

# MONTANA STATE UNIVERSITY

## AJM JOHNSON DATA CENTER HVAC UPGRADES (GRADUATE OFFICES REMODEL)

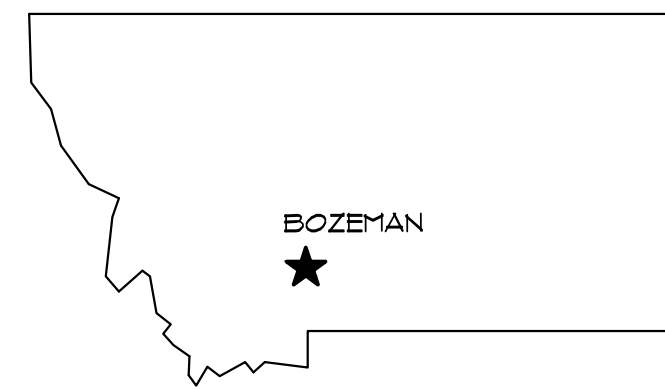


MSU-CPDC

MONTANA STATE UNIVERSITY  
BOZEMAN, MONTANA  
PHONE: 406.994.5413  
FAX: 406.994.5665

### PROJECT LOCATION

MONTANA MAP



CAMPUS MAP



PROJECT LOCATION

### PROJECT SCOPE OF WORK

THIS PROJECT RENOVATES (3) GRADUATE RESEARCH STUDENT MULTI-OFFICE SPACES TO ACCOMMODATE SPACE USE SHIFTS WITHIN THE FACILITY. DEMOLITION INCLUDES REMOVAL OF AN INTERIOR PARTITION AND DOOR, SINK, COUNTER TOP, AND CEILING MODIFICATIONS. EXISTING LIGHTING AND MECHANICAL SYSTEMS ARE MAINTAINED WITH MINIMAL CHANGES, WHILE POWER, DATA, CEILINGS AND FINISHES ARE MODIFIED TO ACCOMMODATE THE FUTURE USE FOR UP TO (21) STUDENTS. A NEW KITCHENETTE WILL BE CONSTRUCTED AT THE FRONT OF ONE OFFICE SPACE TO PROVIDE A DEDICATED BREAK AREA FOR THESE STUDENTS.

### GENERAL PROJECT NOTES

- ALL DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES, ORDINANCES, STANDARDS, REGULATIONS, AND CRITERIA.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.
- THESE PLANS ARE REPRESENTATIVE IN NATURE AND BASED UPON FACILITY AS-BUILT PLANS AND FIELD INVESTIGATIONS DURING DESIGN. THE CONTRACTOR IS RESPONSIBLE TO REVIEW CONSTRUCTION DRAWINGS AND EXISTING CONDITIONS FOR POSSIBLE CONFLICTS OR AMBIGUITIES AND VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK. FAILURE TO PROVIDE NOTICE OF PERCEIVED OR ACTUAL CONFLICTS OR AMBIGUITIES PRIOR TO COMMENCING WORK IN THESE AREAS WILL BE CONSIDERED ACCEPTANCE OF EXISTING CONDITIONS.
- IN CASE OF DISCREPANCIES BETWEEN THE GENERAL NOTES, CONTRACT DOCUMENTS, SPECIFICATIONS AND REFERENCE STANDARDS, THE ENGINEER SHALL DETERMINE WHICH SHALL GOVERN.
- THE CONTRACTOR SHALL MINIMIZE IMPACTS TO ONGOING DAILY OPERATION OF THE DATA CENTER, AND IS EXPECTED TO COORDINATE ALL ACTIVITIES ON THE WORK SITE WITH THE OWNER'S REPRESENTATIVE AND ENGINEER DURING THE COURSE OF THE PROJECT.
- SITE FEATURES AROUND THE PROJECT BUILDING SHALL REMAIN UNDAMAGED. RESTORE DAMAGED FEATURES TO MATCH EXISTING CONDITIONS BEFORE FINAL INSPECTION AND PROJECT CLOSEOUT ACTIVITIES.
- CHANGES OR DEVIATIONS FROM THE DRAWINGS MADE WITHOUT WRITTEN CONSENT OF THE ENGINEER ARE NOT PERMITTED. COORDINATE ANY NECESSARY MODIFICATIONS WITH THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORK IN QUESTION
- ALL ENTRIES AND EXITS TO THE FACILITY SHALL REMAIN OPEN FOR THE DURATION OF CONSTRUCTION UNLESS PRIOR AUTHORIZED BY THE OWNER'S REPRESENTATIVE.
- ALL CONTRACTORS PERFORMING THE WORK ENCLOSED IN THIS PLANS SET SHALL BE SOLELY RESPONSIBLE FOR THE COORDINATION OF THIS WORK BETWEEN ALL DISCIPLINES.
- CLEANING: ALL TRADES SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR WORK. SUBCONTRACTORS SHALL REMOVE ALL RUBBISH, TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND LEAVE THE JOB IN A BROOM CLEAN CONDITION. ALL FIXTURES, EQUIPMENT, GLAZING, FLOORS, ETC., SHALL BE LEFT CLEAN AND READY FOR OCCUPANCY UPON COMPLETION OF THE PROJECT. VENTILATING SYSTEM, IF USED DURING CONSTRUCTION: CLEAN DUCTS, BLOWERS, COILS, ETC.; REPLACE DISPOSABLE FILTERS; CLEAN PERMANENT FILTERS.
- UNLESS SPECIFICALLY INDICATED BY NOTATION "NO SUBSTITUTES" THE EQUIPMENT FOR THIS PROJECT AS SCHEDULED ON THE DRAWINGS CONSTITUTES THE BASIS FOR DESIGN AND IS ELIGIBLE FOR SUBSTITUTION IN ACCORDANCE WITH THE PROVISIONS OF PROJECT SPECIFICATIONS AND GENERAL CONDITIONS OF THE CONTRACT.

### PROJECT DRAWING INDEX

| SHEET No.            | SHEET NAME                                       |
|----------------------|--|
| <b>GENERAL</b>       |  |
| G1.0                 | COVER SHEET                                      |
| <b>ARCHITECTURAL</b> |  |
| LS100                | LIFE SAFETY PLAN                                 |
| I101                 | BASEMENT FLOOR PLANS                             |
| I102                 | GRADUATE OFFICES REFLECTED CEILING PLANS         |
| I103                 | KITCHENETTE ELEVATIONS/ENLARGED PLAN AND DETAILS |
| I104                 | INTERIOR DETAILS                                 |
| I105                 | FURNITURE LAYOUT                                 |
| <b>MECHANICAL</b>    |  |
| M0.1                 | MECHANICAL LEGEND & SCHEDULES                    |
| M1.0                 | BASEMENT MECHANICAL PLANS                        |
| <b>ELECTRICAL</b>    |  |
| E1.0                 | BASEMENT LIGHTING PLANS                          |
| E2.0                 | BASEMENT POWER AND SYSTEMS PLANS                 |

### APPLICABLE BUILDING CODES

- 2021 INTERNATIONAL BUILDING CODE (IBC)
- 2021 INTERNATIONAL MECHANICAL CODE (IMC)
- 2021 UNIFORM PLUMBING CODE (UPC)
- 2020 NATIONAL ELECTRICAL CODE (NEC)

### PROJECT TEAM

**OWNER**  
MONTANA STATE UNIVERSITY  
UNIVERSITY FACILITIES MANAGEMENT  
PO BOX 172760  
BOZEMAN, MT 59717-2760  
PH (406)-994-2001

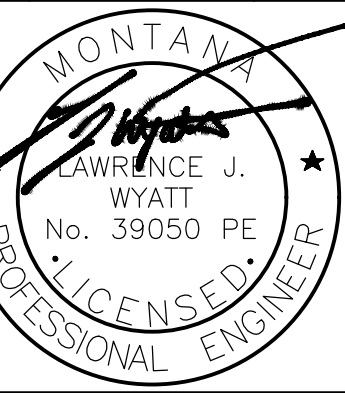
**ARCHITECTURAL**  
ARCHITECTS ALASKA  
347 SOUTH FERGUSON AVENUE SUITE 3  
BOZEMAN, MT  
PH (406)-404-1588  
MELANIE MANGIONE, AIA

**MECHANICAL, ELECTRICAL & PLUMBING**  
GPD, PC  
524 1ST AVENUE SOUTH  
GREAT FALLS, MT  
PH (406)-452-9558  
JAMES WYATT, PE, MECHANICAL ENGINEER  
BRAD KAUFFMAN, PE, ELECTRICAL ENGINEER

**AJM JOHNSON**  
DATA CENTER HVAC UPGRADES  
(GRADUATE OFFICES REMODEL)



| REV. | DESCRIPTION | DATE |
|------|-------------|------|
|      |             |      |



PPA#21-0184

A/E#00-00-00

GPD#22-2504

**SHEET TITLE**  
GENERAL INFORMATION

**SHEET**  
**G1.0**

**DATE**  
2-23-24

**BUILDING CODE INFORMATION**

**LEVEL 2 ALTERATION PER IEBC 2021**  
 LEVEL 2 ALTERATIONS INCLUDE THE ADDITION OR ELIMINATION OF ANY DOOR OR WINDOW, THE RECONFIGURATION OR EXTENSION OF ANY SYSTEM, OR THE INSTALLATION OF ANY ADDITIONAL EQUIPMENT, AND SHALL APPLY WHERE THE WORK AREA IS EQUAL TO OR LESS THAN 50 PERCENT OF THE BUILDING AREA.

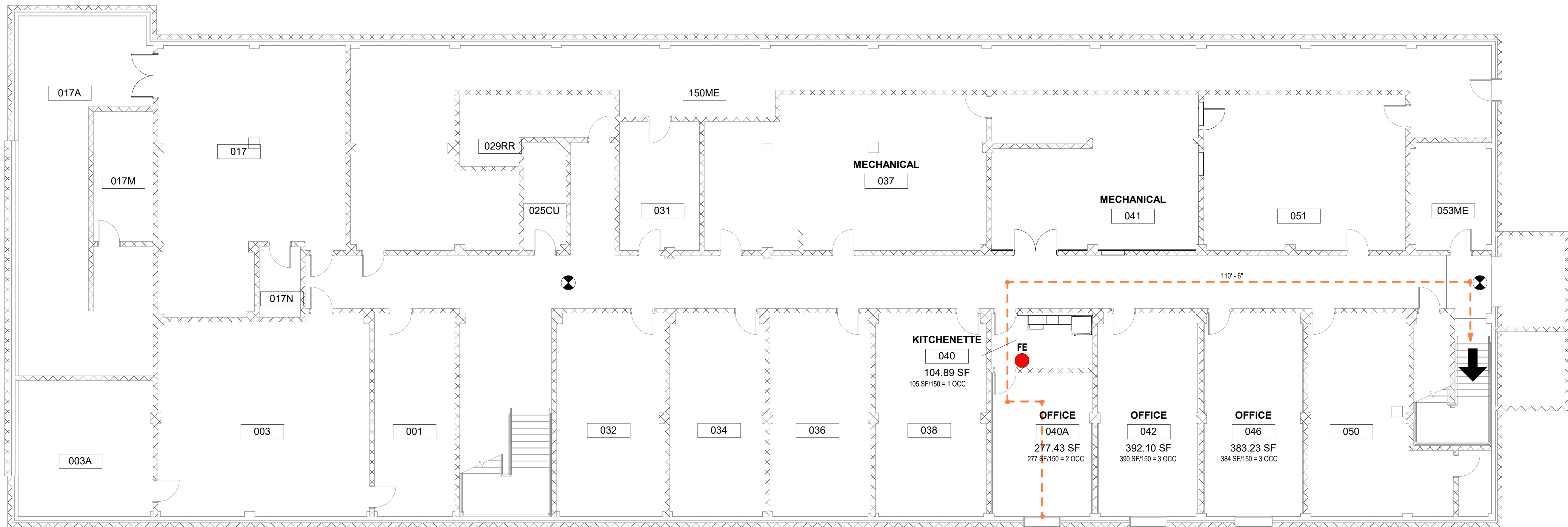
EXISTING BUILDING CONSTRUCTION TYPE IIB  
 AREA OF WORK IS 1,155 SF WITHIN EXISTING 38,916 SF BUILDING

OCCUPANCY OF SPACES PER IBC 2021, TABLE 1004.5  
 BUSINESS AREAS - 150 GROSS

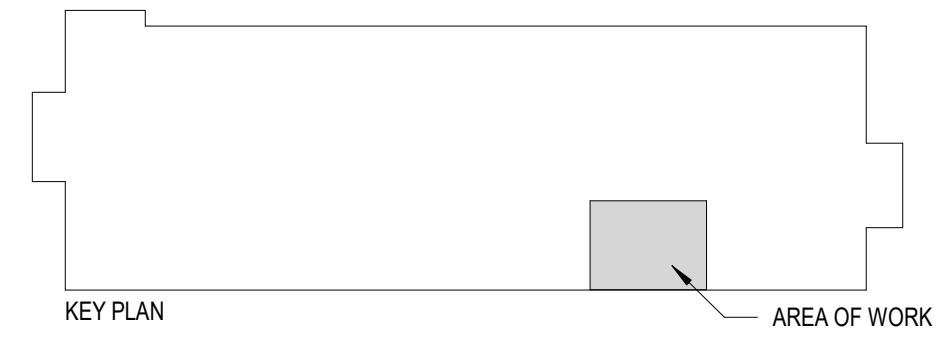
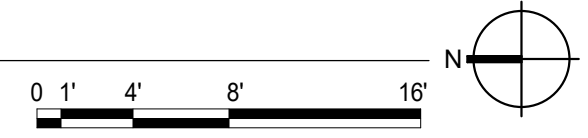
EXISTING OCCUPANT LOAD OF ROOM = BUSINESS AREAS 1,155 SF / 100 = 12 OCCUPANTS.  
 PROPOSED OCCUPANT LOAD OF ROOM = BUSINESS AREAS: 1,155 SF / 150 = 8 OCCUPANTS

TABLES 1006.2.1 SPACES WITH ONE EXIT - B OCCUPANCY = 49 OCCUPANTS

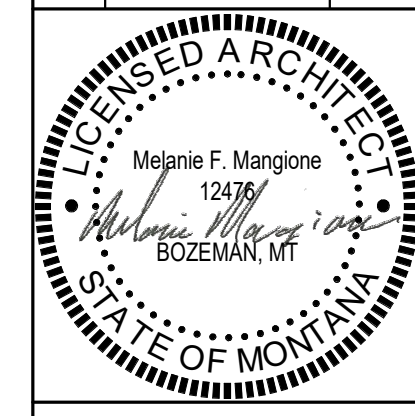
COMMON PATH OF EGRESS: B OCCUPANCY = 110'-6" FT  
 1017.2 EXIT ACCESS TRAVEL DISTANCE FOR B OCCUPANCY WITH SPRINKLER SYSTEM = 300 FT



