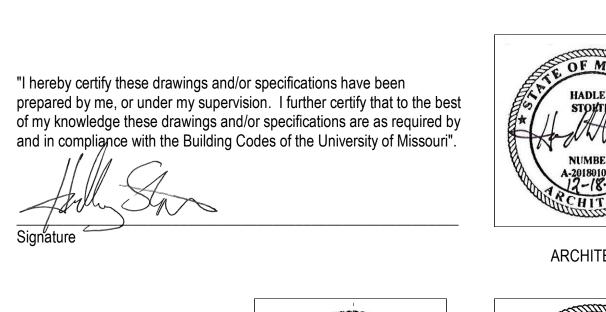
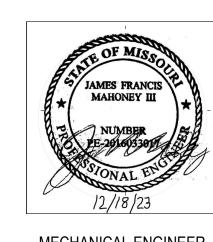
LABORATORY FOR INFECTIOUS DISEASE RESEARCH (LIDR) Renovate West Animal Holding, Rms 144-149

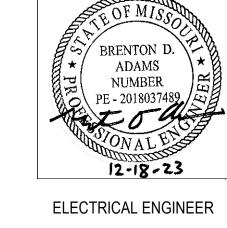
1020 East Campus Loop University of Missouri Columbia, MO 65211

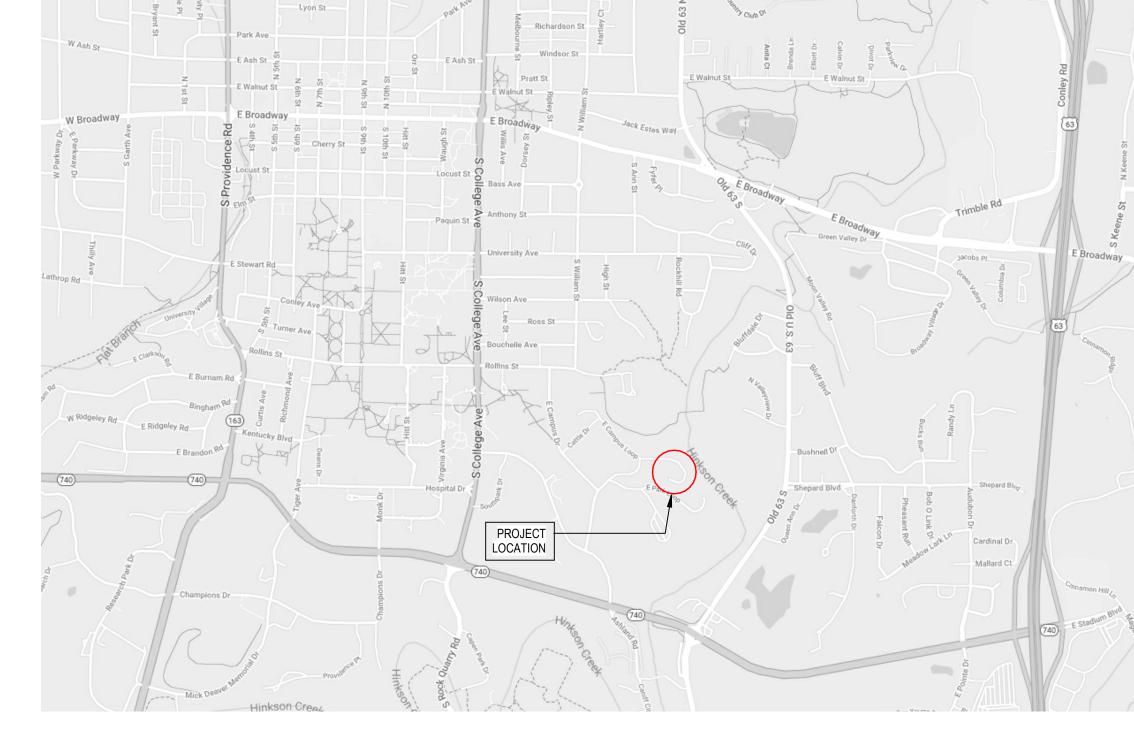
CE Project No.: 624-216-22 UM Project No.: CP220692

**Contract Documents** December 18, 2023









# **GENERAL** G0.00 Title Sheet and Drawing Index G1.00 Code and Containment Plans Phasing Plans and Dust

Accessibility Details

ARCHITECTURAL Wall Type Schedule & Details Site Demolition Plan A0.10 First Floor and First Floor Reflected Ceiling Demolition

Penthouse and Roof Demolition Plans Site Plan First Floor and First Floor

Reflected Ceiling Plans Penthouse and Roof Plans Exterior Elevations Wall Sections

Laboratory Schedules, Sections & Details LF1.00 Enlarged Plan & Elevations

## FIRE SUPPRESSION

FS1.01 Fire Suppression Plan

# **MECHANICAL**

M0.00 Mechanical Abbreviations, Symbols & Notes M1.01 First Floor HVAC Plans First Floor Pressurization Plans First Floor Piping Plans Penthouse Piping Plans Mechanical Details Air System Schematic Mechanical Controls

Mechanical Schedules **ELECTRICAL** E0.00 Electrical Abbreviations, Symbols Legend & General Electrical Site & Basement Orientation Plan First Floor Electrical Demolition Plan Penthouse Electrical Demolition Plan First Floor Lighting Plan First Floor Power & Auxiliary Systems Plan Penthouse Power & Auxiliary Systems Plan Electrical Schedules

DETAIL OR SECTION NUMBER SHEET ON WHICH IT IS FOUND 1 VIEW NAME DETAIL REFERENCE NUMBER SECTION REFERENCE DETAIL REFERENCE ELEVATION REFERENCE CROSS SECTION REFERENCE DETAIL SECTION REFERENCE

\_\_\_\_\_

**REVISION TAG INFORMATION** 

B = Bid Package

F = Field Order

L = Limited Permit

TOP indicates the instrument type.

G = Guaranteed Maximum Price

R = Request For Information

**GENERAL NOTES** 

D = Construction Change Directive or Change Directive

BOTTOM indicates consecutive number assigned to instrument type.

I = Architects Supplemental Instructions or Architects Supplemental Information

P = Proposal Request, Proposal Request Order or Change Proposal Request

. ALL DISCIPLINES SHALL BE RESPONSIBLE FOR THEIR SCOPE OF WORK. THIS WORK IS TO

BE SCHEDULED AND COMPLETED WITH THE GENERAL CONTRACTOR'S FULL

2. ALL DIMENSIONS LOCATING PLUMBING FIXTURES ARE FROM FINISH MATERIAL NOT

3. FINAL CLEANING - REMOVE OR REPAIR DAMAGED OR SOILED SPOTS ON NEWLY PAINTED

WALLS AND ON ALL NEWLY INSTALLED WORK. REMOVE DUST AND DEBRIS FROM ALL

Electrical Details Electrical Details

#### REFERENCE SYMBOLS STANDARD ABBREVIATIONS

ROOM IDENTIFIER

DOOR/OPENING IDENTIFIER

**ELEVATION REFERENCE** 

WALL TYPE REFERENCE

DEMOLITION INDICATOR

**REVISION TAG & CLOUD INDICATOR** 

\_ \_ \_ \_ \_ \_ \_ \_ \_ \_\_CORNER GUARD CJ\_ . . . \_ \_CONTROL JOINT CLG \_\_\_\_\_\_CEILING
CLG DIFF\_ \_\_\_\_\_CEILING DIFFUSER
CLG HT\_ \_\_\_\_\_CEILING HEIGHT 

\_ \_ \_ \_ \_CORNER

CONSTR\_ \_ \_ \_ \_ \_ CONSTRUCTION

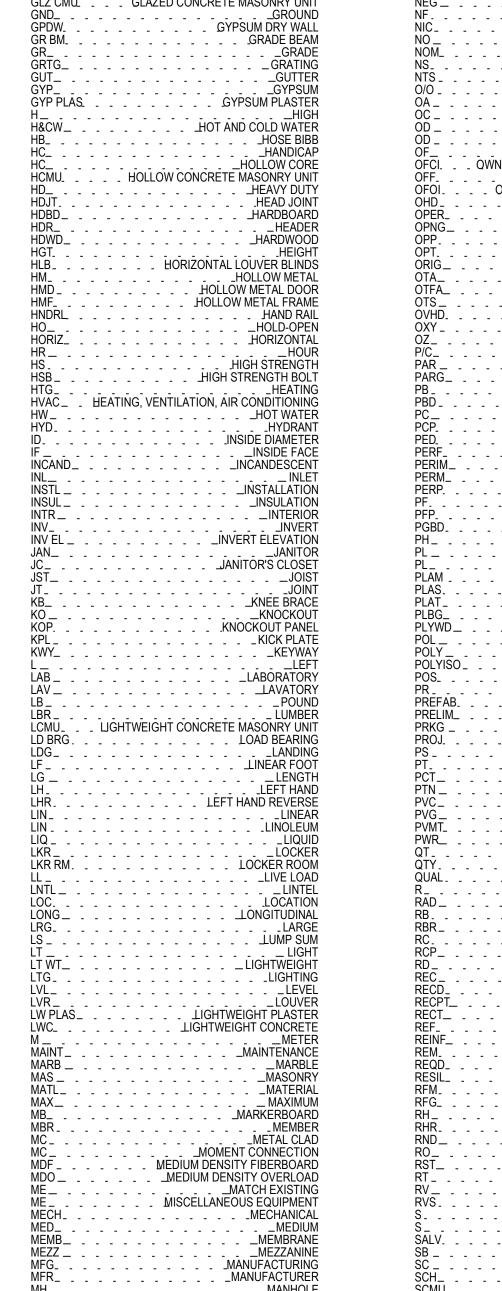
\_ \_ \_ \_ \_ \_ \_CONTRACTOR \_ \_ \_ \_ \_ \_ . . . . . . . . . . . . . . EXTERIOR INSULATION FINISH SYSTEM - - - - - - - - -. . . . . . . . . FIN FL. . . . . . . . . FINISH FLOOR <u>F</u>L\_ . . . . . . . . . . . . . . . . . FL\_ \_\_\_\_FLOWLINE
FLDG\_ \_\_\_\_FOLDING FLR SK. FLR PL\_\_\_\_\_\_FLOOR PLATE FLR FIN\_ . . . . . . . . . . . . . FLT GL\_\_\_\_\_\_FLOAT GLASS 

FOC FACE OF CONCRETE FOM FACE OF MASONRY

FPL \_ \_ \_ \_ FIREPLACE
FPRF\_ \_ \_ \_ \_ \_ FIREPROOFING

FTG\_ \_\_\_\_\_FOOTING
FURR\_ \_\_\_\_FURRING
FUT\_ \_\_\_\_FUTURE
FXTR\_ \_\_\_\_\_FIXTURE
GALVANIZED

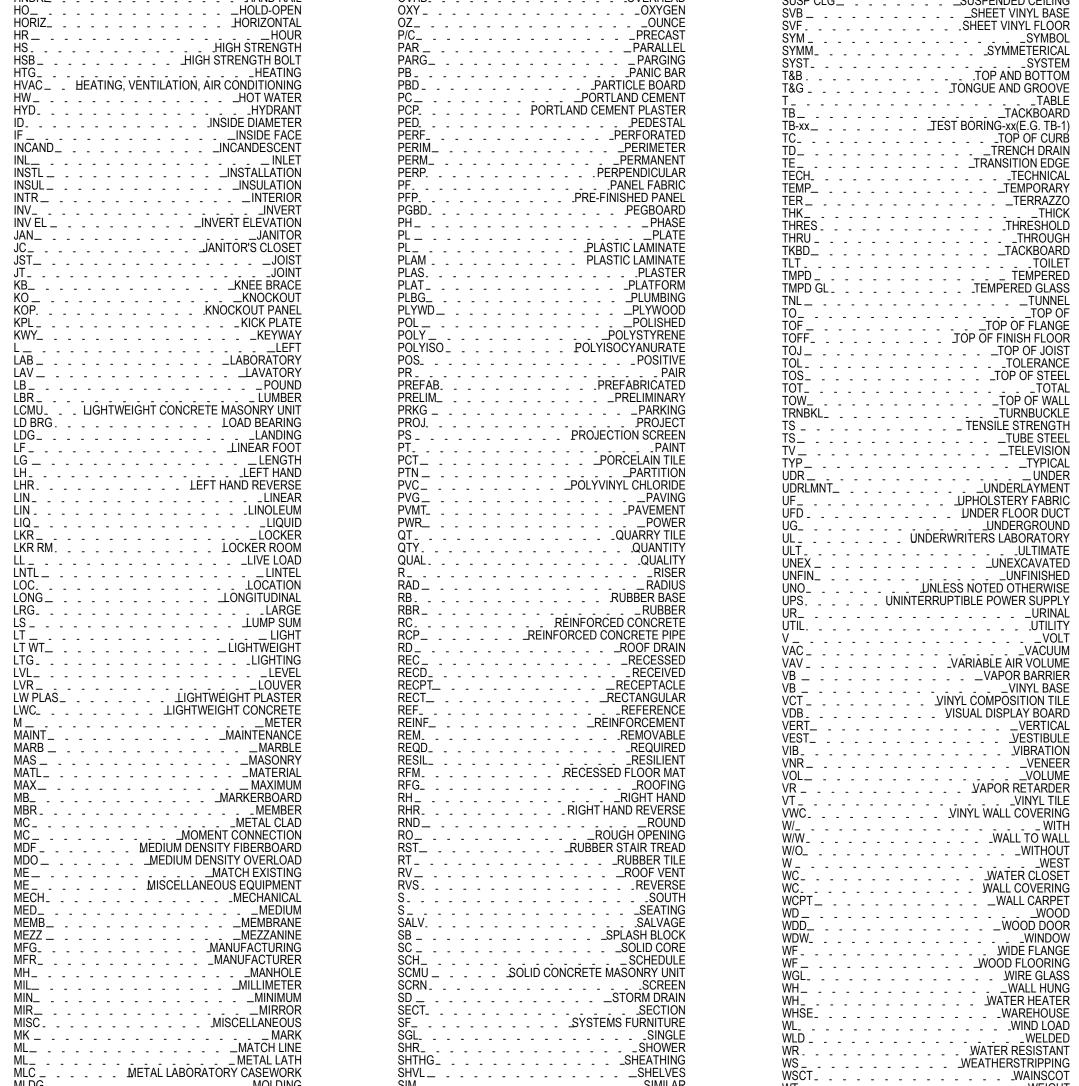
GALV\_ . . . . . . . . . \_ \_GALVANIZED



MLWK\_\_\_\_\_

MLDG\_ . . . . . . . \_ \_MOLDING

- - - - - - - - - - <u>- MODULE</u>



SK\_ \_ \_ \_ SINK SLA\_ \_ \_ \_ \_ SLATE

# **CLARK** ENERSEN

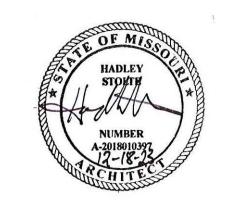
Kansas City, MO 64108-1914 Fairway, Kansas Portland, Oregon Fort Collins, Colorado

**Contract Documents** 

**LIDR – Renovate West Animal Holding, Rms** 144-149

1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

December 18, 2023



Title Sheet and Drawing

WTRPRF\_ . . . . . \_\_\_WATERPROOFING

WWM\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ WELDED WIRE MESH

#### TABLE 307.1(1) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARDa, j, m, n, p

|   |                      | 000101111511515151                                    |                              | STORAGE <sup>b</sup>       |                            | US                           | E-CLOSED SYSTEM            | MSb                        | USE-OPEN                     | SYSTEMS                   |
|---|----------------------|---|------------------------------|----------------------------|----------------------------|------------------------------|----------------------------|----------------------------|------------------------------|---------------------------|
| MATERIAL                                      | CLASS                | GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED | Solid pounds<br>(cubic feet) | Liquid gallons<br>(pounds) | Gas (cubic feet<br>at NTP) | Solid pounds<br>(cubic feet) | Liquid gallons<br>(pounds) | Gas (cubic feet<br>at NTP) | Solid pounds<br>(cubic feet) | Liquid gallon<br>(pounds) |
| Combustible dust                              | NA                   | H-2   | See Note q                   | NA                         | NA                         | See Note q                   | NA                         | NA                         | See Note q                   | NA                        |
|   | Loose                |   | (100)                        |                            |                            | (100)                        |                            |                            | (20)                         |                           |
| Combustible fiber <sup>q</sup>                | Baledo               | H-3   | (1,000)                      | NA                         | NA                         | (1,000)                      | NA                         | NA -                       | (200)                        | NA                        |
|   | II                   | H-2 or H-3  |                              | 120 <sup>d, e</sup>        |                            |                              | 120 <sup>d</sup>           |                            |                              | 30 <sup>d</sup>           |
| Combustible liquid <sup>c, i</sup>            | IIIA                 | H-2 or H-3  | NA                           | 330 <sup>d, e</sup>        | NA                         | NA                           | 330 <sup>d</sup>           | NA                         | NA                           | 80 <sup>d</sup>           |
|   | IIIB                 | NA  |                              | 13,200 <sup>e, f</sup>     |                            |                              | 13,200 <sup>f</sup>        |                            |                              | 3,300 <sup>f</sup>        |
| Cryogenic flammable                           | NA                   | H-2   | NA                           | 45 <sup>d</sup>            | NA                         | NA                           | 45 <sup>d</sup>            | NA                         | NA                           | 10 <sup>d</sup>           |
| Cryogenic inert                               | NA                   | NA  | NA                           | NA                         | NL                         | NA                           | NA                         | NL                         | NA                           | NA                        |
| Cryogenic oxidizing                           | NA                   | H-3   | NA                           | 45 <sup>d</sup>            | NA                         | NA                           | 45 <sup>d</sup>            | NA                         | NA                           | 10 <sup>d</sup>           |
|   | Division<br>1.1      | H-1   | 1 <sup>e. g</sup>            | (1) <sup>e, g</sup>        |                            | 0.259                        | (0.25)9                    |                            | 0.259                        | (0.25)9                   |
|   | Division<br>1.2      | H-1   | 1 <sup>e, g</sup>            | (1) <sup>e, g</sup>        |                            | 0.25 <sup>g</sup>            | (0.25) <sup>g</sup>        | -                          | 0.25 <sup>g</sup>            | (0.25) <sup>g</sup>       |
|   | Division<br>1.3      | H-1 or H-2  | 5 <sup>e, g</sup>            | (5) <sup>e, g</sup>        |                            | 19                           | (1)9                       |                            | 19                           | (1) <sup>g</sup>          |
| Explosives                                    | Division<br>1.4      | H-3   | 50 <sup>e. g</sup>           | (50) <sup>e. g</sup>       | NA                         | 50 <sup>g</sup>              | (50) <sup>g</sup>          | NA                         | NA                           | NA                        |
|   | Division<br>1.4G     | H-3   | 125 <sup>e, I</sup>          | NA                         |                            | NA                           | NA                         | -                          | NA                           | NA                        |
|   | Division<br>1.5      | H-1   | 1 <sup>e. g</sup>            | (1) <sup>e, g</sup>        |                            | 0.259                        | (0.25)9                    |                            | 0.259                        | (0.25)9                   |
|   | Division<br>1.6      | H-1   | 1 <sup>e, g</sup>            | NA                         |                            | NA                           | NA                         |                            | NA                           | NA                        |
| Flammable gas                                 | Gaseous<br>Liquefied | H-2   | NA                           | NA<br>(150) <sup>d,e</sup> | 1,000 <sup>d,e</sup><br>NA | NA                           | NA<br>(150) <sup>d,e</sup> | 1,000 <sup>d,e</sup><br>NA | NA                           | NA                        |
|   | IA                   |   |                              | 30 <sup>d, e</sup>         |                            |                              | 30 <sup>d</sup>            |                            |                              | 10 <sup>d</sup>           |
| Flammable liquid <sup>c</sup>                 | IB and IC            | H-2 or H-3  | NA                           | 120 <sup>d, e</sup>        | NA                         | NA                           | 120 <sup>d</sup>           | NA                         | NA                           | 30 <sup>d</sup>           |
| Flammable liquid,<br>combination (IA, IB, IC) | NA                   | H-2 or H-3  | NA                           | 120 <sup>d, e, h</sup>     | NA                         | NA                           | 120 <sup>d, h</sup>        | NA                         | NA                           | 30 <sup>d, h</sup>        |
| Flammable solid                               | NA                   | H-3   | 125 <sup>d, e</sup>          | NA                         | NA                         | 125 <sup>d</sup>             | NA                         | NA                         | 25 <sup>d</sup>              | NA                        |
| Inert gas                                     | Gaseous              | NA  | NA                           | NA                         | NL                         | NA                           | NA                         | NL                         | NA                           | NA                        |
| men yas                                       | Liquefied            | NA  | NA                           | NA                         | NL                         | NA                           | NA                         | NL                         | NA                           | NA                        |
|   | UD                   | H-1   | 1 <sup>e, g</sup>            | (1) <sup>e, g</sup>        |                            | 0.25 <sup>9</sup>            | (0.25) <sup>g</sup>        |                            | 0.25 <sup>g</sup>            | (0.25) <sup>9</sup>       |
|   | I                    | H-2   | 5 <sup>d, e</sup>            | (5) <sup>d, e</sup>        |                            | 1 <sup>d</sup>               | (1) <sup>d</sup>           |                            | 1 <sup>d</sup>               | (1) <sup>d</sup>          |
| Oiaida  | II                   | H-3   | 50 <sup>d, e</sup>           | (50) <sup>d, e</sup>       |                            | 50 <sup>d</sup>              | (50) <sup>d</sup>          | [                          | 10 <sup>d</sup>              | (10) <sup>d</sup>         |
| Organic peroxide                              | Ш                    | H-3   | 125 <sup>d, e</sup>          | (125) <sup>d, e</sup>      | NA                         | 125 <sup>d</sup>             | (125) <sup>d</sup>         | NA -                       | 25 <sup>d</sup>              | (25) <sup>d</sup>         |
|   | IV                   | NA  | NL                           | NL                         |                            | NL                           | NL                         |                            | NL                           | NL                        |
|   | V                    | NA NA   | NL                           | NL                         |                            | NL                           | NL                         |                            | NL                           | NL                        |
|   | 4                    | H-1   | 19                           | (1) <sup>e, g</sup>        |                            | 0.25 <sup>g</sup>            | (0.25) <sup>g</sup>        |                            | 0.25 <sup>g</sup>            | (0.25) <sup>g</sup>       |
|   | 3 <sup>k</sup>       | H-2 or H-3  | 10 <sup>d, e</sup>           | (10) <sup>d, e</sup>       |                            | 2 <sup>d</sup>               | (2) <sup>d</sup>           | أ                          | 2 <sup>d</sup>               | (2) <sup>d</sup>          |
| Oxidizer                                      | 2                    | H-3   | 250 <sup>d, e</sup>          | (250) <sup>d, e</sup>      | NA                         | 250 <sup>d</sup>             | (250) <sup>d</sup>         | NA -                       | 50 <sup>d</sup>              | (50) <sup>d</sup>         |
|   | 1                    | NA  | 4,000 <sup>e, f</sup>        | (4,000)e.f                 |                            | 4,000 <sup>f</sup>           | (4,000) <sup>f</sup>       |                            | 1,000 <sup>f</sup>           | (1,000) <sup>f</sup>      |
|   | Gaseous              |   |                              | NA                         | 1,500 <sup>d,e</sup>       |                              | NA                         | 1,500 <sup>d,e</sup>       |                              |                           |
| Oxidizing gas                                 | Liquefied            | H-3   | NA                           | (150) <sup>d, e</sup>      | NA                         | NA                           | (150) <sup>d,e</sup>       | NA                         | NA                           | NA                        |
| Pyrophoric                                    | NA                   | H-2   | 4 <sup>e, g</sup>            | (4) <sup>e, g</sup>        | 50 <sup>e, g</sup>         | 1 <sup>9</sup>               | (1) <sup>g</sup>           | 10 <sup>e, g</sup>         | 0                            | 0                         |
|   | 4                    | H-1   | 1 <sup>e, g</sup>            | (1) <sup>e, g</sup>        | 10 <sup>e, g</sup>         | 0.25 <sup>g</sup>            | (0.25) <sup>g</sup>        | 2 <sup>e, g</sup>          | 0.25 <sup>g</sup>            | (0.25) <sup>g</sup>       |
| Unotoble (see all)                            | 3                    | H-1 or H-2  | 5d, e                        | (5) <sup>d, e</sup>        | 50 <sup>d, e</sup>         | 1 <sup>d</sup>               | (1) <sup>d</sup>           | 10 <sup>d, e</sup>         | 1 <sup>d</sup>               | (1) <sup>d</sup>          |
| Unstable (reactive)                           | 2                    | H-3   | 50 <sup>d, e</sup>           | (50) <sup>d, e</sup>       | 750 <sup>d, e</sup>        | 50 <sup>d</sup>              | (50) <sup>d</sup>          | 750 <sup>d, e</sup>        | 10 <sup>d</sup>              | (10) <sup>d</sup>         |
|   | 1                    | NA  | NL                           | NL                         | NL                         | NL                           | NL                         | NL                         | NL                           | NL                        |
|   | 3                    | H-2   | 5d, e                        | (5) <sup>d, e</sup>        |                            | 5 <sup>d</sup>               | (5) <sup>d</sup>           |                            | 1 <sup>d</sup>               | (1) <sup>d</sup>          |
| Water reactive                                | 2                    | H-3   | 50 <sup>d, e</sup>           | (50) <sup>d, e</sup>       | NA                         | 50 <sup>d</sup>              | (50) <sup>d</sup>          | NA                         | 10 <sup>d</sup>              | (10) <sup>d</sup>         |
|   | 1                    | NA  | NL                           | NL                         |                            | NL                           | NL                         | 1                          | NL                           | NL                        |

#### For SI: 1 cubic foot = 0.028 m<sup>3</sup>, 1 pound = 0.454 kg, 1 gallon = 3.785 L. NL = Not Limited; NA = Not Applicable; UD = Unclassified Detonable.

For use of control areas, see Section 414.2.

- b. The aggregate quantity in use and storage shall not exceed the quantity specified for storage. c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
- d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively. e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets, gas rooms or exhausted enclosures or in listed safety cans in accordance with Section 5003.9.10 of the International Fire Code. Where Note d also applies, the increase for both notes shall be applied accumulatively. f. Quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.
- g. Allowed only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
  h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.
- i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 605.4.2 of the International Fire Code.
- j. Quantities in parentheses indicate quantity units in parentheses at the head of each column. k. A maximum quantity of 220 pounds of solid or 22 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment when the storage containers and the manner of storage are approved. 1. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.
- m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the International Fire Code. n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
- Liquid or gaseous fuel in fuel tanks on vehicles.
- 2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with the International Fire Code. 3. Gaseous fuels in piping systems and fixed appliances regulated by the International Fuel Gas Code.
- 4. Liquid fuels in piping systems and fixed appliances regulated by the International Mechanical Code. 5. Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with Sections 5705.5 and 5705.5.1 of the International Fire Code. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents.

#### TABLE 307.1(2) [F] TABLE 307.1(2) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A HEALTH HAZARDa, c, f, h, i

| MATERIAL     |                              | \$TORAGE <sup>b</sup>                   |   |                           | USE-CLOSED SY                        | STEMSb                                      | USE-                      | OPEN SYSTEMS <sup>b</sup>            |  |
|--------------|------------------------------|---|---|---------------------------|--------------------------------------|---|---------------------------|--------------------------------------|--|
| MATERIAL     | Solid pounds <sup>d, e</sup> | Liquid gallons (pounds) <sup>d, e</sup> | Gas cubic feet at NTP (pounds) <sup>d</sup> | Solid pounds <sup>d</sup> | Liquid gallons (pounds) <sup>d</sup> | Gas cubic feet at NTP (pounds) <sup>d</sup> | Solid pounds <sup>d</sup> | Liquid gallons (pounds) <sup>d</sup> |  |
| Corrosives   | 5.000                        | 500                                     | Gaseous 810 <sup>e</sup>                    | 5.000 500                 |                                      | Gaseous 810 <sup>e</sup>                    | 1,000                     | 100                                  |  |
| Corrosives   | 5,000                        | 500                                     | Liquefied (150)                             | 5,000                     | 500                                  | Liquefied (150)                             | 1,000                     | 100                                  |  |
| Highly Tayle | 10                           | (40)                                    | Gaseous 209                                 | 10                        | (40)                                 | Gaseous 209                                 | 2                         | (2)                                  |  |
| Highly Toxic | 10                           | (10)                                    | Liquefied (4)9                              | 10                        | (10)                                 | Liquefied (4) <sup>g</sup>                  | 3                         | (3)                                  |  |
| Toxic        | 500                          | (500)                                   | Gaseous 810 <sup>e</sup>                    | 500                       | (500)                                | Gaseous 810 <sup>e</sup>                    | 125                       | (425)                                |  |
| TOXIC        | 500                          | (500)                                   | Liquefied (150) <sup>e</sup>                | 500                       | (500)                                | Liquefied (150)e                            | 125                       | (125)                                |  |

#### For SI: 1 cubic foot = 0.028 m<sup>3</sup>, 1 pound = 0.454 kg, 1 gallon = 3.785 L. a. For use of control areas, see Section 414.2.

- c. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons. d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively. e. Maximum allowable quantities shall be increased 100 percent where stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in the International Fire Code. Where Note d also applies, the increase for both notes shall be applied accumulatively.
- f. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).

## [F] TABLE 428.3 DESIGN AND NUMBER OF LABORATORY SUITES PER FLOOR

| FLOOR LE               | VEL                  | PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER LAB SUITE <sup>a</sup>  | NUMBER OF LAB SUITES PER FLOOR | FIRE-RESISTANCE RATING FOR FIRE BARRIERS IN HOURS |
|------------------------|----------------------|--|--------------------------------|---|
|                        | 21+                  | Not allowed  | Not Permitted                  | Not Permitted                                     |
|                        | 16-20                | 25   | 1                              | 2°  |
|                        | 11-15                | 50   | 1                              | 2°  |
| Above Grade Plane      | 7-10                 | 50   | 2                              | 2 <sup>c</sup>                                    |
|                        | 4-6                  | 75   | 4                              | 1   |
|                        | 3                    | 100  | 4                              | 1   |
|                        | 1-2                  | 100  | 6                              | 1   |
|                        | 1                    | 75   | 4                              | 1   |
| Below Grade Plane      | 2                    | 50   | 2                              | 1   |
|                        | Lower than 2         | Not Allowed  | Not Allowed                    | Not Allowed                                       |
| a Percentages shall be | of the maximum allow | able quantity per control area shown in Tables 307.1(1) and 307.1(2), with all increases allowed in the footnotes to those | tables                         |   |

b. Fire barriers shall include walls, floors and cellings necessary to provide separation from other portions of the building.
 c. Vertical fire barriers separating laboratory suites from other spaces on the same floor shall be permitted to be 1-hour fire-resistance rated.

# BSL-3 AREA ABSL-3 AREA

1 CONTAINMENT PLAN - FIRST FLOOR

SCALE: 1/16" = 1'-0"



4 CODE COMPLIANCE PLAN - BASEMENT
SCALE: 1/16" = 1'-0"



3 CODE COMPLIANCE PLAN - FIRST FLOOR
SCALE: 1/16" = 1'-0"

**CONTAINMENT PLAN LEGEND** 

---- CONTAINED FROM NON-CONTAINED SPACES

/ NON-RATED DOORS

— -- — CONTAINED SPACES FROM CROSS

SEAL ALL PENETRATIONS IN CONTAINMENT WALLS, CEILINGS,

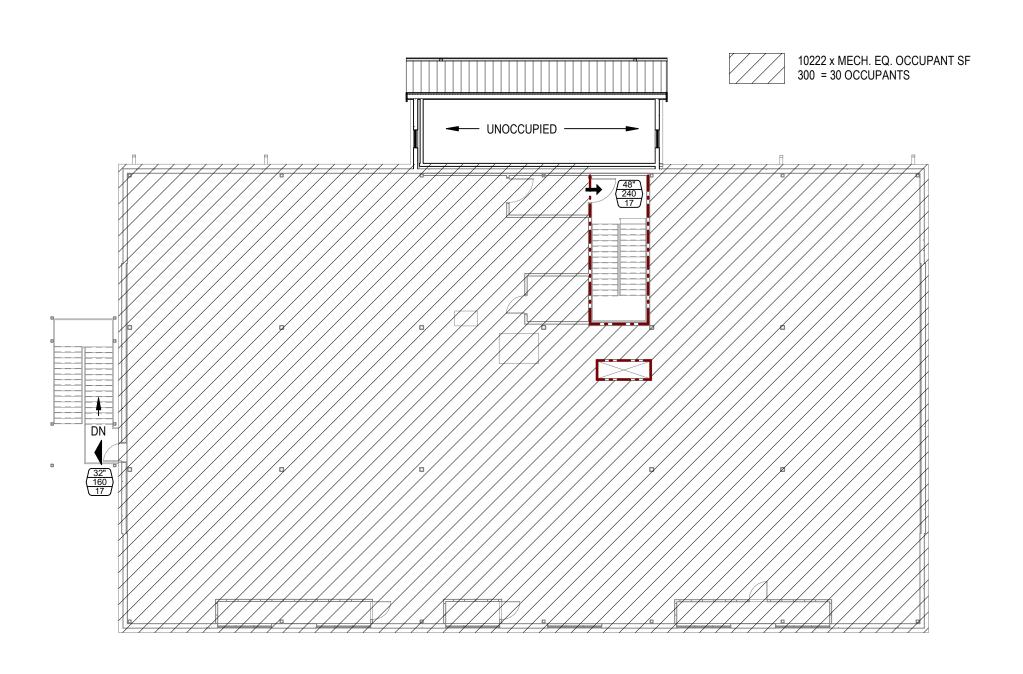
DOORS

FLOORS AND FLOORS ABOVE

BIO--CONTAINMENT WALL SEPARATES

**BIO-CONTAINMENT WALL SEPARATES** 

CONTAMINATION, WITH NON-RATED



2 CODE COMPLIANT PLAN - PENTHOUSE

SCALE: 1/16" = 1'-0"

# **CODE ANALYSIS**

University of Missouri Columbia Laboratory for Infectious Disease Research

AGENCY INFORMATION: Curators of the University of Missouri Columbia

**AUTHORITY HAVING JURISDICTION:** 

University of Missouri

PROJECT DESCRIPTION: Renovation of existing space for the purpose of finish material upgrades, security upgrades, mechanical control upgrades, and installation of additional equipment power, data, and laboratory gas connections.

APPLICABLE CODES: 2021 - International Building Code (IBC) 2021 - International Fire Code (IFC)

2021 - International Plumbing Code (IPC) 2021 - International Mechanical Code (IMC) 2021 - International Fuel Gas Code (IFGC)

2021 - International Existing Building Code (IEBC) 2019 - NFPA 13 Installation of Fire Sprinkler Systems 2019 - NFPA 14 Standard for the Installation of Standpipe, Private Hydrants and Hose Systems

2019 - NFPA 45 - Standard on Fire Protection for Laboratories Using Chemicals 2020 - NFPA 70 (National Electric Code) (NEC) 2019 - NFPA 72 National Fire Alarm Code

2021 - NFPA 90A - Installation of Air Conditioning and Ventilating Systems 2019 - NFPA 101 - Life Safety Code 2019 - NFPA 110 - Standard for Emergency and Standby Power Systems 2019 - NFPA 150 Fire and Life Safety in Animal Hosing Facilities Code 2019 - ASHREA 90.1 - Energy Standard for Buildings

2010 - Americans with Disabilities Act - Standards for Accessible Design ORIGINAL CONSTRUCTION:

#### **MAJOR ADDITIONS:**

**ACTIVE LIFE SAFETY SYSTEMS:** Required / Provided: Per NFPA 72 Fire Alarm: Required / Provided: Per NFPA 72 Smoke Detection: Exit Signs: Required / Provided: Battery Backup Emergency Lighting: Required / Provided: Battery Backup Required / Provided: Wet System Suppression-Automatic: Fire Extinguishers: Required / Provided: Per NFPA 10 In place and active

Fire Hose Valves: PASSIVE LIFE SAFETY SYSTEMS (IBC):

Corridor Ratings (1020.2): Stairwells (713.4): 1 hr. if less than 4 stories, 2 hr. 4 stories or more Shafts (713.4): 1 hr. if less than 4 stories, 2 hr. 4 stories or more

Occupancy Separations (508.4): Fire Separations (508.4):

OCCUPANCY CLASSIFICATION (IBC section 302):

#### CONSTRUCTION TYPE (IBC 601):

**BUILDING HEIGHT (IBC):** Not affected by renovation; allowable 75' (table 504.3) 4 stories (table 504.4)

FIRE RESISTIVE REQUIREMENTS (IBC 601): Structural Frame: 0 Hrs. Ext. Bearing Walls: Non-Bearing Walls: 0 Hrs. Floor Construction: 0 Hrs. Roof Construction:

FIRST FLOOR AREA: ALLOWED (IBC 506.2) Basement Area: 69,000+(23,000x.75)=86250 SF 11209 sq. ft. 69,000+(23,000x.75)=86250 SF 9997 sq. ft. 69,000+(23,000x.75)=86250 SF Penthouse Area

OCCUPANT LOAD (IBC TALE 1004.5): Basement Occupant Load: 30 First Floor Occupant Load: 63 Penthouse Occupant Load: 30 Total Occupant Load: 123

Floor area not affected by renovation

EXIT ACCESS TRAVEL DISTANCE (IBC 1017.2):

COMMON PATH OF EGRESS TRAVEL (IBC table 1006.2.1):

.2 inches/ person

MAXIMUM DEAD-END CORRIDOR (IBC 1020.5):

EGRESS WIDTH (IBC 1005.3):

Other Components: .15 inches/ person INTERIOR WALL & CEILING FINISH (IBC table 803.13):

Rooms & Enclosed Spaces: C SPECIAL INSPECTIONS (IBC 1704.2.3):

no fire rating required for separation.

PLUMBING FIXTURE COUNTS (IPC 403.1):

LAVATORIES: DRINKING FOUNTAINS 2 TOTAL

0 PROVIDED (BREAK ROOM PROVIDED) SERVICE SINKS 1 TOTAL LAB SUITE - FIRST FLOOR (307.1, 428.3):

Entire floor considered to be below mazimum allowable quantities of hazardous materials in open and/or closed system and therefore

| SYMBOL           | DESCRIPTION  | PROTECTION ELEMENTS   |
|------------------|--|---|
| 0"<br>0<br>0     | CLEAR WIDTH MAX EGRESS LOAD ASSUMED EGRESS LOAD                  |   |
| 55 → ]_          | EXIT - INTERIOR (assembly occ. over 50 and exits from floors.)   |   |
| •                | FIRE EXTINGUISHER  |   |
| ス し              | FIRE DEPARTMENT<br>CONNECTION (FDC)                              |   |
| <b>&gt;•</b>     | STANDPIPE  |   |
|                  | HOSE CABINET   |   |
|                  | HOSE CABINET WITH EXTINGUISHER                                   |   |
| *                | PUBLIC FIRE HYDRANT  |   |
|                  | FIRE EXTINGUISHER SPACING (radius)                               |   |
|                  | SMOKE BARRIER  | 1-hour resistive rated walls. 20-minute door assembly. Smoke dampers.   |
|                  | 1 HOUR FIRE BARRIER (occupancy & incidental use)                 | 1-hour fire barrier wall construction. 1-hour rated door assembly for shaft, exit enclosure, & exit passageway wall. 45-min rated door assembly in other fire barriers. Fire dampers. |
|                  | 2 HOUR FIRE BARRIER (occupancy)                                  | 2-hour fire barrier wall construction. 1 1/2-hour rated door assembly. Fire dampers.  |
|                  | 3 HOUR FIRE BARRIER (occupancy)                                  | 3-hour fire barrier wall construction. 3-hour rated door assembly. Fire dampers.  |
|                  | 4 HOUR FIRE BARRIER (occupancy)                                  | 4-hour rated wall assembly. 3-hour rated door assembly. Fire dampers.   |
| -2-2-            | 2 HOUR FIRE WALL (building separation)                           | 2-hour fire wall construction. 1 1/2-hour rated door assembly Fire dampers when ductwork penetration is allowed.  |
| -3-3-            | 3 HOUR FIRE WALL (building separation)                           | 3-hour fire wall construction. 3-hour rated door assembly. Fire dampers when ductwork penetration is allowed.   |
| -4-4-            | 4 HOUR FIRE WALL (building separation)                           | 4-hour fire wall construction. 3-hour rated door assembly. Fire dampers when ductwork penetration is allowed.   |
|                  | FIRE PARTITION (dwelling / unit separations I-1 & R occupancies) | 1-hour resistive rated walls. 45-minute rated door assembly. Fire dampers.  |
| CONF. /<br>A3 50 | ROOM DESIGNATION   | Room type / Occupancy type Maximum Allowable Occupants  |
| 40 90            | Accumulated occupant loads for complex exit paths.               |   |
| ••••••           | COMMON PATH OF TRAVEL  |   |
|                  | EXITING PATH   |   |
|                  | 1  |   |

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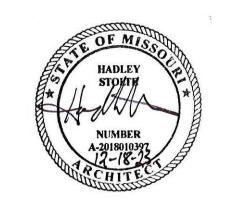
**SHEET HISTORY:** ISSUED 12/18/23 Contract Documents

**Contract Documents** 

LIDR – Renovate West **Animal Holding, Rms** 144-149

1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

December 18, 2023



Code and Containment

## CONFERENCE / BREAK RM CLEAN CAGE FOOD / BEDDING <u>LOADING</u> CLEAN CHANGE BSL3 LAB 1 <u>CHANGE</u> PHASE 2B (ADD ALT2) PHASE 3 (ADD ALT 3) <u>STAIR</u> SHOWER \ <u>STORAGE</u> BSL3 ANTE CHANGE | <u>AUTOCLAVE</u> 111 <u>CORRIDOR</u> SHOWER CLEAN CHANGE 126-7-7-127-7-CORRIDOR DIRTY CHANGE 118 SHOWER CLEAN CHANGE PHASE BSL3 MULTI 2 CHANGE L ABSL3 ANTE ABSL3 AH4 147 ABSL3 AH1 138\_\_\_

FIRST FLOOR PHASING PLAN

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



**SHEET HISTORY:** 

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# **DUST CONTROL**

THESE MEASURES SUGGEST METHODS FOR CONTROLLING DUST AND OTHER CONSTRUCTION-RELATED AIRBORNE MATERIALS, WHICH THE CONTRACTOR SHOULD EVALUATE FOR APPLICABILITY IN PREPARING A DUST CONTROL PLAN. CONSTRUCTION INDOOR AIR QUALITY AND HVAC-CONTROL PLAN (CONSTRUCTION IAQ PLAN); CONTRACT DOCUMENTS SHALL REQUIRE CONTRACTOR TO SUBMIT COORDINATION DRAWING(S) THAT SUMMARIZE THE HVAC-CONTROL MEASURES PROPOSED FOR USE, THE PROPOSED LOCATIONS, AND PROPOSED TIME FRAME FOR THEIR OPERATION.

- 1. THE CONSTRUCTION IAQ AND HVAC-CONTROL PLAN SHALL INCLUDE THE FOLLOWING:
- A. CONSTRUCTION FEATURES AND LOCATIONS OF ALL DUST-CONTROL AT EACH PHASE OF WORK. B. LOCATION OF PROPOSED NEGATIVE AIR AND/OR AIR-FILTRATION SYSTEM(S) AND DISCHARGE(S). HVAC SYSTEM ISOLATION PROCEDURES.
- WASTE HANDLING STAGING AND PROCEDURES.
- OTHER SPECIFIC DUST-CONTROL MEASURES, PERTINENT TO THE SCOPE OF WORK. IDENTIFY FURTHER OPTIONS IF PROPOSED MEASURES ARE LATER DETERMINED TO BE INADEQUATE. G. PROJECT COMMUNICATIONS PLAN SUPPORTING TIMELY NOTIFICATIONS WITH THE MU PROJECT MANAGER
- AND OCCUPANTS REGARDING PROJECT STATUS, CHANGES IN WORK, OR CONDITIONS AFFECTING OCCUPANCY CONSIDERATIONS OR IAQ. 2. EVALUATE THE NEGATIVE PRESSURE OF EACH SPACE AGAINST SURROUNDING AREAS TO SERVE AS A STAGING
- AREA. WORKERS SHOULD REMOVE DISPOSABLE COVERALLS AND SHOES COVERS (OR CLEAN THEIR SHOES) AND ANY OTHER CONTAMINATED CLOTHING IN THIS AREA BEFORE LEAVING THE WORK AREA. THE AIR FLOW INTO THE VESTIBULE SHOULD MEET THE SAME REQUIREMENTS AS THE VENTILATION WITHIN THE PROJECT SITE ITSELF.
- 3. COLLECTION AND EXTRACTION DUST CONTROL METHODS WITHIN WORK AREA: USE COMBINATION OF INDUSTRY BEST PRACTICE METHODS TO COLLECT AND/OR EXHAUST DUST OR FUMES AS CLOSE TO SOURCE AS PRACTICAL TO PREVENT DUST, FUMES, AND ODORS FROM ENTERING OCCUPIED AREAS.
- A. INSTALL FILTERED VACUUM COLLECTION ATTACHMENTS DIRECTLY ON SIGNIFICANT DUST AND FUME-PRODUCING EQUIPMENT.
- a. POTENTIALLY TOXIC, NOXIOUS, OR FINE/ULTRA-FINE MATERIALS SHALL REQUIRE HEPA-OR PERTINENT ABSORPTION FILTRATION. TOXIC OR NOXIOUS MATERIALS MAY INCLUDE: ORGANIC VAPORS OR SOLVENTS FROM PRODUCT APPLICATION, SILICA-CONTAINING DUSTS GENERATED BY MECHANICAL ABRASION OR CUTTING, ASBESTOS, CARBON MONOXIDE BY EQUIPMENT EXHAUST OR HEATERS, METAL FUMES BY WELDING, ETC.
- B. GENERAL PARTICULATE AIR FILTRATION:
- a. CONTROL GENERAL DUST WITHIN WORK AREA USING AIR-FILTRATION UNITS, STARTING WITH COMMENCEMENT OF TEMPORARY PARTITION CONSTRUCTION, AND CONTINUING UNTIL REMOVAL OF
- TEMPORARY PARTITIONS IS COMPLETE. b. AIR FILTRATION SHALL CONSIDER THE TYPE AND NATURE OF CONTAMINANTS PRESENT. c. THE PRESENCE OF POTENTIALLY TOXIC, NOXIOUS, OR FINE-ULTRA FINE PARTICULATES SHALL REQUIRE
- ARRANGE AND INITIATE MEASURES TO EXHAUST/DE-PRESSURIZE THE CONSTRUCTION WORK AREA, AND/OR PRESSURIZE CONTIGUOUS OCCUPIED AREAS. LOCAL EXHAUST VENTILATION EQUIPMENT SHALL BE CONFIGURED TO RUN CONTINUOUSLY, OR AS DETERMINED NECESSARY TO SAFELY CONTAIN AND EXHAUST THE PARTICULATES. SENSITIVE WORK AREAS MAY REQUIRE SPECIALIZED PRESSURIZATION CONTROLS.
- D. DUST-CONTROL ADHESIVE-SURFACE WALK-OFF MATS (36" X 60" MINIMUM SIZE) AT EACH ENTRANCE.

AT LEAST PRIMARY/SECONDARY PRE-FILTRATION WITH HEPA-FILTRATION.

