



## COMMUNITY PLANNING, DEVELOPMENT & INNOVATION

Development Services Division

435 RYMAN | MISSOULA, MT 59802-4297 | 406.552.6630 | FAX 406.552.6053

# MISSOULA CITY PUBLIC FORUM APPLICATION

Date: April 25, 2022

Meeting Date: March 31, 2022

Applicant Name: MISSOULA COUNTY FAIRGROUNDS / MISSOULA COUNTY

Address: 1075 S. Ave. Missoula, MT 59801 Phone: Monte Harris 240-7272

Agent Name: A&E Design

Address: 222 N Higgins Ave Missoula MT 59802 Phone: Paul Filicetti 721-5643

Project Address/Location: 1075 S. Ave. Missoula, MT 59801

Request Type: Heritage Sign base on removing and replacing the existing overhead entrance sign to the Missoula County Fairgrounds Fair Way entrance with a new overhead entrance sign based on historic conditions meeting emergency vehicle access clearance height.

### **The following items must be submitted as part of the application:**

*Legal Description* S33, T13 N, R19 W, EXEMPT-MISSOULA COUNTY FAIRGROUNDS IN NW1/4 NW1/4 & N1/2 SW1/4

Lot(s): \_\_\_\_\_; Block(s): \_\_\_\_\_; Subdivision: \_\_\_\_\_

Section: S33; Township: T13 N; Range: R19 W

COS#: \_\_\_\_\_

Zoning: OP3

### **PACKETS MUST CONTAIN THE FOLLOWING ITEMS**

Provide the following information as pdf's emailed to the Zoning desk staff at [ZoningDesk@ci.missoula.mt.us](mailto:ZoningDesk@ci.missoula.mt.us) Staff will review the application for completeness and provide any corrections. Once a complete application and the fee is received staff will provide a schedule for the public hearing date.

- a. **Application**
- b. **Cover Letter**
- c. **Site Plan & Landscaping Plan (to scale)**
- d. **Elevation Drawings (to scale)**
- e. **Topography Map, if applicable (to scale)**
- f. **Floor Plan**

For additional information regarding Fair Way Drive entrance improvements to the Missoula County Fairgrounds, including stamped civil engineer documents reference City of Missoula permit number 2021-MSS-COM-00072.01 issued October 19, 2021.



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# MISSOULA CITY PUBLIC FORUM APPLICATION

### **APPLICANT'S RESPONSIBILITY**

The burden of proof for an applicable hardship and justification of proposal lies with the applicant. The applicant or the applicant's agent must be present at the meeting. Failure to appear at the meeting is grounds for denial of the variance request.

### **STATUTORY AUTHORITY**

A public forum process is established as authorized by §76-2-402 MCA. Whenever an agency proposes to use public land contrary to local zoning regulations, a public hearing must be held and the agency shall attend the public hearing. The City Council is responsible for conducting public hearings.

### **TITLE 20, SECTION 20.85.095 PUBLIC FORUM**

Title 20, Section 20.85.095 includes the process to implement the Public Forum provisions in state law. An "agency" means a means a board, bureau, commission, department, district, an authority, or other entity of state or local government.

The City Council shall hold a hearing within 30 days of the date the agency gives notice of its intent to develop land contrary to local zoning regulations and pays the application fee. The City Council shall hold the public hearing as a public forum and shall have no power to deny or condition the proposed use, but shall act only to allow a public forum for comment on the proposed use.

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**I hereby attest that the information on this application form is accurate and complete.**

**Property Owner's Signature** Monte Harris **Date** 4/28/2022

I, Monte Harris, represent the owner of the said property authorize A&E Design

**to act as my agent in this application.**

## Paul Filicetti

---

**From:** Elizabeth Johnson <JohnsonE@ci.missoula.mt.us>  
**Sent:** Friday, March 18, 2022 10:44 AM  
**To:** Paul Filicetti; Ethan Redfern  
**Subject:** RE: 20141.00 Missoula County Fairgrounds - South Ave and Fair Way Entrance - Heritage Sign

Hi Paul,

Thank you for your email and for providing this information. After reviewing the provided materials and the requirements for a heritage sign per Title 20.75.100 and 20.100.010, the proposed signage sufficiently reflects the historic overhead entrance sign seen in the historic photo included with the application. As I've completed my review of the materials, the requirement for consultation with the Historic Preservation Officer has been satisfied at this time. If there's anything else you need for this project, please don't hesitate to reach out.

Thank you,

**Elizabeth Johnson** | She/Her/Hers | Historic Preservation Officer  
Community Planning, Development & Innovation  
406-552-6638 | [johnsone@ci.missoula.mt.us](mailto:johnsone@ci.missoula.mt.us)



*Promoting equitable growth and a resilient, sustainable community.*

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**From:** Paul Filicetti <pfilicetti@ae.design>  
**Sent:** Monday, March 14, 2022 2:02 PM  
**To:** Elizabeth Johnson <JohnsonE@ci.missoula.mt.us>; Ethan Redfern <eredfern@missoulacounty.us>  
**Subject:** 20141.00 Missoula County Fairgrounds - South Ave and Fair Way Entrance - Heritage Sign

Elizabeth,

I left a voice mail with you earlier and this email to follow up. A&E has been working with Missoula County to coordinate the removal and replacement of the existing overhead changeable letter sign currently at the north entrance of the Missoula County Fairgrounds with a new stationary sign based on an undated black and white photo of an earlier overhead entrance sign at the same location (both conditions are documented in the attached information).

In discussion with the City Zoning desk, Title 20 requires permitting for the new sign a "heritage sign" defined by 20.100.010 General Terms as:

*A heritage sign is one that employs distinctive graphics, symbols and lighting that is a unique design to the community and are historically-accurate, reflecting the heritage of Missoula. Heritage signs maybe in the form of nonconforming signs or new signs that do not fit within the typical definition and measurements of wall, ground, or other sign.*

To go to you, the HPO for review prior to Design Review Board review per 20.75.100 - Special Signs; Review by the Design Review Board:

### *Heritage Signs*

- a. *New Heritage Signs may only be approved when the Design Review Board finds that the granting of approval would result in superior design for the overall site, is in conformance with the overall purpose and intent of this chapter, and reflects a historically-accurate sign that was on site previously.*

**Commentary: In addition to other required submittal information, the applicant must submit photographic documentation of the past sign , design of the new sign showing the historically-accurate relationship to the past sign, and proof of consultation with the Historic Preservation Officer.**

- b. *The Design Review Board may declare that an existing sign makes a significant artistic or historic contribution to the community or neighborhood in which the sign is currently located. This declaration, which may be made only at the request of the owner or lessee of the sign , entitles its owner or lessee to continue using the sign subject to the maintenance requirements of 20.75.110.*

With that, please reference the attached sign permit application that includes documentation of existing and historic conditions along with the current design, lighting, and lettering font requirements. If you find this information sufficient or acceptable, please respond at your earliest convenience and we'll proceed with Design Review and the permitting process.

Also, as this sign exceeds 8'-0", the city requested a concurrent permit application through the building division. Given the Missoula County Fairgrounds is a National Register Listed Historic District, permit review may come to you in multiple forms.

It you have any immediate questions or concerns, please reach out to me and Ethan.  
Thank you,  
Paul

PAUL FILICETTI

AIA  
preservation architect | associate

o 406 721 5643

A&E Design  
222 N. Higgins Ave.  
Missoula, MT

[www.ae.design](http://www.ae.design)





What can we  
help you create?

**Zoning Desk**

[zoningdesk@ci.missoula.mt.us](mailto:zoningdesk@ci.missoula.mt.us)

Community Planning, Development & Innovation  
Development Services Division  
435 Ryman  
Missoula, MT 59802

April 28, 2022

RE: **Missoula County Fairgrounds  
Heritage Sign  
Fair Way Drive Overhead Entrance Replacement  
2022-MSS-SGN-00019**

To whom it may concern,

The scope of this project includes the removal of the existing 24'-0" tall x 35'-0" wide overhead entrance and sign at the main, Fair Way Drive and South Avenue entrance to the Missoula County Fairgrounds including existing light fixtures and the approximately 163 SF reader board and "The Western Montana Fair" sign.

The proposed overhead entrance and sign meets conditions outlined in Title 20 Zoning Chapter 20.100 Terminology 20.1000.010 General Terms Sign, Heritage which states:

*A Heritage Sign is one that employs distinctive graphics, symbols and lighting that is a unique design to the community and are historically-accurate, reflecting the heritage of Missoula. Heritage signs maybe in the form of nonconforming signs or new signs that do not fit within the typical definition and measurements of wall, ground, or other sign.*

The proposed overhead entrance and sign is based on and complies with 1) Missoula County Fairgrounds Design Guidelines, 2) Missoula Fairgrounds Signage Guidelines, 3) Title 20 Heritage Sign requirements including historic photography documenting an earlier Fair Way Drive and South Avenue overhead entrance and sign to the National Register Listed Missoula County Fairgrounds Historic District, and 4) compliance with City of Missoula enforced 2015 International Fire Code (IFC) requirements for apparatus access road requirements including minimum height and width requirements. The proposed overhead entrance and sign design and graphics employs distinctive character defining features historically associated with original entrance and the Missoula County Fairgrounds Historic District meeting modern requirements that, like the existing sign, include clearance requirements for carnival equipment entering the fairgrounds.



# SIGN PERMIT APPLICATION

Community Planning, Development & Innovation  
435 Ryman Street  
Missoula, Montana 59802-4297  
(406) 552-6630

ZONING DISTRICT: \_\_\_\_\_  
(<http://www.ci.missoula.mt.us/1529/Whats-My-Zoning>)

PERMIT #: \_\_\_\_\_  
(for internal use only)

NAME				PHONE NO.	ADDRESS (Street, City, Zip)				EMAIL
BUSINESS OWNER									
PROPERTY OWNER									
CONTRACTOR/INSTALLER									
<input type="checkbox"/> Same as Business Owner									
SIGN TYPE	Old	New	Change Copy	DIMENSIONS in FT	AREA IN SF	WEIGHT IN LBS	TOP OF SIGN HEIGHT FROM GROUND	LIGHTING TYPE (Electrical Permit Required)	NOTES/PREVIOUS PERMIT & TAG NUMBER (IF APPLICABLE)
<input type="checkbox"/> GROUND SIGN				_____ x _____=					
<input type="checkbox"/> SIDEWALK SIGN				_____ x _____=					
<input type="checkbox"/> WALL/PROJECTING SIGN				_____ x _____=					
<input type="checkbox"/> WALL/PROJECTING SIGN				_____ x _____=					
<input type="checkbox"/> WALL/PROJECTING SIGN				_____ x _____=					
<input type="checkbox"/> WALL/PROJECTING SIGN				_____ x _____=					
<input type="checkbox"/> WINDOW SIGN				_____ x _____=					
<input type="checkbox"/> WINDOW SIGN				_____ x _____=					
<input type="checkbox"/> WINDOW SIGN				_____ x _____=					
<input type="checkbox"/> WINDOW SIGN				_____ x _____=					
<input type="checkbox"/> BANNER SIGN				_____ x _____=					
<input type="checkbox"/>				_____ x _____=					
<input type="checkbox"/>				_____ x _____=					

I, the undersigned, hereby apply for a permit to erect the sign(s) described herein, and agree to conform with all regulations of City of Missoula Municipal Code and Sign Ordinance. I understand that the permit is for the sign only. Any structural, foundation, or electrical work requires a separate permit. I hereby attest that the information provided above is true and accurate; and I understand that any misrepresented or inaccurate representation of information may result in the invalidation of this permit.

**This permit becomes null and void if the sign(s) authorized by this permit are not installed within 180 days from the permit's date of issuance.**

APPLICANT SIGNATURE	PRINTED NAME	BUSINESS NAME	BUSINESS LICENSE #	DATE
PROP OWNER/MNGR SIGNATURE	PRINTED NAME	PROP MGMT NAME (IF APPLICABLE)	BUSINESS LICENSE #	DATE

# SIGN PERMIT APPLICATION 2014

## CHECK LIST AND REQUIREMENTS

THE FOLLOWING CHECK LIST MAY NOT BE ALL INCLUSIVE OF EVERYTHING NEEDED TO COMPLETE THE SIGN REVIEW PROCESS. COMPLETE, SIGN, AND RETURN WITH APPLICATION. INCOMPLETE SUBMITTALS WILL BE RETURNED UN-REVIEWED.

CONTACT PERSON & PHONE #: \_\_\_\_\_

N/A YES

- |                          |                          |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <b>SIGN PERMIT APPLICATION</b>   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>ONE (1) COPY OF SITE PLAN</b> (*an aerial photograph may be submitted for wall signs less than 50sf)  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>ONE (1) COPY OF SCALED DRAWINGS AND ELEVATIONS OF EACH SIGN</b>   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>COLORED GRAPHIC(S)/PICTURE(S) OF NEW AND/OR CHANGE COPY SIGN(S)</b>   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>FULL/DETAILED INVENTORY OF EXISTING AND PROPOSED SIGNS</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>ONE (1) COPY OF BUILDING FLOOR PLANS (FIRST AND SECOND STORY ONLY)</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>ONE (1) COPY OF BUILDING ELEVATION(S) INDICATING LOCATION OF WALL SIGN(S)</b>   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>DESIGN REVIEW BOARD/BOARD OF ADJUSTMENTS LETTER OF APPROVAL</b>   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>COMPREHENSIVE MASTER SIGN PLAN</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>BUSINESS LICENSE #</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>BUILDING PERMIT #</b>   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>ELECTRICAL PERMIT # AND/OR PHOTOMETRIC DRAWING FOR ALL EXTERIOR SIGN LIGHTING -</b><br>Exterior lighting to include (may be on a separate sheet):   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>(a) Photometric drawing to include lighting layout, foot candles at property lines and regular intervals and fixture mounting height. (Sample at <a href="http://www.ci.missoula.mt.us/building">www.ci.missoula.mt.us/building</a>.)</b> |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>(b) Lighting fixture catalog sheets.</b>  |

### SITE PLAN REQUIREMENTS

N/A YES

**Please show the following on the site plan:**

- |                          |                          |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. North Arrow   |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Clearly indicate scale used on Site Plan. (1" = 20' minimum unless pre-approved by Dev. Services Staff)   |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Names of streets and cross streets - All rights-of-way including alleys.  |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Location of access to your site (ex. Driveways, etc.)   |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Existing public right-of-ways & easements: access, utility, etc. - include location and size. Note: Signs & Structures are not allowed in public right-of-ways & easements. |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Visibility Obstruction Triangle(s)  |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Boundaries and dimensions of property and property corners identified on site.  |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Locations of existing and proposed ground sign(s).  |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Distance from property line to proposed ground sign(s).   |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Property frontage dimensions   |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. Locations of existing and proposed building(s) & structure(s).   |
| <input type="checkbox"/> | <input type="checkbox"/> | 12. Building frontage dimensions   |

ATTEST: I hereby attest that the information submitted on this document and site plan is true and accurate.

APPLICANT'S SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

Failure to complete this form and to provide all the requested information will result in the permit application being returned to the permittee for corrections.



1101 SOUTH AVENUE W  
MISSOULA, MONTANA 59801

## PROJECT TEAM

MISSOULA COUNTY  
MISSOULA COUNTY FAIRGROUNDS  
1101 SOUTH AVE W  
MISSOULA, MT 59801

A&E DESIGN  
222 NORTH HIGGINS  
MISSOULA, MONTANA 59802  
406.721.5643

JACKSON CONTRACTOR GROUP INC  
PO BOX 967  
MISSOULA, MT 59806  
406.542.9150

MAXUS CONSULTING ENGINEERS PC  
PO BOX 8207  
MISSOULA, MT 59807  
406.926.2882

MAZZETTI  
1999 BROADWAY,  
DENVER, CO 80202  
720.644.5044

INVENTORY OF EXISTING SIGN:  
+/- 163 SF WESTERN MONTANA FAIRGROUNDS

FAIRGROUNDS ADDRESS  
1101 SOUTH AVE W  
MISSOULA MONTANA 59801

DESIGN OF NEW SIGN:  
DESIGN OF NEW SIGN SHALL COMPLY WITH MISSOULA COUNTY  
FAIRGROUNDS DESIGN GUIDELINES, MAY 24, 2018

FAIRGROUNDS PROPERTY FRONTAGE DIMENSIONS:  
SOUTH AVE. W.: +/- 1,230 LF  
RUSSELL STREET: +/- 1,663 LF  
SOUTH SIDE OF FAIRGROUNDS: +/- 1,113 LF

REFERENCE CITY OF MISSOULA PERMIT NUMBER 2021-MSS-COM-00072.01, CONSOLIDATED ON 7/28/21, FOR UTILITY AND APPROACH MODIFICAITONS RELATED TO FAIR WAY DRIVE IMPROVMENTS AND ROCKY MOUNTAIN GARDENS AND EXPLORATION CENTER.

## DOOR NUMBER

## CONSTRUCTION

## CONSTRUC

[illegible]

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

DETAIL POSITION ON SHEET 16

SHEET OF ORIGIN A1.1 : A4.5

SHEET WHERE DETAIL APPEARS A4.5

TITLE 20 ZONING  
CHAPTER 20.100 Terminology  
20.1000.010 General Terms

## Sign, Heritage

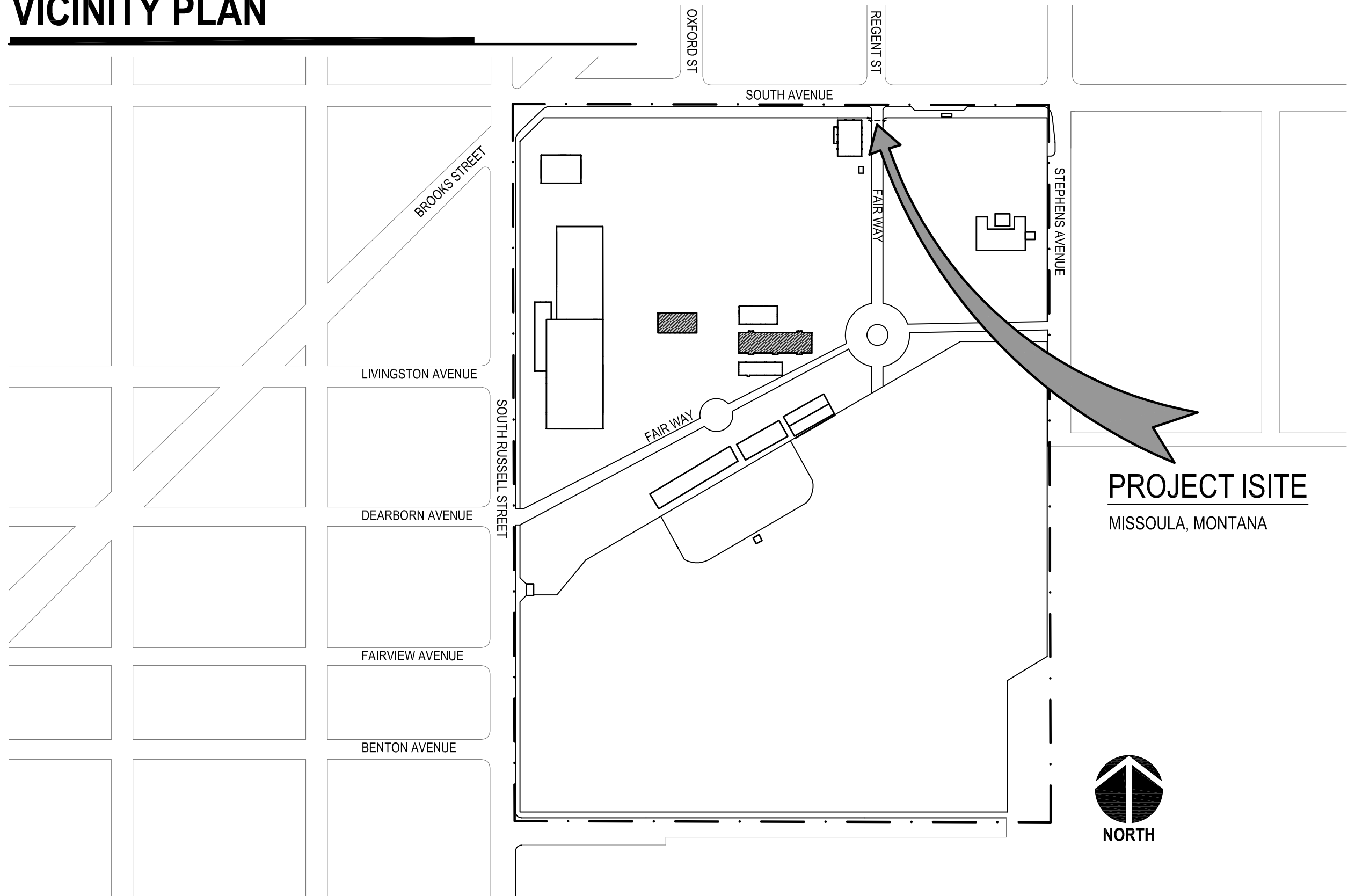
A **heritage sign** is one that employs distinctive graphics, symbols and lighting that is a unique design to the community and are historically-accurate, reflecting the heritage of Missoula. Heritage signs maybe in the form of nonconforming signs or new signs that do not fit within the typical definition and measurements of wall, ground, or other sign.

MISSOULA COUNTY FAIRGROUNDS:

WHILE DOCUMENTATION OF THE EVOLUTION OF ENTRANCE SIGNS TO THE NATIONAL REGISTER LISTED MISSOULA COUNTY FAIRGROUNDS IS UNDOCUMENTED, THE ADJACENT UNDATED PHOTO (LEFT) DOCUMENTS AN EARLIER ENTRANCE SIGN AT THE NORTH, FAIR WAY ENTRANCE TO THE MISSOULA COUNTY FAIRGROUNDS OFF SOUTH AVE.

THE DESIGN OF THE NEW SIGN, SET TO REPLACE THE EXISTING SIGN (SHOWN ABOVE) IS TO REFLECT THE HERITAGE OF THE MISSOULA COUNTY FAIRGROUNDS USING DISTINCTIVE DESIGN AND LIGHTING AND HISTORICALLY-ACCURATE ARCH AND TEXT FONT.

## VICINITY PLAN



sheet  
**FAIR WAY DRIVE - ENTRY GATE - COVER SHEET**

## FAIR WAY DRIVE IMPROVEMENTS

owner  
MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE, MISSOULA, MT 59801

project # 20141.00

revision                      date

phase



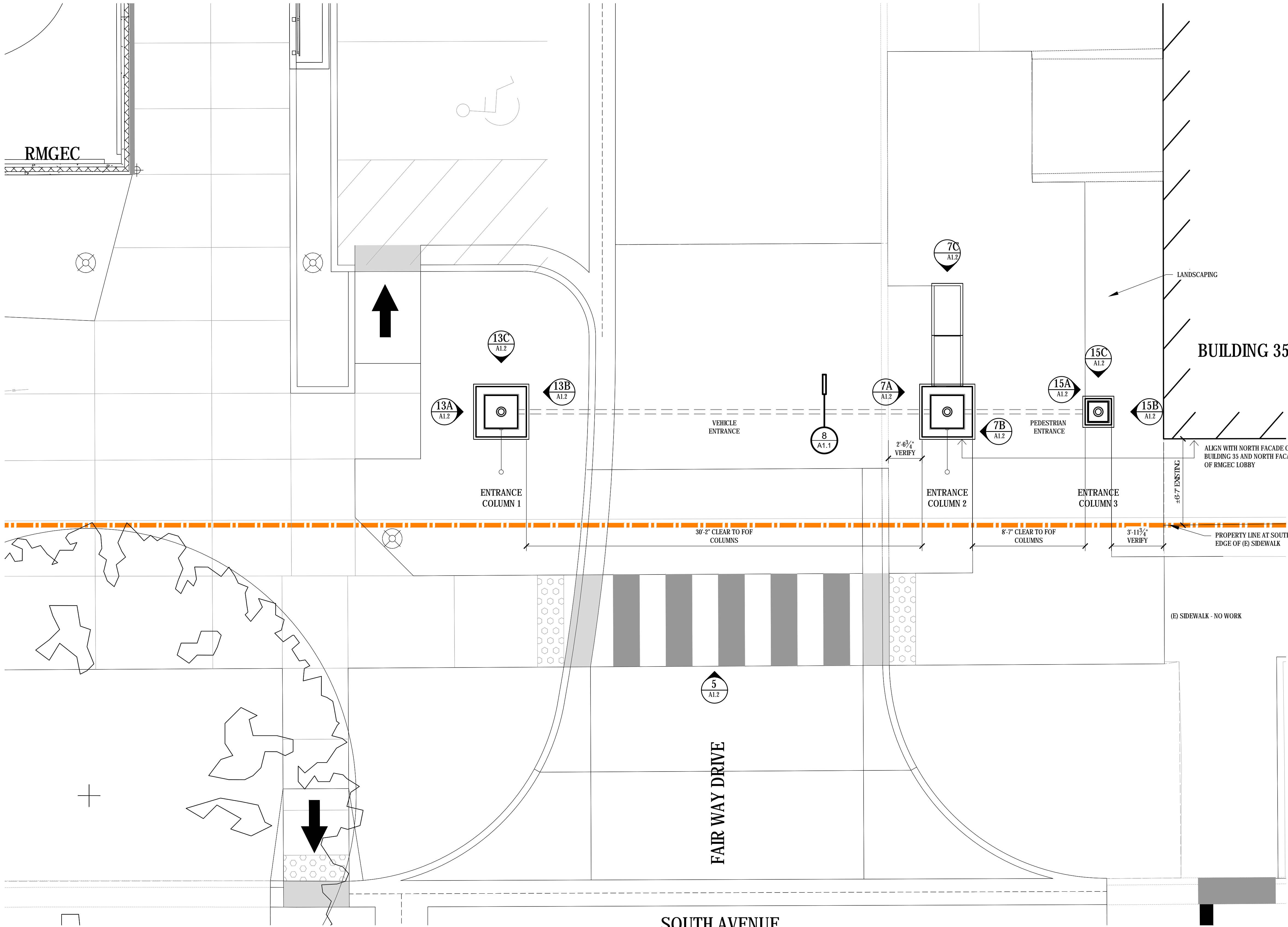
Issue date  
**03.04.2022**

# COVER

**SUBMITTED FOR SIGN PERMIT APPLICATION**



P:\20141.00\Drawings & Models\AutoCAD\11 Fair Way Dr - sign permit documents.dwg Mar 04, 2022 - 12:20pm

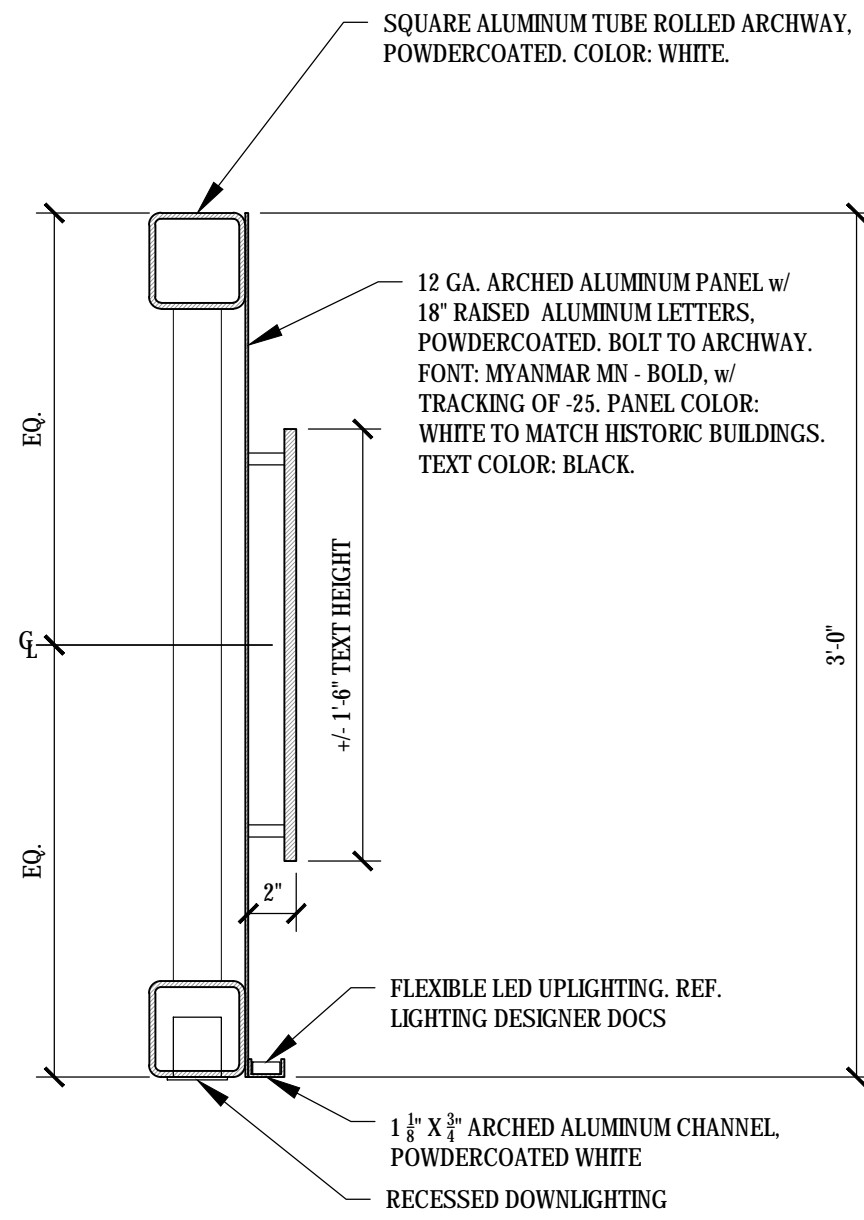


**9 FAIR WAY ENTRANCE GATE - PLAN**  
A1.1 : A1.1 1/4" = 1'

**NOTICE**

REFERENCE CITY OF MISSOULA PERMIT NUMBER 2021-MSS-COM-00072.01, CONSOLIDATED ON 7/28/21, FOR UTILITY AND APPROACH MODIFICATIONS RELATED TO FAIR WAY DRIVE IMPROVMENTS AND ROCKY MOUNTAIN GARDENS AND EXPLORATION CENTER.