**1 LIFE SAFETY GRAD OFFICES**  
 1/8" = 1'-0"



| DRAWN BY: <b>NLM</b>   |             |      |
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| REVIEWED BY: <b>MF</b> |             |      |
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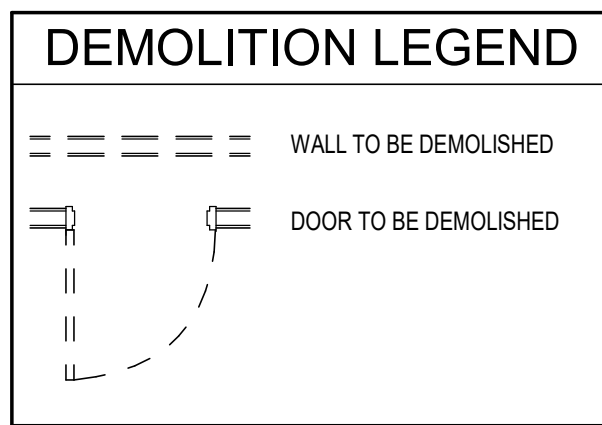
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 A/E#00-00-00  
 AAI#:23061.01

**SHEET TITLE**  
 FLOOR PLANS

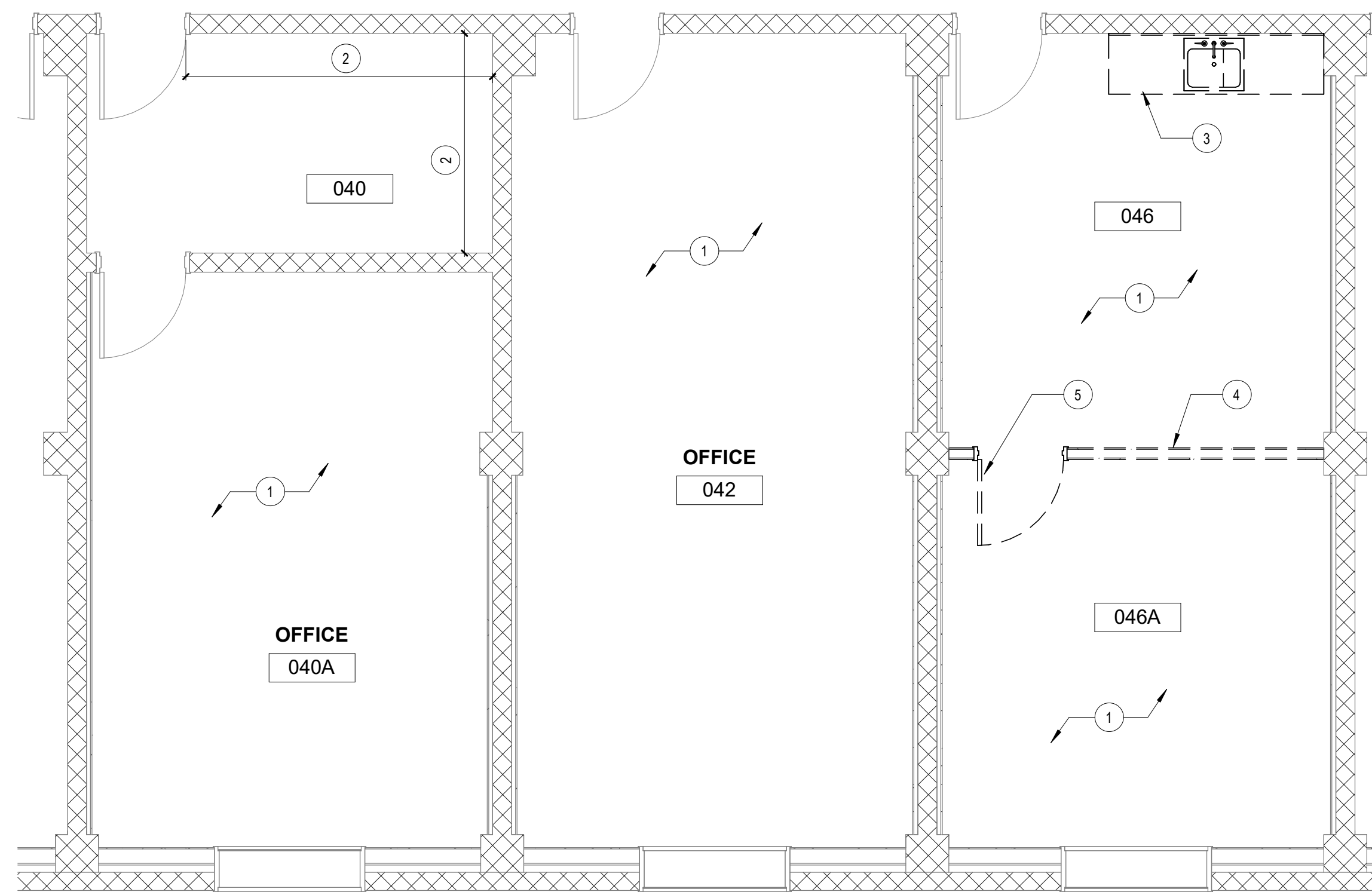
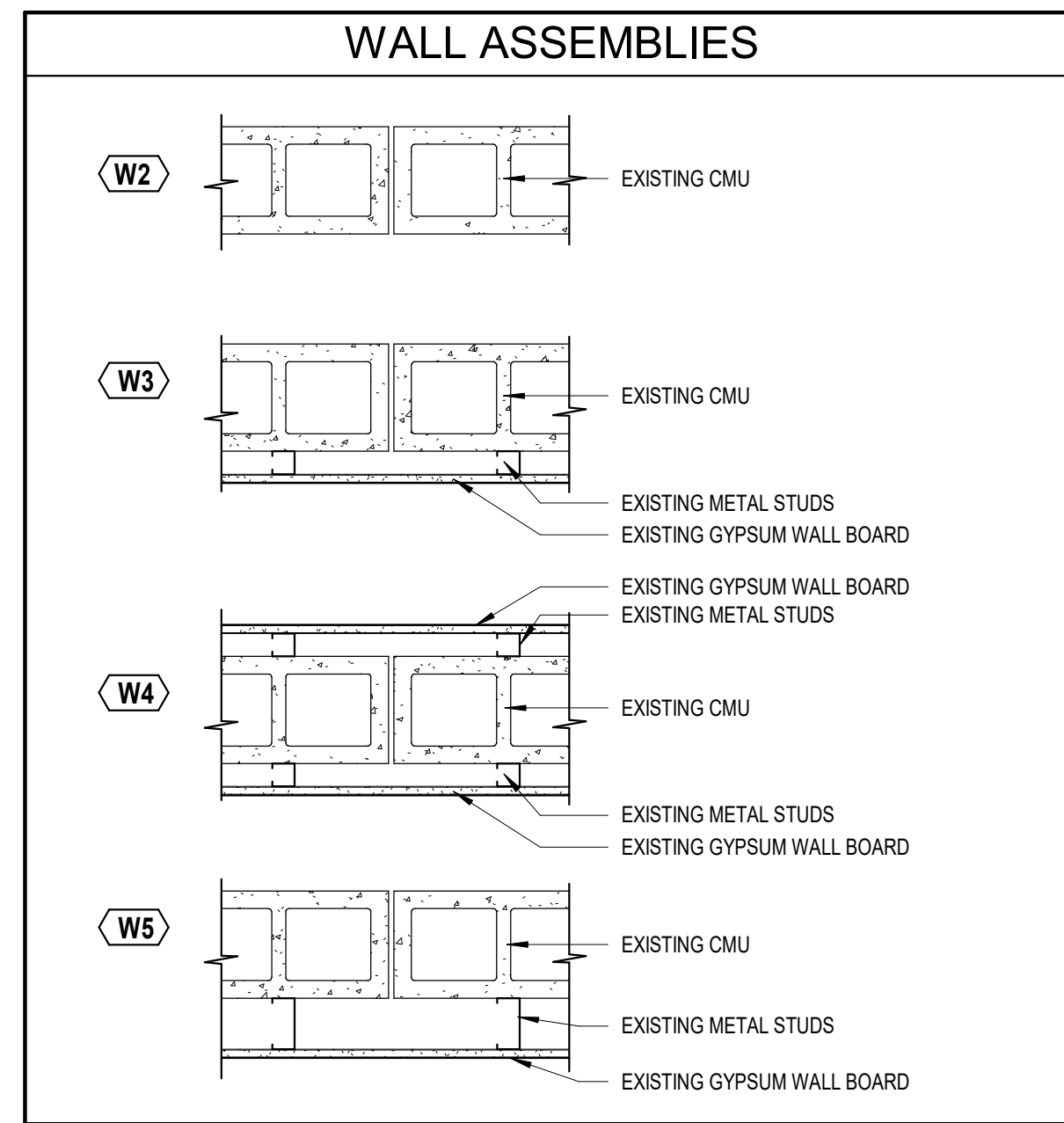
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**1101**

**DATE**  
**2-23-2024**

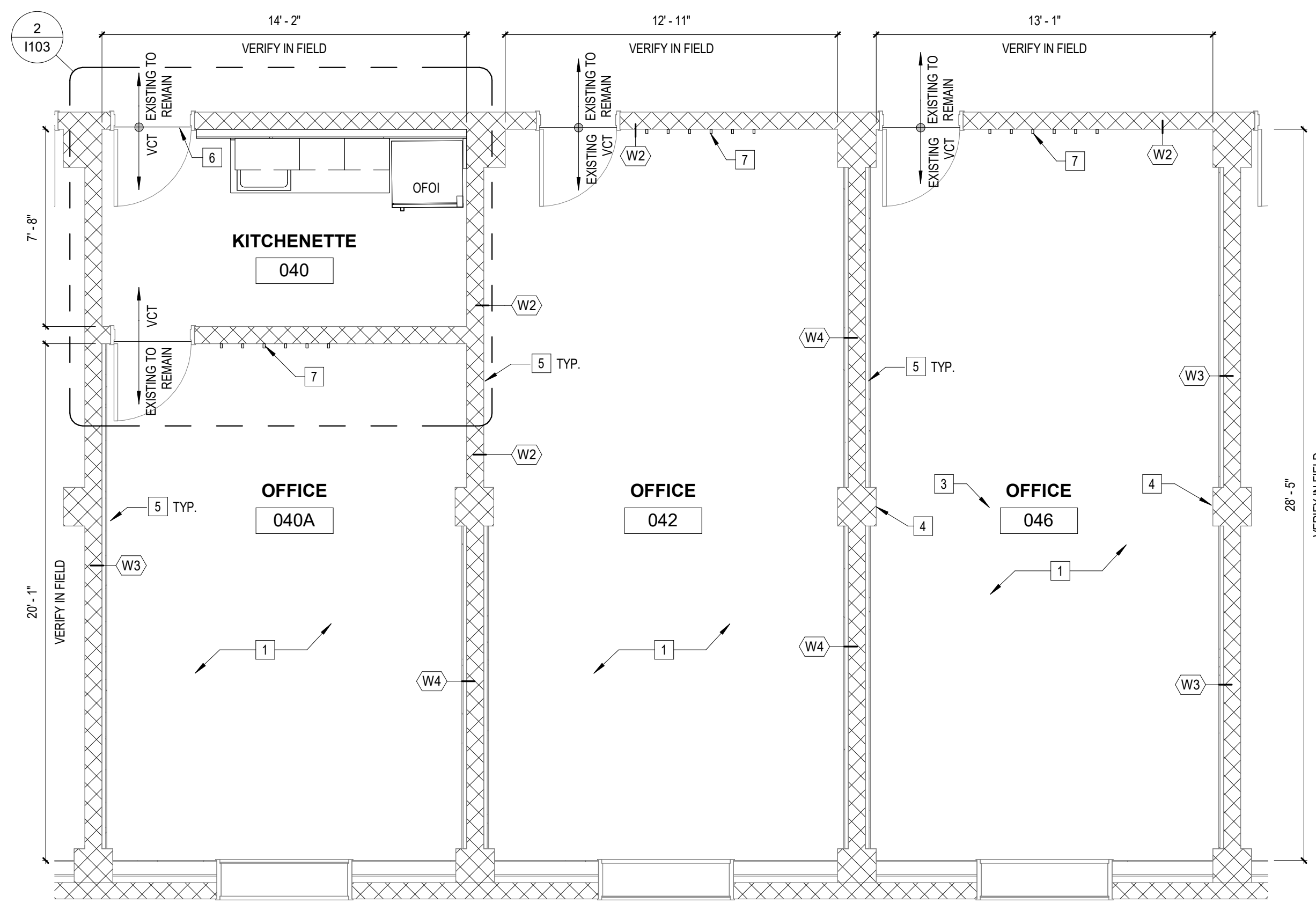
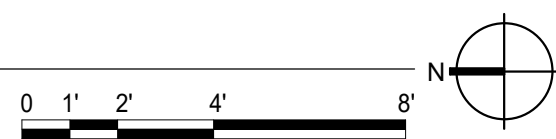
- DEMOLITION NOTES**
- 1 STRIP, CLEAN, AND PREPARE EXISTING VCT TILE FOR NEW FINISH
  - 2 REMOVE RUBBER BASE
  - 3 REMOVE COUNTERTOP, CABINETRY, PLUMBING FIXTURES AND CAP PLUMBING AT WALL
  - 4 REMOVE EXISTING WALL COMPLETE
  - 5 REMOVE DOOR COMPLETE



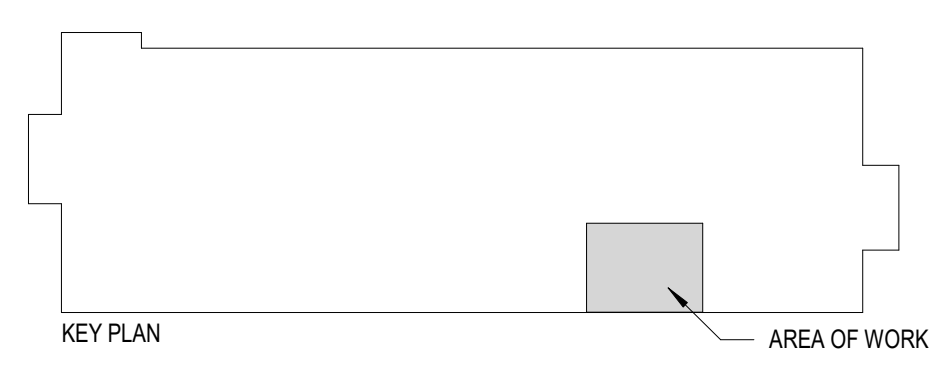
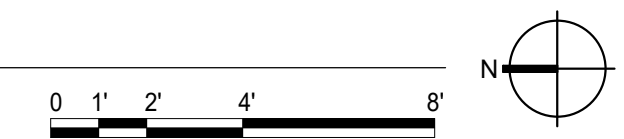
- PLAN NOTES**
- 1 CLEAN AND RE-FINISH EXISTING VCT FLOORING
  - 2 RUBBER BASE TO BE ROPPE 100, BLACK
  - 3 REPAIR FLOOR AS NECESSARY
  - 4 PATCH WALLS AND MATCH ADJACENT FINISH
  - 5 PAINT WALLS TO MATCH MSU STANDARD SHERWIN WILLIAMS PRO-MAR 200 HP COLOR: SW 6385 DOVER WHITE
  - 6 FLOOR TRANSITION
  - 7 WALL MOUNTED HOOKS MOUNTED AT 48" AFF. HEAVY DUTY MODERN STYLE DOUBLE HOOK 2 1/4" DEEP X 5" TALL STAINLESS STEEL OR POWDERCOAT FINISH. (PROVIDE 6 HOOKS FOR EACH ROOM)