- 4. HVAC ISOLATION/PROTECTION: PRIOR TO COMMENCING WORK, ISOLATE THE HVAC SYSTEM TO FULLEST EXTENT POSSIBLE IN CONSTRUCTION AREAS WHERE WORK IS TO BE PERFORMED ACCORDING TO CONSTRUCTION DOCUMENTS. SPECIFIC MEASURES MAY NECESSARILY INCLUDE:
- A. EXISTING AIR HANDLING SYSTEMS AFFECTED BY CONSTRUCTION AREAS SHOULD BE SHUT DOWN TO THE
- FULLEST EXTENT POSSIBLE DURING THE CONSTRUCTION PERIOD. B. DISCONNECT AND TEMPORARILY CAP SUPPLY AND EXHASUT DUCTWORK IN WORK AREA FROM HVAC
- SYSTEMS SERVICING OCCUPIED AREAS. C. IF EXISTING AIR SYSTEMS CANNOT BE DISCONNECTED AND CAPPED WITHIN WORK AREA FOR WHATEVER REASON, THEN PROVIDE ADEQUATE FILTER MEDIA ON ALL REMAINING EXHAUST INLETS IN THE WORK AREA,
- CAREFULLY ATTACHED AND SEALED TO PREVENT BYPASS AROUND FILTER MEDIA.
- a. FILTER MEDIA SHALL BE MINIMUM MERV 8; SIMILAR TO <u>TRI-DEK #8</u> MEDIA AS MANUFACTURED BY TRI-DIM FILTER CORP. b. REPLACE CLOGGED FILTER MEDIA PERIODICALLY FOR DURATION OF WORK. c. AT END OF CONSTRUCTION, INTERIOR OF SUCH DUCTS KEPT IN SERVICE DURING CONSTRUCTION
- ACTIVITIES SHALL BE THOROUGHLY INSPECTED AND CLEANED AS REQUIRED TO REMOVE DIRT AND DEBRIS THAT RESULTED FROM CONSTRUCTION ACTIVITIES. d. CHECK INTERIOR CONDITIONS OF RETURN DUCTS PRIOR TO CONSTRUCTION. IF EXISTING DUCTS ARE FOUND TO BE DIRTY PRIOR TO START OF CONSTRUCTION, ADVISE THE PROJECT MANAGER. OVERALL DUCT CLEANING OF EXISTING DIRTY DUCT SYSTEMS IS NOT INTENDED TO BE WORK OF THIS SECTION.
- D. OTHER SPECIAL HAZARDOUS AND SENSITIVE AREA APPLICATIONS: IF EXISTING AIR HANDLING SYSTEMS SERVING OTHER SENSITIVE WORK AREAS AND/OR IN HAZARDOUS WORK AREAS MUST BE LEFT OPERATIONAL, AND RETURN AIR SYSTEMS PASS THROUGH THE CONSTRUCTION WORK AREA, THEN IN ADDITION TO THE ABOVE, PROVIDE APPROPRIATE HIGHER LEVEL FILTRATION (UP TO MERV 16 DEPENDING ON THE TYPE OF DUST/CONTAMINANT SOURCE) TO ADEQUATELY PROTECT ALL SURFACES IN CONTACT WITH THE AIRSTREAM OF EXISTING AIR HANDLING SYSTEMS FROM BEING CONTAMINATED BY CONSTRUCTION
- 5. THE WORK AREA AND AREA IMMEDIATELY OUTSIDE WORK AREA ENTRANCES SHOULD BE VACUUMED FREQUENTLY (DAILY, IF NECESSARY) WITH HEPA-FILTERED INDUSTRIAL VACUUM CLEANERS:
- 6. ADDITIONAL MEASURES TO FURTHER ISOLATE THE SPACE SHOULD BE TAKEN (SUCH AS VESTIBULES UNDER NEGATIVE PRESSURE, WIPING DOWN OF TOOLS AND EQUIPMENT LEAVING THE SPACE);
- 7. A THOROUGH CLEANING OF THE WORK AREA SHOULD BE CONDUCTED PRIOR TO STARTING A NEW PHASE OF THE PROJECT. THE CLEANING PROCEDURES FOLLOWED SHOULD INCLUDE HEPA VACUUMING AND WET MOPPING.
- 8. CONTRACTOR SHALL COORDIANTE STARTUP AND TESTING AND BALANCING OF EXISTING AIR HANDLING EQUIPMENT AFTER THOUROUGH CLEANING HAS BEEN COMPLETED. COMMISSIONING FOR EACH PHASE SHALL

ALSO BE COORDINATED AND COMPLETE PRIOR TO CONSTRUCTION START OF SUBSEQUENT PHASES.

# **PHASING LEGEND**

PHASE 1A PHASE 2A (ADD ALT #2) PHASE 2B (ADD ALT #2)

PHASE 3 (ADD ALT #3)

NOTE: WORK SHALL BE COMPLETED IN PHASES TO ALLOW FOR EXPEDIANCY OF CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH OWNER AND DEVELOPE SCHEDULE FOR APPROVAL. THE REMAINDER OF THE WORK OR ANY WORK OCCURING IN UNHATCHED AREAS MAY OCCUR DURING ANY PHASE OF THE PROJECT. CORRIDOR SPACES OF PHASE 1B AND 2B SHALL BE AVAILABLE TO STORE AND PROTECT EQUIPMENT TO PERFORM PHASE 1A AND 2A WORK. UPON COMPLETION OF PHASE 1A AND 2A WORK, REINSTALL EQUIPMENT TO PERFORM PHASE 2A AND 2B WORK.

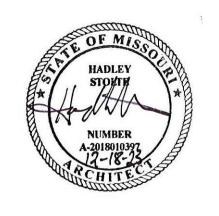
**Animal Holding, Rms** 144-149

**Contract Documents** 

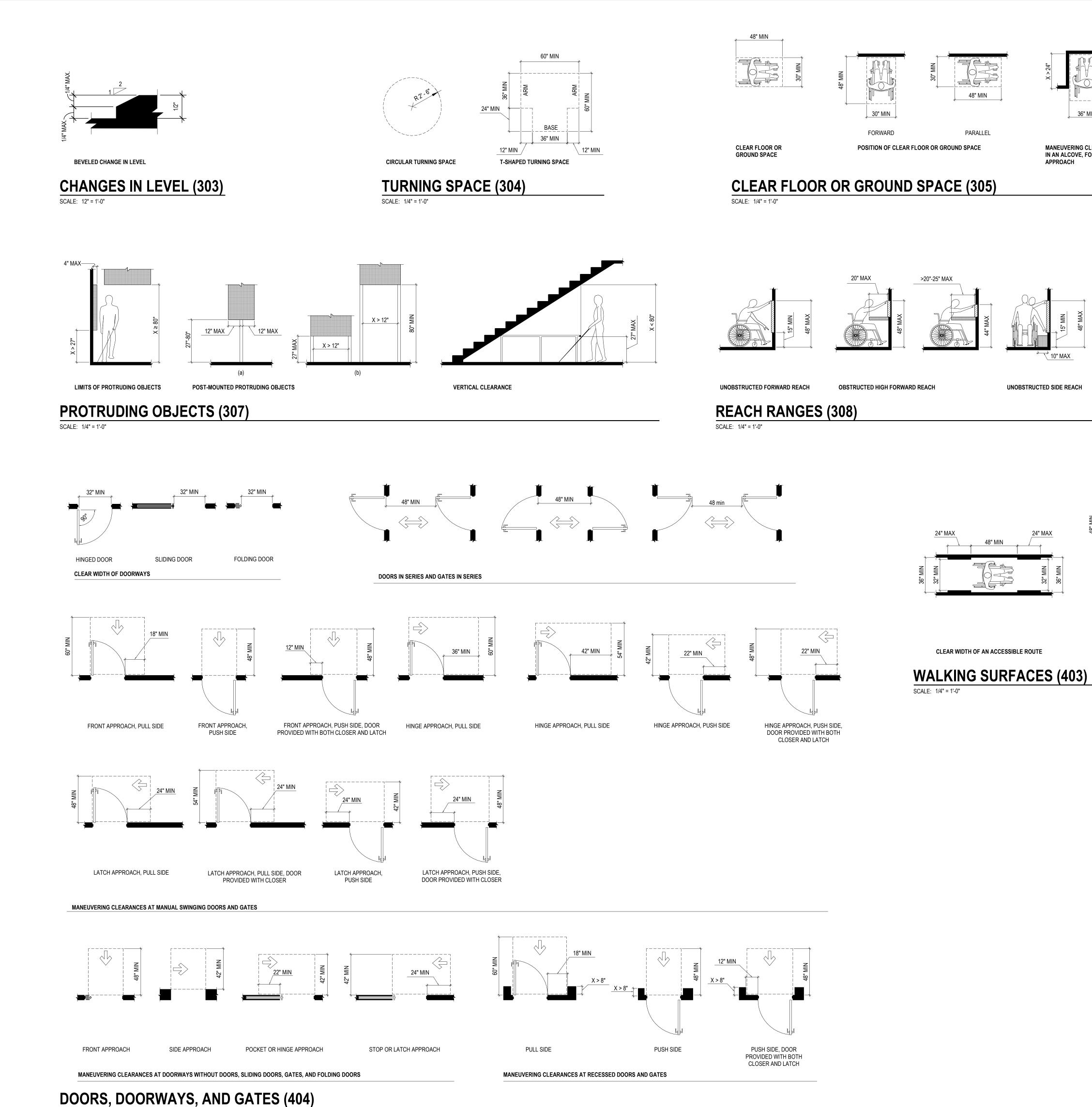
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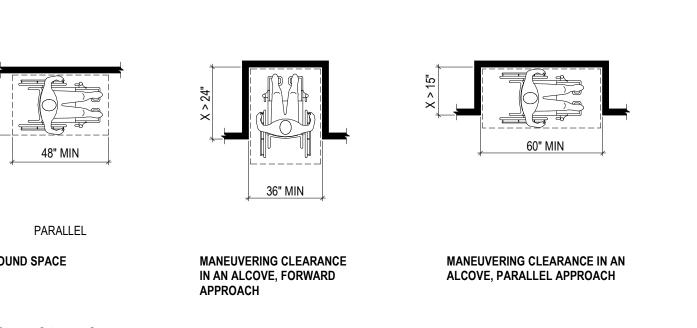
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December 18, 2023



Phasing Plans and Dust Control





UNOBSTRUCTED HIGH SIDE REACH

42" MIN 42" MIN X < 48"

180 DEGREE TURN

**CLEAR WIDTH AT TURN** 

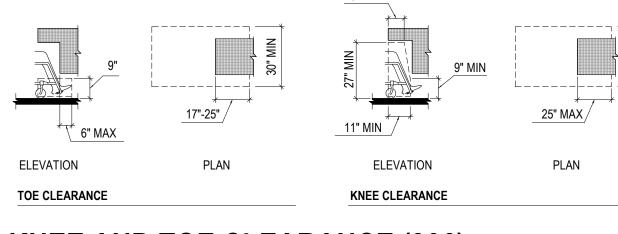
36" MIN 36" MIN ]

180 DEGREE TURN

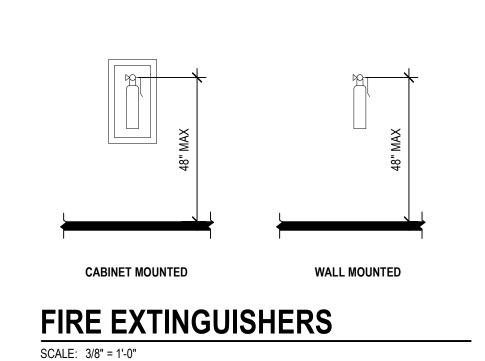
(EXCEPTION)

X < 48"

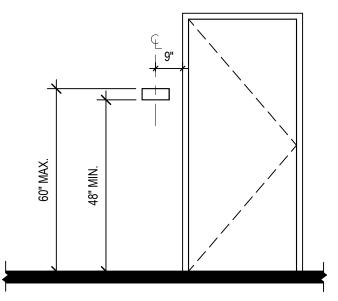
UNOBSTRUCTED SIDE REACH



**KNEE AND TOE CLEARANCE (306)** SCALE: 1/4" = 1'-0"







**SIGNAGE MOUNTING (703)** SCALE: 3/8" = 1'-0"

# **Contract Documents**

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**SHEET HISTORY:** 

ISSUED 12/18/23 Contract Documents

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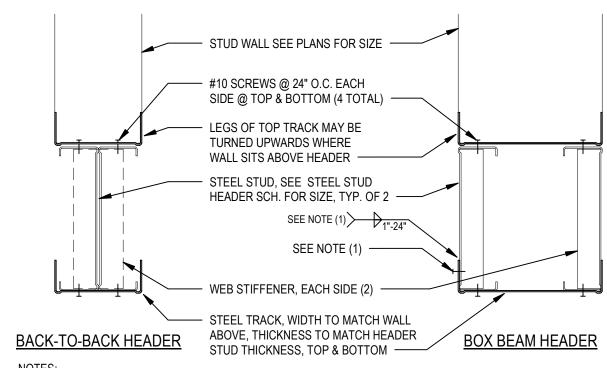
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## LIDR – Renovate West **Animal Holding, Rms** 144-149

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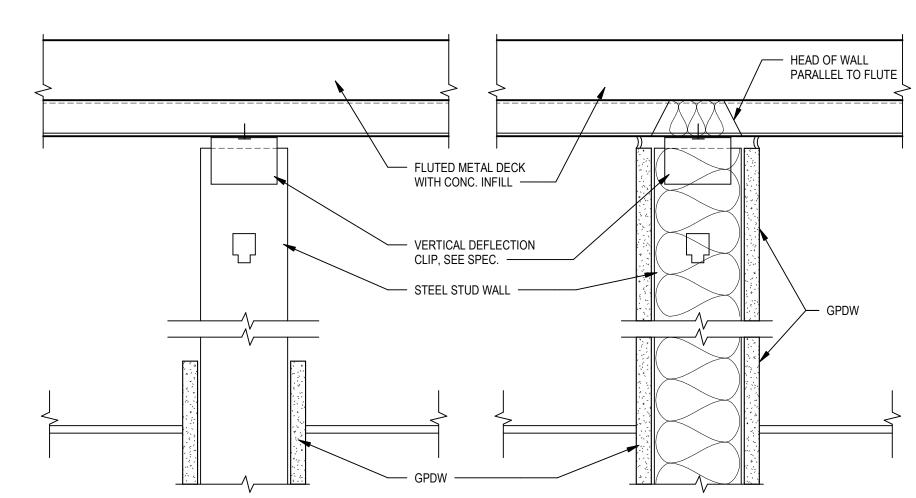


NOTES:

1. SCREW FASTENERS MAY BE INSTALLED THROUGH LEG OF TRACK, OR TRACK MAY BE WELDED TO STUD, ON BOX BEAM HEADERS WHERE THE STEEL TRACK LEG OVERLAPS STUD WEB. 2. WEB STIFFENERS ARE REQUIRED AT ENDS OF ALL BOX BEAM HEADERS. SEE INTERIOR FRAMING STEEL STUD HEADER SCHEDULE THIS SHEET FOR REQUIRED WEB STIFFENERS ON BACK-TO-BACK HEADERS. SEE WEB STIFFENER CONNECTION DETAIL THIS SHEET FOR WEB STIFFENER SIZE &

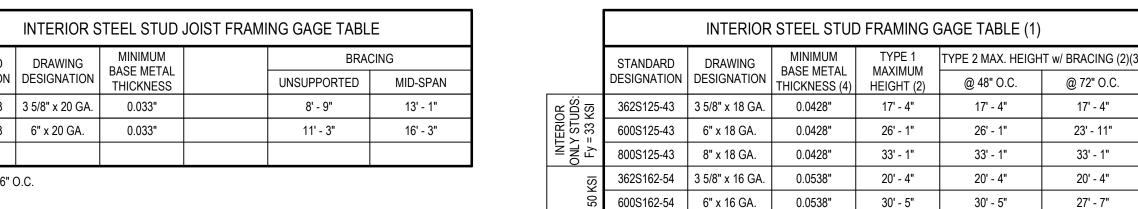


ATTACHMENT.



1 STEEL STUD WALL SLIP CONNECTION - TYP.

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



1. TABLE SHALL BE USED FOR NON-LOAD BEARING INTERIOR WALLS ONLY. 2. DESIGN HEIGHTS BASED ON A 5 PSF UNREDUCED LATERAL PRESSURE w/ A DEFLECTION OF L/240 FOR NON-COMPOSITE STUDS. MAXIMUM STUD SPACING IS 16" O.C.

3. TYPE 2 WALLS ARE NOT ALLOWED WITHOUT BRACING.

4. MIN. 0.0329" THICK STUDS FOR CEMENT BOARD AND ABUSE RESISTANT GPDW

APPLICATIONS. REF: WALL BOARD MANUFACTURERS REQUIREMENTS. 5. WEB STIFFENERS ARE REQUIRED AT STUD ATTACHMENT POINTS, SEE WEB STIFFENER CONNECTION DETAIL ON SHEET A0.01 FOR WEB STIFFENER SIZE & ATTACHMENT.

S 800S162-54 8" x 16 GA. 0.0538" 38' - 4" 38' - 4"

|   |                         |           | INTERIOR F            | RAMING STE           | EL STUD HE                 | ADER SCHEI  | DUL | E (1)              |
|---|-------------------------|-----------|-----------------------|----------------------|----------------------------|-------------|-----|--------------------|
|   |                         | WALL STUD | MINIMUM<br>BASE METAL | TRACK<br>DESIGNATION | HEADER STUD<br>DESIGNATION | KING STUDS  | 5   | MAXIMUM<br>OPENING |
| _ |                         | WIDTH     | THICKNESS             | (4)                  | (3)(4)(5)                  | DESIGNATION | #   | LENGTH (2)         |
|   | ۲.<br>KS                | 3 5/8"    | 0.0428"               | 362T125-43           | 362S125-43                 | 362S200-54  | 1   | 8' - 2"            |
|   | OR ONI<br>Fy = 33       | 3 3/0     | 0.0420                | 3021123-43           | 600S125-43                 | 600S200-54  | 1   | 9' - 0"            |
|   |                         | 6"        | 0.0428"               | 600T125-43           | 600S125-43                 | 600S200-54  | 1   | 7' - 8"            |
|   | INTERIOR<br>STUDS: Fy : | O         | 0.0420                | 0001125-45           | 800S125-43                 | 800S200-54  | 1   | 8' - 6"            |
|   | ST                      | 8"        | 0.0428"               | 800T125-43           | 800S125-43                 | 800S200-54  | 1   | 7' - 2"            |
|   | KSI                     | 3 5/8"    | 0.0538"               | 362T125-54           | 362S162-54                 | 362S200-54  | 2   | 9' - 8"            |
|   | = 50 !                  | 6"        | 0.0538"               | 600T125-54           | 600S162-54                 | 600S200-54  | 2   | 10' - 11"          |
|   | Fy                      | 8"        | 0.0538"               | 800T125-54           | 800S162-54                 | 800S200-54  | 2   | 10' - 11"          |

1. TABLE SHALL BE USED FOR NON-LOAD BEARING INTERIOR WALLS ONLY.

2. DESIGN LENGTHS BASED ON A HEADER ABOVE A 7'-0" TALL OPENING, A 12 PSF WALL WEIGHT & A 5 PSF LATERAL AIR PRESSURE OVER THE TYPE 1 MAXIMUM WALL HEIGHT w/ A MAXIMUM DEFLECTION OF L/240.

3. HEADER STUDS 0.0538" & THICKER SHALL NOT HAVE WEB PUNCHOUTS. 4. HEADER STUDS & TRACKS SHALL OF THE SAME THICKNESS & STEEL GRADE OF WALL STUDS.

HEADER TRACK WIDTHS SHALL ALSO BE OF THE SAME WIDTH OF WALL STUDS. 5. STUD THICKNESSES SHOWN IN TABLE ARE MINIMUM REQUIRED, LARGER THICKNESSES

6. WEB STIFFENERS ARE REQUIRED ABOVE BEARING POINTS AT ENDS OF BACK-TO-BACK HEADER STUDS. SEE WEB STIFFENER CONNECTION DETAIL THIS SHEET FOR WEB STIFFENER SIZE &

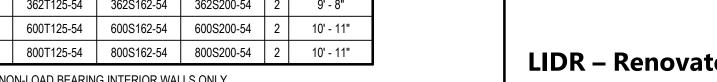
1) CONTRACTOR TO COORDINATE SPACING OF STUDS W/ MECH. AND ELECTRICAL DRAWINGS. 2) WHERE CERAMIC TILE IS INDICATED ON THE FINISH SCHEDULE CONTRACTOR SHALL INSTALL A TILE BACKING PANEL AND/OR CEMENT BOARD IN LIEU OF GPDW INDICATED. SEE SPECIFICATION FOR ADDITIONAL

3) SCHEDULED WALL TYPES THAT INCLUDE WALL TILE ALLOW FOR 1/2" TILE & SETTING BED THICKNESS IN THE

CONTINUOUS BEAD OF ACOUSTICAL JOINT SEALANT. INSTALL ACOUSTICAL JOINT SEALANTS AT BOTH FACES OF PARTITIONS, AT PERIMETER AND THROUGH PENETRATIONS.

7) ALL WALL FRAMING THAT DOES NOT EXTEND TO STRUCTURE OR DECK SHALL BE BRACED AT 48" O.C. MIN. 8) PAINT WALLS PER ROOM FINISH SCHEDULE.

STANDARD MEMBER SIZE DESIGNATION: 600,\$162,54,



17' - 4"

23' - 11"

33' - 1"

20' - 4"

27' - 7"

38' - 4"

## GENERAL NOTES:

LISTED "ACTUAL SIZE" DIMENSIONS.

4) WHERE PLYWOOD IS INDICATED ON THE DRAWINGS CONTRACTOR SHALL INSTALL PLYWOOD IN LIEU OF GPDW INDICATED. SEE ELECTRICAL AND ARCHITECTURAL SHEETS FOR PLYWOOD LOCATIONS.

5) REF: SLIP CONNECTION DETAILS THIS SHEET FOR APPLICABLE TOP OF WALL CONDITIONS AT WALL TYPES. 6) STC-RATED ASSEMBLIES AND PARTITIONS INDICATED TO RECEIVE SOUND INSULATION: SEAL CONSTRUCTION AT PERIMETERS, BEHIND CONTROL JOINTS AND AT OPENINGS & PENETRATIONS WITH A

9) ALL WALL BOARD IN MECHANICAL ROOMS SHALL BE MOLD & MOISTURE RESISTANT DRYWALL.

MIL DESIGN THICKNESS (1/1000 INCH) FLANGE WIDTH (1/100 INCH) STYLE: S = STUD, T = TRACK —— WEB DEPTH (1/100 INCH)



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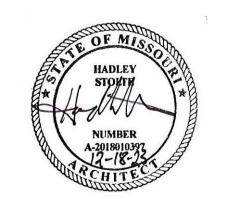


# **Contract Documents**

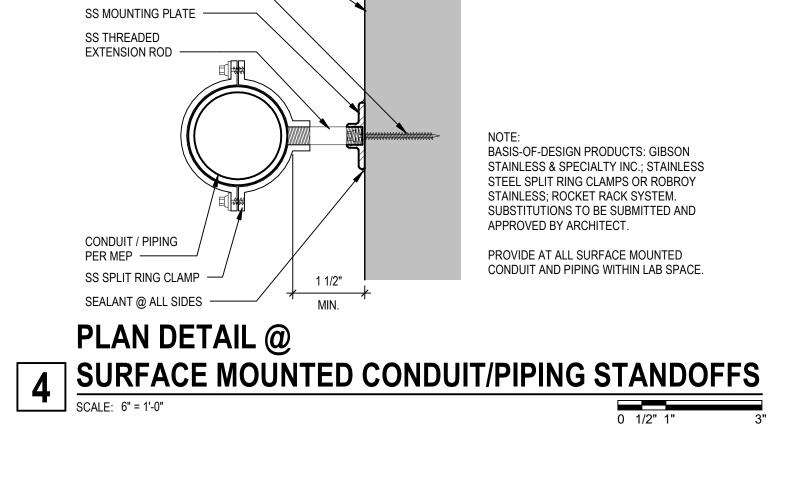
# LIDR – Renovate West **Animal Holding, Rms** 144-149

1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

December 18, 2023



Wall Type Schedule & Details

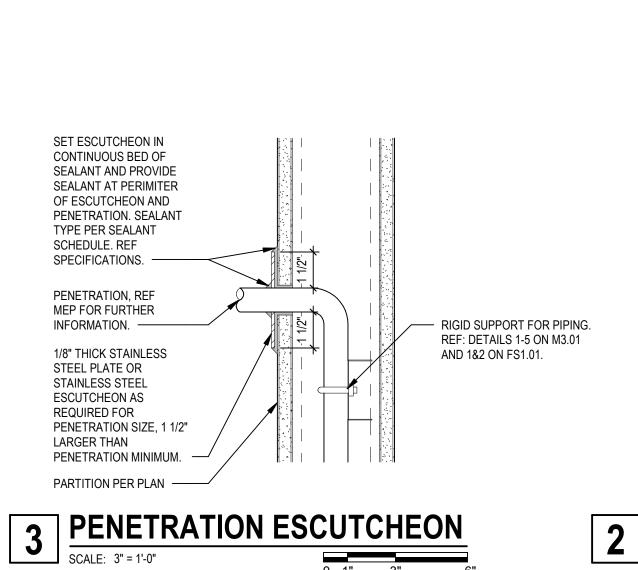


PARTITION / SUBSTRATE

PER PLAN ----FASTENER BELOW,

**EPOXY ANCHOR TO** 

CONCRETE WALL -



STEEL CRIPPLE STUD @ 16" O.C. +10 SCREW EACH SIDE, EACH STUD 2" x 54 MIL. FLAT STRAP @ 24" O.C. WHERE MORE THAN 1 KING STUD IS REQUIRED #10 SCREWS @ 16" - CLIP ANGLE EACH SIDE O.C. (MAX.) EACH SIDE +10 SCREWS @ 2" HEADER BEAM, SEE STEEL STUD O.C. (MAX.) EACH HEADER SECTION THIS SHEET, SIT DIRECTLY ON TOP OF JACK STUD — +10 SCREWS @ 16" STEEL JACK STUD ----O.C. (MAX.) EACH SIDE 2 - #10 SCREWS INTO KING STUD @ 16" O.C. OVER HEIGHT — STEEL JAMB TRACK OF STEEL JAMB TRACK — 1. ALL STUDS & TRACKS SHALL MATCH 2" WIDE x 54 MIL THICK KING STUD(S), SEE INTERIOR WALL STUD SIZE & THICKNESS, UNO. FRAMING STEEL STUD 2. DETAIL TYP. EACH SIDE OF HEADER SCHEDULE THIS OPENING. SHEET FOR QUANTITY 3. ENDS OF SOME MEMBERS ARE SHOWN STAGGERED FOR CLARITY.

BACK-TO-BACK HEADER CONNECTION

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

STANDARD DRAWING DESIGNATION DESIGNATION BASE METAL THICKNESS 362S125-33 | 3 5/8" x 20 GA. | 0.033" 600S125-33 6" x 20 GA. 1. SPACING @ 16" O.C.

STRUCTURAL DECK ABOVE

- BACKER ROD & SEALANT JOINT, BOTH SIDES OF WALL

— 5/8" GYPSUM BOARD

BACKER ROD & SEALANT

CEILING PER REFLECTED

ACRYLOYL PANEL

STEEL STUD FRAMING,

SEE SCHED. FOR SIZE

- SCHEDULED BASE

- SEALANT, BOTH SIDES SCHEDULED FLOORING

- ACOUSTICAL ATTENUATION

BLANKETS WHERE INDICATED

PLAN

STEEL STUDS @ SECTION

STEEL STUD PARTITION - (TYPE F, G, H, J, K)

NOTE: FOR STUD GAGE SEE 'INTERIOR STEEL STUD FRAMING GAGE TABLE' TYPE 1, THIS SHEET

TAG SUPPORT TAG SIDE OPP SIDE SIZE HEIGHT RATING STC TION REMARKS

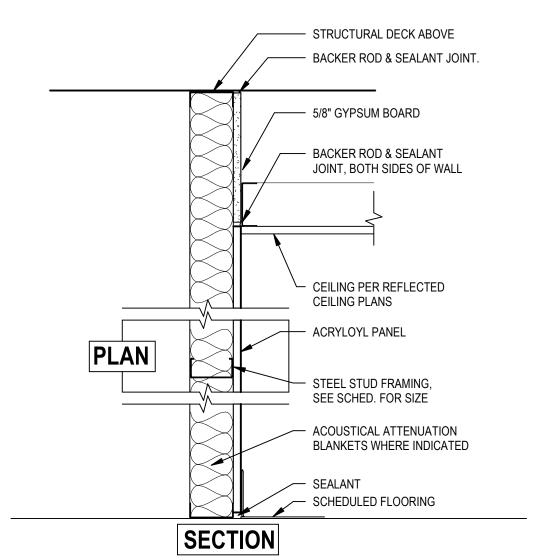
STRUCTURE AND

ARCYLOYL TO

CEILING

CEILING PLANS (WHERE PRESENT)

JOINT, BOTH SIDES OF WALL



# STEEL STUD FURRING - (TYPE A, B, C, D)

NOTE: FOR STUD GAUGE SEE 'INTERIOR STEEL STUD FRAMING GAUGE TABLE' TYPE 2, THIS SHEET

| TAG | SUPPORT  | FACING -<br>TAG SIDE | FACING -<br>OPP SIDE | ACTUAL<br>SIZE | HEIGHT        | RATING | STC | INSULA<br>TION | REMARKS |
|-----|----------|----------------------|----------------------|----------------|---------------|--------|-----|----------------|---------|
| A3  | 3 5/8"   | (1) LAYER -          | -                    | 4 1/4"         | STUDS TO      | NA     | NA  |                |         |
|     | STEEL    | 1/2"                 |                      |                | STRUCTURE AND |        |     |                |         |
|     | STUDS @  | ACRYLOYL             |                      |                | ARCYLOYL TO   |        |     |                |         |
|     | 16" O.C. | PNL                  |                      |                | CEILING       |        |     |                |         |

SEE INTERIOR STEEL STUD FRAMING GAGE CHART FOR STEEL STUD GAGES. STUDS SHALL BE 18 GAGE MINIMUM.

WALL TYPES

## **SITE GENERAL NOTES**

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS SHOWN ON PLAN, ANY DISCREPANCIES NOTICED IN FIELD SHALL BE RELAYED TO LANDSCAPE ARCHITECT/ OWNER PRIOR TO COMMENCEMENT OF WORK.

2. THE EXISTING SITE CONDITIONS AND THE UNDERGROUND UTILITIES SHOWN ARE BASED ON RECORD DRAWINGS RECEIVED. THE ARCHITECT MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE ARCHITECT FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE ARCHITECT HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THIS INCLUDES PRIVATE AND PUBLIC UTILITIES. FURTHER VERIFICATION MAY BE REQUIRED TO IDENTIFY UTILITIES NOT SHOWN HEREIN. THE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED THROUGH THE STATE'S "ONE CALL" SYSTEM OR COORDINATE WITH OWNER. FIELD VERIFY ALL SITE SPECIFIC

3. THE GENERAL CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES TO REMAIN DURING CONSTRUCTION.

4. THESE NOTES SHALL ALSO APPLY TO SHEET A1.01

(ADD ALT #4) REMOVE ROOF MEMBRANE, INSULATION AND SHEATHING TO EXPOSE STRUCTURAL DECK AS NEEDED FOR NEW WORK. (ADD ALT 1) REMOVE AND DISPOSE OF SECURITY GATE, ASSOCIATED MECHANICS & CONCRETÉ PEDISTALS / FOUNDATIONS IN PREPAIRATION FOR INSTALLATION OF NEW

(ADD ALT #4) REMOVE AND DISPOSE OF DOWNSPOUTS.

(ADD ALT #4) REMOVE AND DISPOSE OF GUTTER.

SITE DEMOLITION NOTES (A1)

SECURITY GATE ASSEMBLY AND CONCRETE SUPORT, ELECTRICAL / LOW VOLTAGE (ADD ALT 1) REMOVE AND DSIPOSE OF PAVEMENT AS REQUIRED FOR NEW PEDESTAL AND LELECTRICAL WORK. PAVEMENT REMOVALS SHALL BE ISOLATED BY SAWCUTTING FULL DEPTH. REMOVE ENTIRE PANELS AND PREPARE FOR REPLACEMENT TO MATCH

(ADD ALT #4) REMOVE PARAPET SHEET METAL COPING AND BLOCKING FOR NEW

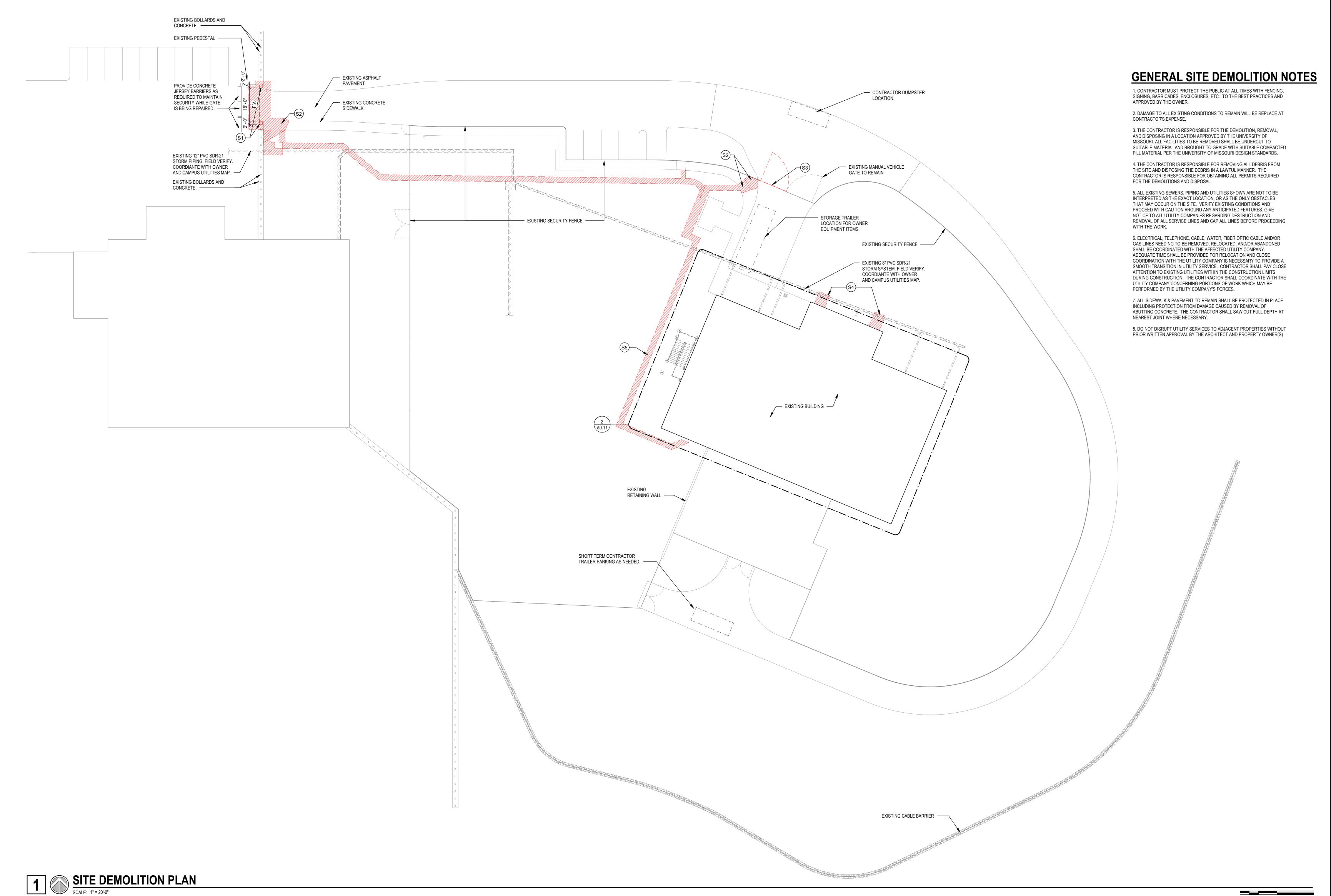
ADJACENT. (ADD ALT 5) REMOVE AND DISPOSE OF MANUAL VEHICLE GATE IN SECURITY FENCE AND PREP EXISTING FENCE FOR NEW AUTOMATIC VEHICLE SWING GATE.

(ADD ALT 4) UNEARTH EXISTING STORM PIPE AND MODIFY FOR CONNECTIONS TO EXISTING STORM SYSTEM FOR NEW DOWNSPOUTS. (ADD ALT 5) TRENCH AS REQUIRED FOR ELECTRICAL WORK. REFER TO ELECTRICAL FOR FURTHER INFORMATION.

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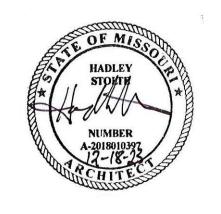
**SHEET HISTORY:** ISSUED 12/18/23 Contract Documents

# **Contract Documents**

## LIDR – Renovate West **Animal Holding, Rms** 144-149

1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

December 18, 2023



Site Demolition Plan



# DEMOLITION KEY NOTES (A1)

COORDINATE DEMOLITION WITH PHASING WORK AND SHUTDOWN OF MECHANICAL EQUIPMENT AS REQUIRED AND COORDINATED WITH OWNER. REMOVE EXISTING GYP. TEMPORARY WALL IN IT'S ENTIRETY FROM FLOOR TO TOP OF WALL TO THE EXTENT SHOWN. PREP WALL AREAS TO RECEIVE NEW ARCOPLAST WALL FINISH.

REMOVE EXISTING C.M.U. WALL PARTITION IN ITS ENTIRETY FROM FOOTING TO TOP OF WALL TO THE EXTENT SHOWN, INCLUDING BUT NOT LIMITED TO C.M.U. TRIM(S).

REMOVE EXISTING C.M.U. WALL PARTITION IN ITS ENTIRETY FROM FOOTING TO TOP OF WALL TO THE EXTENT SHOWN, INCLUDING BUT NOT LIMITED TO C.M.U., TRIM(S), ELECTRICAL, AND MECHANICAL, (STRUCTURAL STEEL TO REMAIN). REMOVE FLOOR AS NEEDED TO DEMOLISH PARTITION TO FOOTING(S). REMOVE ELECTRICAL AND MECHANICAL BACK TO JUNCTION OR MAIN SUPPLYING UTILITY AND CAP. REPAIR WALL, FLOORING, CEILING AND ADJACENT WALL(S), IF APPLICABLE, TO MATCH EXISTING FINISH, OR COORDINATE W/ NEW CONSTRUCTION & INTERIOR FINISHES.

OR COORDINATE W/ NEW CONSTRUCTION & INTERIOR FINISHES.

REMOVE EXISTING WALL PARTITION SECTION TO THE EXTENT SHOWN TO ALLOW FOR NEW DOOR OR WINDOW. COORDINATE SIZE & LOCATION W/ FLOOR PLAN. DEMOLITION SHALL INCLUDE BUT NOT BE LIMITED TO C.M.U., PLASTER OR GYP. BOARD, TRIM(S), FRAMING, ELECTRICAL, AND MECHANICAL, (STRUCTURAL STEEL TO REMAIN). REMOVE FLOOR AS NEEDED TO DEMOLISH PARTITION TO FOOTING(S). REMOVE ELECTRICAL AND MECHANICAL BACK TO JUNCTION OR MAIN SUPPLYING UTILITY AND CAP. ADJUST SUSPENSION AND/OR BRACE WALLS AS REQUIRED. REPAIR WALL, FLOORING, CEILING AND ADJACENT WALL(S), IF APPLICABLE, TO MATCH EXISTING FINISH, OR COORDINATE W/ NEW CONSTRUCTION & INTERIOR FINISHES. WALL GUARDS TO BE REMOVED AT NEW WALL DEMOLITION.

PREPARE EXISTING FINISH FLOORING AND WALL BASE FOR FULL EXTENTS OF THE ROOM TO RECIEVE NEW FINISH PER SPECIFICATIONS. ALL MOBILE EQUIPMENT AND FURNITURE SHALL BE TEMPORARILY REMOVED TO PERFORM WORK. PROVIDE EQUIPMENT AND FURNISHING STAGING PLAN AND VERIFY ACCESS TO EACH SPACE WITH OWNER PRIOR TO COMMENCEMENT OF WORK.

D-DOORS & OPENINGS

D1 REMOVE EXISTING DOOR IN ITS ENTIRETY TO THE ROUGH OPENING, INCLUDING BUT NOT LIMITED TO DOOR LEAF, DOOR FRAME, SIDELIGHT GLAZING, TRANSOM GLAZING, HARDWARE AND ALL SEALANT. PROTECT AND SALVAGE DOOR & HARDWARE, RETURN TO OWNER FOR RE-USE. PROTECT AND SALVAGE ADJACENT FINISHED SURFACES. REPAIR WALL, VAPOR BARRIER, INSULATION, FLOORING, CEILING AND ADJACENT WALL(S), IF APPLICABLE, TO MATCH EXISTING FINISH, OR COORDINATE W/ NEW CONSTRUCTION & INTERIOR FINISHES.

G1 (ADD ALT #4) REMOVE PARAPET SHEET METAL COPING AND BLOCKING FOR NEW CONSTRUCTION

G2 (ADD ALT #4) REMOVE AND DISPOSE OF DOWNSPOUTS.

G3 (ADD ALT #4) REMOVE AND DISPOSE OF GUTTER.
G4 (ADD ALT #4) REMOVE ROOF MEMBRANE, INSULATION AND SHEATHING TO EXPOSE STRUCTURAL DECK AS NEEDED FOR NEW WORK.

# **GENERAL DEMOLITION NOTES**

- . THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL OF ALL SALVAGEABLE ITEMS.
- PROTECT ITEMS NOT BEING REMOVED FROM DAMAGE DURING CONSTRUCTION.
- CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS PRIOR TO BIDDING TO DETERMINE THE TOTAL QUANTITIES AND SCOPE OF WORK THAT IS TO OCCUR AND COORDINATE ANY DISCREPANCIES WITH THE ARCHITECT.
- 4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE INSTALLATION OF NEW WORK WITHIN EXISTING CONDITIONS
- 5. ALL MATERIALS REMOVED AND NOT REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFICALLY DESIGNATED TO REMAIN THE PROPERTY OF THE
- 6. ALL WALLS INDICATED TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY INCLUDING ALL ELECTRICAL RECEPTACLES, SWITCHES AND CONDUITS, TELEPHONE OUTLETS, WIRING, MECHANICAL PIPING, AND PLUMBING, ETC.
- 7. REMOVE ALL SURFACE MOUNTED OBJECTS IN AREA OF WORK THAT ARE ABANDONED AND NOT INTENDED FOR REUSE. PREPARE SURFACE FOR NEW FINISH.
- 8. COORDINATE ALL DEMOLITION WORK BETWEEN TRADES.
- 9. CONTRACTOR SHALL NOTIFY THE ARCHITECT IF DEMOLITION WORK APPEARS TO AFFECT THE STRUCTURAL INTEGRITY OF THE EXISTING BUILDING BEFORE PROCEEDING WITH DEMOLTION ACTIVITIES.
- 10. REFER TO REFLECTED CEILING PLANS, MECHANICAL SHEETS, & ELECTRICAL SHEETS FOR ADDITIONAL DEMOLITION INFORMATION.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING MATERIALS TO REMAIN RESULTING FROM WORK UNDER THIS CONTRACT, AND SHALL RESTORE SUCH DAMAGE TO IT'S ORIGINAL CONDITION.
- 12. BEFORE DEMOLITION BEGINS, CONTRACTOR SHALL CONFER WITH THE OWNER AND/OR BUILDING USERS TO SCHEDULE DISRUPTION OF DAILY ACTIVITIES.
- 3. ALL PRODUCTS AND EQUIPMENT SHALL BE KEPT CLEAN AND SAFE.
  DISPOSE OF DEBRIS DAILY AND CLEAN AREAS OF WORK UPON
  COMPLETION
- 4. CONSTRUCTION AREA SHALL BE KEPT CLEAN AND SAFE. DISPOSE OF DEBRIS DAILY AND CLEAN AREAS OF WORK UPON COMPLETION
- FINAL CLEANING SHALL INCLUDE THE FOLLOWING:

  A. REMOVE LABELS THAT ARE NOT INTENDED TO BE
- PERMANENT.

  B. CLEAN ALL TRANSPARENT SURFACES, INCLUDING MIRRORS AND GLASS IN DOORS AND WINDOWS.

  C. CLEAN EXPOSED SURFACES AND INTERIOR HARD-SURFACED FINISHES TO A DUST-FREE CONDITION
- REMOVE AND DISPOSE OF EXISTING WALL GUARD/BUMPER PROTECTION @ DEMOLITION LOCATIONS AND WHERE NEW FINISH WALL CONSTRUCTION TO OCCUR.