**8 ENTRANCE SIGN SECTION**  
A1.1 : A1.1 1 1/2" = 1'



**SIGN PERMIT APPLICATION INFORMATION**

**LARGE ACHED SIGN:**  
DIMENSIONS: +/- 1'-6" X +/- 29'-2" (ARCHED)  
AREA IN SF: +/- 46 SF  
WEIGHT IN LBS: TO BE DETERMIEND  
HEIGHT OF SIGN FROM GROUND: +/- 24'-3"

**SMALL ARCHED SIGN:**  
DIMENSIONS IN FT: +/- 1'-6" X +/- 9'-1" (ARCHED)  
AREA IN SF: +/- 11 SF  
WEIGHT IN LBS: TO BE DETERMIEND  
HEIGHT OF SIGN FROM GROUND: +/- 15'-4"



CONSTRUCTION DOCUMENTS

sheet **FAIR WAY DRIVE - ENTRY GATE - PLAN**  
project **FAIR WAY DRIVE IMPROVEMENTS**

project # **20141.00**  
revision date

phase

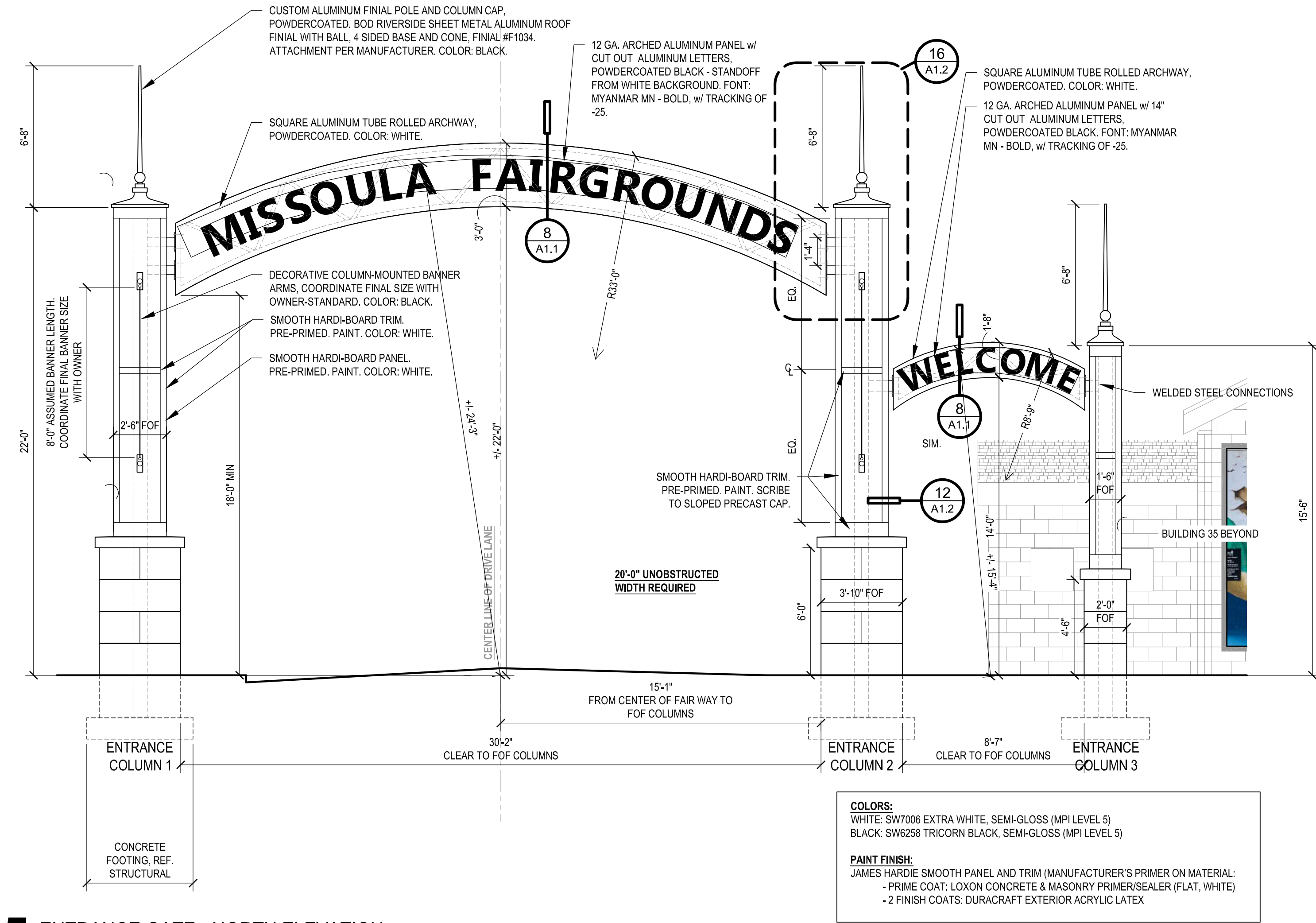
issue date  
**03.04.2022**

**A1.1**

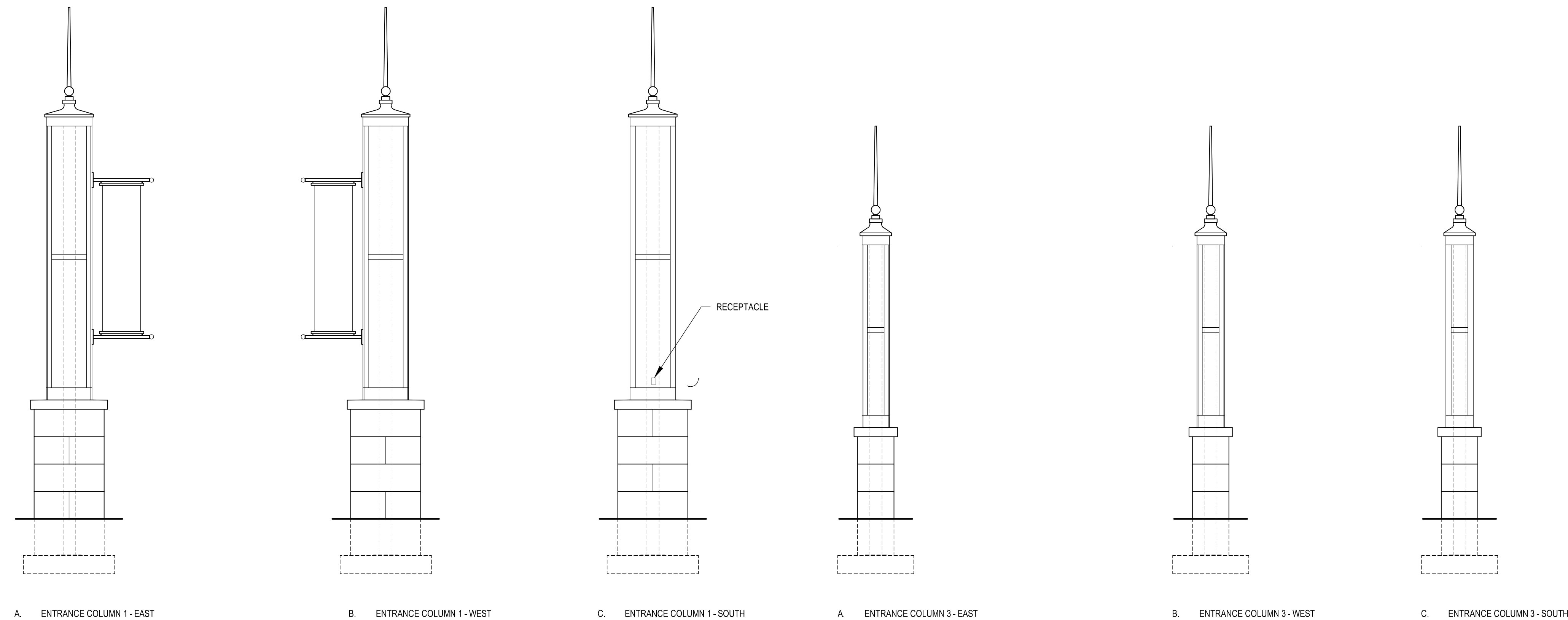
SUBMITTED FOR SIGN PERMIT APPLICATION

owner **MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE, MISSOULA, MT 59801**



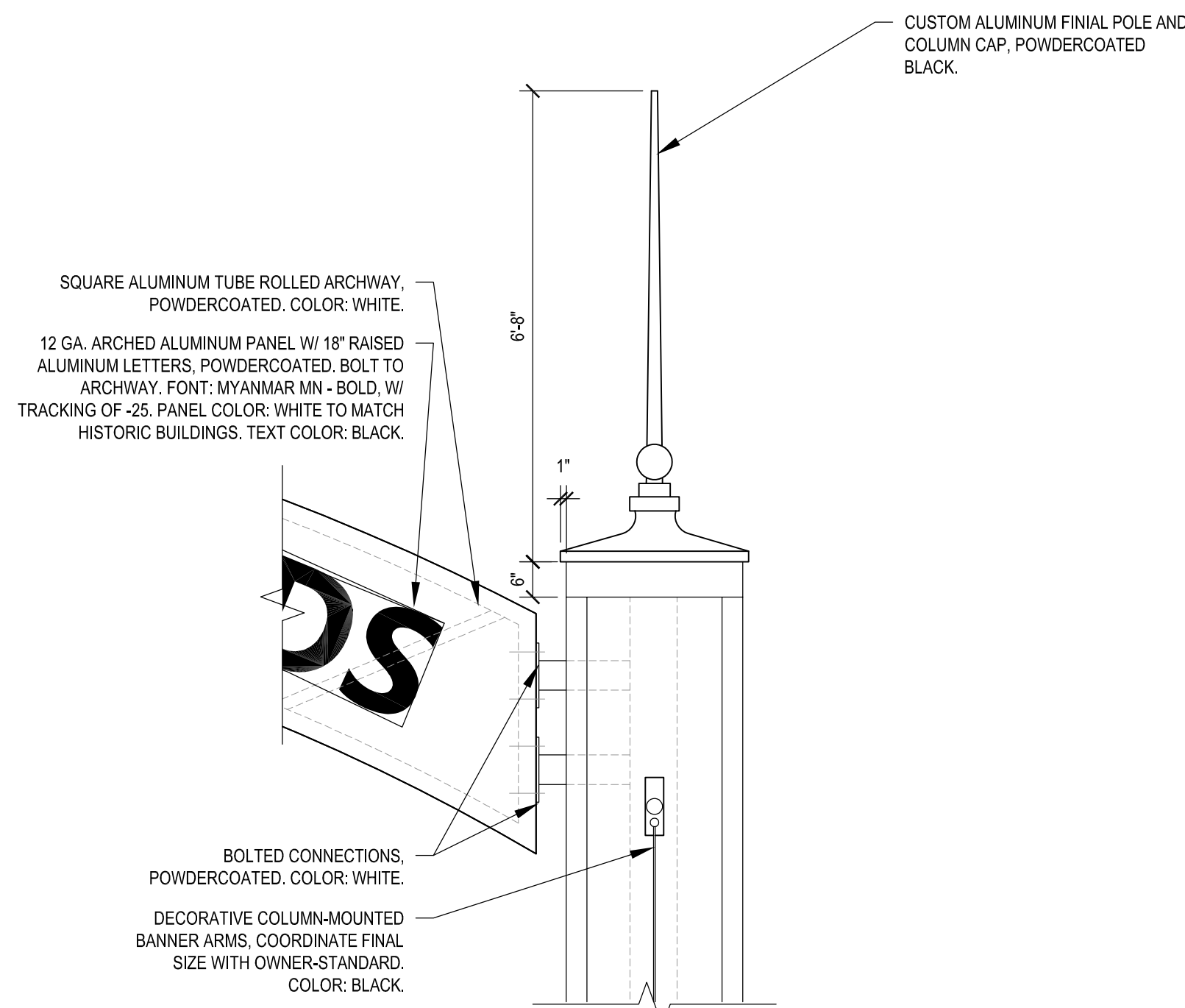


5 ENTRANCE GATE - NORTH ELEVATION  
A#.# : A#.# 1/4" = 1'



13 ENTRANCE COLUMN 1 - ELEVATIONS  
A#.# : A#.# 1/4" = 1'

15 ENTRANCE COLUMN 3 - ELEVATIONS  
A#.# : A#.# 1/4" = 1'



16 DETAIL - POST TO PANEL CONNECTION  
A1.2 : A1.2 3/4" = 1'

SIGN PERMIT APPLICATION INFORMATION

**LARGE ARCHED SIGN:**  
DIMENSIONS: +/- 1'-0" X +/- 2'-2" (ARCHED)  
AREA IN SF: +/- 46 SF  
WEIGHT IN LBS: TO BE DETERMINED  
HEIGHT OF SIGN FROM GROUND: +/- 24'-3"

**SMALL ARCHED SIGN:**  
DIMENSIONS IN FT: +/- 1'-0" X +/- 9'-1" (ARCHED)  
AREA IN SF: +/- 11 SF  
WEIGHT IN LBS: TO BE DETERMINED  
HEIGHT OF SIGN FROM GROUND: +/- 15'-4"

CONSTRUCTION DOCUMENTS

FAIR WAY DRIVE - ENTRY GATE - ELEVATIONS  
FAIR WAY DRIVE IMPROVEMENTS

sheet project owner

project # 20141.00

revision date

phase



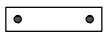
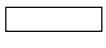
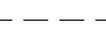



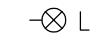
issue date  
03.04.2022

A1.2

SUBMITTED FOR SIGN PERMIT APPLICATION



LUMINAIRE SCHEDULE													
MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	LUMENS	WATTS	WATTS/FT	CCT	CRI	FINISH	DRIVER TYPE	DIMMING INTERFACE	NOTES
G1	NOT USED												
G2	KLIK USA	LPXL-50-F00-30K-7.5-S-FLD-SPC + REMOTE POWER SUPPLY	EXTERIOR RECESSED LED SMALL APERTURE PUCK LIGHT INTEGRATED WITH GATEWAY SIGNAGE STRUCTURE WITH REMOTE DRIVER AND POWER SUPPLY. SEE LENGTHS ON DRAWINGS. LOCATE DIODE EVERY 3' O.C.	GATE SIGNAGE	729	7.5		3000K	80	TBD	REMOTE	0-10V	SEE ARCHITECTURAL DETAIL. LOCATE REMOTE DRIVERS IN CONCEALED, BUT ACCESSIBLE AREA IN BUILDING 35.
G3	KELVIX	FX-30K-650-20-E-LENGTH + REMOTE DIMMING DRIVER.	EXTERIOR SURFACE MOUNTED LED STRIP WITH REMOTE DIMMING DRIVER AND POWER SUPPLY. PROVIDE WITH MOUNTING EXTRUSION AT BOTTOM OF SIGNAGE PANEL.	GATE SIGNAGE	650/LF		6W/FT	3000K	80	BY ARCHITECT	INTEGRAL	0-10V	SEE ARCHITECTURAL DETAIL. LOCATE REMOTE DRIVERS IN CONCEALED, BUT ACCESSIBLE AREA IN BUILDING 35.
G4	LITHONIA	RAD8 LED-P2-30K-SYM-MVOLT-PIR-TOP-CROWN-H36-FINISH	EXTERIOR GROUND MOUNTED LED BOLLARD WITH INTEGRAL DIMMING DRIVER. UL WET LOCATION LISTED.	SITE	675	8		3000K	80	BY ARCHITECT	INTEGRAL	0-10V	BOLLARDS TO BE SUPPLIED BY CONTRACTOR.

LIGHTING SYMBOLS	
	RECESSED DOWNLIGHT
	RECESSED ADJUSTABLE DOWNLIGHT
	SURFACE DOWNLIGHT
	SURFACE ADJUSTABLE DOWNLIGHT
	RECESSED TROFFER
	SURFACE TROFFER
	WALL MOUNT
	PENDANT MOUNT LINEAR
	PENDANT MOUNT
	SURFACE LINEAR
	SURFACE STRIP
	CONCEALED LED STRIP / TAPE
	EXTERIOR POLE MOUNT
	FLOOD / ACCENT
	BOLLARD
	TRACK
	EMERGENCY BATTERY UNIT
	EXIT SIGN CEILING MOUNT – ARROW AND FACES AS SHOWN ON PLANS
	EXIT SIGN WALL MOUNT – ARROW AND FACES AS SHOWN ON PLANS
	WALL MOUNTED EXIT SIGN LOW LEVEL

ELECTRICAL GENERAL NOTES	
A.	ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE, AS ACCEPTED AND AMENDED BY LOCAL ORDINANCES.
B.	FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY OWNER'S REPRESENTATIVE. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED SUBMITTAL, SHOP DRAWINGS AND LOCAL INSPECTIONS.
C.	CONTRACTOR SHALL SUBMIT RED-LINE RECORD DRAWINGS WITHIN TWO (2) WORK WEEKS OF DATE OF NOTIFICATION OF FINAL APPROVAL.
D.	ELECTRICAL PLANS ARE MOSTLY DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE CONNECTIONS BETWEEN FIXTURES AND LIGHTING CONTROL DEVICES SUCH AS OCCUPANCY SENSORS, LIGHT SWITCHES, AND LIGHTING CONTROL PANEL TO PROVIDE AN OPERABLE LIGHTING SYSTEM.

2018 INTERNATIONAL ENERGY CONSERVATION CODE	
1.	ALL LIGHTING CONTROLS SHALL COMPLY WITH SECTION C405.2 OF THE 2018 IECC.
2.	AS REQUIRED BY SECTION C405 ALL LIGHTING SYSTEMS SHALL BE COMMISSIONED IN AND COMPLETED IN ACCORDANCE WITH SECTION C408. THE COMMISSIONING OF THE LIGHTING CONTROLS SHALL FOLLOW THE MANUFACTURER'S INSTRUCTIONS AND BE PERFORMED BY AN APPROVED THIRD PARTY AGENCY.
3.	OCCUPANCY SENSORS SHALL BE TESTED TO VERIFY THEY DETECT OCCUPANTS AND CONTROL THE LIGHTS INDICATED ON THE PLANS.
4.	AS REQUIRED BY SECTION C408.3.2 THE COMMISSIONING DOCUMENTS DESCRIBED IN SECTION C408 SHALL BE PROVIDED TO THE OWNER WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

ABBREVIATIONS			
A, AMP	AMPERE	GFCI	GROUND FAULT CIRCUIT INTERRUPTING
AC	ALTERNATING CURRENT	G, GND	GROUND
ACT	ABOVE COUNTER TOP	GEN	GENERATOR
AIC	AMPERE INTERRUPTING CAPACITY	IG	ISOLATED GROUND.
AFF	ABOVE FINISHED FLOOR	HID	HIGH INTENSITY DISCHARGE
AFG	ABOVE FINISHED GRADE	HOA	HAND – OFF – AUTO
ATS	AUTOMATIC TRANSFER SWITCH	HP	HORSEPOWER
AF	FRAME RATING IN AMPERES	HPF	HIGH POWER FACTOR
AS	SWITCH RATING IN AMPERES	LED	LIGHT EMITTING DIODE
AT	TRIP RATING IN AMPERES	LS	LIFE SAFETY BRANCH
AWG	AMERICAN WIRE GAUGE	LLF	LIGHT LOSS FACTOR
AV	AUDIO VISUAL	LRC	LIGHTING RELAY CABINET
C	CONDUIT	MECH	MECHANICAL
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED	MCB	MAIN CIRCUIT BREAKER
CL	CENTERLINE	MLO	MAIN LUGS ONLY
CEC	CALIFORNIA ELECTRIC CODE	MCA	MINIMUM CIRCUIT AMPS
CKT	CIRCUIT	MOCP	MAXIMUM OVER CURRENT PROTECTION
CLG	CEILING	(N)	NEW
CR	CRITICAL BRANCH	N	NEUTRAL
CFL	COMPACT FLUORESCENT	NC	NORMALLY CLOSED
CL	CONNECTED LOAD	NEC	NATIONAL ELECTRIC CODE
CCT	CORRELATED COLOR TEMPERATURE	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
CRI	COLOR RENDERING INDEX	NL	NIGHT LIGHT
(D)	DEMOLISH EXISTING	NO	NORMALLY OPEN
DF	DEMAND FACTOR	NTS	NOT TO SCALE
DL	DESIGN LOAD	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
DC	DIRECT CURRENT	OC	OVER CURRENT
DPDT	DOUBLE POLE, DOUBLE THROW	PB	PULL BOX
DPST	DOUBLE POLE SINGLE THROW	ø, PH	PHASE
DIST	DISTRIBUTION	PNL	PANEL
EQ	EQUIPMENT BRANCH	PVC	POLYVINYL CHLORIDE CONDUIT
(E)	EXISTING TO REMAIN	PTS	PNEUMATIC TUBE STATION
(ER)	REMOVE EXISTING.	P	POLE
(EL)	RELOCATE EXISTING.	PWR	POWER
EC	EMPTY CONDUIT	(R)	RELOCATE EXISTING
ELEC	ELECTRICAL	RCP	REFLECTED CEILING PLAN
ELEV	ELEVATOR	RSC	RIGID STEEL CONDUIT
E, EMER	EMERGENCY	SPDT	SINGLE POLE, DOUBLE THROW
EMT	ELECTRO METALLIC TUBING	SPST	SINGLE POLE, SINGLE THROW
EW	ELECTRIC WATER COOLER	SWBD	SWITCHBOARD
EW	ELECTRIC WATER HEATER	SWGR	SWITCH GEAR
EMS	EMERGENCY MANAGEMENT SYSTEM	SYS	SYSTEM
FA	FIRE ALARM	TP	TAMPER RESISTANT
FAAP	FIRE ALARM ANNUNCIATOR PANEL	TB, ITB	TERMINAL BACKBOARD
FACP	FIRE ALARM CONTROL PANEL	TC	TERMINAL CABINET
FATC	FIRE ALARM TERMINAL CABINET	TEL	TELEPHONE
FARA	FIRE ALARM REMOTE ANNUNCIATOR	TP	TAMPER PROOF
FCIP	FIRE ALARM CONTROL & INDICATING PANEL	TV	TELEVISION
FPRP	FIRE ALARM PUMP STATUS PANEL	V	VOLT
VCS	FIRE ALARM VOICE COMMUNICATION PANEL	VD	VOLTAGE DROP
FSD	FIRE SMOKE DAMPER	VFD	VARIABLE FREQUENCY DRIVE
FVNR	FULL-VOLTAGE, NON-REVERSING	VA	VOLT AMPERES
FVR	FULL-VOLTAGE, REVERSING	W	WATT
FLA	FULL LOAD AMPS (NAME PLATE)	W	WIRE
FLC	FULL LOAD CURRENT (NEC)	WP	WEATHERPROOF
(F)	FUTURE	XFMR	TRANSFORMER
		XP	EXPLOSION PROOF

CONSTRUCTION DOCUMENTS

sheet

project

owner

LIGHTING LEGENDS AND SCHEDULES

FAIRWAY DRIVE IMPROVEMENTS

project # 20141.00


revision      date

phase

CONSTRUCTION DOCUMENTS



TYPE G2



LEDPOD XL50™  
Related LEDpod XL™ for use in any hollow metal structure

SPECSHEET


PROJECT NAME:





REP AGENCY:

FIXTURE TYPE:

SPECIFIER:

LOCATION:





LEDpod™ Part # Builder

Fixture Type	Size	Bezel Profile	Color	Wattage	Distribution	Optic	Dimming Option	Tamper	Bezel Finish
LEDpod XL™	50	F80 = Flat R50 = 50mm R R65 = 65mm R	27K = 2700° K 30K = 3000° K 40K = 4000° K 50K = 5000° K R50 = Red GRN = Green BLU = Blue AMB = Amber	2.3 = 2.3 Watts 3.2 = 3.2 Watts 4.5 = 4.5 Watts 6.6 = 6.6 Watts 7.5 = 7.5 Watts	S = Symmetric	SPT = Spot NFL = Narrow Flood FLD = Flood SPTNFL = Spot Reflector NFLFLD = Narrow Flood Reflector FLDRFL = Flood Reflector	DIM = Dimmable TP = Tamper Resistant	CUS = Custom (Specify)	

Specifications

Input Voltage:	24 VDC	Binning:	2 Mackdam Step
Operating Temp	-40 to 122° F	CRI	80 - 85
Efficiency	88 lm/W	Tube Size	RHS min 2.75" height, Max. wall .3125"
Listing	ETL Listed, UL 1598/CSA 22.2, CE	Cut Out	1.9"
Driver	Must use class 2 driver	Weight	0.43 LBS
Enclosure	Minimum NEMA 3R required	Dimming	0-10V, DMX, DALI
Location	Wet location rated	Warranty	5 year warranty

Photometrics

Optics			Lens			Reflector		
Beam Angle	SP	NFL	FL	SP	NFL	FL		
LDR defined by optics	78	77	78	84	84	84		
lm	W	mA	System Lumens					
300	2.3	350	234	231	234	252		
375	3.1	500	293	289	293	315		
525	4.4	700	410	405	410	441		
590	6.3	1000	539	532	539	580		
810	7.5	1200	632	624	632	681		

SP - spot 80-90° - NFL - narrow flood 35-49° - FL - flood 50-69°

Remote Mounting Distance Chart

24 VDC 100W Driver				MAXIMUM DISTANCE FROM DRIVER TO FIRST LED AT MAX FIXTURE LOAD			
WIRE SIZE	10 AWG	12 AWG	14 AWG	16 AWG	18 AWG		
DISTANCE	120'	71'	44'	29'	16'		


Optional Accessories

LP100WPRITRNEXCL	Class 2 Driver - Non Dimming - Input voltage = 120-227 VAC - Output voltage = 24 VDC - 5 year warranty
LP100WPRITRNDIM	Class 2 Driver - Dimming - Input voltage = 120-227 VAC - Output voltage = 24 VDC - 5 year warranty
LPNEMA3RENCL	NEMA 3R Enclosure - 4" x 4" x 18"
LPNEMA4XENCL	NEMA 4X Watertight Enclosure - 4" x 4" x 18"

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R1.2 - 20170110

TYPE G3




FLOPTIX™  
FLEXIBLE OPTICS

Fixture Type:

Project:

Location:



6.575" (167mm)

0.875" (22mm)

0.438" (11mm)

MODEL	FX-24K-650	FX-27K-650	FX-30K-650	FX-35K-650	FX-40K-650	FX-50K-650
KELVIN	2400K	2700K	3000K	3500K	4000K	5000K
LUMENS	572 lm/ft	597 lm/ft	632 lm/ft	686 lm/ft	691 lm/ft	705 lm/ft

PRODUCT FEATURES

- Factory Built to Length
- Multiple Beam Options
- Flexible
- IP67

SPECIFICATIONS







Series	FX—Floptix
Input Voltage	24 VDC
Watts per Foot	5.85W/ft
Beam Angle	20°, 30°, 40°, 50°, and 20° x 30°
Max Run Length	16 ft per Power Feed
Cut Intervals	6.575" (167mm)
Band Diameter	7" (180mm)
Tape Dimensions	0.875" (23mm) x 0.438" (11mm)
CRI	90+
Dimming Options	PWM, Triac, 0-10V, DMX, Hi-Lume
Temp Range	-40°F (-40°C) to 113°F (45°C)

ORDERING INFORMATION

Example: FX-24K-650-20-E-SFT-5.75IN

Item	CCT	Output	Beam Angle	Feed Point	Feet	Inches
FX—Floptix	24K—2400K 27K—2700K 30K—3000K 35K—3500K 40K—4000K 50K—5000K	650—650 lm/ft	20—20° 30—30° 40—40° 50—50° 2030—20° x 30°	SL—Slide Feed Left SR—Slide Feed Right E—End Feed B—Bottom Feed	Length—Enter number of feet, followed by any remaining inches, (i.e. SFT-5.75IN) Max run length is 16ft per Power Feed	


Conforms to ANSI/UL Standard 2108  
Certified to CAN/CSA Standard C22.2 No. 250.0



Questions/Support | 800-789-3810 | quotes@kelvix.com

040821JH

TYPE G4



RADEAN Bollard  
LED Site Luminaire

Introduction

The Radean LED Bollard is an award-winning, energy-saving, long-life solution designed to perform the way a bollard should.

The Radean LED Bollard's rugged construction, durable finish and long-lasting LEDs will provide years of maintenance-free service.

Specifications

Diameter:  $\varnothing = 8.25"$  (20.96cm)  
Height:  $H = 41.5"$  Standard (105.41cm)  
Weight (max): 20lbs (9.07Kg)

Ordering Information

EXAMPLE: RADB LED P4 30K SYM MVOLT BTS BCCDNATXD DBLXD

Series	Performance Package	Color temperature	Distribution	Voltage	Control options	Bollard top options	
RADB LED	P1 P2 P3 P4 P5	27K 2700 K 30K 3000 K 35K 3500 K 40K 4000 K 50K 5000 K	ASY Asymmetric <sup>1</sup> SYM Symmetric <sup>1</sup>	MVOLT <sup>1</sup> 120 208 <sup>1</sup> 240 <sup>1</sup> 277 347 480	PE Photocentric coll. button type <sup>1,2</sup> DMG 0-10V dimming driver (no controls) E7WH Emergency battery backed, certified to UL file #305635 <sup>1,3</sup> F10 Field adjustable output <sup>1</sup> PIR PIR sensor B-level <sup>1,3,4,5</sup>	<b>Slim Top</b> BTS Slim top, painted to match shaft <sup>1</sup> BTSDWHTD Slim top, white <sup>1,2</sup> BTSDBLXD Slim top, black texture <sup>1,2</sup> BTSDORBD Slim top, dark bronze texture <sup>1</sup> BTSDORBD Slim top, dark bronze <sup>1,2</sup> BTSDORBD Slim top, natural aluminum texture <sup>1,2</sup> BTSDORBD Slim top, natural aluminum <sup>1,2</sup> BTSDWHGD Slim top, white texture <sup>1</sup>	<b>Tall Top</b> BTT Tall top, painted to match shaft <sup>1</sup> BTTDBLXD Tall top, black texture <sup>1</sup> BTTDOBTD Tall top, dark bronze texture <sup>1</sup> BTTDOBTD Tall top, dark bronze <sup>1</sup> BTTDNATXD Tall top, natural aluminum texture <sup>1</sup> BTTDNATXD Tall top, natural aluminum <sup>1</sup> BTTDWHGD Tall top, white texture <sup>1</sup>

Bollard crown options		Orbital options	Finish options
Deep Crown	BCC	H24 <sup>1,6</sup> 24" overall height H30 <sup>1,6</sup> 30" overall height L1AB Without anchor bolts	DBRSD Dark bronze DBLSD Black DNATD Natural aluminum DNWSD White DOBTD Textured dark bronze DBLSD Textured black DNATD Textured natural aluminum DNWSD Textured white
Flat Crown	BCF		
BCCDWHGD Deep crown, painted to match shaft <sup>1</sup>	BCFDBLXD Flat crown, black texture <sup>1</sup>		
BCCDORBD Deep crown, black <sup>1</sup>	BCFDBLXD Flat crown, black <sup>1</sup>		
BCCDORBD Deep crown, black texture <sup>1</sup>	BCFDBTDXD Flat crown, dark bronze texture <sup>1</sup>		
BCCDOBTD Deep crown, dark bronze texture <sup>1</sup>	BCFDOBTD Flat crown, dark bronze <sup>1</sup>		
BCCDOBTD Deep crown, dark bronze <sup>1</sup>	BCFDNATXD Flat crown, natural aluminum texture <sup>1</sup>		
BCCDNATXD Deep crown, natural aluminum texture <sup>1</sup>	BCFDNATXD Flat crown, natural aluminum <sup>1</sup>		
BCCDNATXD Deep crown, natural aluminum <sup>1</sup>	BCFOWHGD Flat crown, white texture <sup>1</sup>		
BCCDWHGD Deep crown, white texture <sup>1</sup>	BCFOWHGD Flat crown, white <sup>1</sup>		

Accessories

Ordered and shipped separately

RADAB U Anchor bolts (4)	BC1RADB BOLT (P/N)SH U Base cover with bolt caps
RADABACORDB U Replace mast and/or bolt covers (applied finish) (6)	BC1RADB EMTSTNAG U Emergency rest style

NOTES

- PE only available in SYM distribution.
- ASY has only two illuminated quadrants driven at higher drive currents to generate similar output as the SYM 4-quadrant product.
- PIR not available with 208V or 240V.
- PE only available with ASY.
- PE, PIR and F10D not available with BTS.
- H24<sup>1,6</sup> and PIR only available in full height. Not available with H24, H30 or H36.
- PIR not available with DNW.
- Architectural and custom colors available (additional leadtime and cost may apply).
- 42" height is standard. H24, H30 and H36 have longer leadtimes.