**1 BASEMENT OFFICES DEMOLITION PLAN**  
 1/4" = 1'-0"



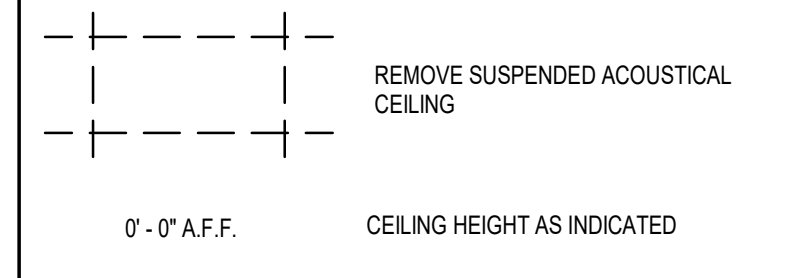
**2 BASEMENT OFFICES FLOOR PLAN**  
 1/4" = 1'-0"



**REFLECTED CEILING DEMOLITION NOTES**

- 1 REMOVE ACT CEILING TILES AND GRID. TILES TO BE REINSTALLED PER PLANS
- 2 REMOVE CEILING GRID AND TILE TO NEAREST GRID PARALLEL WITH REMOVED WALL
- 3 EXISTING SOFFIT TO REMAIN
- 4 EXISTING EXPOSED CEILING TO REMAIN
- 5 EXISTING ACT TO REMAIN

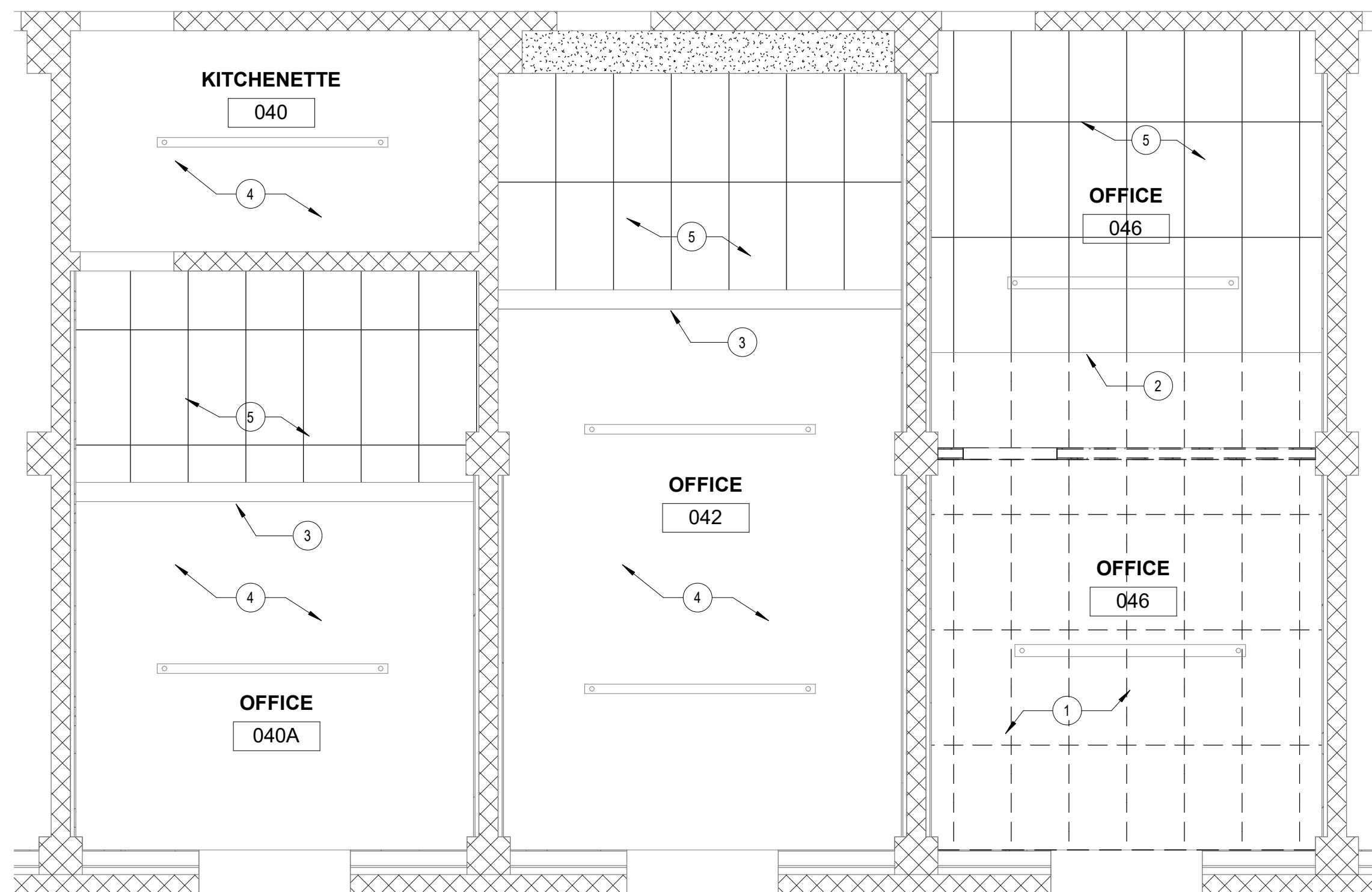
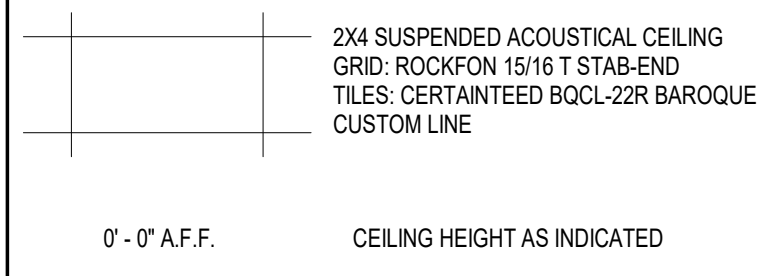
**DEMOLITION CEILING LEGEND**



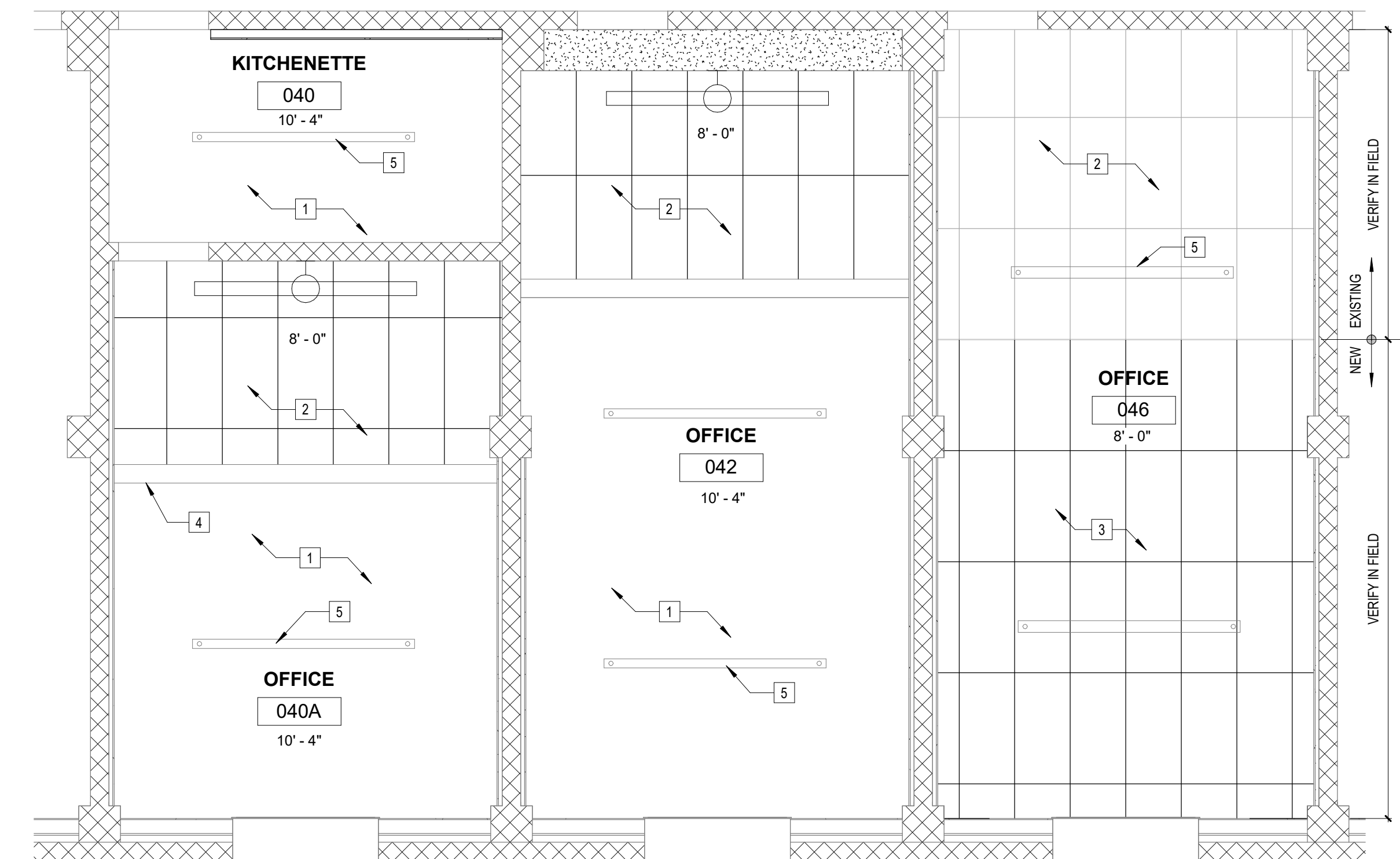
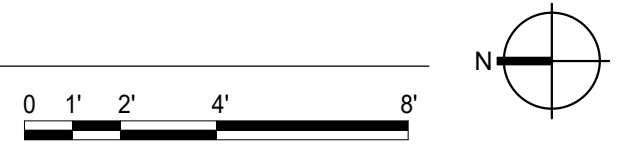
**REFLECTED CEILING PLAN NOTES**

- 1 PAINT EXPOSED CEILINGS, PIPES, AND DUCTS TO MATCH MSU STANDARD - SHERWIN WILLIAMS PRO-MAR 200 HP COLOR: SW 6385 DOVER WHITE
- 2 REPLACE DAMAGED CEILING TILES AS NEEDED. ANTICIPATE UP TO 10% REPLACEMENT
- 3 INSTALL ACT GRID TO MATCH EXISTING GRID HEIGHT. REUSE SALVAGED CEILING TILE AND SUPPLEMENT WITH MATCHING TILE OF SAME MANUFACTURER AND FINISH.
- 4 PAINT SOFFIT TO MATCH MSU STANDARD - SHERWIN WILLIAMS PRO-MAR 200 HP COLOR: SW 6385 DOVER WHITE
- 5 REFER TO ELECTRICAL DRAWINGS FOR LIGHTING WORK

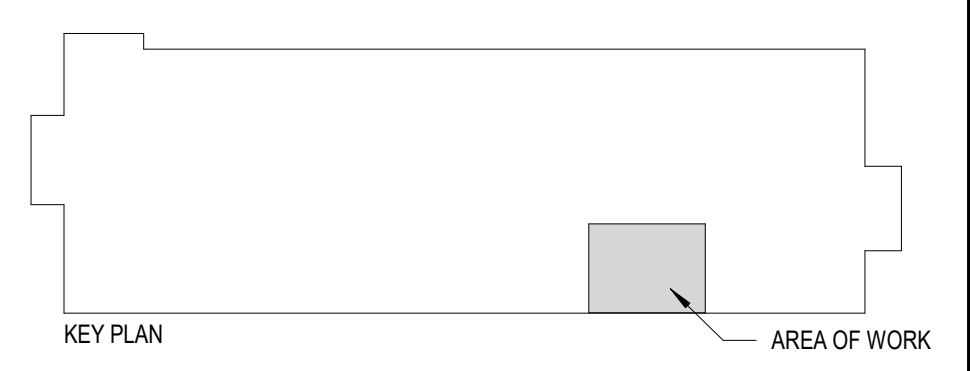
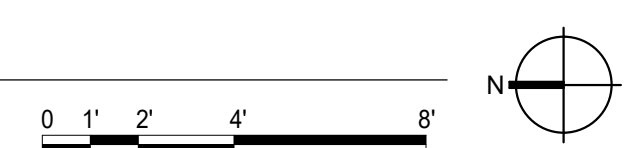
**CEILING PLAN LEGEND**



**1 GRADUATE OFFICES DEMOLITION REFLECTED CEILING PLAN**  
1/4" = 1'-0"



**2 GRADUATE OFFICES REFLECTED CEILING PLAN**  
1/4" = 1'-0"

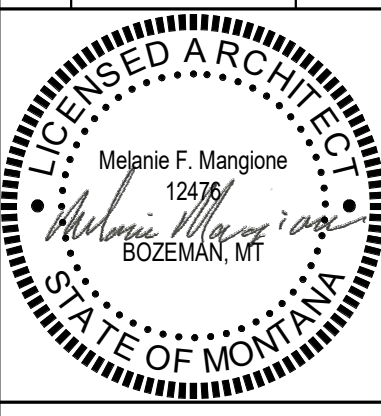


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DATA CENTER HVAC UPGRADES  
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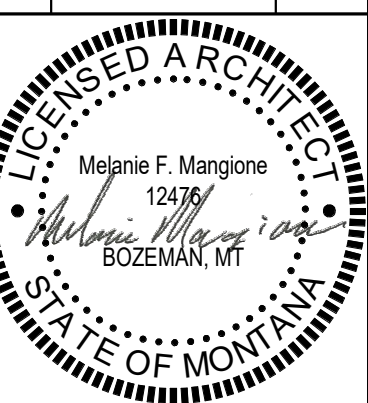
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AAI#:23061.01

**SHEET TITLE**  
REFLECTED  
CEILING PLANS  
**SHEET**  
**1102**  
**DATE**  
**2-23-2024**

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| DRAWN BY: <b>NLM</b>    |             |      |
| REVIEWED BY: <b>MFJ</b> |             |      |
| REV.                    | DESCRIPTION | DATE |
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A/E#00-00-00  
AAI#:23061.01