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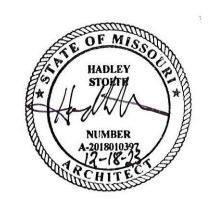
SHEET HISTORY:
ISSUED 12/18/23 Contract Documents

**Contract Documents** 

# LIDR – Renovate West Animal Holding, Rms 144-149

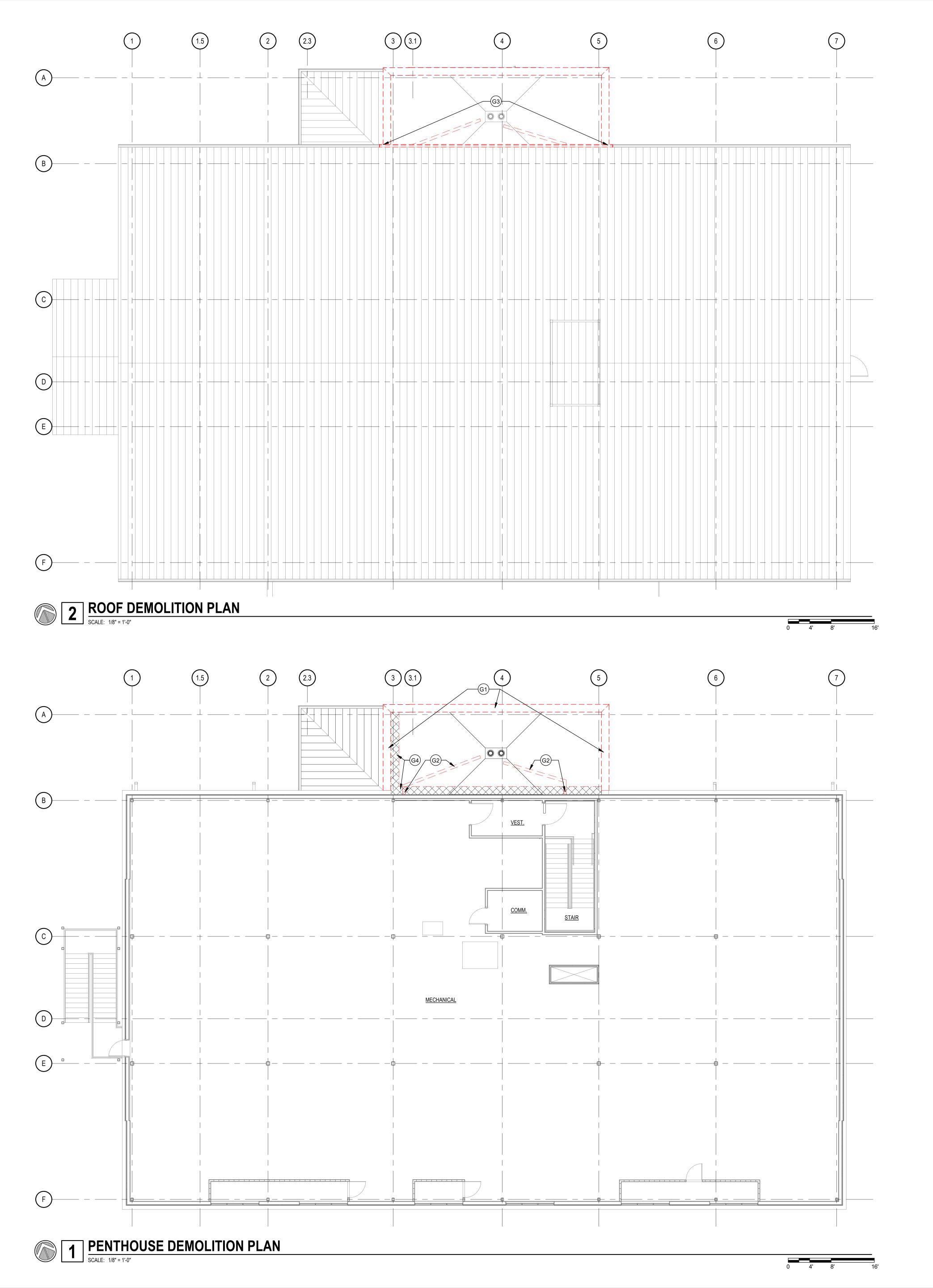
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December 18, 2023



First Floor and First Floor Reflected Ceiling Demolition Plans

A0.10



# DEMOLITION KEY NOTES (A1)

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# **Contract Documents**

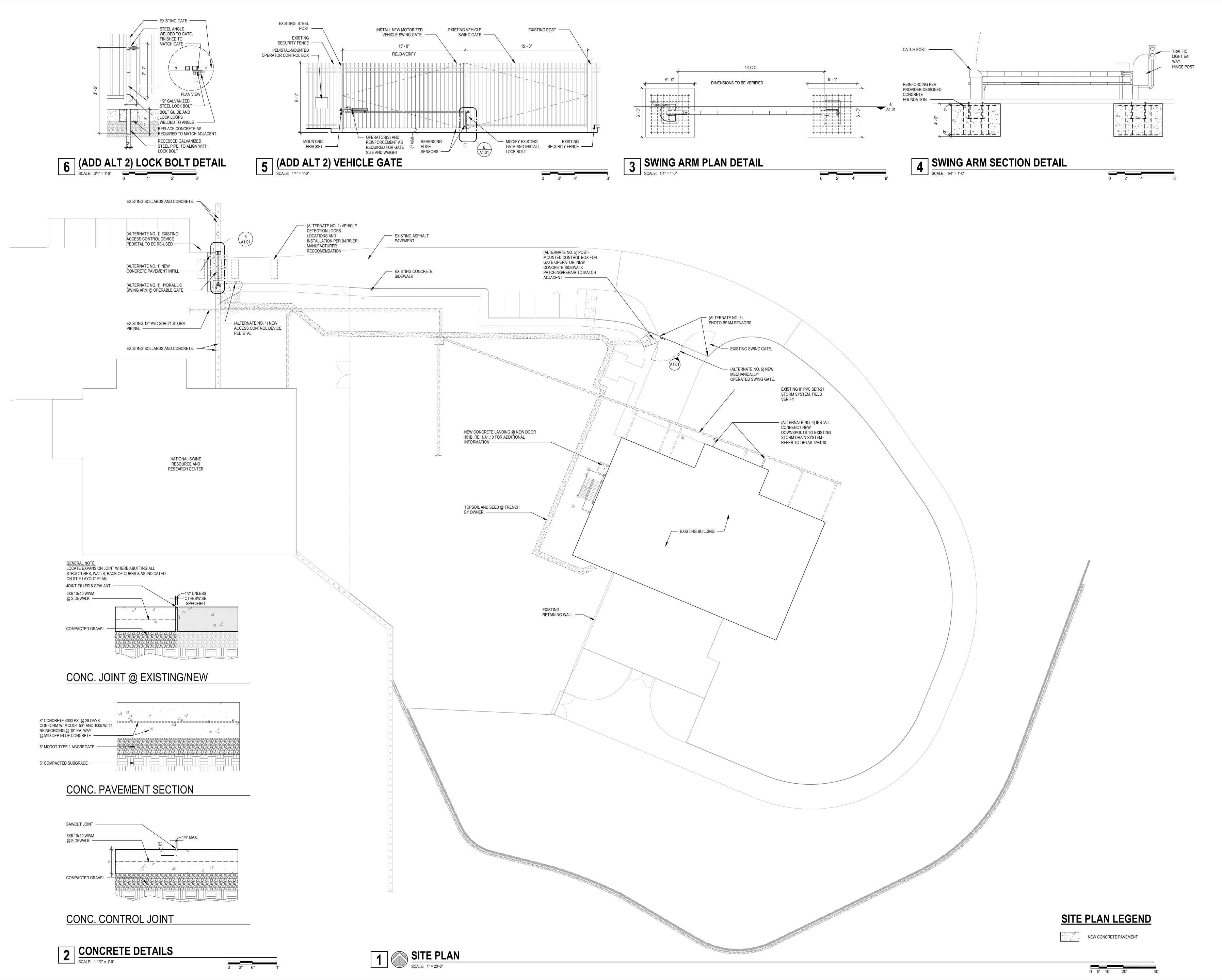
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Penthouse and Roof **Demolition Plans** 



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SHEET HISTORY:

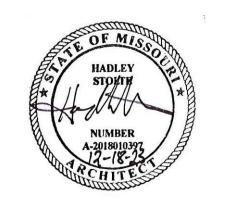
12/18/23 Contract Documents

# **Contract Documents**

LIDR – Renovate West Animal Holding, Rms 144-149

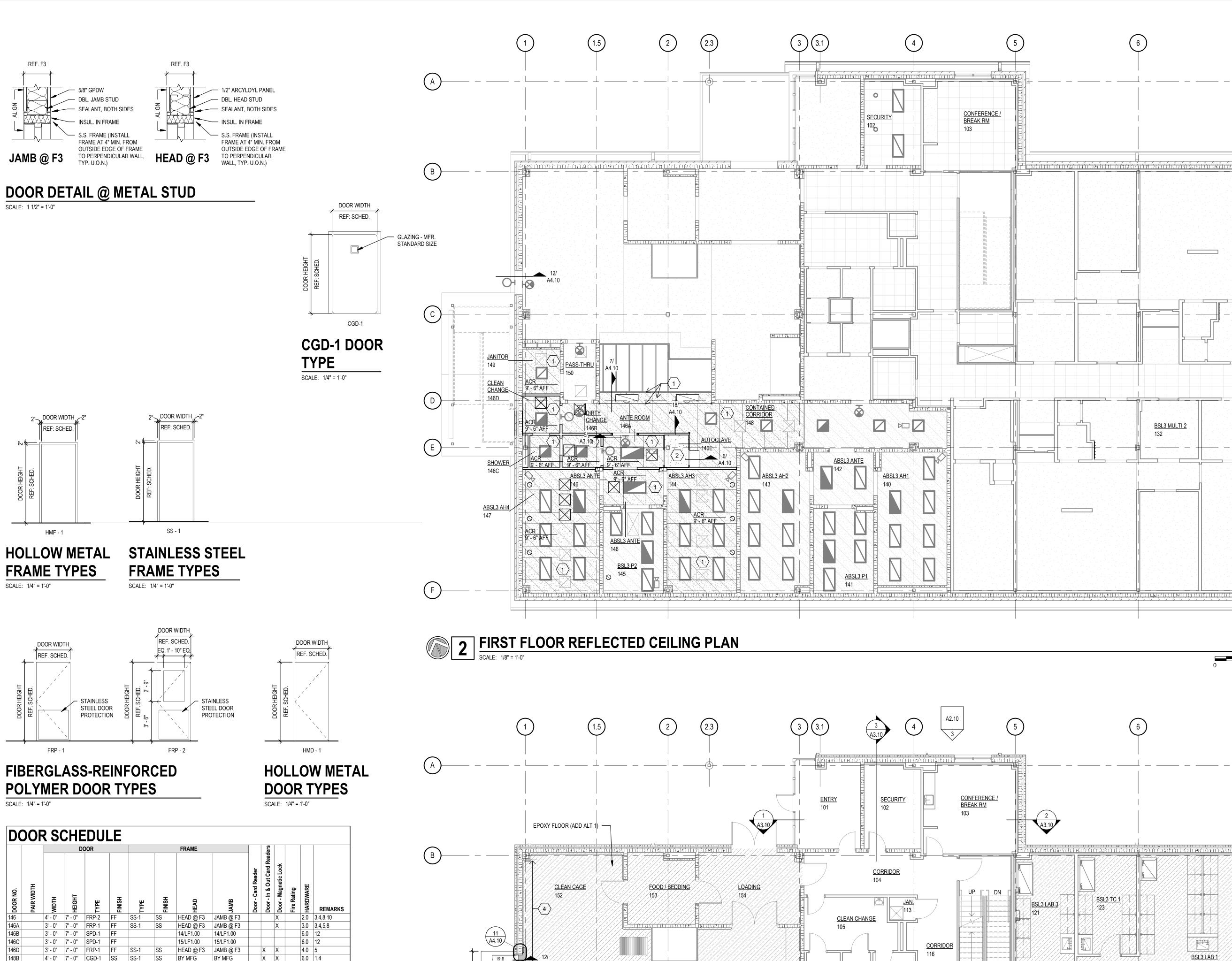
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December 18, 2023



Site Plan

A1.01



1 FIRST FLOOR PLAN

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

7/A3.10

**EXISTING DOOR SCHEDULE** 

DOOR SCHEDULE REMARKS

INTER LOCK CONNECTION BETWEEN DOORS: 146, 146A, 148B

REQUIRES A MANUAL OFFSET AIR ORIFICE, RE: 5/A4.10, RE: MECH

TIE INTO EXISTING MAG LOCK CONNECTION BETWEEN DOORS: 144, 145, 147

SOLID PLASTIC DOOR W/ SELF-CLOSING DOOR HINGE W/ STAINLESS STEEL HARDWARE.

PUSH LEVER OPENERS, SS KICK PLATE, FRAME PROTECTION

INTER LOCK CONNECTION BETWEEN DOORS: 146A, 146D.

NO NEW WORK

ABBREVIATIONS FF: FACTORY FINISH

SS: STAINLESS STEEL

HMD: HOLLOW METAL DOOR

HMF: HOLLOW METAL FRAME

SPD: SOLID PLASTIC DOOR

CGD: COMPRESSION GASKET DOOR

FRP: FIBERGLASS-REINFORCED POLYMER

SPECIALIZED DOOR ASSEMBLY, PNEUMATIC SEAL ON JAMB AND HEAD

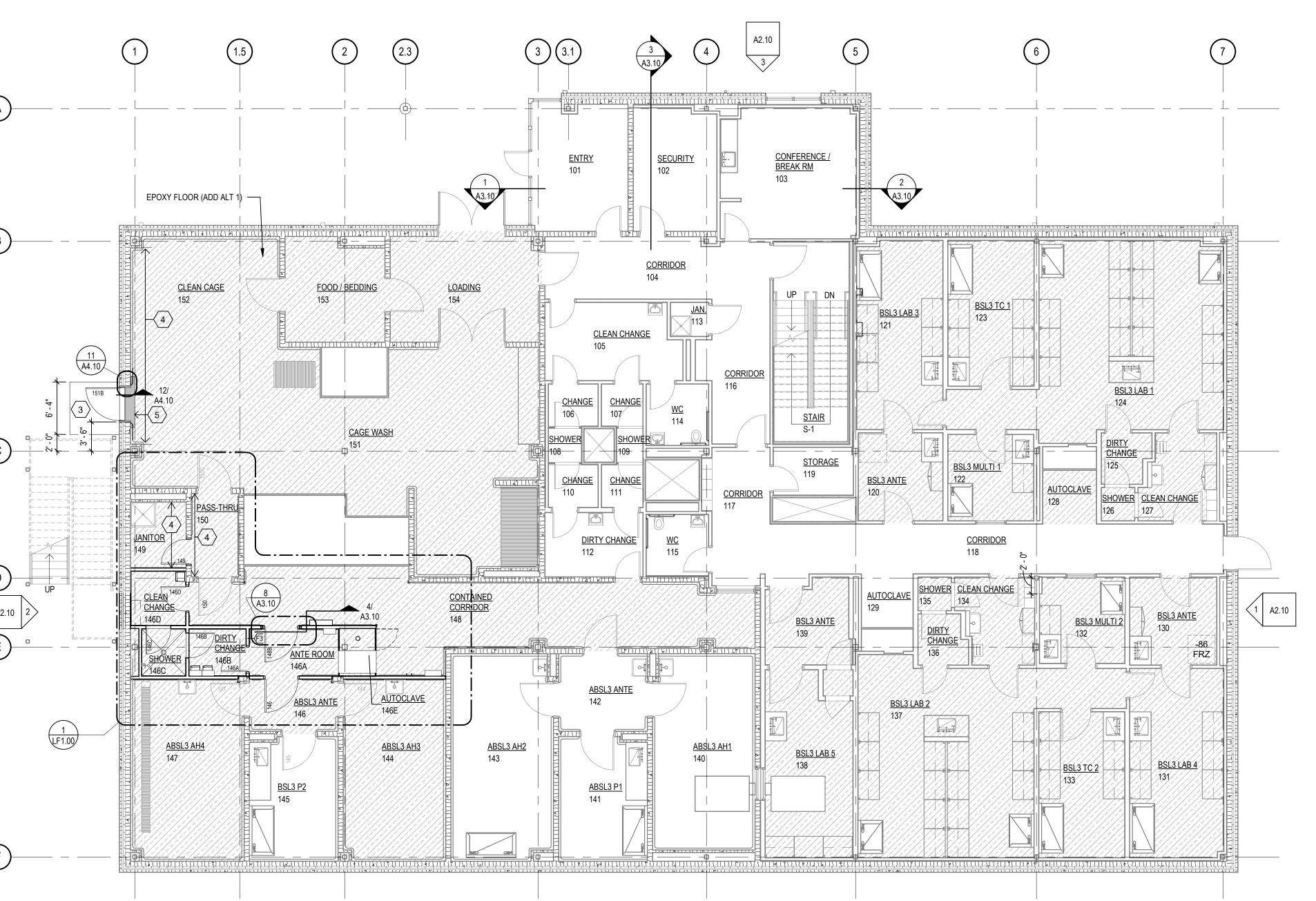
PUSH LEVER OPENERS, FULL GASKET, AUTOMATIC DOOR BOTTOM, SS KICK PLATE, FRAME PROTECTION

DOOR POSITION SWITCH, 15SEC DELAY ON PUSH BAR EXIT, EXTERIOR SIDE TO HAVE CYLINDER WITH NO PULL

CARD READER FUNCTION TO BE DEACTIVATED - ADD REQUEST TO EXIT IN EXITING JUNCITON AND INTERFACE W/ EXIST. MAG.

EXISTING CARD READER ON 151 SIDE AND NEW CARD READER TO BE ADDED TO 150 SIDE

7/A3.10 SIM



# **KEY NOTES**

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**SHEET HISTORY:** 

ISSUED 12/18/23 Contract Documents

**Contract Documents** 

**LIDR – Renovate West** 

**Animal Holding, Rms** 

1020 East Campus Loop

University of Missouri

Columbia, MO 65211 CE No.: 624-216-22

UM No.: CP220692

December 18, 2023

144-149

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INSTALL ARCOPLAST CEILING ON EXISTING CEILING FRAMING CONTRCTOR SHALL REPAIR, REPLACE, AND PROVIDE NEW CEILING FRAMING AS REQUIRED FOR NEW WORK. SEAL FULL PERIMETER AND ALL PENETRATIONS PER ABSL 3 REQUIREMENTS. REFER TO SPECIFICATIONS FOR REQUIREMENTS FOR SEALING. INSTALL MOISTURE-RESISTIVE 5/8" TYPE X DRYWALL; LEVEL 1 FINISH NEW 5" CONCRETE PAD W/ 6X6 2.1x2.1 WWF

4 RE-PAINT FULL WALL W/ EPOXY COATING @ NEW DOOR INSTALL

5 PATCH/REPAIR EPOXY FLOOR AND BASE @ WALL DEMOLITION

# **RCP GENERAL NOTES:**

NEW CEILINGS IN EXISTING BUILDING SHALL BE INSTALLED AT EXISTING HEIGHT, FIELD VERIFY PRIOR TO DEMOLITION.

- GPDW BULKHEADS SHALL BE FRAMED WITH 25 GAUGE 3 5/8" STEEL STUDS @ 16" O.C. AND 5/8" TYPE 'X' GPDW TO 6" ABOVE FINISH CEILING. BRACE AS REQUIRED.
- LIGHTING FIXTURES AND MECHANICAL DIFFUSERS / GRILLES ARE SHOWN FOR REFERENCE ONLY, SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR EXACT LOCATIONS
- ELEVATION TAGS ARE IN REFERENCE TO ARCHITECTURAL

| REFLE      | ECTED CLG LEGEND  |
|------------|---|
|            | 5/8" SUSPENDED GPDW CEILING SYSTEM  |
| #          | ACOUSTICAL PANEL CEILING SYSTEM. SEE ROOM FINISH SCHEDULE & RCP FOR TYPE. |
|            | ACRYLOYL CEILING SYSTEM. REF: SPEC.                                       |
| AP         | 2x2 ACCESS PANEL. REF: SPEC.  |
|            | RETURN AIR / EXHAUST AIR GRILLE, REF: MECHANICAL                          |
|            | SUPPLY AIR DIFFUSER, REF: MECHANICAL.                                     |
| $\bigcirc$ | RETURN AIR / EXHAUST AIR, REF: MECHANICAL                                 |
|            |   |

LIGHT FIXTURE, REF: ELECTRICAL

# **RCP ABBREVIATIONS**

ACR - ACRYLOYL CEILING SYSTEM APC - ACOUSTICAL PANEL CEILING GPDW - GYPSUM DRY WALL

# **EXISTING CEILING MATERIAL**

ACRYLOYL CEILING PANELS FOR USE IN NEW INSTALLATION: - 11 - 4X8' PANELS - 2 - 4X12' PANELS - 15 - 4X14' PANELS CONFIRM QUANTITIES WITH OWNER

# Floor Finish Legend

# EPOXY

FLOOR FINISH NOTES:

1. IF HATCHED AREA EXTENDS UNDERNEATH COUNTERTOP, SINK, OR EQUIPMENT, FLOOR AREA IS INTENDED TO RECIEVE NEW FLOOR FINISH; EXISTING FIXED SINK BASE CABINETS AND CASEWORK ARE TO REMAIN IN PLACE AND HAVE NEW BASE APPLIED, ALL OTHER COUNTERTOP SUPPORTS AND EQUIPMENT SHALL BE REMOVED AND REINSTALLED AS REQURIED TO PROVIDE NEW FLOOR FINISH. 2. OWNER-SUPPLIED EXITING MATERIALS TO BE UTILIZED TO EXTENT POSSIBLE

- TWO (2) 50 GAL PART A EPOXY RESIN TNEMEC SERIES 222, 223, 224, 284, 285 - TWO (2) 1 GAL PART C SERIES 248 EVERTHANE ALIPHÀTÍC URETHANE. - 320' 24" WIDE ROLLED FLOOR PROTECTION CONFIRM QUANTITIES WITH OWNER

# **GENERAL PLAN NOTES**

THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS SHOWN ON THE PLANS PRIOR TO COMMENCEMENT OF THE WORK. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE INSTALLATION OF NEW WORK WITHIN THESE EXISTING CONDITIONS. ANY DEVIATIONS IN EXISTING CONDITIONS OR DIMENSIONS INDICATED SHALL BE COORDINATED WITH THE ARCHITECT AND OWNER.

- ALL WALL / GENERAL PLAN DIMENSIONS ARE TO FACE OF MASONRY, FACE OF CONCRETE, AND TO FACE OF GYP. BOARD, TYP.
- CONSTRUCTION OF WALLS ARE DESIGNATED STARTING ON TAG SIDE OF WALL.
- ALL INTERIOR WALL FRAMING NOTED IN WALL TYPE SCHEDULE EXTENDS TO STRUCTURAL DECKING, BRACE AS REQUIRED. PROVIDE DEEP LEG SLIP TRACK AT TOP OF ALL INTERIOR WALLS / STUDS EXTENDING TO STRUCTURE TO ALLOW FOR DEFLECTION OF
- INTERIOR DOOR FRAMES SHALL BE INSTALLED WITH THE HINGE SIDE OF DOOR FRAME 4" FROM ADJACENT WALL, UNLESS OTHERWISE DIMENSIONED.
- ALL STEEL STUDS ARE MIN. 18 GA. UNLESS NOTED OTHERWISE. 20 GA STEEL STUDS REQUIRED AT ALL CEMENTITIOUS BACKER BOARD AND ABUSE RESISTANT GYPSUM BOARD AS SPECIFIED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PRICING AND INSTALLATION OF APPROPRIATE FRAMING NEEDED FOR WALLS HEIGHT. REFER TO "INTERIOR STEEL STUD FRAMING GAGE TABLE (1)" ON SHEET A0.00 FOR FRAMING GAGES AND STUD SIZING
- REFER TO EXISTING CODE COMPLIANCE PLANS FOR LOCATION OF FIRE RATED WALLS AND SMOKE SEPARATION WALL LOCATIONS AND REQUIREMENTS.
- ALL OPENINGS IN RATED ASSEMBLIES SHALL BE SEALED WITH FIRE SMOKE RATED MATERIALS AND ASSEMBLIES. INSTALL RATED JOINT SEALANTS AT BOTH FACES OF PARTITIONS, AT PERIMETERS, AND THROUGH FIRE RATED ASSEMBLIES. REFERENCE CODE COMPLIANCE PLANS FOR LOCATION OF RATED ASSEMBLIES.
- ALL STC-RATED WALL ASSEMBLIES AND PARTITIONS INDICATED SHALL HAVE STAGGERED SHEATHING AND GYP. BOARD JOINTS ON OPPOSITE SIDES OF ASSEMBLIES. REFERENCE WALL TYPE SCHEDULE FOR SOUND ATTENUATION INSULATION REQUIRED WITHIN STUD CAVITIES. SEAL ASSEMBLIES AT CONSTRUCTION PERIMETERS, DECKING MATERIAL (TOP & BOTTOM), BEHIND CONTROL JOINTS, AND AT ALL OPENINGS AND PENETRATIONS WITH A CONTINUOUS BEAD OF ACOUSTICAL JOINT SEALANT. INSTALL
- GENERAL CONTRACTOR SHALL COORDINATE REPAINTING OF WALLS BETWEEN SUBCONTRACTORS AFTER EXISTING FIXTURES ARE SCHEDULED TO BE REMOVED AND PRIOR TO FIXTURES BEING

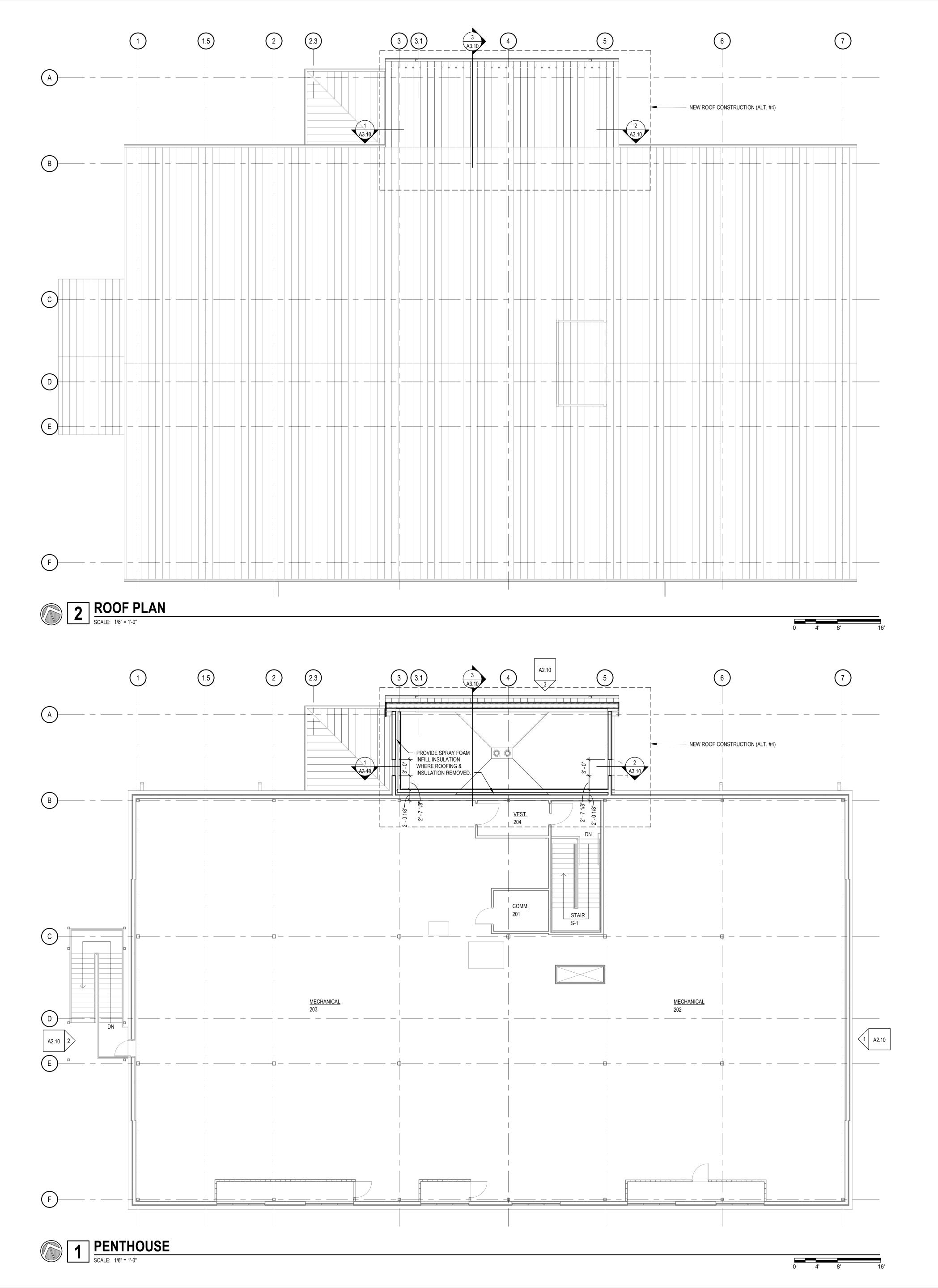
ACOUSTICAL JOINT SEALANTS AT BOTH FACES OF ASSEMBLIES

- REINSTALLED. REFER TO ELECTRICAL & MECHANICAL PLANS. ALL WALL BOARD IN MECHANICAL ROOMS SHALL BE MOLD &
- MOISTURE RESISTANT DRYWALL. 13. ALL SINK PEDALS WITHIN SCOPE ARE TO BE REMOVED AND
- ALL CRASH GUARDS WITHIN SCOPE ARE TO BE REMOVED AND

REINSTALLED

Reflected Ceiling Plans

First Floor and First Floor



# **GENERAL PLAN NOTES**

- 1. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS SHOWN ON THE PLANS PRIOR TO COMMENCEMENT OF THE WORK. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE INSTALLATION OF NEW WORK WITHIN THESE EXISTING CONDITIONS. ANY DEVIATIONS IN EXISTING CONDITIONS OR DIMENSIONS INDICATED SHALL BE COORDINATED WITH THE ARCHITECT AND OWNER.
- 2. ALL WALL / GENERAL PLAN DIMENSIONS ARE TO FACE OF MASONRY, FACE OF CONCRETE, AND TO FACE OF GYP. BOARD, TYP.
- CONSTRUCTION OF WALLS ARE DESIGNATED STARTING ON TAG SIDE OF WALL.
- 4. ALL INTERIOR WALL FRAMING NOTED IN WALL TYPE SCHEDULE EXTENDS TO STRUCTURAL DECKING, BRACE AS REQUIRED. PROVIDE DEEP LEG SLIP TRACK AT TOP OF ALL INTERIOR WALLS / STUDS EXTENDING TO STRUCTURE TO ALLOW FOR DEFLECTION OF STRUCTURE.
- INTERIOR DOOR FRAMES SHALL BE INSTALLED WITH THE HINGE SIDE OF DOOR FRAME 4" FROM ADJACENT WALL, UNLESS OTHERWISE DIMENSIONED.
- 6. ALL STEEL STUDS ARE MIN. 18 GA. UNLESS NOTED OTHERWISE. 20 GA STEEL STUDS REQUIRED AT ALL CEMENTITIOUS BACKER BOARD AND ABUSE RESISTANT GYPSUM BOARD AS SPECIFIED.
- 7. CONTRACTOR SHALL BE RESPONSIBLE FOR PRICING AND INSTALLATION OF APPROPRIATE FRAMING NEEDED FOR WALLS HEIGHT. REFER TO "INTERIOR STEEL STUD FRAMING GAGE TABLE (1)" ON SHEET A0.00 FOR FRAMING GAGES AND STUD SIZING REQUIREMENTS.
- 8. REFER TO EXISTING CODE COMPLIANCE PLANS FOR LOCATION OF FIRE RATED WALLS AND SMOKE SEPARATION WALL LOCATIONS AND REQUIREMENTS.
- 9. ALL OPENINGS IN RATED ASSEMBLIES SHALL BE SEALED WITH FIRE / SMOKE RATED MATERIALS AND ASSEMBLIES. INSTALL RATED JOINT SEALANTS AT BOTH FACES OF PARTITIONS, AT PERIMETERS, AND THROUGH FIRE RATED ASSEMBLIES. REFERENCE CODE COMPLIANCE PLANS FOR LOCATION OF RATED ASSEMBLIES.
- 10. ALL STC-RATED WALL ASSEMBLIES AND PARTITIONS INDICATED SHALL HAVE STAGGERED SHEATHING AND GYP. BOARD JOINTS ON OPPOSITE SIDES OF ASSEMBLIES. REFERENCE WALL TYPE SCHEDULE FOR SOUND ATTENUATION INSULATION REQUIRED WITHIN STUD CAVITIES. SEAL ASSEMBLIES AT CONSTRUCTION PERIMETERS, DECKING MATERIAL (TOP & BOTTOM), BEHIND CONTROL JOINTS, AND AT ALL OPENINGS AND PENETRATIONS WITH A CONTINUOUS BEAD OF ACOUSTICAL JOINT SEALANT. INSTALL ACOUSTICAL JOINT SEALANTS AT BOTH FACES OF ASSEMBLIES
- 11. GENERAL CONTRACTOR SHALL COORDINATE REPAINTING OF WALLS BETWEEN SUBCONTRACTORS AFTER EXISTING FIXTURES ARE SCHEDULED TO BE REMOVED AND PRIOR TO FIXTURES BEING REINSTALLED. REFER TO ELECTRICAL & MECHANICAL PLANS.
- 12. ALL WALL BOARD IN MECHANICAL ROOMS SHALL BE MOLD & MOISTURE RESISTANT DRYWALL.
- 13. ALL SINK PEDALS WITHIN SCOPE ARE TO BE REMOVED AND REINSTALLED
- ALL CRASH GUARDS WITHIN SCOPE ARE TO BE REMOVED AND REINSTALLED

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SHEET HISTORY:

ISSUED 12/18/23 Contract Documents

# **Contract Documents**

# LIDR – Renovate West Animal Holding, Rms 144-149

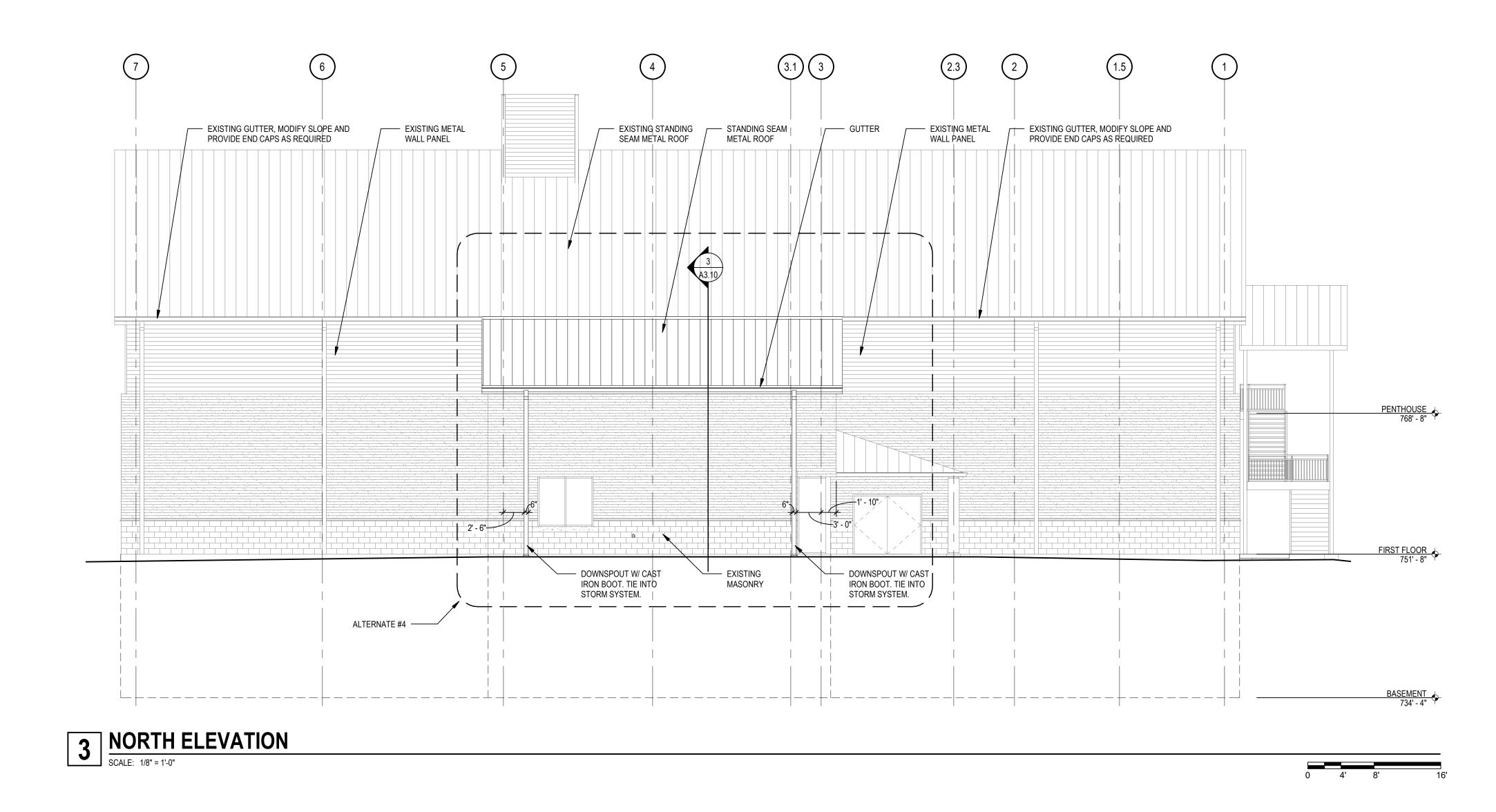
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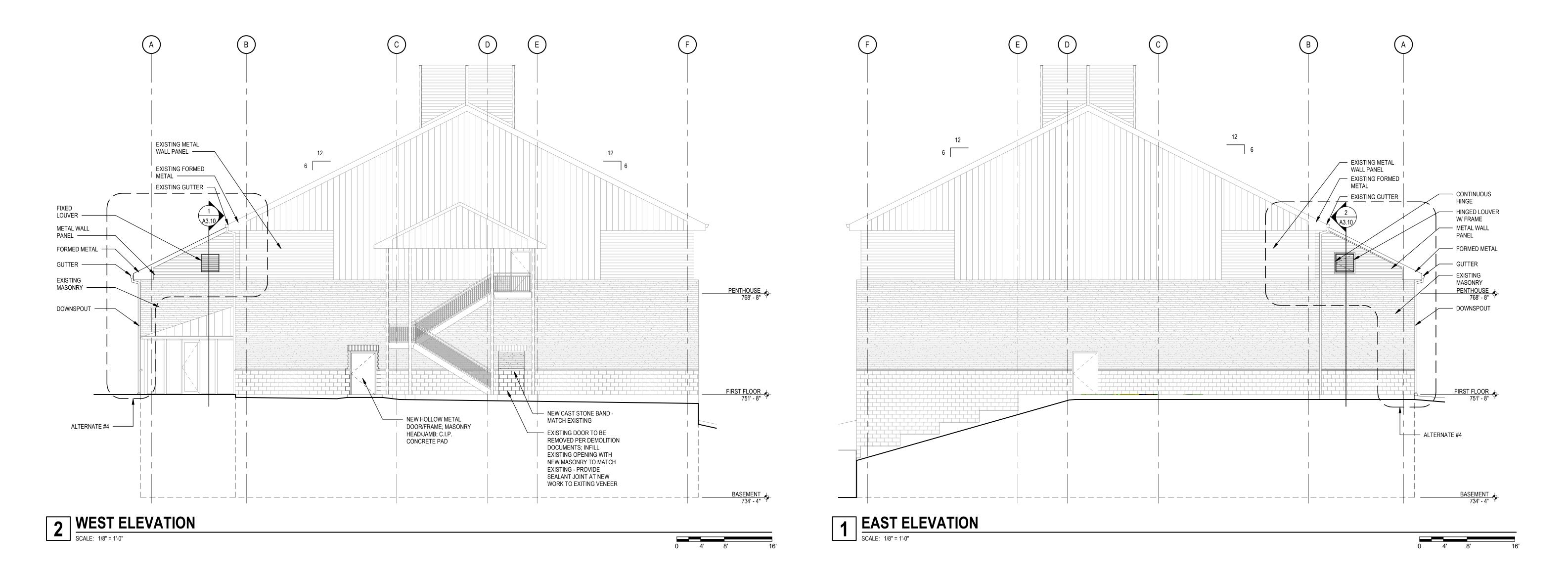
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Penthouse and Roof Plans

A1.11





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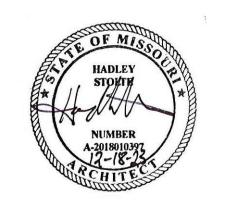
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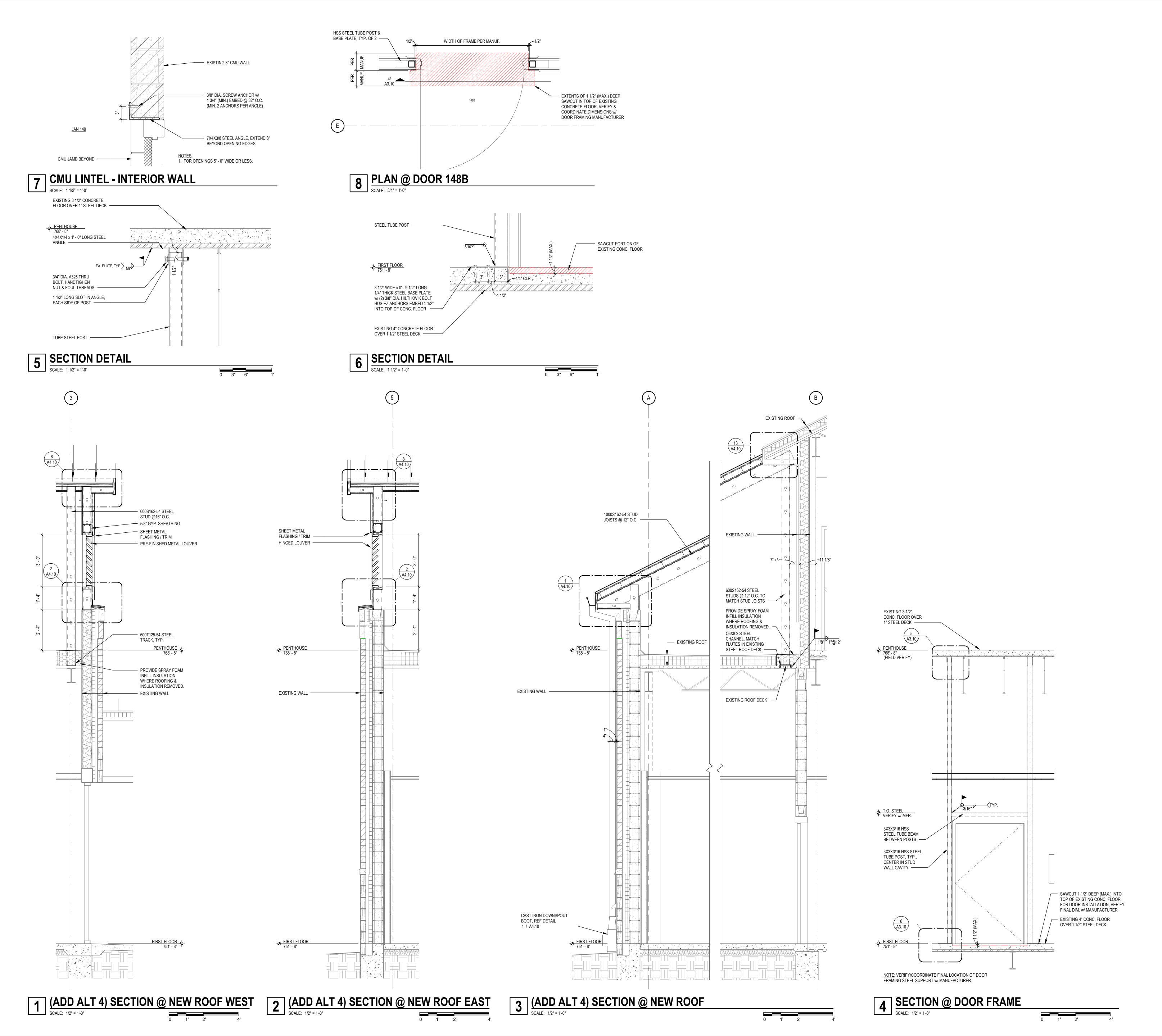
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**Exterior Elevations** 

A2.10



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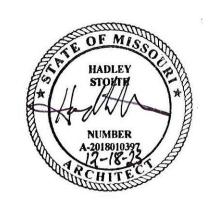
12/18/23 Contract Documents

# **Contract Documents**

# LIDR – Renovate West Animal Holding, Rms 144-149

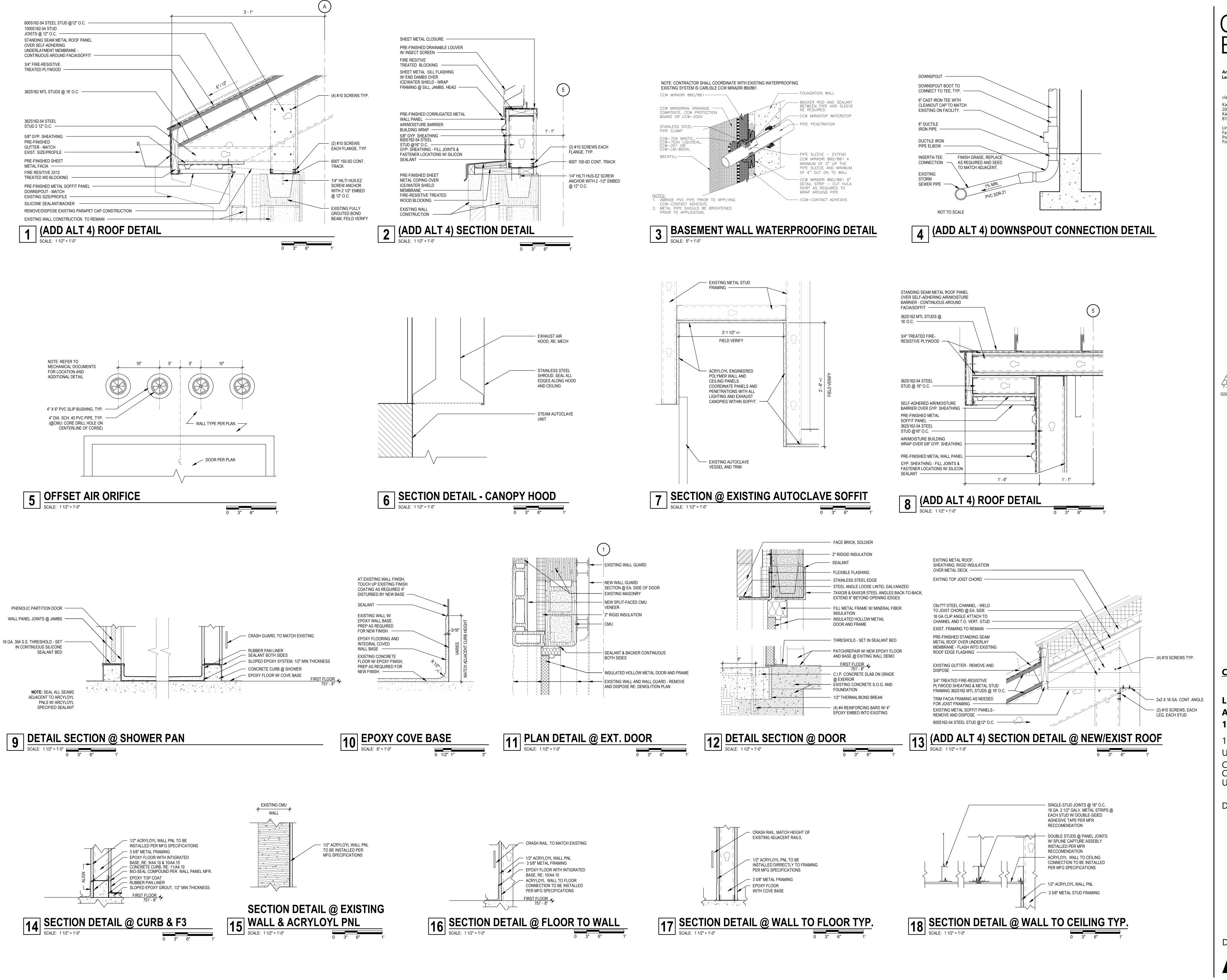
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Wall Sections

A3.10



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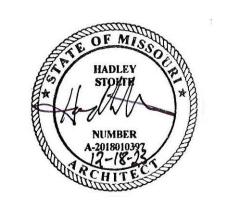
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**Contract Documents** 

LIDR – Renovate West Animal Holding, Rms 144-149

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Details

A4.10

# **LABORATORY FURNISHINGS GENERAL NOTES:**

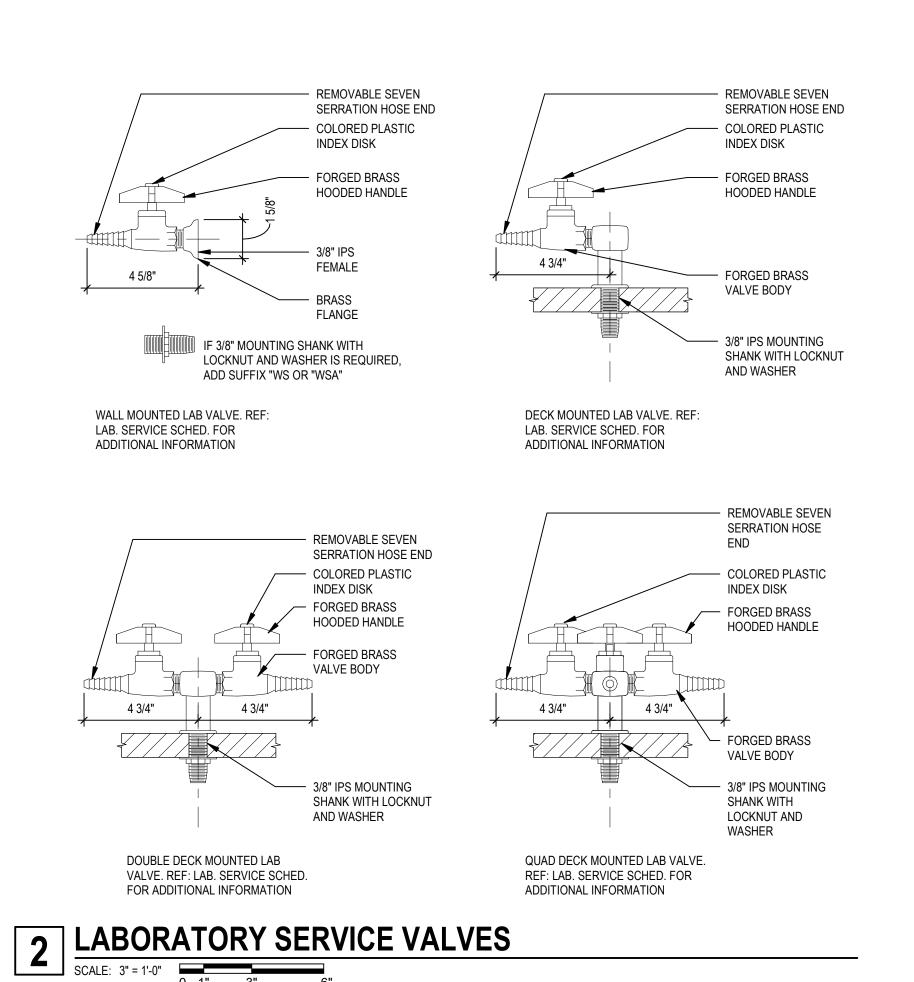
- 1. COORDINATE ALL WORK WITH ARCHITECTURAL, ELECTRICAL & MECHANICAL.
- 2. ALL LOOSE EQUIPMENT SHALL BE PROVIDED BY OWNER, UNLESS NOTED OTHERWISE.
- ENLARGED PLAN DIMENSIONS ARE TO EDGE OF COUNTER AND FINISHED FACE OF WALL.
   CABINET, PENINSULA AND ISLAND DEPTH DIMENSIONS IN ELEVATION ARE TO FACE OF CABINET.
- 5. ALL COUNTERTOPS SHALL BE EPOXY RESIN, UNLESS NOTED OTHERWISE.
- 6. ALL COUNTERTOPS AT LAB SINKS SHALL HAVE AN INTEGRAL MARINE EDGE AS SHOWN.
- 7. ALL MARKER BOARDS, TACK BOARDS, PROJECTORS, PROJECTION SCREENS, FIRE EXTINGUISHER CABINETS AND CORNER GUARDS SHALL BE PROVIDED BY TRADES OTHER THAN LAB CASEWORK SUPPLIER. SEE SPECIFICATIONS.
- LAB SERVICE FIXTURES ARE LABELED AS FOLLOWS (NAMED ACCORDING TO TYPE):