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • [www.lithonia.com](http://www.lithonia.com)  
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CONSTRUCTION DOCUMENTS

sheet LIGHTING CUTSHEETS

project FAIRWAY DRIVE IMPROVEMENTS

owner MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE. MISSOULA, MT 59801

project # 20141.00


revision date


phase

CONSTRUCTION DOCUMENTS

issue date 03.08.2022

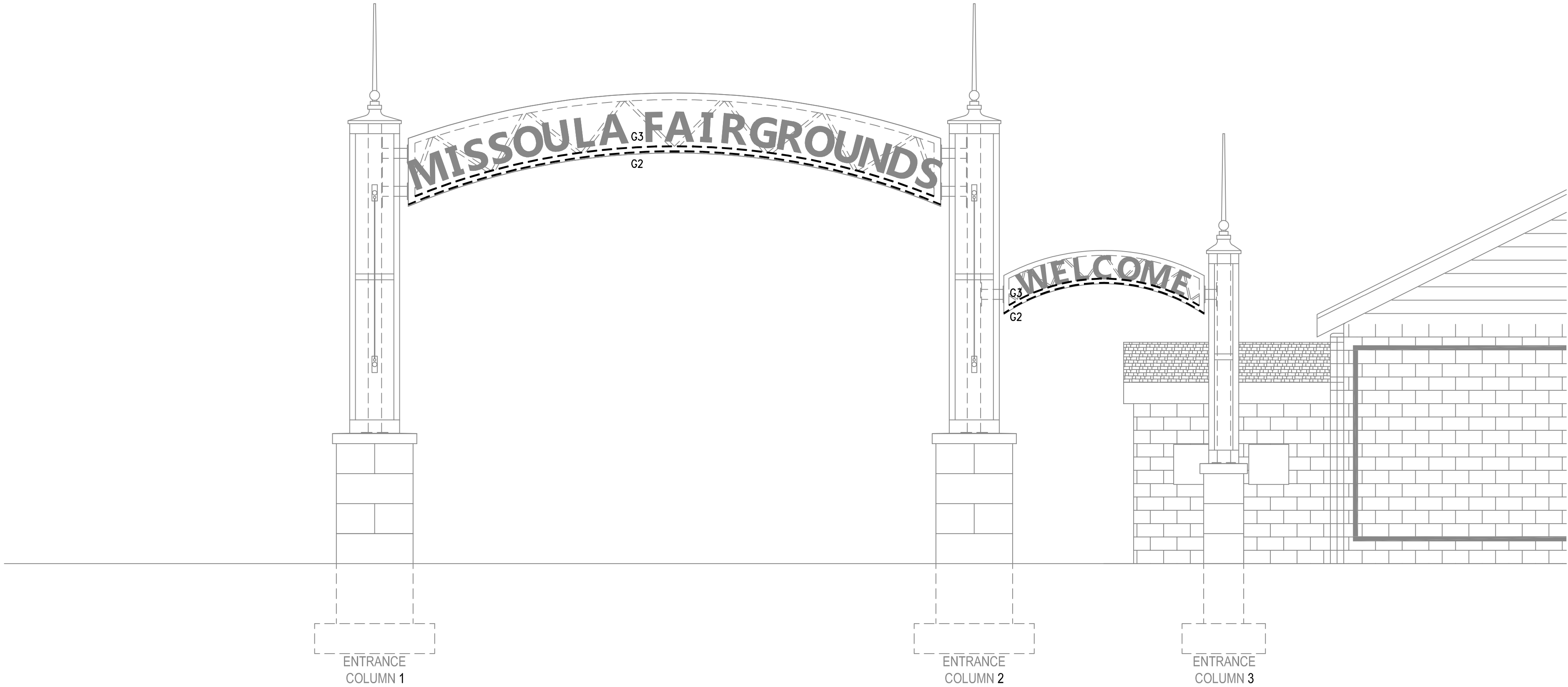
EL0.2



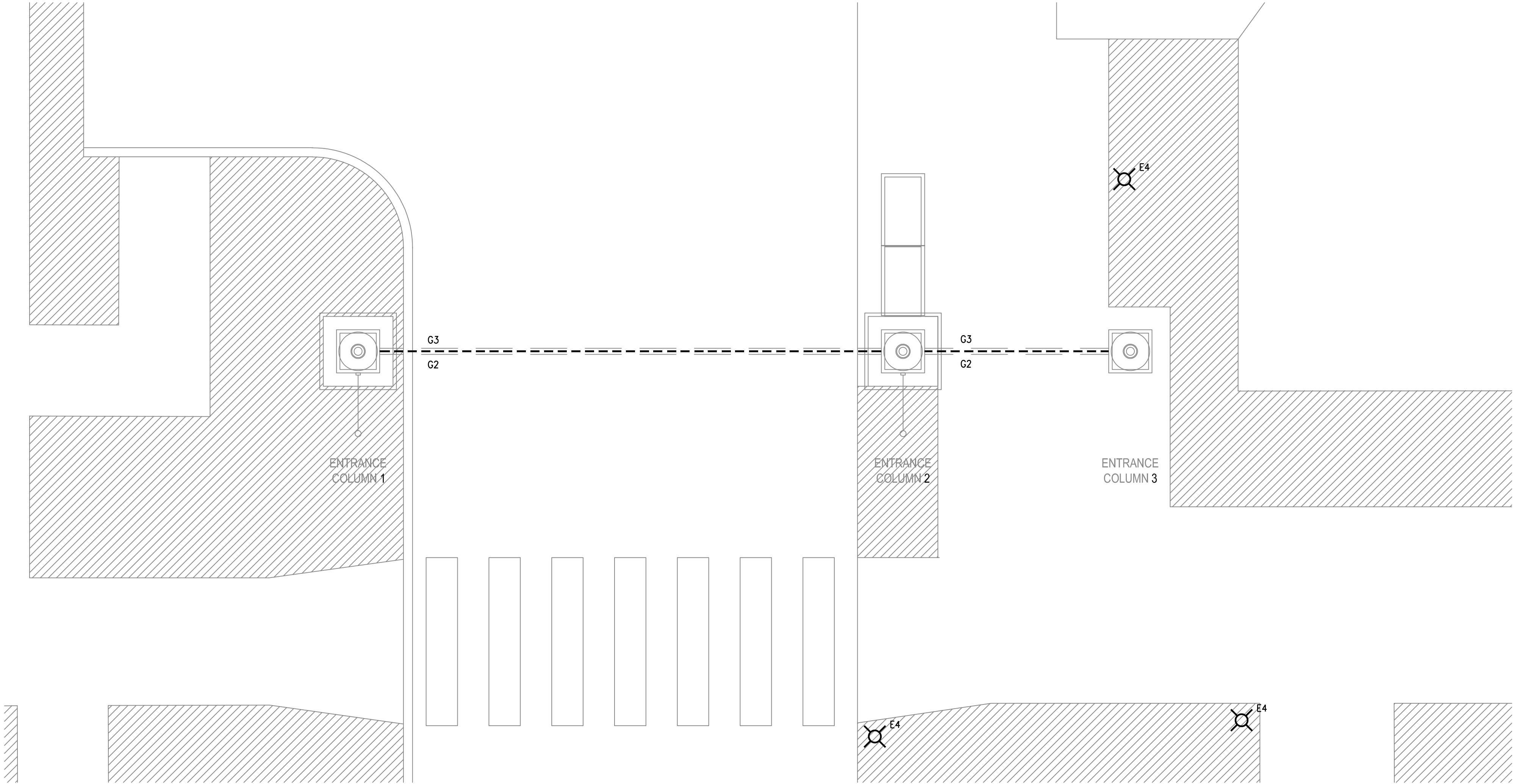


1400 Stout Street, Suite 450  
Denver, CO 80202  
TEL: 720.644.5044  
[www.mazzetti.com](http://www.mazzetti.com)  
Project Number: 204-028



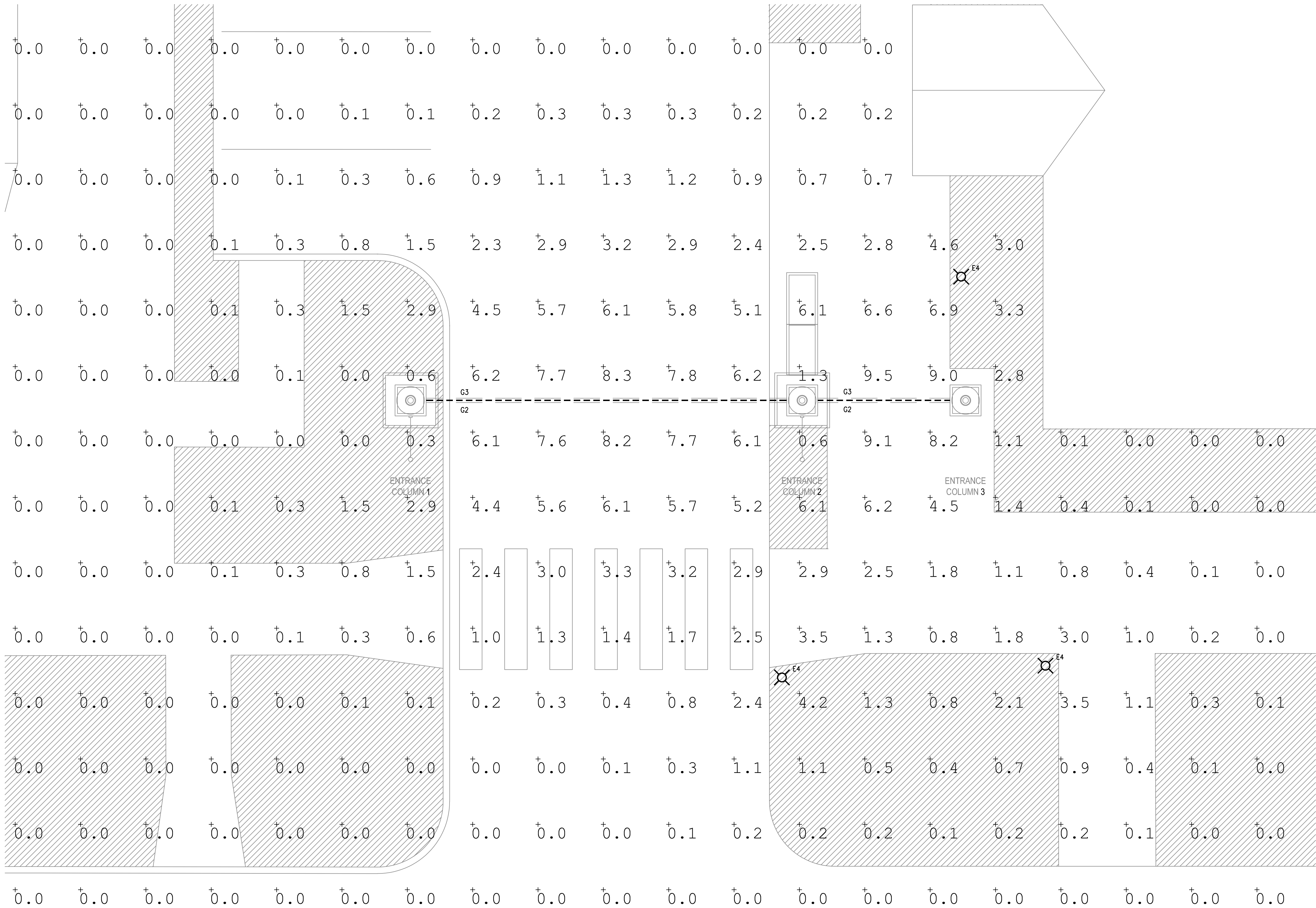


2  
EL1.0  
GATE LIGHTING ELEVATION  
SCALE: 1/4" = 1'-0"




1  
EL1.0  
GATE LIGHTING PLAN  
SCALE: 1/4" = 1'-0"

M:\Denver\Projects\2024\028 - Rocky Mountain Gardens\04 Diggs\Fairway\Fairway Entrance Gate Lighting.dwg Mar 08, 2022 - 3:33pm



Fairway Gate  
Illuminance (Fc)  
Average = 3.17  
Maximum = 9.5  
Minimum = 0.0  
Avg/Min Ratio = N.A.  
Max/Min Ratio = N.A.



# MISSOULA FAIRGROUNDS

SIGNAGE GUIDELINES

## MYANMAR MN – BOLD

This typeface is to be used in bold for all of the building names. It looks best with a tracking of -25.

ABCDEFGHIJ  
KLMNOPQRS  
TUVWXYZ

## DIN 2014 – REGULAR

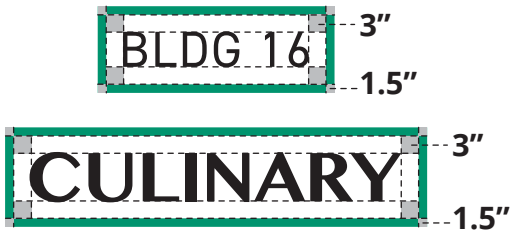
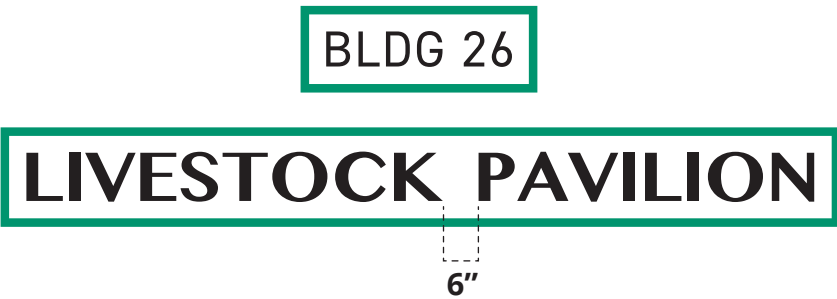
For the building numbers DIN 2014 Regular should be used. To conserve legibility please keep tracking at +40.

ABCDEFGHIJKLMNO  
PQRSTUVWXYZ  
123456789

**SPACING**

Reference the guidelines below when setting up the type and spacing for a sign. The type should always be the same height.

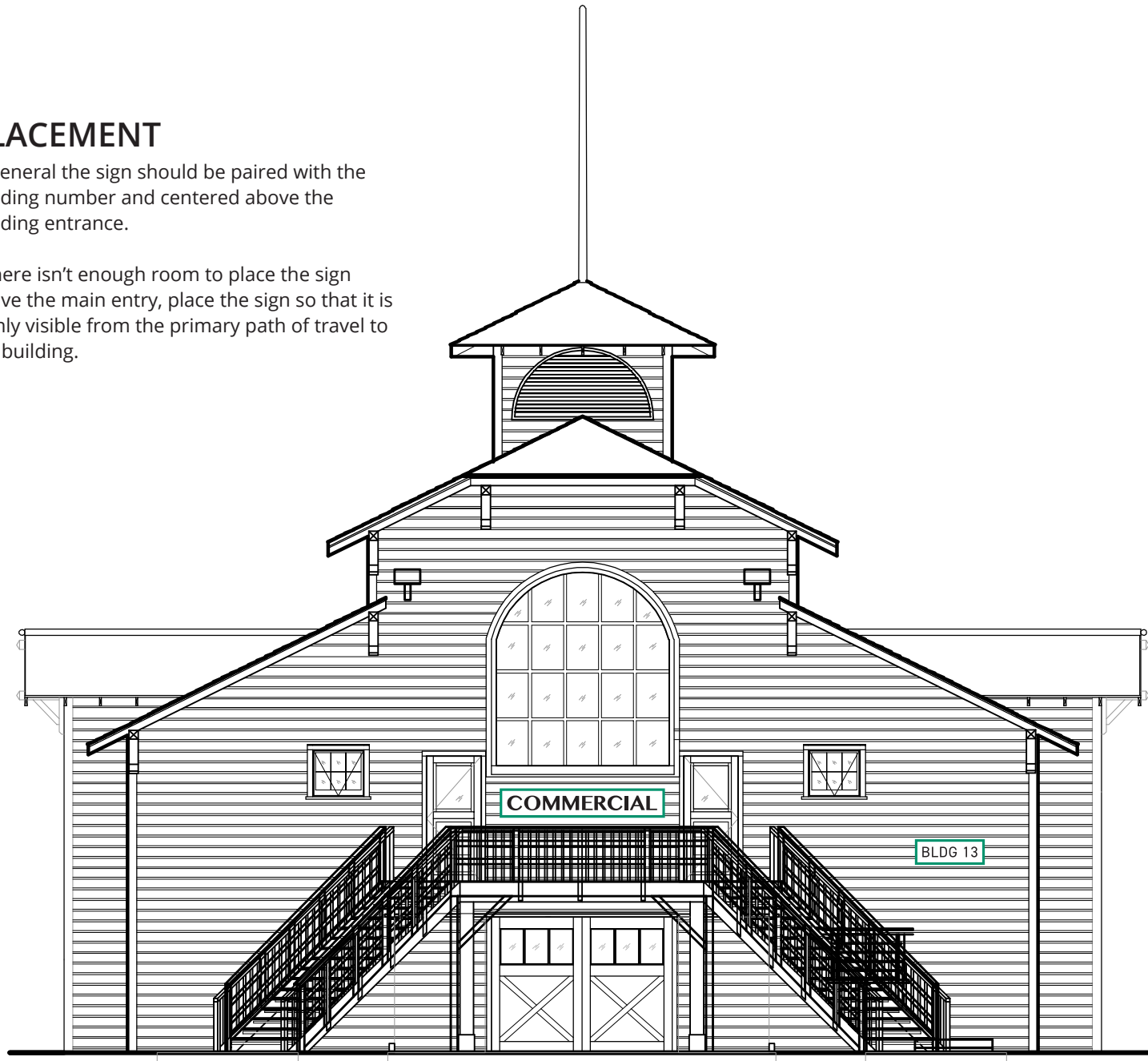
If there is a sign with two words, please make sure the spacing between the two is 6" in with. Don't exceed 12' in width for the length of two words. If the words are too long they should be stacked 3" apart.



## PLACEMENT

In general the sign should be paired with the building number and centered above the building entrance.

If there isn't enough room to place the sign above the main entry, place the sign so that it is highly visible from the primary path of travel to the building.





issue date  
03.15.2022

phase

revision      date

project #    20141.00

sheet    FAIR WAY DRIVE  
project    FAIR WAY DRIVE IMPROVEMENTS  
owner    MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE, MISSOULA, MT 59801



# MISSOULA COUNTY FAIRGROUNDS FAIR WAY DRIVE IMPROVEMENTS ENTRANCE

1101 SOUTH AVENUE W  
MISSOULA, MONTANA 59801

S33, T13 N, R19 W, EXEMPT-MISSOULA COUNTY FAIRGROUNDS IN NW1/4 NW1/4 & N1/2 SW1/4  
GEOCODE: 04-2200-33-2-01-02-0000

## PROJECT TEAM

### OWNER

MISSOULA COUNTY, FAIRGROUNDS  
1101 SOUTH AVE W  
MISSOULA, MT 59801

### ARCHITECT

A&E DESIGN  
222 NORTH HIGGINS  
MISSOULA, MONTANA 59802  
406.721.5643

### CONTRACTOR

JACKSON CONTRACTOR GROUP INC  
PO BOX 967  
MISSOULA, MT 59806  
406.542.9150

### ELECTRICAL

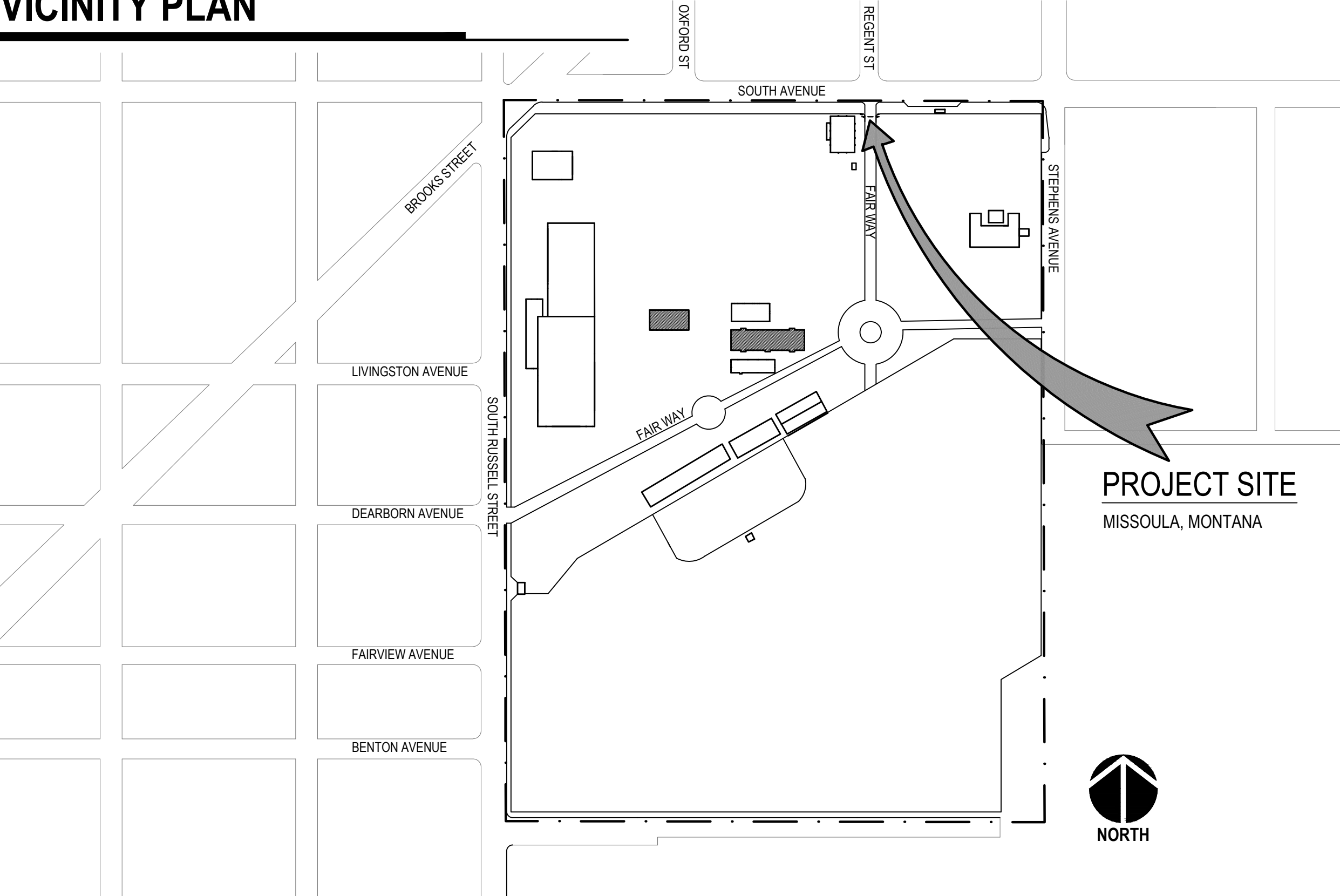
MAXUS CONSULTING ENGINEERS PC  
PO BOX 8207  
MISSOULA, MT 59807  
406.926.2882

### LIGHTING

MAZETTI LIGHTING ENGINEERS  
1999 BROADWAY,  
DENVER, CO 80202  
720.644.5044

UNDER SEPARATE COVER, DOCUMENTS  
HAVE BEEN SUBMITTED TO THE CITY OF  
MISSOULA HISTORIC PRESERVATION  
OFFICE FOR REVIEW INCLUDING HERITAGE  
SIGN REVIEW IN ADVANCE OF DESIGN  
REVIEW IN ACCORDANCE WITH 20.75.100

## VICINITY PLAN



## DRAWING INDEX

COVER COVER SHEET

### ARCHITECTURAL

A1.1 FAIR WAY DRIVE - ENTRY GATE - PLAN  
A1.2 FAIR WAY DRIVE - ENTRY GATE - ELEVATIONS

L1.1 LANDSCAPING PLAN

### STRUCTURAL

S0.1 GENERAL NOTES  
S0.2 GENERAL NOTES  
S1.1 FOUNDATION PLAN  
S1.2 FOUNDATION PLAN

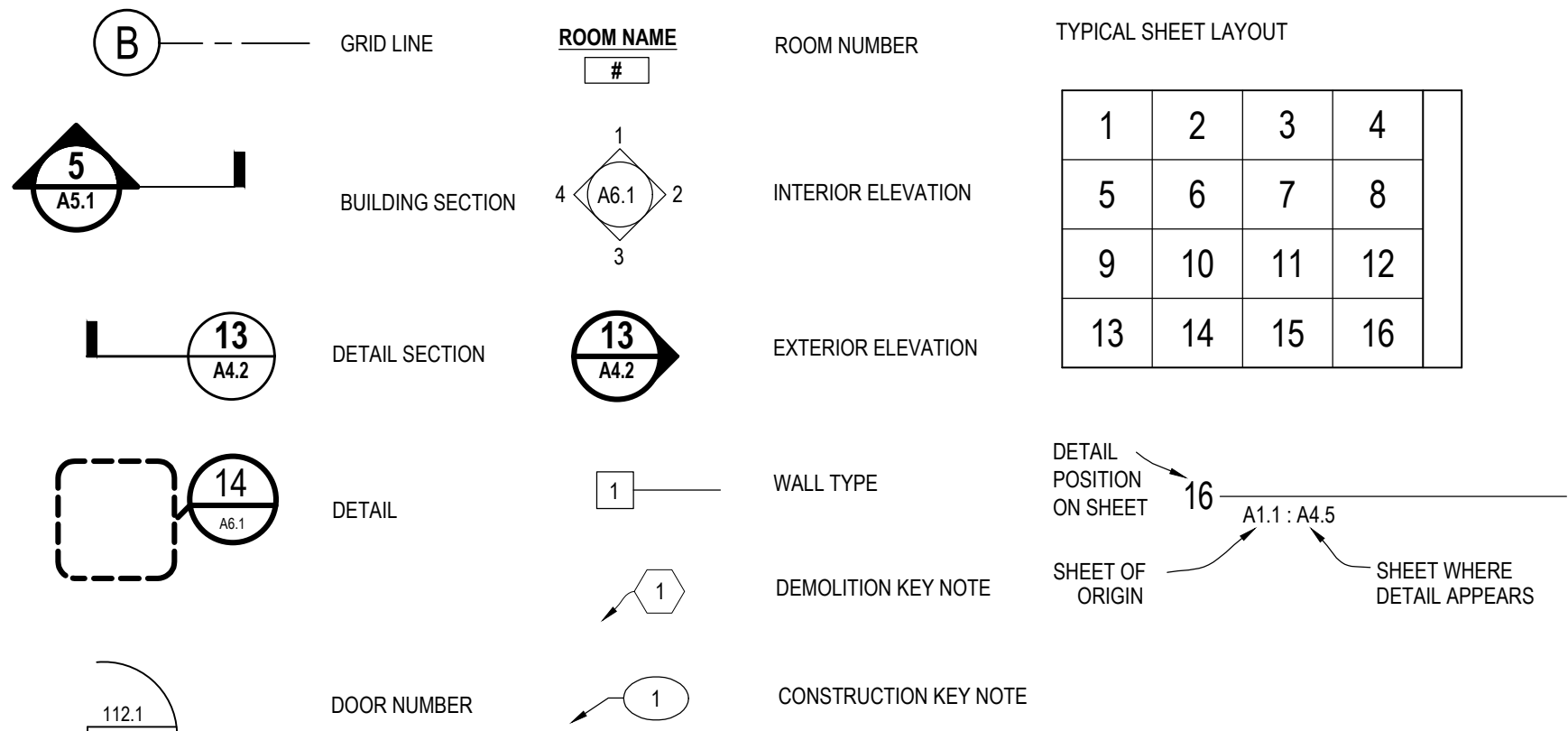
### ELECTRICAL

E0.1 GENERAL NOTES, ABBREVIATIONS & UNITS OF MEASURE, DEFINITIONS, SYMBOL LEGEND AND SHEET INDEX  
E1.1 ELECTRICAL POWER & COMMUNICATIONS PLANS AND NORTH ELEVATION  
E1.2 COLUMN ELEVATIONS  
E9.1 ONE-LINE DIAGRAMS AND SCHEDULES

### LIGHTING

EL0.1 LIGHTING LEGENDS AND SCHEDULES  
EL1.0 LIGHTING PLANS  
EL1.1 LIGHTING CALCULATIONS

## EXPLANATION OF SYMBOLS



## GENERAL PROJECT NOTES AND DEFINITIONS

- EVERY ATTEMPT HAS BEEN MADE TO ENSURE THE ACCURACY OF THE DRAWINGS THROUGH EXISTING AS-BUILT DATA AND FIELD VERIFICATION. CONTRACTOR RESPONSIBLE TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION / ORDERING / INSTALLATION.
- DRAWINGS ARE ABBREVIATED IN NATURE. CONTRACTOR IS EXPECTED TO USE QUALITY, ACCEPTABLE STANDARD CONSTRUCTION PRACTICES & TECHNIQUES. CONTRACTOR SHALL BE COGNIZANT THAT THIS IS A BUILDING RENOVATION PROJECT REQUIRING ADDITIONAL WORK NOT SPECIFICALLY INDICATED ON THE DRAWINGS, CERTAIN ITEMS CANNOT BE FULLY INDICATED OR EXPLAINED ON THE DRAWINGS REQUIRING FIELD OBSERVATIONS OF CONDITIONS.
- ALL CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE STANDARDS & REGULATIONS AS PRESCRIBED BY THE 2018 INTERNATIONAL EXISTING BUILDING CODE, ALL APPLICABLE PLUMBING CODES, ALL APPLICABLE MECHANICAL CODES, ALL APPLICABLE ELECTRICAL CODES, ALL APPLICABLE FIRE CODE. ADDITIONALLY, ALL CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS SET FORTH BY THE 2012 INTERNATIONAL ENERGY CONSERVATION CODE. (2018 IECC) .
- MECHANICAL / PLUMBING / ELECTRICAL SHALL BE COORDINATED AND INSTALLED BY CONTRACTOR TO BE CONSISTENT WITH THE INTENT OF THE DRAWINGS AND SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES.
- CONTRACTOR TO MAINTAIN INTEGRITY OF EXISTING BUILDING / SYSTEMS AT ALL TIMES. NOTIFY OWNER BEFORE COMPROMISING ANY SYSTEM DUE TO THE (N) CONSTRUCTION.
- DO NOT SCALE DRAWINGS.
- CONTRACTOR SHALL GUARANTEE THEIR WORK FOR A PERIOD OF NO LESS THAN ONE YEAR FROM THE DATE SUBSTANTIAL COMPLETION.
- CONTRACTOR SHALL SUPPLY ALL PARTS, MATERIALS & LABOR ASSOCIATED WITH COMPLETING THIS PROJECT, UNLESS OTHERWISE NOTED.
- "TYPICAL" OR "TYP." AS USED IN THESE DOCUMENTS SHALL MEAN: THE CONDITION IS THE SAME OR REPRESENTATIVE FOR ALL SIMILAR CONDITIONS, U.N.O.
- "IN-KIND" AS USED IN THESE DOCUMENTS SHALL MEAN: NEW MATERIAL INDICATED TO MATCH IN-KIND SHALL REPLICATE EXACTLY, IN EVERY REGARD, THE ORIGINAL DETAIL, MATERIAL, TYPE AND FINISH OF ELEMENT TO BE REPLACED AS DETERMINED BY THE ARCHITECT.
- "ALIGN" AS USED IN THESE DOCUMENTS SHALL MEAN TO ACCURATELY LOCATE FINISHED FACES IN THE SAME PLANE. COORDINATE ALL WORK NECESSARY TO ACHIEVE SAME.

## PROJECT SUMMARY

PROJECT  
FAIR WAY DRIVE IMPROVEMENTS  
ENTRANCE GATE  
MISSOULA COUNTY FAIRGROUNDS

ADDRESS  
1101 SOUTH AVE W  
MISSOULA MONTANA 59801

NOTE:  
DESIGN IS INTENDED TO COMPLY WITH MISSOULA COUNTY  
FAIRGROUNDS DESIGN GUIDELINES, MAY 24, 2018

## ARCHITECTURAL ABBREVIATIONS

AB	ANCHOR BOLT	DWG	DRAWING	HT	HEIGHT	PLUMB	PLUMBING	STND	STANDARD
ABV	ABOVE	E	EAST	HTD	HEATED	PLYWOD	PLYWOOD	STL	STEEL
A/C	AIR CONDITIONING	EA	EXISTING	HVAC	HEATING VENTILATION AIR	PNL	PANEL	STRUCT	STRUCTURAL
ACT	ACUSTIC CEILING TILE	(E)	EACH	PNT	CONDITIONING	POLY	POLYESTER OR POLYOLEFIN	TEL	TELEPHONE
ADDL	ADDITIONAL	EC	EXISTING COLUMN	ID	INSIDE DIAMETER	PSI	POUNDS PER SQUARE FOOT	TEMP	TEMPERED
ADJ	ADJUSTABLE	EJ	EXPANSION JOINT	INRO	INFORMATION	PSF	POUNDS PER SQUARE FOOT	THK	THICK
AFF	ABOVE FINISH FLOOR	ELEC	ELECTRICAL	ISO	INSOCYANURATE	PSI	POUND PER SQUARE INCH	THRESH	THRESHOLD
ALT	ALTERNATE	EL	ELEVATION	INSUL	INSULATE/ INSULATION	PT	PRESSURE TREATED/ POINT	T.A.	TOP OF
ALUM	ALUMINUM	ELEV	ELEVATOR	INT	INTERIOR	PVT	PRIVATE	TOBM	TOP OF BEAM
ARCH	ARCHITECT(URAL)	EQ	EQUAL	INV	INVERT	QTY	QUANTITY	T.A.P	TOP OF PLATE
AWN	AWNING	EQ	EQUIPMENT	JT	JOINT	QTR	QUARTER	T.O.S	TOP OF STEEL
B/	BOTTOM OF	EW	ELECTRIC WATER COOLER	J-BOX	JUNCTION BOX	QTY	QUANTITY	T/	TOP OF
BD	BOARD	EXH	EXHAUST	KIT	KITCHEN	R	RADIUS	T&G	TONGUE AND GROOVE
BLDG	BUILDING	EXIST	EXISTING	L	LONG/ LENGTH	RA	RETURN AIR	TRANS	TRANSOM
BLKG	BLOCKING	EXP	EXPANSION OR EXPOSED	LAM	LAMINATE(D)	RB	RUBBER BASE	TV	TELEVISION
BM	BEAM OR BENCHMARK	EXT	EXTERIOR	LAV	LAVATORY	RD	ROOF DRAIN	UL	UNDERWRITERS LABORATORY
BRG	BEARING	FACP	FIRE ALARM CONTROL PANEL	LF	LINEAR FEET	RECY	RECYCLE(D)	UNO	UNLESS NOTED OTHERWISE
BTWN	BETWEEN	FE	FIRE FLOOR DRAIN	LT	LIGHT	REF	REFERENCE	VB	VINYL BASE
BUR	BUILT-UP ROOF	FEC	FIRE EXTINGUISHER	MAS	MASONRY	REFRIG	REFRIGERATOR/	VCT	VINYL COMPOSITION TILE
CAB	CABINET	MATL	FIRE EXTINGUISHER CABINET	MATL	MATERIAL	REQD	REQUIRED	VERT	VERTICAL
CJ	CONTROL JOINT	FIN	FINISH FLOOR LEVEL	MECH	MECHANICAL	RM	ROOM	VEST	VESTIBULE
CL	CENTERLINE	FIXT	FIXTURE	MEZZ	MEZZANINE	RO	ROUGH OPENING	VIF	VERIFY IN FIELD
CLG	CEILING	FLR	FLOOR	MFR	MANUFACTURER	ROW	RIGHT OF WAY	VR	VAPOR RETARDER
CMU	CONCRETE MASONRY UNIT	FND	FOUNDATION	MH	MANHOLE	RR	RESTROOM	VRF	VARIABLE REFRIGERANT FLOW
COL	COLUMN	FR	FRAME	MIN	MINIMUM	S	SOUTH	VTT	VINYL TILE
CONC	CONCRETE	FRMG	FRAMING	MISC	MISCELLANEOUS	SC	SOLID CORE	W	WATER
CONT	CONTINUOUS	FTNG	FEET/FOOT OR FIRE TREATED	MO	MASONRY OPENING	SCHED	SCHEDULE	WC	WATER CLOSET
CONST	CONSTRUCTION	FRP	FIBERGLASS REINFORCED PANEL	MTL	METAL	SECT	SECTION	WD	WOOD
CG	CORNERGUARD	GA	GAUGE OR GAGE	N	NORTH	SFRM	SQUARE FEET	WDW	WINDOW
CPT	CARPET	GALV	GALVANIZED	(N)	NEW	SGL	SINGLE	WG	WALL GUARD
CSMT	CASEMENT	CT	CERAMIC TILE	NIC	NOT IN CONTRACT	SHIT	SHEET	WH	WATER HEATER
CT	COUNTERTOP	GB	GYPSUM BOARD	NOM	NOMINAL	SHTG	SHREATHING	W/N	WITHIN
CTOP	COUNTERTOP	GC	GENERAL CONTRACTOR	NTS	NOT TO SCALE	SIM	SIMILAR	W/O	WITHOUT
D	DEEP	GL	GLASS, GLAZING	OC	ON CENTER	SIM	SIMILAR	WP	WATERPROOF
DF	DOUBLE HUNG	GW	GYPSUM WALL BOARD	OD	OUTSIDE DIAMETER/	SOC	SLAB ON GRADE	WR	WATER RESISTANT
DH	DOUBLE HUNG	GYP	GYPSUM	OPNG	OPENING	SOH	SAME OPPOSITE HAND	WWF	WELDED WIRE FABRIC
DIM(S)	DIMENSIONS	HC	HANDICAP	OFF	OPPOSITE	SS	STAINLESS STEEL	@	NUMBER OR POUND
DISP	DISPENSER	HDR	HEADER	OSB	ORIENTED STRAND BOARD	ST	STONE TILE		AT
DN	DOWN	HDW	HARDWARE	OVID	OVERHEAD				
DR	DOOR	HM	HOLLOW METAL	PL	PLATE				
DS	DOWNSPOUT	HR	HORIZONTAL						
DTL	DETAIL								



