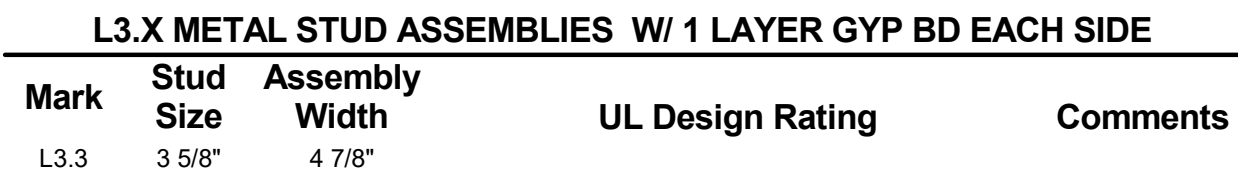




$$1/4'' = 1'-0''$$

1/4" = 1'-0"

**SHEET NUMBER**



**SHEET NUMBER**

## A-501.2

# MECHANICAL SYMBOLS LIST

NOTE: NOT ALL SYMBOLS SHOWN MAY BE REQUIRED FOR THIS PROJECT

## SHEET METAL

|  |                                                                                                         |
|--|---------------------------------------------------------------------------------------------------------|
|  | SQUARE CEILING DIFFUSER WITH ROUND NECK                                                                 |
|  | SQUARE CEILING RETURN AIR GRILLE                                                                        |
|  | SQUARE CEILING EXHAUST OR RELIEF AIR GRILLE                                                             |
|  | LINEAR SLOT DIFFUSER                                                                                    |
|  | FLOOR REGISTER OR GRILLE                                                                                |
|  | SIDEWALL REGISTER OR GRILLE                                                                             |
|  | FLEX DUCT WITH SIZE                                                                                     |
|  | DUCT SIZE: HORIZONTAL WIDTH x VERTICAL HEIGHT<br>(NET OUTSIDE SHEET METAL DIMENSION)                    |
|  | RECTANGULAR ELBOW WITH TURNING VANES                                                                    |
|  | CONCENTRIC DUCT REDUCER                                                                                 |
|  | ECCENTRIC DUCT REDUCER                                                                                  |
|  | EXISTING DUCTWORK TO BE REMOVED                                                                         |
|  | EXISTING DUCTWORK TO REMAIN                                                                             |
|  | SUPPLY AIR DUCT SECTION UP OR TOWARDS                                                                   |
|  | RETURN AIR DUCT SECTION UP OR TOWARDS                                                                   |
|  | EXHAUST AIR DUCT SECTION UP OR TOWARDS                                                                  |
|  | OUTSIDE AIR DUCT SECTION UP OR TOWARDS                                                                  |
|  | SUPPLY AIR DUCT SECTION DOWN OR AWAY                                                                    |
|  | RETURN AIR DUCT SECTION DOWN OR AWAY                                                                    |
|  | EXHAUST AIR DUCT SECTION DOWN OR AWAY                                                                   |
|  | OUTSIDE AIR DUCT SECTION DOWN OR AWAY                                                                   |
|  | DIRECTIONAL FLOW ARROW                                                                                  |
|  | HORIZONTAL DAMPER<br>FD = FIRE/SMOKE DAMPER, FD = FIRE DAMPER, SD = SMOKE DAMPER<br>CD = CONTROL DAMPER |
|  | VOLUME CONTROL DAMPER                                                                                   |
|  | GRILLE/DIFFUSER TAG WITH TYPE NUMBER AND CFM QUANTITY<br>S = SUPPLY, R = RETURN, E = EXHAUST            |
|  | GRILLE/DIFFUSER TAG WITH TYPE NUMBER AND CFM QUANTITY<br>S = SUPPLY, R = RETURN, E = EXHAUST            |
|  | VARIABLE AIR VOLUME (VAV) BOX WITH TYPE NUMBER                                                          |
|  | THERMOSTAT                                                                                              |
|  | HUMIDISTAT                                                                                              |
|  | DUCT RISE                                                                                               |
|  | DUCT DROP                                                                                               |
|  | FLEXIBLE DUCT CONNECTOR                                                                                 |
|  | CONED TAKEOFF WITH DAMPER                                                                               |
|  | AUTOMATIC MOTORIZED CONTROL DAMPER                                                                      |