**SHEET TITLE**  
ELEVATIONS /  
ENLARGED PLAN

**SHEET**  
**I103**

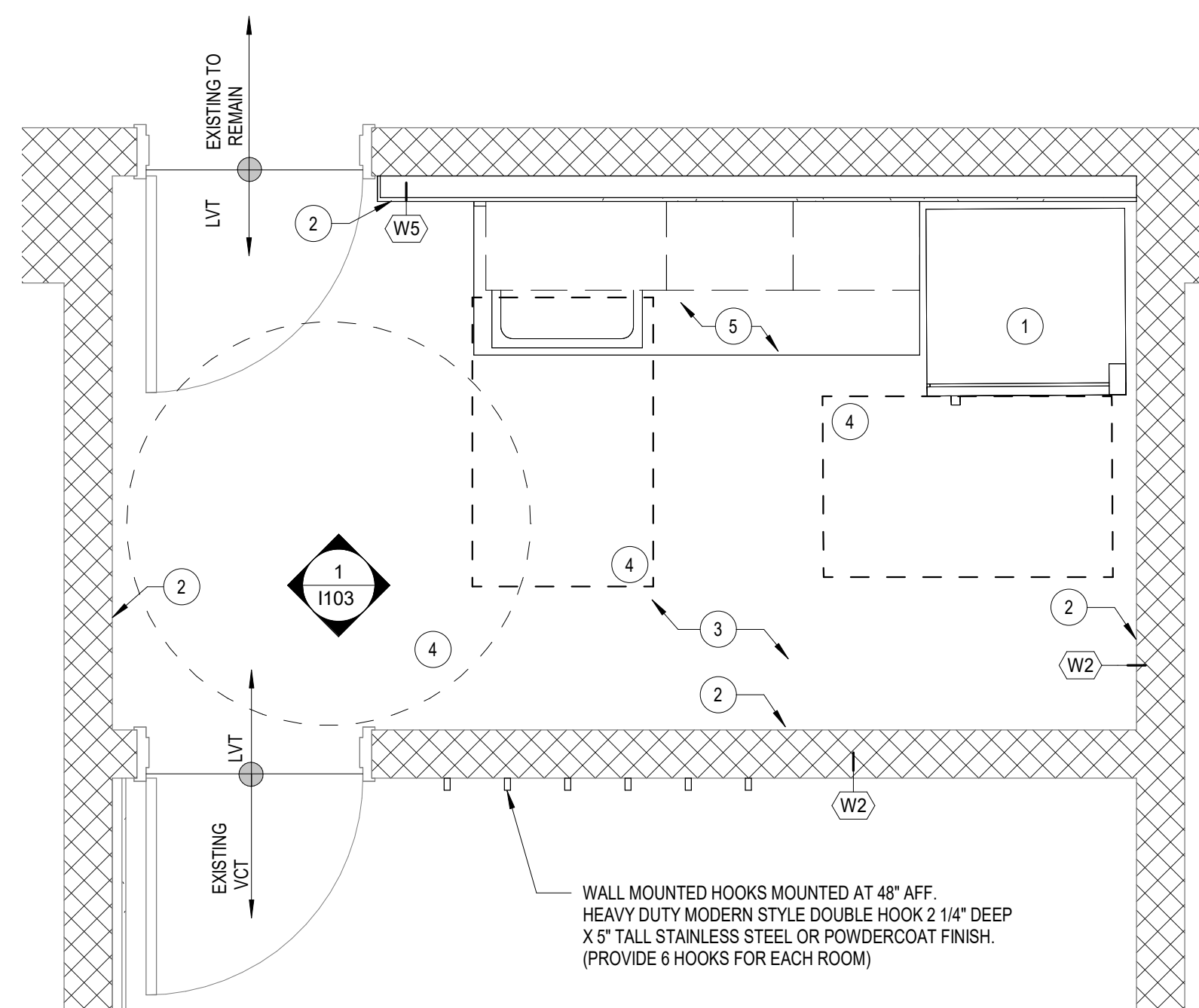
**DATE**  
**2-23-2024**

**FINISH SCHEDULE**

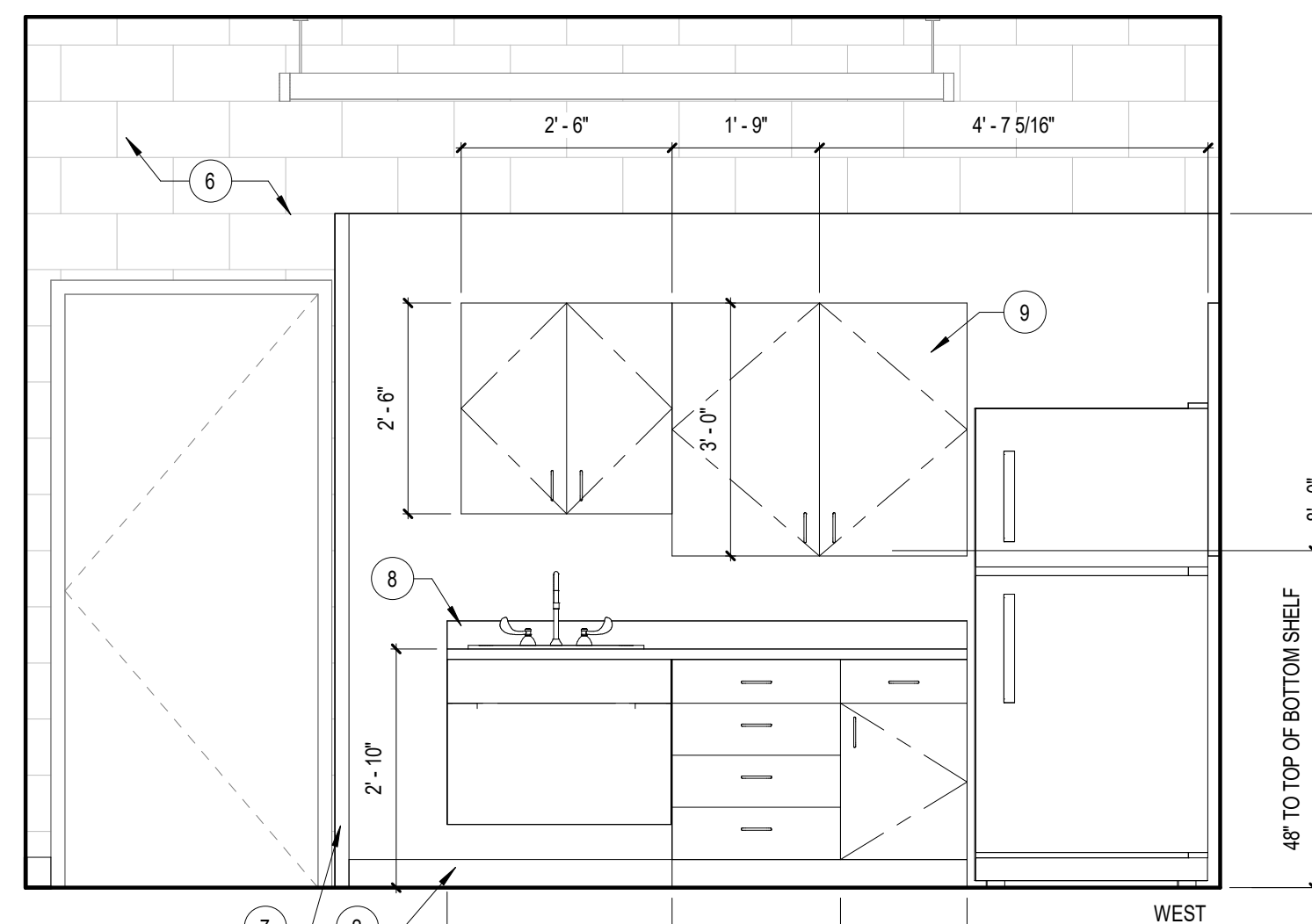
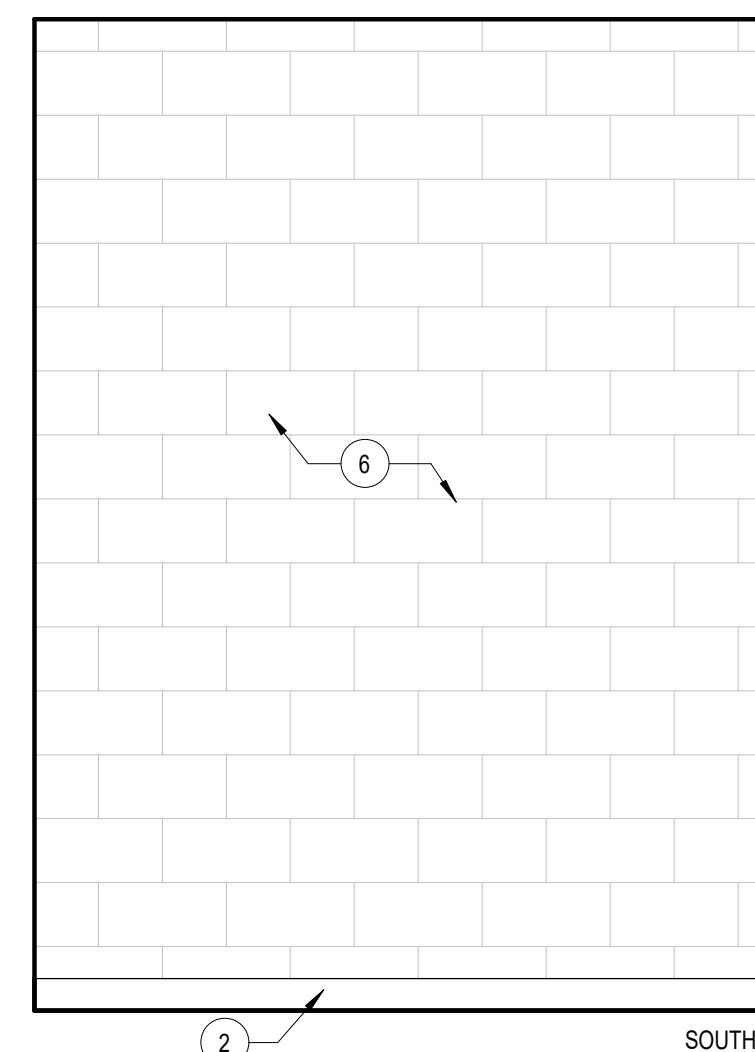
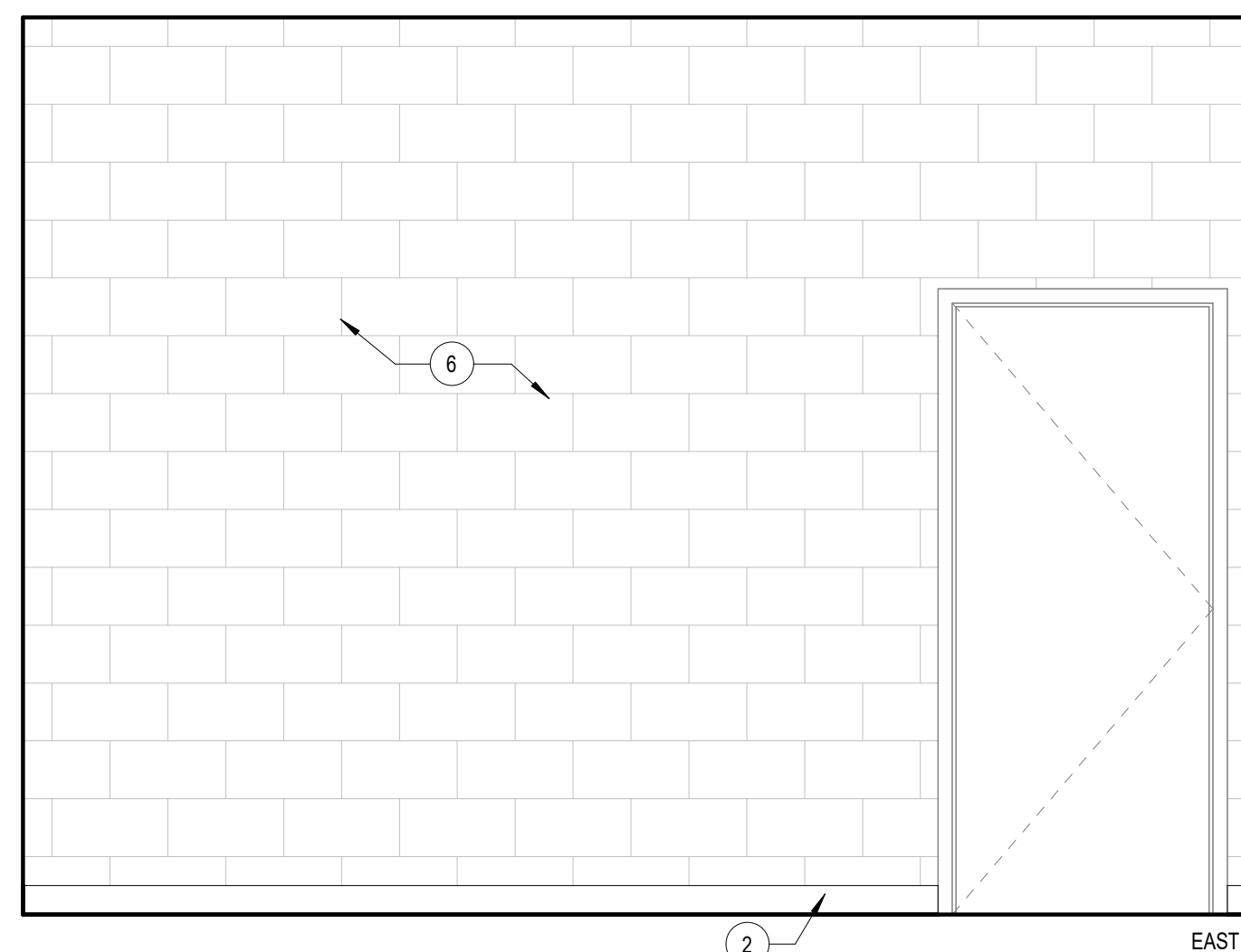
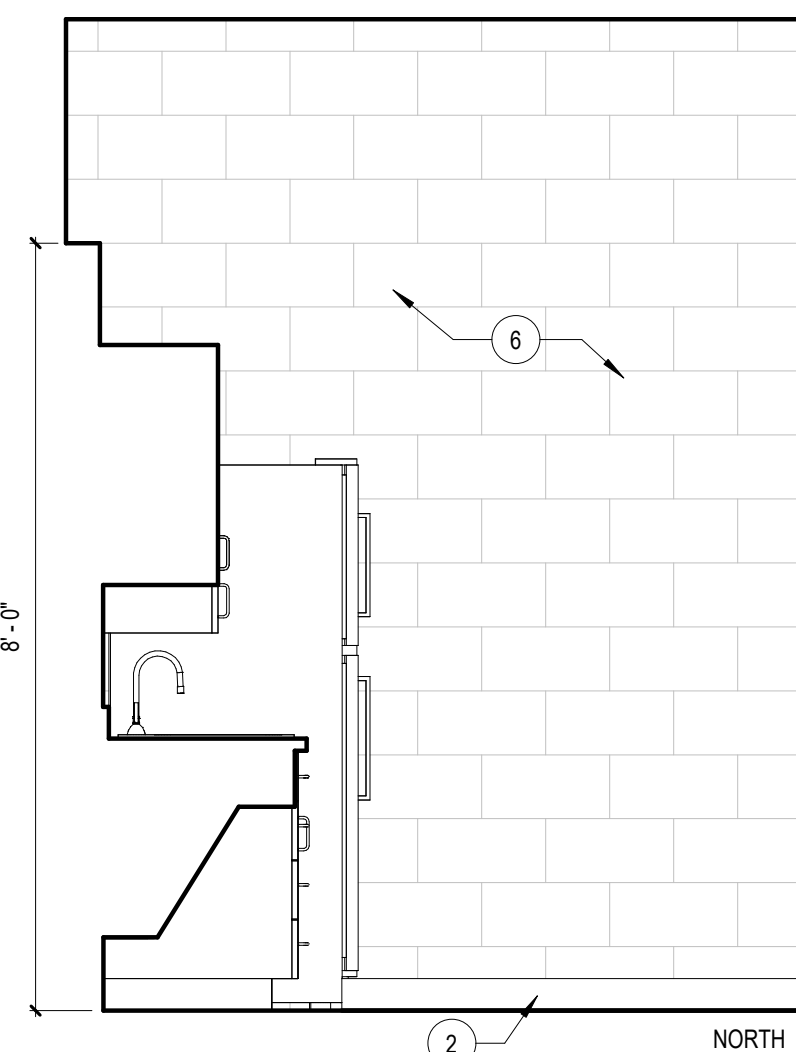
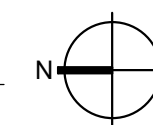
1. WALL PAINT TO BE SHERWIN WILLIAMS PROMAR 200 HP COLOR: SW 6385 DOVER WHITE, SEMI-GLOSS
2. LVT PLANK FLOORING: PATCRAFT ANEW, COLOR: 00550-V2 SLATE
3. COUNTERTOP AND BACKSPLASH SOLID SURFACE, CORIAN, COLOR: AURORA
4. CABINETRY - BASIS OF DESIGN: BELMONT 1300 SERIES: HORIZON
5. WALL BASE TO BE ROPPE 100, COLOR: BLACK