CONSTRUCTION DOCUMENTS

sheet

project

owner

project # 20141.00

revision date

phase



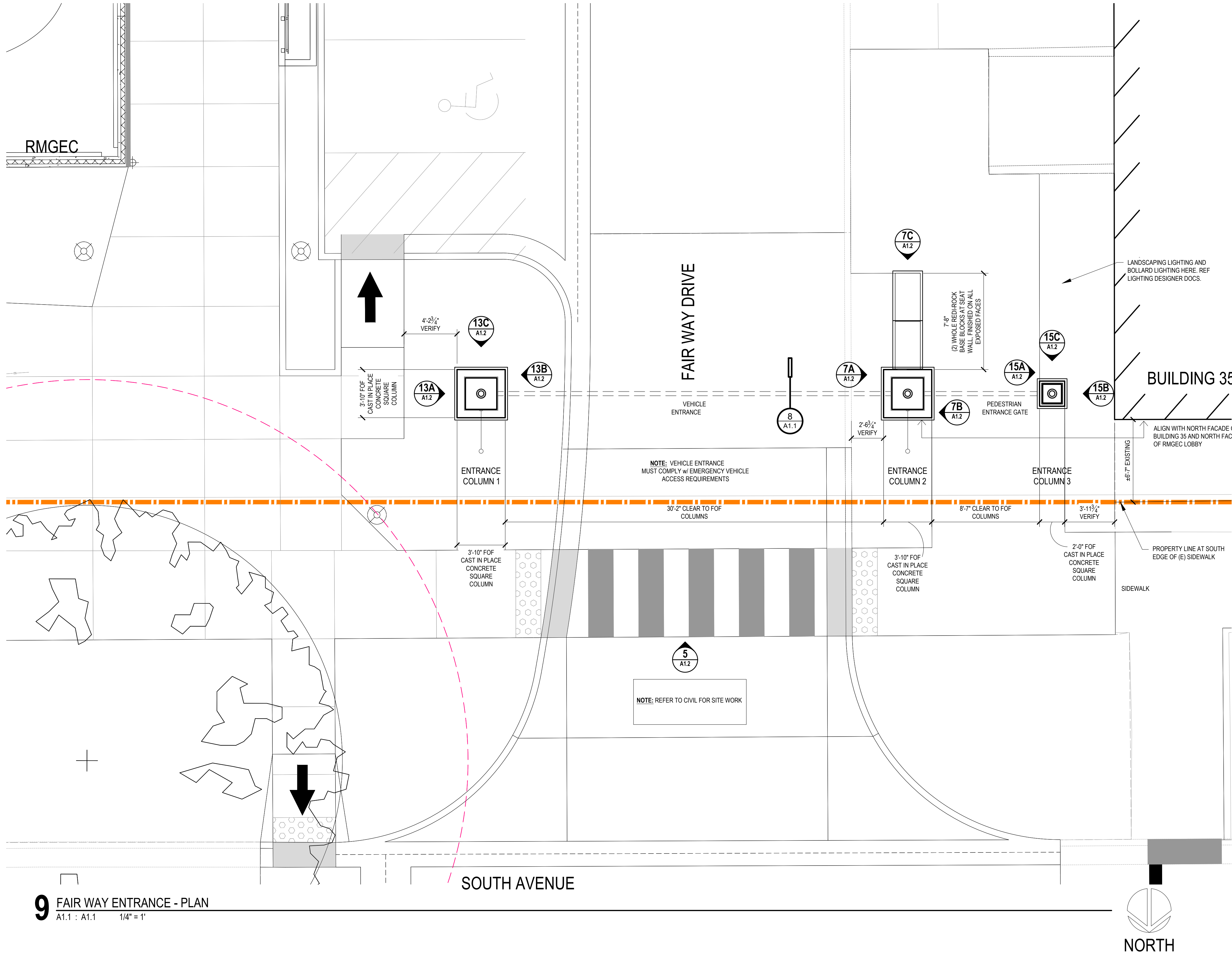
issue date

03.15.2022

COVER

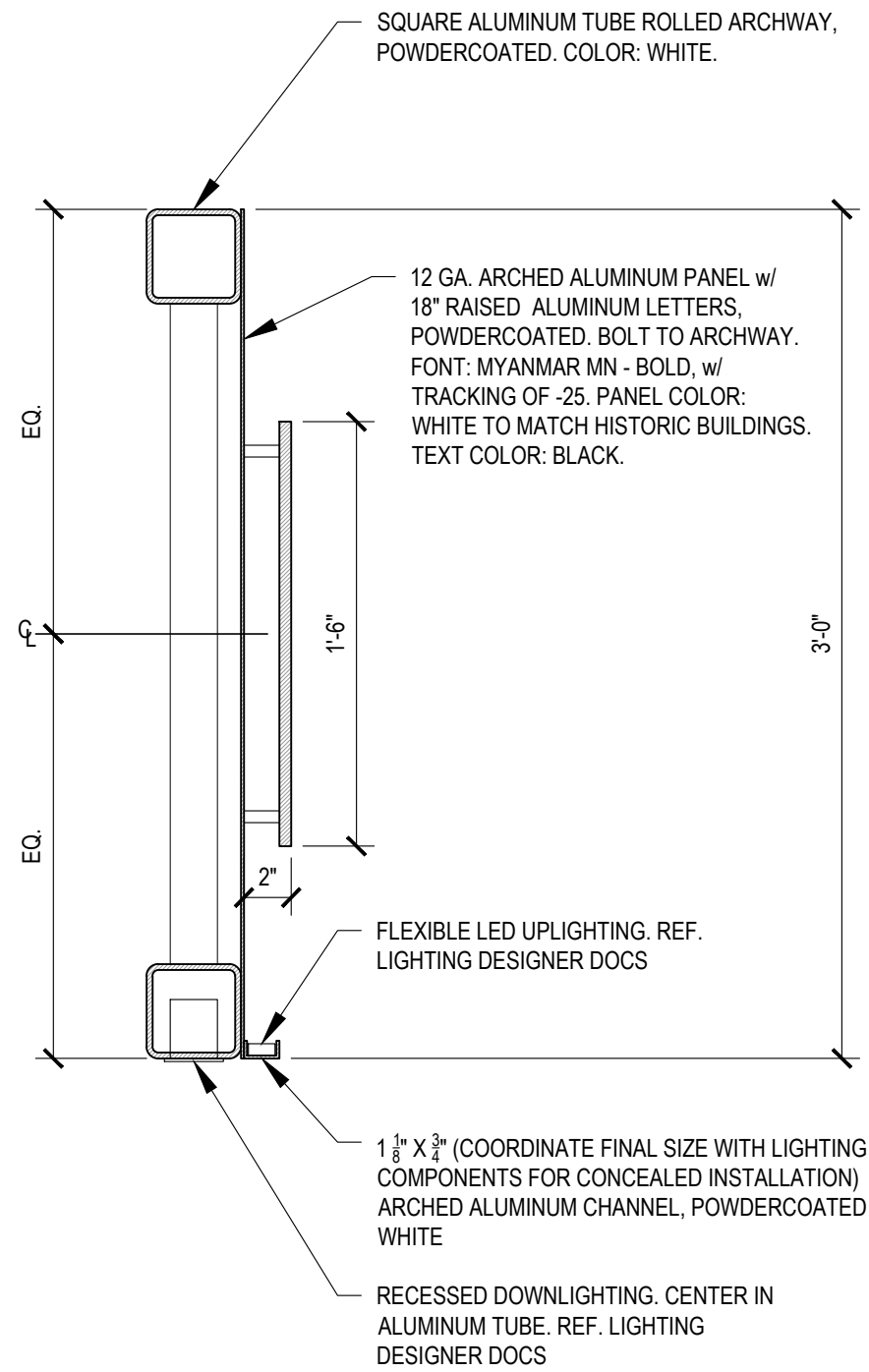


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9 FAIR WAY ENTRANCE - PLAN  
A1.1 : A1.1 1/4" = 1'

8 ENTRANCE SIGN SECTION  
A1.1 : A1.1 1 1/2" = 1'



CONSTRUCTION DOCUMENTS



FAIR WAY DRIVE - PLAN  
FAIR WAY DRIVE IMPROVEMENTS

sheet  
project

project # 20141.00

revision date

phase



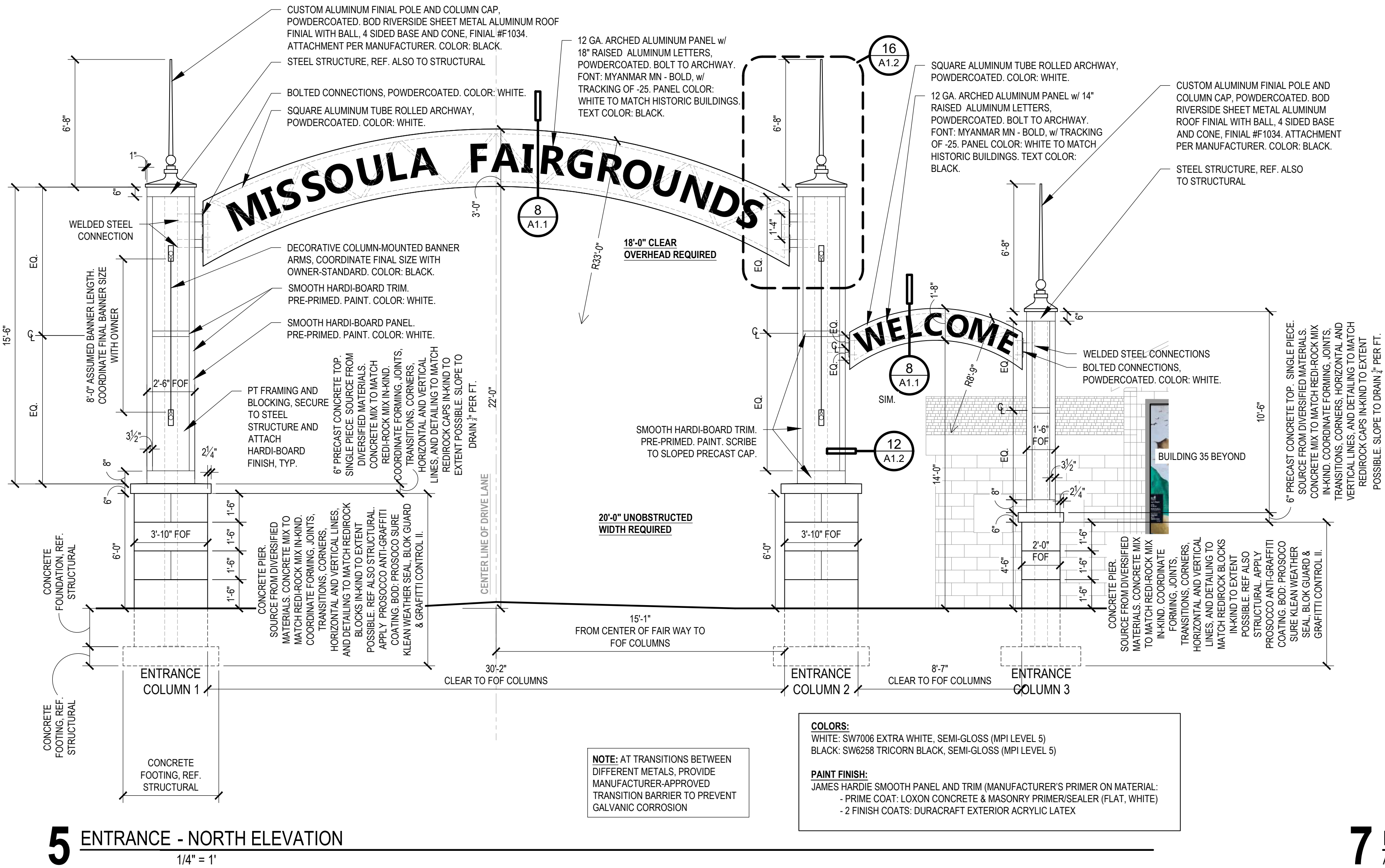
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A1.1

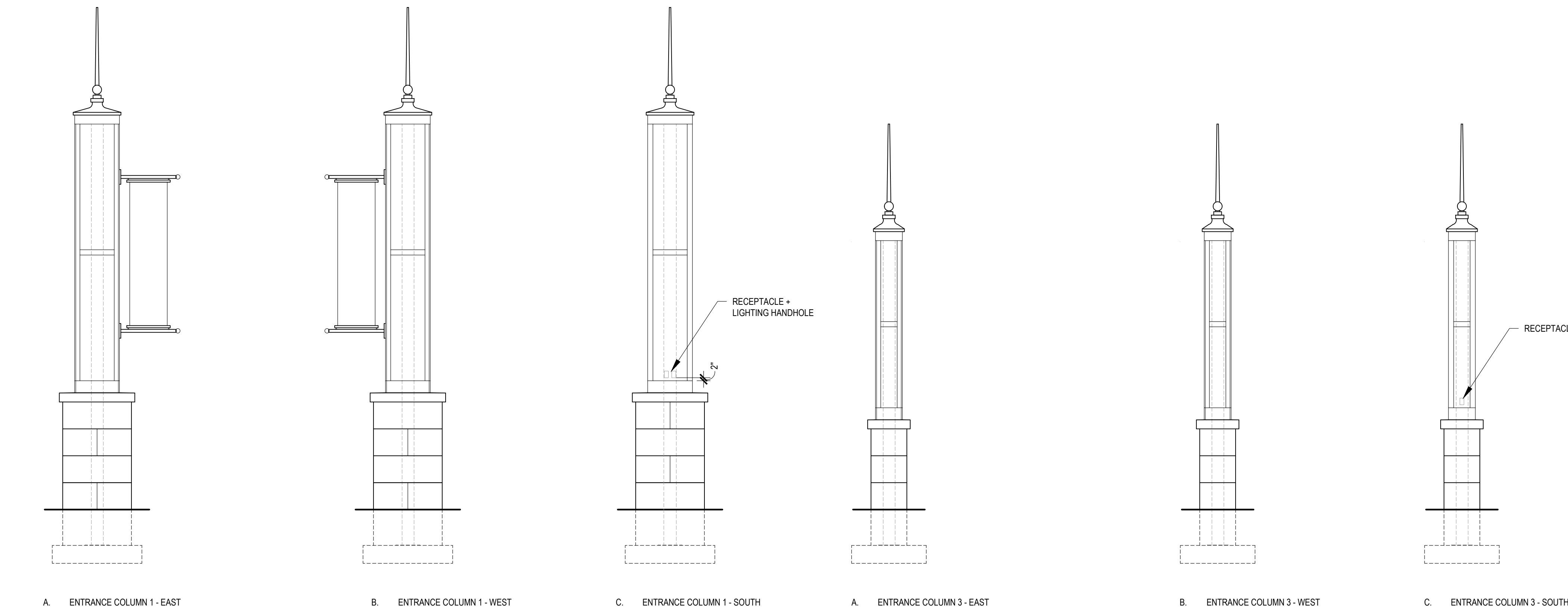
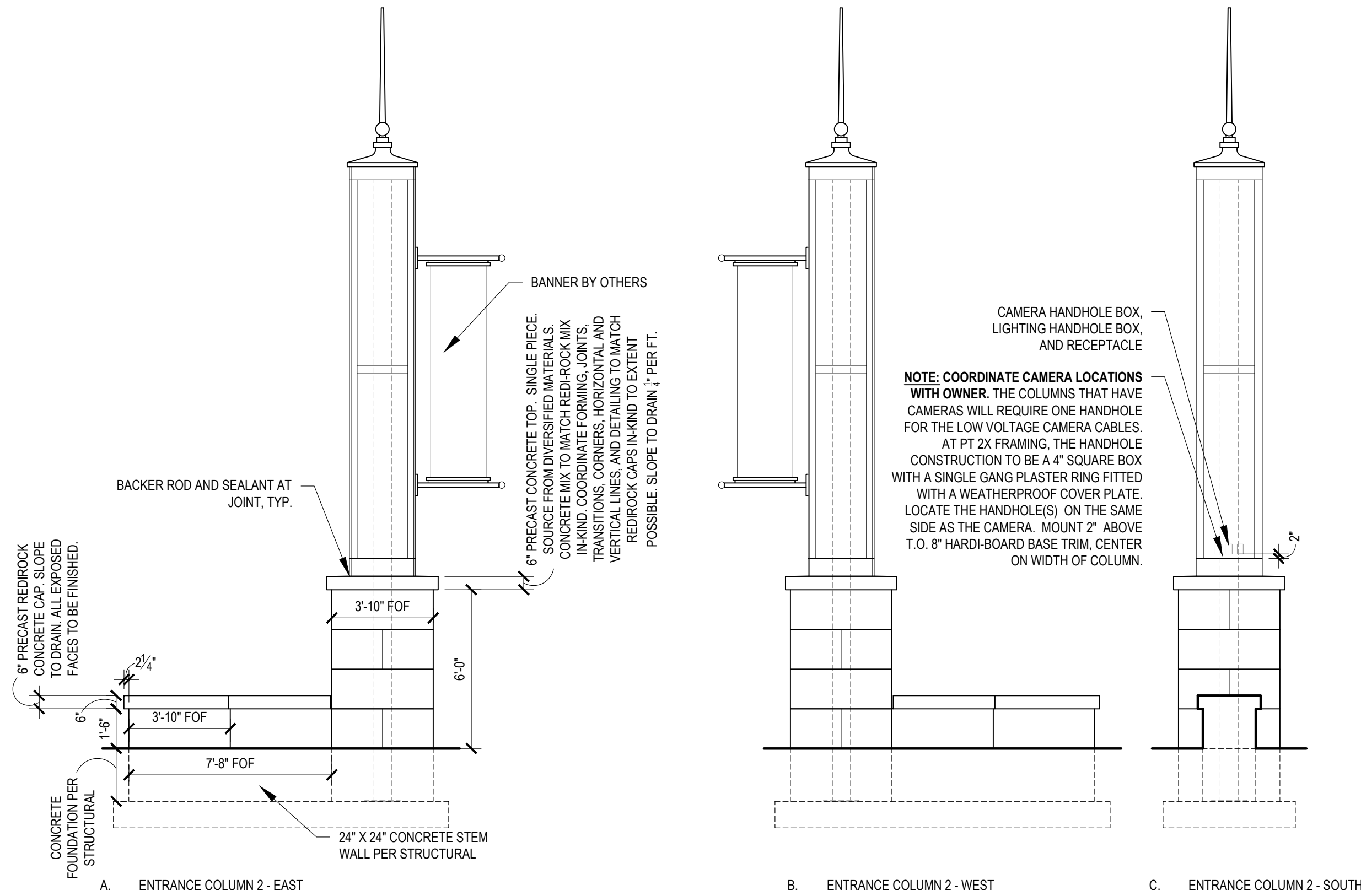
owner MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE, MISSOULA, MT 59801



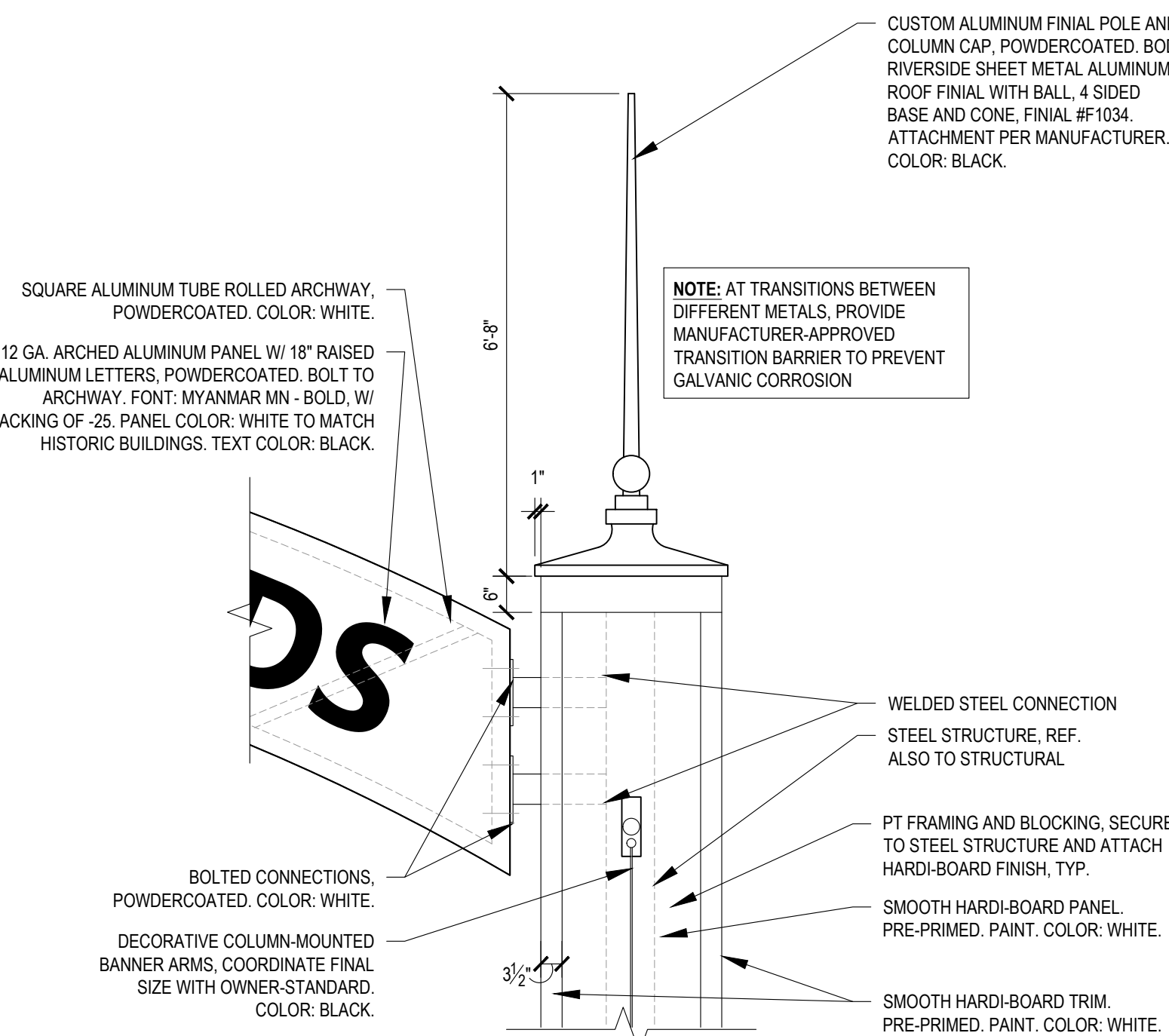
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**7** ENTRANCE COLUMN 2 - ELEVATIONS  
A#.# : A#.# 1/4" = 1'



**15** ENTRANCE COLUMN 3 - ELEVATIONS  
A#.# : A#.# 1/4" = 1'



CONSTRUCTION DOCUMENTS

STATE OF MONTANA  
REGISTERED ARCHITECT  
2014

FAIR WAY DRIVE - PLAN  
FAIR WAY DRIVE IMPROVEMENTS

sheet  
project  
owner

project #  
revision  
date

phase

issue date  
03.15.2022

A1.2

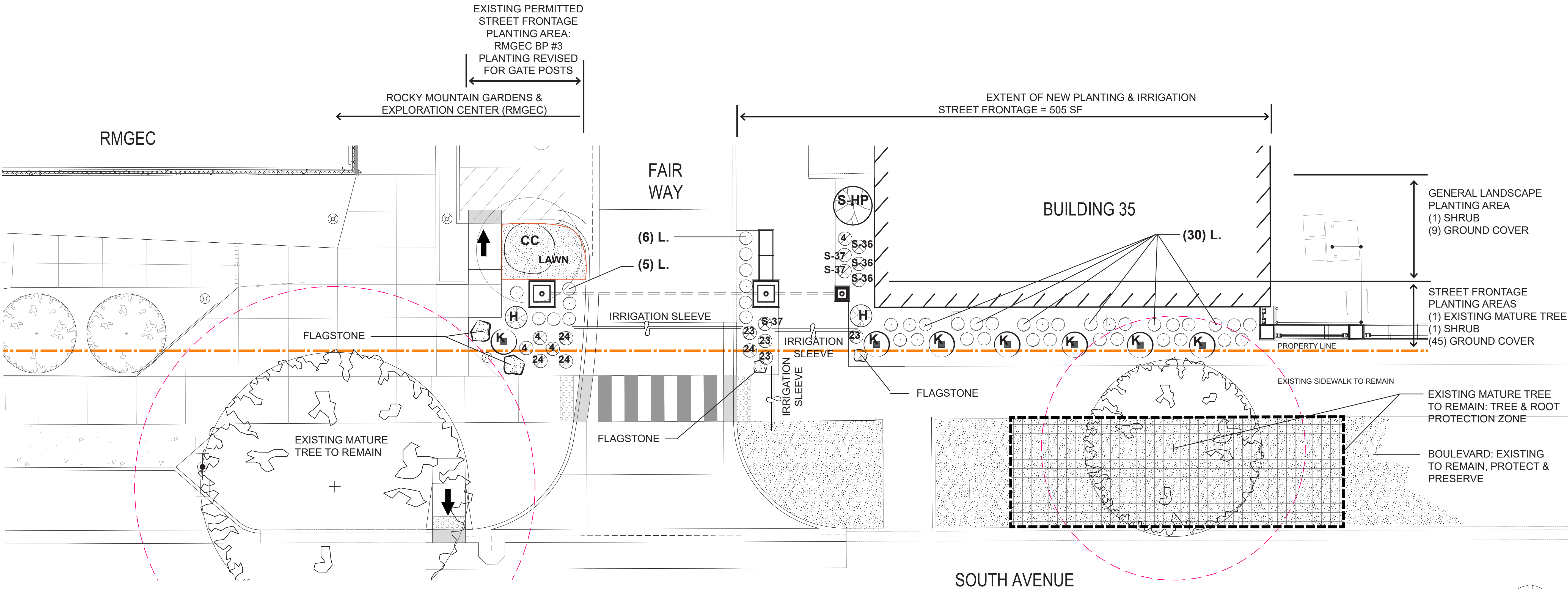
MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE, MISSOULA, MT 59801



LANDSCAPE ZONING - CHAPTER 20.65 - LANDSCAPING	
STREET FRONTAGE CALCULATIONS 20.65.030	
810SF	TOTAL STREET FRONTAGE AREA (81' X 10')
-95SF	PAVED WALKWAY (9'-6" X 10')
-210SF	BUILDING ENCROACHMENT (3'-6" X 60')
505SF	STREET FRONTAGE AVAILABLE FOR LANDSCAPE PLANTING
REQUIRED STREET FRONTAGE PLANTING (@ 2 TREES & 6 SHRUBS/1000 SF)	
1	TREE
4	SHRUBS
PROVIDED STREET FRONTAGE PLANTING	
1	EXISTING MATURE BOULEVARD TREE
15	SHRUB (45 GROUND COVER)
PROVIDED GENERAL LANDSCAPE AREA PLANT QUANTITY 20.65.020	
4	SHRUB (1 SHRUB & 9 GROUND COVER)
CHANGE TO PREVIOUSLY PERMITTED STREET FRONTAGE AT EAST SIDE OF GATE	
ADD 5	GROUND COVER & ADJUST PLANTING TO ACCOMMODATE GATE POST
PROPOSED PLANTING MEETS & EXCEEDS INTENT OF ORDINANCE. DESIGN STANDARDS APPLY TO WORK AT MISSOULA COUNTY FAIRGROUNDS.	

PLANTING SCHEDULE (KEY SAME AS BP#3-RMGEC/NEW PLANT SPECIES "S-##")			
KEY	BOTANICAL NAME	COMMON NAME	SIZE @ PLANTING
TREES			
CC	GINGKO BILOBA 'BLAGON'	GOLDSPIRE GINGKO	2.0" CAL. CONT.
SHRUBS			
S-HP	HYDRANGEA PANICULATA 'LIMELIGHT'	LIMELIGHT HYDRANGEA	30-36" HT.
SHRUBS: GRASSES			
H	HELICTOTRICON SEMPERVIRENS	BLUE OAT GRASS	2 GAL.
GROUND COVERS: WOODY			
K	ARCTOSTAPHYLOS UVA-URSI 'MASSACHUSETTS'	MASSACHUSETTS KINNIKINNICK	1 GAL.
L	MAHONIA REPENS	CREeping OREGON GRAPE HOLLY	1 GAL.
GROUND COVERS: PERENNIALS & FORBS			
4	ASTER NOVAE-ANGLIAE	PURPLE DOME ASTER	1 GAL.
S-36	HELIOPSIS HELIANTHOIDES 'SUMMER SUN'	FALSE SUNFLOWER	1 GAL.
S-37	MONARDA DIDYMA 'JACOB CLINE'	RED BEE BALM	1 GAL.
23	PENSTEMON 'ROCKY MOUNTAIN'	ROCKY MOUNTAIN PENSTEMON	1 GAL.
24	RUDBECKIA 'GOLDSTURM'	BLACK EYED SUSAN	1 GAL.

- GENERAL NOTES
- SPECIFICATIONS AND DETAILS SAME AS FOR RMGEC BP #3 LANDSCAPE SPECIFICATIONS AND DRAWINGS.
  - "SUPPLEMENTAL GENERAL NOTES AND MATERIALS ACCORDING TO RMGEC BP #3, SHEET L1.7.
  - USE BARK MULCH FOR PLANTING AREAS SHOWN ON THIS SHEET.
  - IRRIGATION: EXTEND DRIP ZONE LATERAL FROM RMGEC BP #3 TO IRRIGATE ALL NEW PLANTING AREAS.



14 FAIR WAY ENTRANCE - LANDSCAPING PLAN  
A1.1 : L1.1 1/8" = 1'

MONTANA

Jennie Meinershagen

125

LANDSCAPE ARCHITECT

CONSTRUCTION DOCUMENTS

sheet

project

owner

FAIR WAY DRIVE - ENTRY - LANDSCAPE PLANTING & IRRIGATION PLAN

FAIR WAY DRIVE IMPROVEMENTS

MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE, MISSOULA, MT 59801

project #

20141.00

revision

date

phase

ase

issue date

03.15.2022

L1.1



STRUCTURAL - GENERAL NOTES

GENERAL REQUIREMENTS

**GOVERNING CODE:** The design and construction of this project is governed by the **"International Building Code (IBC)", 2018 Edition**, hereafter referred to as the IBC, as adopted and modified by the City of Missoula, MT understood to be the Authority Having Jurisdiction (AHJ).

**REFERENCE STANDARDS:** Refer to **Chapter 35 of 2018 IBC**. Where other Standards are noted in the drawings, use the latest edition of the standard unless a specific date is indicated. Reference to a specific section in a code does not relieve the contractor from compliance with the entire standard.

**DEFINITIONS:** The following definitions cover the meanings of certain terms used in these notes:

**"Architect/Engineer"** – The Architect of Record and the Structural Engineer of Record.

- "Structural Engineer of Record" (SER)** – The structural engineer who is licensed to stamp & sign the structural documents for the project. The SER is responsible for the design of the Primary Structural System.
- "Submit for review"** - Submit to the Architect/SER for review prior to fabrication or construction.
- "Per Plan"** – Indicates references to the structural plans, elevations and structural general notes.
- "Seismic Force Resisting System (SFRS)"** – A recognized structural system of components (beams, braces, drags, struts, collectors, diaphragms, columns, walls, etc.) of the primary structure that are specially designed and proportioned to resist earthquake-induced ground motions and maintain stability of the structure. Fabrication and installation of components designated as part of the SFRS require the general contractor, subcontractor, or supplier who is responsible for any portion of SFRS fabrication or installation to comply with special requirements (including, but not limited to, material control, compliance certifications, personnel qualifications, documentation, reporting requirements, etc) and to provide the required Quality Control including the required coordination of Special Inspections (Quality Assurance – QA). Special provisions apply to any member designated as part of the SFRS. Refer to plans, elevations, details, Design Criteria and Symbols and Legends for applicable members and connections.
- "Specialty Structural Engineer" (SSE)** – A professional engineer (PE or SE), licensed in the State where the project is located, (typically not the SER), who performs specialty structural engineering services for selected specialty-engineered elements identified in the Contract Documents, and who has experience and training in the Specialty. Documents stamped and signed by the SSE shall be completed by or under the direct supervision of the SSE.
- "Bidder-designed"** – Components of the structure that require the general contractor, subcontractor, or supplier who is responsible for the design, fabrication and installation of specialty-engineered elements identified in the Contract Documents to retain the services of an SSE. Submittals of "Bidder-designed" elements shall be stamped and signed by the SSE.

**OTHER DRAWINGS:** Refer to the architectural, mechanical, electrical, civil and plumbing drawings for additional information including but not limited to: dimensions, elevations, slopes, door and window openings, non-bearing walls, stairs, finishes, drains, waterproofing, railings, curtain walls, elevators, curbs, depressions, mechanical unit locations, and other nonstructural items.

**STRUCTURAL DETAILS:** The structural drawings are intended to show the general character and extent of the project and are not intended to show all details of the work. Use entire detail sheets and specific details referenced in the plans as "typical" wherever they apply. Similarly, use details on entire sheets with "typical" in the name wherever they apply.