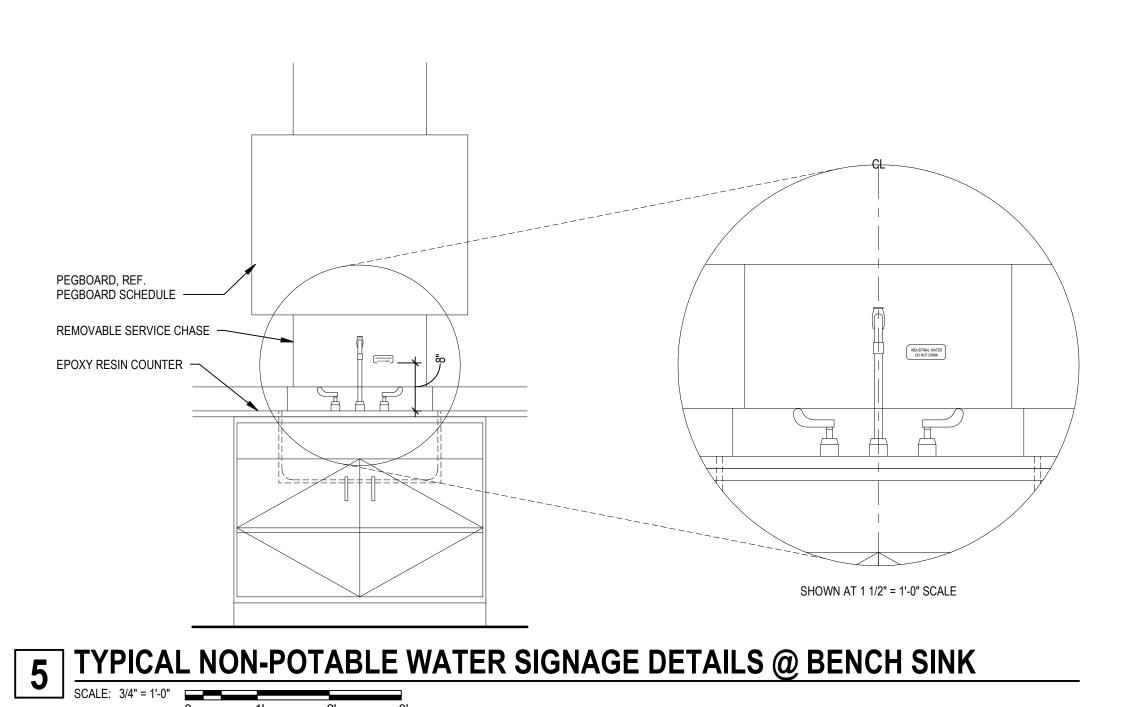
   LV-1 (SINGLE DECK MOUNT)
   LA-2 (DOUBLE DECK MOUNT)
- LG-3 (WALL MOUNT)
  SEE SPECIFICATIONS FOR ADDITIONAL FINISH INFORMATION.
- 9. ALL PAINTED METAL FINISHES SHALL MATCH, UNLESS NOTED OTHERWISE.
- 10. PROVIDE WOOD BLOCKING IN ALL WALLS FOR ANCHORING OF UPPER CABINETS. COORDINATE WITH GENERAL CONTRACTOR.
- 11. ALL PAPER TOWEL AND SOAP DISPENSERS SHALL BE PROVIDED BY OWNER, UNLESS NOTED OTHERWISE.
- 12. PROVIDE FULL WIDTH, REMOVABLE DRIP TRAY AT BASE OF ALL SINK CABINETS.
- 13. FIELD VERIFY ALL ROUGH OPENING DIMENSIONS.
- 14. FLOOR FINISH SHALL BE CONTINUOUS BELOW CASEWORK AND WALL BASE SHALL BE CONTINUOUS BEHIND CASEWORK, UNLESS OTHERWISE NOTED. REF: FINISH SCHEDULE FOR ROOM FINISHES.
- 15. COORDINATE WITH TOILET ACCESSORY SCHEDULE FOR PAPER TOWEL DISPENSERS.
- 16. CRASH RAIL TO MATCH EXISTING, HOLD BACK 4", TYPICAL, FROM EDGE OF WALL SURFACE
- 17. STAINLESS STEEL CORNER GAURD, RE: SPEC

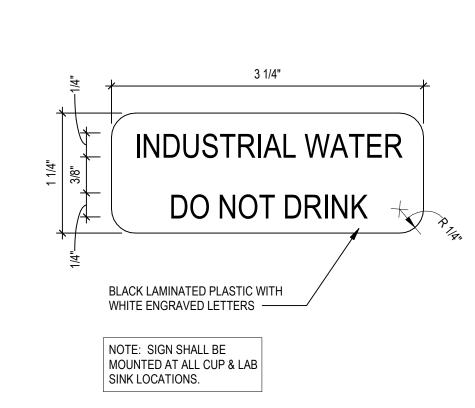
| ABBREVIATIONS: |                               |
|----------------|-------------------------------|
| LA             | LAB AIR                       |
|                | LAB GAS                       |
| LV             | LAB VACUUM                    |
| LS             | LAB STEAM                     |
| FH             | FUME HOOD                     |
| SS             | STAINLESS STEEL               |
| EQUIP          | EQUIPMENT                     |
|                | EYE WASH                      |
| DT             | DIRT TRAP                     |
| ST             |                               |
|                | FLOOR DRAIN                   |
|                | REVERSE OSMOSIS               |
|                | DEIONIZED WATER               |
| _              | COLD WATER                    |
|                | HOT WATER                     |
| SSHR           |                               |
|                | LAB SINK                      |
| CS             | CUP SINK PEGBOARD DRYING RACK |
| BSC            |                               |
| ER             |                               |
| EB             |                               |
| CRG            |                               |
|                | CORNER GUARD                  |
| • •            | COAT HOOK                     |
| SSSH           |                               |
| WB             | BIN                           |
|                |                               |

LAB SINK S BASIN

| 3OR    | ORATORY SINK SCHEDULE |      |     |            |       |       |          |       |       |    |    |      |          |        |
|--------|-----------------------|------|-----|------------|-------|-------|----------|-------|-------|----|----|------|----------|--------|
|        | TY                    | PΕ   |     | DIMENSIONS |       |       |          | LAB   | LAB   |    |    |      |          |        |
| SINGLE | DOUBLE                | CUP  |     |            |       |       |          | HOT   | COLD  |    |    | EYE  |          |        |
| BASIN  | BASIN                 | SINK | ADA | LENGTH     | WIDTH | DEPTH | MATERIAL | WATER | WATER | DI | RO | WASH | REMARKS  | Mark   |
|        |                       | ·    |     |            | ·     | ·     |          | Х     | Χ     | ·  | ·  | Х    | EXISTING | S2-(E) |
|        |                       |      |     |            |       |       |          | Χ     | Х     |    |    | Х    | FXISTING | S1-(F) |







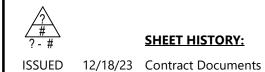
6 TYPICAL PLASTIC NON-POTABLE WATER SIGN



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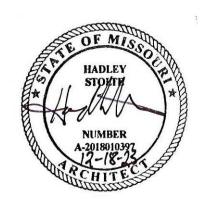


# **Contract Documents**

LIDR – Renovate West Animal Holding, Rms 144-149

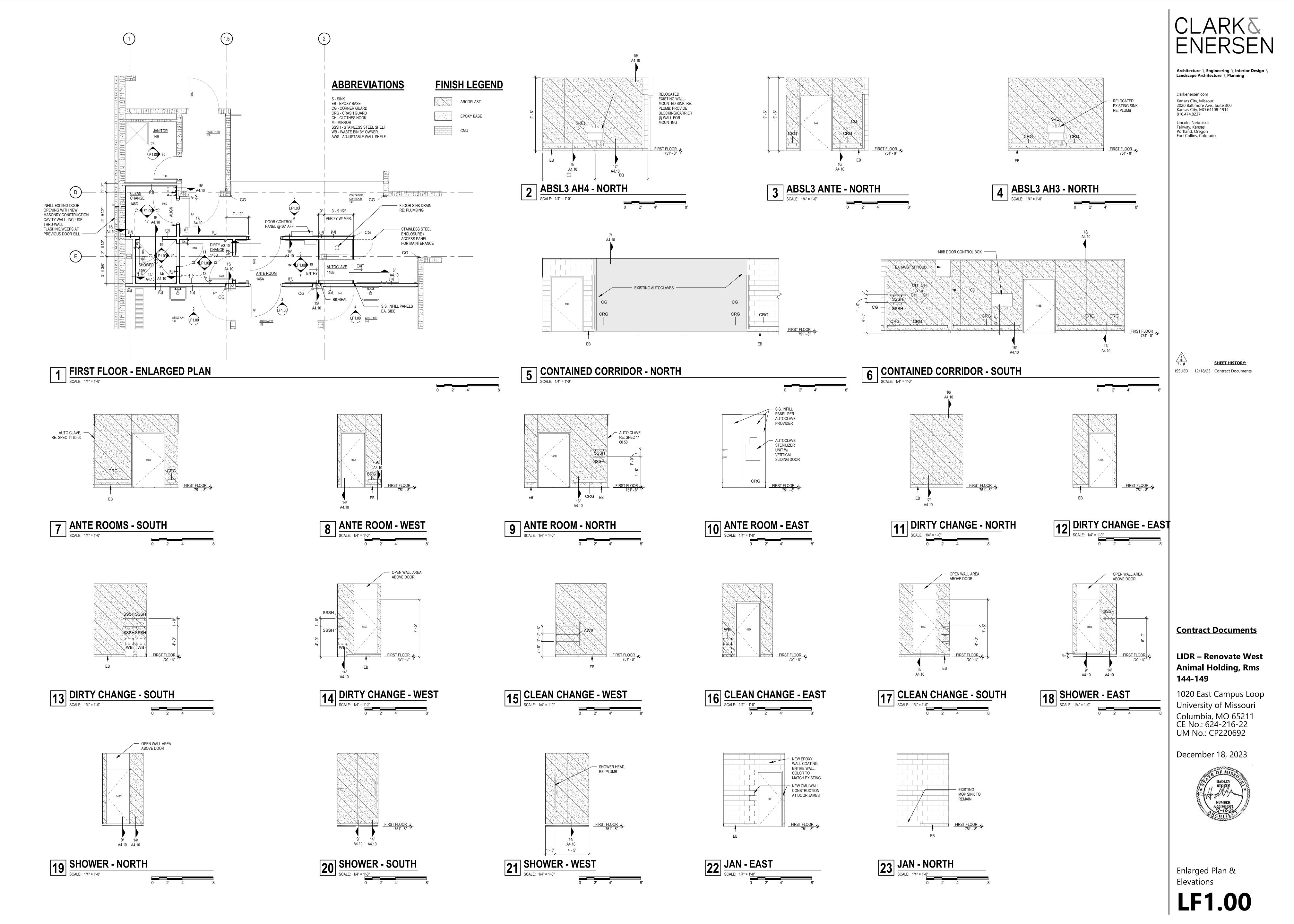
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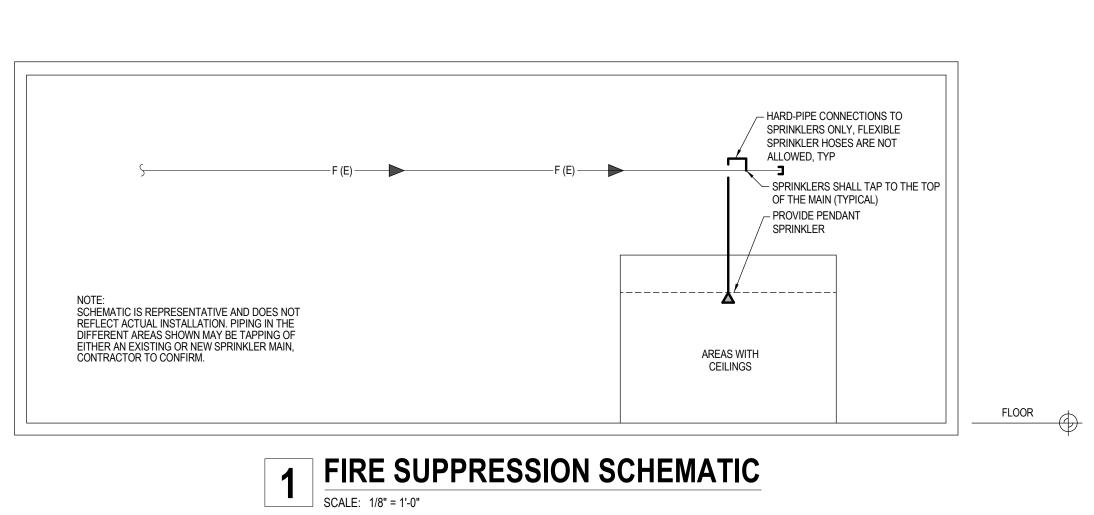
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Laboratory Schedules, Sections & Details

LF0.10



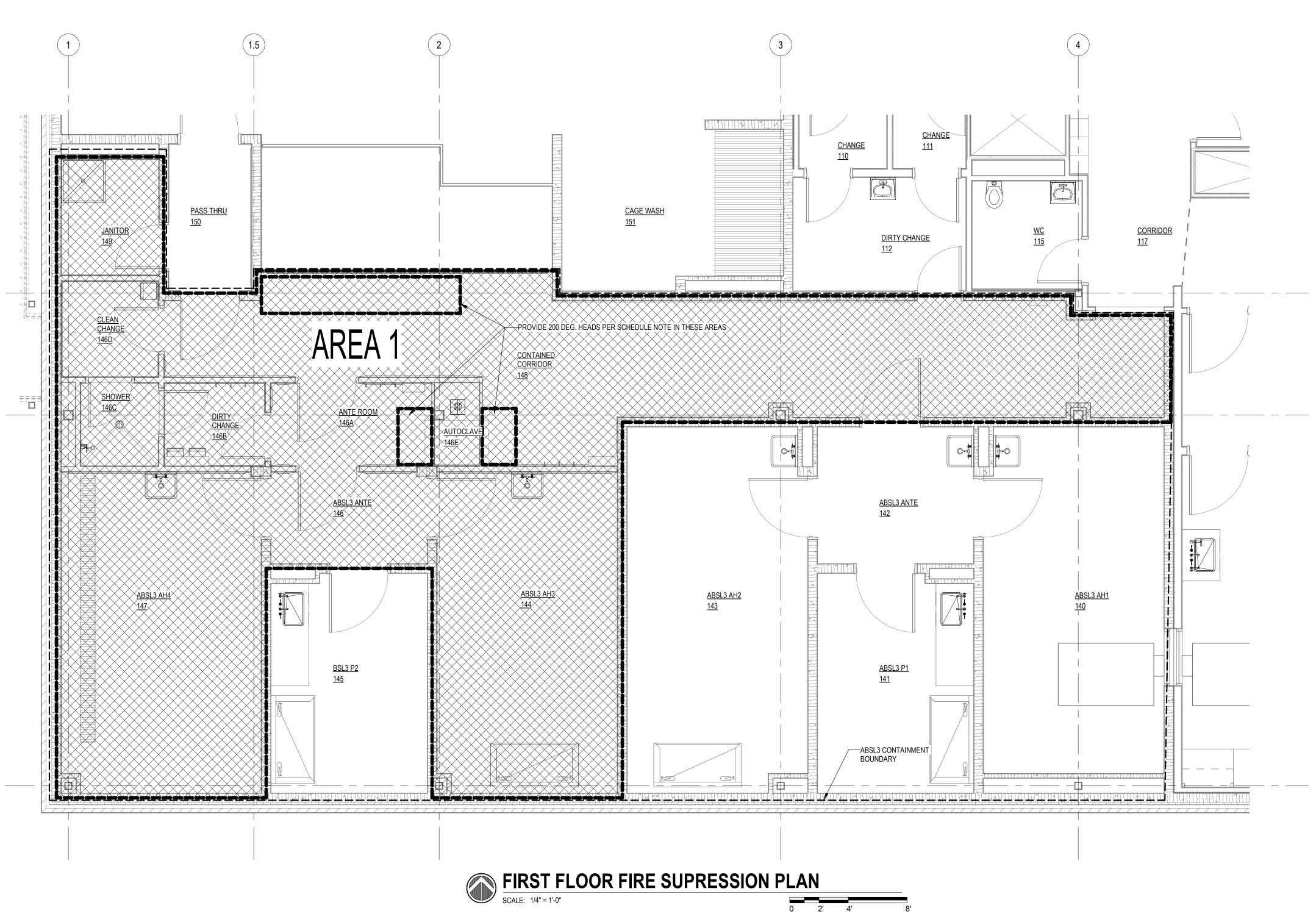


1. PROVIDE 200 DEG. F K8.0SPRINKLERS IN MECHANICAL ROOMS, ELECTRICAL ROOMS, STORAGE ROOMS, TELECOMM ROOMS, JANITOR CLOSETS, EQUIPMENT SERVICE AREAS, AND WITHIN 10' OF AUTOCLAVE AND STERILIZER DOORS.

|       | AREA(S)    | SYSTEM   | NFPA SPRINKLER    | APPROX. AREA | DENSITY              | NOMINAL SPRINKLER   | SPRINKLER      |         |
|-------|------------|----------|-------------------|--------------|----------------------|---------------------|----------------|---------|
| AREA: | SERVED:    | TYPE:    | HAZARD CLASS.:    | (SQFT):      | (GPM / SQFT):        | TEMPERATURE RATING: | TYPE:          | REMARKS |
| 1     | BSL3 AREAS | WET PIPE | ORDINARY HAZARD - | 1,570        | SEE NFPA 13 ORDINARY | 175 DEG. F          | QUICK-RESPONSE | 1       |
|       |            |          | WET PIPE          |              | HAZARD GROUP 2 TABLE |                     |                |         |

- DROP NIPPLE TO SPRINKLER —STAINLESS STEEL REDUCER CORROSION-RESISTANT SPRINKLER — 4" X 4" STAINLESS STEEL PLATE, 1/8" THICK WITH HOLE DRILLED TO GIVE APPROXIMATELY 1/8" CLEARANCE AROUND PIPE REDUCER. HELD IN PLACE BY SILICONE BED.

2 BSL-3 PENETRATION DETAIL



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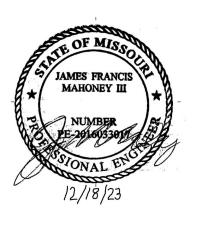
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**Contract Documents** 

**LIDR - Renovate West Animal Holding, Rms** 114-149

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December 18, 2023



Fire Suppression Plan
FS 1.01

|   |                    | MECHAINIC  | <i>J</i> AL      | . ADDKEVIA I I  | $\overline{O}$                | IS AND SYMBO  | <u> </u>                                    | LEGEIND   |                |   |
|---|--------------------|--|------------------|---|-------------------------------|---|---|---|----------------|---|
| ABBREVIATIONS   |                    | ABBREVIATIONS  |                  | PIPING  |                               | SHEET METAL   | TE  | EMPERATURE CONTROL  |                | FIRE SUPPRESSION  |
| COMPRESSED AIR  AREA DRAIN  | OAT                | OUTSIDE AIR OUTSIDE AIR TEMPERATURE  | - P              | BALL VALVE  | 12/6                          | RECTANGULAR DUCT - FIRST NUMBER INDICATES SIZE SHOWN                    | XXX   | CONTROL POINT   |                | SPRINKLER BRANCH WITH HEADS   |
| ABOVE FINISHED FLOOR  | OBD                | MANUAL OPPOSED BLADE BALANCING DAMPER  | $\square$        | GATE VALVE  | <del>-</del> 12Ø <del>-</del> | ROUND DUCT  | AF  | AIRFLOW MEASURING STATION                                     | <del>-</del>   | SIAMESE CONNECTION  |
| ANALOG INPUT ANALOG OUTPUT  | PCW<br>PHW         | POTABLE COLD WATER POTABLE HOT WATER   |                  | GLOBE VALVE   | 12/60                         | OVAL DUCT - FIRST NUMBER INDICATES SIZE SHOWN                           | CO2   | CARBON DIOXIDE SENSOR   | FHC            | FIRE HOSE CABINET   |
| AIR PRESSURE DROP   | PVC                | POLY VINYL CHLORIDE  | 101              | BUTTERFLY VALVE   |                               | FLEX DUCT   | 7   | STATIC PRESSURE SWITCH  | F.H.           | FIRE HYDRANT  |
| ACID VENT ACID WASTE  | PW                 | RETURN AIR PURE WATER  |                  | BALANCING VALVE   | [c.]                          | TURNING VANES   | <u>CÖ2</u>                                  | CIATION NEGOCIAL CHINGI                                       | P.I.V.         | POST INDICATOR VALVE  |
| BACK FLOW PREVENTER BRAKE HORSEPOWER  | RCP                | REINFORCED CONCRETE PIPE REVERSE OSMOSIS   |                  | CHECK VALVE   |                               | DOCITIVE DESCRIPE DUCT UP   |   | TEMPERATURE SENSOR WITH AVERAGING ELEMENT                     |                | O.S. & Y. VALVE   |
| BRITISH THERMAL UNIT  | RG                 | REFRIGERANT HOT GAS  |                  | VACUUM BREAKER BACKFLOW VALVE   |                               | POSITIVE PRESSURE DUCT UP POSITIVE PRESSURE DUCT DOWN                   | <b>\</b>                                    | <u> </u>  | F\$            | FLOW SWITCH FIRE PROTECTION PIPING  |
| COMPRESSED AIR CONDENSATE DRAIN   | RL<br>RS           | REFRIGERANT LIQUID REFRIGERANT SUCTION   |                  | PRESSURE REGULATING VALVE STRAINER  |                               | NEGATIVE PRESSURE DUCT UP   | MD  | MOTORIZED DAMPER  | <u> </u>       | FIRE PROTECTION PIPING  |
| VR CHILLED OR HOT WATER RETURN  | S                  | STORM  |                  | TEMPERATURE GAUGE 3.5" STEM   |                               | NEGATIVE PRESSURE DUCT DOWN   | }   |   | 1              | SCHEMATICS  |
| VS CHILLED OR HOT WATER SUPPLY  CAST IRON                                   | SA<br>SAN          | SUPPLY AIR SANITARY WASTE PIPING (OUTSIDE BUILDING)  | 0                | PRESSURE GAGE   |                               | NEGATIVET REGGORE BOOT BOWN   | SP  | SMOKE DAMPER  | NO O           |   |
| CLEAN OUT   | SBIO               | SANITARY WASTE - BIOHAZARD   |                  | MOTOR CONTROL VALVE   | 1                             | OVAL DUCT UP AND DOWN   | ¬¬<br>SP                                    | STATIC PRESSURE SENSOR  |                | 3-WAY AUTOMATIC CONTROL VALVE - NORMALLY OPEN,<br>CLOSED AND COMMON PORTS INDICATED               |
| CONDENSATE PUMP DISCHARGE C CHLORINATED POLY VINYL CHLORIDE                 | SD<br>SP           | SMOKE DAMPER STATIC PRESSURE   | , X              | MOTOR CONTROL VALVE - 3 WAY   |                               |   | <u>M</u>                                    | MOTOR   | →N.C.          | 2-WAY AUTOMATIC CONTROL VALVE - NORMALLY CLOSED   |
| CONDENSER WATER RETURN CONDENSER WATER SUPPLY                               | SP                 | SUMP PUMP SUB SOIL DRAIN   | -⊗-              | STEAM TRAP - INVERTED BUCKET  |                               | MANUAL BALANCING DAMPER   |   |   | T              | 2-WAY AUTOMATIC CONTROL VALVE - NORMALLY OPEN   |
| DOMESTIC COLD WATER   | TAB                | TEST, ADJUST AND BALANCE   | $\square$        | GLOBE VALVE   | L-1                           |   | VFD   | VARIABLE FREQUENCY DRIVE                                      |                | AUTOMATIC BUTTERFLY VALVE - NORMALLY CLOSED   |
| CHILLED WATER RETURN CHILLED WATER SUPPLY                                   | TC<br>TD           | TEMPERATURE CONTROL CONTRACTOR TRANSFER DUCT   |                  | 3-WAY VALVE   | 48/48                         | WALL LOUVER - EQUIP. MARK, SIZE   | T T   | TEMPERATURE SENSOR/THERMOSTAT                                 | N.O.           | AUTOMATIC BUTTERFLY VALVE - NORMALLY OPEN   |
| DRY BULB  | TOD                | TOP OF DUCT  | $\bowtie$        | CIRCUIT SETTER  | M                             | MOTORIZED DAMPER - BLADES PARALLEL TO PAGE                              | H (H)                                       | HUMIDITY SENSOR/HUMIDISTAT                                    | C. N.O.        | AUTOMATIC LINKED BUTTERFLY VALVES - NORMALLY OPEN, CLC<br>AND COMMON PORTS INDICATED.             |
| DUCTILE CAST IRON DIGITAL INPUT   | T/P<br>TSP         | TEMPERATURE/PRESSURE TOTAL STATIC PRESSURE   |                  | MOTOR CONTROL VALVE   | M- 2 2 2 2                    | PARALLEL OR OPPOSED BLADE MOTORIZED DAMPER BLADES PERPINDICULAR TO PAGE |   | CARBON DIOXIDE SENSOR   | - FN.C.        |   |
| DIGITAL OUTPUT  | TW                 | DOMESTIC TEMPERED WATER  | \$               | SOLENOID VALVE  | M- / × / ×                    |   |   |   | <b>-</b>       | MANUAL BALL VALVE FOR SHUT-OFF OR BALANCING SERVICE   |
| DOMESTIC WATER  V DRAINAGE/WASTE/VENT                                       | V                  | DOMESTIC TEMPERED WATER CIRCULATING VENT   |                  | BASKET STRAINER   | <u>FD-1</u>                   | FIRE DAMPER AND ACCESS DOOR - EQUIP. MARK                               |   | SENSOR  | SW             | STOP AND WASTE BALL VALVE   |
| EXHAUST AIR  ENTERING AIR TEMPERATURE                                       | VBIO               | VENT - BIOHAZARD VENT THROUGH ROOF   |                  | SANITARY/STORM DRAIN BELOW GRADE OR BELOW FLOOR   | ⊖ <u>SD-1</u>                 | SMOKE DAMPER AND ACCESS DOOR - EQUIP. MARK                              | SMK   | SMOKE DETECTOR  |                | BALL VALVE WITH PRESSURE TAP  |
| ELECTRICAL CONTRACTOR   | VIR                | VENT UNDER FLOOR   | xxx              | PIPING. SEE ABBREVIATION LEGEND FOR TYPE OF SERVICE. (E.G. CWS SHALL BE CHILLED WATER SUPPLY) | <u> FSD-1</u>                 | COMBINATION FIRE/SMOKE DAMPER AND ACCESS DOOR - EQUIP. MARK             | ES  | DAMPER END SWITCH   |                | BALL VALVE WITH PRESSURE TAP & MEMORY STOP  |
| CS ENERGY MANAGEMENT AND CONTROL SYSTEM  EXTERNAL STATIC PRESSURE           | W                  | SANITARY WASTE PIPING (INSIDE BUILDING) WATER SERVICE PIPING (OUTSIDE BUILDING)            | HB-1             | HOSE BIBB - EQUIP. MARK   | D-1<br>8Ø                     | CEILING DIFFUSER - EQUIPMENT MARK, SIZE, CFM                            | <u> </u>                                    | MOTORIZED DAMPER  |                | BALL VALVE WITH PRESSURE & TEMPERATURE TAP  BALL VALVE WITH PRESSURE & TEMPERATURE TAP & MEMORY S |
| ENTERING WATER TEMPERATURE  | WB                 | WET BULB   | H WH-1           | WALL HYDRANT - EQUIP. MARK (NON FREEZE TYPE)  | 300                           | , , , , ,   | <u>                                    </u> |   | 10T            | MANUAL BALANCING BALL VALVE WITH MEMORY STOP  |
| FIRE SUPPRESSION PIPING  FLOOR CLEAN OUT                                    | WCO<br>WPD         | WALL CLEAN OUT WATER PRESSURE DROP   | V.T.R. ( )       | VENT THRU ROOF - MARK   | R-1<br>12/8                   | SIDEWALL REGISTER - EQUIP. MARK, SIZE, CFM, HEIGHT AFF                  | **************************************      | HUMIDIFIER  | 工,工,           | NORMALLY CLOSED MOTORIZED BALL VALVE  |
| FIRE DAMPER   | χE                 | RELOCATED EQUIPMENT, DEVICE, ETC.  | 4" FD-1          | FLOOR DRAIN, SIZE, EQUIP. MARK  | 300                           |   |   |   |                | NORMALLY OPEN MOTORIZED BALL VALVE  |
| FLOOR DRAIN  A. FUME HOOD EXHAUST AIR                                       | XFR<br>XFMR        | TRANSFER TRANSFORMER   | <u>4" FS-1</u>   | FLOOR SINK, SIZE, EQUIP. MARK   | G-1                           | CEILING RETURN GRILLE - EQUIP. MARK, SIZE, CFM                          |   | PIPING TEMPERATURE SENSOR                                     |                | VALVE BOX   |
| FIRE HYDRANT  | χN                 | NEW EQUIPMENT, DEVICE, ETC.  | 6" RD-1          | ROOF DRAIN, SIZE, EQUIP. MARK   | 1000                          | VARIABLE AIR VOLUME BOX - EQUIP. MARK, CFM                              |   | PIPING THERMOMETER  |                | AUTOMATIC FLOW CONTROL VALVE  |
| FLOW LINE R FUEL OIL RETURN   | YYY <sub>-</sub> 1 | EXISTING CONDITION TO BE REMOVED OR RELOCATED  EQUIPMENT MARK - SEE MECHANICAL OR PLUMBING | 6" OD-1          | ROOF OVERFLOW DRAIN, SIZE, EQUIP. MARK  | VBR-8                         |   | <u> </u>                                    | 7 II II 10 11 12 1 11 2 11 2 11 2 11 2 11                     |                | WITH PRESSURE & TEMPERATURE TAP  MANUAL GATE VALVE  |
| S FUEL OIL SUPPLY V FUEL OIL VENT   | V/R                | EQUIPMENT SCHEDULES (E.G., AHU-1 - AIR HANDLING UNIT)  VARIABLE AIR VOLUME BOX             | <u>SH-1</u>      | SHOWER HEAD - EQUIP MARK  | 1000<br>  1000                | VARIABLE AIR VOLUME BOX WITH REHEAT - EQUIP. MARK, CFM                  | Ø   | PIPING PRESSURE GAUGE   |                | MANUAL GLOBE VALVE  |
| FIRE/SMOKE DAMPER   | VBR                | VARIABLE AIR VOLUME BOX WITH REHEAT  | co               | CLEAN OUT   |                               |   | DP  | PIPING DIFFERENTIAL PRESSURE SENSOR                           |                | CALIBRATED BALANCING VALVE  |
| GAS D GRAVITY BACKDRAFT DAMPER  | VBF<br>VBRF        | FAN POWERED VARIABLE AIR VOLUME BOX FAN POWERED VARIABLE AIR VOLUME BOX WITH REHEAT        | O——<br>FCO       | FLOOR CLEAN OUT   | LSV-8<br>1000                 | LABORATORY SUPPLY VALVE - MARK, DESIGN CFM                              |   | DIDING ELOWMETED  |                | MANUAL PLUG VALVE   |
| GENERAL CONTRACTOR  | VBITT              |  | 000<br>GCO       | GRADE CLEAN OUT   |                               |   |   | PIPING FLOW METER   |                | MANUAL BUTTERFLY VALVE  |
| O GRADE CLEANOUT A GENERAL EXHAUST AIR                                      |                    |  | <u>0</u>         | CLEAN OUT AT BASE OF STACK  | FEV-8<br>800                  | FUME EXHAUST VALVE - MARK, DESIGN CFM                                   | ΔÎ  | PIPING TWO-WAY CONTROL VALVE                                  |                | WHEEL OPERATED BUTTERFLY VALVE  |
| M GALLONS PER MINUTE  |                    |  | RT-1             | PANEL RADIATOR - EQUIP. MARK, LENGTH, GALLONS PER MINUTE                                      |                               |   | Ŵ   | PIPING THREE WAY CONTROL VALVE                                | - T            |   |
| HORSEPOWER R HIGH PRESSURE STEAM RETURN                                     |                    |  | 8'-0"<br>8.0 GPM |   | GEV-8<br>945                  | GENERAL EXHAUST VALVE - MARK, DESIGN CFM                                | RPM   | ROOM PRESSURE CONTROL MONITOR                                 |                | GAGE COCK CHECK VALVE   |
| HIGH PRESSURE STEAM SUPPLY HOUR   |                    |  |                  | ELBOW DOWN  |                               |   |   | CENEDAL   |                | VACUUM BREAKER  |
| DOMESTIC HOT WATER  |                    |  |                  |   |                               | LOW PRESSURE BRANCH 45 DEGREE ENTRY WITH BALANCING DAMPER               |   | GENERAL   |                | GAS COCK  |
| 180 DOMESTIC HOT WATER, 180 DEG. F. SERVICE  DOMESTIC HOT WATER CIRCULATION |                    |  |                  | ELBOW UP  |                               | DUDDI ETIQUE DAMPED   | •   | CONNECTION - NEW TO EXISTING                                  | - X-           | PRESSURE REGULATING OR REDUCING VALVE - EQUIP. MARK   |
| C 180 DOMESTIC HOT WATER CIRCULATION 180 DEG. F. SERVICE                    |                    |  | <del></del>      |   | BI                            | BUBBLETIGHT DAMPER  | S 9 1                                       | PIPE OR ROUND DUCT RISER                                      | PRV-1          | STRAINER WITH BLOWDOWN VALVE  |
| R HOT WATER RETURN S HOT WATER SUPPLY                                       |                    |  |                  | TEE DOWN  |                               |   | (S) I                                       | PIPE OR ROUND DUCT DROP                                       |                | STRAINER  |
| INVERT ELEVATION  |                    |  |                  |   | -                             |   | _ <b>_</b>                                  | DIRECTION OF FLOW   |                | MANUAL AIR VENT   |
| KITCHEN EXHAUST AIR KITCHEN SUPPLIER  |                    |  |                  | TEE UP  |                               |   |   | DOWNWARD PIPE OR DUCT PITCH                                   |                | REFRIGERANT SOLENOID VALVE  |
| KILOWATT  |                    |  | VBR-8            |   | -                             |   |   | SECTION IDENTIFICATION: <u>SECTION NUMBER</u><br>SHEET NUMBER |                | FLANGE CONNECTION   |
| LABORATORY AIR LEAVING AIR TEMPERATURE                                      |                    |  | 1.0 GPM          | VARIABLE AIR VOLUME BOX WITH<br>REHEAT - EQUIP. MARK, FLOW RATE                               |                               |   |   | DETAIL IDENTIFICATION: SECTION NUMBER SHEET NUMBER            |                |   |
| LAY IN TILE  / LABORATORY COLD WATER  |                    |  |                  | VARIABLE AIR VOLUME BOX   | -                             |   |   | ELECTRICAL MOTOR  | $ \sim$        | CAFETY DELIES VALVE FOLID MADIZ   |
| LOOP FIELD CONTRACTOR   |                    |  |                  | LAB AIR VALVE   |                               |   | 100'-0"                                     | ARCHITECTURAL ELEVATION                                       | → <u>SRV-1</u> | SAFETY RELIEF VALVE - EQUIP. MARK   |
| LOOP FIELD RETURN LOOP FIELD SUPPLY   |                    |  | R                | REHEAT COIL   | 1                             |   | 100.00'                                     | ENGINEER ELEVATION  |                |   |
| LABORATORY GAS  |                    |  |                  |   | 1                             |   |   | ELECTRICAL PANEL  | 1              |   |
| LABORATORY HOT WATER C LABORATORY HOT WATER RECIRC.                         |                    |  |                  |   |                               |   | VFD-1                                       | VARIABLE FREQUENCY DRIVE PANEL - EQUIP. MARK                  |                |   |
| LOW PRESSURE STEAM SUPPLY   |                    |  |                  |   |                               |   | (E) E                                       | EXISTING PIPING, DUCTWORK, EQUIPMENT, ETC.                    |                |   |
| LOW PRESSURE STEAM RETURN  LABORATORY VACUUM                                |                    |  |                  |   |                               |   |   |   |                |   |
| LEAVING WATER TEMPERATURE MIXED AIR   |                    |  |                  |   |                               |   |   |   |                |   |
| MIXING BOX  |                    |  |                  |   |                               |   |   |   |                |   |
| H 1000 BTU/HR MECHANICAL CONTRACTOR   |                    |  |                  |   |                               |   |   |   |                |   |
| C MOTOR CONTROL CENTER  |                    |  |                  |   |                               |   |   |   |                |   |
| MOTORIZED DAMPER MAN HOLE   |                    |  |                  |   |                               |   |   |   |                |   |
| R MEDIUM PRESSURE STEAM RETURN  |                    |  |                  |   |                               |   |   |   |                |   |
|   |                    |  | ī                |   | I                             | 1   | I I   |   | 1              |   |
| MEDIUM PRESSURE STEAM SUPPLY  |                    |  |                  |   |                               |   |   |   |                |   |
| MEDIUM PRESSURE STEAM SUPPLY NOISE CRITERIA NOT IN CONTRACT                 |                    |  |                  |   |                               |   |   |   |                |   |
| MEDIUM PRESSURE STEAM SUPPLY NOISE CRITERIA                                 |                    |  |                  |   |                               |   |   |   |                |   |

# GENERAL MECHANICAL NOTES:

- 1. GENER
- 1.1 THESE NOTES SHALL APPLY TO ALL MECHANICAL PLANS.

1.2 NOTE THAT THE MECHANICAL PLANS ARE TO A GREAT EXTENT SCHEMATIC IN NATURE AND THAT THE INFORMATION PRESENTED IS EXACT AS COULD BE SECURED. THE CONTRACTOR SHALL OBTAIN EXACT LOCATIONS, MEASUREMENTS, LEVELS, ETC., AT THE SITE AND SHALL SATISFACTORILY ADAPT HIS WORK TO THE ACTUAL CONDITIONS AT THE PROJECT SITE.

1.3 THE CONTRACTOR IS RESPONSIBLE FOR PROPER SUPPORT OF ALL EQUIPMENT, PIPING, DUCTWORK, ETC. COORDINATE INSTALLATION OF ALL EQUIPMENT, PIPING, DUCTWORK, ETC. WITH OTHER BUILDING TRADES.

1.4 SEE SPECIFICATION SECTIONS 22 05 00 AND 23 05 00 FOR OTHER GENERAL MECHANICAL REQUIREMENTS.

1.5 ALL PENETRATIONS THROUGH THE WALLS, FLOORS, OR STRUCTURE OF LABORATORY AREAS, LABORATORY SUPPORT AREAS, AND CORRIDORS SHALL BE SEALED AIRTIGHT TO MAINTAIN PROPER PRESSURE RELATIONSHIPS.

1.6 THE LOCATION AND SIZE OF ALL ITEMS SHOWN AS EXISTING WERE OBTAINED FROM PREVIOUS DRAWINGS AND SITE VISITS, AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. ACCURACY OF THE INFORMATION SHOWN IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO SUBMITTING THE PROJECT BID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CHANGES WHICH OCCUR AFTER BIDS ARE SUBMITTED WHICH ARE A RESULT OF EXISTING CONDITIONS. SITE VISITS PRIOR TO SUBMISSION OF BIDS MUST BE FULLY COORDINATED WITH THE OWNER.

1.7 ALL EXPOSED MECHANICAL ITEMS WILL BE FIELD-PAINTED. ALL ITEMS SHALL BE PROPERLY ORDERED AND PREPARED TO ACCEPT PAINT. COORDINATE EXACT REQUIREMENTS WITH PAINTING CONTRACTOR. SEE ARCHITECTURAL AND FINISH DRAWINGS AND SPECIFICATIONS FOR AREAS AND ITEMS THAT WILL BE PAINTED.

1.8 CONTRACTOR SHALL INCLUDE DEMOLITION OF ALL EXISTING CONTROL SYSTEMS FOR ALL ITEMS/EQUIPMENT SHOWN ON PLANS AS BEING REMOVED.

1.9 ALL ACCESS PANELS LOCATIONS SHALL BE COORDINATED WITH THE OWNER PRIOR TO FINAL INSTALLATION. ENSURE FINAL INSTALLATION LOCATION PROVIDES REQUIRED ACCESS TO ALL MECHANICAL EQUIPMENT AND ASSOCIATED COMPONENTS.

2. SITE UTILITIES

2.1 ALL CONNECTIONS TO UTILITY MAINS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE VIA WRITTEN NOTICE GIVEN A MINIMUM OF SEVEN DAYS PRIOR TO WORK.

3. DUCTWORK

3.1 ALL DUCT DIMENSIONS CALLED OUT ARE INTERIOR AIR FLOW DIMENSIONS. UNLESS OTHERWISE NOTED, ALL SUPPLY, RETURN, EXHAUST, OUTSIDE AND RELIEF AIR DUCT IS GALVANIZED STEEL. UNLESS OTHERWISE NOTED, ALL SUPPLY DUCT MITERED ELBOWS SHALL BE INSTALLED WITH TURNING VANES. ALL ROUND ELBOWS SHALL BE FULL-RADIUS TYPE. ALL ROUND-TO-RECTANGULAR BRANCH CONNECTIONS SHALL BE 45-DEGREE ENTRY LOW-LOSS FITTINGS. ALL CANOPY HOOD EXHAUST DUCTWORK SHALL BE STAINLESS STEEL AND IS SHOWN ON THE DRAWINGS AS SHADED.

3.2 ALL SUPPLY AIR DUCT SHALL BE WRAPPED WITH INSULATION UNLESS OTHERWISE NOTED OR SPECIFIED. EXHAUST AIR DUCT SHALL BE LEFT UN-INSULATED UNLESS LINER IS EXPLICITLY CALLED OUT.

3.3 ALL EXPOSED DUCTWORK SHALL BE INSTALLED IN A NEAT AND WORKMAN-LIKE MANNER FREE FROM ALL VISIBLE DENTS AND KINKS. DUCT RUNS SHALL BE STRAIGHT AND LEVEL.

4. PIPING

4.1 UNLESS OTHERWISE NOTED, MINIMUM HEATING HOT WATER SUPPLY/RETURN RUN-OUTS TO EQUIPMENT SHALL BE 3/4" SIZE.
4.2 SEE PLUMBING FIXTURE CONNECTION SCHEDULE FOR PIPE SIZES REQUIRED AT FIXTURES. PROVIDE WATER HAMMER

WH201. PROVIDE ACCESS TO EACH WATER HAMMER ARRESTOR.

4.3 UNLESS NOTED OTHERWISE, WASTE AND STORM DRAINAGE PIPING HAS BEEN DESIGNED TO ACCOMMODATE A SLOPE OF 1/8" PER LINEAR FOOT FOR PIPING GREATER THAN 3" IN DIAMETER AND A SLOPE OF 1/4" PER LINEAR FOOT FOR 3" AND SMALLER DIAMETER PIPE.

ARRESTORS AT COLD WATER BRANCHES AS REQUIRED BY PDI-

4.4 PIPE HANGERS SUSPENDED FROM STRUCTURAL FLOOR OR ROOF JOIST AND SUPPORTING MORE THAN 200 LBS SHALL BE ATTACHED TO THE TOP MEMBER OF THE JOIST.

4.5 INSTALL MANUAL AIR VENTS AT <u>ALL</u> HIGH POINTS IN PIPING SYSTEMS, INCLUDING ALL SUPPLY AND RETURN SYSTEMS. INSTALL AUTOMATIC AIR VENT AT THE HIGHEST POINT IN EACH SYSTEM WITH MANUAL SHUT-OFF BALL VALVE.

5 TEMPERATURE 00MTR010

 TEMPERATURE CONTROLS
 ALL EXACT SENSOR, CONTROL PANEL AND THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH THE ENGINEER.

5.2 UNLESS OTHERWISE NOTED, ALL AIR TERMINAL UNITS, CABINET UNIT HEATERS, UNIT HEATERS, ETC. SHALL BE PROVIDED WITH A THERMOSTAT OR CONTROL DEVICE REGARDLESS OF WHETHER ONE IS SHOWN ON THE PLANS.