**KEYNOTES**

1. OWNER PROVIDED ADA COMPLIANT REFRIGERATOR
2. WALL BASE AS SCHEDULED
3. PREPARE EXISTING FLOOR TO ACCEPT LVT FLOORING
4. ADA SIDE, FRONT AND TURNING RADIUS CLEARANCES
5. ADA ACCESSIBLE CABINETRY WITH SOLID SURFACE COUNTERTOP AND BACKSPLASH
6. PAINT PER FINISH SCHEDULE
7. FULL HEIGHT CORNER GUARD TO MATCH WALL PAINT
8. 4" SOLID SURFACE BACKSPLASH
9. ADA COMPLIANT CABINETRY - BASIS OF DESIGN: BELMONT 1300 SERIES

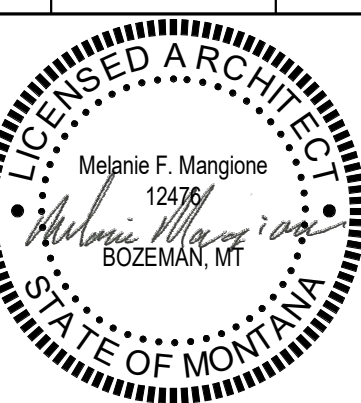


**2** KITCHENETTE  
1/2" = 1'-0"



**1** KITCHENETTE ELEVATIONS  
1/2" = 1'-0"

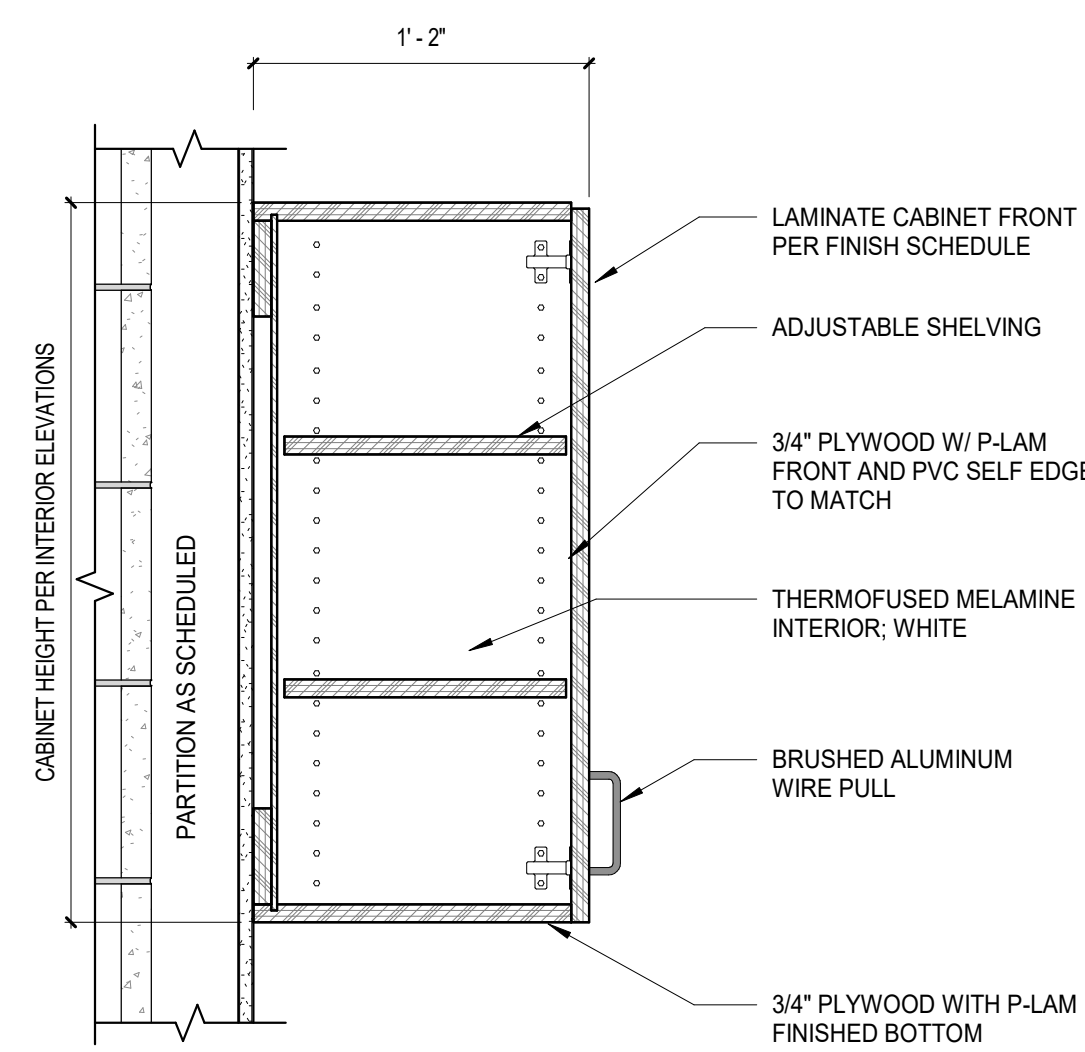
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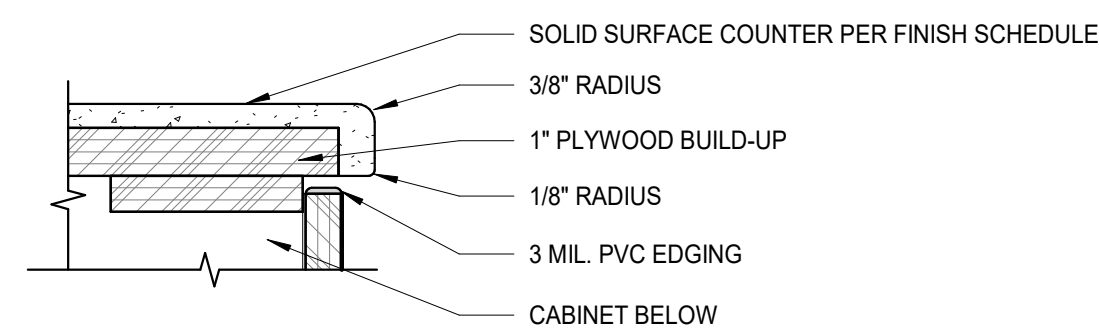
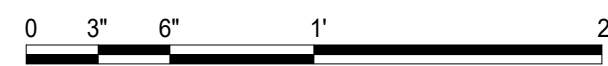
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AAI#:23061.01

**SHEET TITLE**  
INTERIOR  
DETAILS  
**SHEET**  
**1104**

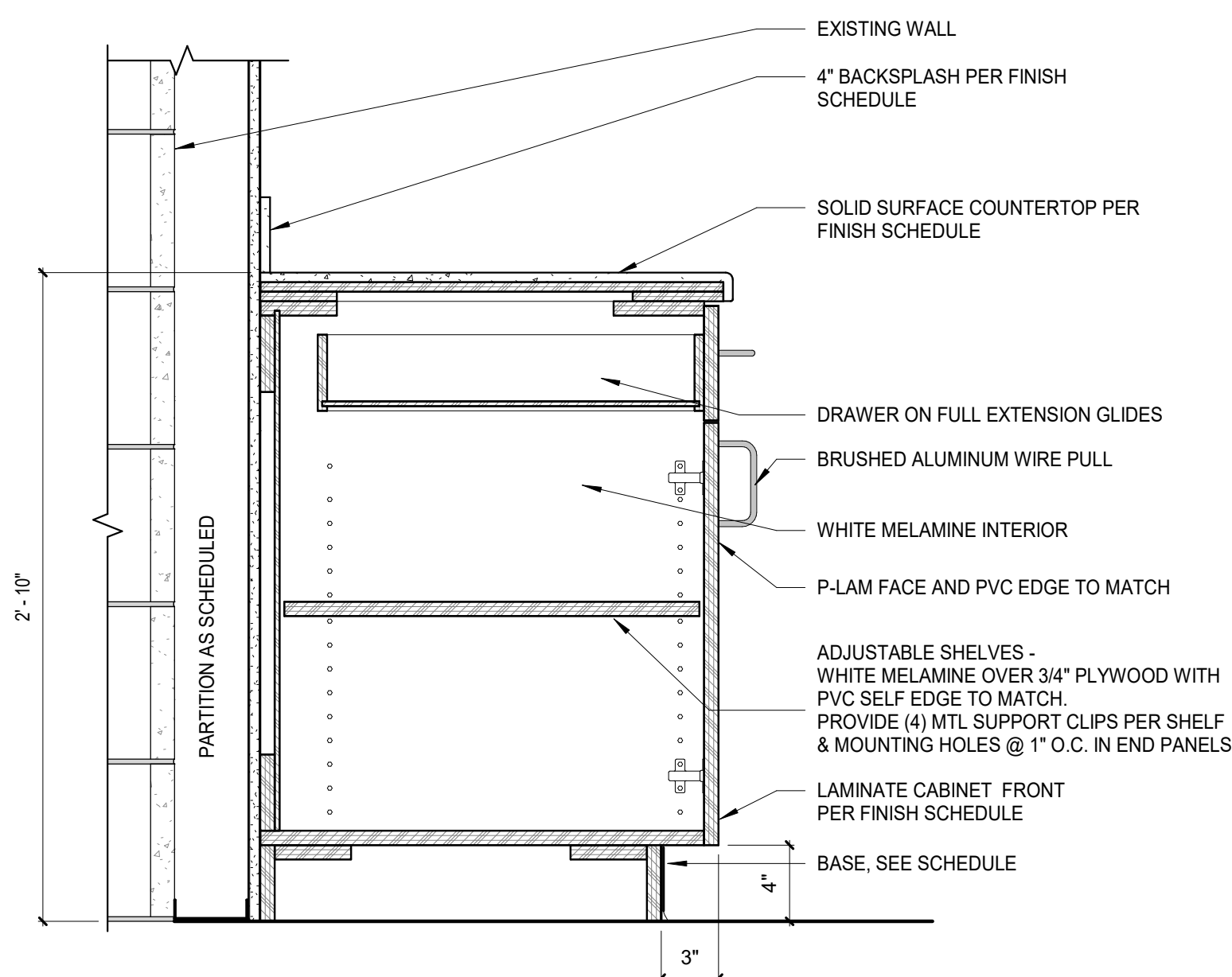
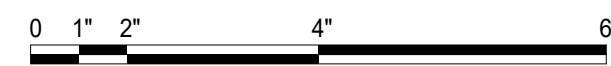
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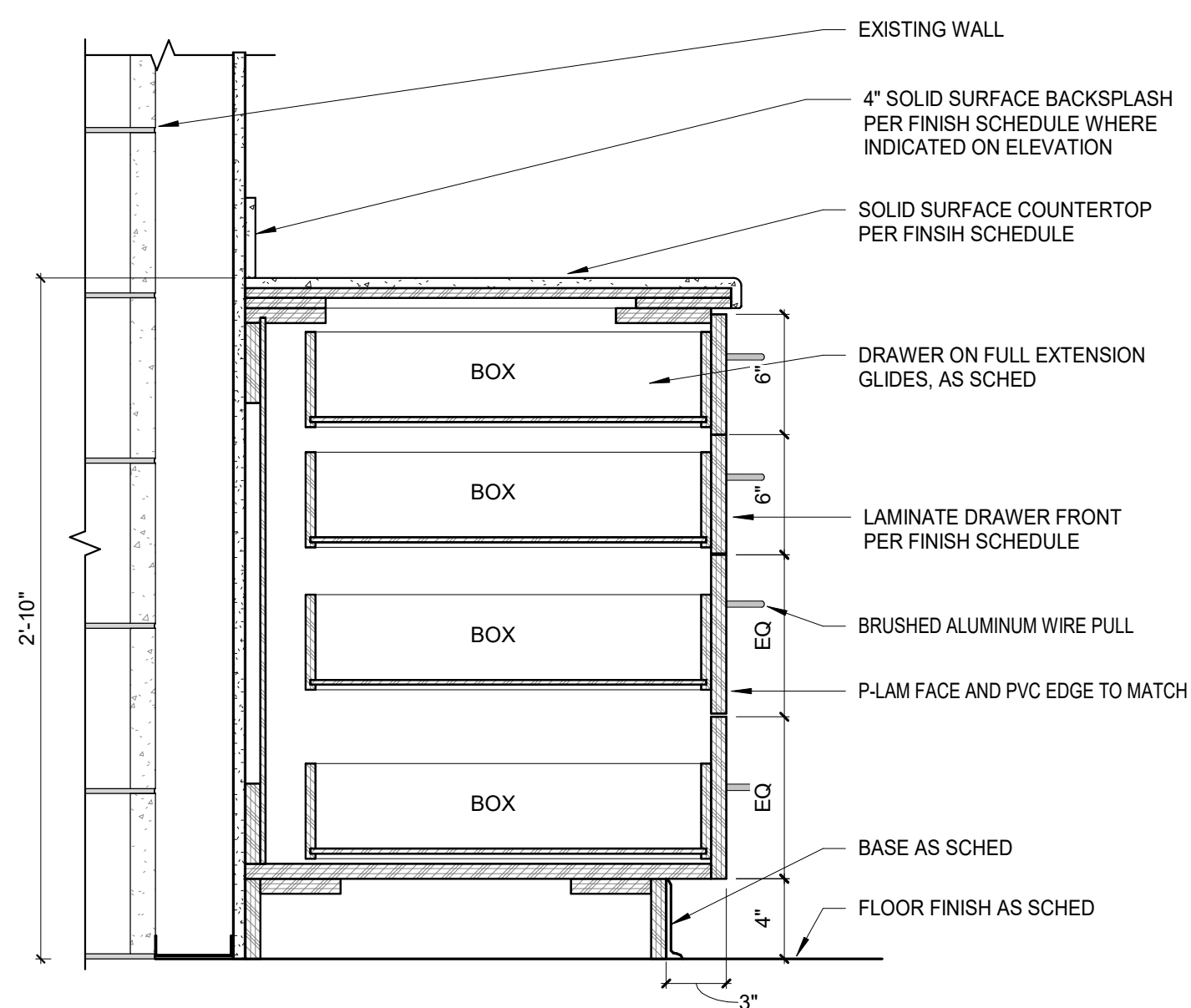
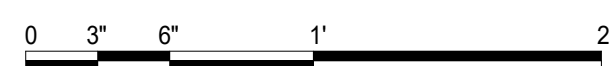
**4** DETAIL AT UPPER CASEWORK  
1 1/2" = 1'-0"