## MISCELLANEOUS

|  |                             |
|--|-----------------------------|
|  | EXISTING LINE TO REMAIN     |
|  | EXISTING LINE TO BE REMOVED |
|  | POINT OF NEW CONNECTION     |
|  | EXISTING TO REMAIN          |
|  | EXISTING TO BE REMOVED      |
|  | EXISTING TO BE RELOCATED    |

## PLUMBING

|  |                                          |
|--|------------------------------------------|
|  | DOMESTIC COLD WATER LINE - CW            |
|  | DOMESTIC HOT WATER LINE - HW             |
|  | DOMESTIC HOT WATER CIRCULATING LINE - HW |
|  | TEMPERED WATER LINE                      |
|  | SOFT COLD WATER LINE                     |
|  | SOFT HOT WATER LINE                      |
|  | SANITARY SEWER LINE                      |
|  | GREASE SANITARY SEWER LINE               |
|  | STORM SEWER LINE                         |
|  | STORM SEWER OVERFLOW LINE                |
|  | ACID WASTE LINE BELOW FLOOR SLAB         |
|  | PLUMBING VENT LINE                       |
|  | ACID PLUMBING VENT LINE                  |
|  | CONDENSATE DRAIN LINE                    |
|  | NATURAL GAS LINE                         |
|  | LIQUEFIED PETROLEUM GAS LINE             |
|  | REFRIGERANT LIQUID LINE                  |
|  | REFRIGERANT SUCTION LINE                 |
|  | REFRIGERANT HOT GAS BYPASS LINE          |
|  | PUMPED DISCHARGE LINE                    |
|  | WELL WATER LINE                          |
|  | CLEANOUT IN FLOOR                        |
|  | CLEANOUT AT OR ABOVE CEILING             |
|  | CLEANOUT IN WALL                         |
|  | SHOWERHEAD                               |
|  | FLOOR DRAIN                              |
|  | ROOF DRAIN                               |

## PIPING SPECIALTIES

|  |                                |
|--|--------------------------------|
|  | PIPE RISER                     |
|  | PIPE DROP                      |
|  | UNION                          |
|  | PIPE CAP                       |
|  | BACKFLOW PREVENTER             |
|  | FLEXIBLE PIPE CONNECTOR        |
|  | FLOAT & THERMOSTATIC TRAP      |
|  | THERMOSTATIC TRAP              |
|  | STRAINER                       |
|  | STRAINER W/DRAIN VALVE         |
|  | AIR VENT                       |
|  | PRESSURE GAUGE                 |
|  | EXPANSION JOINT                |
|  | GLOBE VALVE                    |
|  | BUTTERFLY VALVE                |
|  | BALL VALVE                     |
|  | LUBRICATED PLUG VALVE          |
|  | GATE VALVE                     |
|  | 3WAY CONTROL VALVE             |
|  | 2WAY CONTROL VALVE             |
|  | CALIBRATED BALANCE VALVE       |
|  | SWING CHECK VALVE              |
|  | BALANCING VALVE                |
|  | TRIPLE DUTY VALVE              |
|  | HOSE BIBB                      |
|  | WALL HYDRANT                   |
|  | THERMOMETER                    |
|  | TEMPERATURE WELL               |
|  | P/T PORT                       |
|  | CURB STOP                      |
|  | SPRINKLER POST INDICATOR VALVE |