5.3 UNLESS OTHERWISE NOTED, ALL THERMOSTATS SHALL BE WALL MOUNTED AT 48" A.F.F.

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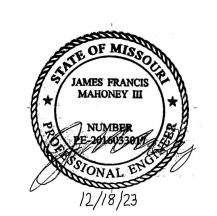
SHEET HISTORY:
ISSUED 12/18/23 Contract Documents

**Contract Documents** 

LIDR - Renovate West Animal Holding, Rms 114-149

1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

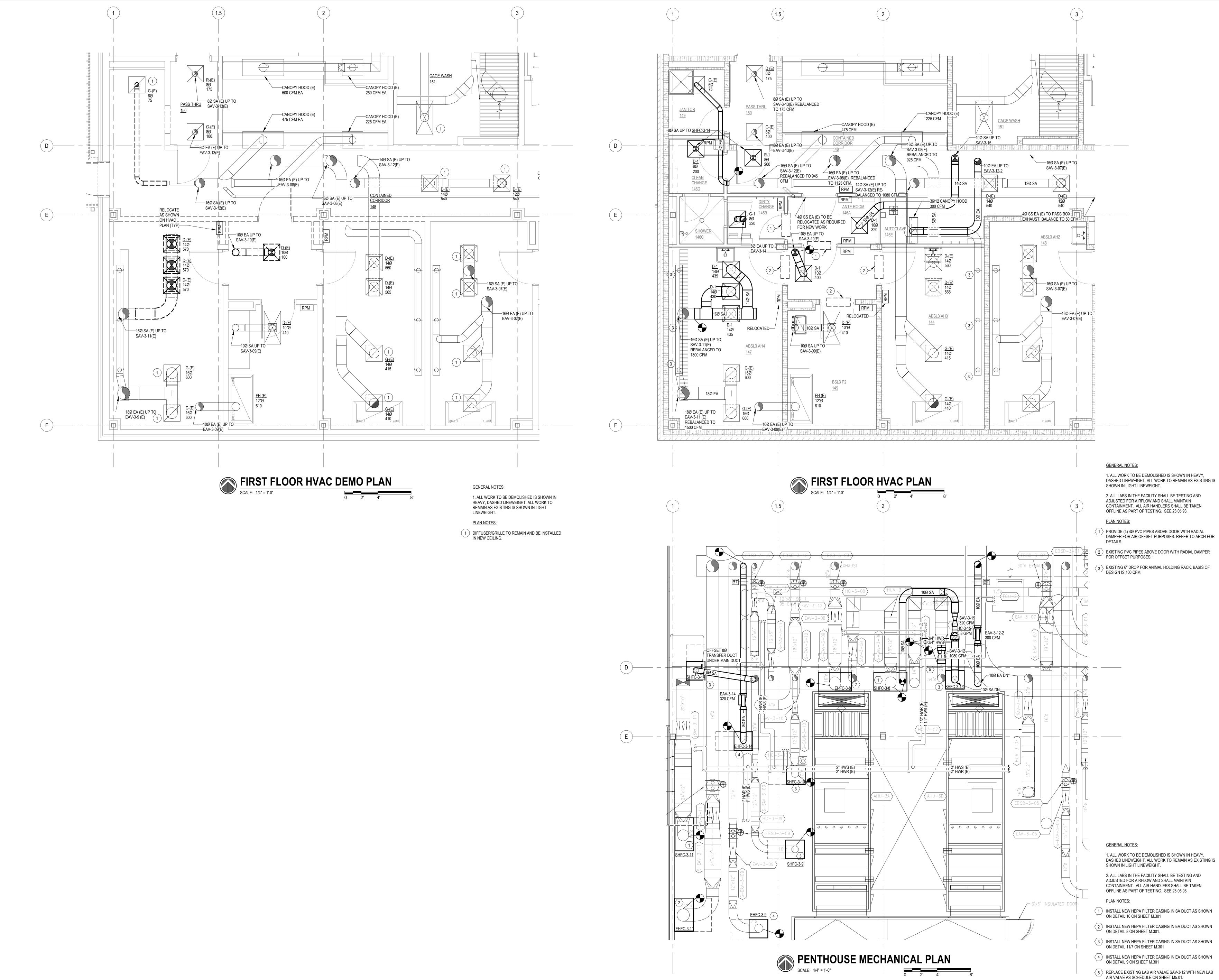
December 18, 2023



Mechanical Abbreviations,

Symbols & Notes

MO.00



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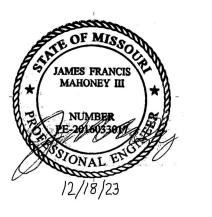
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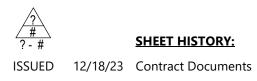
First Floor HVAC Plans

M1.01

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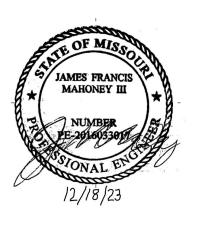


# **Contract Documents**

LIDR - Renovate West Animal Holding, Rms 114-149

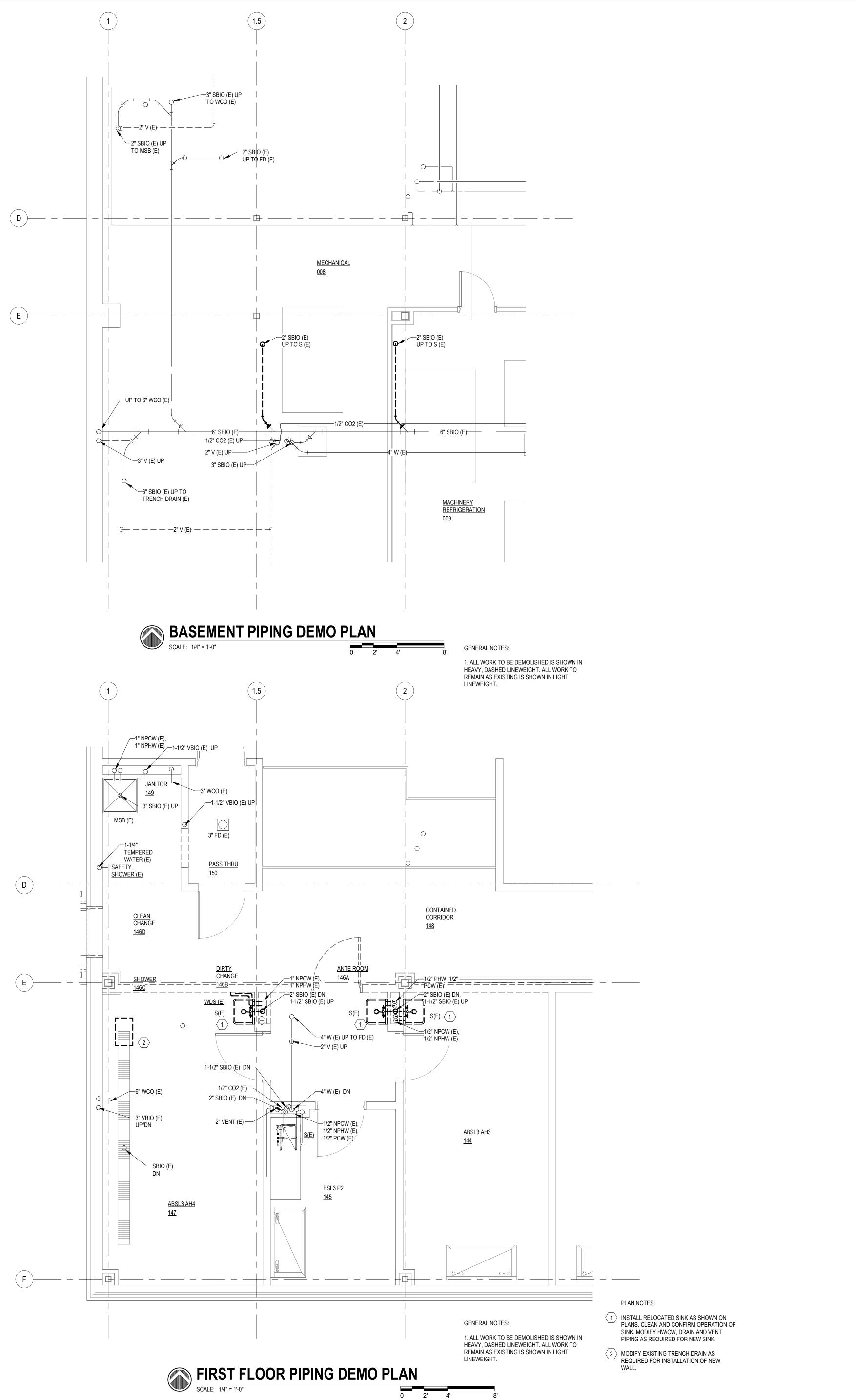
1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

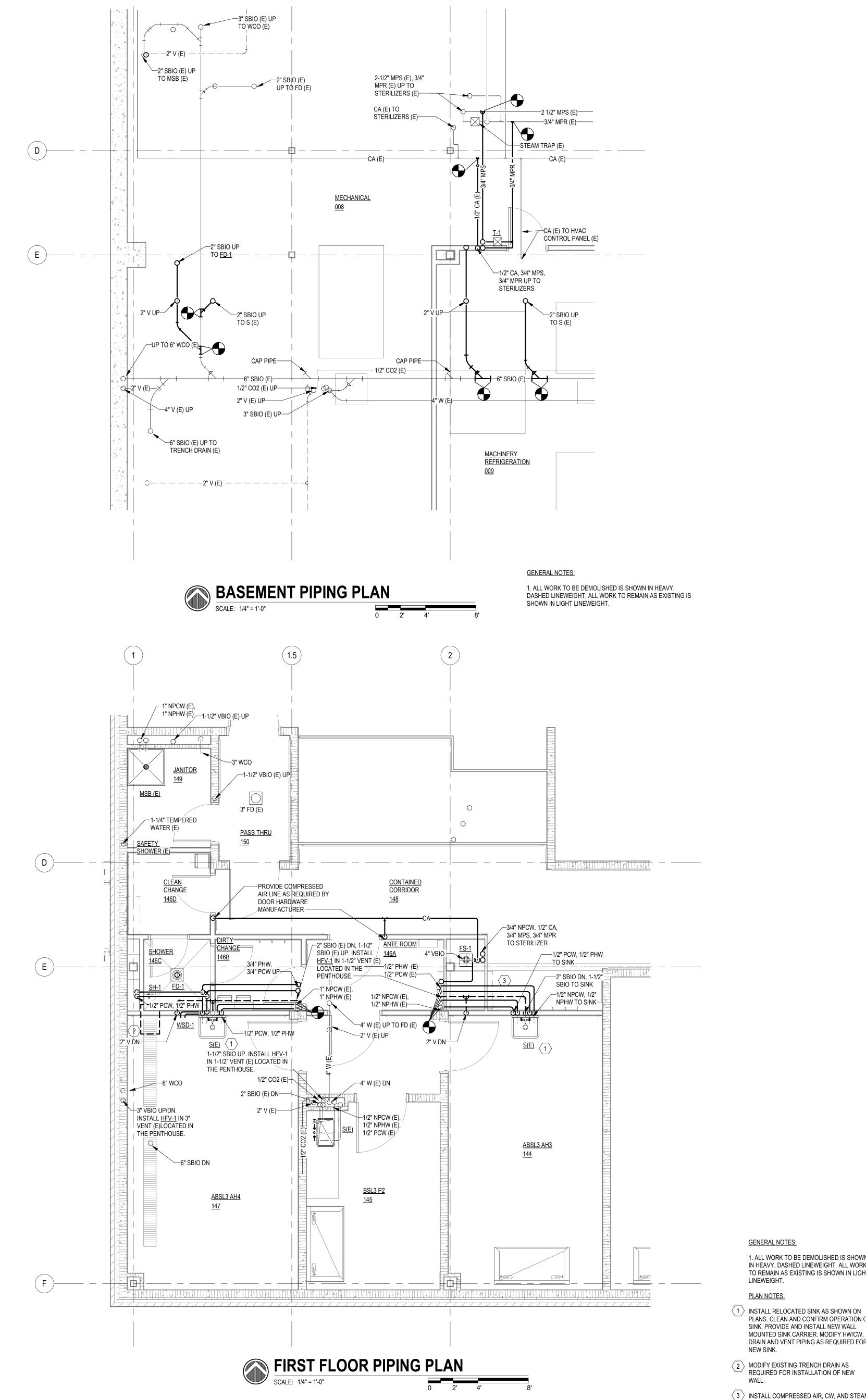
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First Floor Pressurization

Plans **M1.02** 





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**SHEET HISTORY:** ISSUED 12/18/23 Contract Documents

**Contract Documents** 

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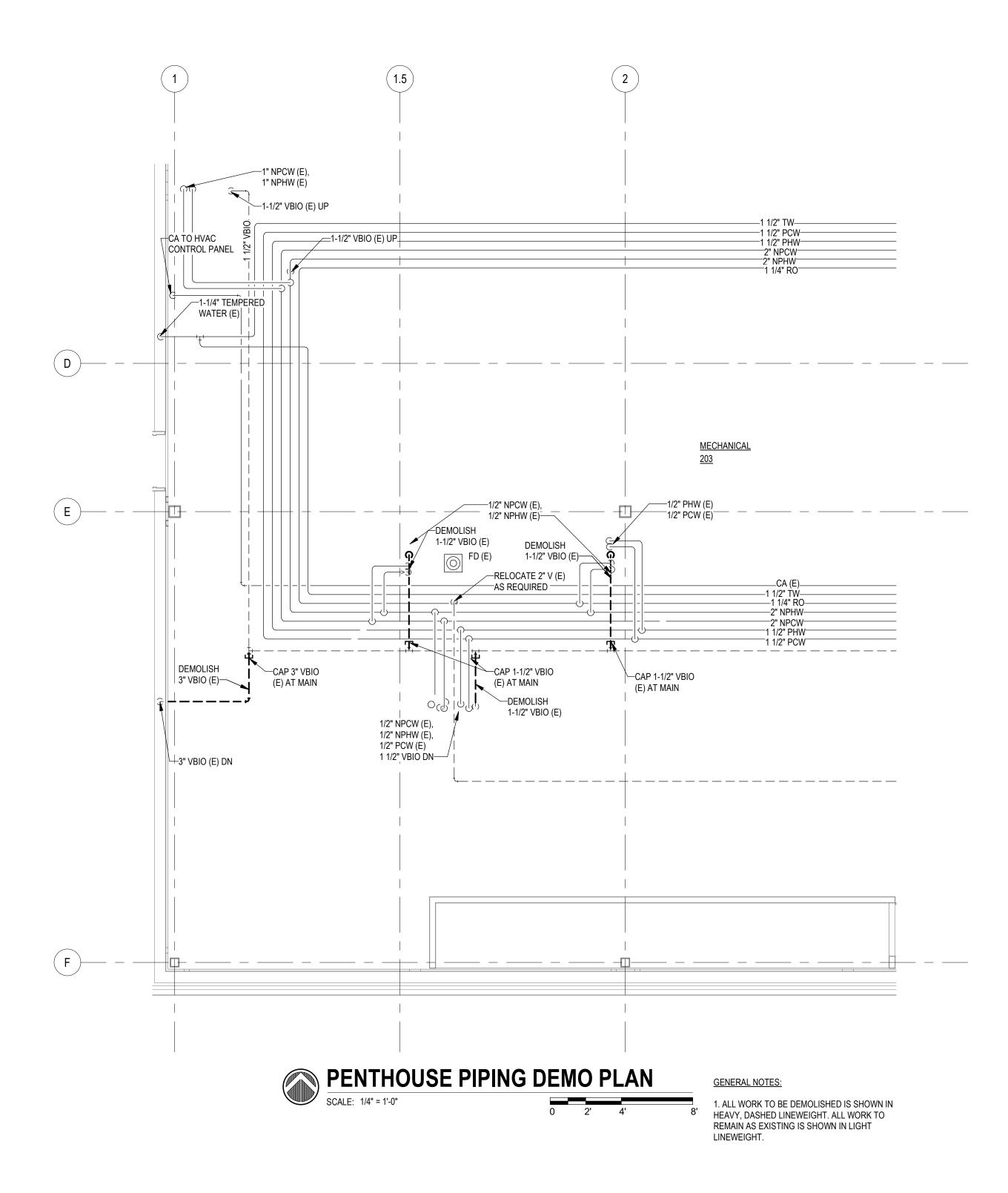


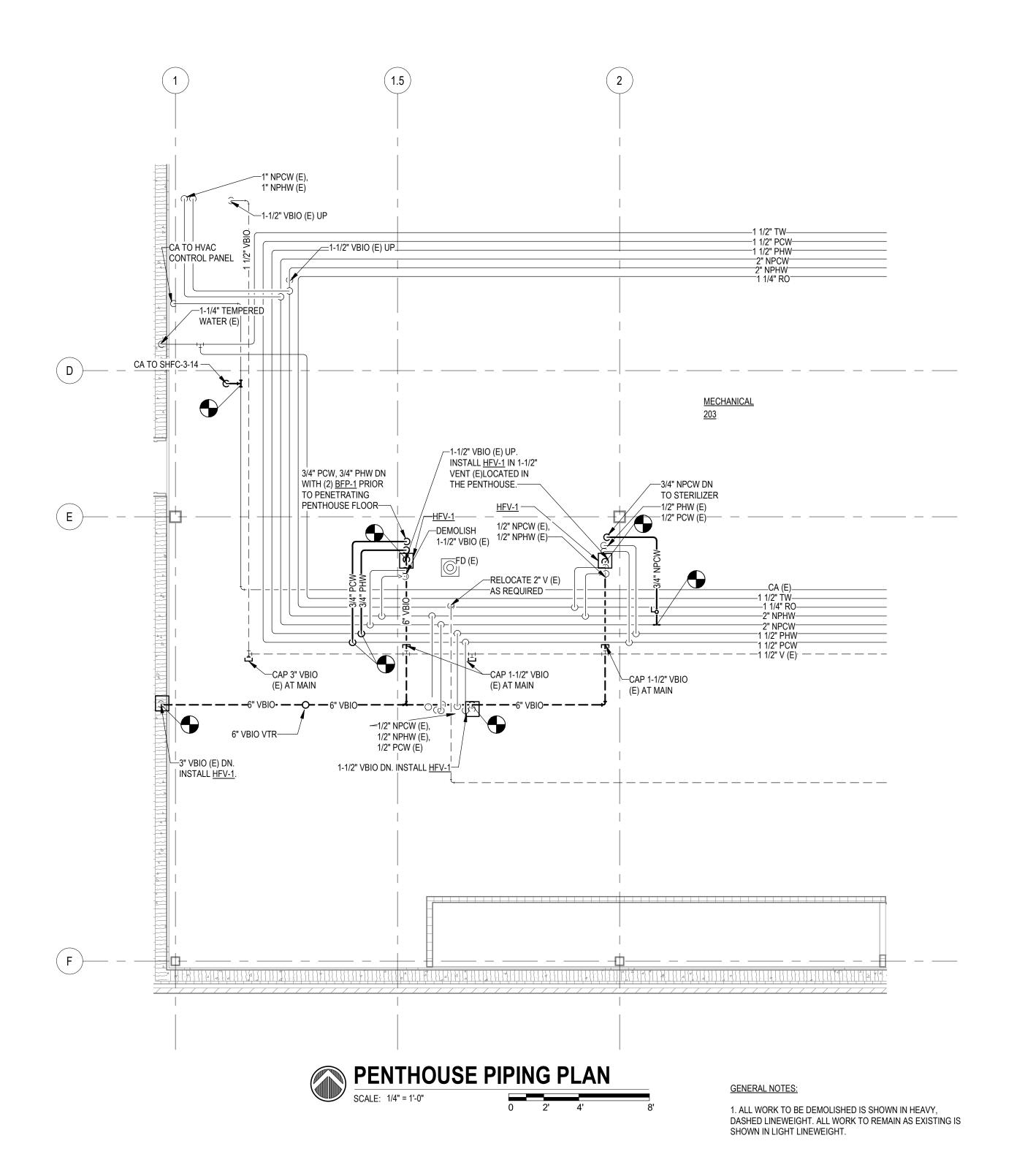
**GENERAL NOTES:** 1. ALL WORK TO BE DEMOLISHED IS SHOWN IN HEAVY, DASHED LINEWEIGHT. ALL WORK TO REMAIN AS EXISTING IS SHOWN IN LIGHT LINEWEIGHT.

PLAN NOTES: ⟨ 1 ⟩ INSTALL RELOCATED SINK AS SHOWN ON PLANS. CLEAN AND CONFIRM OPERATION OF SINK. PROVIDE AND INSTALL NEW WALL MOUNTED SINK CARRIER. MODIFY HW/CW, DRAIN AND VENT PIPING AS REQUIRED FOR

AS REQUIRED TO SERVE NEW AUTOCLAVE.

First Floor Piping Plans 2 MODIFY EXISTING TRENCH DRAIN AS REQUIRED FOR INSTALLATION OF NEW





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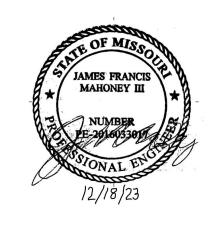


# **Contract Documents**

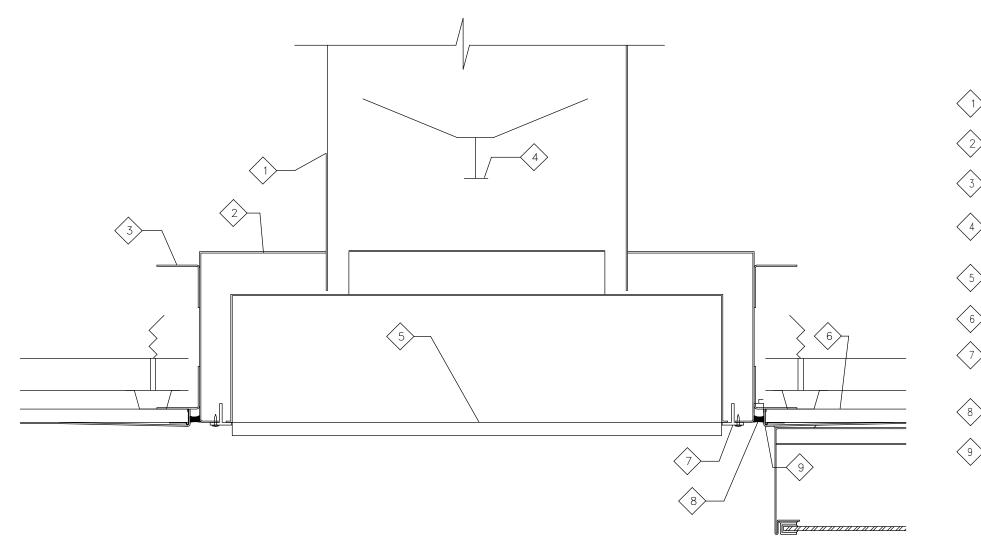
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December 18, 2023



Penthouse Piping Plans
M2.02



DIFFUSER AT CONTAINMENT CEILING

#### **KEYED NOTES:** $\langle$ 1 $\rangle$ fully welded gas tight stainless steel supply air duct.

- $\langle$  2angle fully welded gas tight stainless steel difuser box.
- $\langle$  3 $\rangle$  spot welded box support flange (use no fasteners on the gas tight ductwork
- ig< 4ig> install manufacturer-provided damper on every diffuser or exhaust grill where multiple OUTLETS ARE INSTALLED ON A SINGLE AIR VALVE. PROVIDE BOWDEN CABLE ADJUSTMENT THROUGH THE
- 5 TYPICAL DIFFUSER OR EXHAUST GRILLE, LIFTED INTO THE DIFFUSER BOX AND SECURED WITH "T" BAR.
- 6 ACRYLOYL CEILING. 7 1-1/2" x 1-1/2" ALUMINUM "T" BAR, SCREWED TO THE DIFFUSER BOX TO SUPPORT
- DIFFUSERS AND GRILLES. TEMPLATE DRILL SCREW HOLES TO ALLOW INTERCHANGABILITY OF "T" BARS WITH BLANKING PLATES USED FOR DECONTAMINATION AND DUCT TESTING. (8) SILICONE SEAL BETWEEN CEILING AND DIFFUSER BOX.
- 9 HOLE IN GYPSUM PANEL CEILING FINISHED WITH "L" BEAD. EPOXY SURFACE FINISH APPLIED OVER THE BEAD AND UP THE INSIDE FACE OF THE HOLE.
- **GENERAL NOTES:** 1. DETAIL SHOWN FOR REFERENCE FOR RE-INSTALLATION OF NEW CEILING SYSTEM. ALL EXISTING DUCT, CANOPY HOOD, AIR TERMINAL, AND OTHER PENETRATIONS SHALL BE SEALED IN A MANNER AS SHOWN ON THIS DETAIL.

#### \_\_ SEALANT 18 GAUGE 304L STAINLESS STEEL BACKER ROD -∠ APPLY EPOXY WALL COATING BEFORE INSTALLING S.S. BUSHING TO BE 1" LARGER THAN OUTER DIMENSION OF PIPING.

\_\_\_GYPSUM/STUD WALL

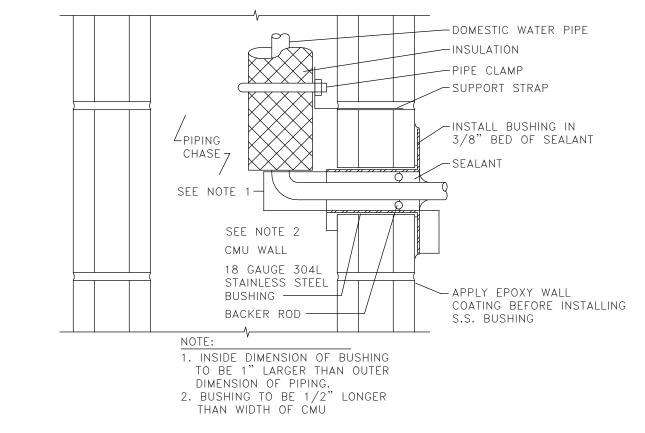
INSULATION

-----STEEL CHANNEL

----- DOMESTIC WATER PIPE

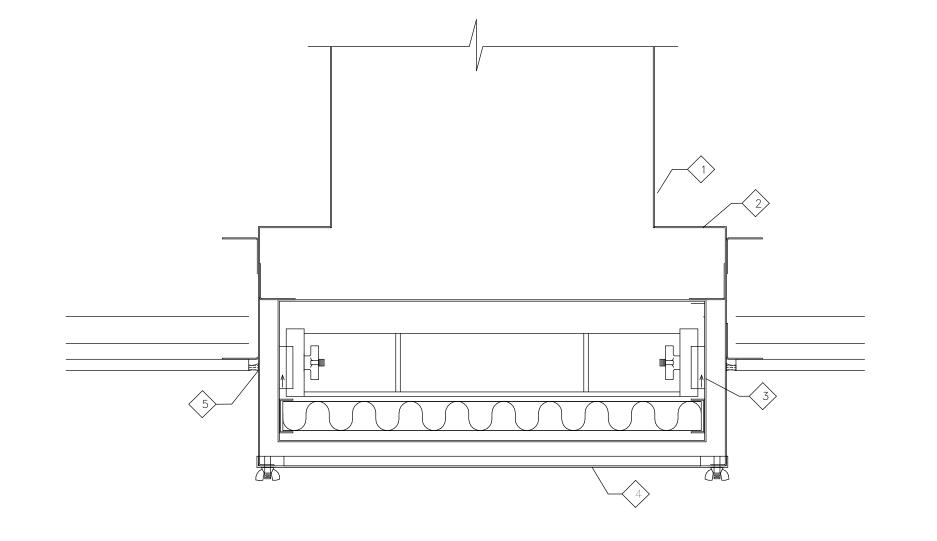
∠INSTALL BUSHING IN

/ 3/8" BED OF SEALANT



# 2 PIPE PENETRATION AT STUD WALL

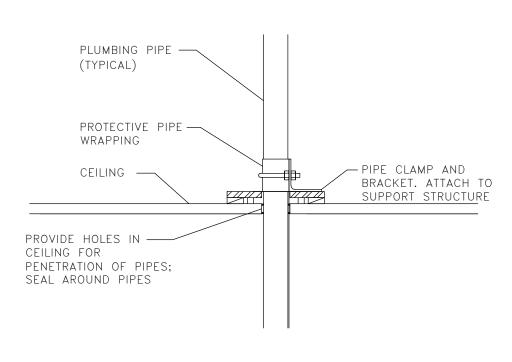


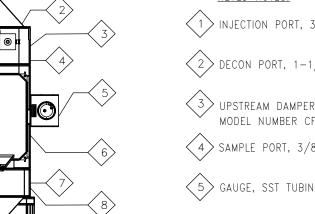


#### KEYED NOTES: (1) FULLY WELDED GAS TIGHT STAINLESS STEEL EXHAUST AIR DUCT.

- FULLY WELDED GAS TIGHT STAINLESS STEEL DIFFUSER BOX. EXTENDED VERSION FOR PRE-FILTER HOUSING
- PRE-FILTER HOLDING FRAME WITH FILTERS. FILTER REPLACEMENT FROM BELOW.
- 4 PERFORATED STAINLESS STEEL FACE PLATE.
- 5 SILICONE SEAL BETWEEN CEILING AND DIFFUSER BOX.
- <u>GENERAL NOTES:</u> 1. DETAIL SHOWN FOR REFERENCE FOR RE-INSTALLATION OF NEW CEILING SYSTEM. ALL EXISTING DUCT, CANOPY HOOD, AIR TERMINAL, AND OTHER

PENETRATIONS SHALL BE SEALED IN A MANNER AS SHOWN ON THIS DETAIL,

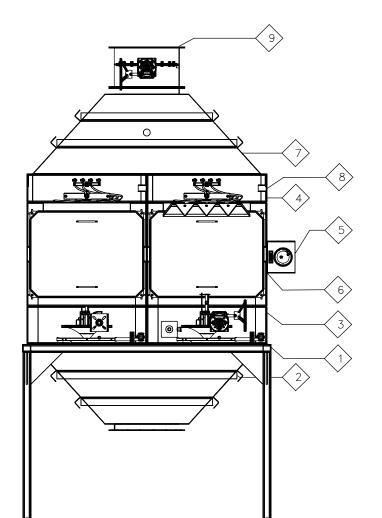




- KEYED NOTES: (1) INJECTION PORT, 3/4" VALVE WITH COUPLER AND DUCT PLUG
- $\langle 2 \rangle$  DECON PORT, 1-1/2" VALVE WITH COUPLER AND DUST PLUG (TYP OF 2)
- UPSTREAM DAMPER (MODEL NUMBER CF-1X1-BTLD-12-US-M-SS FOR SHFC-3-15, MODEL NUMBER CF-BTFB-12-PSR-SS-24V FOR SHEF-14)
- 4 SAMPLE PORT, 3/8 NPT SST HALF COUPLING WITH BRASS PLUG (TYP OF 2)
- (5) GAUGE, SST TUBING, SST FITTINGS, GAGE GAURDIAN (DWYER, MAGNEHELIC)
- 6 HEPA HOUSING, DOWN STREAM SEAL (MODEL NUMBER CF-1X1-012P-1FB-SS)
- QUICK CONNECT (TYP OF 4)
- SCAN HOUSING (MODEL NUMBER CF-1X1-SAFESCAN-M-SS)
- 9 DOWNSTREAM DAMPER (MODEL NUMBER CF-BTFB-8-M-SS)

# 5 PIPE PENETRATION AT CEILING

# 7 HEPA FILTER CONTAINMENT (SHFC-3-14, SHFC-3-15)

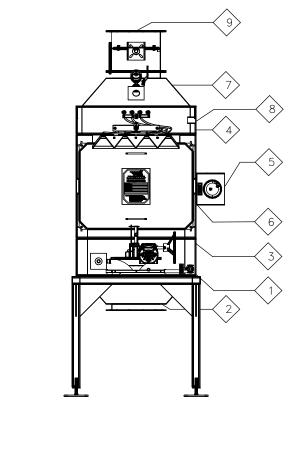


# KEYED NOTES:

1) INJECTION PORT, 3/4" VALVE WITH COUPLER AND DUCT PLUG (TYP OF 2) 2 DECON PORT, 1-1/2" VALVE WITH COUPLER AND DUST PLUG (TYP OF 3)

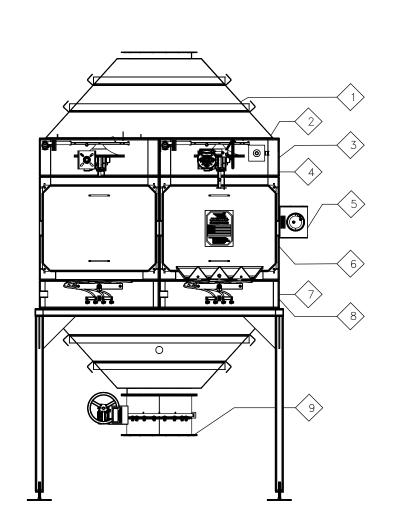
4 GRILLE AT CONTAINMENT CEILING
NO SCALE

- 3 UPSTREAM DAMPER (TYP OF 2, MODEL NUMBER CF-1X1-BTLD-12-US-M-SS)
- 4 SAMPLE PORT, 3/8 NPT SST HALF COUPLING WITH BRASS PLUG (TYP OF 4)
- (5) GAUGE, SST TUBING, SST FITTINGS, GAGE GAURDIAN (DWYER, MAGNEHELIC) 6 HEPA HOUSING, DOWN STREAM SEAL (TYP OF 2, MODEL NUMBER CF-1X1-012P-1FB-SS)
- 8 SCAN HOUSING (MODEL NUMBER CF-1X1-SAFESCAN-M-SS)
- 9 DOWNSTREAM DAMPER (MODEL NUMBER CF-BTFB-16-M-SS)



# **KEYED NOTES:**

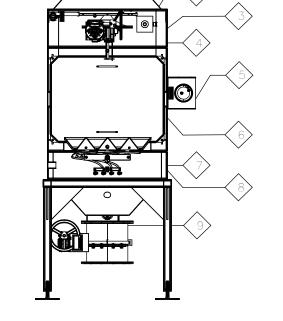
- 1 INJECTION PORT, 3/4" VALVE WITH COUPLER AND DUCT PLUG  $\langle 2 \rangle$  DECON PORT, 1-1/2" VALVE WITH COUPLER AND DUST PLUG (TYP OF 2)
- 3 UPSTREAM DAMPER (MODEL NUMBER CF-1X1-BTLD-12-US-M-SS)
- 4 SAMPLE PORT, 3/8 NPT SST HALF COUPLING WITH BRASS PLUG (TYP OF 2)
- (5) GAUGE, SST TUBING, SST FITTINGS, GAGE GAURDIAN (DWYER, MAGNEHELIC)
- 6 HEPA HOUSING, DOWN STREAM SEAL (MODEL NUMBER CF-1X1-012P-1FB-SS)
- QUICK CONNECT (TYP OF 4)
- 8 SCAN HOUSING (MODEL NUMBER CF-1X1-SAFESCAN-M-SS)
- 9 DOWNSTREAM DAMPER (MODEL NUMBER CF-BTFB-12-M-SS)



# **KEYED NOTES:**

- 1 INJECTION PORT, 3/4" VALVE WITH COUPLER AND DUCT PLUG (TYP OF 2)  $\langle 2 \rangle$  DECON PORT, 1-1/2" VALVE WITH COUPLER AND DUST PLUG (TYP OF 3)
- 3 UPSTREAM DAMPER (TYP OF 2, MODEL NUMBER CF-1X1-BTLD-12-US-M-SS)

- $\langle$  4 $\rangle$  SAMPLE PORT, 3/8 NPT SST HALF COUPLING WITH BRASS PLUG (TYP OF 4)
- (5) GAUGE, SST TUBING, SST FITTINGS, GAGE GAURDIAN (DWYER, MAGNEHELIC)
- 6 HEPA HOUSING, DOWN STREAM SEAL (TYP OF 2, MODEL NUMBER CF-1X1-012P-1FB-SS)
- 7 QUICK CONNECT (TYP OF 8)
- 8 SCAN HOUSING (MODEL NUMBER CF-1X1-SAFESCAN-M-SS) 9 DOWNSTREAM DAMPER (MODEL NUMBER CF-BTFB-16-M-SS)



#### KEYED NOTES: (1) INJECTION PORT, 3/4" VALVE WITH COUPLER AND DUCT PLUG

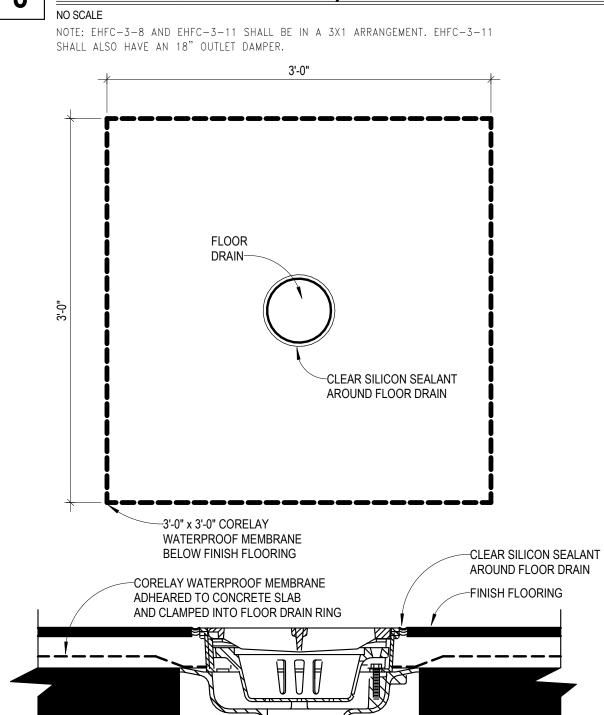
- $\langle 2 \rangle$  DECON PORT, 1-1/2" VALVE WITH COUPLER AND DUST PLUG (TYP OF 2)
- 3 UPSTREAM DAMPER (MODEL NUMBER CF-1X1-BTLD-12-US-M-SS)
- 4 SAMPLE PORT, 3/8 NPT SST HALF COUPLING WITH BRASS PLUG (TYP OF 2)
- (5) GAUGE, SST TUBING, SST FITTINGS, GAGE GAURDIAN (DWYER, MAGNEHELIC)

6 HEPA HOUSING, DOWN STREAM SEAL (MODEL NUMBER CF-1X1-012P-1FB-SS)

- QUICK CONNECT (TYP OF 4)
- SCAN HOUSING (MODEL NUMBER CF-1X1-SAFESCAN-M-SS)
- 9 DOWNSTREAM DAMPER (MODEL NUMBER CF-BTFB-10-M-SS)

# HEPA FILTER CONTAINMENT (EHFC-3-8,

# 8 EHFC-3-9, EHFC-3-11)



12 WATERPROOFING AT FLOOR DRAIN NO SCALE

# 9 HEPA FILTER CONTAINMENT (EHFC-3-14) NO SCALE

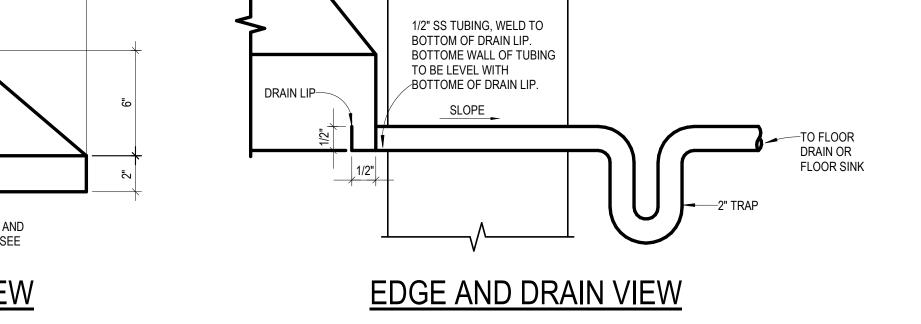
# 10 HEPA FILTER CONTAINMENT (SHFC-3-8, SHFC-3-11) NOTE: SHFC-3-11 SHALL BE IN A 3X1 ARRANGEMENT.

# 11 HEPA FILTER CONTAINMENT (SHFC-3-9, SHFC-3-10)

#### HOOD THREADED ROD SUPPORTS AT 1/2" SS TUBING, WELD TO EACH CORNER-BOTTOM OF DRAIN LIP. BOTTOME WALL OF TUBING TO BE LEVEL WITH BOTTOME OF DRAIN LIP. DRAIN LIP-SLOPE SLOPE DRAIN CONNECTION-ROLL ALL EDGES UNDER AND SLOPE TOWARD DRAIN, SEE EDGE AND DRAIN VIEW **FRONT VIEW** EDGE AND DRAIN VIEW

NOTE: PROVIDE POLISHED FINISH ON ALL EXPOSED SS SURFACES.





Mechanical Details

M3.01

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Architecture \(\big|\) Engineering \(\big|\) Interior Design \(\big|\)

**SHEET HISTORY:** 

ISSUED 12/18/23 Contract Documents

**Contract Documents** 

**LIDR - Renovate West** 

**Animal Holding, Rms** 

1020 East Campus Loop

University of Missouri

Columbia, MO 65211 CE No.: 624-216-22

UM No.: CP220692

December 18, 2023

114-149

**Landscape Architecture \( \) Planning** 

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Lincoln, Nebraska

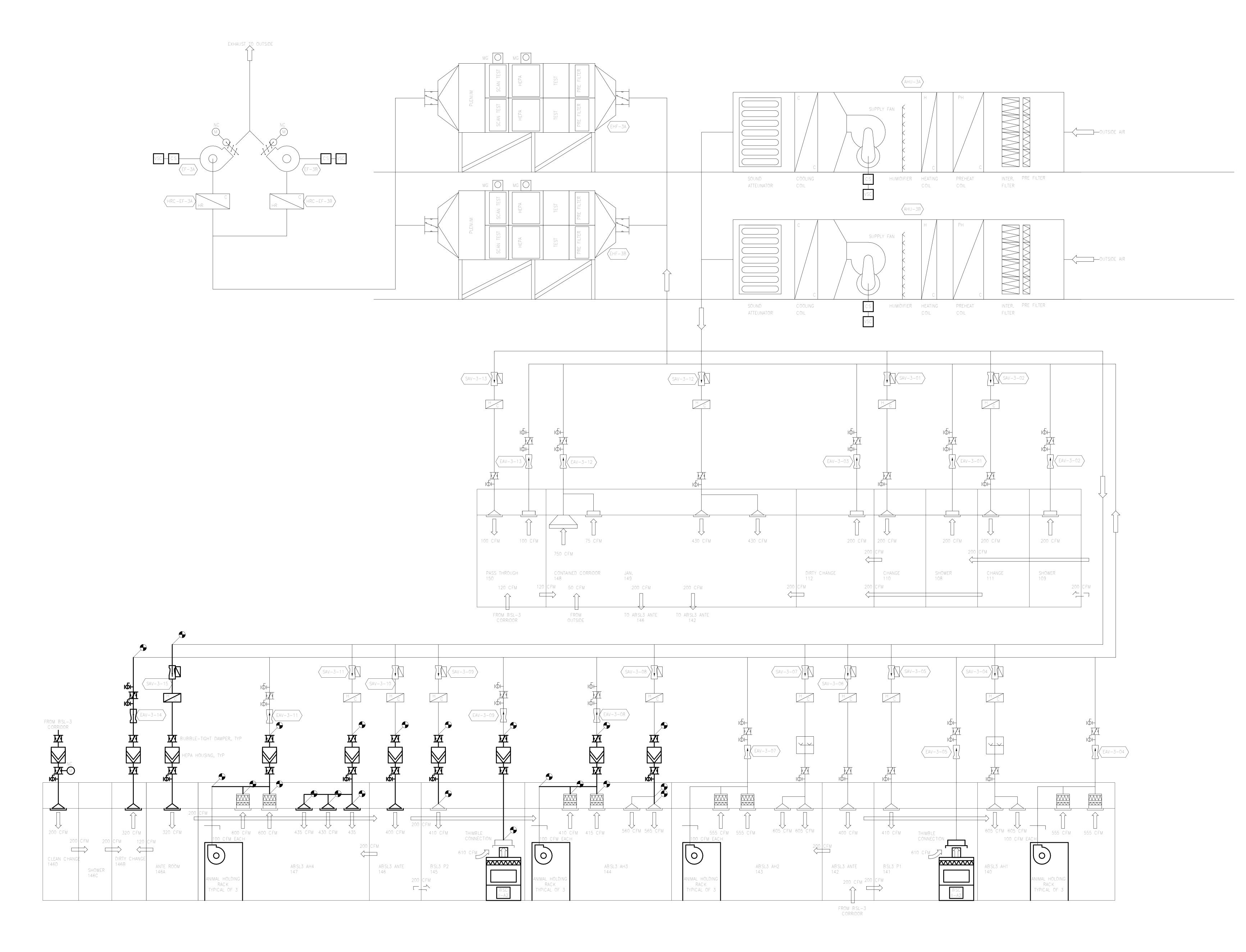
Kansas City, Missouri

Portland, Oregon Fort Collins, Colorado

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1010 Lincoln Mall, Suite 200 Lincoln, NE 68508-2883

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# **Contract Documents**

**LIDR - Renovate West Animal Holding, Rms** 114-149

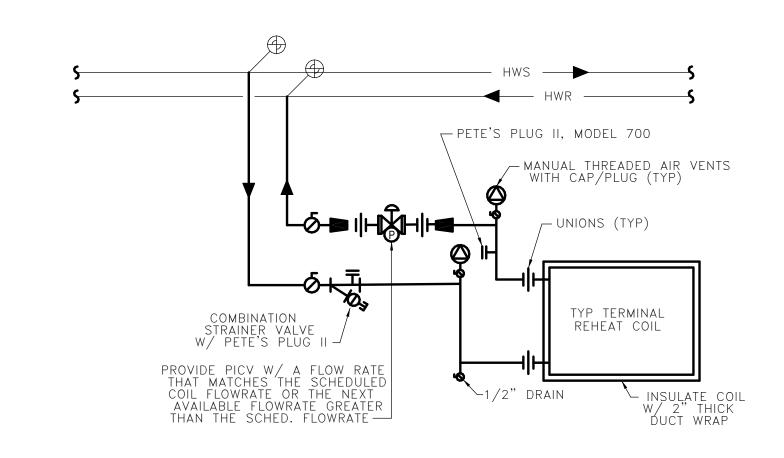
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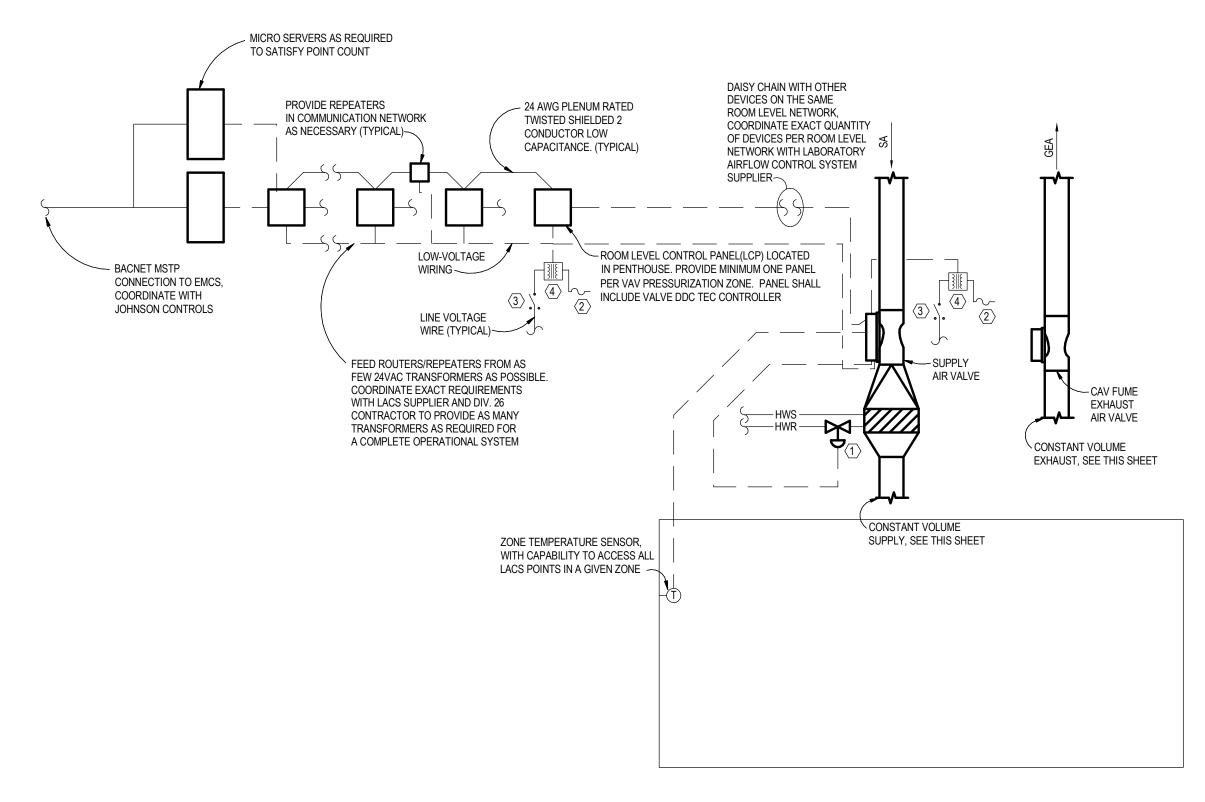


Air System Schematic M3.02

# AUTOCLAVE STEAM AND CONDENSATE PIPING SCHEMATIC NO SCALE

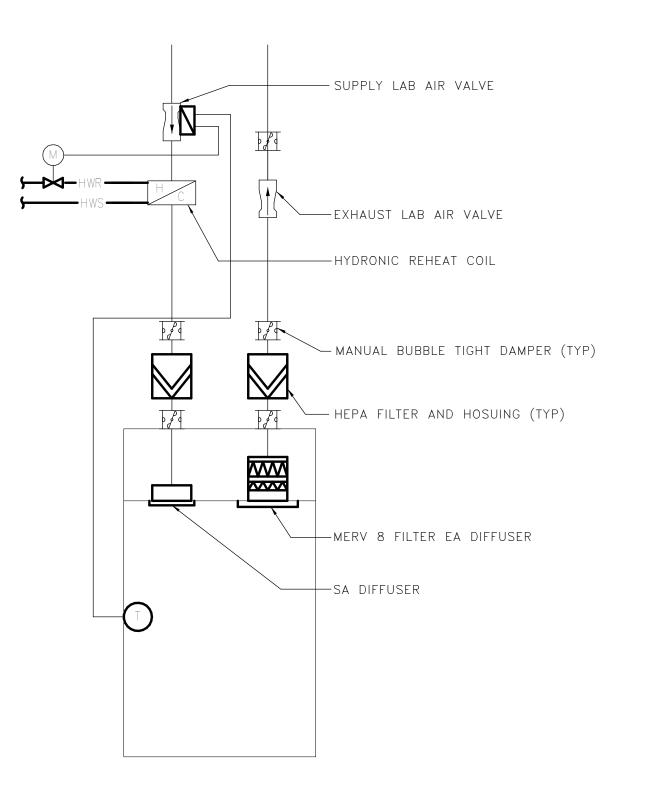


# 3 TERMINAL REHEAT COIL PIPING DETAIL NO SCALE



# LABORATORY AIRFLOW CONTROL SYSTEM DDC POINTS LIST

| TYPE  | POINT NAME              | DESCRIPTION   | <u>REMARKS</u>                 | EMCS SHALL ALARI   |
|-------|-------------------------|---|--------------------------------|--------------------|
| Al    | EFF-VLV-FLOW-FDBK       | EFFECTIVE FLOW FEEDBACK FROM VALVE (AIRFLOW IN CFM)   | PROVIDE FOR EACH VALVE         | ADJUSTABLE (INITIA |
| Al    | EFF-TEMP-SETPT          | AVERAGE OF COOLING AND HEATING SETPOINTS              | CALCULATED VALUE               | VARIES 10% OR M    |
| Al    | HEATING-DEMAND          | HEATING DEMAND OUTPUT                                 |                                |                    |
| Al    | OFFSET-SETPT            | ZONE OFFSET SETPOINT                                  | CONFIGURABLE ONLY FROM LACS    |                    |
| Al    | OFFSET                  | CALCULATED ZONE OFFSET                                | CALCULATED VALUE               |                    |
| Al    | TOTAL-ZONE-SUPPLY       | TOTAL ZONE SUPPLY AIRFLOW                             | CALCULATED VALUE               |                    |
| Al    | TOTAL-ZONE-EXHAUST      | TOTAL ZONE EXHAUST AIRFLOW                            | CALCULATED VALUE               |                    |
| Al    | TOTAL-CNST-VOL-EXH-FLOW | ENTERED VALUE OF ZONE CONSTANT VOLUME EXHAUST AIRFLOW | CONFIGURABLE ONLY FROM LACS    |                    |
| AI/AO | OCC-COOL-SETPT          | OCCUPIED COOLING SETPOINT                             | CONFIGURABLE FROM LACS OR EMCS |                    |
| AI/AO | OCC-HEAT-SETPT          | OCCUPIED HEATING SETPOINT                             | CONFIGURABLE FROM LACS OR EMCS |                    |
| BI    | JAM-ALARM               | VALVE UNABLE TO REACH COMMANDED SETPOINT              | PROVIDE FOR EACH VALVE         | RECEIPT OF SIGNAL  |



# 2 TYPICAL CONTAINED SPACE

#### TYPICAL CONTAINED SPACE

THE CONTAINED SPACES (BSL-3 ROOMS) OPERATE AT CONSTANT VOLUME WITH PRESET AIR FLOW OFFSETS TO GIVE THE REQUIRED PRESSURE GRADIENTS BETWEEN THE SPACES. SUPPLY AIR IS PROVIDED BY FIXED SUPPLY AIR VALVES WITH REHEAT COILS. THESE VALVES HAVE ROOM LEVEL CONTROLLERS FOR HEATING CONTROL BUT HAVE NO ACTUATOR TO ALLOW ADJUSTMENT OF AIR FLOW SETTINGS. THE REHEAT COIL CONTROL VALVE IS MODULATED BY THE ROOM LEVEL CONTROLLER TO MAINTAIN ROOM TEMPERATURE AS SENSED BY THE SPACE TEMPERATURE SENSOR AT SETPOINT (ADJUSTABLE, INITIAL SETTING 70 DEG F HEATING).