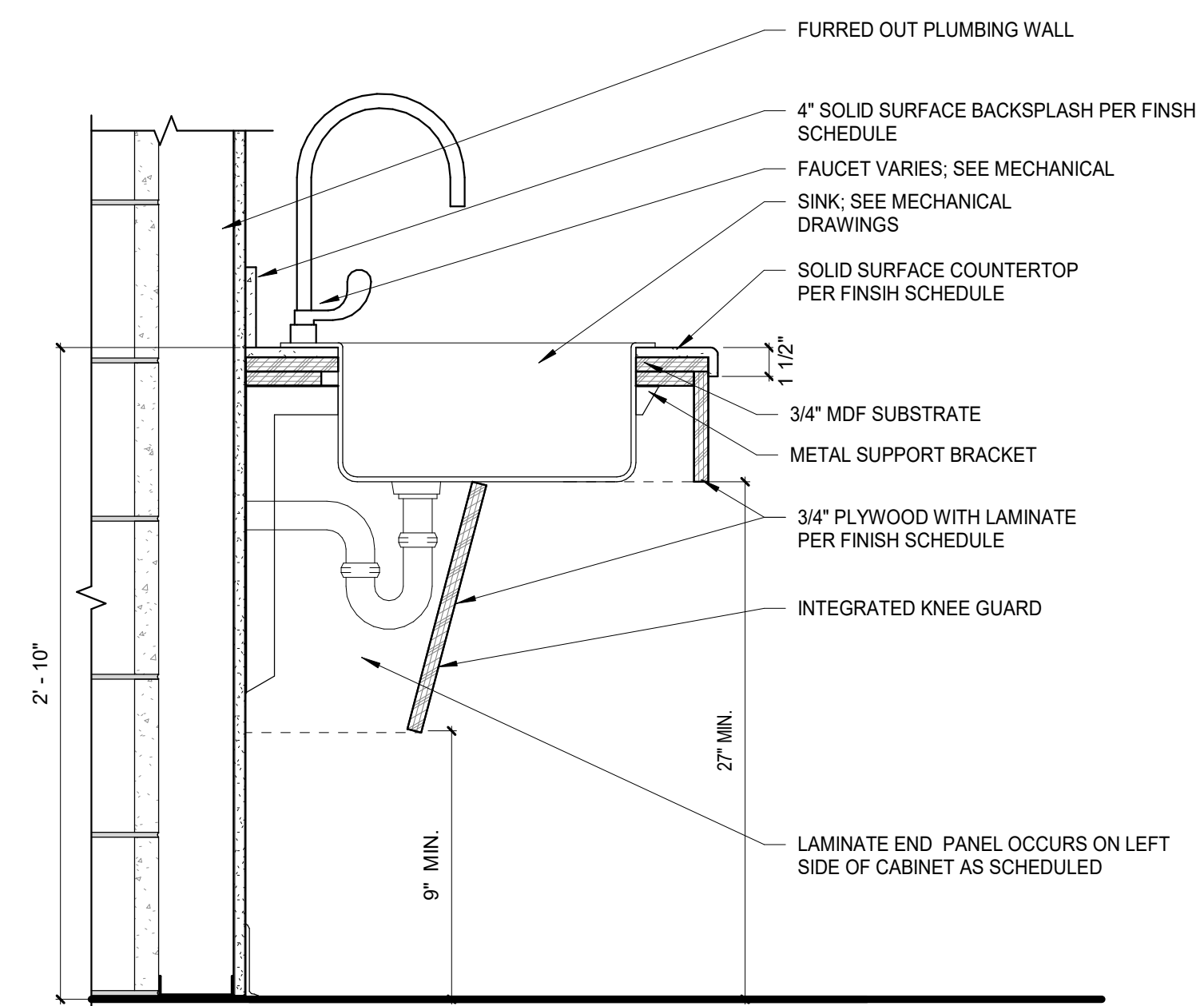
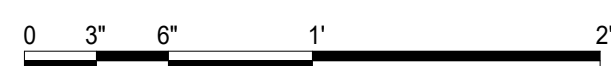
**5** CASEWORK COUNTERTOP  
3" = 1'-0"



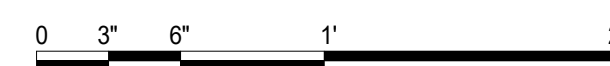
**1** DETAIL AT TYP. BASE CABINET  
1 1/2" = 1'-0"



**2** DETAIL EQ DRAWERS  
1 1/2" = 1'-0"



**3** DETAIL AT ACCESSIBLE SINK BASE  
1 1/2" = 1'-0"



**FURNITURE PACKAGE**

PROVIDED BY  
**KR Office Interiors**  
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 406-585-5417



- 6 - CHAIRS FOR MEETING TABLES
- 3 - 30" X30" SQUARE MEETING TABLE
- 3 - 48" X72" WHITE BOARDS
- 3 - STORAGE UNITS - 3 UNITS WIDE X 4 UNITS TALL
- 21 - TASK CHAIRS
- 21 - ADJUSTABLE HEIGHT DESKS 58" X 30"
- 21 - PRIVACY SCREEN ATTACHED TO DESKS
- 21 - DESKTOP POWERSTRIP

\*\*\* FURNITURE SHOWN FOR REFERENCE ONLY.  
 FURNITURE UNDER SEPARATE MSU CONTRACT.  
 NOT IN CONTRACTORS SCOPE OF WORK.



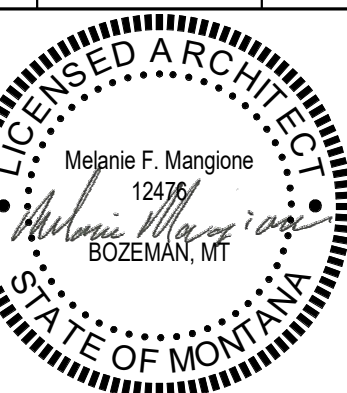
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DRAWN BY: **NLM**  
 REVIEWED BY: **MFM**

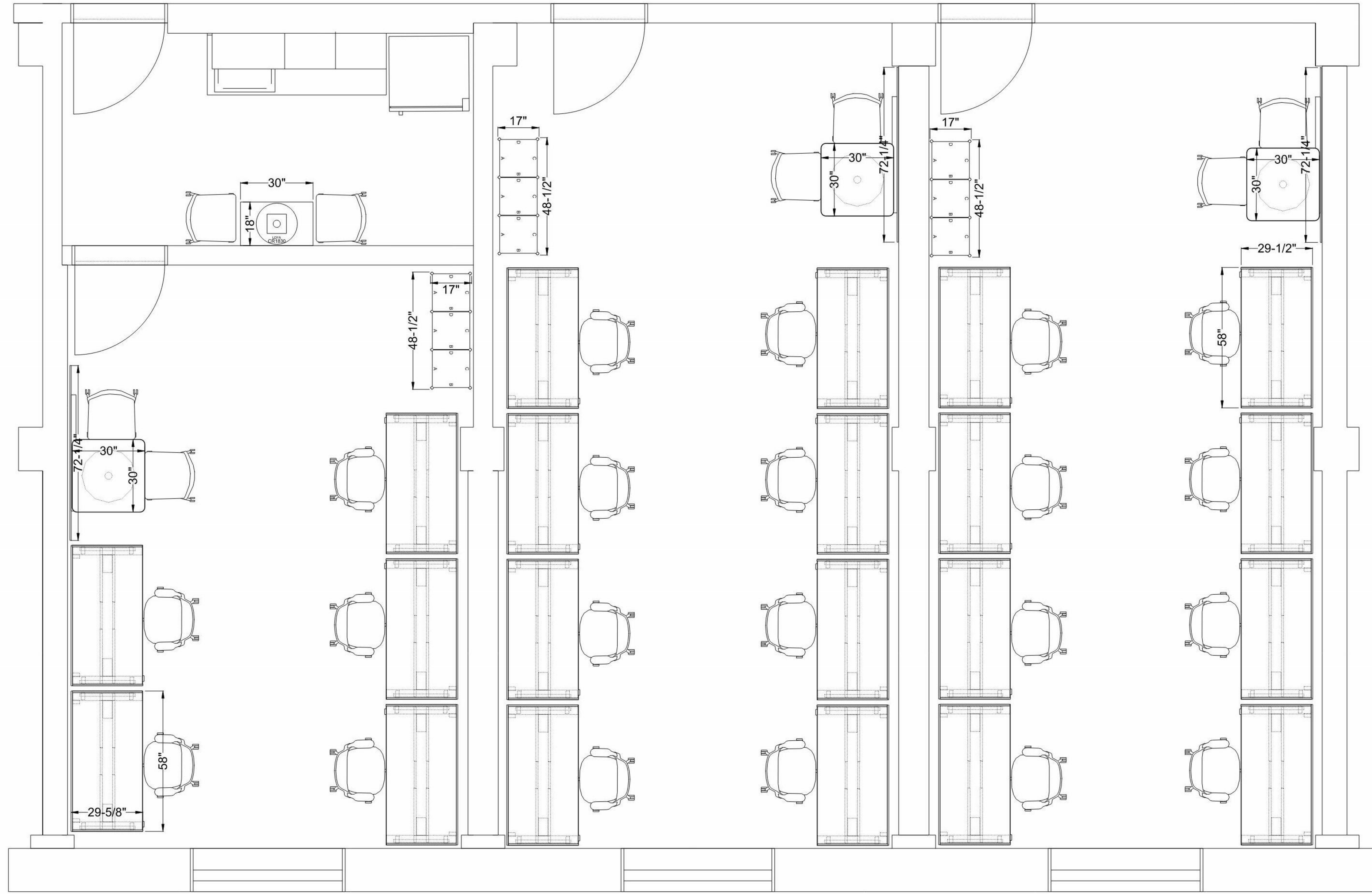
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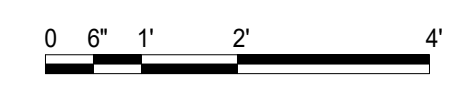
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 A/E#00-00-00  
 AAI#:23061.01

**SHEET TITLE**  
 FURNITURE  
 LAYOUT  
**SHEET**  
**1105**

**DATE**  
**2-23-2024**



**1 FURNITURE LAYOUT**  
 1/2" = 1'-0"



SHOWN FOR REFERENCE ONLY. WORK UNDER SEPARATE CONTRACT.

## MECHANICAL LEGEND

|  |   |
|--|---|
| <p><b>PIPING SYMBOLS</b></p> <p>CHWS CHILLED WATER SUPPLY<br/>         CHWR CHILLED WATER RETURN<br/>         CWS CONDENSER WATER SUPPLY<br/>         CWR CONDENSER WATER RETURN<br/>         GLY GLYCOL MAKEUP<br/>         D SPECIALTY EQUIPMENT DRAIN</p> <p><b>GENERAL MECHANICAL SYMBOLS</b></p> <p>XX NOTE DESIGNATION<br/>         XX/XXXX SECTION REFERENCE<br/>         XX/XX/XX DETAIL REFERENCE<br/>         FD-X EQUIPMENT IDENTIFICATION MARK<br/>         X GRILLE OR DIFFUSER MARK<br/>         X BALANCE CFM</p> <p><b>PIPE FITTINGS AND SPECIALTIES</b></p> <p>PIPE UP<br/>         PIPE DOWN<br/>         UNION<br/>         CONCENTRIC REDUCER OR INCREASER<br/>         ECCENTRIC REDUCER OR INCREASER<br/>         VALVE IN VERTICAL PIPE<br/>         BALL VALVE<br/>         BUTTERFLY VALVE<br/>         MOTORIZED TWO-WAY VALVE<br/>         MOTORIZED THREE-WAY VALVE<br/>         CHECK VALVE<br/>         BACKFLOW PREVENTOR<br/>         FLOW BALANCE DEVICE<br/>         PRESSURE REDUCING VALVE<br/>         STRAINER<br/>         FLOW SWITCH<br/>         DIFFERENTIAL PRESSURE SENSOR<br/>         MANUAL AIR VENT<br/>         AUTOMATIC AIR VENT<br/>         INSTRUMENT GAUGE WELL (PETE'S PLUG)<br/>         THERMOMETER/TEMPERATURE GAUGE<br/>         HOSE BIBB<br/>         THERMOSTAT / SENSOR<br/>         RELIEF VALVE<br/>         PRESSURE GAUGE</p> | <p><b>GUIDE TO LINE WEIGHTS FOR MECHANICAL ITEMS</b></p> <p>ITEMS SHOWN LIGHT ARE EXISTING AND TO REMAIN<br/>         ITEMS SHOWN BOLD AND SOLID ARE NEW<br/>         ITEMS SHOWN BOLD AND DASHED ARE TO BE REMOVED</p> <p><b>DUCT WORK AND SPECIALTIES</b></p> <p>12"x8" SHEET METAL DUCT (FIRST FIGURE INDICATES FACING SIDE)<br/>         RECTANGULAR DUCT TAKEOFF WITH VOLUME DAMPER<br/>         CONICAL SPIN-IN WITH VOLUME DAMPER<br/>         ACCESS DOOR<br/>         TURNING VANES<br/>         RADIUS ELBOW<br/>         MOTORIZED DAMPER<br/>         SUPPLY DIFFUSER, RETURN, AND EXHAUST GRILLE<br/>         SUPPLY DUCT UP/DOWN<br/>         RETURN DUCT UP/DOWN<br/>         EXHAUST DUCT UP/DOWN<br/>         ROUND DUCT UP/DOWN<br/>         DUCT UNIT</p> <p><b>OTHER ABBREVIATIONS</b></p> <p>AD ACCESS DOOR<br/>         AFF ABOVE FINISH FLOOR (ELEVATION)<br/>         ARCH ARCHITECT OR ARCHITECTURAL PLANS<br/>         BD BACKDRAFT DAMPER<br/>         DB DRY BULB TEMPERATURE<br/>         DN DOWN<br/>         EAT ENTERING AIR TEMPERATURE<br/>         EWT ENTERING WATER TEMPERATURE<br/>         EXH EXHAUST AIR<br/>         FD FIRE DAMPER<br/>         FSD FIRE/SMOKE DAMPER<br/>         IJS IN JOIST SPACE<br/>         IWS IN WALL SPACE<br/>         LAT LEAVING AIR TEMPERATURE<br/>         LWT LEAVING WATER TEMPERATURE<br/>         OA OUTSIDE (FRESH) AIR<br/>         MECH. MECHANICAL (CONTRACTOR)<br/>         MFR MANUFACTURER<br/>         NC NORMALLY CLOSED<br/>         NO NORMALLY OPEN<br/>         RA RETURN AIR<br/>         SD SMOKE DAMPER<br/>         SM SHEET METAL<br/>         SS STAINLESS STEEL<br/>         VD VOLUME DAMPER<br/>         WB WET BULB TEMPERATURE</p> |
|--|---|