## HYDRONIC PIPING

|  |                                                |
|--|------------------------------------------------|
|  | HIGH PRESSURE STEAM SUPPLY LINE (51-125 PSIG)  |
|  | HIGH PRESSURE CONDENSATE RETURN LINE           |
|  | MEDIUM PRESSURE STEAM SUPPLY LINE (16-50 PSIG) |
|  | MEDIUM PRESSURE CONDENSATE RETURN LINE         |
|  | LOW PRESSURE STEAM SUPPLY LINE (0-15 PSIG)     |
|  | LOW PRESSURE CONDENSATE RETURN LINE            |
|  | PUMPED CONDENSATE RETURN LINE                  |
|  | HEATING HOT WATER SUPPLY LINE                  |
|  | HEATING HOT WATER RETURN LINE                  |
|  | CHILLED HOT WATER SUPPLY LINE                  |
|  | CHILLED HOT WATER RETURN LINE                  |
|  | CHILLED WATER SUPPLY LINE                      |
|  | CHILLED WATER RETURN LINE                      |
|  | CONDENSER WATER SUPPLY LINE                    |
|  | CONDENSER WATER RETURN LINE                    |
|  | COOLING TOWER BLOWDOWN LINE                    |
|  | HEAT PUMP SUPPLY LINE                          |
|  | HEAT PUMP RETURN LINE                          |
|  | SNOW MELTING SYSTEM SUPPLY                     |
|  | SNOW MELTING SYSTEM RETURN                     |
|  | OIL FILL LINE                                  |
|  | OIL SUCTION LINE                               |
|  | OIL RETURN LINE                                |
|  | OIL GAUGE LINE                                 |
|  | OIL VENT LINE                                  |
|  | WASTE OIL LINE                                 |
|  | WASTE OIL VENT LINE                            |

# ELECTRICAL SYMBOLS LIST

NOTE: NOT ALL SYMBOLS SHOWN MAY BE REQUIRED FOR THIS PROJECT

## WIRING DEVICES

|  |                                                                                          |
|--|------------------------------------------------------------------------------------------|
|  | DUPLEX WALL RECEPTACLE                                                                   |
|  | DUPLEX WALL RECEPTACLE ABOVE COUNTER BACKSLASH OR AS INDICATED                           |
|  | DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE                                       |
|  | DUPLEX TAMPER-RESISTANT RECEPTACLE                                                       |
|  | DUPLEX WEATHERPROOF GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE WITH COVER               |
|  | DUPLEX RECEPTACLE WITH USB CHARGER PORT                                                  |
|  | DUPLEX RECEPTACLE INSTALLED HORIZONTALLY                                                 |
|  | DUPLEX RECEPTACLE ON BACKUP POWER                                                        |
|  | QUADPLEX RECEPTACLE                                                                      |
|  | QUADPLEX RECEPTACLE ABOVE COUNTER BACKSLASH OR AS INDICATED                              |
|  | DUPLEX CEILING RECEPTACLE                                                                |
|  | JUNCTION BOX                                                                             |
|  | WIREMOLD/PLUGHOLD W/ENTRANCE FITTING AS SPECIFIED AND RECEPTACLES & DEVICES AS INDICATED |
|  | DUPLEX WALL RECEPTACLE FOR 208V, VERIFY POWER NEEDS                                      |
|  | HAND DRYER (BY OTHERS)                                                                   |
|  | AUTOMATIC FAUCET/VALVE                                                                   |
|  | EMERGENCY PUSH BUTTON (GENERATORS/BOILERS)                                               |
|  | ADA PUSH BUTTON (BY OTHERS)                                                              |

## EQUIPMENT WIRING

|  |                                                |
|--|------------------------------------------------|
|  | DISCONNECTING MEANS                            |
|  | WEATHERPROOF DISCONNECTING MEANS               |
|  | FUSED DISCONNECTING MEANS                      |
|  | MOTOR STARTER SWITCH WITH RED RUN PILOT LIGHT  |
|  | VARIABLE FREQUENCY DRIVE W/INTEGRAL DISCONNECT |