CONSTANT VOLUME AIR VALVES ARE PROVIDED FOR EXHAUST, THESE AIR VALVES HAVE NO EXTERNAL CONTROL INPUTS.

THE DIFFERENTIAL AIR PRESSURE INTO EACH CONTAINED SPACE IS MONITORED BY A AIR FLOW PRESSURE INDICATOR PANEL. LOSS OF PRESSURE DIFFERENTIAL FOR A SET PERIOD OF TIME (INITIAL SETPOINT 2 MINUTES) WILL INDICATE AND SOUND AN ALARM. THE INDICATORS ARE MONITORED AT A PANEL IN THE SECURITY ROOM AND FROM THERE TRANSMIT AN ALARM, BUT DO NOT HAVE ANY AUTOMATIC CONTROL FUNCTION.

UPON FAILURE OF THE AHU-3A/3B, THE AIR ACTUATED BUBBLE TIGHT DAMPER THAT SERVES AS A TRANSFER BETWEEN CLEAN CHANGE 146D AND CONTAINED CORRIDOR 148 SHALL REMAIN OPEN TO ACT AS A TRANSFER PATH FOR THE EXHAUST FANS. UPON FAILURE OF EF-3A/3B, THE DAMPER SHALL CLOSE.

# BUBBLE TIGHT DAMPER DDC POINTS LIST

<u>DESCRIPTION</u>

TXFR AIR BUBBLE TIGHT DAMPER COMMAND ELECTRIC ACTUATOR

## LABORATORY AIRFLOW 4 CONTROL SYSTEM SCHEMATIC NO SCALE

## **KEYED NOTES:**

- 1 ELECTRIC ACTUATOR PROVIDED WITH PRESSURE INDEPENDENT CONTROL VALVE..
- $\langle 2 
  angle$  inline fuse on secondary of 24VAC transformer. Located within eyesight of electric ACTUATOR. COORDINATE FUSE SIZE WITH DIV. 26 CONTRACTOR AND EMCS SUPPLIER. PROVIDE ONE TRANSFORMER PER VALVE.
- (3) SERVICE DISCONNECT/SWITCH. LOCATED WITHIN EYESIGHT OF ELECTRIC ACTUATOR.
- $\overline{\langle 4 \rangle}$  24VAC TRANSFORMER, PROVIDED AND INSTALLED BY EMCS SUPPLIER.

## **GENERAL NOTES:**

RECEIPT OF SIGNAL

1. SEE SPECIFICATION SECTION 23 36 50 FOR INFORMATION ON INTERFACING LACS

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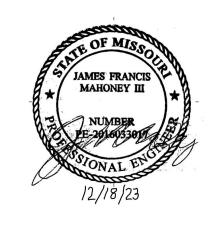
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# **Contract Documents**

**LIDR - Renovate West Animal Holding, Rms** 114-149

1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

December 18, 2023



Mechanical Controls
M4.01

OR EQUIVALENT

. CAST IRON BODY, RATED FOR 250 PSIG AT 450 DEG. F, CONTINUOUS AIR VENTING AT STEAM TEMPERATURE, FREE-FLOATING STAINLESS STEEL MECHANISM, DISCHARGE ORIFICE AT TOP OF TRAP, THERMIC VENT BUCKET, 3/4" NPT CONNECTIONS.

IIVADANIC SDECIALTIES SCHEDIILE

| HYDRONIC SPEC | AYDRONIC SPECIALTIES SCHEDULE |                 |  |                                   |                                |        |          |  |  |  |  |  |  |  |  |
|---------------|-------------------------------|-----------------|--|-----------------------------------|--------------------------------|--------|----------|--|--|--|--|--|--|--|--|
| MARK:         | FUNCTION:                     | SERVES:         | OPERATING<br>CONDITIONS:               | CAPACITY:                         | MANUFACTURER<br>OR EQUIVALENT: | MODEL: | REMARKS: |  |  |  |  |  |  |  |  |
| T-1           | STEAM TRAP                    | EDS<br>DRIP LEG | 45 PSIG STEAM,<br>10 PSIG DIFFERENTIAL | 6 LBS/HR,<br>INVERTED BUCKET TRAP | ARMSTRONG                      | 800    | 1        |  |  |  |  |  |  |  |  |
| REMARKS:      |                               |                 |  |                                   |                                |        |          |  |  |  |  |  |  |  |  |

| LABORAT | ORY AIRFLOW CONTRO | OL SYSTEM V | ALVE SO | CHEDULE  |       |          |           |            |             |            |      |           |           |             |             |         |
|---------|--------------------|-------------|---------|----------|-------|----------|-----------|------------|-------------|------------|------|-----------|-----------|-------------|-------------|---------|
|         | ROOM DATA:         |             |         |          | LA    | B SUPPLY | AIR VALVE | (SAV):     |             |            | GEN  | IERAL EXH | AUST VALV | E (EAV):    |             |         |
| ROOM    | ROOM               | ROOM VOL.   | OFFSET  |          | MAX.  | MIN.     |           | REHEAT     | AIR P.D.    |            | MAX. | MIN.      |           | HOOD        | AIR P.D.    |         |
| NUMBER: | NAME:              | (IN CF):    | CFM:    | MARK:    | CFM:  | CFM:     | SIZE:     | COIL NO.   | (IN. W.C.): | MARK:      | CFM: | CFM:      | SIZE:     | TYPE:       | (IN. W.C.): | REMARKS |
| 146A    | ANTE ROOM          | 240         | 320     | SAV-3-15 | 320   | 320      | 1-8       | HC-3-15    | 0.3         | -          | -    | -         | -         | -           | -           | 1,2,3   |
| 146B    | DIRTY CHANGE       | 311         | 320     | -        | -     | -        | -         | -          | -           | EAV-3-14   | 320  | 320       | 1-8       |             | 0.3         | 1,2,3,4 |
| 148     | CONTAINED CORRIDOR | 4,350       | 80      | SAV-3-12 | 1,080 | 1,080    | 1-12      | HC-3-12(E) | 0.3         | EAV-3-12-2 | 300  | 300       | 1-8       | CANOPY HOOD | 0.3         | 1,2,3,4 |

1. SEE SPECIFICATIONS AND MECHANICAL CONTROLS DRAWINGS FOR FURTHER INFORMATION REGARDING LACS SYSTEM

4. FACTORY INSTALL WHATMAN M/N 6723-5000 FILTER ON SENSING TUBES SERVING VALVE PRESSURE TRANSDUCER ON EXHAUST AIR VALVES.

2. SCHEDULED AIRFLOWS ARE BASED ON PHOENIX VENTURI AIRFLOW CONTROL VALVES.

3. CALIBRATE LAB CONTROL VALVES FOR 750 FT ABOVE SEA LEVEL.

REHEAT COIL SCHEDULE

|          |                |         |             |          |          |       |       |       |       |              |       | FLUID PD   |             |                        |                 |
|----------|----------------|---------|-------------|----------|----------|-------|-------|-------|-------|--------------|-------|------------|-------------|------------------------|-----------------|
|          |                | COIL    | COIL        |          | WATER    |       |       |       |       | REHEAT       |       | PRESSURE   | FIN         |                        |                 |
|          | SERVES         | AIRFLOW | APD         | CAPACITY | FLOWRATE | EWT   | LWT   | EAT   | LAT   | COIL SIZE    | COIL  | DROP       | SPACING     | MANUFACTURER           |                 |
| MARK:    | ROOMS:         | (CFM):  | (IN. W.G.): | (MBH):   | (GPM):   | (°F): | (°F): | (°F): | (°F): | WxH (INCHES) | ROWS: | (FT. W.G.) | (FINS/FOOT) | OR EQUIVALENT:         | REMARKS:        |
| RHC-3-15 | 146A ANTE ROOM | 320     | 0.07        | 12.2     | 0.8      | 180.0 | 140.0 | 55.0  | 90.0  | 12x12        | 1     | 0.02       | 144         | TRANE 5W (PRIMA-FLO-H) | 1,2,3,4,5,6,7,8 |

AND NECK SIZE

SCHEDULE NOTES AND REMARKS:

. ALL REHEAT COILS SHALL BE PROVIDED WITH A HINGED, GASKETED ACCESS DOOR UPSTREAM OF COIL FOR CLEANING PURPOSES.

2. COIL AIR PRESSURE DROPS LISTED ARE AT MAXIMUM AIRFLOW.

. PROVIDE WITH SLIP FLANGE CASING

4. COPPER TUBING WITH ALUMINUM FINS 5. RATED AT 200 PSI

6. PROVIDE WITH DRAIN AND VENT CONNECTIONS ON COIL

. ALL PERFORMANCE INFORMATION CORRECTED FOR JOB SITE ALTITUDE ABOVE SEA LEVEL: 750FT.

8. HEATING WATER FLUID IS WATER, NO GLYCOL.

| HEPA FILT | ER HOUS | SING UNITS   |                |               |                |                |                                |                |                |          |  |  |
|-----------|---------|--------------|----------------|---------------|----------------|----------------|--------------------------------|----------------|----------------|----------|--|--|
|           |         | ROOM DATA:   |                |               |                | FILTER DATA    |                                | TOTAL SYSTEM   |                |          |  |  |
|           | ROOM    | ROOM         | ASSOCIATED LAB |               | CLEAN PRESSURE | DIRTY PRESSURE |                                | CLEAN PRESSURE | DIRTY PRESSURE |          |  |  |
| MARK:     | NUMBER: | NAME:        | AIR VALVE      | AIRFLOW (CFM) | DROP (W.G.)    | DROP (W.G.)    | MODEL:                         | DROP (W.G.)    | DROP (W.G.)    | REMARKS: |  |  |
| SHFC-3-9  | 145     | BSL3 P2      | SAV-3-9        | 410           | 0.28"          | 0.55"          | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.38"          | 0.68"          | 1-4      |  |  |
| SHFC-3-10 | 146     | ABSL3 ANTE   | SAV-3-10       | 400           | 0.27"          | 0.54"          | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.37"          | 0.67           | 1-4      |  |  |
| SHFC-3-14 | 146D    | CLEAN CHANGE | N/A            | 200           | 0.23"          | 0.4"           | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.23"          | 0.4"           | 1,3,4,5  |  |  |
| SHFC-3-15 | 145A    | ANTE ROOM    | SAV-3-15       | 320           | 0.32"          | 0.55"          | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.32"          | 0.55"          | 1-4      |  |  |
| SHFC-3-11 | 147     | ABSL3 AH4    | SAV-3-11       | 1300          | 0.36"          | 0.66"          | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.42"          | 0.74"          | 1-4      |  |  |
| SHFC-3-8  | 144     | ABSL3 AH3    | SAV-3-8        | 925           | 0.31"          | 0.62"          | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.42"          | 0.76"          | 1-4      |  |  |
| EHFC-3-9  | 145     | BSL3 P2      | EAV-3-9        | 610           | 0.30"          | 0.50"          | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.33"          | 0.56"          | 1-4      |  |  |
| EHFC-3-14 | 146B    | DIRTY CHANGE | EAV-3-14       | 320           | 0.21"          | 0.36"          | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.24"          | 0.43"          | 1-4      |  |  |
| EHFC-3-8  | 144     | ABSL3 AH3    | EAV-3-8        | 1125          | 0.29"          | 0.57"          | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.35"          | 0.63"          | 1-4      |  |  |
| EHFC-3-11 | 147     | ABSL3 AH4    | EAV-3-11       | 1500          | 0.35"          | 0.68"          | 12XH-24Z24Z12-FD-3-C-A-00-A/00 | 0.44"          | 0.81"          | 1-4      |  |  |

1. SEE SPECIFICATION SECTION 234000 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

2. SCHEDULED AIRFLOWS ARE BASED ON PHOENIX VENTURI AIRFLOW CONTROL VALVES. 3. PROVIDE WITH LOCKABLE DECON PORT, SAMPLE PORT, FLANGE CONNECTIONS, SCAN HOUSING, INLET/OUTLET BUBBLE TIGHT DAMPERS, AND GAUGE

4. CONFIRM SUPPORT HEIGHT WITH MECHANICAL CONTRACTOR PRIOR TO ORDERING. 5. AIRFLOW IS BASED ON TRANSFER AIR FROM CORRIDOR TO CONTAINED SPACE, NOT CONNECTED TO A VALVE. PROVIDE TWO-WAY ACTUATOR ON BUBBLE-TIGHT DAMPER FOR CONTROL.

| MARK:_ | FUNCTION:        |                       | MANUFACTURER AND MODEL:  | WASTE:      | VENT:       | PHW: | PCW: | NPHW: | NPCW: |
|--------|------------------|-----------------------|--|-------------|-------------|------|------|-------|-------|
| FD-1   | FLOOR DRAIN      | DRAIN:                | CAST IRON BODY WITH FLANGE, INTEGRAL CLAMPING COLLAR, SEEPAGE OPENINGS, 5" TOP SIZE, NICKEL BRONZE STRAINER. PROVIDE WITH TRAP SEAL. INSTALL WITH 8" DEEP TRAP. TRAP PRIMERS ARE NOT ALLOWED.  | (SEE PLANS) | (SEE PLANS) |      |      |       |       |
| FS-1   | FLOOR SINK       | DRAIN:                | WADE MODEL 9140LF OR EQUIVALENT. CAST IRON BODY, 12 X 12 BY 8" DEEP WITH ACID RESISTANT EPOXY INTERIOR. AND THREE QUARTER NICKEL BRONZE 12" X 12" GRATE. PROVIDED WITH SECONDARY INTERNAL DOME STRAINER, NO HUB CONNECTION, SEEPAGE FLANGE AND CLAMP DEVICE. INSTALL WITH 8" DEEP TRAP. TRAP PRIMERS ARE NOT ALLOWED.  | (SEE PLANS) | (SEE PLANS) |      |      |       |       |
| HFV-1  | HEPA FILTER VENT | HOUSING AND<br>FILTER | CAMFIL CAMCONTAIN CAM VENT OR APPROVED EQUIVLENT, 6" NON-INTRUSIVE FILTER VALIDATION BIOCONTAINMENT VENTING SYSTEM 6" INLET/OUTLET BUTTERFLY VALVE, AIRFLOW LABEL, DECON PORT (1-1/4" BALL VALVE WITH CAM-LOCK & DUST PLUG, TYP OF 2), SCAN KNOB/MOTOR MOUNT, SCAN PROBE PORT (1/4" COLOR KEYED DISCONNECT), QUICK DISCONNECT PULL RING (TYP OF 3), HOUSING LABEL, REDUCER WEIGHT 100 LBS, PROVIDE FIELD FLOOR SUPPORT FOR EACH HOUSING. |             | (SEE PLANS) |      |      |       |       |
| SH-1   | SHOWER           | VALVE:                | AMERICAN STANDARD MODEL 1662.221 OR APPROVED EQUIVALENT. COMMERCIAL SHOWER SYSTEM, 2.5 GPM WITH HAND SHOWER, VACUUM BREAKER, 36" SLIDE BAR, CAST BRASS BODY VALVE HOT LIMIT SAFETY STOP, ADA COMPLIANT   |             |             | 1/2" | 1/2" | 1/2"  | 1/2"  |
| WDS-1  | WASHDOWN STATION | BIBB:                 | T&S BRASS MODEL B-1451-01 OR EQUIVALENT WALL MOUNTED HOT & COLD WATER WASHDOWN STATION W/ THERMOMETER, MIXING VALVE W/ 3/4" MPT INLETS, 50' CREAMERY HOSE W/ WATER GUN & HOSE RACK, HOSE SWIVEL, CHECK VALVES, HOT & COLD WATER GLOBE VALVES   |             |             |      |      | 3/4"  | 3/4"  |

# PLUMBING SPECIALTIES SCHEDULE

|       |                    |                    |                 | MANUFACTURER/     |   |
|-------|--------------------|--------------------|-----------------|-------------------|---|
| MARK: | FUNCTION:          | SERVES:            | CAPACITY:       | MODEL:            | DESCRIPTION:  |
| BFP-1 | BACKFLOW PREVENTER | POTABLE COLD WATER | 3/4" VALVE SIZE | WATTS LF009       | REDUCED PRESSURE ZONE ASSEMBLY TYPE, ASSE 1013 AND AWWA C511-92 COMPLIANT, RATED FOR 175 PSIG |
|       |                    | POTABLE HOT WATER  |                 | OR APPROV. EQUIV. |   |
|       |                    |                    |                 |                   |   |

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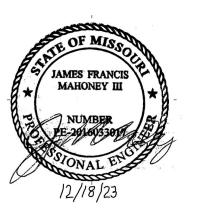
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1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

December 18, 2023



Mechanical Schedules
M5.01

|   | ABBREVIATIONS   |                       | LIGHTING   | ELECTRICAL DISTRIBU  | JTION                                 | ELECTRICAL DISTRIBUTION EQUIPMENT   |          | MOTOR CONTROL & MOTOR CONTROL EQUIPMENT  |                | SPECIAL SYSTEMS                                   |
|---|---|-----------------------|--|--|---------------------------------------|---|----------|--|----------------|---|
|   | ABOVE FINISHED FLOOR<br>ABOVE FINISH GRADE  | O <sub>(-</sub> ) (-) | POLE MOUNTED EXTERIOR LIGHT FIXTURE. LETTER INDICATES FIXTURE AND POLE TYPE.   | S SINGLE POLE SWITCH   | _                                     | LIGHTING AND APPLIANCE PANEL  | M        | MOTOR - HORSEPOWER AS INDICATED ON DRAWINGS  |                | CCTV CAMERA                                       |
|   | SUBSCRIPT 'C' ADJACENT TO ANY DEVICE INDICATES CEILING.   | (-)                   | LINEAR FIXTURE. LETTER/NUMBER DENOTES FIXTURE TYPE.  | S <sub>2</sub> TWO POLE SWITCH   |                                       | (LIGHTING) RELAY PANEL  |          | NON-FUSED DISCONNECT SWITCH, ASSUME 30A/3P UNLESS OTHERWISE NOTED.   | (ŝ)            | INTERCOM/PUBLIC ADDRESS SPEAKER - SURFACE MOUNTED |
|   | CABLE TELEVISION CLOSED CIRCUIT TELEVISION  | (-)                   | LINEAR FIXTURE WITH EMERGENCY BATTERY BACKUP AND/OR ON EM  | S <sub>3</sub> THREE WAY SWITCH  |                                       | MOTOR CONTROL CENTER OR SWITCHBOARD   |          | FUSED DISCONNECT SWITCH, FUSE SIZE AS NOTED ON DRAWINGS, ASSUME 30A/3P UNLESS OTHERWISE NOTED.                           | $\downarrow s$ | INTERCOM/PUBLIC ADDRESS SPEAKER - WALL MOUNTED    |
|   | DISTRIBUTED ANTENNA SYSTEM  | (7)                   | CIRCUIT. LETTER/NUMBER DENOTES FIXTURE TYPE.   | S <sub>4</sub> FOUR WAY SWITCH   |                                       | POWER PANEL (DISTRIBUTION)  |          | COMBINATION FVNR MAGNETIC MOTOR STARTER WITH HOA SELECTOR  | (\$)           | INTERCOM/PUBLIC ADDRESS SPEAKER - RECESSED        |
|   | SUBSCRIPT 'E' ADJACENT TO ANY DEVICE INDICATES EXISTING. EMERGENCY POWER OFF                    | (-)                   | 2' X 4' TROFFER. LETTER/NUMBER DENOTES FIXTURE TYPE.   | S <sub>D</sub> DIMMER SWITCH   | T >                                   | TRANSFORMER   |          | SWITCH AND NON-FUSED DISCONNECT SWITCH, ASSUME NEMA SIZE 1 STARTER AND 30A/3P SWITCH UNLESS OTHERWISE NOTED.             | CR             | SECURITY SYSTEM CARD READER AND OUTLET BOX        |
|   | SUBSCRIPT 'ER' ADJACENT TO ANY DEVICE INDICATES EXISTING TO BE RELOCATED.                       |                       | 2' X 4' TROFFER WITH EMERGENCY BATTERY BACKUP AND/OR ON EM   | S <sub>TE</sub> THERMAL ELEMENT SWITCH   |                                       | CIRCUIT BREAKER   |          | COMBINATION FVNR MAGNETIC MOTOR STARTER WITH HOA SELECTOR SWITCH AND FUSED DISCONNECT SWITCH, ASSUME NEMA SIZE 1 STARTER | EL             | ELECTRIC DOOR LOCK                                |
|   | ELECTRIC WATER COOLER   | (-)                   | CIRCUIT. LETTER/NUMBER DENOTES FIXTURE TYPE.   | S <sub>O</sub> OCCUPANCY SENSING SWITCH  |                                       | FUSIBLE SWITCH  |          | AND 30A/3P SWITCH UNLESS OTHERWISE NOTED.  | DM             | DOOR MONITOR SWITCH                               |
|   | SUBSCRIPT 'F' ADJACENT TO ANY DEVICE INDICATES FLOOR.   | (-)                   | 1' X 4' TROFFER. LETTER/NUMBER DENOTES FIXTURE TYPE.   | S <sub>T</sub> LINE VOLTAGE DIGITAL TIMER SWITCH, WATTSTOPPER #  | 1 1                                   | AUTOMATIC TRANSFER SWITCH   |          | MECHANICAL EQUIPMENT STARTER/DISCONNECT PROVIDED BY OTHERS, INSTALLED AND CONNECTED BY THE ELECTRICAL CONTRACTOR. FULLY  | REX            | REQUEST TO EXIT PUSHBUTTON/MAGNETIC INTERLOCK OVE |
|   | GROUND FAULT INTERRUPTER SUBSCRIPT 'H' DENOTES HOSPITAL GRADE                                   | (-)                   | 1' X 4' TROFFER WITH EMERGENCY BATTERY BACKUP AND/OR ON EM CIRCUIT. LETTER/NUMBER DENOTES FIXTURE TYPE.                  | 20A, 125V DOUBLE DUPLEX CONVENIENCE OUTLET (NEM  | A 5 - 20R)                            | POTENTIAL TRANSFORMER   |          | COORDINATE ALL INSTALLATION AND CONNECTION DETAILS WITH THE MECHANICAL CONTRACTOR.                                       | MAG            | MAGNETIC DOOR LOCK                                |
|   | HAND-OFF-AUTO<br>NON-FUSED  |                       | 2' X 2' TROFFER. LETTER/NUMBER DENOTES FIXTURE TYPE.   | 20A, 125V DUPLEX CONVENIENCE OUTLET (NEMA 5 - 20R)   | · · · · · · · · · · · · · · · · · · · | CURRENT TRANSFORMER   |          | FVNR MAGNETIC MOTOR STARTER WITH HOA SELECTOR SWITCH, ASSUME NEMA SIZE 1 STARTER UNLESS OTHERWISE NOTED.                 | KP             | KEY PAD   |
|   | NON-FUSED<br>NOT IN CONTRACT  | (-)                   | OLY OLI TROCFFED WITH EMERGENIAN PATTERNY RADIANT AND OR ON EX-  | 20A, 125V DOUBLE DUPLEX CONVENIENCE OUTLET (NEMA 5 CHARGING PORTS.   | - 1                                   | GROUND  |          | START/STOP PUSH BUTTON   | SSA            | SECURITY SYSTEM ANNUNCIATOR                       |
|   | OVERHEAD ELECTRICAL OVERHEAD TELEPHONE  | (-)                   | 2' X 2' TROFFER WITH EMERGENCY BATTERY BACKUP AND/OR ON EM CIRCUIT. LETTER/NUMBER DENOTES FIXTURE TYPE.                  | CHARGING PORTS.  (1) 20A, 125V DUPLEX CONVENIENCE OUTLET (NEMA 5 - 20R) WIT                                  | TH USB CHARGING                       | ENGINE GENERATOR  |          | 3 POSITION PUSH BUTTON   | REX            | REQUEST TO EXIT MOTION SENSOR                     |
|   | POLYVINYL CHLORIDE  | (J)                   | 2' X 4' SURFACE OR PENDANT MOUNTED FIXTURE. LETTER/NUMBER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING   | MUSB PORTS.  | R COS OF IVECORING                    | REMOTE GENERATOR ANNUNCIATOR  | <u> </u> | PUSH BUTTON  | PIR            |   |
|   | SUBSCRIPT 'R' ADJACENT TO ANY DEVICE INDICATES THE<br>RELOCATED POSITION OF AN EXISTING DEVICE. | (-)                   | HEIGHT.  | 20A, 125V SIMPLEX OUTLET (NEMA 5 - 20R)  |                                       | METER  DANIEL BOARD TAC. SEE THE CORRESPONDING DANIEL BOARD SCHEDULE  |          | VARIABLE FREQUENCY DRIVE PROVIDED BY OTHERS, INSTALLED AND   | 1              |   |
|   | RIGID GALVANIZED STEEL  | <u></u>               | 2' X 4' SURFACE OR PENDANT MOUNTED FIXTURE WITH EMERGENCY BATTERY BACKUP AND/OR ON EM CIRCUIT. LETTER/NUMBER DENOTES     | Q0A, 125V RED DUPLEX CONVENIENCE OUTLET ON EMERGEN (NEMA 5 - 20R)  | NCY SYSTEM PN                         | PANELBOARD TAG. SEE THE CORRESPONDING PANELBOARD SCHEDULE AND/OR ONE LINE DIAGRAM FOR ADDITIONAL INFORMATION. |          | CONNECTED BY THE ELECTRICAL CONTRACTOR. FULLY COORDINATE ALL INSTALLATION AND CONNECTION DETAILS WITH THE MECHANICAL     |                |   |
|   | SUBSCRIPT 'S' ADJACENT TO ANY DEVICE INDICATES THE DEVICE IS TO BE SURFACE MOUNTED.             | (-)                   | FIXTURE TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING HEIGHT.  2' X 4' TROFFER RECESSED IN GWBD OR PLASTER CEILING LETTER | 20A, 125V DUPLEX CONVENIENCE OUTLET - CEILING AND FLO  | OOR MOUNTED                           |   |          | CONTRACTOR.  | -              |   |
|   | TAMPER RESISTANT  | (-)                   | DENOTES FIXTURE TYPE.  | SPECIAL PURPOSE OUTLET, TYPE AS NOTED ON DRAWIN  | IGS.                                  | FIRE ALARM  |          |  |                |   |
|   | JNDERGROUND ELECTRICAL JNIVERSAL SERIAL BUS   | J                     | 2' X 4' TROFFER WITH EMERGENCY BATTERY BACKUP AND/OR ON EM   | 20A, 125V SAFETY DUPLEX CONVENIENCE OUTLET (NEM)   |                                       | FIRE ALARM MANUAL PULL STATION  | _        |  |                |   |
|   | JNDERGROUND MEDIUM OR HIGH VOLTAGE ELECTRICAL   | (-)                   | CIRCUIT, RECESSED IN GWBD OR PLASTER CEILING. LETTER DENOTES FIXTURE TYPE.   | SURFACE MOUNTED RACEWAY. TYPE AND NUMBER OF DEV  |                                       | FIRE ALARM SPEAKER (OR HORN)/STROBE UNIT (FIELD ADJUSTABLE)   |          |  |                |   |
|   | JNDERGROUND TELEPHONE WIRELESS ACCESS POINT   | (-)                   | SURFACE OR PENDANT MOUNTED FIXTURE. LETTER/NUMBER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING HEIGHT.   | INDICATED, REFER TO SPECIFICATION AND DETAIL.  SURFACE MOUNTED RACEWAY (RED OUTLETS ON STANDBY               | SYSTEM). TYPE                         | FIRE ALARM SPEAKER (OR HORN) UNIT (FIELD ADJUSTABLE)  | _        |  |                |   |
|   | NIRE GUARD  |                       | SURFACE OR PENDANT MOUNTED FIXTURE WITH EMERGENCY BATTERY BACKUP AND/OR ON EM CIRCUIT. LETTER/NUMBER DENOTES FIXTURE     | AND NUMBER OF DEVICES AS INDICATED, REFER TO SPECIF DETAIL.  | ICATION AND                           | FIRE ALARM COMBINATION BELL AND FLASHING LIGHT  | _        |  |                |   |
|   | WEATHERPROOF WEATHERPROOF IN-USE TYPE   | (-)                   | TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING HEIGHT.   | PIGTAIL DENOTES CONNECTION TO EQUIPMENT  |                                       | FIRE ALARM FLASHING STROBE LIGHT (FIELD ADJUSTABLE)   |          |  |                |   |
|   | CROSS-HATCHING INDICATES REMOVAL  |                       | 2' X 2' SURFACE OR PENDANT MOUNTED FIXTURE. LETTER/NUMBER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING   |  | 1 1 -                                 | FIRE ALARM BELL   |          |  |                |   |
|   |   | (-)                   | HEIGHT.  2' X 2' SURFACE OR PENDANT MOUNTED FIXTURE WITH EMERGENCY   | C F DEVICES SHALL BE FLUSH MOUNTED AT 18" AFF UNLESS OTI  2 GANG TELECOMMUNICATIONS/DATA OUTLET BOX WITH SIN | izittilez ite izzi                    | MAGNETIC DOOR HOLD OPEN DEVICE  |          |  |                |   |
|   |   | ( <del>-</del> )      | BATTERY BACKUP AND/OR ON EM CIRCUIT. LETTER/NUMBER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING HEIGHT.  | EXTENSION RING FLUSH MOUNTED AT 18" AFF UNLESS OTHE ROUTE (1) 1" CONDUIT, CONCEALED, FROM BOX AND STUB A     |                                       | POST SUPERVISORY VALVE CONTACTS   | -        |  |                |   |
|   |   |                       | WALL MOUNTED FIXTURE. LETTER/NUMBER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING HEIGHT.                 | ACCESSIBLE CEILING. BUSH CONDUIT ENDS. REFERENCE T<br>AND BSL3/ABSL3 GENERAL NOTES FOR ADDITIONAL INFORM     |                                       | SUPERVISORY VALVE CONTACTS  |          |  |                |   |
|   |   | (-) ⊥                 | WALL MOUNTED FIXTURE WITH EMERGENCY BATTERY BACKUP AND/OR  | WITH THE BSL3/ABSL3 BARRIER.   |                                       | R FIRE ALARM RELAY  |          |  |                |   |
|   |   | (-) <u>\</u>          | ON EM CIRCUIT. LETTER/NUMBER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING HEIGHT.                        | TELEPHONE TERMINAL BOARD OR TERMINAL CABINET - SIZE INDICATED (TTB OR TTC).                                  | AND TYPE AS                           | WATER FLOW SWITCH, COORDINATE EXACT LOCATION WITH FIRE  |          |  |                |   |
|   |   | (-)                   | 1' X 4' TROFFER RECESSED IN GWBD OR PLASTER CEILING. LETTER DENOTES FIXTURE TYPE.  | BRANCH CIRCUIT HOMERUN TO PANEL (NUMBER OF ARROW NUMBER OF CIRCUITS. NUMBER OF TICK MARKS INDICATES          |                                       | PROTECTION SUPPLIER INSTALLER.  |          |  |                |   |
|   |   |                       | 1' X 4' TROFFER WITH EMERGENCY BATTERY BACKUP AND/OR ON EM   | WIRES) (NUMBER 12AWG, MINIMUM, UNLESS OTHERWISE NO MARKS ARE SHOWN, ASSUME 3- NUMBER 12 AWG IN 3/4" CON      | TED). IF NO TICK                      | TAMPER SWITCH, COORDINATE EXACT LOCATION WITH FIRE PROTECTION SUPPLIER INSTALLER.                             |          |  |                |   |
|   |   | (-)                   | CIRCUIT, RECESSED IN GWBD OR PLASTER CEILING. LETTER DENOTES FIXTURE TYPE.   | CONDUIT AND WIRE CONCEALED. NUMBER OF TICK MARKS   | INDICATES (                           | SMOKE DETECTOR  |          |  |                |   |
|   |   | (-) J—                | STRIP FIXTURE. LETTER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING HEIGHT.                               | NUMBER OF WIRES (NUMBER 12AWG MINIMUM, UNLESS OTH NO TICK MARKS ARE SHOWN, ASSUME 3-NUMBER 12 IN 3/4" (      | ONDUIT '                              | HEAT DETECTOR - COMBINATION RATE OF RISE AND FIXED TEMPERATUR   | RE       |  |                |   |
|   |   | (-)                   | STRIP FIXTURE WITH EMERGENCY BATTERY BACKUP AND/OR ON EM CIRCUIT. LETTER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR     | PARTIAL CIRCUIT  |                                       | DUCT SMOKE DETECTOR   |          |  |                |   |
|   |   |                       | FIXTURE MOUNTING HEIGHT.   | CONDUIT RISER UP  CONDUIT RISER DOWN   | F.                                    | FIRE ALARM CONTROL PANEL  |          |  |                |   |
|   |   | (-)                   | RECESSED, SURFACE OR PENDANT MOUNTED FIXTURE. LETTER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR MOUNTING DETAILS        | INDICATES BUSH AND CAP   |                                       | AA FIRE ALARM ANNUNCIATOR PANEL   |          |  |                |   |
|   |   | (7)                   | AND MOUNTING HEIGHT.  RECESSED, SURFACE OR PENDANT MOUNTED FIXTURE WITH EMERGENCY  | OONDUIT OF AL FITTING FOR HAZARROUG AREAG  | F                                     | SP FIRE ALARM SUPPLY PANEL  |          |  |                |   |
|   |   | (-)                   | BATTERY BACKUP AND/OR ON EM CIRCUIT. LETTER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR MOUNTING DETAILS AND HEIGHT.     | CONDUIT STUBBED UP 6" AFF AND CAPPED   |                                       |   |          |  |                |   |
|   |   | (-)OH                 | WALL MOUNTED FIXTURE. LETTER DENOTES FIXTURE TYPE. REFER TO DRAWINGS FOR MOUNTING HEIGHT.                                | 1  |                                       |   |          |  |                |   |
|   |   | (7)                   | BATTERY POWERED EMERGENCY LIGHT FIXTURE. REFER TO FIXTURE  | -  |                                       |   |          |  |                |   |
|   |   |                       | SCHEDULE ON DRAWINGS FOR FIXTURE TYPE. REFER TO DRAWINGS FOR FIXTURE MOUNTING HEIGHT.                                    |  |                                       |   |          |  |                |   |
|   |   | ⊢ <b>⊘</b> Å          | WALL MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL ARROWS AS SHOWN ON DRAWINGS. REFER TO FIXTURE SCHEDULE FOR FIXTURE TYPE.     |  |                                       |   |          |  |                |   |
|   |   |                       | REFER TO DRAWINGS FOR MOUNTING HEIGHT. (DARKENED PORTION OF FIXTURE INDICATES ILLUMINATED FACES.)                        |  |                                       |   |          |  |                |   |
|   |   |                       | CEILING MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL ARROWS AS SHOW  | v v  |                                       |   |          |  |                |   |
|   |   | <b>⊘</b> †            | ON DRAWINGS. REFER TO FIXTURE SCHEDULE FOR FIXTURE TYPE. (DARKENED PORTION OF FIXTURE INDICATES ILLUMINATED FACES.)      |  |                                       |   |          |  |                |   |
|   |   |                       |  | 1  |                                       |   |          |  |                |   |
|   |   |                       | REFERENCE LIGHTING SHEETS FOR  |  |                                       |   |          |  |                |   |
| 1 |   |                       | ADDITIONAL LIGHTING CONTROL SYSTEM SYMBOLS   |  |                                       | I   | 1        | 1  |                | [   |

## PROJECT GENERAL ELECTRICAL NOTES

## GENERAL DEMOLITION NOTES:

- 1. ALL OF THE DEVICES SHOWN ON THE DEMOLITION PLANS ARE EXISTING. THE LOCATIONS OF EXISTING EQUIPMENT AND DEVICES WERE OBTAINED FROM PREVIOUS DRAWINGS AND SITE VISITS. THE LOCATIONS OF EXISTING EQUIPMENT AND DEVICES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. ACCURACY OF THE INFORMATION SHOWN IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO SUBMITTING THE PROJECT BID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CHANGES WHICH OCCUR AFTER BIDS ARE SUBMITTED WHICH ARE A RESULT OF EXISTING CONDITIONS. SITE VISITS PRIOR TO SUBMISSION OF BIDS MUST BE FULLY COORDINATED WITH THE OWNER.
- 2. THE CONTRACTOR MUST FIELD VERIFY EXISTING CIRCUITING PRIOR TO COMMENCING ANY WORK. ALL BIDS MUST INCORPORATE THIS REQUIREMENT.
- 3. DEVICES SHOWN WITH CROSS HATCHING, DASHED AND/OR SO NOTED SHALL BE REMOVED. ALL OTHER DEVICES SHALL BE RELOCATED, SHALL REMAIN, OR SHALL BE ABANDONED AS SHOWN, DEVICES SHALL BE COMPLETELY REMOVED FROM WALLS THAT ARE ALSO SHOWN TO BE REMOVED. DEVICES SHOWN TO BE REMOVED ON DRYWALL OR PLASTER TYPE WALLS THAT ARE TO REMAIN SHALL HAVE THE WALL SURFACE PATCHED TO MATCH THE EXISTING FINISH. FLUSH TYPE DEVICES SHOWN TO BE REMOVED ON CONCRETE OR BRICK TYPE WALLS THAT ARE TO REMAIN SHALL HAVE THE DEVICES REMOVED AND BOXES

PROVIDED WITH BLANK COVER PLATES.

- 4. CONDUITS SHALL BE COMPLETELY REMOVED FROM WALLS THAT ARE ALSO SHOWN TO BE REMOVED. CONCEALED CONDUITS MAY BE ABANDONED IN WALLS THAT ARE TO REMAIN. ALL CONDUITS AND BOXES THAT ARE SURFACE MOUNTED AND NO LONGER REQUIRE ACTIVE CIRCUITS SHALL BE REMOVED.
- 5. THE CONDUCTORS FOR DEVICES SHOWN TO BE REMOVED SHALL BE DISCONNECTED AND REMOVED BACK TO THE PANEL OR BACK TO THE NEXT DEVICE SHOWN TO REMAIN OR AS REQUIRED BY ACTUAL CIRCUITING. ACTUAL CIRCUITING MUST BE DETERMINED IN THE FIELD. ALL BIDS SHOULD INCORPORATE THIS REQUIREMENT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CHANGES WHICH OCCUR AS A RESULT OF EXISTING CIRCUITING. CONTINUITY OF CIRCUITING SHALL BE MAINTAINED FOR ALL EXISTING CIRCUITS AS REQUIRED. CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRE, CONDUIT, DEVICES AND CONNECTIONS TO ENSURE CIRCUIT CONTINUITY TO ALL NEW AND EXISTING EQUIPMENT.
- 6. REFER TO ARCHITECTURAL DRAWINGS FOR WALL REMOVAL AND
- 7. THE OWNER HAS THE RIGHT TO RETAIN ALL SALVAGEABLE MATERIAL. ANY MATERIAL THE OWNER CHOOSES NOT TO ACCEPT SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR.
- 8. THE OWNER WILL OCCUPY PORTIONS OF THE FACILITY THROUGHOUT CONSTRUCTION. ELECTRICAL SYSTEMS TO OCCUPIED PORTIONS OF THE FACILITY MUST REMAIN IN OPERATION. THE ELECTRICAL CONTRACTOR MUST COORDINATE ALL PHASING REQUIREMENTS WITH THE GENERAL CONTRACTOR AND THE OWNER, AND MUST PROVIDE ALL NECESSARY DEVICES, EQUIPMENT, WIRE, CONDUIT, AND CONNECTIONS TO ENSURE PHASING AND OWNER OCCUPANCY REQUIREMENTS ARE SATISFIED. ALL BIDS SHOULD INCORPORATE THIS REQUIREMENT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ISSUES AND CHANGES WHICH OCCUR AS A RESULT OF
- 9. FOR MECHANICAL EQUIPMENT INDICATED SHOWN TO BE REMOVED ON EITHER THE MECHANICAL AND/OR THE ELECTRICAL PLANS: DISCONNECT THE EQUIPMENT AND REMOVE ALL CONDUIT, CONDUCTORS AND ASSOCIATED ELECTRICAL SUPPLY EQUIPMENT. REMOVE CONDUIT AND CONDUCTORS BACK TO THE PANEL OR THE NEXT DEVICE SHOWN TO REMAIN OR AS REQUIRED BY ACTUAL

PHASING AND OWNER OCCUPANCY REQUIREMENTS.

- 10. FOR DEVICES THAT ARE TO REMAIN, ALL ASSOCIATED CONDUIT THAT IS ATTACHED TO OR SUPPORTED BY OTHER SYSTEMS OR EQUIPMENT SHOWN TO BE REMOVED ON OTHER DISCIPLINES' DRAWINGS IN THIS CONSTRUCTION SET, SHALL BE RE-SUPPORTED OR RE-ROUTED TO ACCOMMODATE THE REMOVAL OF OTHER
- 11. CONTRACTOR SHALL TRACE AND INVENTORY ALL CIRCUITS AND LOW VOLTAGE CABLING WITHIN AREA OF DEMOLITION TO ENSURE THAT NO CONDUIT, CONDUCTORS OR LOW VOLTAGE CABLING ARE REMOVED THAT SERVE DEVICES THAT ARE TO REMAIN. ALL EXISTING TO REMAIN CONDUIT. CONDUCTORS, AND LOW VOLTAGE CABLING SHALL BE PROTECTED DURING THE DURATION OF CONSTRUCTION.
- 12. FULLY COORDINATE REMOVAL OF ALL LOW VOLTAGE DEVICES AND ASSOCIATED CABLING WITH OWNER'S INFORMATION TECHNOLOGY REPRESENTATIVES.

## GENERAL LIGHTING NOTES:

- 1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING MOUNTED DEVICES. 2. COORDINATE THE INSTALLATION OF LIGHTING FIXTURES WITH ALL
- 3. COORDINATE THE INSTALLATION OF ALL RECESSED LIGHTING
- FINISH SCHEDULES FOR ADDITIONAL DETAILS.
- WITH ABOVE REQUIREMENTS MUST BE INCLUDED IN THE PROJECT
- 6. FLUSH MOUNT ALL NEW WIRING DEVICES IN NEW OR EXISTING SURFACES, THE OWNER HAS THE RIGHT TO RETAIN ALL TO ACCEPT SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR.
- 7. IN ROOMS WHERE NO FIXTURES ARE SHOWN, THE EXISTING LIGHTING LAYOUT AND CIRCUITING TO REMAIN.
- 8. A DEDICATED NEUTRAL CONDUCTOR IS REQUIRED FOR ALL
- 9. BOX AROUND RECESSED LIGHTING FIXTURES AS REQUIRED SO THAT ALL CODE REQUIRED CLEARANCES BETWEEN COMBUSTIBLE MATERIALS, THERMAL INSULATION, ETC AND LIGHTING FIXTURES ARE MAINTAINED. FULLY COORDINATE ALL REQUIREMENTS WITH THE
- CEILING TYPES AND RATINGS. FULLY COORDINATE ALL REQUIREMENTS WITH THE GENERAL CONTRACTOR.
- 11. SEAL AROUND ALL CONDUIT AND CABLE PENETRATIONS THROUGH WALLS, CEILINGS, AND FLOORS TO MAINTAIN CODE REQUIRED
- INFORMATION. 12. REFER TO THE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL

- FIXTURES WITH ACTUAL CEILING TYPES. REFER TO ARCHITECTURAL
- 4. SUPPORT ALL RECESSED AND PENDANT MOUNTED FIXTURES FROM STRUCTURE IN ACCORDANCE WITH APPLICABLE BUILDING CODE
- REQUIREMENTS. SUSPENDED CEILING MOUNTING SYSTEMS SHALL NOT BE USED TO SUPPORT FIXTURES OR RACEWAYS. 5. ROUTE ALL WIRE AND CONDUIT CONCEALED UNLESS OTHERWISE NOTED. PATCH ALL EXISTING SURFACES AFTER WIRE AND CONDUIT INSTALLATION, AS REQUIRED. REFER TO THE SPECIFICATION FOR CUTTING AND PATCHING REQUIREMENTS. ALL COSTS ASSOCIATED
- SALVAGEABLE MATERIAL. ANY MATERIAL THE OWNER CHOOSES NOT
- DIMMABLE CIRCUITS.
- GENERAL CONTRACTOR. 10. PROVIDE ENCLOSURES OVER RECESSED LIGHTING FIXTURES INSTALLED IN RATED CEILINGS SO ALL CODE REQUIRED RATINGS ARE MAINTAINED. REFER TO ARCHITECTURAL DRAWINGS FOR
- RATINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL

# GENERAL POWER & AUXILIARY SYSTEMS NOTES:

- 1. FULLY COORDINATE THE INSTALLATION OF ALL ELECTRICAL DEVICES WITH THE WORK OF OTHER TRADES.
  - 2. UNLESS OTHERWISE NOTED, ELECTRICAL DEVICES ARE TO BE FLUSH MOUNTED AND ALL WIRE AND CONDUIT IS TO BE ROUTED CONCEALED. FULLY COORDINATE INSTALLATION WITH EXISTING CONDITIONS, AND INCLUDE PATCHING AND REFINISHING OF EXISTING SURFACES TO ACCOMMODATE THIS REQUIREMENT.

3. FULLY COORDINATE THE LOCATION OF ALL HVAC EQUIPMENT WITH

- THE MECHANICAL AND CONTROLS CONTRACTORS. PROVIDE ALL DEVICES (I.E. STARTERS, SWITCHES, CONTACTS, ETC.) REQUIRED TO ENSURE SATISFACTORY OPERATION OF ALL SYSTEMS AND EQUIPMENT. (CONTROL WIRING TO BE PROVIDED BY MECHANICAL CONTRACTOR.) COORDINATE DEVICE REQUIREMENTS WITH ACTUAL
- 4. FOR ALL HVAC CONTROL DEVICES PROVIDED BY THE ELECTRICAL CONTRACTOR, PROVIDE ALL NECESSARY AUXILIARY COMPONENTS AND CONTACTS TO ENSURE PROPER SYSTEM CONTROL FUNCTIONS. FULLY COORDINATE ALL REQUIREMENTS WITH THE MECHANICAL AND
- CONTROLS CONTRACTORS. 5. SEAL AROUND ALL CONDUIT AND CABLE PENETRATIONS THROUGH WALLS, CEILINGS AND FLOORS TO MAINTAIN CODE REQUIRED RATINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- UNLESS OTHERWISE INDICATED PROVIDE DEDICATED NEUTRAL CONDUCTORS FOR ALL BRANCH CIRCUITS. NEUTRAL CONDUCTORS SHALL NOT BE SHARED BETWEEN CIRCUITS. WHERE THE DRAWINGS INDICATE SHARED NEUTRAL CONDUCTORS FOR A MULTIWIRE BRANCH CIRCUIT, GROUP BREAKERS TOGETHER IN ACCORDANCE WITH CODE.