**STRUCTURAL RESPONSIBILITIES:** The structural engineer (SER) is responsible for the strength and stability of the primary structure in its completed form.

**COORDINATION:** The Contractor is responsible for coordinating details and accuracy of the work; for confirming and correlating all quantities and dimensions; for selecting fabrication processes; for techniques of assembly; and for performing work in a safe and secure manner.

**MEANS, METHODS AND SAFETY REQUIREMENTS:** The contractor is responsible for the means and methods of construction and all job-related safety standards such as OSHA and DOSH (Department of Occupational Safety and Health). Contractor is responsible to adhere to OSHA regulations regarding steel erection items specifically addressed in the latest OSHA regulations. Bolting and field welding at all member connections is to be completed prior to the release of the member from the hoisting mechanism unless reviewed and approved by the General Contractor's temporary bracing and shoring design engineer. The construction documents represent the completed structure. The contractor is responsible for means and methods of construction related to the intermediate structural conditions (i.e. movement of the structure due to moisture and thermal effects; construction sequence; temporary bracing, etc).

**BRACING/SHORING DESIGN ENGINEER:** The contractor shall at his discretion employ an SSE, a registered professional engineer for the design of any temporary bracing and shoring.

**TEMPORARY SHORING, BRACING:** The contractor is responsible for the strength and stability of the structure during construction and shall provide temporary shoring, bracing and other elements required to maintain stability until the structure is complete. It is the contractor's responsibility to be familiar with the work required in the construction documents and the requirements for executing it properly.

**CONSTRUCTION LOADS:** Loads on the structure during construction shall not exceed the design loads as noted in DESIGN CRITERIA & LOADS below or the capacity of partially completed construction as determined by the Contractor's SSE for Bracing/Shoring.

**CHANGES IN LOADING:** The contractor has the responsibility to notify the SER of any architectural, mechanical, electrical, or plumbing load imposed onto the structure that differs from, or that is not documented on the original Contract Documents (architectural / structural / mechanical / electrical or plumbing drawings). Provide documentation of location, load, size and anchorage of all undocumented loads in excess of 400 pounds. Provide marked-up structural plan indicating locations of any new equipment or loads. Submit plans to the Architect/Engineer for review prior to installation.

**NOTE PRIORITIES:** Plan and detail notes and specific loading data provided on individual plans and detail drawings supplements information in the Structural General Notes.

**DISCREPANCIES:** In case of discrepancies between the General Notes, Specifications, Plans/Details or Reference Standards, the Architect/Engineer shall determine which shall govern. Discrepancies shall be brought to the attention of the Architect/Engineer before proceeding with the work. Should any discrepancy be found in the Contract Documents, the Contractor will be deemed to have included in the price the most expensive way of completing the work, unless prior to the submission of the price, the Contractor asks for a decision from the Architect as to which shall govern. Accordingly, any conflict in or between the Contract Documents shall not be a basis for adjustment in the Contract Price.

**SITE VERIFICATION:** The contractor shall verify all dimensions and conditions at the site. Conflicts between the drawings and actual site conditions shall be brought to the attention of the Architect/Engineer before proceeding with the work.

**ADJACENT UTILITIES:** The contractor shall determine the location of all adjacent underground utilities prior to earthwork, foundations, shoring, and excavation. Any utility information shown on the drawings and details is approximate and not necessarily complete.

**ALTERNATES:** Alternate products of similar strength, nature and form for specified items may be submitted with adequate technical documentation (proper test report, etc.) to the Architect/Engineer for review. Alternate materials that are submitted without adequate technical or that significantly deviate from the design intent of materials specified may be returned without review. Alternates that require substantial effort to review will not be reviewed unless authorized by the Owner.

SUBMITTALS

**SUBMIT FOR REVIEW:** SUBMITTALS of shop drawings, product data are required for items noted in the individual materials sections and for bidder designed elements.

**SUBMITTAL REVIEW PERIOD:** Submittals shall be made in time to provide a minimum of TWO WEEKS or 10 WORKING DAYS for review by the Architect/Engineer prior to the onset of fabrication.

**GENERAL CONTRACTOR'S PRIOR REVIEW:** Prior to submission to the Architect/Engineer, the Contractor shall review the submittal for completeness. Dimensions and quantities are not reviewed by the SER, and therefore, must be verified by the General Contractor. Contractor shall provide any necessary dimensional details requested by the Detailer and provide the Contractor's review stamp and signature before forwarding to the Architect/Engineer.

**SHOP DRAWING REVIEW:** Once the contractor has completed his review, the SER will review the submittal for general conformance with the design concept and the contract documents of the building and will stamp the submittal accordingly. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures there from. The SER will return submittals in the form they are submitted in (either hard copy or electronic). For hard copy submittals, the contractor is responsible for submitting the required number of copies to the SER for review.

**SHOP DRAWING DEVIATIONS:** When shop drawings (component design drawings) differ from or add to the requirements of the structural drawings they shall be designed and stamped by the responsible SSE.

SOILS AND FOUNDATIONS

**REFERENCE STANDARDS:** Conform to IBC Chapter 18 "Soils and Foundations."

**CONTRACTOR'S RESPONSIBILITIES:** Assumed soil bearing pressure values shall be field verified by the Building Official or the Geotechnical Engineer prior to placing concrete.

**DESIGN SOIL VALUES:** Allowable Foundation Bearing Pressure..... 1500 Assumed per IBC

**FOUNDATIONS and FOOTINGS:** Foundations shall bear either on competent native soil or compacted structural fill as per the geotechnical report.

**FOOTING DEPTH:** Tops of footings shall be as shown on plans and shall be coordinated with the civil grading plans.

**SLABS-ON-GRADE:** All slabs-on-grade shall bear on compacted structural fill or competent native soil per the geotechnical report. All moisture sensitive slabs-on-grade or those subject to receive moisture sensitive coatings/covering shall be provided with an appropriate capillary break and vapor barrier/retardant over the subgrade prepared and installed as noted in the geotechnical report, barrier manufacturer's written recommendations and coordinated with the finishes specified by the Architect.

CAST-IN-PLACE CONCRETE

**REFERENCE STANDARDS:** Conform to:  
(1) ACI 301-16 "Specifications for Structural Concrete"  
(2) IBC Chapter 19 "Concrete"  
(3) ACI 318-14 "Building Code Requirements for Structural Concrete"  
(4) ACI 117-10 "Specifications for Tolerances for Concrete Construction and Materials"

**FIELD REFERENCE:** The contractor shall keep a copy of ACI Field Reference manual, SP-15, "Standard Specifications for Structural Concrete (ACI 301) with Selected ACI and ASTM References."

**CONCRETE MIXTURES:** Conform to ACI 301 Section 4 "Concrete Mixtures" and IBC Section 1904.1.

**MATERIALS:** Conform to ACI 301 Section 4.2.1 "Materials" for requirements for cementitious materials, aggregates, mixing water and admixtures.

**SUBMITTALS:** Provide all submittals required by ACI 301 Section 4.1.2. Submit mix designs for each mix in the table below. Substantiating strength results from past tests shall not be older than 24 months per ACI 318 Section 26.4.3.1 (b).

TABLE OF MIX DESIGN REQUIREMENTS

Member Type/Location	Strength f'c (psi)	Test Age (days)	Nominal Maximum Aggregate	Exposure Class	Max W/C Ratio	Air Content	Notes (1 to 8 Typical UNO)
Foundation Walls/Strip Footings	4000	28	1"	F2	0.45	6%	-

Table of Mix Design Requirements Notes:

- W/C Ratio: Water-cementitious material ratios shall be based on the total weight of cementitious materials. Maximum ratios are controlled by strength noted in the Table of Mix Design Requirements and durability requirements given in ACI 318 Section 19.3.
- Cementitious Materials:
  - The use of fly ash, other pozzolans, silica fume, or slag shall conform to ACI 318 Sections 19.3.2 and 26.4.2.2. Maximum amount of fly ash shall be 25% of total cementitious content unless reviewed and approved otherwise by SER.
  - For concrete used in elevated floors, minimum cementitious-materials content shall conform to ACI 301 Table 4.1.2.9. Acceptance of lower cement content is contingent on providing supporting data to the SER for review and acceptance.
  - Cementitious materials shall conform to the relevant ASTM standards listed in ACI 318 Section 26.4.1.1.1(a).
- Air Content: Conform to ACI 318 Section 19.3.3.1. Minimum standards for exposure class are noted in the table. If freezing and thawing class is not noted, air content given is that required by the SER. Tolerance is ±1-½%. Air content shall be measured at point of placement.
- Aggregates shall conform to ASTM C33.
- Slump: Conform to ACI 301 Section 4.2.2.2. Slump shall be determined at point of placement.
- Chloride Content: Conform to ACI 318 Table 19.3.2.1.
- Non-chloride accelerator: Non-chloride accelerating admixture may be used in concrete placed at ambient temperatures below 50°F at the contractor's option.
- ACI 318, Section 19.3.1.1 exposure classes shall be assumed to be **F2** unless different exposure classes are listed in the Table of Mix Design Requirements that modify these base requirements.

**FORMWORK & RESHORING:** Conform to ACI 301 Section 2 "Formwork and Form Accessories." Removal of Forms shall conform to Section 2.3.2 except strength indicated in Section 2.3.2.5 shall be 0.75 f' c.

**MEASURING, MIXING, AND DELIVERY:** Conform to ACI 301 Section 4.3.

**HANDLING, PLACING, CONSTRUCTING AND CURING:** Conform to ACI 301 Section 5. In addition, hot weather concreting shall conform to ACI 305R-10 and cold weather concreting shall conform to ACI 306R-10.

**CONSTRUCTION JOINTS:** Conform to ACI 301 Sections. 2.2.2.5 and 5.3.2.6. Construction joints shall be located and detailed as on the construction drawings. Submit alternate locations per ACI 301 Section 5.1.2.4(a) for review and approval by the SER two weeks minimum prior to forming. Use of an acceptable adhesive, surface retardant, portland cement grout or roughening the surface is not required unless specifically noted on the drawings.

**EMBEDDED ITEMS:** Position and secure in place expansion joint material, anchors and other structural and non-structural embedded items before placing concrete. Contractor shall refer to mechanical, electrical, plumbing and architectural drawings and coordinate other embedded items.

**GROUT:** Use 7000 psi non-shrink grout under column base plates and under tilt-up panels.

**GRouted REBAR:** See Post-Installed Anchors to Concrete.

**POST-INSTALLED ANCHORS to CONCRETE:** Anchor location, type, diameter and embedment shall be as indicated on drawings. Reference the POST INSTALLED ANCHORS section for applicable Post-Installed Anchor Adhesives. Anchors shall be installed and inspected in strict accordance with the applicable ICC-Evaluation Service Report (ESR). Special inspection shall be per the TESTS and INSPECTIONS section.

**SHRINKAGE:** Conventional and post-tensioned concrete slabs will continue to shrink after initial placement and stressing of concrete. Contractor and subcontractor shall coordinate jointing and interior material finishes to provide adequate tolerance for expected structural frame shrinkage and shall include, but not be limited to: curtain wall, dryvit, storefront, skylight, floor finish, and ceiling suppliers.

**CONCRETE PLACEMENT TOLERANCE:** Conform to ACI 117-10 for concrete placement tolerance.

Sheet Info Sheet List					
SHEET SEQUENCE	SHEET NO.	SHEET TITLE	ISSUED	REV	Guide Grid
	S0.1	GENERAL NOTES	02/11/22		<None>
	S0.2	GENERAL NOTES	02/11/22		<None>
	S1.1	FOUNDATION PLAN	02/11/22		<None>
	S1.2	FOUNDATION PLAN	02/28/2022		<None>
Sheet Total: 4					

DRAWING LEGEND			
MARK	DESCRIPTION	MARK	DESCRIPTION
F2.0	FOOTING SYMBOL (REFER TO SPREAD FOOTING SCHEDULE)	I	INDICATES WIDE FLANGE COLUMN
1P	PILE CAP SYMBOL (REFER TO PILE CAP SCHEDULE)	□	INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR TUBE STEEL (TS) COLUMN
1	TILT-UP/PRECAST CONCRETE WALL CONNECTION SYMBOL (REFER TO CONNECTION DETAIL)	○	INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR STEEL PIPE COLUMN
2W4	SHEAR WALL SYMBOL (REFER TO SHEAR WALL SCHEDULE)	⌘	INDICATES WOOD POST
0 RFI 00	REVISION TRIANGLE	□	INDICATES BUNDLED STUDS
1	TILT-UP/PRECAST CONCRETE WALL PANEL NUMBER (REFER TO TILT-UP/PRECAST CONCRETE WALL ELEVATIONS)	■	INDICATES CONCRETE COLUMN
1	CMU WALL REINFORCING SYMBOL (REFER TO CMU WALL REINFORCING SCHEDULE)	■	INDICATES PRECAST CONCRETE COLUMN
8"	CONTINUITY PLATE LENGTH (REFER TO TYPICAL DETAIL)	⌵	INDICATES MOMENT FRAME CONNECTION
DS	INDICATES DOUBLE SHEAR CONNECTION (REFER TO THE DOUBLE SHEAR PLATE CONNECTIONS DETAIL)	⌵	INDICATES CANTILEVER CONNECTION
WOTB	INDICATES REINFORCING TYPE (REFER TO THE REINFORCING SCHEDULE)	⌵	INDICATES DRAG CONNECTION
SR	INDICATES NUMBER OF STUD RAIL REQUIRED AT COLUMN (REFER TO STUD RAIL DETAILS)	⌵ - - -	INDICATES A LEDGER
1	ROOF/FLOOR DIAPHRAGM NAILING SYMBOL (REFER TO DIAPHRAGM NAILING SCHEDULE)	⌵	INDICATES WOOD OR STEEL STUD BEARING WALL LINE PER KEY ON SHEET
C1 COLUMN SIZE	STEEL/CONCRETE COLUMN SYMBOL (REFER TO STEEL COLUMN SCHEDULE)	⌵ OR ⌵	INDICATES WOOD OR STEEL STUD SHEAR WALL LINE AND HOLD-DOWNS PER KEY ON SHEET
T/FTG = X'-X"	ELEVATION SYMBOL (T REFERS TO COMPONENT THAT THE ELEVATION REFERENCES)	⌵	INDICATES MASONRY/CMU WALL
3	STUD BUBBLE (INDICATES NUMBER OF STUDS REQUIRED IF EXCEEDS NUMBER SPECIFIED IN PLAN NOTE)	⌵	INDICATES CONCRETE/TILT-UP CONCRETE WALL
●	INDICATES STEP IN FOOTING (REFER TO TYPICAL STEP IN FOOTING DETAIL)	⌵ - - -	INDICATES BEARING WALL BELOW
X SX X	DETAILS OR SECTION CUT (DETAIL NUMBER/SHEET NUMBER)	⌵	INDICATES EXISTING WALL
00 S0.0	DETAILS OR SECTION CUT IN PLAN VIEW (DETAIL NUMBER/SHEET NUMBER)	⌵	POST-TENSION DEAD END (PLAN)
XX/SXXX	INDICATES LOCATION OF CONCRETE WALLS, SHEAR WALLS OR BRACED FRAME ELEVATIONS	⌵	POST-TENSION STRESSING END (PLAN)
↔	STRUCTURAL EXTENT SYMBOL SINGLE ARROW - END OF EXTENT DOUBLE ARROW - CONTINUOUS EXTENT ALONG THE ELEMENT LINE UNTIL THE ELEMENT IS INTERRUPTED	3	POST-TENSION PROFILE (PLAN) (IN INCHES)
↔		⌵	INTERMEDIATE STRESSING (PLAN)
↗	INDICATES DIRECTION OF DECK SPAN		

ABBREVIATIONS					
L	Angle	EXT	Exterior	PJP	Partial Joint Penetration
AB	Anchor Bolt	FB	Factory-Built	PREFAB	Prefabricated
ADDL	Additional	FD	Floor Drain	PSF	Pounds per Square Foot
ADH	Adhesive	FDN	Foundation	PSI	Pounds Per Square Inch
ALT	Alternate	FIN	Finish	PSL	Parallel Strand Lumber
ARCH	Architectural	FLR	Floor	P-T	Post-Tensioned
B or BOT	Bottom	FRP	Fiberglass Reinforced Plastic	PT	Pressure Treated
B/	Bottom Of	FRT	Fire Retardant Treated	R	Radius
BLDG	Building	FTG	Footing	RD	Roof Drain
BLKG	Blocking	F/	Face of	REF	Refer/Reference
BMU	Brick Masonry Unit	GA	Gage	REINF	Reinforcing
BP	Baselite	GALV	Galvanized	REQD	Required
BRBF	Buckling Restrained	GEOTECH	Geotechnical	RET	Retaining
	Braced Frame	GL	Glue Laminated Timber	SB	Site-Built
BRG	Bearing	GWB	Gypsum Wall Board	SCBF	Special Concentric
C	Between	HDR	Header		Braced Frame
BTWVN	Camber	HF	Hem-Fir	SCHED	Schedule
CB	Castellated Beam	HGR	Hanger	SER	Structural Engineer of
C'BORE	Counterbore	HD	Hold-down		Record
CL or ☿	Centerline	HORIZ	Horizontal	SFRS	Seismic Force-
CLT	Cross-Laminated Timber	HP	High Point		Resisting System
CIP	Cast in Place	HSS = TS	(Hollow Structural Section)	SHTHG	Sheathing
CJ	Construction or	IBC	International Building Code	SLM	Similar
CJP	Control Joint	ILBB	Inside Diameter	SL	Short Leg Back-to-Back
CJ	Complete Joint	IE	Invert Elevation	SMF	Special Moment Frame
	Penetration	IF	Inside Face	SOG	Slab on Grade
CLR	Clear	INT	Interior	SP	Southern Pine
CLG	Ceiling	k	Kips	SPEC	Specification
CMU	Concrete Masonry Unit	KSF	Kips Per Square Foot	SQ	Square
COL	Column	LF	Lineal Foot	SR	Studrail
CONC	Concrete	LL	Live Load	SF	Square Foot
CONN	Connection	LLBB	Long Leg Back-to-Back	SST	Stainless Steel
CONST	Construction	LLH	Long Leg Horizontal	STAGG	Stagger/Staggered
CONT	Continuous	LLV	Long Leg Vertical	STD	Standard
C-SINK	Countersink	LP	Low Point	STIFF	Stiffener
CTRD	Centered	LONGIT	Longitudinal	STL	Steel
DIA	Diameter	LSL	Laminated Strand Lumber	STRUCT	Structural
DB	Drop Beam	LVL	Laminated Veneer Lumber	SWWJ	Solid Web Wood Joist
DBA	Deformed Bar Anchor	MAS	Masonry	SYM	Symmetrical
DBL	Double	MAX	Maximum	T	Top
DEMO	Demolish	MECH	Mechanical	T/	Top Of
DEV	Development	MEZZ	Mezzanine	T&B	Top & Bottom
DF	Douglas Fir	MFR	Manufacturer	TC AX LD	Top Chord Axial Load
DIAG	Diagonal	MIN	Minimum	TCX	Top Chord Extension
DIST	Distributed	MISC	Miscellaneous	TDS	Tie Down System
DL	Dead Load	NIC	Not In Contract	T&G	Tongue & Groove
DN	Down	NLT	Nail-Laminated Timber	THKND	Thickened
DO	Drift	NTS	Not To Scale	THRD	Threaded
DP	Depth/Deep	OC	On Center	THRU	Through
DWVG	Drawing	OCBF	Ordinary Concentric Braced	TRANSV	Transverse
(E)	Existing		Frame	TYP	Typical
EA	Each	OD	Outside Diameter	UNO	Unless Noted Otherwise
EF	Each Face	OF	Outside Face	URM	Unreinforced Masonry
EL	Elevation	OPNG	Opening		Unit
ELEC	Electrical	OPP	Opposite	VERT	Vertical
ELEV	Elevator	OWSJ	Open Web Steel Joist	W	Wide
EMBED	Embedment	OWWJ	Open Web Wood Joist	W/	With
EO	Equal	PL	Plate	W/O	Without
EQUIP	Equipment	PAF	Powder Actuated Fastener	WHS	Welded Headed Stud
EW	Each Way	PC	Precast	WP	Working Point
EXP	Expansion	PERP	Perpendicular	WWF	Welded Wire Fabric
EXP JT	Expansion Joint	PLWD	Plywood	±	Plus or Minus



CONSTRUCTION DOCUMENTS

GENERAL NOTES

sheet

project

owner

project #

20141.00

revision

date

phase

issue date

03.15.2022

S0.1

FAIRWAY DRIVE IMPROVEMENTS

MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE., MISSOULA, MT 59801

d&e



CONCRETE REINFORCEMENT

- REFERENCE STANDARDS: Conform to:
- (1) ACI 301-16 "Standard Specifications for Structural Concrete", Section 3 "Reinforcement and Reinforcement Supports."
  - (2) ACI SP-66(04) "ACI Detailing Manual"
  - (3) CRSI MSP-09, 28" Edition, "Manual of Standard Practice."
  - (4) ANSI/AWS D1.4: 2005, "Structural Welding Code - Reinforcing Steel."
  - (5) IBC Chapter 19-Concrete.
  - (6) ACI 318-14 "Building Code Requirements for Structural Concrete."
  - (7) ACI 117-10 "Specifications for Tolerances for Concrete Construction and Materials"

SUBMITTALS: Conform to ACI 301 Section 3.1.2 "Submittals." Submit placing drawings showing fabrication dimensions and placement locations of reinforcement and reinforcement supports.

LIFTING REQUIREMENTS for Tilt-Up Panels or Precast Plank: The contractor is responsible for temporarily bracing the panels against wind or other forces that may occur during construction and until connections to the permanent structural system are completed.

MATERIALS:

Reinforcing Bars.....	ASTM A615, Grade 60, deformed bars.
Smooth Welded Wire Fabric.....	ASTM A706, Grade 60, deformed bars.
Deformed Welded Wire Fabric.....	ASTM A1064
Bar Supports.....	CRSI MSP-09, Chapter 3 "Bar Supports."
Tie Wire.....	16 gage or heavier, black annealed.
Stud Rails.....	ASTM A1044
Headed Deformed Bars.....	ASTM A970

FABRICATION: Conform to ACI 301, Section 3.2.2. "Fabrication", and ACI SP-66 "ACI Detailing Manual."

WELDING: Bars shall not be welded unless authorized. When authorized, conform to ACI 301, Section 3.2.2.2. "Welding", AWS D1.4, and provide ASTM A706, grade 60 reinforcement.

PLACING: Conform to ACI 301, Section 3.3.2 "Placing." Placing tolerances shall conform to ACI 117.

CONCRETE COVER: Conform to the following cover requirements unless noted otherwise in the drawings.

Concrete cast against earth.....	3"
Concrete exposed to earth or weather.....	2"
Ties in columns and beams.....	1-1/2"
Bars in slabs.....	3/4"
Bars in walls.....	3/4"
Exterior bars in Tilt-up Panels.....	1"

SPLICES: Conform to ACI 301, Section 3.3.2.7, "Splices". Refer to "Typical Lap Splice and Development Length Schedule" for typical reinforcement splices. Splices indicated on individual sheets shall control over the schedule. Mechanical anchors may be used when approved by the SER. FIELD BENDING: Conform to ACI 301 Section 3.3.2.8. "Field Bending or Straightening." Bar sizes #3 through #5 may be field bent cold the first time. Subsequent bends and other bar sizes require preheating. Do not twist bars. Bars shall not be bent past 45 degrees.

POST-INSTALLED ANCHORS (INTO CONCRETE AND MASONRY)

- REFERENCE STANDARDS: Conform to:
- (1) IBC Chapter 19 "Concrete"
  - (2) ACI 318-14 "Building Code Requirements for Structural Concrete"
  - (3) IBC Chapter 21 "Masonry"
  - (4) TMS402-16 "Building Code Requirements for Masonry Structures"

POST-INSTALLED ANCHORS: Install only where specifically shown in the details or allowed by SER. All post-installed anchors types and locations shall be approved by the SER and shall have a current ICC-Evaluation Service Report that provides relevant design values necessary to validate the available strength exceeds the required strength. Submit current manufacturer's data and ICC ESR report to SER for approval regardless of whether or not it is a pre-approved anchor. Anchors shall be installed in strict accordance to ICC-ESR and the manufacturer's printed installation instructions (MPI) in conjunction with edge distance, spacing and embedment depth as indicated on the drawings. The contractor shall arrange for a manufacturer's field representative to provide installation training for all products to be used, prior to the commencement of work. Only trained installer shall perform post installed anchor installation. A record of training shall be kept on site and be made available to the SER as requested. Adhesive anchors installed in horizontally or upwardly inclined orientation shall be performed by a certified adhesive anchor installer (AAI) as certified through ACI/CRSI or approved equivalent. Proof of current certification shall be submitted to the engineer for approval prior to commencement of installation. No reinforcing bars shall be damaged during installation of post-installed anchors. Special inspection shall be per the TESTS and INSPECTIONS section. Anchor type, diameter and embedment shall be as indicated on drawings.

1. **ADHESIVE ANCHORS:** The following Adhesive-type anchoring systems have been used in the design and shall be used for anchorage to CONCRETE, as applicable and in accordance with corresponding current ICC ESR report. Reference the corresponding ICC ESR report for required minimum age of concrete, concrete temperature range, moisture condition, light weight concrete, and hole drilling and preparation requirements. Drilled-in anchor embedment lengths shall be as shown on drawings, or not less than 7 times the anchor nominal diameter (7D). Adhesive anchors are to be installed in concrete aged a minimum of 21 days, unless otherwise specified in the ICC ESR report.
  - a. [HILTI "HIT-HY 200" – ICC ESR-3187 for anchorage to CONCRETE with embedment depth less than or equal to 20 bar diameters]
  - b. [SIMPSON "SET-XP" – ICC ESR 2508 for anchorage to CONCRETE], [APMO 265 for anchorage to MASONRY]
2. **SCREW ANCHORS:** The following Screw type anchor is pre-approved for anchorage to CONCRETE or MASONRY in accordance with corresponding current ICC ESR report:
  - a. SIMPSON "TITEN HD" – ICC ESR-2713 for CONCRETE Only

STRUCTURAL STEEL

- REFERENCE STANDARDS: Conform to:
- (1) IBC Chapter 22 – "Steel"
  - (2) ANSI/AISC 303-16 – "Code of Standard Practice for Steel Buildings & Bridges"
  - (3) AISC – "Manual of Steel Construction", Fifteenth Edition (2016)
  - (4) ANSI/AISC 360-16 – "Specification for Structural Steel Buildings"
  - (5) AWS D1.1:2015 – "Structural Welding Code – Steel"
  - (6) 2014 RCSC – "Specification for Structural Joints using High-Strength Bolts"

SUBMITTALS: Submit the following documents to the SER for review:

- (1) **SHOP DRAWINGS** complying with AISC 360 Sections M1and N3 and AISC 303 Section 4.
- (2) **ERECTION DRAWINGS** complying AISC 360 Sections M1and N3 and AISC 303 Section 4.

Make copies of the following documents "Available upon Request" to the SER or Owner's Inspection Agency in electronic or printed form prior to fabrication per AISC 360 Section N3.2 requirements:

- (1) **Fabricator's written Quality Control Manual** that includes, as a minimum:
  - a. Material Control Procedures
  - b. Inspection Procedures
  - c. Non-conformance Procedures
- (2) **Steel & Anchor Rod suppliers' Material Test Reports** (MTR's) indicating the compliance with specifications.
- (3) **Fastener manufacturer's Certification** documenting conformance with the specification.
- (4) **Filler metal manufacturer's product data** for SMAW, FCAW and GMAW indicating:
  - a. Product specification compliance
  - b. Recommended welding parameters
  - c. Recommended storage and exposure requirements including baking
  - d. Limitations of use
- (5) **Welded Headed (Shear) Stud Anchors Manufacturer's certification** indicating the meet specifications.
- (6) **Weld Procedure Specifications (WPS's)** for shop and field welding.
- (7) **Manufacturer's Certificates of Conformance** for electrodes, fluxes and gases (welding consumables).
- (8) **Procedure Qualification Records (PQR's)** for WPS's that are not prequalified in accordance with AWS.
- (9) **Welding personnel Performance Qualification Records (WPQR)** and continuity records conforming to AWS standards.

MATERIALS:

Structural steel materials shall conform to materials and requirements listed in AISC 360 section A3 including, but not limited to:

Wide Flange (W), Tee (WT) Shapes.....	ASTM A992	Fy = 50 ksi
Structural (S), (M) & (HP) Shapes.....	ASTM A36	Fy = 36 ksi
Channel (C) & Angle (L) Shapes.....	ASTM A36	Fy = 36 ksi
Structural Plate (PL).....	ASTM A36	Fy = 36 ksi
High Strength Plate (Gr 50 PL).....	ASTM A572	Fy = 50 ksi
Hollow Structural Section – Square/Rect (HSS).....	ASTM A500	Grade C Fy = 50 ksi
Structural Pipe, (PIPE) 12" dia. and less.....	ASTM A53	Grade B Fy = 35 ksi
High Strength, Heavy Hex Structural Bolts.....	ASTM F3125 Gr. A325/F1852	Type 1 or 3, Plain
Heavy Hex Nuts.....	ASTM A563	Grade and Finish per RCSC Table 2.1
Washers (Hardened Flat or Beveled).....	ASTM F436	Grade and Finish per RCSC Table 2.1
Anchor Rods (Anchor Bolts, typical).....	ASTM F1554	Gr. 36
Anchor Rods (High Strength).....	ASTM F1554	Gr. 55 (weldable) per Supplement S1
Welded Headed (shear) Stud Anchors.....	ASTM A108 – Nelson/TRW S3L	
Welded Headed Stud (WHS) Anchors.....	ASTM A108 – Nelson/TRW H4L	
Dowel Bar Anchors (DBA).....	ASTM A496 – Nelson/TRW D2L	Fy = 70 ksi

ANCHORAGE to CONCRETE:

- (1) **SHEAR STUDS on STEEL BEAMS for COMPOSITE CONSTRUCTION:** Headed Shear Studs welded to tops of Wide Flange Beams, shall be 3/4" diameter WHS with nominal stud lengths as indicated. Unless noted otherwise, provide minimum shear stud height equal to the (metal deck depth + 1 1/2") and a maximum shear stud height that allows for 1/2" of concrete cover over the stud.
- (2) **EMBEDDED STEEL PLATES for Anchorage to Concrete:** Plates (PL) embedded in concrete with studs (WHS) or dowel bar anchors (DBA) shall be of the sizes and lengths as indicated on the plans with minimum 1/2" dia. WHS x 6" long but provide not less than 3/4" interior cover or 1 1/2" exterior cover to the opposite face of concrete, unless noted otherwise.
- (3) **COLUMN ANCHOR RODS and BASE PLATES:** All columns (vertical member assemblies weighing over 300 pounds) shall be provided with a **minimum of four 3/4" diameter anchor rods**. Column base plates shall be at least 1/2" thick, unless noted otherwise. Cast-in-place anchor rods shall be provided unless otherwise approved by the Engineer. Unless noted otherwise, embedment of cast-in-place anchor rods shall be 12 times the anchor diameter (12D).

FABRICATION:

- (1) Conform to AISC 360 Section M2 "Fabrication" and AISC 303 Section 6 "Shop Fabrication".
- (2) Quality Control (QC) shall conform to:
  - a. AISC 360 Chapter N "Quality Control and Quality Assurance" and
  - b. AISC 303 Section 8 "Quality Control".
- (3) Fabricator and Erector shall establish and maintain written Quality Control (QC) procedures per AISC 360 section N3.
- (4) Fabricator shall perform self-inspections per AISC 360 section N5 to ensure that their work is performed in accordance with Code of Standard Practice, the AISC Specification, Contract Documents and the Applicable Building Code.
- (5) QC inspections may be coordinated with Quality Assurance inspections per Section N5.3 where fabricators QA procedures provide the necessary basis for material control, inspection, and control of the workmanship expected by the Special Inspector.

WELDING:

- (1) Welding shall conform to AWS D1.1 with Prequalified Welding Processes except as modified by AISC 360 section J2. Welders shall be qualified in accordance with AWS D1.1 requirements.
- (2) Use 70ksi strength, low-hydrogen type electrodes (E7018) or E71T as appropriate for the process selected.
- (3) Welding of high strength anchor rods is prohibited unless approved by Engineer.
- (4) Welding of headed stud anchors shall be in accordance with AWS D1.1 Chapter 7 "Stud Welding".

ERECTION:

- (1) Conform to AISC 360 Section M4 "Erection" and AISC 303 Section 7 "Erection".
- (2) Conform to AISC 360 Chapter N "Quality Control and Quality Assurance" and AISC 303 Section 8.
  - a. The Erector shall maintain detailed erection quality control procedures that ensure that the work is performed in accordance with these requirements and the Contract Documents.
- (3) Steel work shall be carried up true and plumb within the limits defined in AISC 303 Section 7.13.
- (4) High strength bolting shall comply with the RCSC requirements including RCSC Section 7.2 "Required Testing", as applicable and AISC 360 Chapter J, Section M2.5 and Section N5.6.
- (5) Welding of **HEADED STUD ANCHORS** shall be in accordance with AWS D1.1 Chapter 7 "Stud Welding.
- (6) Provide Headed (Shear) Stud Anchors welded through the metal deck to tops of beams denoted in plans.
- (7) The contractor shall provide temporary bracing and safety protection required by AISC 360 Section M4.2 and AISC 303 Section 7.10 and 7.11.