## SWITCHES - LOW VOLTAGE (DIGITAL)

(REFER TO LIGHTING SEQUENCE OF OPERATION FOR ADDITIONAL INFORMATION)

|  |                                |
|--|--------------------------------|
|  | WALL SWITCH/STATION            |
|  | OCCUPANCY SENSOR WALL SWITCH   |
|  | CEILING MOUNT OCCUPANCY SENSOR |
|  | DAYLIGHT PHOTOSENSOR           |
|  | EXTERIOR PHOTOCELL             |

## SWITCHES - LINE VOLTAGE (120/277V)

(REFER TO LIGHTING SEQUENCE OF OPERATION FOR ADDITIONAL INFORMATION)

|  |                                |
|--|--------------------------------|
|  | SINGLE POLE                    |
|  | DIMMING SWITCH                 |
|  | 3-WAY SWITCH                   |
|  | 4-WAY SWITCH                   |
|  | SINGLE POLE KEYED SWITCH       |
|  | 3-WAY KEYED SWITCH             |
|  | PILOT LIGHT SWITCH             |
|  | MOMENTARY LIGHT SWITCH         |
|  | OCCUPANCY SENSOR WALL SWITCH   |
|  | CEILING MOUNT OCCUPANCY SENSOR |

## DISTRIBUTION

|  |                     |
|--|---------------------|
|  | SURFACE-MOUNT PANEL |
|  | FLUSH-MOUNT PANEL   |
|  | TRANSFORMER         |
|  | C/T CABINET         |
|  | METER               |

## COMMUNICATIONS SYSTEMS

|  |                                             |
|--|---------------------------------------------|
|  | TELEPHONE OUTLET IN WALL                    |
|  | TELEPHONE OUTLET ABOVE COUNTER BACKSLASH    |
|  | TELEPHONE OUTLET FOR WALL MOUNTED TELEPHONE |
|  | DATA OUTLET IN WALL W/ # OF JACKS           |
|  | DATA OUTLET ABOVE COUNTER BACKSLASH         |
|  | DATA OUTLET IN CEILING                      |
|  | WIRELESS ACCESS POINT                       |
|  | COMBINATION PHONE/DATA OUTLET IN WALL       |
|  | COMBINATION PHONE/DATA OUTLET ABOVE COUNTER |
|  | TELEVISION OUTLET IN WALL                   |
|  | TELEVISION OUTLET IN CEILING                |
|  | WALL HORN INDICATOR                         |
|  | CEILING SPEAKER                             |
|  | INTERCOM PUSH BUTTON                        |
|  | AUDIO VISUAL OUTLET IN WALL                 |
|  | AUDIO VISUAL OUTLET IN FLOOR                |
|  | CLOCK LOCATION                              |
|  | CLOCK LOCATION - DOUBLE FACE                |

## FIRE ALARM & DETECTION

|  |                                             |
|--|---------------------------------------------|
|  | DUCT SMOKE DETECTOR                         |
|  | SMOKE DETECTOR - CEILING MOUNTED            |
|  | SMOKE DETECTOR WITH SOUNDER BASE            |
|  | COMBINATION SMOKE/CO DETECTOR               |
|  | HEAT DETECTOR - RATE OF RISE                |
|  | HEAT DETECTOR - FIXED TEMPERATURE           |
|  | FIRE ALARM PULL STATION                     |
|  | FIRE ALARM HORN/STROBE - WALL MOUNTED       |
|  | FIRE ALARM HORN/STROBE - CEILING MOUNTED    |
|  | FIRE ALARM SPEAKER - WALL MOUNTED           |
|  | FIRE ALARM SPEAKER - CEILING MOUNTED        |
|  | FIRE ALARM SPEAKER/STROBE - WALL MOUNTED    |
|  | FIRE ALARM SPEAKER/STROBE - CEILING MOUNTED |
|  | FIRE ALARM STROBE LIGHT - WALL MOUNTED      |
|  | FIRE ALARM STROBE LIGHT - CEILING MOUNTED   |
|  | FIRE ALARM RELAY                            |
|  | FIRE ALARM HOLD OPEN CONNECTION             |
|  | FIRE/SMOKE DAMPER CONNECTION                |
|  | SPRINKLER TAMPER SWITCH MONITORING          |
|  | SPRINKLER FLOW SWITCH MONITORING            |
|  | POST INDICATOR VALVE MONITORING             |
|  | FIRE ALARM CONTROL PANEL                    |
|  | FIRE ALARM ANNUNCIATOR PANEL                |
|  | EMERGENCY CONTROL BOX                       |
|  | VOICE EVACUATION AND MESSAGING              |