## EXISTING FIRE ALARM SYSTEM NOTES:

- 1. EXPAND EXISTING NOTIFIER ADDRESSABLE FIRE ALARM SYSTEM TO SERVE THE AREA OF RENOVATION. REFER TO THE ELECTRICAL POWER AND AUXILIARY SYSTEMS INSTALLED WITHIN THE BSL3/ABSL3 SPACES. THIS INCLUDES, BUT IS NOT PLAN AND THE SPECIFICATION FOR ADDITIONAL DETAILS. PROVIDE ALL NECESSARY DEVICES, NEW EQUIPMENT, WIRE, CONDUIT, PROGRAMMING AND CONNECTIONS TO ENSURE A COMPLETE, CODE COMPLIANT FIRE ALARM SYSTEM INSTALLATION.
- 2. INSTALL ALL FIRE ALARM SYSTEM WORK IN CONDUIT.
- 3. FULLY COORDINATE ALL FIRE ALARM SYSTEM DETAILS WITH THE MECHANICAL AND CONTROLS CONTRACTORS.
- 4. PROVIDE ALL NECESSARY DUCT SMOKE DETECTORS AS REQUIRED. PROVIDE ALL NECESSARY CONNECTIONS AND POWER SUPPLY CIRCUITS (FED FROM THE NEAREST PANELBOARD OF APPROPRIATE VOLTAGE AND SOURCE) TO SMOKE DAMPERS AND SMOKE/FIRE DAMPERS SO THAT UPON FIRE ALARM CONDITIONS OR DUCT SMOKE DETECTOR ACTIVATION, THE DAMPERS CLOSE. COORDINATE DAMPER AND CONTROL LOCATIONS WITH THE MECHANICAL AND
- CONTROLS CONTRACTORS. REFER TO THE MECHANICAL DRAWINGS. 5. SEAL AROUND ALL CONDUIT AND CABLE PENETRATIONS THROUGH FIRE AND/OR SMOKE RATED WALLS, CEILINGS, AND FLOORS TO ENSURE THAT CODE REQUIRED RATINGS ARE MAINTAINED.
- 6. ALL FIRE ALARM DEVICES ARE TO MATCH AS CLOSELY AS POSSIBLE TO EXISTING BUILDING STANDARD DEVICES. NEW DEVICES SHALL BE FULLY COMPATIBLE WITH EXISTING FIRE ALARM PANEL & EXISTING FIRE ALARM DEVICES IN ORDER TO PROVIDE FULL, CODE COMPLIANT
- FIRE ALARM SYSTEM INITIATION AND NOTIFICATION. 7. ALL FIRE ALARM WIRING SHALL BE INSTALLED, TESTED AND CERTIFIED PER NFPA 72 AND NFPA 70, ARTICLE 760.
- 8. FIRE ALARM SHOP DRAWINGS SHALL INCLUDE ALL CALCULATIONS, WIRING DIAGRAMS, FIRE ALARM CIRCUITING, UPDATED FLOOR PLANS SHOWING DEVICE TYPE AND LOCATIONS, SYSTEM/DEVICE CUTSHEETS, AND ALL OTHER NECESSARY DETAILS IN ORDER TO VERIFY A CODE COMPLIANT DESIGN AND INSTALLATION IS PROVIDED BY THE FIRE ALARM CONTRACTOR.
- 9. PROVIDE AS-BUILT DRAWINGS WITH UPDATED CONDITIONS BASED ON ACTUAL INSTALLATION CONDITION. SUBMIT PDF AND AUTOCAD FILES FOR AS-BUILT DRAWINGS.
- 10. PROTECT ALL EXISTING SMOKE DETECTORS IN AND AROUND AREA OF RENOVATION FROM CONSTRUCTION DUST/DEBRIS.

#### BIO SAFETY LEVEL 3 (BLS3) AND ANIMIAL BIO SAFETY LEVEL 3 (ABL'S3) AREA NOTES:

- THE FOLLOWING REQUIREMENTS PERTAIN TO ALL SYSTEMS LIMITED TO, POWER, LIGHTING, LIGHTING CONTROL, TELECOMMUNICATIONS, SECURITY, FIRE ALARM, AND ANY OTHER SYSTEMS DETAILED ON THE ELECTRICAL DRAWINGS:
- 1. ALL CONDUIT PENETRATIONS INTO THE BSL3/ABSL3 FACILITY ENVIRONMENT SHALL BE SEALED TO MAINTAIN THE INTEGRITY OF THE ENVIRONMENT. PENETRATION SEALS MUST BE GAS AND WATER TIGHT. REFER TO THE SPECIFICATION AND

ARCHITECTURAL DRAWINGS FOR REQUIREMENTS.

BE PROVIDED WITH ACCESSIBLE SEAL-OFF FITTINGS.

REPRESENTATIVE PRIOR TO FILLING CONDUIT.

THE BSL3/ABSL3 FACILITY ENVIRONMENT.

SILICON CAULK.

- ALL CONDUITS SERVING THE BSL3/ABSL3 FACILITY ENVIRONMENT SHALL BE OF THE RIGID GALVANIZED STEEL TYPE. ALL CONDUIT FITTINGS AND COUPLINGS SHALL BE OF THE THREADED, RAIN TIGHT TYPE. UPON EXITING THE BSL3/ABSL3 AREA, ALL CONDUITS SHALL
- 3. ALL OUTLET BOXES AND JUNCTION BOXES WITHIN THE BSL3/ABSL3 FACILITY ENVIRONMENT SHALL BE OF THE CAST TYPE WITH EXTERNAL HUBS AND THREADED CONDUIT ENTRY POINTS. ALL UNUSED CONDUIT ENTRY POINTS SHALL BE PROVIDED WITH THREADED CLOSURES THAT ARE SEALED WITH SILICON BASED CAULK. MOUNTING HOLES IN BOXES ALONG WITH MOUNTING HARDWARE SHALL ALSO BE SEALED WITH CAULK. SEAL ALL CONDUITS IN BOX WITH CAULK (ASTM C920) AFTER INSTALLATION OF CONDUCTORS OR CABLES. CONFIRM WITH OWNER'S
- 4. SEAL AROUND ALL BOX PENETRATIONS IN WALLS AND CEILINGS WITHIN THE ANIMAL FACILITY ENVIRONMENT USING
- PROVIDE CAULK BETWEEN ALL SURFACE MOUNTED ELECTRICAL DEVICES AND FINISHED WALLS AND CEILINGS WITHIN THE BSL3/ABSL3 FACILITY ENVIRONMENT. REFERENCE ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION.
- 6. PROVIDE CAULK BETWEEN FLUSH MOUNTED ELECTRICAL DEVICE FACEPLATES AND FINISHED CEILINGS AND WALLS WITHIN
- 7. SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS AND CEILINGS WITHIN THE BSL3/ABSL3 FACILITY ENVIRONMENT USING
- DUXSEAL SEALANT (OR EQUIVALENT). 8. ALL RECEPTACLES AND TELECOMMUNICATIONS OUTLET BOXES LOCATED IN THE BSL3/ABSL3 FACILITY ENVIRONMENT SHALL BE MOUNTED AT 44" AFF UNLESS NOTED OTHERWISE.
- 9. PROVIDE SEALANT ALONG THE PERIMETER OF LIGHTING FIXTURE HOUSINGS WHERE THE HOUSING OF THE FIXTURE MEETS THE FINISHED SURFACE OF BSL3/ABSL3 AREA CEILING. 10. AS IT PERTAINS TO ELECTRICAL INSTALLATION
- REQUIREMENTS, THE BSL3/ABSL3 FACILITY ENCOMPASSES THE AREA NOTED ON THE ARCHITECTURAL PLANS INCLUDING INTERIOR WALLS AND PLENUM SPACES WITHIN THE DEFINED AREA. UPON EXITING THE BSL3/ABSL3 FACILITY AREA HORIZONTALLY, THROUGH A WALL, OR VERTICALLY, THROUGH THE STRUCTURE, CONDUITS AND THEIR PENETRATIONS SHALL BE SEALED IN ACCORDANCE
- WITH THE DRAWINGS AND THE ELECTRICAL SPECIFICATIONS. REFERENCE THE SPECIFICATIONS AND ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION.

# TELECOMMUNICATIONS/SECURITY CAMERA SYSTEM NOTES:

UNLESS OTHERWISE NOTED, CONTRACTOR TO PULL ONE CAT6A

- ALL TELECOMMUNICATIONS/SECURITY CAMERA CABLING, EQUIPMENT, TERMINATIONS, AND TESTING IS PROVIDED BY THE OWNER. TELECOMMUNICATIONS CABLING INSTALLATION IS PROVIDED BY THE CONTRACTOR, IN ACCORDANCE WITH THE FOLLOWING NOTES:
- CABLE TO EACH SECURITY CAMERA LOCATION. AT EACH CAMERA LOCATION, UNLESS OTHERWISE NOTED, CONTRACTOR SHALL LEAVE A MINIMUM OF 18" OF CABLE LENGTH FOR OWNER TERMINATION. IN THE TELECOM ROOM, LEAVE A MINIMUM SLACK LENGTH OF 20'-0" FOR EACH CABLE FOR OWNER TERMINATIONS. INSTALL THE CABLING DIRECTIONALLY FROM THE TELECOM ROOM OUTWARD. ROUTE CABLING IN CONDUIT, CONCEALED, ABOVE CEILINGS OR WITHIN WALLS FROM EACH CAMERA DEVICE LOCATION TO THE TELECOM ROOM. COORDINATE DETAILS WITH THE OWNER'S REPRESENTATIVE.

TECH ELECTRONICS IS THE SOLE QUALIFIED PROVIDER FOR ALL LENEL CARD ACCESS SYSTEM COMPONENTS, AIPHONE INTERCOM, AND SECURITY CAMERA SYSTEM COMPONENTS. ALL BID INFORMATION AND ADDITIONAL CARD ACCESS SYSTEM DETAILS/REQUIREMENTS SHALL BE COORDINATED WITH DAVE ROTERT, CELL PHONE 573-808-4227

ALARM COMMUNICATIONS CENTER IS THE SOLE QUALIFIED PROVIDER FOR ALL ACC CARD ACCESS SYSTEM COMPONENTS. ALL BID INFORMATION AND ADDITIONAL CARD ACCESS SYSTEM DETAILS/REQUIREMENTS SHALL BE COORDINATED WITH WILLIAM DALL, PHONE NUMBER 573-808-4227

**Contract Documents** 

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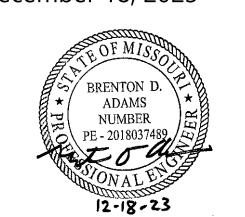
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# LIDR Renovate West **Animal Holding, Rms** 144-149

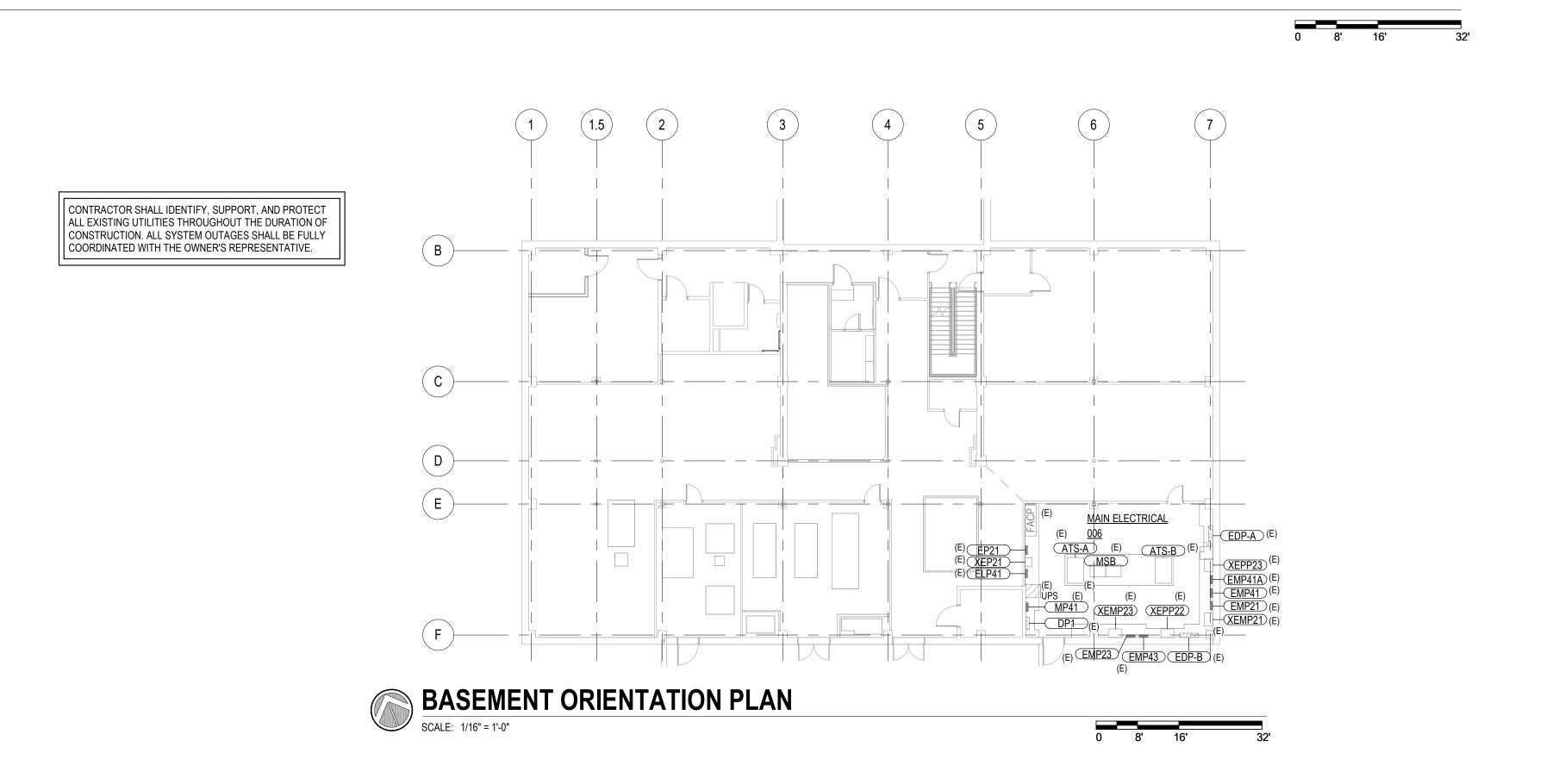
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Electrical Abbreviations, Symbols Legend, & General Notes

|          | ELECTRICAL SITE PLAN NOTES   |
|----------|--|
| KEY NOTE | DESCRIPTION  |
| 1        | IF ADD ALTERNATE #5 IS ACCEPTED, PROVIDE 120V ELECTRICAL CONNECTION TO POWER OPERATED VEHICLE SWING GATE. PROVIDE ALL INTERCONNECTIONS BETWEEN GATE OPERATOR AND ENTRY GATE CARD ACCESS/KEYPAD SYSTEM. PROVIDE ALL WIRING AND INTERCONNECTIONS BETWEEN GATE OPERATOR AND ALL 'REVERSE SHADOW', 'AUTOMATIC EXIT', AND 'SAFETY' LOOPS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH POWER OPERATED VEHICLE SWING GATE SUPPLIER/INSTALLER.         |
| 2        | IF ADD ALTERNATE #5 IS ACCEPTED, BURY A MINIMUM OF 42" BELOW GRADE ROUTE #10'S THROUGHOUT ENTIRE CIRCUIT. SEE SPECIFICATIONS FOR EXCAVATION AND BACKFILLING REQUIREMENTS. REFER TO KEY NOTE #10 ON THIS SHEET FOR APPROXIMATE ROUTING OF CONDUIT.  |
| 3        | IF ADD ALTERNATE #1 IS ACCEPTED, EXISTING IN GROUND QUAZITE BOX TYPE HANDHOLE FOR ROUTING OF LOW VOLTAGE CABLING TO SITE SECURITY DEVICES. CONTRACTOR TO USE EXISTING HANDHOLE FOR MODIFYING EXISTING LOW VOLTAGE CABLING AND INSTALLING NEW CABLING TO SERVE SITE SECURITY DEVICES WITHIN PROJECT SCOPE.  |
| 4        | IF ADD ALTERNATE #5 IS ACCEPTED, MOUNT CARD READER AND KEYPAD ENTRY STATION AT 42" ABOVE GRADE SURFACE MOUNTED ON FENCE POST ADJACENT TO VEHICLE SWING GATE AT THE LOCATION INDICATED. SEE SPECIFICATIONS FOR EXACAVATION AND BACKFILLING REQUIREMENTS. LOW VOLTAGE CABLING SHALL BE ROUTED CONCEALED WITHIN FENCE POST. COORDINATE EXACT INSTALLATION REQUIREMENTS WITH FENCE INSTALLER.  |
| 5        | IF ADD ALTERNATE #1 IS ACCEPTED, EXISTING PEDESTAL MOUNTED LENEL CARD READER SHALL BE REPLACED WITH A NEW LENEL CARD READER/KEYPAD COMBO. REUSE EXISTING ACCESS CONTROL WIRING TO SERVE NEW DEVICE. SEE ELECTRICAL DETAILS SHEETS FOR ADDITIONAL INFORMATION.  |
| 6        | IF ADD ALTERNATE #1 IS ACCEPTED, MOUNT COMBO KEYPAD/CARD READER EXIT STATION AT 42" ABOVE GRADE IN WEATHER RESISTANT PEDESTAL AT THE LOCATION INDICATED. NEW WEATHERPROOF PEDESTAL SHALL MATCH EXISTING PEDESTAL ON THE UNSECURE SIDE OF THE NEW HYDRAULIC GATE SYSTEM. EXACT PEDESTAL TYPE TO BE FULLY COORDINATED WITH OWNER. PROVIDE NECESSARY MOUNTING PAD FOR PEDESTAL AS REQUIRED.   |
| 7        | IF ADD ALTERNATE #1 IS ACCEPTED, PROVIDE 208V, 1 PH ELECTRICAL CONNECTION TO NEW HYDRAULIC GATE. PROVIDE ALL WIRING AND INTERCONNECTIONS BETWEEN HYDRAULIC GATE POWER CABINET AND ALL UNDERGROUND LOOP CABLING. IN ADDITION, PROVIDE ALL NECESSARY INTERCONNECTIONS BETWEEN THE HYDRAULIC CABINET CONTROL BOARD AND THE CATCH CHASIS AS REQUIRED BY MANUFACTURER. COORDINATE EXACT REQUIREMENTS WITH HYDRAULIC GATE SYSTEM SUPPLIER/INSTALLER. |
| 8        | IF ADD ALTERNATE #1 IS ACCEPTED, BURY A MINIMUM OF 42" BELOW GRADE. REFERENCE KEYNOTE 10 ON THIS SHEET FOR APPROXIMATE ROUTING FOR CONDUIT. SEE SPECIFICATIONS FOR EXCAVATION AND BACKFILLING REQUIREMENTS. ROUTE (3) #10 AND (1) #10 GROUND.  |

|          | ELECTRICAL SITE PLAN NOTES   |
|----------|--|
| KEY NOTE | DESCRIPTION  |
| 9        | IF ADD ALTERNATE #1 IS ACCEPTED, EXISTING PEDESTAL MOUNTED, AIPHONE INTERCOM DEVICE SHALL BE REPLACED WITH A NEW LIKE FOR LIKE DEVICE. MOUNT NEW DEVICE IN SAME LOCATION AS EXISTING. SPLICE AND EXTEND ASSOCIATED WIRING AS REQUIRED TO CONNECT TO NEW DEVICE. SEE ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION.   |
| 10       | DASHLINE REPRESENTS APPROXIMATE ROUTING OF EXISTING BELOW GRADE CONDUITS SERVING SITE POWER, INTERCOM DEVICES, AND ACCESS CONTROL DEVICES. ALL NEW BELOW GRADE CONDUITS SERVING LOW VOLTAGE CABLES AND POWER CONDUCTORS SHALL FOLLOW A SIMILAR PATH OF EXISTING CONDUITS BELOW GRADE, AND BACK INTO THE BUILDING. COORDINATE ROUTING OF NEW CONDUITS WITH ALL EXISTING BELOW GRADE SYSTEMS. CONTRACTOR MAY UTILIZE EXISTING IN GROUND QUAZITE TYPE HAND HOLE BOXES CONTRACTOR SHALL MAINTAIN CODE REQUIRED SEPARATION OF VOLTAGES, CONTRACTOR SHALL SEAL AND MAKE WEATHER TIGHT ANY NEW PENETRATIONS INTO THE BUILDING OR IN GROUND BOXES. |
| 11       | IF ADD ALTERNATE #1 IS ACCEPTED, PROVIDE (1) 2" CONDUIT A MINIMUM OF 42" BELOW GRADE FROM EXISTING QUAZITE TYPE BOX TO NEW CARD READER/KEYPAD PEDESTAL FOR ROUTING OF LOW VOLTAGE WIRING. SEE SPECIFICATIONS FOR EXCAVATION AND BACKFILLING REQUIREMENTS.  |
| 12       | IF ADD ALTERNATE #1 IS ACCEPTED, CONTRACTOR TO FIELD VERIFY EXISTING ROUTING OF UNDERGROUND LOW VOLTAGE CONDUIT/CONDUCTORS BETWEEN EXISTING IN GROUND QUAZITE TYPE BOX AND EXISTING CARD ACCESS/INTERCOM PEDESTAL. REROUTE CONDUIT AND ASSOCIATED LOW VOLTAGE WIRING AS REQUIRED TO ACCOMONDATE INSTALLATION OF NEW HYDRAULIC GATE SYSTEM. SPLICE AND EXTEND LOW VOLTAGE WIRING FROM IN GROUND QUAZITE BOX AS REQUIRED TO COMPLETE INSTALLATION. COORDINATE EXACT REQUIREMENTS WITH RETRACTABLE BOLLARD SYSTEM SUPPLIER/INSTALLER AND CARD ACCESS AND INTERCOM SYSTEM INSTALLER.   |
| 13       | IF ADD ALTERNATE #1 IS ACCEPTED, PROVIDE (1) 2" CONDUIT A MINIMUM OF 42" BELOW GRADE FROM EXISTIN QUAZITE TYPE BOX TO NEW HYDRAULIC GATE SYSTEM FOR ROUTING OF LOW VOLTAGE WIRING. SEE SPECIFICATIONS FOR EXCAVATION AND BACKFILLING REQUIREMENTS.   |
| 14       | IF ADD ALTERNATE #5 IS ACCEPTED, PROVIDE (1) 1" CONDUIT A MINIMUM OF 42" BELOW GRADE FROM MOTORIZED SWING GATE CONTROLLER OVER TO FENCE AND UP TO FENCE POST MOUNTED DEVICE FOR ROUTING OF LOW VOLTAGE WIRING. SEE SPECIFICATIONS FOR EXCAVATION AND BACKFILLING REQUIREMENTS.   |
| 15       | IF ADD ALTERNATE #5 IS ACCEPTED, PROVIDE (1) 1" CONDUIT A MINIMUM OF 42" BELOW GRADE FROM MOTORIZED SWING GATE CONTROLLER TO BUILDING BASEMENT FOR ROUTING OF LOW VOLTAGE WIRING. REFERENCE KEYNOTE #10 ON THIS SHEET FOR APPROXIMATE ROUTING FOR CONDUIT. SEE SPECIFICATIONS FOR EXCAVATION AND BACKFILLING REQUIREMENTS.   |
| 16       | IF ADD ALTERNATE #1 IS ACCEPTED, INSTALL NEW HYDRAULIC GATE SYSTEM AT THIS LOCATION. COORDINATION ALL CONNECTION REQUIREMENTS WITH HYDRAULIC GATE SUPPLIER/INSTALLER.  |
| 17       | IF ADD ALTERNATE #1 IS ACCEPTED, EXISTING PEDESTAL IS TO REMAIN TO SERVE NEW DEVICES.  |
| 18       | IF ADD ALTERNATE #1 IS ACCEPTED, PROVIDE (1) 1 1/2" CONDUIT BELOW GRADE BETWEEN MAIN CHASIS AND CATCH CHASIS OF HYDRAULIC GATE .CONDUIT SHALL BE UTILIZED FOR ALL REQUIRED CABLING BETWEEN THI CONTROL BOARD IN THE MAIN CHASIS/HYDRAULIC CABINET AND THE HEATER, PHOTO EYE, AND TRAFFICE LIGHT ON THE CATCH CHASIS. CONTRACTOR SHALL PROVIDE ALL INTERCONNECTIONS NECESSARY FOR A COMPLETE, FUNCTIONAL SYSTEM. COORDINATE WITH HYDRAULIC GATE SUPPLIER/INSTALLER FOR EXACT REQUIREMENTS.  |



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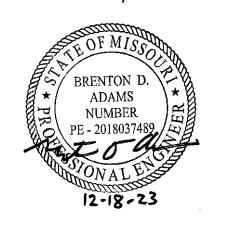
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# **Contract Documents**

# LIDR Renovate West Animal Holding, Rms 144-149

1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

December 18, 2023



Electrical Site & Basement Orientation Plan

E0.01

FIRST FLOOR ELECTRICAL DEMOLITION PLAN NOTES KEY NOTE DESCRIPTION EXISTING CAMERA IS TO BE REMOVED TO ALLOW FOR REPLACEMENT OF CEILING. SALVAGE ALL ASSOCIATED WIRING FOR RECONNECTION TO CAMERA IN NEW CEILING SYSTEM. EXISTING MOTION DETECTOR IS TO BE REMOVED TO ALLOW FOR REPLACEMENT OF CEILING. SALVAGE ALL ASSOCIATED WIRING FOR RECONNECTION TO MOTION DETECTOR IN NEW CEILING SYSTEM. FLUSH MOUNTED CEILING JUNCTION BOX IS TO REMAIN WHILE EXISTING CEILING IS BEING REMOVED AND REPLACED. PREPARE JUNCTION BOX AND ASSOCIATED COMPONENTS FOR RE-SEALING PER BSL3/ABSL3 REQUIREMENTS ONCE NEW CEILING IS INSTALLED. ALL CEILING MOUNTED DEVICES/FIXTURES SHOWN AS EXISTING TO BE RELOCATED (ER) ON THIS PLAN ARE TO BE REMOVED IN ORDER TO ACCOMMODATE ALL CEILING WORK. FIXTURE/DEVICES ARE TO BE REINSTALLED IN THE SAME LOCATION AND SEALED PER BSL3/ABSL3 REQUIREMENTS ONCE CEILING WORK IS COMPLETE. REFERENCE LIGHTING AND POWER & AUXILIARY SYSTEMS PLANS FOR ADDITIONAL RELOCATE ALL EXISTING ELECTRICAL DEVICES ON PORTION OF WALL TO BE DEMOLISHED. EXISTING CARD READER TO BE REMOVED. EXISTING BACKBOX AND CONDUIT ARE TO REMAIN AND BE PREPARED FOR REUSE TO ACCOMMODATE INSTALLATION OF NEW REQUEST TO EXIT MAGNETIC LOCK

ALL DEVICES SHOWN "LIGHT" ARE EXISTING TO REMAIN. ALL DEVICES SHOWN "DARK" AND HATCHED ARE EXISTING TO BE DEMOLISHED.

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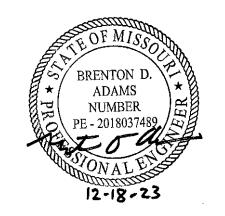
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**Contract Documents** 

LIDR Renovate West Animal Holding, Rms 144-149

1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

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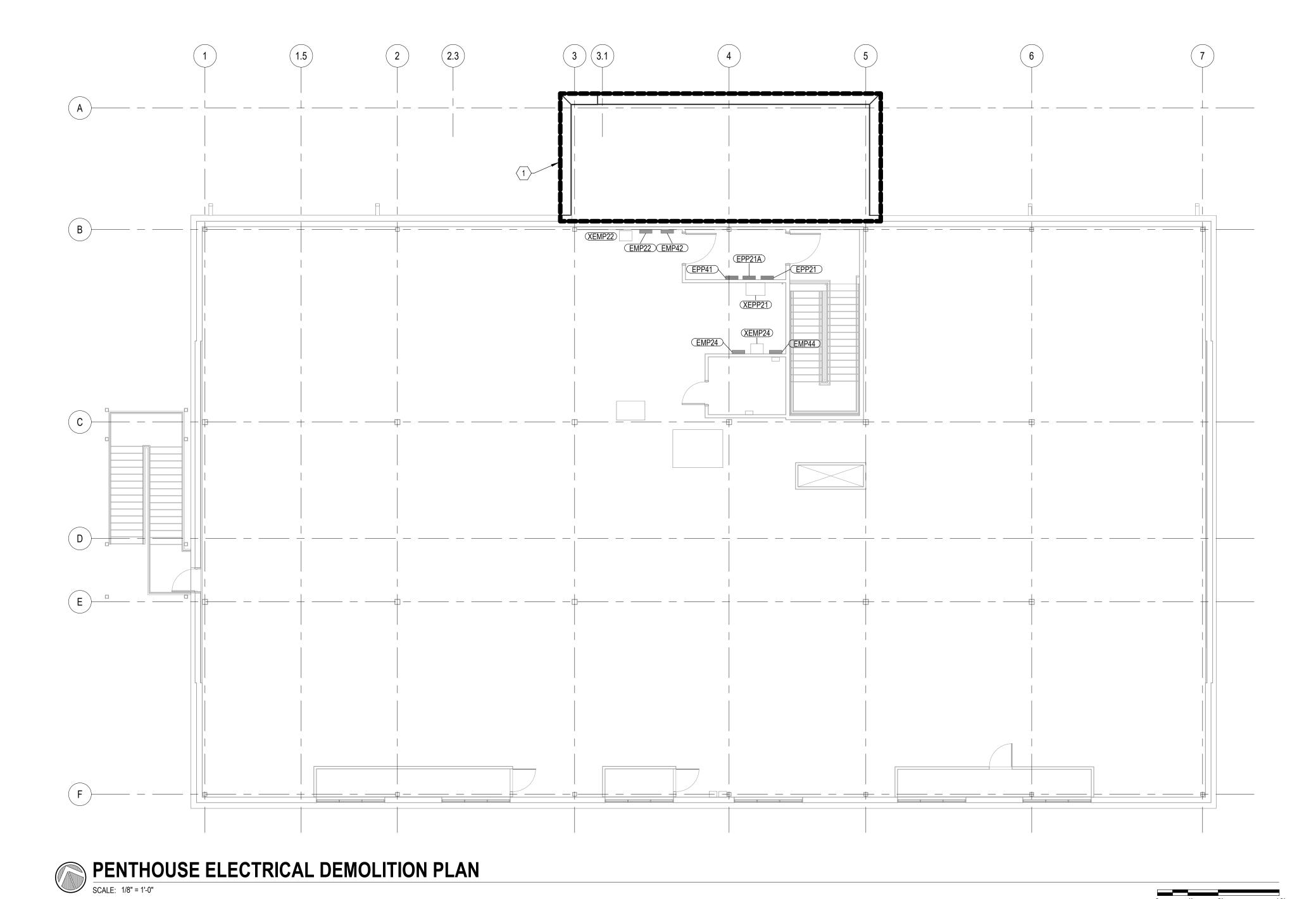


First Floor Electrical Demolition Plan

EO.11

FIRST FLOOR ELECTRICAL DEMOLITION PLAN

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



PENTHOUSE ELECTRICAL DEMOLITION PLAN NOTES KEY NOTE DESCRIPTION IF ADD ALTERNATE #4 IS ACCEPTED, EXISTING LIGHTNING PROTECTION SYSTEM ON LOWER ROOF SHALL BE MODIFIED TO ALLOW FOR INSTALLATION OF NEW LOWER ROOF SYSTEM. REFER TO PENTHOUSE POWER & AUXILIARY SYSTEMS PLAN AND SPECIFICATIONS FOR MORE INFORMATION.

ALL DEVICES SHOWN "LIGHT" ARE EXISTING TO REMAIN. ALL DEVICES SHOWN "DARK" AND HATCHED ARE EXISTING TO BE DEMOLISHED.

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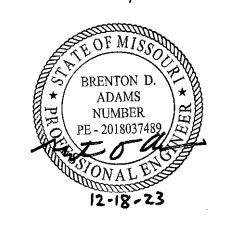
**SHEET HISTORY:** ISSUED 12/18/23 Contract Documents

**Contract Documents** 

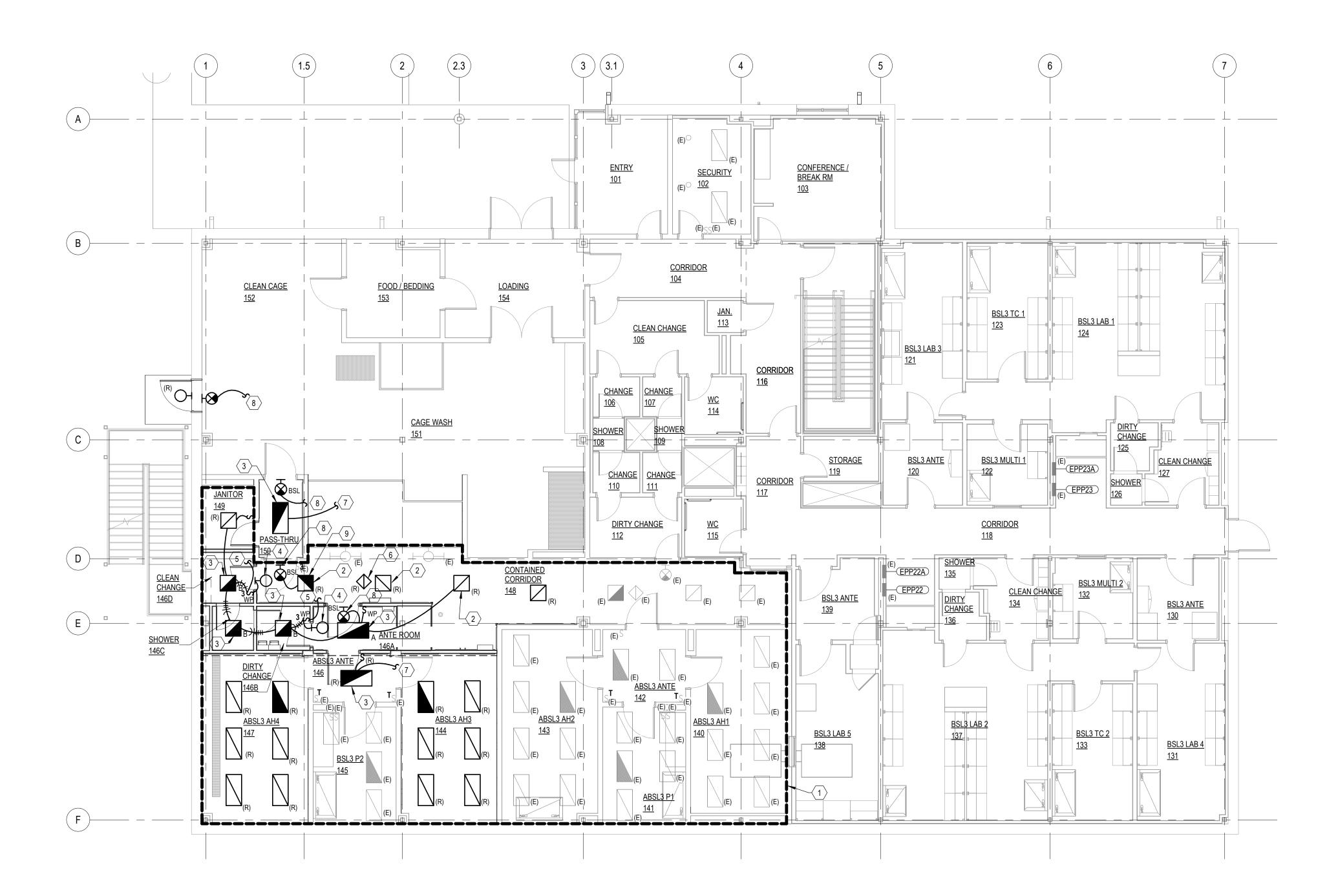
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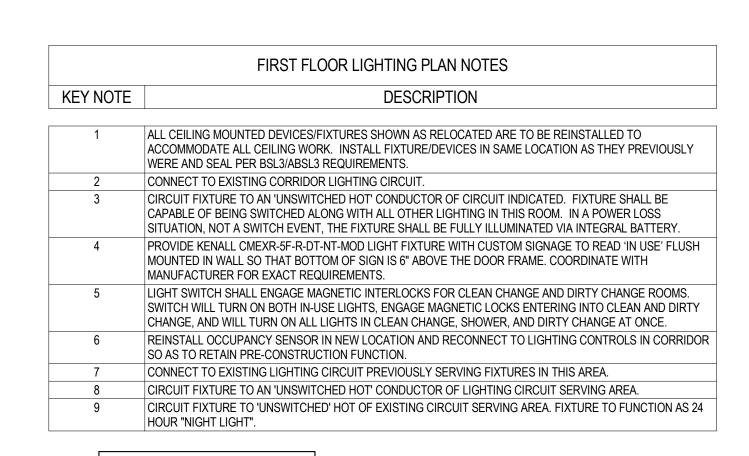
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Penthouse Electrical Demolition Plan EO.12



FIRST FLOOR LIGHTING PLAN



BSL3/ABSL3 REQUIREMENTS SHALL
PERTAIN TO ALL WORK SHOWN ON THIS
PLAN

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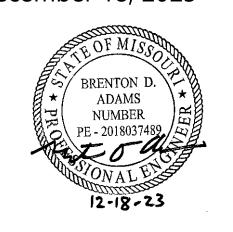
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## **Contract Documents**

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First Floor Lighting Plan

E1.01

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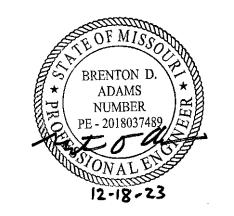
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# **Contract Documents**

# LIDR Renovate West Animal Holding, Rms 144-149

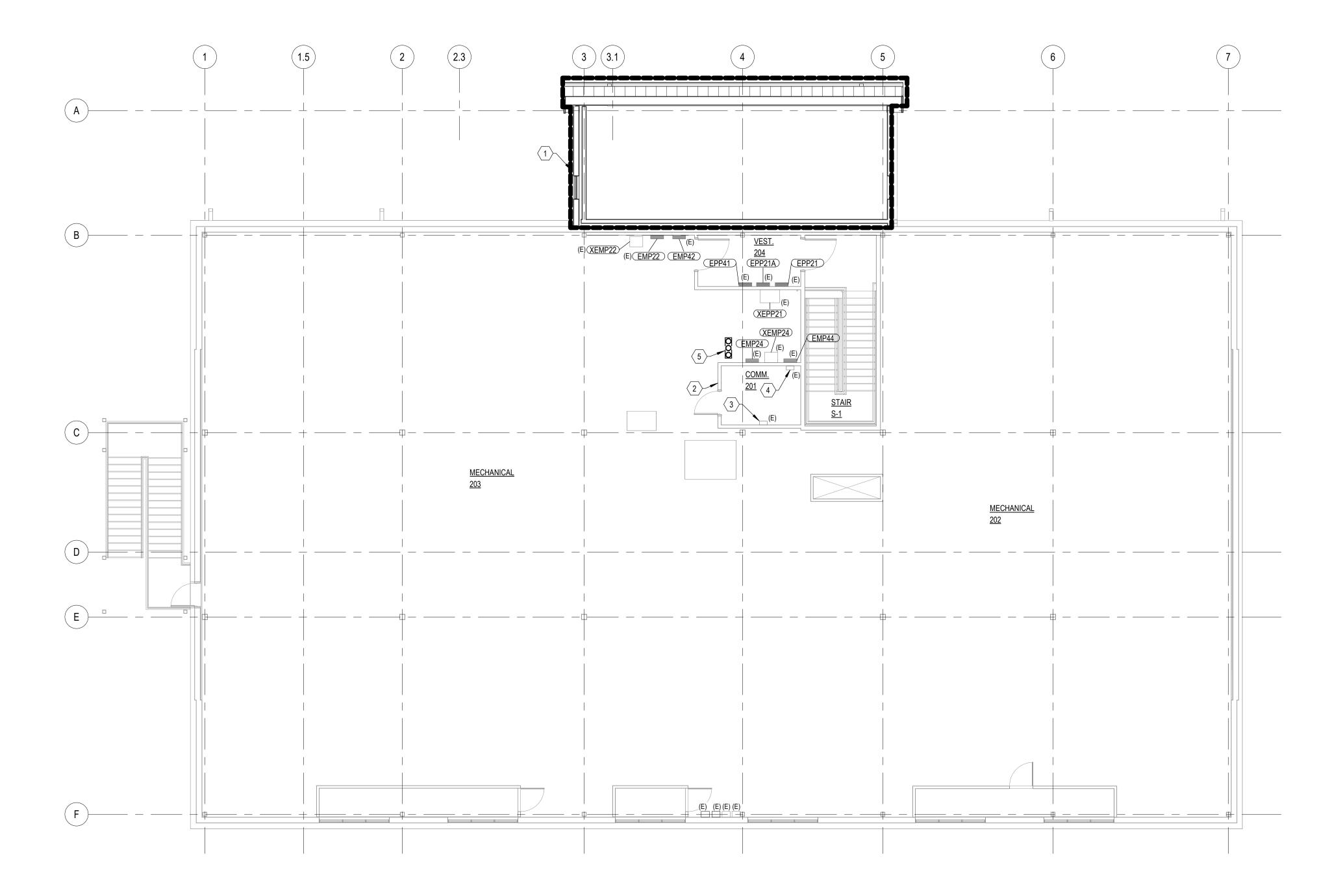
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First Floor Power & Auxiliary Systems Plan

E2.01



PENTHOUSE POWER & AUXILIARY SYSTEMS PLAN

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PENTHOUSE POWER & AUXILIARY SYSTEMS PLAN NOTES

CLOSET. COORDINATE EXACT REQUIREMENTS WITH OWNER.

EXISTING LENEL ACCESS CONTROL SYSTEM CABINET. EXISTING ACC ACCESS CONTROL SYSTEM CABINET.

DESCRIPTION

EXISTING (3) 3" CONDUITS ROUTED FROM COMMUNICATIONS CLOSET 201 DOWN TO BASEMENT SERVING LOW VOLTAGE CABLING IN THIS LOCATION.