PROTECTIVE COATING REQUIREMENTS:

- (1) **SHOP PAINTING:** Conform to AISC 360 Section M3 and AISC 303 Section 6.5 unless otherwise specified by the project specifications.
- (2) **EXTERIOR STEEL:** Exposed exterior steel shall be protected by either:
  - a. **Paint** with an exterior multi-coat system as per the project specifications. Field touch-up painting shall be per the project specifications.

ALUMINUM

DESIGN STANDARDS:

- (1) IBC 2018, Chapter 20 – Aluminum, hereafter referenced as IBC
- (2) AA ADM 1-2015 – Aluminum Design Manual 2015, hereafter referenced as ADM
- (3) AA SAS-2015 – Specification for Aluminum Structures 2015, hereafter referenced as SAS
- (4) AA ASM 35-00 – Aluminum Sheet Metal Work in Building Construction (4<sup>th</sup> Edition)
- (5) AWS D1.2:2014 – Structural Welding Code – Aluminum, hereafter referenced as AWS D1.2

SUBMITTALS:

- (1) **Shop drawings**
- (2) Submit welder's certificates verifying qualification for Aluminum welding within past 12 months.
- (3) **Affidavit** stating the materials provided meet the requirements of the grade(s) specified.
- (4) **Weld Procedure Specifications (WPS's)**.

MATERIALS:

Extrusions, Structural Bars & Plates.....	6061-T6	Fty = 35 ksi
Bolts.....	ASTM F468 6061-T6	Fty = 35 ksi
Flat Washers.....	2024-T4	
Spring Lock Washers.....	7075-T6	
Screws (Stainless Steel).....	300 Series Stainless Steel	
Screws (Aluminum).....	2024-T4	
Nuts (>1/4" Bolt Diameter).....	ASTM F467 6061-T6	Fty = 35 ksi
Welding Filler.....	4043	

WELDING:

- (1) Welding shall conform to AWS D1.2 and visually conform to AWS D1.2 Section 4.19. Fabrication/erection inspections by the Inspector per AWS D1.2 shall be by associated/certified inspectors (AWIC/WI) per AWS QC1 or AWS B5.1. Special Inspections (verification inspections) shall be by a certified Welding Inspector (WI) or Senior Welding Inspector (SWI) per AWS B5.1.
- (2) Welders shall be [AWS] [WABO] certified and qualified for the following as required by the design:
  - Weld Process (MIG or TIG)
  - Shielding Gas
  - Position
  - Thickness/Diameter of Connected Parts
  - Vertical Progression
  - Backing
- (3) Welding shall be performed in accordance with project-specific Weld Procedure Specifications (WPS's) which shall address the following:
  - Weld Process (MIG or TIG)
  - Base Metal Alloy Group (M-number)
  - Base Metal Thickness
  - Filler Metal Alloy Group (F-number)
  - Electrode Amperage, Voltage, and Travel Speed
  - Shielding Gas and Rate of Flow
  - Power Supply (Pulsed or Conventional, AC/DC)
  - Number of Weld Passes
  - Position (Flat, Vertical, Horizontal, Overhead)
  - Direction of Welding (Forehand/Backhand, Up/Down)
  - Groove Type and Angle
  - Fit-Up Tolerances
  - Technique (Stringer/Weave Bead)
  - Cleaning (Initial and Interpass)
  - Backing (Permanent/Temporary, Backing/No Backing)
  - Backgouging (If Applicable)
  - Preheat/Interpass Temperatures
  - Welding Class (Statically/Cyclically Loaded Structures, Tubular/Non-Tubular Structures)
- (4) Welder qualifications and WPS's shall be maintained at the site of the work and shall be readily available for inspection upon request, both in the shop and in the field.
- (5) Use electrodes appropriate for the process selected.
- (6) Prior to the start of work, Special Inspector shall inspect and document compliance with the following:
  - Confirm welder qualifications prior to the start of work.
  - Review all WPS prior to the start of work.
  - Confirm materials in fabrications conform to the specifications.
  - Periodically observe joint preparation, fit-up and welder techniques.
  - Identify on plans all multi-pass fillet welds, single pass fillet welds greater than 5/16", and Complete- and Partial- Joint Penetration (CJP or PJP) groove welded butt joints that require Continuous (Special) Inspection.
  - Visually inspect all welds per Special Inspection Requirements for Aluminum and AWS D1.2 Section 4.19.

FABRICATION:

- (1) Structural Welding and qualifications shall conform to AWS D1.2.
- (2) The fabricator shall maintain detailed fabrication & erection quality control procedures per IBC Section 1704.2.5 that provides the basis for inspection control of the workmanship and ensures that the work is performed in accordance with Code of Standard Practice, the SAS, and the Contract Documents.

ERECTION:

- (1) The Erector shall maintain detailed fabrication & erection quality control procedures that ensure that the work is performed in accordance with SAS and the Contract Documents.
- (2) Aluminum work shall be carried up true and plumb within the limits defined by the SAS.
- (3) Welding to conform to the AWS D1.2 and applicable WELDING notes above.
- (4) Special Inspector shall inspect the steel framing to verify compliance with the details shown on the Contract Documents including member size, location, bracing and the application of proper joint details at each connection.

**BRACING and SAFETY PROTECTION:** The contractor shall provide temporary bracing and safety protection.

WOOD FRAMING

REFERENCE STANDARDS: Conform to:

- (1) IBC Chapter 23 "WOOD"
- (2) NDS - "2018 National Design Specification (NDS) for Wood Construction"
- (3) ANSI/APC – SDPWS-15: Special Design Provisions for Wind and Seismic
- (4) APA D510C-12 Plywood Design Specification
- (5) ANSI/TPI 1-2014 "National Design Standard for Metal-Plate-Connected Wood Truss Construction"
- (6) BCSI B1 "Guide to Good Practice for Handling, Installing, Restraining & Bracing of Trusses"
- (7) TPI DSB "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses"
- (8) APA Report TT-045B "Minimum Nail Penetration for Wood Structural Panel Connections Subject to Lateral Loads"
- (9) APA Report TT-061 "1-5/16 Inch-Thick I-Joist Flanges and Diaphragm Nail Penetration"

**IDENTIFICATION:** All sawn lumber and pre-manufactured wood products shall be identified by the grade mark or a certificate of inspection issued by the certifying agency.

MATERIALS:

- **Sawn Lumber:** Conform to grading rules of WWPA, WCLIB or NLGA and Table below. Finger jointed studs acceptable at interior walls only.

TABLE of SOLID SAWN LUMBER

Member Use	Size	Species	Grade
Wall Stud/ Top & Bottom Plates	2x4, 3x4, 2x6, 3x6	Doug Fir Larch	No. 2
Sill Plate (at concrete)	2x4, 3x4, 2x6, 3x6	PT Doug Fir Larch	No. 2
Post	4x4, 4x6, 4x8	Doug Fir Larch	No. 2
Floor or Roof Joist	2x6 through 2x12	Doug Fir Larch	No. 2
Beam	4x8 through 4x12	Doug Fir Larch	No. 2
Beam	6x8 through 6x12	Doug Fir Larch	No. 1
Post or Timber	6x6, 8x8	Doug-Fir Larch	No. 1

- **Wood Structural Sheathing (Plywood):** Wood APA-rated structural sheathing includes: all veneer plywood, oriented strand board, waferboard, particleboard, T1-11 siding, and composites of veneer and wood based material with T&G joint. **Architect** may disallow OSB. Confirm with **Architect** Conform to "Construction and Industrial Plywood" based on Product Standard PS 1-09 by the U.S. Dept. of Commerce, and "Performance Standard for Wood-Based Structural-Use Panels" based on Product Standard PS 2-10 by the U.S. Dept. of Commerce and "Plywood Design Specification" based on APA D510C-12 by the American Plywood Association. Unless noted otherwise, sheathing shall comply with the following table:

TABLE of SHEATHING - Use, Minimum Thickness and Minimum APA Rating

Location	Thickness	Span Rating	Plywood Grade	Exposure
Roof	15/32"	32/16	C-D	1
Floor	23/32" T&G	24 OC	STURD-I-FLOOR	1
Walls	15/32"	32/16	C-D	1

Unless noted otherwise on drawings, install roof and floor panels with long dimension across supports and with panel continuous over two or more spans. End joints shall occur over supports. [HUD Materials Bulletin 404 grade marking of sheathing certification is required.]

- **Fasteners** (nails, bolts, screws, etc) attaching timber connectors (joist hangers, post caps and bases, etc) to PT wood shall have similar corrosion resistance properties (matching protective treatments) as the protected connector. Fasteners (nails, bolts, screws, etc) attaching sawn timber members or sheathing (shear walls) to PT wood shall be corrosion resistant, nails and lag bolts shall be either HDG (ASTM A153) or stainless steel. Verify the suitability of the fastener protection/coating with the wood treatment chemical manufacturer/ supplier.

Provide **washers** under the heads and nuts of all bolts and lag screws bearing on wood.

- **Lag Bolts/Bolts:** Conform to ASTM A307 and IBC Section 2304.10.
- **Nails and Staples:** Conform to ASTM F1667 and IBC Sections 2303.6 and 2304.10.

**NAILING REQUIREMENTS:** Conform to IBC Section 2304.10 "Connections and fasteners." Unless noted on plans, nail per Table 2304.10.1. Nailing for roof/floor diaphragms/shear walls shall be per drawings. Nails shall be driven flush and shall not fracture the surface of sheathing. Alternate nails may be used but are subject to review and approval by the Structural Engineer. Substitution of staples for the nailing of rated sheathing is subject to review by the structural engineer prior to construction.

**STANDARD LIGHT-FRAME CONSTRUCTION:** Unless noted on the plans, construction shall conform to IBC Section 2308 "Conventional Light-Frame Construction."

**NAILERS ON STEEL COLUMNS and BEAMS:** Wood 3x nailers are generally required on all HSS columns and steel beams abutting or embedded within wood framing. Unless noted otherwise, attach with 5/8" diameter bolts or welded studs at 16" on centers. Unless noted otherwise, wood nailers on beams supporting joist hangers shall not overhang the beam flange by more than 1/2".

**WOOD SHRINKAGE AND EXPANSION:** Wood materials will expand or contract based on relative changes in moisture. The contractor is responsible for means and methods of construction related to mitigating and managing the effects of changes in moisture.

**MOISTURE CONTENT:** The contractor shall make provisions during handling and construction to prevent the structural wood members from exceeding the appropriate moisture content limits. The moisture content for solid sawn wood material used for this project shall not exceed 19%. The moisture content for engineered wood products, laminated lumber and sheathing shall not exceed the limits required by the manufacturer or 12%, whichever is less. The moisture content limits may be more stringent for particular product requirements (eg. finishes, cladding, insulation systems, etc.). The contractor shall refer to the Architect's drawings, project specifications, or installer/product requirements for additional requirements.

**PRESERVATIVE TREATMENT (PT):** Wood materials that are required to be "treated wood" in accordance with IBC Section 2304.12 "Protection Against Decay and Termitte Protection" shall conform to the appropriate standards of the American Wood-Preservers Association (AWPA) for sawn lumber, glued laminated timber, round poles, wood piles and marine piles. Follow American Lumber Standards Committee (ALSC) quality assurance procedures. Products shall bear the appropriate mark. Fasteners or anchors in treated wood shall be of stainless steel or hot-dipped galvanized or as per IBC 2304.10.5. [HUD UM48 Pressure-Treated Lumber and Plywood Certification is required.]

Mud sill plates in normally dry interior applications may be treated with Sodium Borate (DOT - Disodium Octaborate Tetrahydrate) as recent studies have noted less connector corrosion potential than other available wood treatments or the original CCA treated sill plates. Wood treated with Sodium Borate shall be protected during shipment, storage and installation to minimize leaching of the water-soluble preservative from the lumber. Sodium borate pressure treated plates do not require hot-dipped galvanized connectors.

If using preservative treatments other than CCA or sodium borate, fasteners must be hot dipped galvanized or stainless steel. Wood treated with Alkaline Copper Quaternary (ACQ) requires steel components in contact with the wood to be stainless (nails, bolts, screws, washers & lag screws). Fasteners (nails, bolts, screws, washers & lag screws) attaching timber connectors (joist hangers, post caps and bases, etc) to PT wood shall have similar corrosion resistance properties (matching protective treatments) as the protected connector, that is, use hot dipped galvanized or stainless-steel fasteners. Fasteners (nails, bolts, screws, washers & lag screws) attaching sawn timber members or sheathing (shear walls) to Pressure Treated wood shall be corrosion resistant (hot dipped galvanized or stainless steel).

Always verify the suitability of the fastener protection/coating with the wood treatment chemical manufacturer/ supplier.



CONSTRUCTION DOCUMENTS

GENERAL NOTES

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S0.2

MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE., MISSOULA, MT 59801

FAIRWAY DRIVE IMPROVEMENTS

owner

sheet

project

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revision

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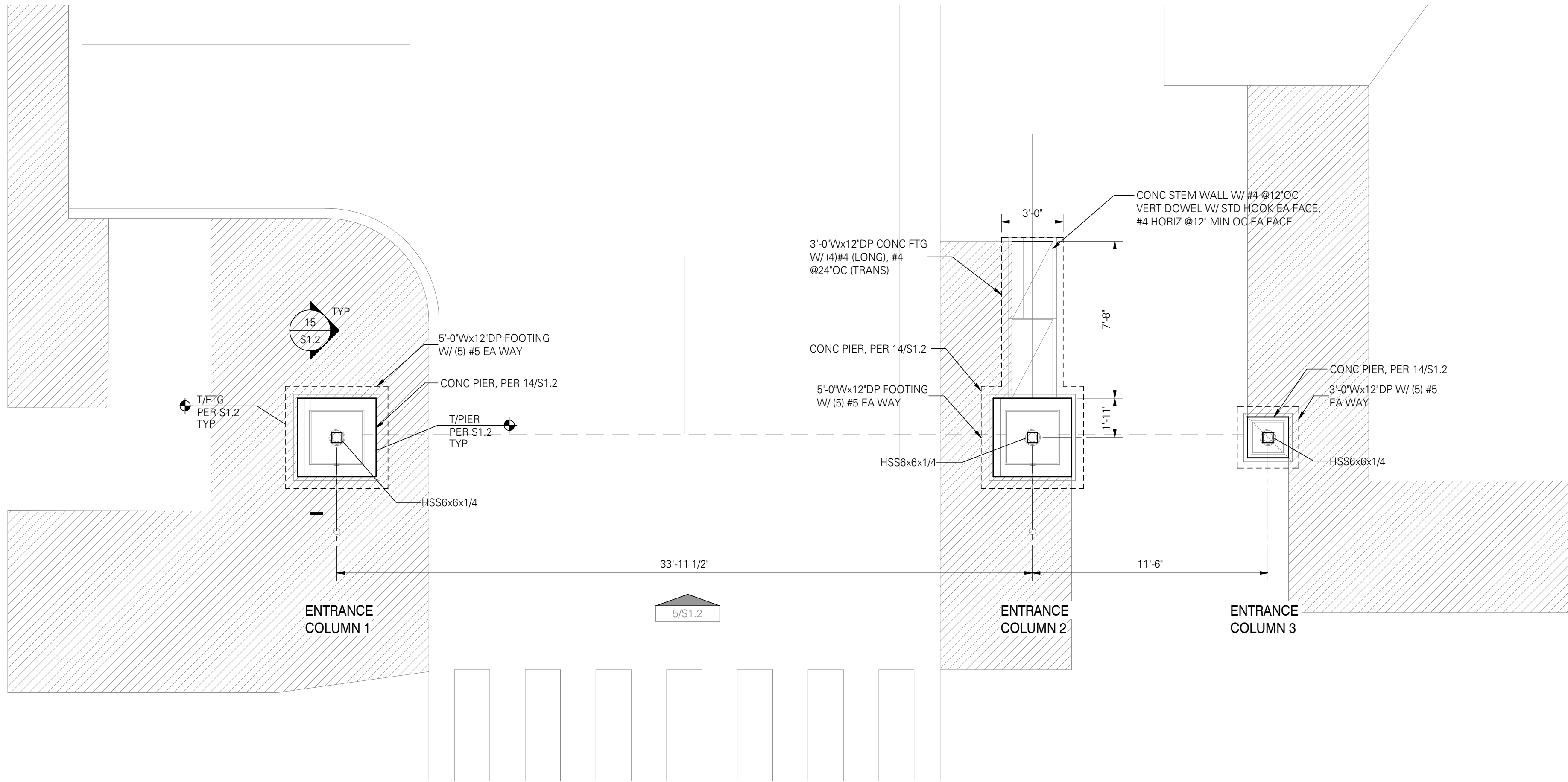
phase

CONSTRUCTION DOCUMENTS



5 FOUNDATION PLAN

S1.2 : S1.1 1/4" = 1'-0"



FOUNDATION PLAN NOTES:

- STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S0.1 AND S0.2
- VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
- FULLY COORDINATE ADDITIONAL SITE WORK NOT SHOWN ON THIS PLAN WITH ARCH/CIVIL.
- ELEVATIONS PER S1.2
- ALL STEEL AND WELDS TO BE PRIMED.

CONSTRUCTION DOCUMENTS

sheet FOUNDATION PLAN

project FAIRWAY DRIVE IMPROVEMENTS

owner

MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE, MISSOULA, MT 59801

project # 20141.00

revision	date
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phase

CONSTRUCTION DOCUMENTS

issue date

03.15.2022

S1.1

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CIVIL / STRUCTURAL



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## ELECTRICAL SYMBOL LEGEND

REFERENCE SYMBOLS	
	KEYNOTE REFERENCE
	FEEDER MARK REFERENCE
	EQUIPMENT TAG REFERENCE
	DETAIL & ENLARGED PLAN REFERENCE
	REVISION SYMBOL
	SPECIFICATION SECTION REFERENCE

### CIRCUITING

	RACEWAY CONCEALED IN NEW CONSTRUCTION IN FINISHED SPACES, RACEWAY EXPOSED IN UNFINISHED SPACES AND OPEN CEILINGS, UOI; 3/4" MINIMUM TRADE SIZE
	RACEWAY BELOW GRADE EPC-40-PVC; 1" MINIMUM TRADE SIZE, UOI
	B-2,4,6 HOME RUN TO PANELBOARD. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. HASH MARKS INDICATE NUMBER AND TYPE OF CONDUCTORS; SHORT = PHASE CONDUCTOR, LONG = NEUTRAL CONDUCTOR, LONG WITH 1 DOT = EQUIPMENT GROUND; INFER NUMBER OF CONDUCTORS WHEN CONDUCTORS NOT SHOWN
	B-5 HOME RUN TO PANELBOARD BY WAY OF LIGHTING CONTROL PANEL RELAY. LIGHTING CONTROL ZONE INDICATED. PROVIDE RACEWAYS AND CONDUCTORS.
	RACEWAY STUB-OUT
	RACEWAY TURNED UP AND CONTINUED
	RACEWAY TURNED DOWN AND CONTINUED
	CIRCUIT CONTINUATION
	EXISTING UNDERGROUND BOX AND FLUSH COVER; C = "COMMUNICATIONS," E = "ELECTRICAL," L = "LIGHTING" MOLDED COVER LEGEND; TYPE A OR TYPE B SHOWN OUTSIDE BOX INDICATES BOX DIMENSIONS, REFER TO SPECIFICATIONS
2"C.,4#4,1#6G	2-INCH TRADE SIZE RACEWAY WITH FOUR 4 AWG CURRENT-CARRYING CONDUCTORS AND ONE 6 AWG EQUIPMENT GROUNDING CONDUCTOR
2 1/2"C.	ONE 2 1/2-INCH TRADE SIZE RACEWAY
(2) 1/2"C.	TWO 1/2-INCH TRADE SIZE RACEWAYS

### LIGHTING CONTROL

EXISTING LIGHTING CONTROL PANEL

### LUMINAIRES

REFER TO THE EL DRAWING SERIES FOR LUMINAIRE SYMBOLS, LUMINAIRE DESIGNATIONS AND LUMINAIRE SCHEDULE.

LIGHTING BOLLARD ON CONCRETE FOUNDATION

### RECEPTACLE OUTLETS

GFCI DUPLEX RECEPTACLE, NEMA 5-20R WITH METALLIC WEATHERPROOF WHILE-IN-USE EXTRA-DUTY COVER

### POWER DISTRIBUTION EQUIPMENT

120/240 V 1PH 3W+G PANELBOARD

### ONE-LINE DIAGRAM

	PANELBOARD
	CT COMPARTMENT
	METER BASE AND UTILITY METER
	GROUNDING ELECTRODES, EARTH GROUND
	SURGE PROTECTIVE DEVICE
	FEEDER IDENTIFIER

## ABBREVIATIONS & UNITS OF MEASURE

'	FOOT, FEET
"	INCH, INCHES
⚡	ELECTRICAL PHASE
+48"	HEIGHT AFF OR AFG, INCHES UNLESS FEET AND INCHES INDICATED
1P	SINGLE POLE
1⚡	SINGLE PHASE
2P	2-POLE
2W	2-WIRE
3W	3-WIRE
A	AMPERE, AMP
AC	ALTERNATING CURRENT
AFG	ABOVE TOP OF FINISH GRADE
AIC	AMPERE INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GAGE
C	CONDUIT, RACEWAY
CB	CIRCUIT BREAKER
CT	CURRENT TRANSFORMER
CU	COPPER
D	DEEP
DC	DIRECT CURRENT
DEMO	DENOLISH, DEMOLITION
DIA	DIAMETER
DISC.	DISCONNECT
E	EAST
(E)	EXISTING TO REMAIN
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
FT	FOOT, FEET
FU	FUSE
G	GROUND
GC	GENERAL CONTRACTOR
IN.	INCH, INCHES
H	HIGH
HZ	HERTZ (CYCLES PER SECOND)
J-BOX	JUNCTION BOX
kA	KILOAMPERE
kCMIL	THOUSAND CIRCULAR MILS
kVA	KILOVOLTAMPERE
kW	KILOWATT
L	LENGTH
LCP	LIGHTING CONTROL PANEL
LTG	LIGHTING
MLO	MAIN LUG ONLY
N	NEUTRAL, NORTH
N.C.	NORMALLY CLOSED
NEC	NFPA 70 NATIONAL ELECTRICAL CODE, LATEST ADOPTED ADDITION
N.O.	NORMALLY OPEN
NO.	NUMBER
NWE	NORTHWESTERN ENERGY CO.
O.C.	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
P	POLE
PNL	PANEL, PANELBOARD
PROV	PROVISION
PWR	POWER
QTY	QUANTITY
RCPT	RECEPTACLE
RM	ROOM
RMC	RIGID METAL CONDUIT
S	SOUTH
SN	SOLID NEUTRAL
SPD	SURGE PROTECTIVE DEVICE
SW	SWITCH
TYP	TYPICAL
UOI	UNLESS OTHERWISE INDICATED
V	VOLT
VA	VOLTAMPERE
W	WATT, WIDE, WEST
WP	WEATHERPROOF
XFMR	TRANSFORMER

## GENERAL ELECTRICAL NOTES

- ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER AS DEFINED IN NECA 1, "STANDARD PRACTICE OF GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION." COMPLY WITH NECA 1 UNLESS OTHERWISE INDICATED.
- PROVIDE COMPLETE AND FULLY FUNCTIONAL LIGHTING AND LIGHTING CONTROL SYSTEMS. REFER TO THE LIGHTING CONSULTANT DRAWINGS (EL SERIES OF SHEETS) FOR THE LUMINAIRE SCHEDULE, QUANTITIES, LAYOUT AND ZONE ASSIGNMENTS. IF LIGHTING CONSULTANT'S DRAWINGS CONFLICT WITH ELECTRICAL LIGHTING DRAWINGS (E SERIES OF SHEETS), PROMPTLY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION TO PROCEED. LUMINAIRE SELECTION, PHOTOMETRIC CALCULATIONS, PLACEMENT AND SPACING WERE DETERMINED BY THE LIGHTING CONSULTANT WITHOUT THE DIRECT SUPERVISION OF THE ELECTRICAL ENGINEER AND ARE THEREFORE EXCLUDED FROM COVERAGE OF THE ELECTRICAL ENGINEER'S STAMP.
- CAREFULLY RECORD LOCATIONS OF IN-GRADE PULL BOXES AND ROUTING OF BURIED RACEWAYS ON AS-BUILT DRAWINGS. INDICATE ALL INSTANCES WHERE THE INSTALLATION DEVIATES FROM THE CONSTRUCTION DOCUMENTS.
- PROVIDE TRENCHING, BACKFILL, COMPACTION, CUTTING, PATCHING, CONCRETE FOUNDATIONS AND CONCRETE PADS AS NEEDED TO ACCOMPLISH WORK.
- EXISTING SERVICES AND SYSTEMS TO REMAIN: MAINTAIN SERVICES AND SYSTEMS INDICATED TO REMAIN AND PROTECT THEM AGAINST DAMAGE.
- EXISTING SERVICES AND SYSTEMS TO BE REMOVED, RELOCATED, OR ABANDONED: LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF INDICATED UTILITY SERVICES AND ELECTRICAL SYSTEMS SERVING AREAS TO BE SELECTIVELY DEMOLISHED. PROVIDE TEMPORARY SERVICES AND SYSTEMS THAT BYPASS AREA OF SELECTIVE DEMOLITION AND THAT MAINTAIN CONTINUITY OF SERVICES AND SYSTEMS TO OTHER PARTS OF BUILDING.
- PRESERVE HISTORIC FINISHES.
- COORDINATE WITH ARCHITECT PRIOR TO CUTTING OR DRILLING CONCRETE, STEEL OR WOOD STRUCTURAL MEMBERS.
- REMOVE ABANDONED ELECTRICAL EQUIPMENT.
- IDENTIFY EVERY CIRCUIT AND CIRCUIT MODIFICATION AS TO ITS SPECIFIC LOCATION AND PURPOSE OR USE. SEE NEC 408.4.
- MOUNT RECEPTACLE BOXES AND WORK AREA BOXES AT 18" AND LIGHT SWITCH BOXES AT 48" UNLESS OTHERWISE INDICATED. INSTALL BOXES WITH HEIGHT MEASURED TO CENTER OF BOX FROM FINISHED FLOOR.
- WIRING METHOD SHALL BE INDIVIDUAL CONDUCTORS OR CABLES IN RACEWAY, UNLESS OTHERWISE INDICATED. MINIMUM RACEWAY SIZE SHALL BE 3/4" TRADE SIZE, UNLESS OTHERWISE INDICATED. MINIMUM BURIED RACEWAY SIZE SHALL BE 1" TRADE SIZE, UNLESS OTHERWISE INDICATED.

## DEFINITIONS

"BASIS-OF-DESIGN PRODUCT SPECIFICATION": A SPECIFICATION IN WHICH A SPECIFIC MANUFACTURER'S PRODUCT IS NAMED AND ACCOMPANIED BY THE WORDS "BASIS-OF-DESIGN PRODUCT," INCLUDING MAKE OR MODEL NUMBER OR OTHER DESIGNATION, TO ESTABLISH THE SIGNIFICANT QUALITIES RELATED TO TYPE, FUNCTION, DIMENSION, IN-SERVICE PERFORMANCE, PHYSICAL PROPERTIES, APPEARANCE, AND OTHER CHARACTERISTICS FOR PURPOSES OF EVALUATING COMPARABLE PRODUCTS OF ADDITIONAL MANUFACTURERS NAMED IN THE SPECIFICATION.

"BRANCH CIRCUIT": THE CIRCUIT CONDUCTORS BETWEEN THE FINAL OVERCURRENT DEVICE PROTECTING THE CIRCUIT AND THE OUTLET(S).

"EQUIPMENT": A GENERAL TERM, INCLUDING CONDUCTORS, RACEWAYS, MATERIAL, FITTINGS, DEVICES, APPLIANCES, LUMINAIRES, APPARATUS, MACHINERY, AND THE LIKE USED AS A PART OF, OR IN CONNECTION WITH, AN ELECTRICAL INSTALLATION.

"EXISTING TO REMAIN": EXISTING ITEMS OF CONSTRUCTION THAT ARE NOT TO BE PERMANENTLY REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE REMOVED, REMOVED AND SALVAGED, OR REMOVED AND REINSTALLED.

"FEEDER": ALL CIRCUIT CONDUCTORS BETWEEN THE SERVICE EQUIPMENT, THE SOURCE OF A SEPARATELY DERIVED SYSTEM, OR OTHER POWER SUPPLY SOURCE AND THE FINAL BRANCH-CIRCUIT OVERCURRENT DEVICE.

"FURNISH": SUPPLY AND DELIVER TO PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND OTHER SIMILAR OPERATIONS.

"INDICATED": REQUIREMENTS EXPRESSED BY GRAPHIC REPRESENTATIONS OR IN WRITTEN FORM ON DRAWINGS, IN SPECIFICATIONS, AND IN OTHER CONTRACT DOCUMENTS. OTHER TERMS INCLUDING "SHOWN," "NOTED," "SCHEDULED," AND "SPECIFIED" HAVE THE SAME MEANING AS "INDICATED."

"INSTALL": OPERATIONS AT PROJECT SITE INCLUDING UNLOADING, TEMPORARILY STORING, UNPACKING, ASSEMBLING, ERECTING, PLACING, ANCHORING, CONNECTING, FINISHING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS.

"PRODUCTS": ITEMS OBTAINED FOR INCORPORATING INTO THE WORK, WHETHER PURCHASED FOR PROJECT OR TAKEN FROM PREVIOUSLY PURCHASED STOCK. THE TERM "PRODUCT" INCLUDES THE TERMS "MATERIAL," "EQUIPMENT," "SYSTEM," AND TERMS OF SIMILAR INTENT.

"NAMED PRODUCTS": ITEMS IDENTIFIED BY MANUFACTURER'S PRODUCT NAME, INCLUDING MAKE OR MODEL NUMBER OR OTHER DESIGNATION SHOWN OR LISTED IN MANUFACTURER'S PUBLISHED PRODUCT LITERATURE, THAT IS CURRENT AS OF DATE OF THE CONTRACT DOCUMENTS.

"NEW PRODUCTS": ITEMS THAT HAVE NOT PREVIOUSLY BEEN INCORPORATED INTO ANOTHER PROJECT OR FACILITY. PRODUCTS SALVAGED OR RECYCLED FROM OTHER PROJECTS ARE NOT CONSIDERED NEW PRODUCTS.

"COMPARABLE PRODUCT": PRODUCT THAT IS DEMONSTRATED AND APPROVED THROUGH SUBMITTAL PROCESS TO HAVE THE INDICATED QUALITIES RELATED TO TYPE, FUNCTION, DIMENSION, IN-SERVICE PERFORMANCE, PHYSICAL PROPERTIES, APPEARANCE, AND OTHER CHARACTERISTICS THAT EQUAL OR EXCEED THOSE OF SPECIFIED PRODUCT.

"PROJECT SITE": SPACE AVAILABLE FOR PERFORMING CONSTRUCTION ACTIVITIES.

"PROVIDE": FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.

"REMOVE": DETACH ITEMS FROM EXISTING CONSTRUCTION AND LEGALLY DISPOSE OF THEM OFF-SITE, UNLESS INDICATED TO BE REMOVED AND SALVAGED OR REMOVED AND REINSTALLED. OTHER TERMS INCLUDING "DEMOLISH" HAVE THE SAME MEANING AS "REMOVE."

"REMOVE AND SALVAGE": CAREFULLY DETACH FROM EXISTING CONSTRUCTION, IN A MANNER TO PREVENT DAMAGE, CLEAN, STORE IN A SECURE AREA, AND DELIVER TO OWNER.