## LUMINAIRES

|  |                                                   |
|--|---------------------------------------------------|
|  | 1'x4' RECESSED TROFFER FIXTURE W/TYPE NUMBER      |
|  | 2'x2' RECESSED TROFFER FIXTURE W/TYPE NUMBER      |
|  | RECESSED LINEAR FIXTURE W/TYPE NUMBER             |
|  | 2'x2' SURFACE MOUNT TROFFER FIXTURE W/TYPE NUMBER |
|  | 2'x4' SURFACE MOUNT TROFFER FIXTURE W/TYPE NUMBER |
|  | SURFACE MOUNT LINEAR FIXTURE W/TYPE NUMBER        |
|  | WALL MOUNT LINEAR FIXTURE W/TYPE NUMBER           |
|  | SURFACE/CEILING MOUNT STRIP FIXTURE W/TYPE NUMBER |
|  | SUSPENDED MOUNT STRIP FIXTURE W/TYPE NUMBER       |
|  | COVE LIGHT FIXTURE W/TYPE NUMBER                  |
|  | SURFACE MOUNT FIXTURE W/TYPE NUMBER               |
|  | RECESSED DOWNLIGHT FIXTURE W/TYPE NUMBER          |
|  | PENDANT MOUNT FIXTURE W/TYPE NUMBER               |
|  | WALL MOUNT FIXTURE W/TYPE NUMBER                  |
|  | TRACK MOUNT FIXTURE W/TYPE NUMBER                 |
|  | INGROUND FIXTURE W/TYPE NUMBER                    |
|  | POLE MOUNT FIXTURE W/TYPE NUMBER                  |
|  | GROUND MOUNT FLOOD LIGHT FIXTURE W/TYPE NUMBER    |
|  | TREE UPLIGHT FIXTURE W/TYPE NUMBER                |

## EXIT & EMERGENCY

|  |                                                                                                       |
|--|-------------------------------------------------------------------------------------------------------|
|  | SINGLE FACE CEILING MOUNTED EXIT SIGN W/ILLUMINATED FACE AND DIRECTION                                |
|  | DOUBLE FACE CEILING MOUNTED EXIT SIGN W/ILLUMINATED FACE(S) AND DIRECTION INDICATED                   |
|  | WALL MOUNTED EXIT SIGN W/DIRECTION INDICATED                                                          |
|  | EDGE MOUNTED EXIT SIGN W/ILLUMINATED FACE(S) AND DIRECTION INDICATED                                  |
|  | EMERGENCY BATTERY PACK                                                                                |
|  | ROUND CEILING MOUNT EMERGENCY LIGHT FIXTURE W/ TYPE AND CIRCUIT INDICATED ON PLANS (FULL SHADE)       |
|  | RECTANGULAR CEILING MOUNT EMERGENCY LIGHT FIXTURE W/ TYPE AND CIRCUIT INDICATED ON PLANS (FULL SHADE) |