IF ADD ALTERNATE #4 IS ACCEPTED, EXPAND THE EXISTING LIGHTNING PROTECTION SYSTEM TO PROVIDE FULL COVERAGE OF THE NEW LOWER ROOF WITHIN REGION INDICATED. THE NEW PORTION OF THE LIGHTNING PROTECTION SYSTEM SHALL FULLY INTEGRATE WITH AND TIE INTO THE EXISTING SYSTEM SO AS TO PROVIDE FULL PROTECTION OF THE BUILDING. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL NEW TELECOMMUNICATIONS/SECURITY CAMERA CABLING FOR THIS PROJECT SHALL BE FED FROM THIS

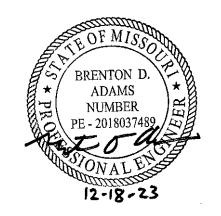
KEY NOTE

# **Contract Documents**

**LIDR Renovate West Animal Holding, Rms** 144-149

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December 18, 2023



Penthouse Power & Auxiliary Systems Plan **E2.02** 

| ΔΙΝ      | RH           | 12. | 125A                              |      |                            |        |       |       |        | 21' SC        |                 |       | LOCATION: MAIN ELEC RM 006   |   |    |    |
|----------|--------------|-----|-----------------------------------|------|----------------------------|--------|-------|-------|--------|---------------|-----------------|-------|------------------------------|---|----|----|
|          |              |     | 208Y/120 VOLTS, 3 PHASE, 4 WIRE   | 1    | LOAD                       | (\/Δ)  |       |       |        | LOAD          | (\/Δ)           |       | MOUNTING: SURFACE            |   |    |    |
|          |              |     | PE: LIGHTING AND APPLIANCE        | 1    | LOAD                       | ( V A) |       |       |        | LOAD          | (٧٨)            |       | MINIMUM AIC: EXISTING        |   |    |    |
|          |              |     | E. EIGHTING / IND / II - EI/ INGE |      |                            |        |       |       |        |               |                 |       |                              |   |    |    |
| 1        | A            | Р   | LOAD SERVED                       | LTG. | RECP.                      | MECH.  | SPARE | PHASE | LTG.   | RECP.         | MECH.           | SPARE | LOAD SERVED                  | Р | Α  | С  |
|          | 20           | 1   | POWER: FACP                       |      |                            |        |       | Α     |        |               |                 |       | POWER: SLUICE VALVE          | 3 | 20 | 2  |
| 2        | 20           | 1   | POWER: LIGHTING CONTROL           |      |                            |        |       | В     |        |               |                 |       | -                            | - | -  | 4  |
| 2        | 25           | 1   | POWER: LIGHTING INVERTER          |      |                            |        |       | С     |        |               |                 |       | -                            | - | -  | 6  |
| 2        | 20           | 1   | RCPT: EDS-1 FILTER & PUMPS        |      | 750                        |        |       | Α     |        |               |                 |       | POWER: VALVE CONTROL         | 1 | 20 | 8  |
| 2        | 20           | 1   | RCPT: EDS COMPUTER WRKSTION       |      | 600                        |        |       | В     |        | 1350          |                 |       | RCPT: HYDRAULIC VEHICLE GATE | 2 | 20 | 10 |
| 3        | 80           | 1   | MECH: CRU-2                       |      | 1176                       |        |       | С     |        | 1350          |                 |       | -                            | - | -  | 12 |
|          |              |     | SPACE                             |      |                            |        |       | Α     |        |               |                 |       | SPACE                        |   |    | 14 |
| 5        | $\downarrow$ |     | SPACE                             |      |                            |        |       | В     |        |               |                 |       | SPACE                        |   |    | 16 |
| 4        |              |     | SPACE                             |      |                            |        |       | С     |        |               |                 |       | SPACE                        |   |    | 18 |
| 1        | _            |     | SPACE                             |      |                            |        |       | Α     |        |               |                 |       | SPACE                        |   |    | 20 |
| ļ        | $\downarrow$ |     | SPACE                             |      |                            |        |       | В     |        |               |                 |       | SPACE                        |   |    | 22 |
| L        |              |     | SPACE                             |      |                            |        |       | С     |        |               |                 |       | SPACE                        |   |    | 24 |
|          |              |     | SPACE                             |      |                            |        |       | Α     |        | 600           |                 |       | RCPT: NORTH VEHICLE GATE     | 1 | 20 | 26 |
| L        | 1            |     | SPACE                             |      |                            |        |       | В     |        |               | 1920            |       | MECH: 005B DEHUMIDIFER       | 1 | 20 | 28 |
| L        | 1            |     | SPACE                             |      |                            |        |       | С     |        |               | 600             |       | MECH: FCU-001                | 1 | 20 | 30 |
|          | _            |     | SPACE                             |      |                            |        |       | Α     |        |               |                 |       | SPACE                        |   |    | 32 |
| L        |              |     | SPACE                             |      |                            |        |       | В     |        |               |                 |       | SPACE                        |   |    | 34 |
|          | _            |     | SPACE                             |      |                            |        |       | С     |        |               |                 |       | SPACE                        |   |    | 36 |
| <u>·</u> | $\downarrow$ |     | SPACE                             |      |                            |        |       | Α     |        |               |                 |       | SPACE                        |   |    | 38 |
|          | $\downarrow$ |     | SPACE                             |      |                            |        |       | В     |        |               |                 |       | SPACE                        |   |    | 40 |
|          |              | _   | SPACE                             |      |                            |        |       | С     |        |               |                 |       | SPACE                        |   |    | 42 |
|          |              |     | CONNECTED LOAD                    | -    | 2526                       | -      | -     | -     | -      | 3300          | 2520            | -     | CONNECTED LOAD               | 4 |    |    |
|          |              |     | % DF                              | 100  | 100                        | 80     | 50    | -     | 100    | 100           | 80              |       | %DF                          | 4 |    |    |
|          |              |     | EMD X 1.25 =<br>SYS. VOLT.        | 7842 | 2526<br>X 1.25 =<br>X 1.73 | = 27   | Amps  | 1     | MAIN E | 3300<br>REAKE | 2016<br>R SIZE: |       | lemD                         | 1 |    |    |

| MAI | N B | US: | 225A                            |      |             |            |         |       |      |       |       |       | LOCATION: RM 129       |  |
|-----|-----|-----|---------------------------------|------|-------------|------------|---------|-------|------|-------|-------|-------|------------------------|--|
| VOI | _TA | GE: | 208Y/120 VOLTS, 3 PHASE, 4 WIRE | _    | LOAD        | (VA)       |         |       |      | LOAD  | (VA)  |       | MOUNTING: RECESSED     |  |
| PAN | IEL | TY  | PE: LIGHTING AND APPLIANCE      |      | ı           |            |         |       |      |       |       |       | MINIMUM AIC: EXISTING  |  |
| С   | Α   | Р   | LOAD SERVED                     | LTG. | RECP.       | MECH.      | SPARE   | PHASE | LTG. | RECP. | MECH. | SPARE | LOAD SERVED            |  |
| 1   | 20  | 1   | RECEPT: RM 132                  |      |             |            |         | Α     |      |       |       |       | RECEPT: RM 130 FREEZER |  |
| 3   | 20  | 1   | RECEPT: RM 132                  |      |             |            |         | В     |      |       |       |       | -                      |  |
| 5   | 20  | 1   | RECEPT: RM 132                  |      |             |            |         | С     |      |       |       |       | SPARE                  |  |
| 7   | 20  | 1   | RECEPT: AUTOCLAVE               |      | 1500        |            |         | Α     |      |       |       |       | -                      |  |
| 9   | 20  | 1   | RECEPT: RM 117, 119             |      |             |            |         | В     |      |       |       |       | RECEPT: RM 131 FREEZER |  |
| 11  | 20  | 1   | RECEPT: RM 118                  |      |             |            |         | С     |      |       |       |       | -                      |  |
| 13  | 20  | 1   | RECEPT: PAPPER CHARGING         |      | 1000        |            |         | Α     |      |       |       |       | RECEPT: RM 132 FREEZER |  |
| 15  | 20  | 1   | RECEPT: PAPPER CHARGING         |      | 1000        |            |         | В     |      |       |       |       | -                      |  |
| 17  | 15  | 2   | RECEPT: RM 139 FREEZER          |      |             |            |         | С     |      |       |       |       | RECEPT: RM 133 FREEZER |  |
| 19  | _   | _   | -                               |      |             |            |         | Α     |      |       |       |       | -                      |  |
| 21  | 20  | 1   | RECEPT: PAPPER CHARGING         |      | 1000        |            |         | В     |      |       |       |       | RECEPT: RM 133 FREEZER |  |
| 23  | 20  | 1   | SPARE                           |      |             |            |         | С     |      |       |       |       | -                      |  |
| 25  | 15  | 2   | SPARE                           |      |             |            |         | Α     |      |       |       |       | RECEPT: RM 137 FREEZER |  |
| 27  | -   | -   | -                               |      |             |            |         | В     |      |       |       |       | -                      |  |
| 29  | 20  | 2   | MECH: COMPRESSED AIR PANEL      |      |             | 1000       |         | С     |      |       |       |       | POWER: ULTRACENTER     |  |
| 31  | -   | -   | -                               |      |             | 1000       |         | Α     |      |       |       |       | -                      |  |
| 33  |     |     | SPACE                           |      |             |            |         | В     |      |       |       |       | RECEPT: RM 138 FREEZER |  |
| 35  |     |     | SPACE                           |      |             |            |         | С     |      |       |       |       | -                      |  |
| 37  |     |     | SPACE                           |      |             |            |         | A     |      |       |       |       | RECEPT: RM 138 FREEZER |  |
| 39  |     |     | SPACE                           |      |             |            |         | В     |      |       |       |       | -                      |  |
| 41  |     |     | SPACE                           |      |             |            |         | С     |      |       |       |       | RECEPT: ICE MAKER      |  |
|     |     |     | CONNECTED LOAD  % DF            | 100  | 4500<br>100 | 2000<br>80 | -<br>50 |       | 100  | 100   | 80    |       | CONNECTED LOAD<br>%DF  |  |
| l   |     |     | EMD                             | _    | 4500        | 1600       | _       |       | _    | _     |       |       | EMD                    |  |

|          | ELECTRICAL SCHEDULES NOTES   |
|----------|--|
| KEY NOTE | DESCRIPTION  |
|          |  |
| 1        | EXISTING 'SPARE' CIRCUIT BREAKER TO BE USED FOR NEW LOAD. VERIFY EXISTING BREAKER HAS NO EXISTING LOAD THAT IS TO REMAIN. IF BREAKER HAS EXISTING LOAD TO REMAIN USE ANOTHER 'SPARE' BREAKER OF SAME AMPERAGE AND VOLTAGE IN PANELBOARD. IF NO 'SPARE' BREAKERS EXISTS IN PANELBOARD INDICATED PROVIDE NEW CIRCUIT BREAKER OF SAME AMPERAGE AND VOLTAGE, ANY NEW CIRCUIT BREAKER SHALL BE FULLY COMPATIBLE WITH EXISTING PANELBOARD AND SHALL MAINTAIN THE PANELBOARD'S UL LISTING AND INTERRUPT RATING. |
| 2        | IF ADD ALTERNATE #1 IS ACCEPTED, INSTALL A NEW CIRCUIT BREAKER IN EXISTING SPACE WITHIN BRANCH PANELBOARD. THE CIRCUIT BREAKER SHALL BE FULLY COMPATIBLE WITH THE EXISTING PANEL AND SHALL MAINTAIN THE FAULT CURRENT RATING AND UL LISTING OF THE PANEL. PROVIDE AN UPDATED, TYPE-WRITTEN PANEL SCHEDULE TO INDICATE THE NEW CIRCUIT AND LOAD SERVED.   |
| 3        | IF ADD ALTERNATE#4 IS ACCEPTED, INSTALL A NEW CIRCUIT BREAKER IN EXISTING SPACE WITHIN BRANCH PANELBOARD. THE CIRCUIT BREAKER SHALL BE FULLY COMPATIBLE WITH THE EXISTING PANEL AND SHALL MAINTAIN THE FAULT CURRENT RATING AND UL LISTING OF THE PANEL. PROVIDE AN UPDATED, TYPE-WRITTEN PANEL SCHEDULE TO INDICATE THE NEW CIRCUIT AND LOAD SERVED.  |
| 4        | PROVIDE NEW CIRCUIT BREAKER OF AMPERAGE AND VOLTAGE INDICATED. ANY NEW CIRCUIT BREAKER SHALL BE FULLY COMPATIBLE WITH EXISTING PANELBOARD, AND SHALL MAINTAIN THE PANELBOARD'S ULLISTING AND INTERRUPT RATING.   |

| LIGHTING FIXTURE SCHEDULE         |   |   |                 |                             |      |    |           |   |
|-----------------------------------|---|---|-----------------|-----------------------------|------|----|-----------|---|
| Fixture Manufacturers             | Catalog Numbers   | Description                                   | No. of<br>Lamps | Lamp Type                   | Volt | VA | Mounting  | Remarks   |
| KENALL  A NEW STAR  KURTZON       | CSESO24-45LD-40K8-DIM1-DV-5F-5H-SYM-HJ SC-S-24-HS-IB-L2-40-1C-G-UN-DM KL-S-3-2X4-2-LEDR-840-UNV-P12 | 1' X 4' LED<br>LENSED,<br>GASKETED<br>TROFFER | NA              | LED, 4000K                  | UNV  | 46 | SURFACE   | INSTALL FIXTURE IN A MANNER THAT PROVIDES A COMPLETELY SEALED INSTALLATION. FIXTURE MUST BE SUITABLE FOR BSL3 ENVIRONMENTS. PROVIDE FIXTURE WITH INTEGRAL BATTERY.  |
| KENALL  B NEW STAR  KURTZON       | CSESO22L-40K8-DIM1-DV-5F-5H-SYM SC-S-22-HS-IB-2000L-40-1C-G-UN-DM KL-S-3-2X2-2-LEDR-840-UNV-P12-W   | 2' X 2' LED<br>LENSED,<br>GASKETED<br>TROFFER | NA              | LED, 4000K                  | UNV  | 29 | SURFACE   | INSTALL FIXTURE IN A MANNER THAT PROVIDES A COMPLETELY SEALED INSTALLATION. FIXTURE MUST BE SUITABLE FOR BSL3 ENVIRONMENTS. COORDINATE WITH MANUFACTURER TO PROVIDE A 2,000 LUMEN FIXTURE. PROVIDE FIXTURE WITH INTEGRAL BATTERY.   |
| EXIT NEW STAR                     | 5F-G-DT-NT-EL ESC-G-HW-OS-SF-LED-UN-RW-EM   | LED BSL EXIT<br>FIXTURE                       | NA              | PROVIDED<br>WITH<br>FIXTURE | UNV  | 5  | RECESSED  | FIXTURE SHALL BE RECESSED IN WALL. UNLESS OTHERWISE INDICATED MOUNT AT 7'-6" AFF OR IF ABOVE DOOR SO THAT BOTTOM OF EXIT SIGN IS 6" ABOVE TOP OF DOOR FRAMES. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES. PROVIDE SELF DIAGNOSTICS AND INTEGRAL BATTERY PACK.        |
| HUBBELL  MULE LIGHTING  EXITRONIX | EVE-U-G-W-I MX-B-G-U-SD GVEX-U-BP-WB-WH-G2  | LED EXIT<br>FIXTURE-<br>THERMOPLASTI<br>C     | NA              | PROVIDED<br>WITH<br>FIXTURE | UNV  | 3  | UNIVERSAL | PROVIDE SINGLE OR DUAL FACED SIGNS, MOUNTING AND DIRECTIONAL ARROWS AS INDICATED ON PLANS. UNLESS OTHERWISE INDICATED MOUNT AT 7'-6" AFF OR IF ABOVE DOOR SO THAT BOTTOM OF EXIT SIGN IS 6" ABOVE TOP OF DOOR FRAMES. PROVIDE SELF DIAGNOSTICS AND INTEGRAL BATTERY PACK. |

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

- 1. FIXTURES WITH EMERGENCY BATTERY BACKUP OR INVERTER BACKUP SHALL BE PROVIDED WITH TEST SWITCH AS REQUIRED BY CODE. TEST SWITCH SHALL EITHER BE FIXTURE MOUNTED OR
- LOCATED IN NEARBY ACCESSIBLE LOCATION. FINAL LOCATION SHALL BE COORDINATED WITH OWNER, ARCHITECT AND ENGINEER.
- 2. EMERGENCY BATTERY BACKUP SHALL BE PROVIDED FOR ENTIRE FIXTURE SHOWN AS EMERGENCY UNLESS OTHERWISE NOTED. MULTIPLE BATTERY PACKS SHALL BE PROVIDED AS
- NECESSARY TO POWER THE ENTIRE FIXTURE. PROVIDE ALL PARTS NECESSARY FOR A 3. COMPLETE AND CODE COMPLIANT INSTALLATION.
- FIXTURES WITH EMERGENCY BATTERY BACKUP SHALL BE CAPABLE OF BEING LOCALLY SWITCHED OFF. BATTERY SHALL ENERGIZE FIXTURE ONLY IN A POWER LOSS SITUATION, NOT A
- SWITCHING EVENT.
- 4. CONTRACTOR SHALL VERIFY MOUNTING HEIGHTS OF ALL FIXTURES PRIOR TO INSTALLATION.

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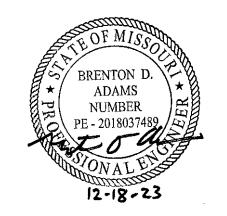
**SHEET HISTORY:** ISSUED 12/18/23 Contract Documents

## **Contract Documents**

**LIDR Renovate West Animal Holding, Rms** 144-149

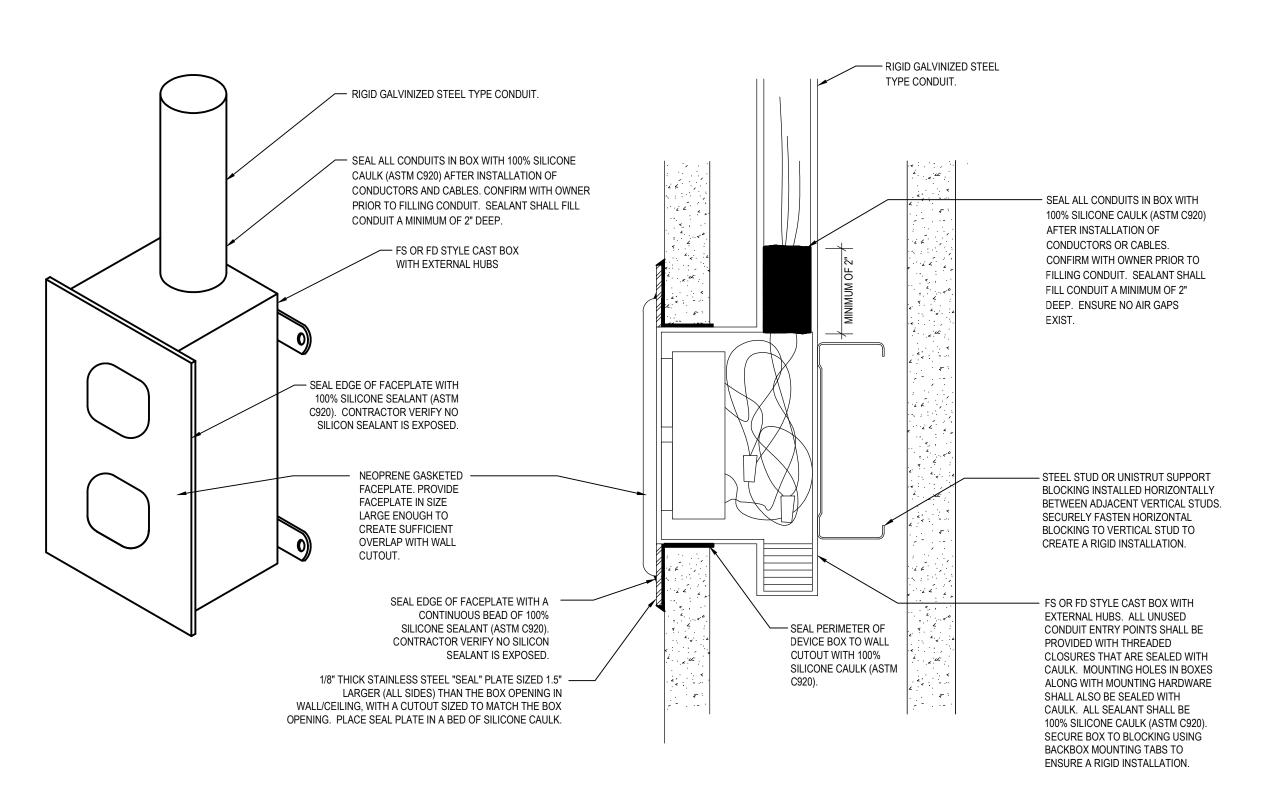
1020 East Campus Loop University of Missouri Columbia, MO 65211 CE No.: 624-216-22 UM No.: CP220692

December 18, 2023



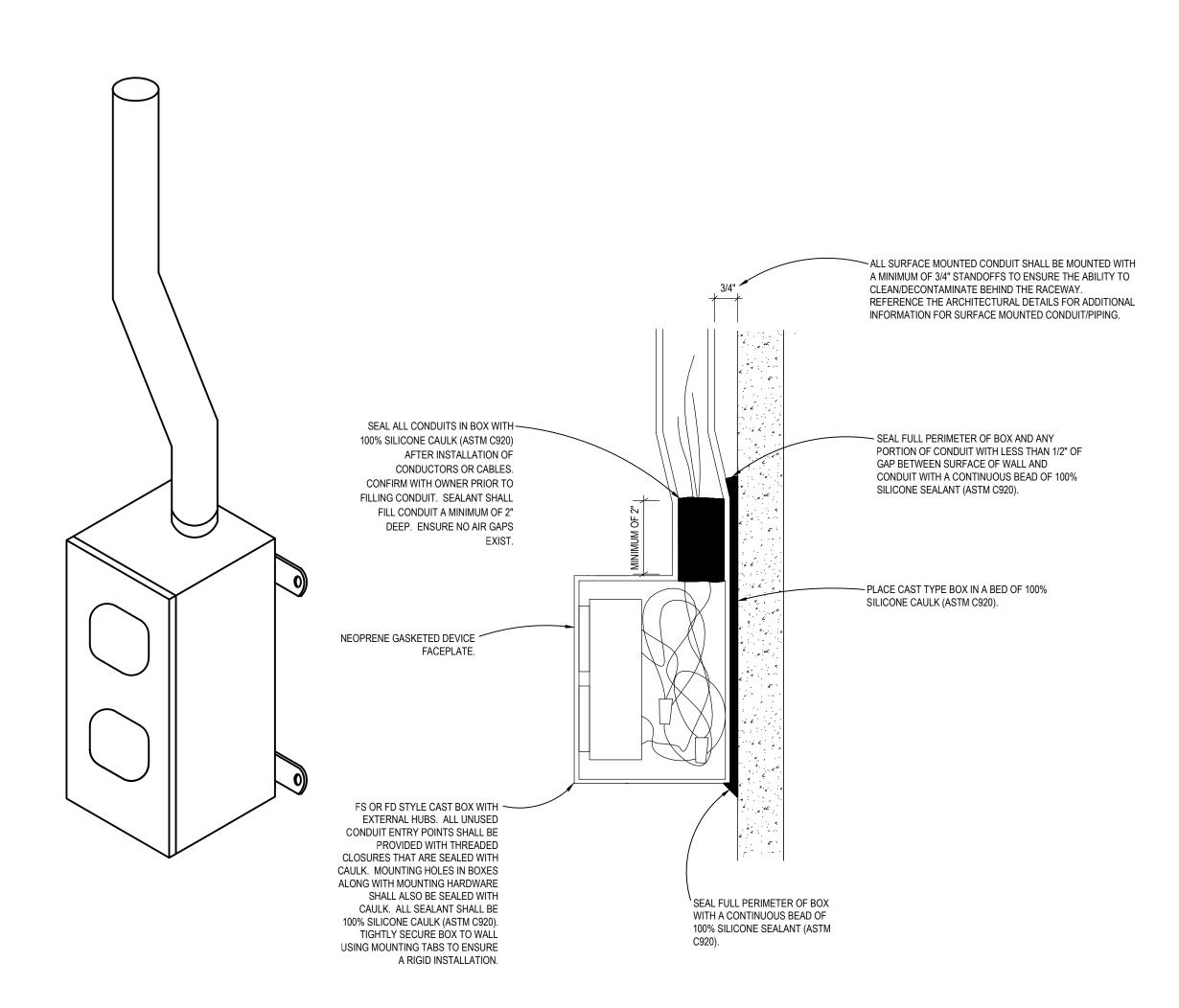
Electrical Schedules

E3.01



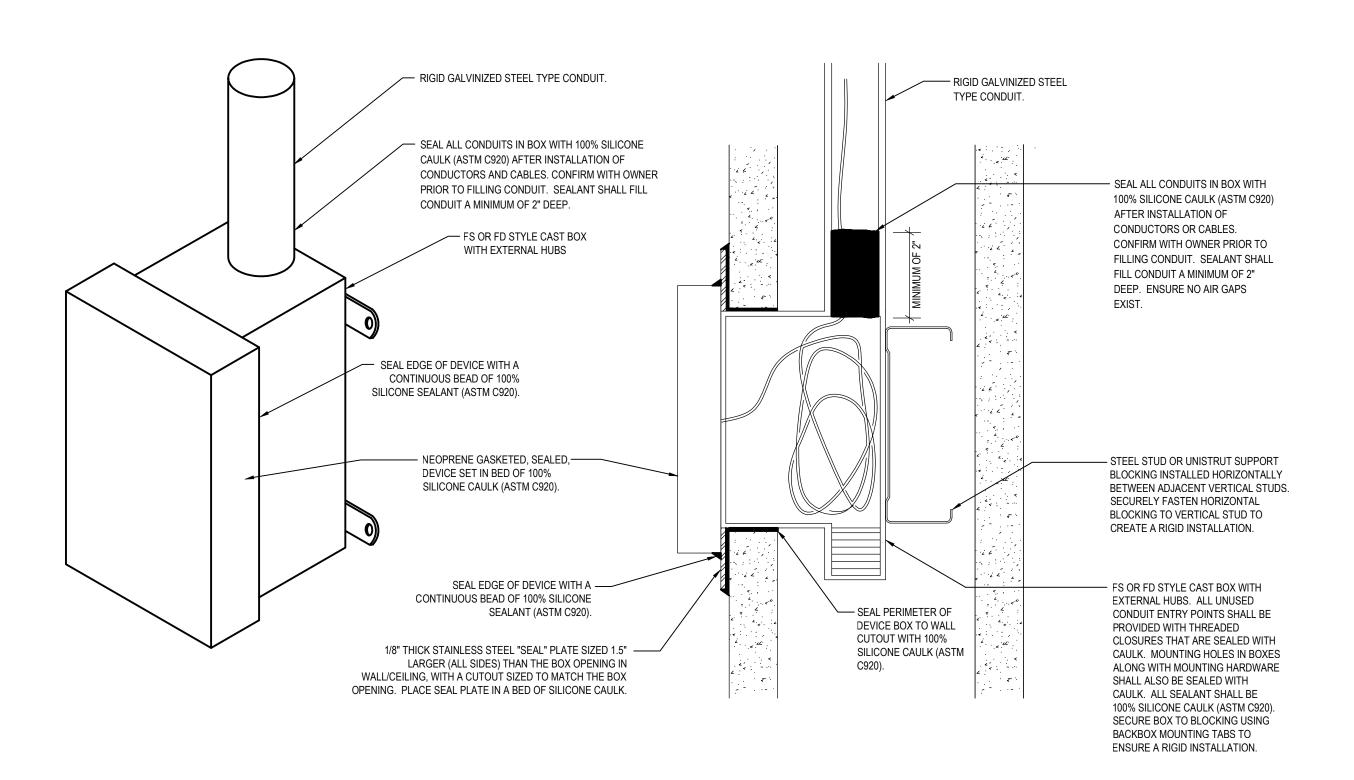
# TYPICAL FLUSH MOUNTED BSL3/ABSL3 AREA DEVICE SEALANT DETAIL

- TYPICAL FLUSH MOUNTED BSL3/ABSL3 AREA DEVICE SEALANT DETAIL GENERAL NOTES:
- 1. DETAIL IS APPLICABLE TO ALL FLUSH MOUNTED RECEPTACLES AND LIGHTING CONTROLS SWITCHES INSTALLED IN THE BSL3/ABSL3 AREA. CONTRACTOR SHALL VERIFY BOX COMPATIBILITY WITH ALL DEVICES
- 2. ALL COMPONENTS SHOULD BE FIRMLY SECURE SO THAT THERE IS NO MOVEMENT THAT COULD POTENTIALLY CAUSE CRACKING IN THE SEALANT JOINTS.
- 3. PROVIDE BOX WITH NUMBER OF GANGS NOTED ON PLANS OR IN SPECIFICATION FOR EACH DEVICE.
- 4. CONTRACTOR SHALL PROVIDE MOCK-UP OF DEVICE INSTALLATION DETAIL FOR REVIEW BY ENGINEER/ARCHITECT PRIOR TO PROCEEDING WITH INSTALLING ALL DEVICES.



# TYPICAL ABSL3/BSL3 AREA SURFACE MOUNTED DEVICE SEALANT DETAIL

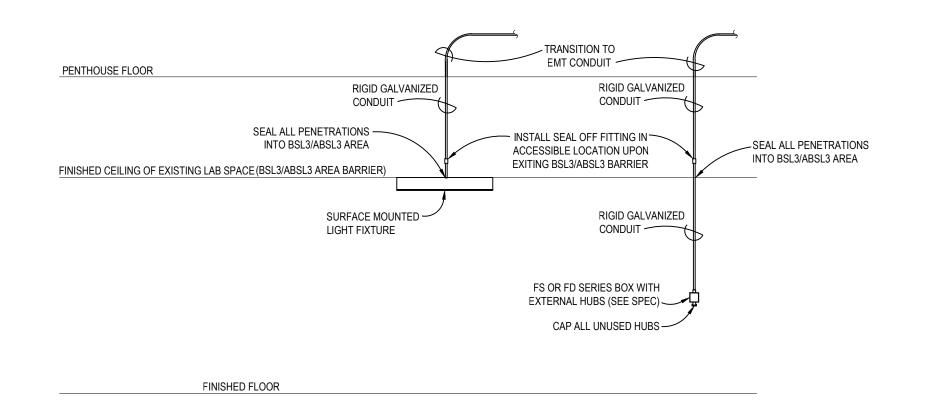
- TYPICAL ABSL3/BSL3 AREA SURFACE MOUNTED DEVICE SEALANT DETAIL GENERAL NOTES: DETAIL IS APPLICABLE TO ALL SURFACE MOUNTED DEVICES INSTALLED IN THE ABSL3/BSL3 AREA (POWER,
- TELECOM, FIRE ALARM, KEYPAD, SECURITY, LIGHTING CONTROL, ETC...). CONTRACTOR SHALL VERIFY BOX COMPATIBILITY WITH ALL DEVICES BEFORE INSTALLATION.
- 2. ALL COMPONENTS SHOULD BE FIRMLY SECURE SO THAT THERE IS NO MOVEMENT THAT COULD POTENTIALLY CAUSE CRACKING IN THE SEALANT JOINTS.
- 3. PROVIDE BOX WITH NUMBER OF GANGS NOTED ON PLANS OR IN SPECIFICATION.
- CONTRACTOR SHALL PROVIDE MOCK-UP OF DEVICE INSTALLATION DETAIL FOR REVIEW BY ENGINEER/ARCHITECT PRIOR TO PROCEEDING WITH INSTALLING ALL DEVICES.



# TYPICAL BSL3/ABSL 3 AREA LOW VOLTAGE DEVICE SEALANT DETAIL

TYPICAL BSL3/ABSL3 AREA LOW VOLTAGE DEVICE SEALANT DETAIL GENERAL NOTES: 1. DETAIL IS APPLICABLE TO ALL LOW VOLTAGE FLUSH MOUNTED DEVICES INSTALLED IN THE BSL3/ABSL3 AREA (TELECOM, FIRE ALARM, KEYPAD, SECURITY, ETC...). CONTRACTOR SHALL VERIFY BOX

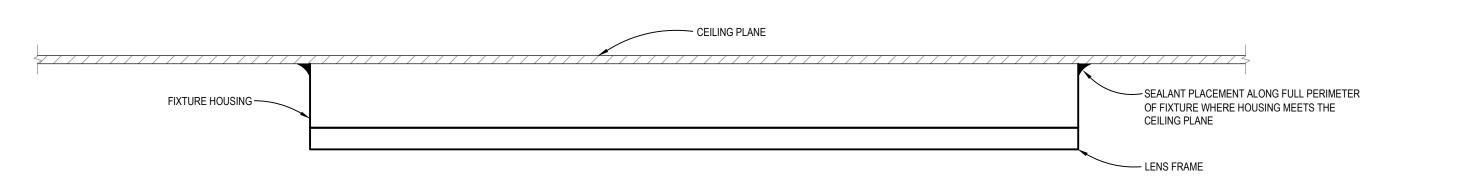
- COMPATIBILITY WITH ALL DEVICES BEFORE INSTALLATION.
- 2. ALL COMPONENTS SHOULD BE FIRMLY SECURE SO THAT THERE IS NO MOVEMENT THAT COULD POTENTIALLY CAUSE CRACKING IN THE SEALANT JOINTS.
- 3. PROVIDE BOX WITH NUMBER OF GANGS NOTED ON PLANS OR IN SPECIFICATION FOR EACH DEVICE.
- 4. CONTRACTOR SHALL PROVIDE MOCK-UP OF DEVICE INSTALLATION DETAIL FOR REVIEW BY ENGINEER/ARCHITECT PRIOR TO PROCEEDING WITH INSTALLING ALL DEVICES.



# 4 BSL3/ABSL3 AREA DEVICE ROUGH-IN DETAIL

2. COORDINATE EXACT EXTENT OF BSL3/ABSL3 BARRIER WITH ARCHITECT.

- 1. DETAIL IS APPLICABLE TO ALL DEVICES/SYSTEMS INSTALLED IN THE BSL3/ABSL3 AREA (POWER,
- BSL3/ABSL3 AREA DEVICE ROUGH-IN DETAIL GENERAL NOTES: TELECOM, FIRE ALARM, CARD ACCESS, SECURITY, LIGHTING CONTROL, ETC...)



# 5 SURFACE MOUNTED LIGHT FIXTURE SEALANT DETAIL

LIGHT FIXTURE SEALANT DETAIL GENERAL NOTES:

- 1. LIGHT FIXTURE SEALANT SHALL BE NON-HALOGENATED LATEX-BASED ELASTOMERIC SEALANT
- 2. DETAIL APPLIES TO ALL SURFACE MOUNTED LIGHT FIXTURES WITHIN THE BSL3/ABSL3 AREA.

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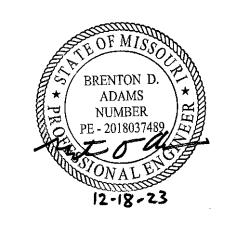
ISSUED 12/18/23 Contract Document

**Contract Documents** 

**LIDR Renovate West Animal Holding, Rms** 144-149

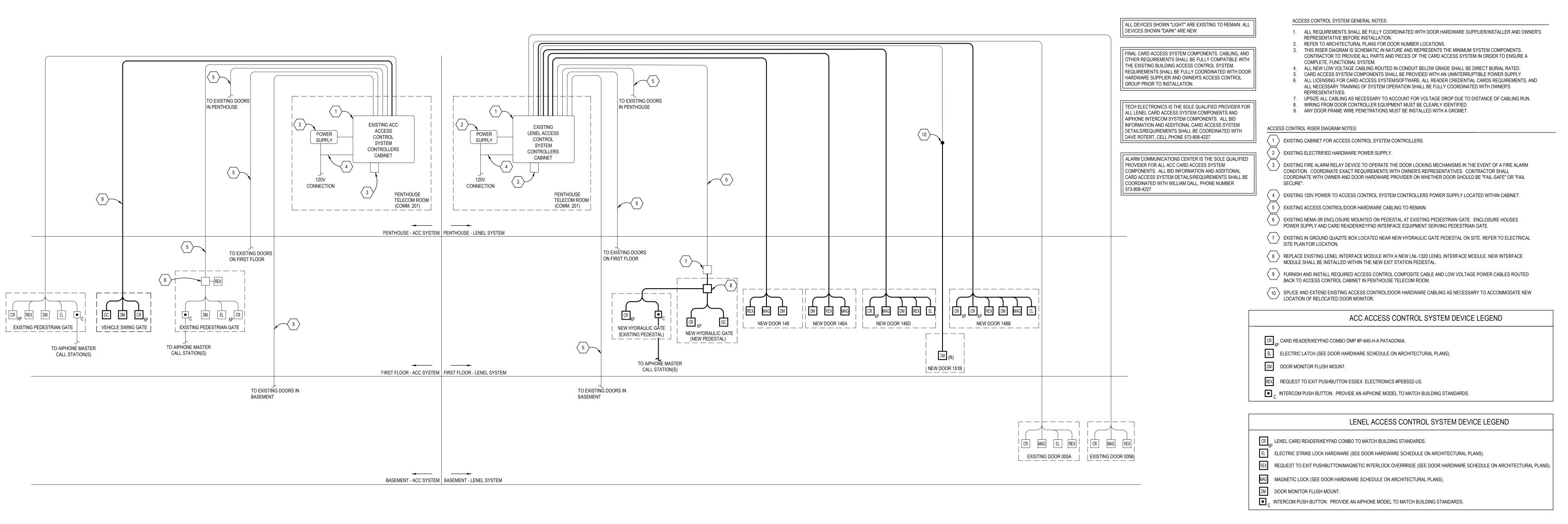
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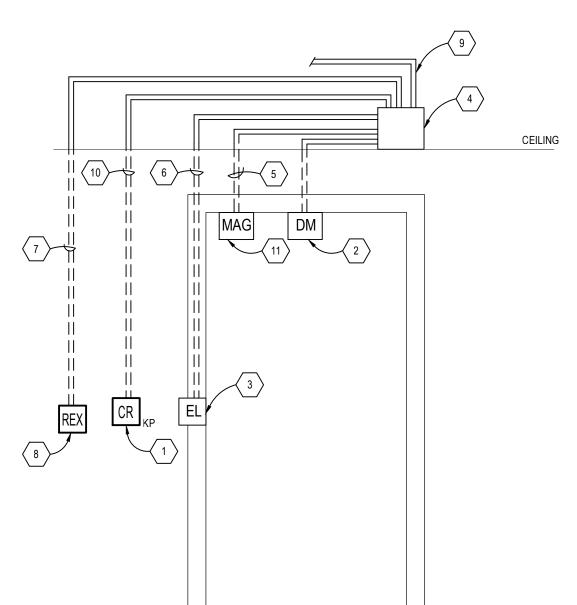
**Electrical Details** 

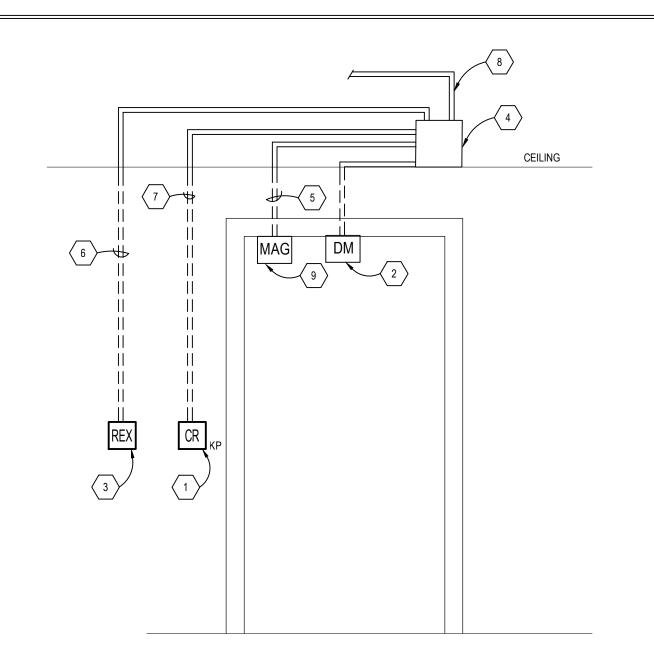
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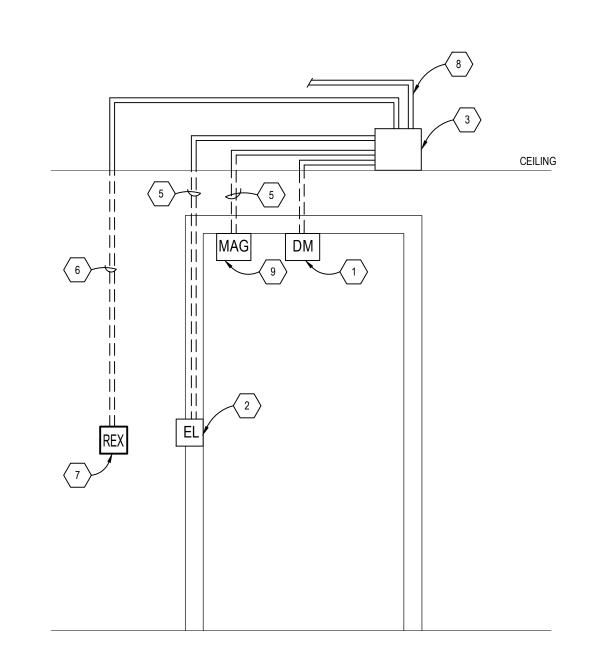


# 1 CARD ACCESS RISER DIAGRAM

NO SCALE







# 7 TYPICAL ELECTRIC STRIKE/MAG LOCK DOOR CARD ACCESS ELEVATION

NO SCALE

## CARD ACCESS SYSTEM DETAIL NOTES:

- furnish and install proximity card reader mounted/keypad combo on wall on unsecured side of the door. Mount to single gang junction box, recessed in wall.
- DOOR MONITOR FLUSH MOUNT MAGNETIC CONTACT LOCK PROVIDED BY DOOR HARDWARE SUPPLIER.
- SELECTRIC STRIKE LOCK PROVIDED BY THE DOOR HARDWARE SUPPLIER. SEE DOOR HARDWARE SCHEDULE ON ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.

   PROVIDE JUNCTION BOX FLUSH MOUNTED IN ACCESSIBLE CEILING ON SECURE SIDE OF THE DOOR FOR CONNECTION OF
- ROUTE (1) -3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO MAGNETIC LOCK. PROVIDE NECESSARY LOW VOLTAGE CABLING TO MAGNETIC LOCK. PER MANUFACTURER'S REQUIREMENTS.

SECURITY ACCESS SYSTEM CONDUIT/CABLING. COORDINATE EXACT J-BOX REQUIREMENTS WITH OWNER'S

- ROUTE (1) -3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO ELECTRIC STRIKE LOCK. PROVIDE NECESSARY LOW VOLTAGE
- CABLING TO ELECTRIC STRIKE LOCK PER MANUFACTURER'S REQUIREMENTS.
- 7 ROUTE (1) 3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO REQUEST TO EXIT PUSHBUTTON. PROVIDE NECESSARY LOW VOLTAGE CABLING TO PUSHBUTTON PER MANUFACTURER'S REQUIREMENTS.
- REQUEST TO EXIT PUSH BUTTON (PROVIDED BY THE DOOR HARDWARE SUPPLIER) MOUNTED ON SECURE SIDE OF DOOR. SEE DOOR HARDWARE SCHEDULE ON ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. PROVIDE AND INSTALL SINGLE GANG JUNCTION BOX, RECESSED IN WALL.
- FURNISH AND INSTALL ACCESS CONTROL COMPOSITE CABLE AND LOW VOLTAGE POWER CABLES ROUTED BACK TO ACCESS CONTROL SYSTEM CONTROLLER CABINETS IN PENTHOUSE TELECOM ROOM. CABLES SHALL BE ROUTED CONCEALED IN FINISHED SPACES. PROVIDE ADDITIONAL J-HOOKS OR EQUIVALENT SUPPORTS WHERE REQUIRED.
- PROVIDE AND ROUTE CABLE IN CONDUIT WHEN ABOVE INACCESSIBLE CEILINGS.

  10 ROUTE (1) 3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO PROXIMITY CARD READER/KEYPAD COMBO. PROVIDE NECESSARY LOW VOLTAGE CABLING TO PROXIMITY READER PER MANUFACTURER'S REQUIREMENTS.
- MAGNETIC LOCK PROVIDED BY THE DOOR HARDWARE SUPPLIER. SEE DOOR HARDWARE SCHEDULE ON ARCHITECTURAL

## CARD ACCESS TYPICAL ELECTRIC STRIKE/MAG LOCK DOOR ELEVATION GENERAL NOTES

NOT ALL DEVICES WILL BE APPLICABLE AT EVERY LOCATION. ACTUAL
DEVICE COUNTS SHOULD BE VERIFIED FROM THE ARCHITECTURAL
HARDWARE SCHEDULE AND THE ELECTRICAL POWER & AUXILIARY
SYSTEMS PLANS. FULLY COORDINATE EXACT LOCATION AND EXTENT
OF ALL CARD ACCESS SYSTEM REQUIREMENTS WITH THE DOOR

HARDWARE SCHEDULE AND THE OWNER'S REPRESENTATIVES.

2. CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH OWNER FOR FIRE ALARM SYSTEM COMMUNICATION WITH CARD ACCESS SYSTEM SO THAT CARD ACCESS SYSTEM MAY "FAIL-SAFE" OR "FAIL-SECURE" UPON INITIATION OF A FIRE ALARM EVENT. PROVIDE AND INSTALL ALL FIRE ALARM RELAYS, CABLING, AND ALL OTHER REQUIRED FIRE ALARM SYSTEM COMPONENTS IN ORDER TO PROVIDE

A FULLY FUNCTIONAL SYSTEM.

# 3 TYPICAL MAG LOCK DOOR CARD ACCESS ELEVATION NO SCALE

NO SOALL

## CARD ACCESS TYPICAL MAG LOCK DOOR ELEVATION NOTES:

- furnish and install proximity card reader/keypad combo mounted on wall on unsecured side of the door. Mount to single gang junction box, recessed in wall.
- DOOR MONITOR FLUSH MOUNT MAGNETIC CONTACT LOCK PROVIDED BY DOOR HARDWARE SUPPLIER.
- REQUEST TO EXIT PUSH BUTTON (PROVIDED BY THE DOOR HARDWARE SUPPLIER) MOUNTED ON SECURE SIDE OF DOOR. SEE DOOR HARDWARE SCHEDULE ON ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. PROVIDE AND INSTALL SINGLE GANG JUNCTION BOX, RECESSED IN WALL.
- PROVIDE JUNCTION BOX FLUSH MOUNTED IN ACCESSIBLE CEILING ON SECURE SIDE OF THE DOOR FOR CONNECTION OF SECURITY ACCESS SYSTEM CONDUIT/CABLING. COORDINATE EXACT J-BOX REQUIREMENTS WITH OWNER'S REPRESENTITIVE.
- FOUTE (1) -3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO MAGNETIC LOCK. PROVIDE NECESSARY LOW VOLTAGE CABLING TO MAGNETIC LOCK PER MANUFACTURER'S REQUIREMENTS.
- ROUTE (1) 3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO REQUEST TO EXIT PUSH BUTTON. PROVIDE NECESSARY LOW VOLTAGE CABLING TO REQUEST TO EXIT PUSHBUTTON PER MANUFACTURER'S REQUIREMENTS.
- 7 ROUTE (1) 3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO PROXIMITY CARD READER/KEYPAD COMBO. PROVIDE NECESSARY LOW VOLTAGE CABLING TO PROXIMITY READER PER MANUFACTURER'S REQUIREMENTS.
- FURNISH AND INSTALL ACCESS CONTROL COMPOSITE CABLE AND LOW VOLTAGE POWER CABLES ROUTED BACK TO ACCESS CONTROL SYSTEM CONTROLLER CABINETS IN PENTHOUSE TELECOM ROOM. CABLES SHALL BE ROUTED CONCEALED IN FINISHED SPACES. PROVIDE ADDITIONAL J-HOOKS OR EQUIVALENT SUPPORTS WHERE REQUIRED. PROVIDE AND ROUTE CABLE IN CONDUIT WHEN ABOVE INACCESSIBLE CEILINGS.
- 9 MAGNETIC LOCK PROVIDED BY THE DOOR HARDWARE SUPPLIER. SEE DOOR HARDWARE SCHEDULE ON ARCHITECTURAL

## CARD ACCESS TYPICAL MAG LOCK DOOR ELEVATION GENERAL NOTES:

NOT ALL DEVICES WILL BE APPLICABLE AT EVERY LOCATION. ACTUAL DEVICE COUNTS SHOULD BE VERIFIED FROM THE ARCHITECTURAL HARDWARE SCHEDULE AND THE ELECTRICAL POWER & AUXILIARY SYSTEMS PLANS. FULLY COORDINATE EXACT LOCATION AND EXTENT OF ALL CARD ACCESS SYSTEM REQUIREMENTS WITH THE DOOR

A FULLY FUNCTIONAL SYSTEM.

HARDWARE SCHEDULE AND THE OWNER'S REPRESENTATIVES.

2. CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH OWNER FOR FIRE ALARM SYSTEM COMMUNICATION WITH CARD ACCESS SYSTEM SO THAT CARD ACCESS SYSTEM MAY "FAIL-SAFE" OR "FAIL-SECURE" UPON INITIATION OF A FIRE ALARM EVENT. PROVIDE AND INSTALL ALL FIRE ALARM RELAYS, CABLING, AND ALL OTHER REQUIRED FIRE ALARM SYSTEM COMPONENTS IN ORDER TO PROVIDE

# TYPICAL ELECTRIC STRIKE/MAG LOCK DOOR CARD ACCESS ELEVATION

NO SCALE

## CARD ACCESS SYSTEM DETAIL NOTES:

- DOOR MONITOR FLUSH MOUNT MAGNETIC CONTACT LOCK PROVIDED BY DOOR HARDWARE SUPPLIER.
- 2 ELECTRIC STRIKE LOCK PROVIDED BY THE DOOR HARDWARE SUPPLIER. SEE DOOR HARDWARE SCHEDULE ON ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
- PROVIDE JUNCTION BOX FLUSH MOUNTED IN ACCESSIBLE CEILING ON SECURE SIDE OF THE DOOR FOR CONNECTION OF SECURITY ACCESS SYSTEM CONDUIT/CABLING. COORDINATE EXACT J-BOX REQUIREMENTS WITH OWNER'S REPRESENTITIVE.
- ROUTE (1) -3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO MAGNETIC LOCK. PROVIDE NECESSARY LOW VOLTAGE CABLING TO MAGNETIC LOCK PER MANUFACTURER'S REQUIREMENTS.
- CABLING TO ELECTRIC STRIKE LOCK PER MANUFACTURER'S REQUIREMENTS.

  6 ROUTE (1) 3/4" CONDUIT W/ PUIL STRING (CONCEALED) TO REQUEST TO EXIT PUSHBUTTON. PROVIDE NECESSARY LOV

( 5 ) ROUTE (1) -3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO ELECTRIC STRIKE LOCK. PROVIDE NECESSARY LOW VOLTAGE

- ROUTE (1) 3/4" CONDUIT W/ PULLSTRING (CONCEALED) TO REQUEST TO EXIT PUSHBUTTON. PROVIDE NECESSARY LOW VOLTAGE CABLING TO PUSHBUTTON PER MANUFACTURER'S REQUIREMENTS.
- 7 REQUEST TO EXIT PUSH BUTTON (PROVIDED BY THE DOOR HARDWARE SUPPLIER) MOUNTED ON SECURE SIDE OF DOOR. SEE DOOR HARDWARE SCHEDULE ON ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. PROVIDE AND INSTALL SINGLE GANG JUNCTION BOX, RECESSED IN WALL.
- FURNISH AND INSTALL ACCESS CONTROL COMPOSITE CABLE AND LOW VOLTAGE POWER CABLES ROUTED BACK TO ACCESS CONTROL SYSTEM CONTROLLER CABINETS IN PENTHOUSE TELECOM ROOM. CABLES SHALL BE ROUTED CONCEALED IN FINISHED SPACES. PROVIDE ADDITIONAL J-HOOKS OR EQUIVALENT SUPPORTS WHERE REQUIRED. PROVIDE AND ROUTE CABLE IN CONDUIT WHEN ABOVE INACCESSIBLE CEILINGS.
- 9 MAGNETIC LOCK PROVIDED BY THE DOOR HARDWARE SUPPLIER. SEE DOOR HARDWARE SCHEDULE ON ARCHITECTURAL

# CARD ACCESS TYPICAL ELECTRIC STRIKE/MAG LOCK DOOR ELEVATION GENERAL NOTES:

- I. NOT ALL DEVICES WILL BE APPLICABLE AT EVERY LOCATION. ACTUAL DEVICE COUNTS SHOULD BE VERIFIED FROM THE ARCHITECTURAL HARDWARE SCHEDULE AND THE ELECTRICAL POWER & AUXILIARY SYSTEMS PLANS FULLY COORDINATE EXACT LOCATION AND EXTENT
- SYSTEMS PLANS. FULLY COORDINATE EXACT LOCATION AND EXTENT OF ALL CARD ACCESS SYSTEM REQUIREMENTS WITH THE DOOR HARDWARE SCHEDULE AND THE OWNER'S REPRESENTATIVES.

  CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH OWNER FOR FIRE ALARM SYSTEM COMMUNICATION WITH CARD ACCESS

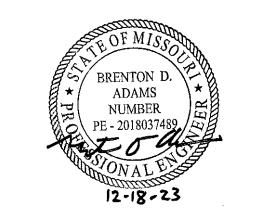
"FAIL-SECURE" UPON INITIATION OF A FIRE ALARM EVENT. PROVIDE

AND INSTALL ALL FIRE ALARM RELAYS, CABLING, AND ALL OTHER

REQUIRED FIRE ALARM SYSTEM COMPONENTS IN ORDER TO PROVIDE

SYSTEM SO THAT CARD ACCESS SYSTEM MAY "FAIL-SAFE" OR

A FULLY FUNCTIONAL SYSTEM.



Electrical Details

Plot Time Stamp:

**Contract Documents** 

ISSUED 12/18/23 Contract Document

Architecture \ Engineering \ Interior Design \

**Landscape Architecture** \ **Planning** 

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