Code</u>	<u>Type</u>	<u>Permits Issued</u>	<u># of Units</u>	<u>Amount</u>	<u>Average</u>	<u>Non-Taxable</u>
101	Single Family Home	8	0	\$2,974,125.00	\$371,765.63	
102	Single Family Attach	0	0	\$0.00		
103	Two Family	0	0	\$0.00		
104	Three or More Families	0	0	\$0.00		
	Mobile Homes	0	0	\$0.00		
322	Service Stations	0		\$0.00		
324	Office	0		\$0.00		
328	Non-resident buildings	2		\$7,238,000.00	\$0.00	
329	Pool	0		\$0.00		
434	Residential Add/Alt	9		\$131,866.00	\$14,651.78	
437	Non-residential add/alt	0		\$0.00	#DIV/0!	
438	Res garage/carports	1		\$35,000.00		
645	Demo - sfd	0		\$0.00		
649	Demo - commercial	0		\$0.00		
August Total		20	0	\$10,378,991.00		
<u>Residential Value</u>		<u>Commercial Value</u>				<u>All Non-Taxable</u>
30.3%		69.7%				0.0%

<u>YEAR TO DATE TOTAL</u>						
<u>Code</u>	<u>Type</u>	<u>Permits Issued</u>	<u># of Units</u>	<u>Amount</u>	<u>Average</u>	<u>Non-Taxable</u>
101	Single Family Home	33	33	\$11,353,301.00	\$344,039.42	
102	Single Family Attach	0	0	\$0.00		
103	Two Family	0	0	\$0.00		
104	Three or More Families	0	0	\$0.00		
	Mobile Homes	0	0	\$0.00		
322	Service Stations	0		\$0.00		
324	Office	0		\$0.00		
328	Non-resident buildings	4		\$9,777,540.00	\$2,444,385.00	
329	Pool	6		\$310,135.00		
434	Residential add/alt	68		\$759,089.89	\$11,163.09	
437	Non-residential add/alt	5		\$2,710,500.00	\$542,100.00	
438	Res garage/carports	7		\$156,600.00		
645	Demo - sfd	6		\$0.00		
649	Demo - commercial	1		\$0.00		
YTD TOTAL		130	33	\$25,067,165.89		
<u>Residential Value</u>		<u>Commercial Value</u>				<u>All Non-Taxable</u>
50.2%		49.8%				0.0%