## ACCESS CONTROL

|  |                                           |
|--|-------------------------------------------|
|  | DOOR CONTACT                              |
|  | PROXIMITY CARD READER                     |
|  | MULLION MOUNT CARD READER                 |
|  | KEYPAD                                    |
|  | PUSHBUTTON (REQUEST TO EXIT)              |
|  | PANIC/DURESS BUTTON                       |
|  | REQUEST TO EXIT (WALL OR CEILING MOUNTED) |
|  | SECURITY CAMERA                           |

## SHEET INDEX

|          |                                            |
|----------|--------------------------------------------|
| ME-001.2 | PROJECT 2 COVER SHEET                      |
| M-101.2  | PROJECT 2 MECHANICAL PLAN                  |
| ED-101.2 | PROJECT 2 ELECTRICAL DEMOLITION PLAN       |
| E-101.2  | PROJECT 2 ELECTRICAL PLAN                  |
| E-601.2  | PROJECT 2 ELECTRICAL SCHEDULES AND DETAILS |

**PROJECT MANAGER**  
TREVOR CONRAD  
TCONRAD@MODUS-ENG.COM

**MECHANICAL ENGINEER**  
TREVOR CONRAD  
TCONRAD@MODUS-ENG.COM

**ELECTRICAL ENGINEER**  
ANDREW WEBER  
AWEBER@MODUS-ENG.COM

## ARCHITECT OF RECORD

**Neumann Monson Architects**  
221 East College Street | Suite 303  
Iowa City, Iowa 52240  
319.338.7878

111 East Grand Avenue | Suite 105  