## GENERAL MECHANICAL PROJECT NOTES

- A. ALL DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, ORDINANCES, STANDARDS, REGULATIONS, AND CRITERIA.
- B. THE CONTRACTOR SHALL BE COGNIZANT THAT THIS IS A REMODEL PROJECT AND AS SUCH, CERTAIN ITEMS CANNOT BE FULLY ILLUSTRATED NOR EXPLAINED WITHOUT FIELD OBSERVATION. THEREFORE, BEFORE SUBMITTING A PROPOSAL, THE CONTRACTOR SHOULD VISIT AND EXAMINE THE PROJECT IN EVERY DETAIL AS PERTAINS TO THIS PROJECT AND MAKE ALLOWANCES IN THEIR PROPOSAL FOR ALL CONDITIONS THAT WILL AFFECT THE WORK INDICATED IN THE PROJECT MANUAL AND CONTRACT DOCUMENTS.
- C. THESE PLANS ARE REPRESENTATIVE IN NATURE AND BASED UPON FACILITY AS-BUILT PLANS AND FIELD INVESTIGATIONS DURING DESIGN. THE CONTRACTOR IS RESPONSIBLE TO REVIEW CONSTRUCTION DRAWINGS AND EXISTING CONDITIONS FOR POSSIBLE CONFLICTS OR AMBIGUITIES AND VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK. FAILURE TO PROVIDE NOTICE OF PERCEIVED OR ACTUAL CONFLICTS OR AMBIGUITIES PRIOR TO COMMENCING WORK IN THESE AREAS WILL BE CONSIDERED ACCEPTANCE OF EXISTING CONDITIONS.
- D. IN CASE OF DISCREPANCIES BETWEEN THE GENERAL NOTES, CONTRACT DOCUMENTS, SPECIFICATIONS AND REFERENCE STANDARDS, THE ENGINEER SHALL DETERMINE WHICH SHALL GOVERN.
- E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS AND INSPECTIONS. MECHANICAL CONTRACTOR SHALL DETERMINE METHODS, PHASING, AND SEQUENCE OF MECHANICAL WORK TO SATISFY CONTRACT DOCUMENT REQUIREMENTS.
- F. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.
- G. CHANGES OR DEVIATIONS FROM THE DRAWINGS MADE WITHOUT WRITTEN CONSENT OF THE ENGINEER ARE NOT PERMITTED. COORDINATE ANY NECESSARY MODIFICATIONS WITH THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORK IN QUESTION.
- H. ALL CONTRACTORS PERFORMING THE WORK ENCLOSED IN THIS PLAN SET SHALL BE SOLELY RESPONSIBLE FOR THE COORDINATION OF THIS WORK BETWEEN ALL DISCIPLINES.
- I. UNLESS SPECIFICALLY INDICATED BY NOTATION "NO SUBSTITUTES" THE EQUIPMENT FOR THIS PROJECT AS SCHEDULED ON THE DRAWINGS CONSTITUTES THE BASIS FOR DESIGN AND IS ELIGIBLE FOR SUBSTITUTION IN ACCORDANCE WITH THE PROVISIONS OF PROJECT SPECIFICATIONS AND GENERAL CONDITIONS OF THE CONTRACT.
- J. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE TOTALLY SEALED TO PREVENT THE SPREAD OF SMOKE, FIRE, TOXIC GASES, AND WATER THROUGH THE PENETRATION BEFORE, DURING, AND AFTER A FIRE CONDITION. THE FIRE RATING OF THE SEALED PENETRATION SHALL BE AT LEAST THAT OF THE WALL INTO WHICH IT IS INSTALLED. THE SEAL SHALL PERMIT THE VIBRATION, EXPANSION AND/OR CONTRACTION OF THE CONDUIT PASSING THROUGH THE PENETRATION WITHOUT THE SEAL CRACKING OR CRUMBLING. CONSULT AND REFERENCE ARCHITECTURAL PLANS FOR FIRE STOP SPECIFICATION. ALL FIRE STOPPING PRODUCTS SHALL BE APPROVED BY THE GENERAL CONTRACTOR SO THAT ONE COMMON PRODUCT LINE WILL BE USED ON THIS JOB.
- K. AIR PLENUMS: MECHANICAL / PIPING SYSTEMS ROUTED INTO AND/OR THROUGH A RETURN AIR PLENUM SHALL BE IMC/IBC/NFPA 90A RATED FOR SUCH USE.
- L. TEMPERATURE CONTROLS: THE MECHANICAL CONTRACTOR (MC) SHALL BE SOLELY RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF THE MECHANICAL INSTALLATION AND SYSTEMS, INCLUDING TEMPERATURE CONTROLS. ALL ELECTRICAL WORK SUPPORTING THE INSTALLATION AND OPERATION OF THE TEMPERATURE CONTROLS SYSTEM SHALL BE PROVIDED AS PART OF THE MECHANICAL SYSTEMS SCOPE. CONTROL SEQUENCES OF OPERATION AND THEIR ASSOCIATED COMPONENTS ARE INCLUDED WITHIN THIS PLANS SET. REFER TO SPECIFICATIONS FOR DETAILED CONTROL SYSTEM AND COMPONENT INFORMATION. THIS PROJECT SHALL PROVIDE ALL COMPONENTS, LABOR, SYSTEM TESTING, AND PERFORMANCE CERTIFICATION TO ACHIEVE A COMPLETE AND FUNCTIONAL TEMPERATURE CONTROLS SYSTEM AS SPECIFIED.
  - L.A. CONTROL SYSTEM WORK SHALL BE SOLELY PERFORMED BY ELECTRO CONTROLS TO MATCH THE EXISTING BUILDING SYSTEMS, NO EXCEPTIONS.
- M. VIBRATION: EQUIPMENT WHICH IS SPECIFIED OR SCHEDULED TO BE SUPPLIED WITH VIBRATION INSULATION MUST BE SEPARATELY RESTRAINED TO MEET IBC SEISMIC REQUIREMENTS AS SPECIFIED, OR MUST BE SUPPLIED WITH RESTRAINED ISOLATORS SPECIFICALLY SIZED AND SELECTED TO MEET IBC REQUIREMENTS.
- N. SUBMITTALS: SUBMIT COMPLETE MANUFACTURER'S DATA FOR ALL EQUIPMENT SCHEDULED, SPECIFICALLY INDICATING ALL PROPOSED EQUIPMENT AND OPTIONS. COMPLY WITH ALL GENERAL SUBMITTAL REQUIREMENTS AS FOUND IN THE PROJECT SPECIFICATIONS.
- O. INSTALLATION:
  - O.A. PREWORK: MECHANICAL CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS PRIOR TO WORK. REPORT ANY OBSERVED AMBIGUITY, OMISSION, OR ERROR, IN WRITING, AT ONCE TO THE GENERAL CONTRACTOR.
  - O.B. SEQUENCING: MECHANICAL CONTRACTOR SHALL DETERMINE METHODS, PHASING, AND SEQUENCE OF MECHANICAL WORK TO SATISFY CONTRACT DOCUMENT REQUIREMENTS.
  - O.C. EQUIPMENT MAINTENANCE CLEARANCES: ALL MANUFACTURER'S REQUIRED CLEARANCES TO COMPLY WITH BOTH NEC AND IMC SHALL BE PROVIDED. MAINTENANCE ACCESS FOR THE SERVICING OF MECHANICAL EQUIPMENT IS A CRITICAL PORTION OF THE INSTALLATION REQUIREMENTS FOR ALL EQUIPMENT INCLUDED WITH THIS PROJECT, TO INCLUDE MAINTAINING CLEARANCES TO EXISTING EQUIPMENT, WHERE INDICATED, SERVICE CLEARANCES MAY OVERLAP.
  - O.D. CLEANING: THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR WORK. SUBCONTRACTORS SHALL REMOVE ALL RUBBISH, TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND LEAVE THE JOB IN A BROOM CLEAN CONDITION. ALL FIXTURES, EQUIPMENT, GLAZING, FLOORS, ETC., SHALL BE LEFT CLEAN AND READY FOR OCCUPANCY UPON COMPLETION OF THE PROJECT. VENTILATING SYSTEM, IF USED DURING CONSTRUCTION: CLEAN DUCTS, BLOWERS, COILS, ETC.; REPLACE DISPOSABLE FILTERS; CLEAN PERMANENT FILTERS.

## GENERAL MECHANICAL DEMOLITION & REMODEL NOTES

- A. THE MECHANICAL CONTRACTOR SHALL BE COGNIZANT THAT THIS IS A REMODEL PROJECT AND AS SUCH, EQUIPMENT, PIPING, DUCTWORK, ACCESSORIES, ETC. SHOWN ARE DRAWN FROM EXISTING DRAWINGS AND FIELD OBSERVATIONS AND SHALL BE USED AS A REFERENCE ONLY. THERE MAY BE ADDITIONAL MECHANICAL SYSTEMS THAT NEED TO BE REMOVED AND THEIR REMOVAL SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
- B. MECHANICAL EQUIPMENT SHOWN LIGHT AND SOLID ARE EXISTING TO REMAIN. DEVICES SHOWN HEAVY AND DASHED ARE EXISTING TO BE REMOVED.
- C. WHERE SHOWN FOR REMOVAL, DUCTWORK AND PIPING IS TO BE REMOVED COMPLETE, INCLUDING ANY ASSOCIATED SUPPORTS. NO MECHANICAL SYSTEM COMPONENTS MAY BE ABANDONED IN-PLACE WITHOUT APPROVAL FROM THE ENGINEER.
- D. CONTRACTOR SHALL CUT ALL FLOORS, WALLS, CEILINGS, AND ROOFS AS REQUIRED TO PERFORM THE WORK INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL PATCH ALL ASSOCIATED FLOORS, WALLS, CEILINGS, AND ROOFS AS REQUIRED TO THE SATISFACTION OF THE GOVERNMENT.
- E. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT NECESSARILY SHOW EXACT LOCATIONS OR ALL FITTINGS/TRANSITIONS/OFFSETS.
- F. COORDINATE ALL HVAC EQUIPMENT AND PIPING WITH ALL OTHER TRADES.
- G. MECHANICAL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL MATCH OR EXCEED THE ASSEMBLY RATING AS REQUIRED BY I.B.C.
- H. PROVIDE FLUSH CUP CONCEALED OPERATORS ON ALL HAND DAMPERS LOCATED ABOVE HARD CEILINGS.
- I. ALL DUCT DIMENSIONS SHOWN ARE CLEAR INTERIOR DIMENSIONS.
- J. COORDINATE EXACT LOCATION OF GRILLES AND DIFFUSERS WITH ARCHITECTURAL REFLECTED CEILING PLAN AND LIGHTING LAYOUT.
- K. ALL CONCEALED DUCTWORK SHALL BE INSTALLED AS HIGH AS ALLOWED ABOVE SUSPENDED CEILING UNLESS OTHERWISE INDICATED.
- L. ALL EXPOSED DUCTWORK SHALL BE INSTALLED AT HEIGHT INDICATED.
- M. FLEX DUCT RUNOUTS SHALL BE LIMITED TO 60" AND SHALL BE USED ONLY WHERE SHOWN ON PLANS.
- N. PROVIDE COLOR MATCHED METAL ESCUTCHEONS WHERE EXPOSED DUCTWORK PENETRATES A SIDEWALL.
- O. COORDINATE FINAL THERMOSTAT LOCATIONS WITH THE OWNER. MAINTAIN EXISTING DDC THERMOSTATS WHERE FEASIBLE.
- P. INSULATE ALL DUCT AND PIPE SERVICES IN ACCORDANCE WITH DIVISION 22 AND 23 SPECIFICATION SECTIONS.

## GRILLES - REGISTERS - DIFFUSERS

| MARK   | MFR   | CATALOG NO. |                 |        |               | MATERIAL | FINISH | SIZE                        | NOTES                                    |
|--|-------|-------------|-----------------|--------|---------------|----------|--------|-----------------------------|--|
|  |       | MODEL       | FRAME           | DAMPER | DEFLECTOR     |          |        |                             |  |
| 1  | PRICE | SPD         | SURFACE TYPE 31 | -      | SQUARE PLAQUE | STEEL    | WHITE  | 12"x12" FACE<br>6" DIA NECK | 1 SUPPLY DIFFUSER, CEILING SURFACE MOUNT |
| 1 SQUARE PLAQUE FLUSH FACE STEEL CEILING DIFFUSER WITH SINGLE-PIECE AERODYNAMIC BACKPAN FEATURING A 360 DEGREE RADIAL DISCHARGE PATTERN (STANDARD 4-WAY AIRFLOW). DIFFUSER TO BE PROVIDED WITH FACE AND NECK SIZE AS SCHEDULED ABOVE. PROVIDE IN 24"x24" MODULE WITH LAY-IN CEILING FRAME, OR FRAMED SURFACE MOUNTING IN GYPSUM BOARD CEILING AS INDICATED ABOVE. PLAQUE FACE TO BE REMOVABLE WITHOUT TOOLS. |       |             |                 |        |               |          |        |                             |  |

## PLUMBING FIXTURE SCHEDULE

| MARK  | TYPE             | MFR   | CATALOG NUMBER               |      |                   |        | CONNECTIONS |        |        |      | NOTES |                    |
|---|------------------|-------|------------------------------|------|-------------------|--------|-------------|--------|--------|------|-------|--------------------|
|   |                  |       | FIXTURE                      | TRIM | SUPPLIES          | TRAP   | WASTE       | VENT   | CW     | HW   |       |                    |
| P-1   | KITCHENETTE SINK | ELKAY | CROSSTOWN<br>ECTSRA026226T8G | 1    | 1/4-TURN<br>ANGLE | OFFSET | -           | 1-1/2" | 1-1/2" | 1/2" | 1/2"  | 1 KITCHENETTE SINK |
| NOTES: ALL FIXTURES WITH WATER CONNECTIONS ARE REQUIRED TO HAVE SUPPLY STOPS, HOWEVER, NO SPECIFIED BRAND OR MODEL NUMBER IS REQUIRED BY THE SCHEDULE. SEE SPECIFICATIONS FOR REQUIRED CONSTRUCTION FEATURES OF FIXTURE STOPS. THE VENT SIZE LISTED IN THE SCHEDULE IS THE MINIMUM VENT SIZE. FOR RUNS EXCEEDING 1/3 OF THE MAXIMUM VENT LENGTH TABULATED IN THE UNIFORM PLUMBING CODE, THE VENT SIZE MUST BE INCREASED BY ONE NOMINAL PIPE SIZE. |                  |       |                              |      |                   |        |             |        |        |      |       |                    |
| 1 18 GA. TYPE 304 STAINLESS STEEL 25"x22x6" KITCHEN SINK KIT FEATURING POLISHED SATIN FINISH, SLIM RIM, ONE BOWL, REAR CENTER 3-1/2" DRAIN, AND DROP-IN DESIGN. FIXTURE SHALL BE ADA COMPLIANT AND UPC LISTED. PROVIDE WITH BOTTOM GRIDS, SOUND GUARD CONSTRUCTION, MATCHING STRAINERS/STOPPERS, AND ELKAY 'AVADO' LKAV4061LS SEMI-PROFESSIONAL SINGLE-HOLE KITCHEN FAUCET WITH LUSTROUS STEEL FINISH AND CERAMIC DISC VALVE.                     |                  |       |                              |      |                   |        |             |        |        |      |       |                    |