## ELECTRICAL SHEET INDEX

E0.1	GENERAL NOTES, ABBREVIATIONS & UNITS OF MEASURE, DEFINITIONS, SYMBOL LEGEND AND SHEET INDEX
E1.1	ELECTRICAL POWER & COMMUNICATIONS PLANS AND NORTH ELEVATION
E1.2	COLUMN ELEVATIONS
E9.1	ONE-LINE DIAGRAMS AND SCHEDULES



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CONSTRUCTION DOCUMENTS

sheet

project

owner

project # **20141.00**

revision \_\_\_\_\_ date \_\_\_\_\_

phase

issue date

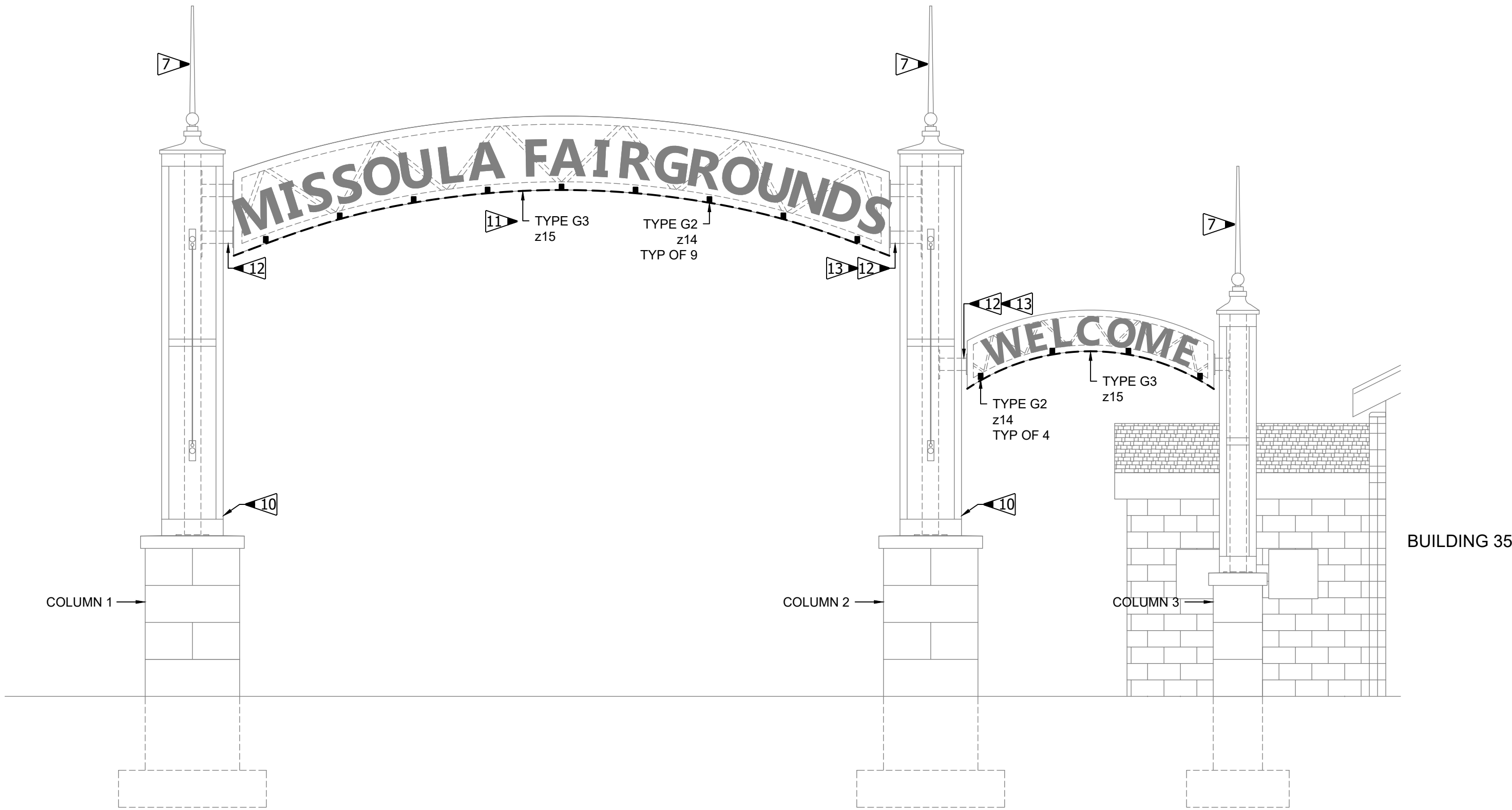
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**E0.1**

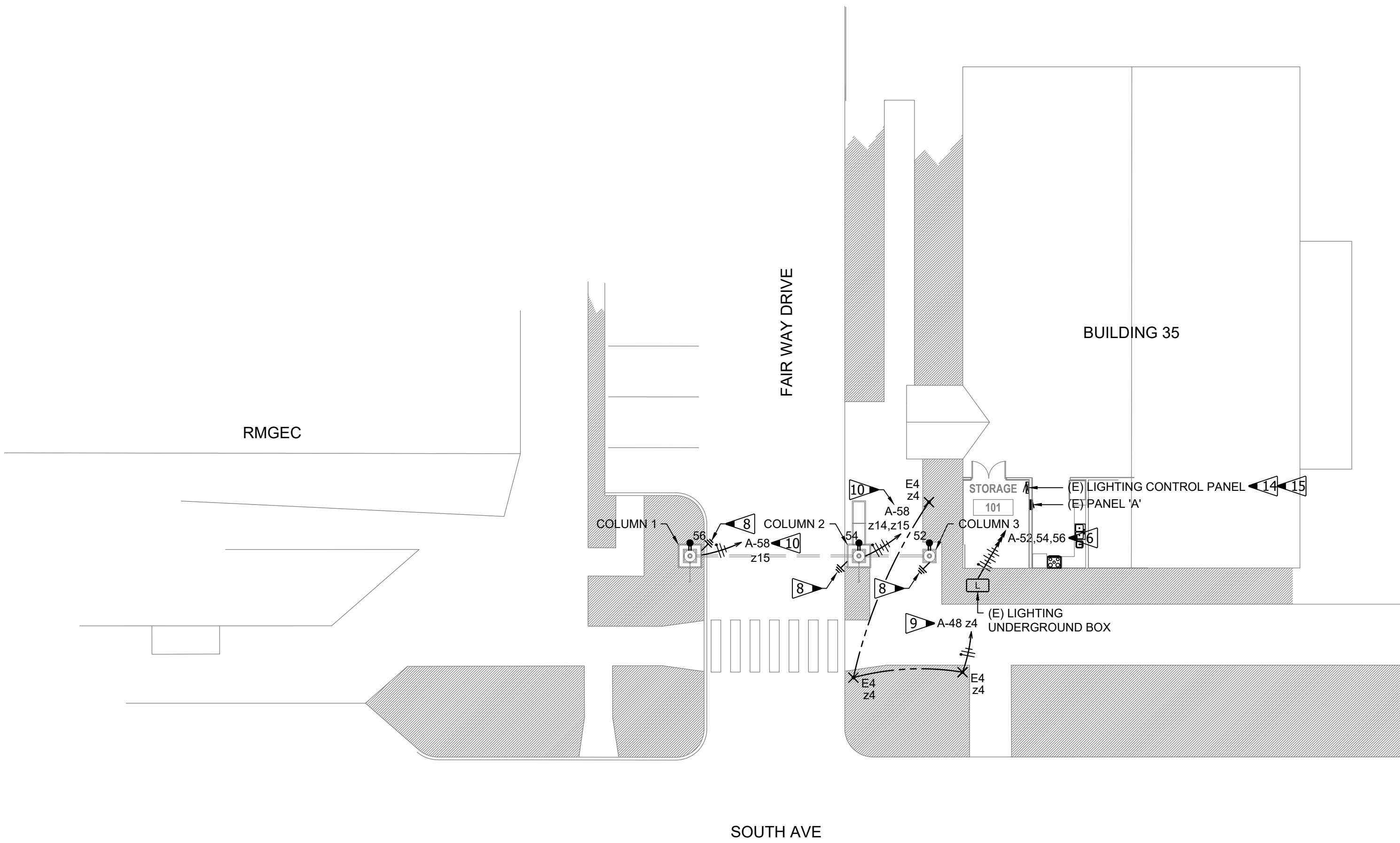




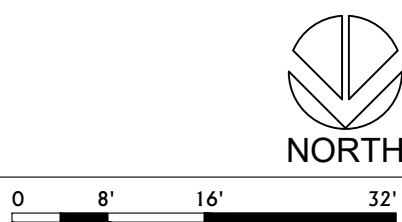
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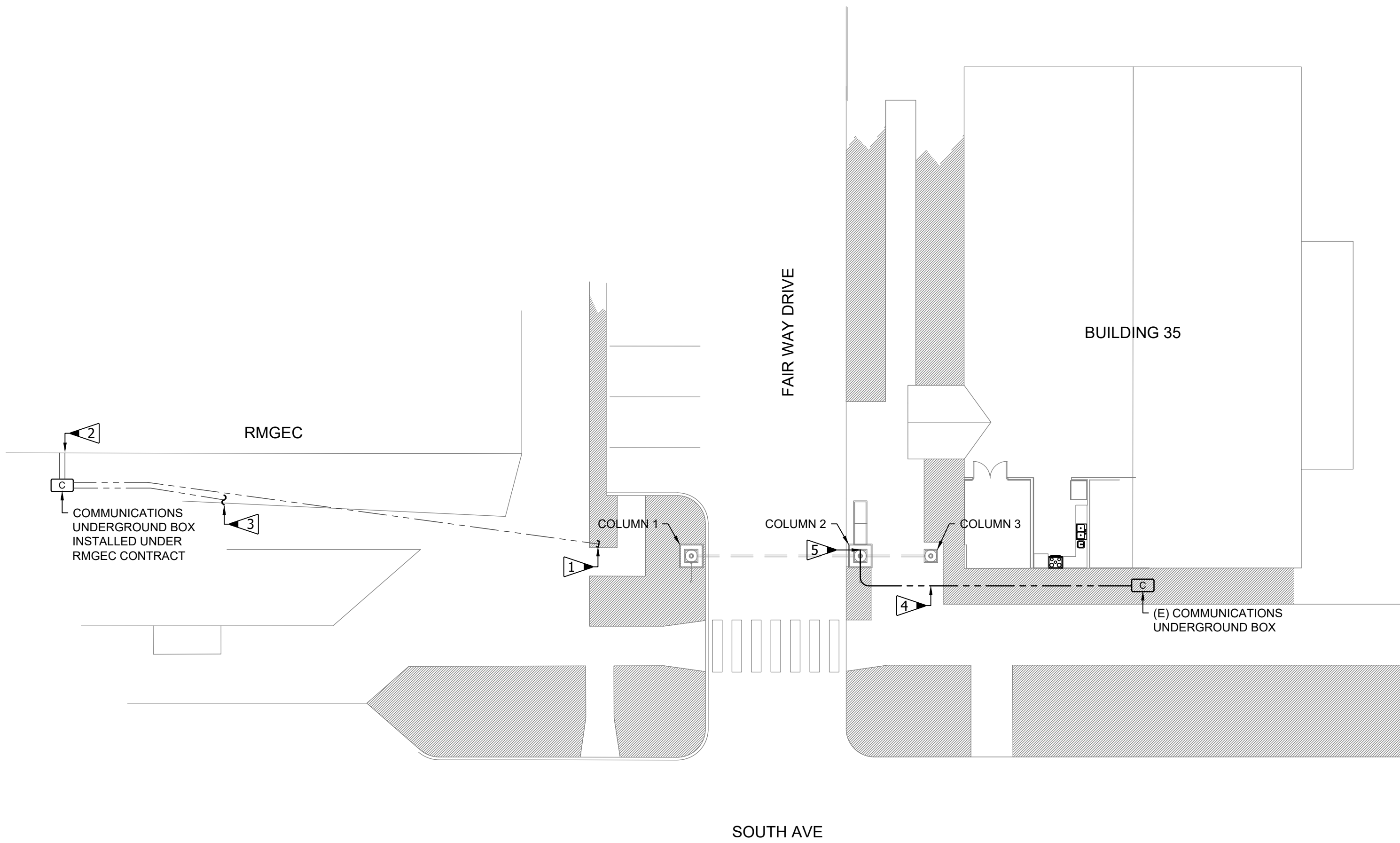
5 ENTRANCE - NORTH ELEVATION  
E1.1 : E1.1 1/4" = 1'-0"



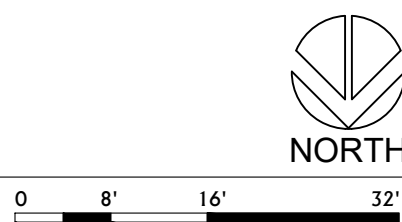
13 POWER & LIGHTING PLAN  
E1.1 : E1.1 1/16" = 1'-0"



- SHEET KEYNOTES**
- 1 1 1/4" SCH 40 PVC RACEWAY STUB-OUT FOR FUTURE USE. RMGEC SCOPE OF WORK.
  - 2 RACEWAYS CONTINUE TO COUNTY IT 121 UNDER RMGEC SCOPE OF WORK.
  - 3 2" SCH 40 PVC RACEWAY FROM BUILDING 35 (E) COMMUNICATIONS UNDERGROUND BOX. OPTICAL FIBER CABLE OFOI. RACEWAY AND CABLE NOT IN CURRENT PROJECT'S SCOPE OF WORK.
  - 4 PROVIDE BURIED 1 1/4" RACEWAY FROM (E) COMMUNICATIONS UNDERGROUND BOX TO COLUMN 2 CAMERA HANDHOLE ON SOUTH SIDE OF COLUMN. EXISTING SPARE 2" RACEWAY STUB-OUT AT UNDERGROUND BOX MAY BE USED WITH REDUCER.
  - 5 PROVIDE 1" EMT RACEWAY FROM CAMERA HANDHOLE TO CAMERA OUTLET BOX WITH WEATHERPROOF COVER. LOCATE ON SOUTH SIDE OF COLUMN. FINISH COVER AND SCREWS TO MATCH FINISH OF COLUMN. COORDINATE BOX MOUNTING HEIGHT WITH OWNER.
  - 6 PROVIDE HOME RUN THROUGH (E) 1" STUB-OUT AT (E) LIGHTING UNDERGROUND BOX. CONTINUE CIRCUIT TO FLUSH RECEPTACLE OUTLETS AT COLUMNS 2 AND 1. FOR EACH RECEPTACLE OUTLET PROVIDE GFCI NEMA 5-20R DUPLEX RECEPTACLE WITH EXTRA-DUTY WEATHERPROOF WHILE-IN-USE METALLIC COVER WITH HOLE FOR SECURING COVER IN CLOSED POSITION WITH OFOI PADLOCK. (NOTE: STUB-OUT AT UNDERGROUND BOX IS 24" BELOW FINISHED GRADE. INSTALL NEW RACEWAY AT 30" BELOW FINISHED GRADE BELOW FAIR WAY DRIVE.) PROVIDE No. 10 AWG CONDUCTORS THROUGHOUT CIRCUITS.
  - 7 BOND ALUMINUM FINIAL TO STEEL STRUCTURE ON OPPOSITE SIDES OF FINIAL BASE (TWO BONDS PER FINIAL) USING STRANDED COPPER CLASS 1 LIGHTNING CONDUCTOR WITH AN AREA OF NO LESS THAN 26,240 CIRCULAR MILS. USE CONNECTORS APPROPRIATE FOR COPPER-ALUMINUM AND COPPER-STEEL CONNECTIONS TO PREVENT GALVANIC CORROSION. CONCEAL CONNECTIONS AND CONDUCTORS INSIDE COLUMN. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS. TYPICAL 3 LOCATIONS.
  - 8 PROVIDE GROUND ROD SPACED 8' FROM COLUMN FOUNDATION. BOND EQUIPMENT GROUND CONDUCTOR, STEEL STRUCTURE, AND REBAR TO GROUND ROD USING STRANDED COPPER CLASS 1 LIGHTNING CONDUCTOR WITH AN AREA OF NO LESS THAN 57,400 CIRCULAR MILS. CONCEAL CONDUCTOR WITHIN COLUMN. PROVIDE PVC SLEEVE FOR CONDUCTOR WHERE IMBEDDED IN CONCRETE. USE EXOTHERMIC WELD FOR CONDUCTOR-ROD CONNECTION. DRIVE TOP OF ROD 2" BELOW FINISH GRADE. DIMENSION LOCATION ON AS-BUILT DRAWINGS. TYPICAL 3 LOCATIONS.
  - 9 CONNECT NEW TYPE E4 LIGHT FIXTURES TO CIRCUIT A-48 z4 THAT SERVES TYPE E4 z4 LIGHT FIXTURES INSTALLED IN BUILDING 35 SCOPE OF WORK. EXISTING TYPE E4 ARE LOCATED SOUTH OF EAST ENTRANCE TO BUILDING 35.
  - 10 PROVIDE LIGHTING HANDHOLE ON SOUTH SIDE OF COLUMN. FROM HANDHOLE PROVIDE 1" BURIED HOME RUN WITH 10 AWG POWER CONDUCTORS AND 2/14 0-10 V CABLE INTO BUILDING 35 CRAWL SPACE AND UP TO 24 Vdc POWER SUPPLY LOCATED IN STORAGE 101. PROVIDE VENTILATED ENCLOSURES FOR POWER SUPPLIES AND LABEL INDICATING THE LOAD SERVED. LOCATE POWER SUPPLIES TO MINIMIZE LV CIRCUIT LENGTH, BUT DO OBTAIN OWNER'S APPROVAL OF LOCATION. CONTINUE 1" RACEWAY AND 10 AWG CONDUCTORS UP FROM HANDHOLE TO POINT WHERE LV CONDUCTORS ENTER TUBE STEEL. TYPICAL.
  - 11 TYPE G3 HAS A MAXIMUM POWERED LENGTH OF 16'. FEED HALF OF G3 LENGTH FROM COLUMN 2 AND HALF FROM COLUMN 1.
  - 12 CONCEAL No. 10 AWG LV CONDUCTORS WITHIN TUBE STEEL TO REACH FEED END OF TYPE G3. TYPICAL.
  - 13 CONCEAL No. 10 AWG LV CONDUCTORS WITHIN TUBE STEEL TO REACH TYPE G2. TYPICAL.
  - 14 USE (E) SPARE RELAYS FOR z14 AND z15 CONTROL.
  - 15 PROVIDE TWO 0-10 V DIMMERS, ONE FOR z14 AND ONE FOR z15. PROVIDE LABELS THAT IDENTIFY THE LOAD CONTROLLED. LOCATE ADJACENT TO LIGHTING CONTROL PANEL.



15 COMMUNICATIONS PLAN  
E1.1 : E1.1 1/16" = 1'-0"



GENERAL SHEET NOTES

- REFER TO ARCHITECTURAL DRAWING A1.2 FOR NOTES REGARDING THE LOCATIONS AND MOUNTING HEIGHTS OF HANDHOLES AND OUTLET BOXES AT COLUMNS 1, 2 AND 3.
- REFERENCE THE EL DRAWINGS FOR LUMINAIRE TYPES AND SPECIFICATIONS AND THE ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS.
- CAMERA LOCATION INDICATED IS PROVISIONAL; VERIFY CAMERA LOCATION WITH OWNER. INSTALL CAMERA HANDHOLE ON SAME SIDE OF COLUMN AS CAMERA. CAMERA CABLE IS OFOI.
- INSTALL BURIED RACEWAYS AT 30" BELOW FINISHED GRADE, UNLESS OTHERWISE INDICATED.
- PROVIDE PULL TAPE FOR EMPTY RACEWAYS.
- PROVIDE UPDATED, TYPEWRITTEN CIRCUIT DIRECTORY FOR PANEL 'A' AND LIGHTING CONTROL PANEL.
- THE TWO (E) SPARE 1" RACEWAYS STUBBED DOWN FROM PANEL 'A' INTO THE CRAWL SPACE AND THE TWO (E) SPARE 1" RACEWAYS STUBBED DOWN FROM THE LIGHTING CONTROL PANEL INTO THE CRAWL SPACE MAY BE USED IF BENEFICIAL.
- THE TWO (E) SPARE 1" RACEWAYS FROM THE (E) LIGHTING UNDERGROUND BOX STUBBED INTO THE CRAWL SPACE MAY BE USED IF BENEFICIAL.
- THE ONE (E) SPARE 2" RACEWAY FROM THE (E) COMMUNICATIONS UNDERGROUND BOX STUBBED INTO THE CRAWL SPACE MAY BE USED IF BENEFICIAL.
- DRILL TUBE STEEL AS NEEDED. PLUG OPENING TO PREVENT ENTRY OF WATER. FINISH TO MATCH FINISH OF TUBE STEEL.



CONSTRUCTION DOCUMENTS

sheet ELECTRICAL SITE PLAN NORTH

project FAIR WAY DRIVE IMPROVEMENTS

owner MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE, MISSOULA, MT 59801

project # 20141.00

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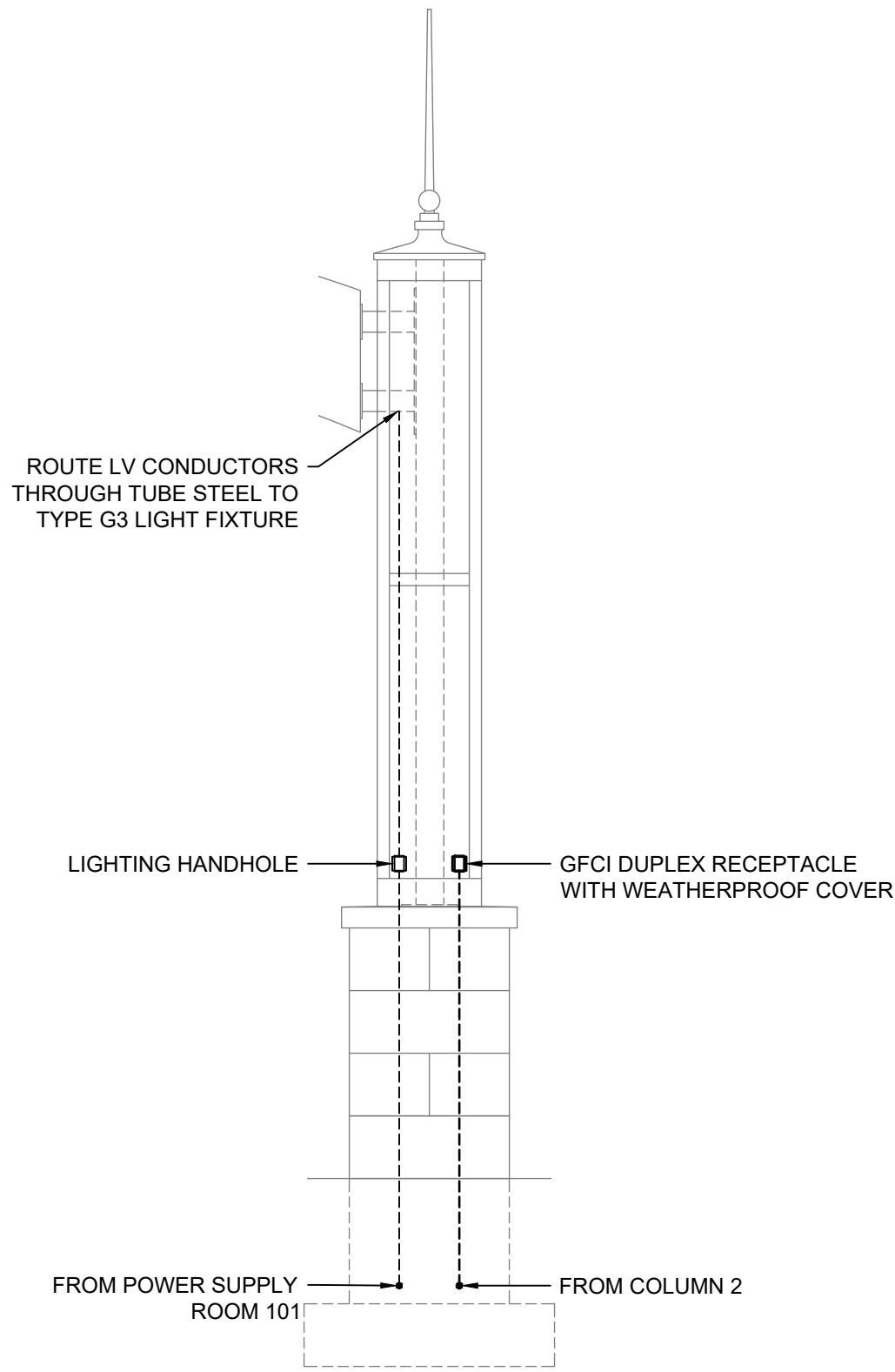
E1.1



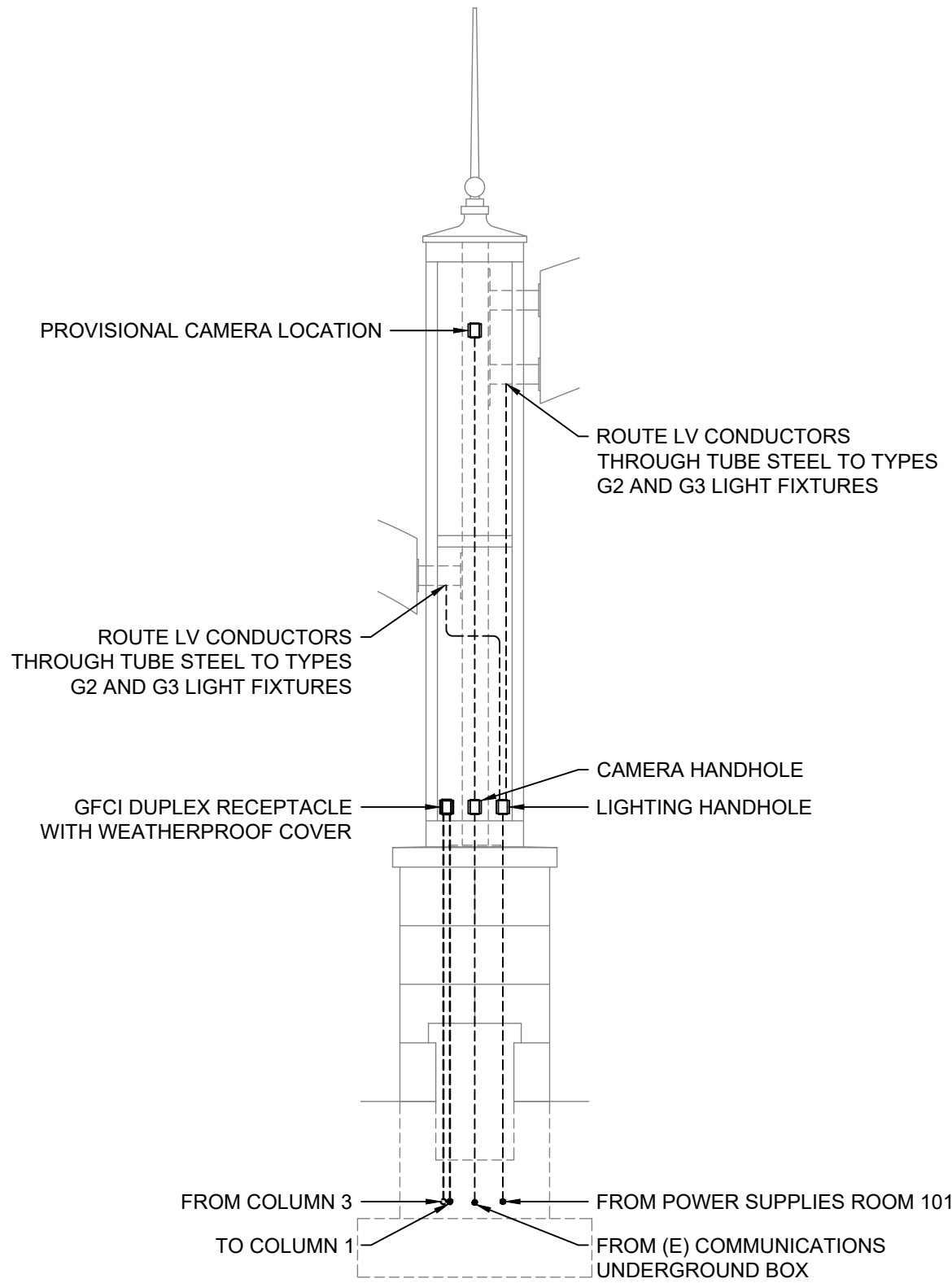
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GENERAL SHEET NOTES

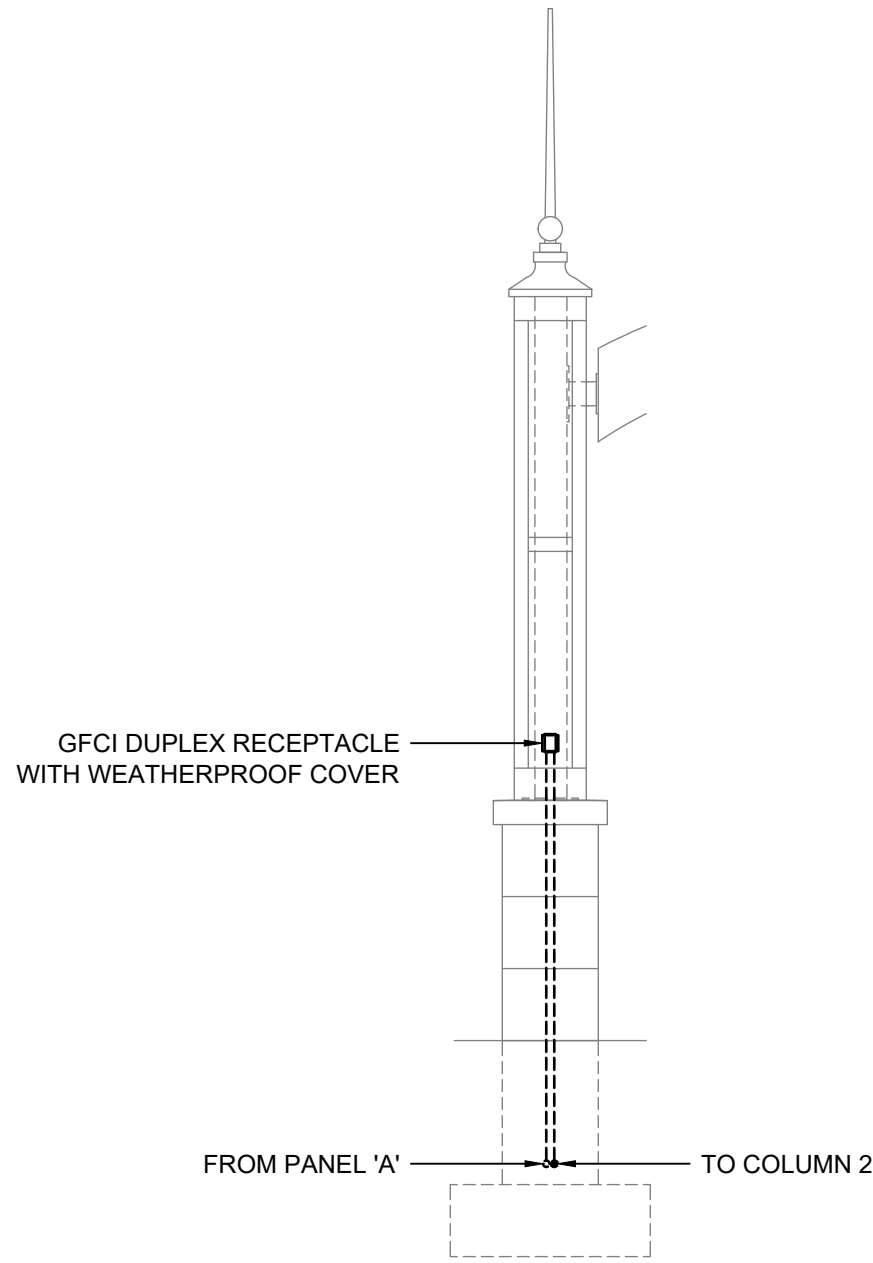
- A. REFER TO ARCHITECTURAL DRAWING A1.2 FOR NOTES REGARDING THE LOCATIONS AND MOUNTING HEIGHTS OF HANDHOLES AND OUTLET BOXES AT COLUMNS 1, 2 AND 3.
- B. INSTALL BURIED RACEWAYS AT 30" BELOW FINISHED GRADE, UNLESS OTHERWISE INDICATED.
- C. PROVIDE PULL TAPE FOR EMPTY RACEWAYS.