Des Moines, Iowa 50309  
515.339.7800

## CONSULTANTS

### MODUS Engineering

MEPT  
118 East College St  
Iowa City, Iowa 52240  
319.248.4600

## SHEET NAME

# PROJECT 2 COVER SHEET

## SHEET NUMBER

# ME-001.2

**OWNER**  
**JOHNSON COUNTY**  
913 South Dubuque Street  
Iowa City, Iowa 52240

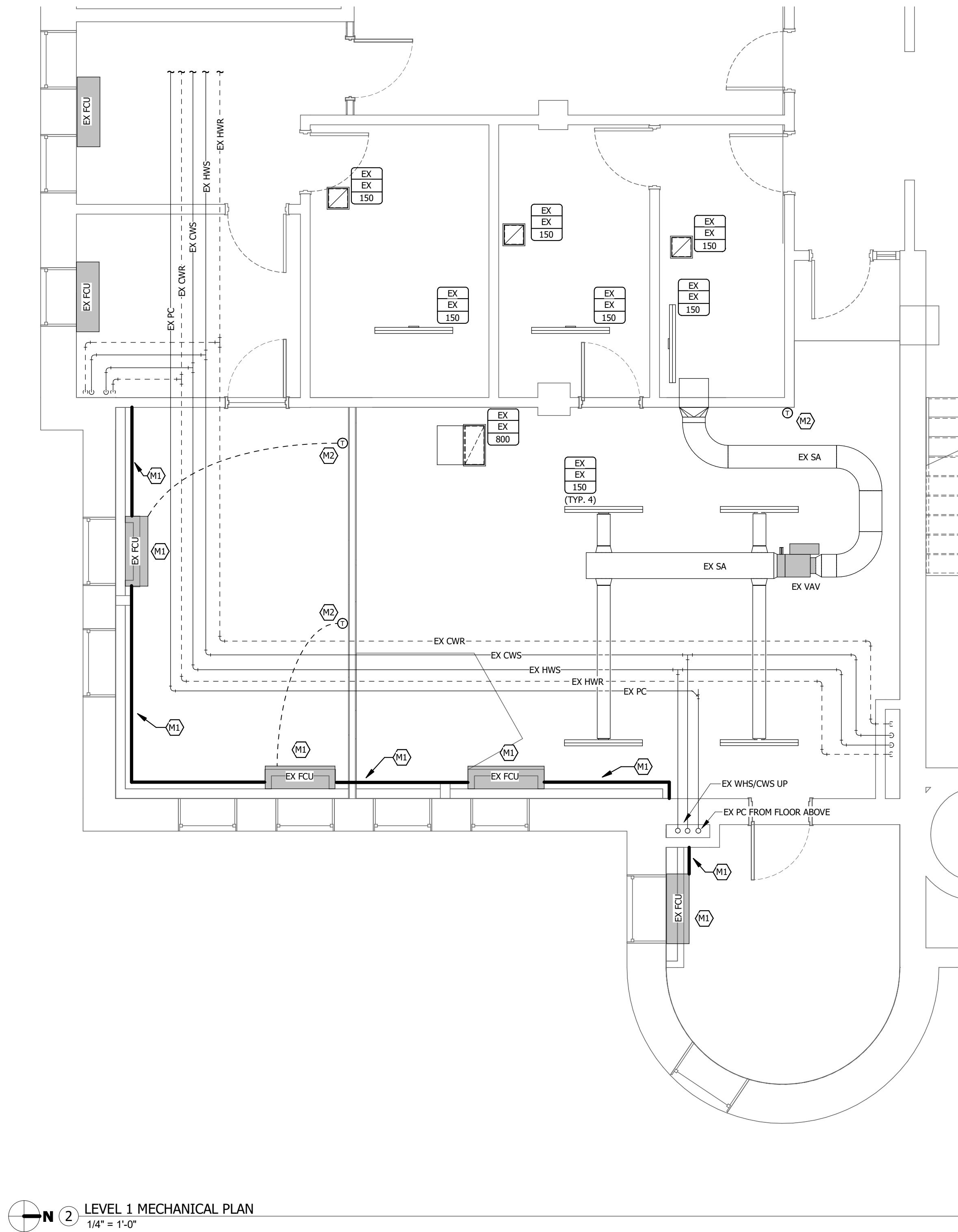
## ISSUE

[illegible]

**SHEET NAME**

**SHEET NUMBER**

# M-101.2



- A. LAYOUT AND ROUTING SHOWN IS DIAGRAMMATIC AND SCHEMATIC IN NATURE. NOT ALL OFFSETS MAY BE SHOWN. CONTRACTOR SHALL VERIFY EXACT ROUTING REQUIRED AND NUMBER OF OFFSETS AND TRANSITIONS.
- B. COORDINATE THERMOSTAT LOCATIONS WITH CASEWORK, WALL TYPES, AND FURNISHINGS PRIOR TO ROUGH-IN.
- C. COORDINATE SUPPLY, RETURN, AND EXHAUST GRILLE/DIFFUSER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN AND ALL TRADES.
- D. COORDINATE DUCT ROUTING IN LOCATIONS WITH EXISTING CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO ROUGH-IN.

⌈M#

- |     |                                                                          |
|-----|--------------------------------------------------------------------------|
| M1. | REINSTALL FCU OR PIPING ENCLOSURE.                                       |
| M2. | REINSTALL THERMOSTAT. MODIFY AND/OR EXTEND PNEUMATIC TUBING AS REQUIRED. |