5 COLUMN 1 SOUTH ELEVATION  
E1.2 : E1.2      1/4" = 1'-0"



6 COLUMN 2 SOUTH ELEVATION  
E1.2 : E1.2      1/4" = 1'-0"



7 COLUMN 3 SOUTH ELEVATION  
E1.2 : E1.2      1/4" = 1'-0"

CONSTRUCTION DOCUMENTS

sheet  
project  
owner

COLUMN ELEVATIONS

FAIR WAY DRIVE IMPROVEMENTS

MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE, MISSOULA, MT 59801

project #	20141.00
revision	date
phase	



issue date  
03.15.2022

E1.2

## EXISTING PANELBOARD 'A' SCHEDULE CIRCUITS 1 - 42

		CKT BREAKER			KEY- NOTES	CONNECTED LOAD KVA										LOCATION: BUILDING 35 SOURCE: UTILITY VIA SERVICE DISCONNECT 2 SECTION 1 OF: 2							
CKT	LOAD DESCRIPTION	PHASE	TRIP A	POLES		GNRL LIGHTS	TRACK LIGHTS	RCPT	COOK APPL	DRYER	MOTOR	NON- CONT	CONT	SPACE COOL	SPACE HEAT	ELECT HEAT	CKT TOTAL	SPECIFICATIONS					
1	RCPT RANGE KITCHEN 102	A	50	2	(3)				4.00								4.00	VOLTAGE (L-L): 240					
3	-	B	-	-				4.00									4.00	PHASE: 1					
5	RCPT REFRIGERATOR KITCHEN 102	A	15	1	(1)(3)			0.75										WIRE: 3					
7	RCPT COUNTERTOP N. KITCHEN 102	B	20	1	(3)			1.20									1.20	PHASE BUS CURRENT RATING (A): 400					
9	RCPT COUNTERTOP N. KITCHEN 102	A	20	1	(3)			1.20									1.20	NEUTRAL BUS RATING: 100%					
11	RCPT COUNTERTOP NW. KITCHEN 102	B	20	1	(3)			1.20									1.20	SERVICE EQUIPMENT LABEL: NO					
13	RCPT COUNTERTOP NW. KITCHEN 102	A	20	1	(3)			1.20									1.20	ISOLATED GROUND BUS: NO					
15	RCPT COUNTERTOP W. KITCHEN 102	B	20	1	(3)			1.20									1.20	SHORT CIRCUIT CURRENT RATING: FULLY RATED					
17	RCPT COUNTERTOP W. KITCHEN 102	A	20	1	(3)			1.20									1.20	MAINS: LUGS ONLY					
19	RCPT W. WALL KITCHEN 102	B	20	1	(3)			0.18									0.18	MAIN DEVICE RATING (A): -					
21	RCPT VENDING W. WALL KITCHEN 102	A	20	1	(1)(3)			1.25									1.25	INCOMING MAINS: BOTTOM					
23	RCPT MICROWAVE	B	20	1	(1)(3)			1.50									1.50	SHUNT TRIP MAIN: NO					
25	RCPT E. WALL KITCHEN 102	A	20	1	(3)			0.36									0.36	CABINET MOUNTING: FLUSH					
27	RCPT STORAGE 101	B	20	1	(3)			0.54									0.54	NEMA 250, TYPE ENCLOSURE: 1					
29	RCPT N. WALL ASSEMBLY SPACE 113	A	20	1	(3)			0.36									0.36	SUBFEED (DOUBLE) LUGS: NO					
31	HAND DRYER WOMEN'S RESTROOM 109	B	15	1	(3)						1.00						1.00	FEED-THROUGH LUGS: YES					
33	HAND DRYER MEN'S RESTROOM 108	A	15	1	(3)						1.00						1.00	GUTTER TAP LUGS: NO					
35	SPARE	B	20	1	(4)													GUTTER EXTENSION: NO					
37	SPARE	A	20	1	(4)													SKIRT: NO					
39	SPARE	B	20	1	(4)																		
41	SPARE	A	20	1	(4)																		
2	CONDENSING UNIT 1	A	60	2	(3)								3.43				3.43	LOAD CALCULATION PER NEC ART. 220 PART III USING CONNECTED LOAD					
4	-	B	-	-									3.43				3.43	CONN KVA					
6	CONDENSING UNIT 2	A	60	2	(3)								3.43				3.43	DEMAND KVA					
8	-	B	-	-									3.43				3.43						
10	WH-1 MECHANICAL 103	A	20	1	(3)			0.18			0.12						0.30	GENERAL LIGHTING: 4.75 5.94					
12	FURNACE FU-1 MECHANICAL 103	B	20	1	(3)					1.45							1.45	TRACK LIGHTING: 0.00 0.00					
14	FURNACE FU-2 MECHANICAL 103	A	20	1	(3)					1.45							1.45	RECEPTACLES: 14.40 12.20					
16	LIGHTING CONTROL KITCHEN 102	B	15	1	(3)						0.12						0.12	COOKING APPLIANCES: 11.50 9.20					
18	RCPT E. WALL N. ASSEMBLY SPACE 113	A	20	1	(3)			0.72									0.72	DRYER: 0.00 0.00					
20	RCPT E. WALL S. ASSEMBLY SPACE 113	B	20	1	(3)			0.72									0.72	MOTORS: 4.24 4.24					
22	RCPT W. WALL N. ASSEMBLY SPACE 113	A	20	1	(3)			0.72									0.72	25% LARGEST MOTOR/COMPRESSOR: 1.72					
24	RCPT W. WALL S. ASSEMBLY SPACE 113	B	20	1	(3)			0.54									0.54	GENERAL NONCONTINUOUS LOAD: 2.47 2.47					
26	RCPT W. WALL ASSEMBLY SPACE 113	A	20	1	(3)			0.72									0.72	GENERAL CONTINUOUS LOAD: 0.00 0.00					
28	RCPT W. EXTERIOR	B	20	1	(3)			0.54									0.54	SPACE COOLING: 13.73 13.73					
30	SPARE	A	20	1	(4)													SPACE HEATING: 0.00 0.00					
32	RCPT MEN'S 108 & WOMEN'S 109	B	20	1	(3)			0.36									0.36	ELECTRIC HEAT: 0.00 0.00					
34	RCPT CABINET IT CLOSET 106	A	20	1	(3)			0.54									0.54	TOTAL KVA (COOLING OR HEATING): 51.09 49.5					
36	FIRE ALARM PANEL IT CLOSET 106	B	15	1	(2)(3)						0.24						0.24	TOTAL AMPERE AT 240 V 1-PHASE: 206					
38	ATTIC EXHAUST FAN EAST	A	20	1	(3)					0.67							0.67						
40	ATTIC EXHAUST FAN WEST, RCPT	B	20	1	(3)			0.18			0.67						0.85						
42	SPARE	A	20	1																			
KEY- NOTES:										GNRL NOTES:													
(1) PROVIDE GFCI CIRCUIT BREAKER FOR PERSONNEL PROTECTION, 5 mA TRIP.										1. PANEL IS ABB RQ. 22 KAIC.													
(2) MARK CIRCUIT BREAKER WITH RED.																							
(3) EXISTING CIRCUIT.																							
(4) EXISTING CIRCUIT BREAKER.																							
TOTAL																		51.09	---	49.49	---		
100% OF NONCONTINUOUS LOADS																		43.55	---				
125% OF CONTINUOUS LOADS																		5.94	---				
CALC MAX TO MIN PHASE IMBALANCE																		2%					

### EXISTING PANELBOARD 'A' SCHEDULE CIRCUITS 43 - 84

[illegible]

# SHEET KEYNOTES



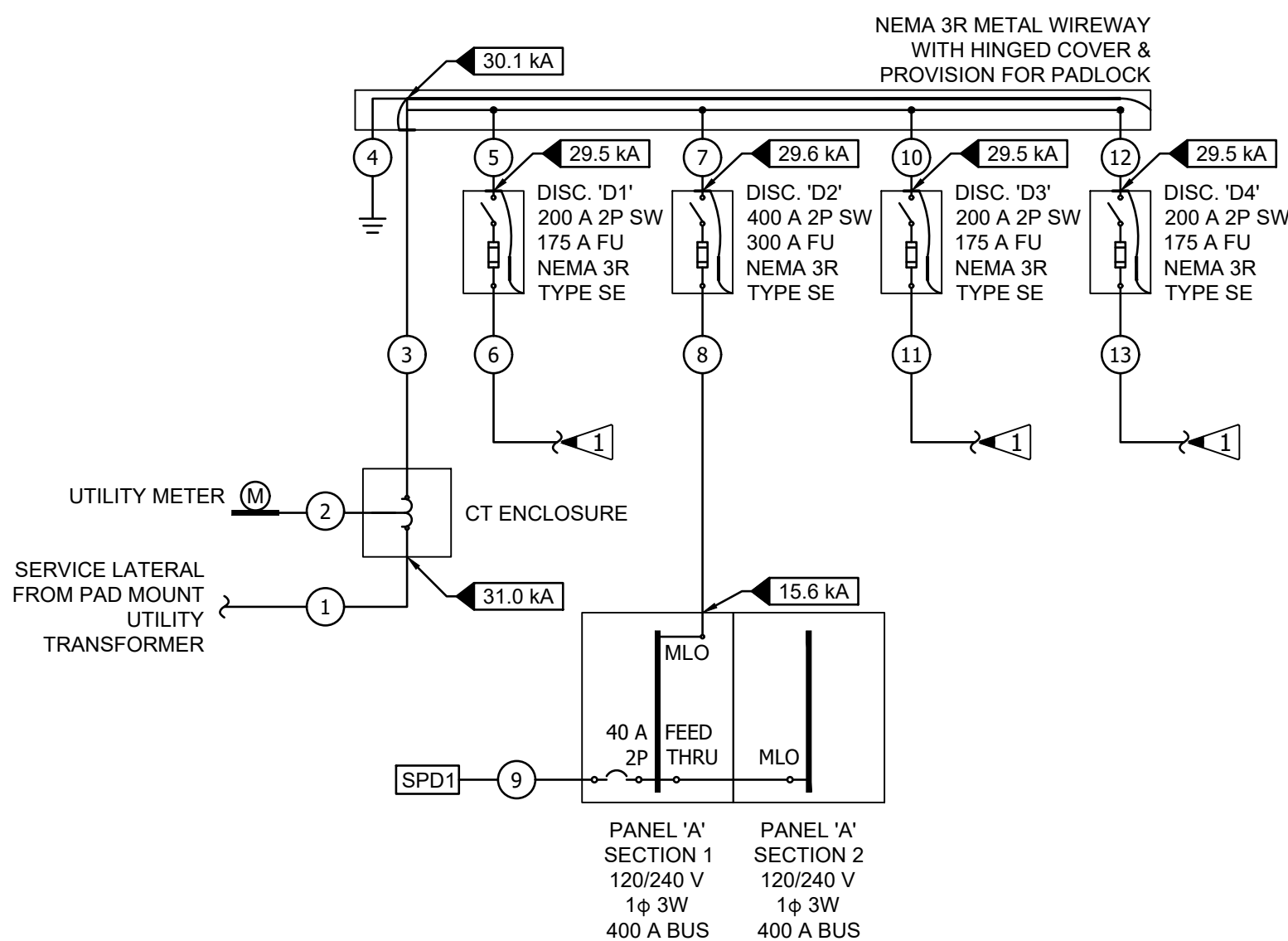
## LOAD SUMMARIES

		CONNECTED KVA	CONNECTED AMPERE	DEMAND KVA	DEMAND AMPERE
UTILITY TRANSFORMER	PHASE A	70.76	590	59.59	497
	PHASE B	70.93	591	59.49	496
SERVICE DISCONNECT 'D1' POWER OUTLETS #1 - #3	PHASE A	15.60	130	12.48	104
	PHASE B	15.60	130	12.48	104
SERVICE DISCONNECT 'D2' PANEL 'A'	PHASE A	25.96	216	25.04	209
	PHASE B	25.13	209	24.45	204
SERVICE DISCONNECT 'D3' POWER OUTLETS #4 - #8	PHASE A	12.00	100	9.60	80
	PHASE B	19.20	160	15.36	128
SERVICE DISCONNECT 'D4' POWER OUTLETS #9 - #13	PHASE A	19.20	160	15.36	128
	PHASE B	12.00	100	9.60	80

## EXISTING FEEDER AND GROUNDING & BONDING SCHEDULE

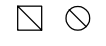

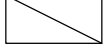

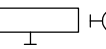
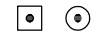
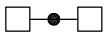


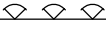
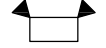


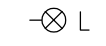
MARK	LOAD SIDE TERMINATION	RACEWAYS		COPPER CONDUCTORS PER RACEWAY UOI						AMPCAPACITY	KEY- NOTES	MARK
		QTY	TRADE SIZE	PHASE		NEUTRAL		EQUIPMENT GND				
				QTY	SIZE	QTY	SIZE	QTY	SIZE			
1	CT ENCLOSURE	2	3"	-	-	-	-	-	-	-	(1)(6)	1
	UTILITY METER	1	1"	-	-	-	-	-	-	-	(1)(6)	2
	WIREWAY	2	2 1/2"	2	300	1	300	-	-	570	(4)(8)	3
4	GROUNDING ELECTRODES	1	1"	-	-	-	-	1	1/0	-	(2)(7)	4
5	SERVICE DISCONNECT 'D1'	1	2"	2	210	1	210	-	-	175	(4)(8)	5
6	POWER OUTLETS #1 - #3	1	2 1/2"	2	410	1	410	1	2	180	(3)(8)	6
7	SERVICE DISCONNECT 'D2'	1	2 1/2"	2	350	1	350	-	-	310	(4)(8)	7
8	PANEL 'A'	1	2 1/2"	2	350	1	350	1	4	310	(6)	8
9	PANEL 'A' SPD	1	1"	2	8	1	8	1	8	40		9
10	SERVICE DISCONNECT 'D3'	1	2"	2	210	1	210	-	-	175	(6)	10
11	POWER OUTLETS #4 - #8	1	2 1/2"	2	250	1	250	1	1/0	255	(3)(5)(6)	11
12	SERVICE DISCONNECT 'D4'	1	2"	2	210	1	210	-	-	175	(6)	12
13	POWER OUTLETS #9 - #13	1	2 1/2"	2	250	1	250	1	1/0	255	(3)(5)(6)	13

<b>GNRL:</b>	1. NO NEW WORK FOR INFORMATIONAL PURPOSES ONLY.
<b>NOTES:</b>	2. PAINT ABOVE GRADE ELEMENTS OF ELECTRIC SERVICE TO MATCH SURROUNDING ARCHITECTURAL FINISH.
<b>KEY:</b>	1. CONDUCTORS FURNISHED AND INSTALLED BY NORTHWESTERN ENERGY.
<b>NOTES:</b>	2. GROUNDING ELECTRODE CONDUCTOR.
	3. PROVIDE ALUMINUM CONDUCTORS. REFER TO E1.1.
	4. REFER ALSO TO GROUNDING & BONDING DIAGRAM FOR ADDITIONAL INFORMATION.
	5. CONDUCTORS OVERSIZED TO MITIGATE VOLTAGE DROP.
	6. PROVIDE RMC ABOVE GRADE.
	7. PROVIDE SCHEDULE 80 PVC CONDUIT ABOVE GRADE.



NOTE:  
1. EQUIPMENT IS EXISTING AND IS SHOWN FOR INFORMATIONAL PURPOSES ONLY.

LUMINAIRE SCHEDULE													
MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	LUMENS	WATTS	WATTS/FT	CCT	CRI	FINISH	DRIVER TYPE	DIMMING INTERFACE	NOTES
G1	NOT USED												
G2	KLIK USA	LPXL-50-F00-30K-7.5-S-FLD-SPC + REMOTE POWER SUPPLY	EXTERIOR RECESSED LED SMALL APERTURE PUCK LIGHT INTEGRATED WITH GATEWAY SIGNAGE STRUCTURE WITH REMOTE DRIVER AND POWER SUPPLY. SEE LENGTHS ON DRAWINGS. LOCATE DIODE EVERY 3' O.C.	GATE SIGNAGE	729	7.5		3000K	80	TBD	REMOTE	0-10V	SEE ARCHITECTURAL DETAIL. LOCATE REMOTE DRIVERS IN CONCEALED, BUT ACCESSIBLE AREA IN BUILDING 35.
G3	KELVIX	FX-30K-650-20-E-LENGTH + REMOTE DIMMING DRIVER.	EXTERIOR SURFACE MOUNTED LED STRIP WITH REMOTE DIMMING DRIVER AND POWER SUPPLY. PROVIDE WITH MOUNTING EXTRUSION AT BOTTOM OF SIGNAGE PANEL.	GATE SIGNAGE	650/LF		6W/FT	3000K	80	BY ARCHITECT	INTEGRAL	0-10V	SEE ARCHITECTURAL DETAIL. LOCATE REMOTE DRIVERS IN CONCEALED, BUT ACCESSIBLE AREA IN BUILDING 35.
G4	LITHONIA	RADB LED-P2-30K-SYM-MVOLT-PIR-TOP-CROWN-H36-FINISH	EXTERIOR GROUND MOUNTED LED BOLLARD WITH INTEGRAL DIMMING DRIVER. UL WET LOCATION LISTED.	SITE	675	8		3000K	80	BY ARCHITECT	INTEGRAL	0-10V	BOLLARDS TO BE SUPPLIED BY CONTRACTOR.

LIGHTING SYMBOLS	
	RECESSED DOWNLIGHT
	RECESSED ADJUSTABLE DOWNLIGHT
	SURFACE DOWNLIGHT
	SURFACE ADJUSTABLE DOWNLIGHT
	RECESSED TROFFER
	SURFACE TROFFER
	WALL MOUNT
	PENDANT MOUNT LINEAR
	PENDANT MOUNT
	SURFACE LINEAR
	SURFACE STRIP
	CONCEALED LED STRIP / TAPE
	EXTERIOR POLE MOUNT
	FLOOD / ACCENT
	BOLLARD
	TRACK
	EMERGENCY BATTERY UNIT
	EXIT SIGN CEILING MOUNT – ARROW AND FACES AS SHOWN ON PLANS
	EXIT SIGN WALL MOUNT – ARROW AND FACES AS SHOWN ON PLANS
	WALL MOUNTED EXIT SIGN LOW LEVEL

ELECTRICAL GENERAL NOTES	
A.	ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE, AS ACCEPTED AND AMENDED BY LOCAL ORDINANCES.
B.	FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY OWNER'S REPRESENTATIVE. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED SUBMITTAL, SHOP DRAWINGS AND LOCAL INSPECTIONS.
C.	CONTRACTOR SHALL SUBMIT RED-LINE RECORD DRAWINGS WITHIN TWO (2) WORK WEEKS OF DATE OF NOTIFICATION OF FINAL APPROVAL.
D.	ELECTRICAL PLANS ARE MOSTLY DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE CONNECTIONS BETWEEN FIXTURES AND LIGHTING CONTROL DEVICES SUCH AS OCCUPANCY SENSORS, LIGHT SWITCHES, AND LIGHTING CONTROL PANEL TO PROVIDE AN OPERABLE LIGHTING SYSTEM.

2018 INTERNATIONAL ENERGY CONSERVATION CODE	
1.	ALL LIGHTING CONTROLS SHALL COMPLY WITH SECTION C405.2 OF THE 2018 IECC.
2.	AS REQUIRED BY SECTION C405 ALL LIGHTING SYSTEMS SHALL BE COMMISSIONED IN AND COMPLETED IN ACCORDANCE WITH SECTION C408. THE COMMISSIONING OF THE LIGHTING CONTROLS SHALL FOLLOW THE MANUFACTURER'S INSTRUCTIONS AND BE PERFORMED BY AN APPROVED THIRD PARTY AGENCY.
3.	OCCUPANCY SENSORS SHALL BE TESTED TO VERIFY THEY DETECT OCCUPANTS AND CONTROL THE LIGHTS INDICATED ON THE PLANS.
4.	AS REQUIRED BY SECTION C408.3.2 THE COMMISSIONING DOCUMENTS DESCRIBED IN SECTION C408 SHALL BE PROVIDED TO THE OWNER WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

ABBREVIATIONS			
A, AMP	AMPERE	GFCI	GROUND FAULT CIRCUIT INTERRUPTING
AC	ALTERNATING CURRENT	G, GND	GROUND
ACT	ABOVE COUNTER TOP	GEN	GENERATOR
AIC	AMPERE INTERRUPTING CAPACITY	IG	ISOLATED GROUND.
AFF	ABOVE FINISHED FLOOR	HID	HIGH INTENSITY DISCHARGE
AFG	ABOVE FINISHED GRADE	HOA	HAND – OFF – AUTO
ATS	AUTOMATIC TRANSFER SWITCH	HP	HORSEPOWER
AF	FRAME RATING IN AMPERES	HPF	HIGH POWER FACTOR
AS	SWITCH RATING IN AMPERES	LED	LIGHT EMITTING DIODE
AT	TRIP RATING IN AMPERES	LS	LIFE SAFETY BRANCH
AWG	AMERICAN WIRE GAUGE	LLF	LIGHT LOSS FACTOR
AV	AUDIO VISUAL	LRC	LIGHTING RELAY CABINET
C	CONDUIT	MECH	MECHANICAL
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED	MCB	MAIN CIRCUIT BREAKER
CL	CENTERLINE	MLO	MAIN LUGS ONLY
CEC	CALIFORNIA ELECTRIC CODE	MCA	MINIMUM CIRCUIT AMPS
CKT	CIRCUIT	MOCP	MAXIMUM OVER CURRENT PROTECTION
CLG	CEILING	(N)	NEW
CR	CRITICAL BRANCH	N	NEUTRAL
CFL	COMPACT FLUORESCENT	NC	NORMALLY CLOSED
CL	CONNECTED LOAD	NEC	NATIONAL ELECTRIC CODE
CCT	CORRELATED COLOR TEMPERATURE	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
CRI	COLOR RENDERING INDEX	NL	NIGHT LIGHT
(D)	DEMOLISH EXISTING	NO	NORMALLY OPEN
DF	DEMAND FACTOR	NTS	NOT TO SCALE
DL	DESIGN LOAD	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
DC	DIRECT CURRENT	OC	OVER CURRENT
DPDT	DOUBLE POLE, DOUBLE THROW	PB	PULL BOX
DPST	DOUBLE POLE SINGLE THROW	ø, PH	PHASE
DIST	DISTRIBUTION	PNL	PANEL
EQ	EQUIPMENT BRANCH	PVC	POLYVINYL CHLORIDE CONDUIT
(E)	EXISTING TO REMAIN	PTS	PNEUMATIC TUBE STATION
(ER)	REMOVE EXISTING.	P	POLE
(EL)	RELOCATE EXISTING.	PWR	POWER
EC	EMPTY CONDUIT	(R)	RELOCATE EXISTING
ELEC	ELECTRICAL	RCP	REFLECTED CEILING PLAN
ELEV	ELEVATOR	RSC	RIGID STEEL CONDUIT
E, EMER	EMERGENCY	SPDT	SINGLE POLE, DOUBLE THROW
EMT	ELECTRO METALLIC TUBING	SPST	SINGLE POLE, SINGLE THROW
EWC	ELECTRIC WATER COOLER	SWBD	SWITCHBOARD
EWH	ELECTRIC WATER HEATER	SWGR	SWITCH GEAR
EMS	EMERGENCY MANAGEMENT SYSTEM	SYS	SYSTEM
FA	FIRE ALARM	TP	TAMPER RESISTANT
FAAP	FIRE ALARM ANNUNCIATOR PANEL	TB, ITB	TERMINAL BACKBOARD
FACP	FIRE ALARM CONTROL PANEL	TC	TERMINAL CABINET
FATC	FIRE ALARM TERMINAL CABINET	TEL	TELEPHONE
FARA	FIRE ALARM REMOTE ANNUNCIATOR	TP	TAMPER PROOF
FCIP	FIRE ALARM CONTROL & INDICATING PANEL	TV	TELEVISION
FPRP	FIRE ALARM PUMP STATUS PANEL	V	VOLT
VCS	FIRE ALARM VOICE COMMUNICATION PANEL	VD	VOLTAGE DROP
FSD	FIRE SMOKE DAMPER	VFD	VARIABLE FREQUENCY DRIVE
FVNR	FULL-VOLTAGE, NON-REVERSING	VA	VOLT AMPERES
FVR	FULL-VOLTAGE, REVERSING	W	WATT
FLA	FULL LOAD AMPS (NAME PLATE)	W	WIRE
FLC	FULL LOAD CURRENT (NEC)	WP	WEATHERPROOF
(F)	FUTURE	XFMR	TRANSFORMER
		XP	EXPLOSION PROOF

CONSTRUCTION DOCUMENTS

sheet

project

owner

LIGHTING LEGENDS AND SCHEDULES

FAIRWAY DRIVE IMPROVEMENTS

project # 20141.00

revision      date

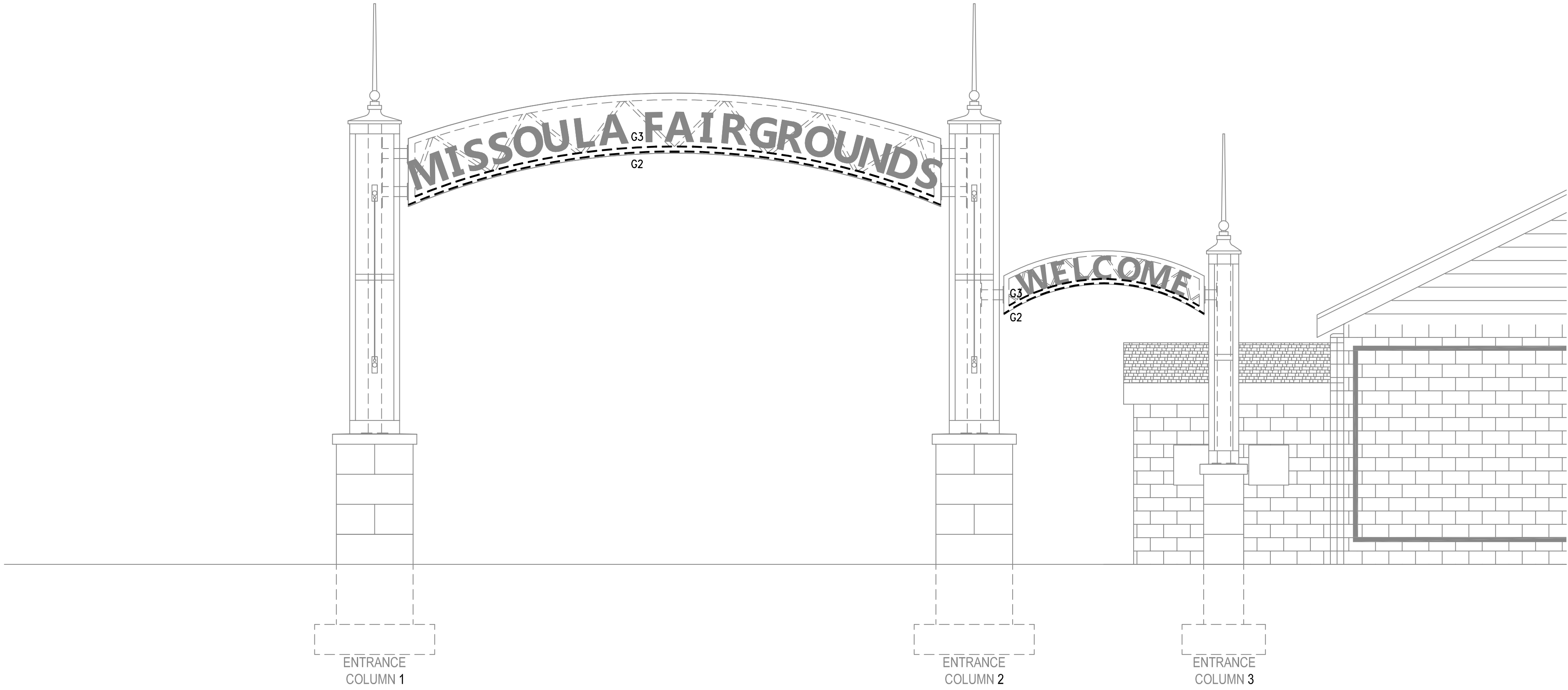
phase

MISSOULA COUNTY FAIRGROUNDS, 1075 SOUTH AVE. MISSOULA, MT 59801





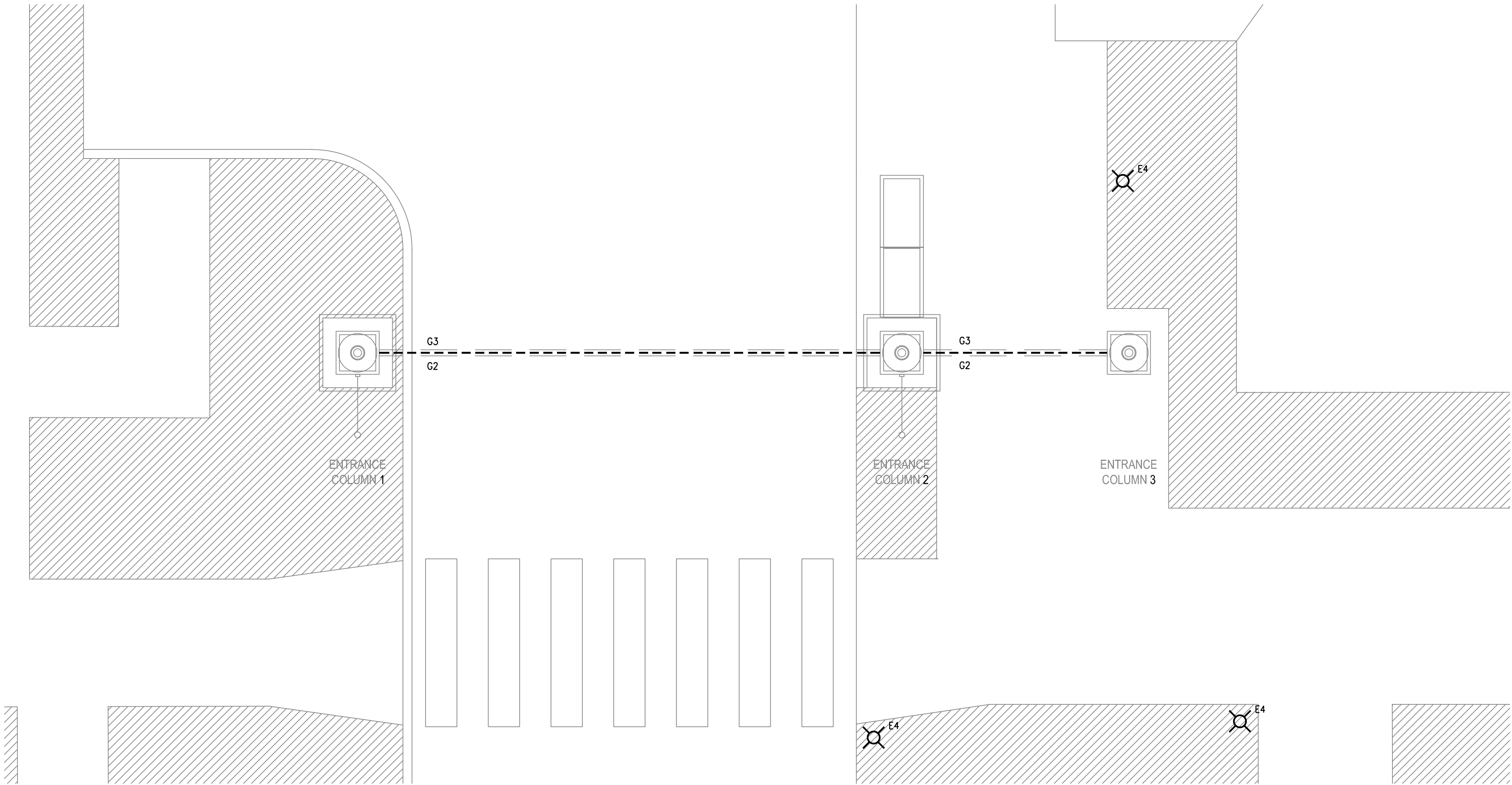
## EL0.2



2  
EL1.0

## LIGHTING ELEVATION

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

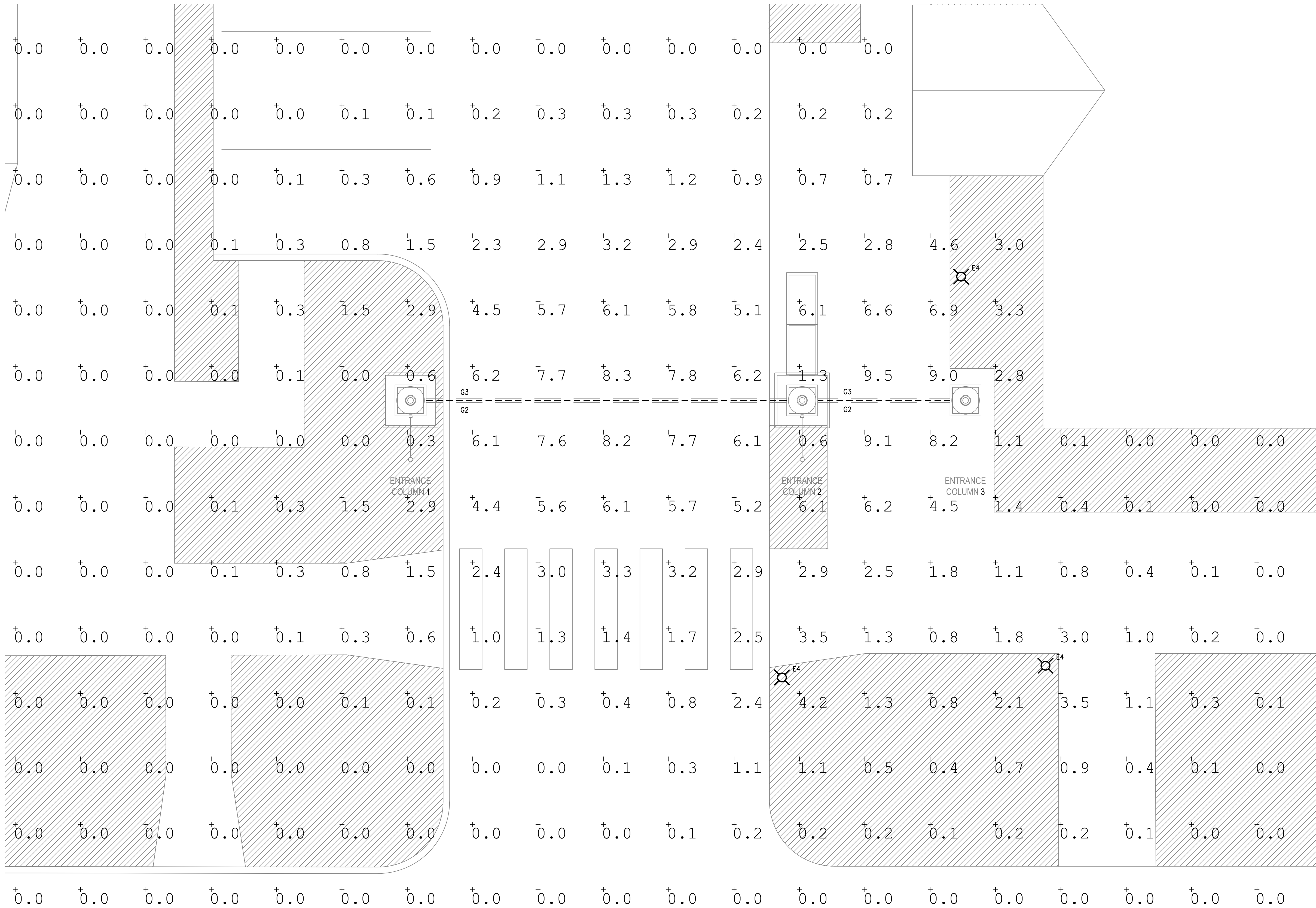


1  
EL1.0

## LIGHTING PLAN

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

M:\Denver\Projects\2024\028 - Rocky Mountain Gardens\04 Dwg\Fairway\Fairway Entrance Gate Lighting.dwg Mar 08, 2022 - 3:33pm



Fairway Gate  
Illuminance (Fc)  
Average = 3.17  
Maximum = 9.5  
Minimum = 0.0  
Avg/Min Ratio = N.A.  
Max/Min Ratio = N.A.