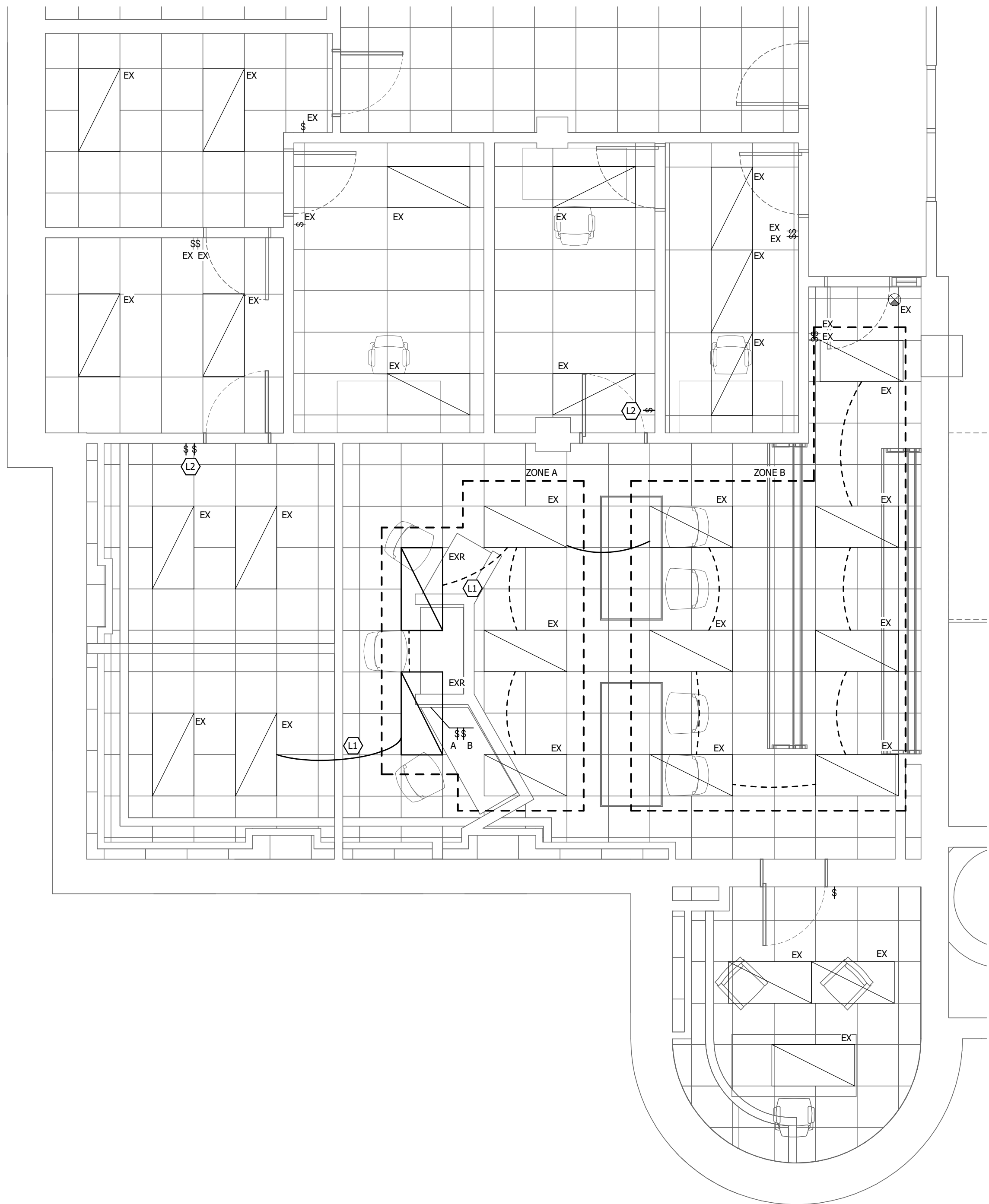




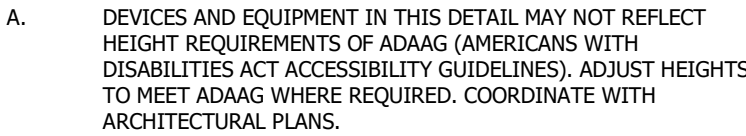
**REFERENCED LIGHTING NOTES:** 

- L1. CONNECT TO EXISTING BREAKER SERVING LIGHTING IN THIS SPACE.
- L2. PROVIDE SURFACE RACEWAY FOR SURFACE MOUNTED DEVICE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

118 East College St  
Iowa City, Iowa 52240  
319.248.4600



# E-101.2



1 TYPICAL DEVICE ELEVATION DETAIL  
1/8" = 1'-0"

## E-601.2