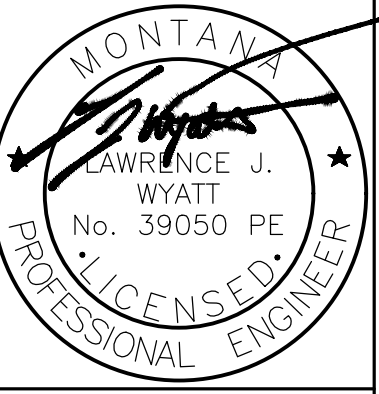


MSU-CPDC  
 MONTANA STATE UNIVERSITY  
 BOZEMAN, MONTANA  
 PHONE: 406.994.5413  
 FAX: 406.994.5665

**AJM JOHNSON**  
 DATA CENTER HVAC UPGRADES  
 (GRADUATE OFFICES REMODEL)



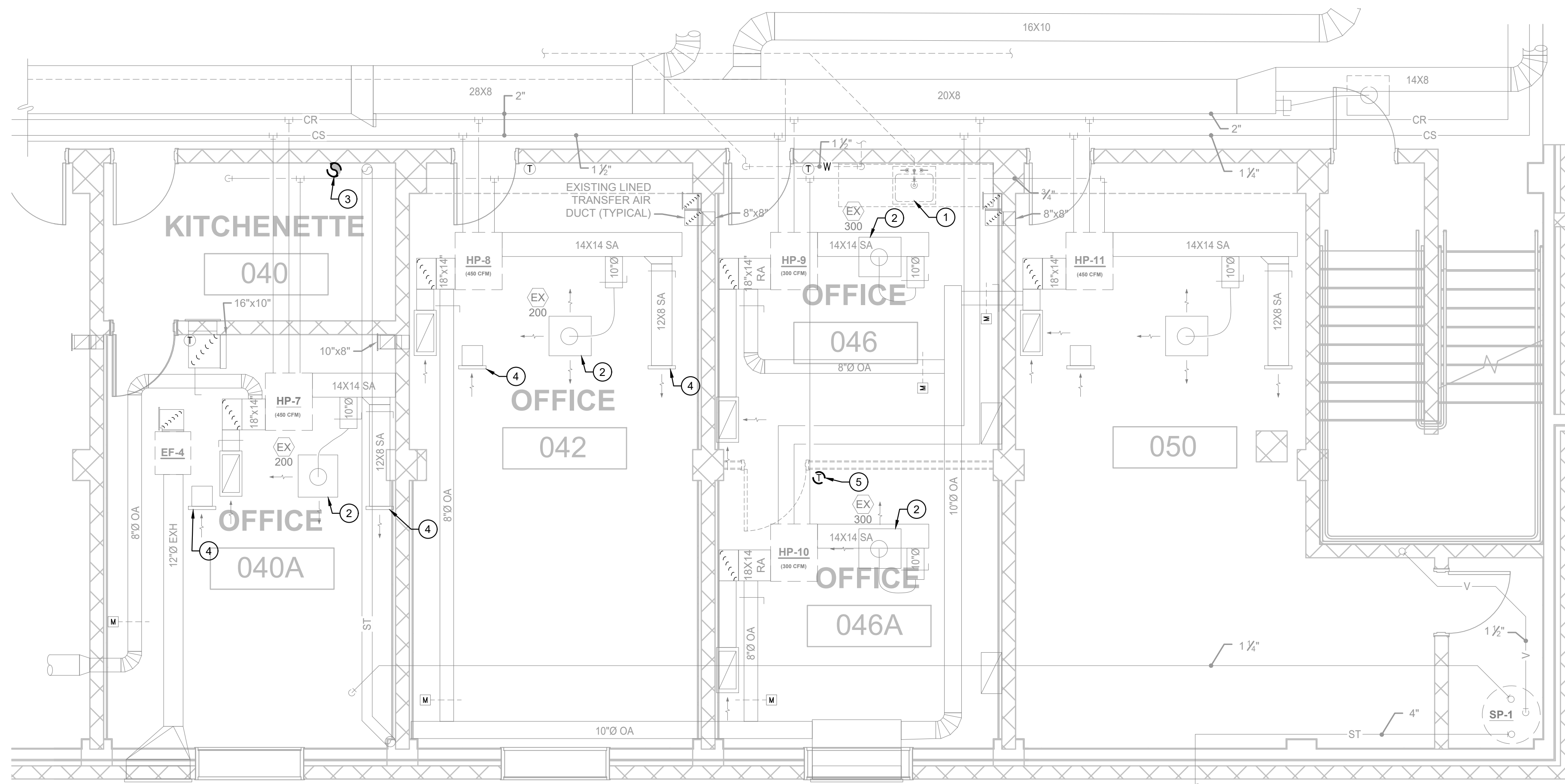
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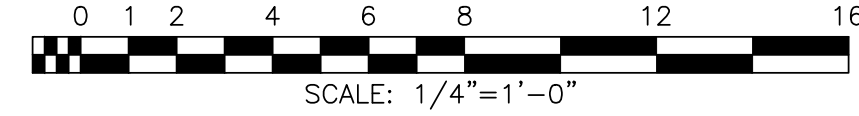
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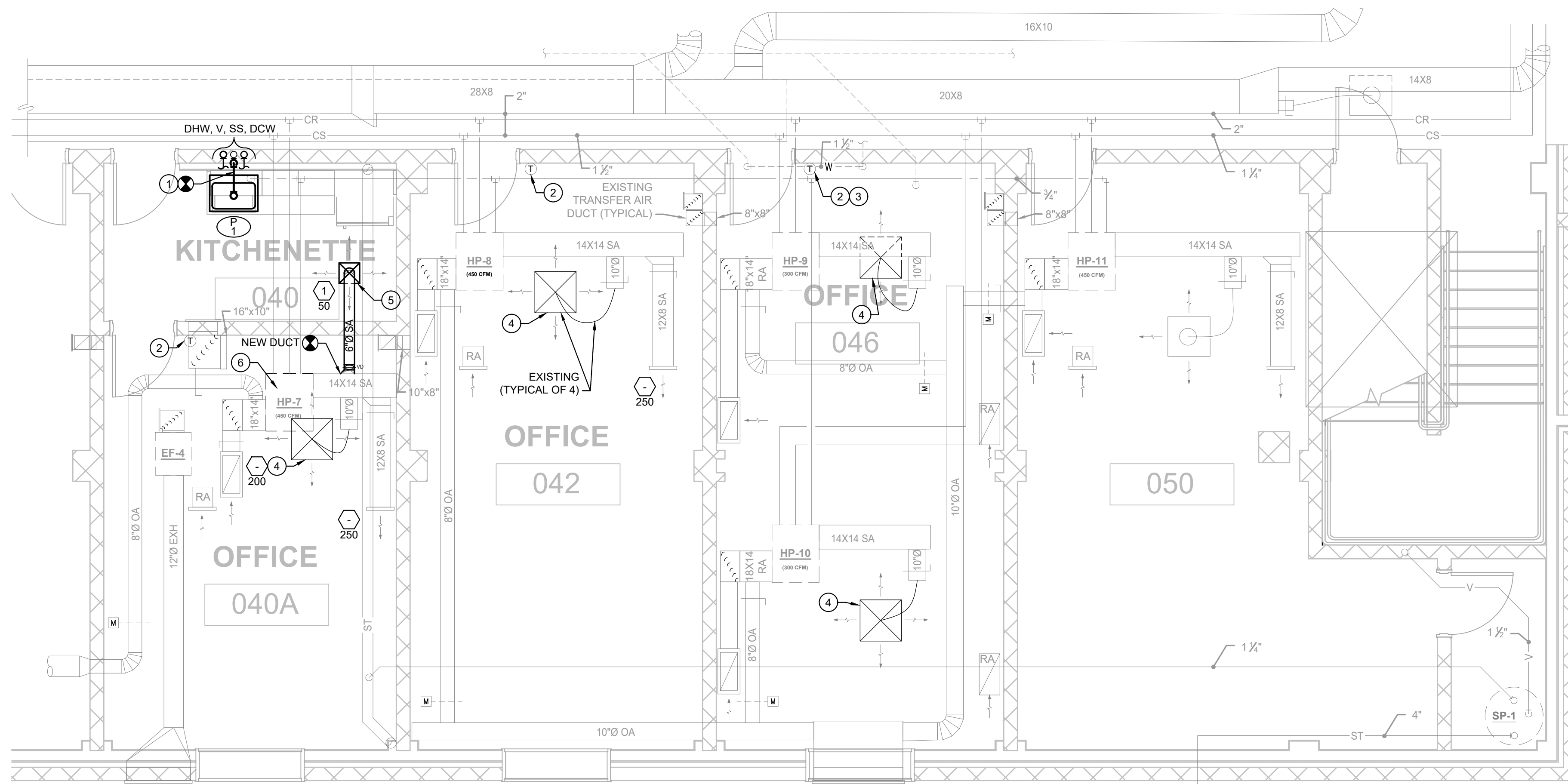


**N 1 BASEMENT MECHANICAL DEMOLITION PLAN**



**SPECIFIC SHEET DEMOLITION NOTES:**

- 1 REMOVE EXISTING PLUMBING FIXTURE AND CAP PLUMBING CONNECTIONS FOR DWV AND DOMESTIC COLD/HOT WATER WITHIN WALL. PATCH WALL TO MATCH EXISTING.
- 2 MAINTAIN EXISTING BALANCE DAMPER, DIFFUSER AND FLEXIBLE DUCT FOR REUSE.
- 3 REMOVE OLD LAB HOOD EXHAUST DUCT CUT OFF AT CEILING LEVEL. PATCH CEILING PENETRATION TO MATCH EXISTING.
- 4 MAINTAIN EXISTING VERTICAL SUPPLY/RETURN GRILLES ON SOFFIT FOR REUSE.
- 5 REMOVE EXISTING THERMOSTAT SERVING HEAT PUMP HP-10 AND DELIVER TO MSU FACILITIES.



**N 2 BASEMENT MECHANICAL REMODEL PLAN**



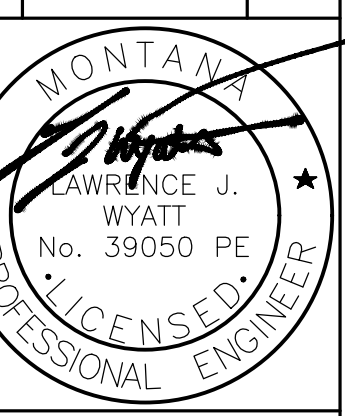
**SPECIFIC SHEET REMODEL NOTES:**

- 1 INSTALL NEW SINK FIXTURE/TRIM (SEE SCHEDULE) AND CONNECT TO EXISTING DWV AND DOMESTIC COLD/HOT WATER SYSTEMS IN WALL. RECONNECT ANY EXISTING HEAT PUMP CONDENSATE DRAINS TO THIS FIXTURE'S TAILPIECE IF PRESENT WITHIN THE WALL.
- 2 PROTECT EXISTING DDC THERMOSTATS DURING SPACE FINISH RENOVATIONS.
- 3 TIE EXISTING HEAT PUMP HP-10 TO EXISTING THERMOSTAT SERVING HEAT PUMP HP-9 SUCH THAT BOTH OPERATE IN RESPONSE TO A SINGLE CALL FOR HEATING OR COOLING.
- 4 MAINTAIN EXISTING BALANCE DAMPER, FLEXIBLE DUCT, AND SUPPLY DIFFUSER. WHERE CEILINGS ARE REMOVED AND REPLACED, TEMPORARILY SUPPORT, AND RELOCATE AS REQUIRED IN COORDINATE WITH LIGHT FIXTURES. FOR CEILING CHANGES, SEE ARCHITECTURAL.
- 5 INSTALL NEW 6" SPIRAL DUCT TAKEOFF, BALANCE DAMPER, SUPPLY AND DIFFUSER WHERE SHOWN TO SERVE KITCHENETTE.
- 6 RE-BALANCE HEAT PUMP HP-7 AS INDICATED TO ACCOUNT FOR NEW KITCHENETTE SUPPLY.



**N KEYPLAN**

| REV. | DESCRIPTION | DATE |
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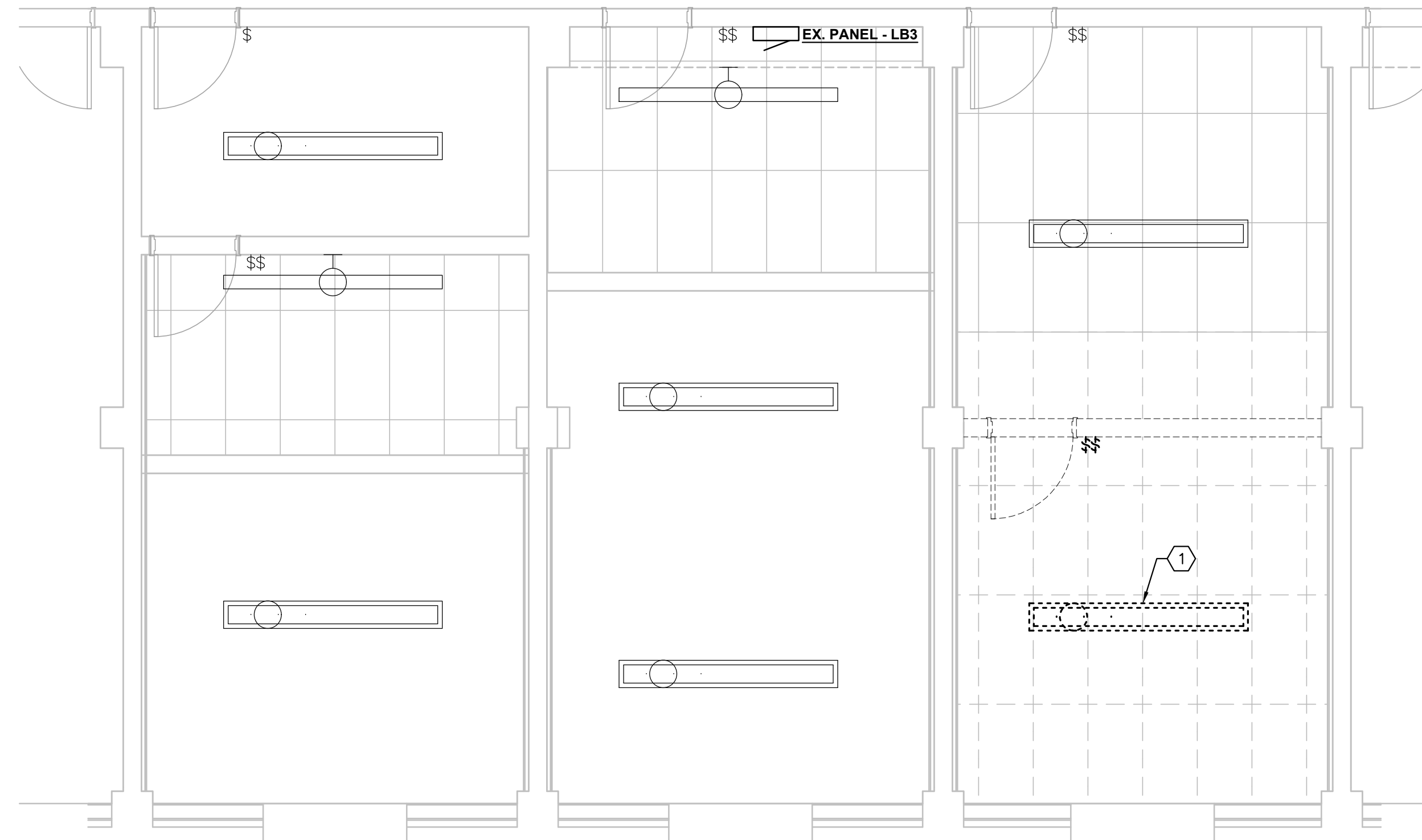


# ELECTRICAL LEGEND

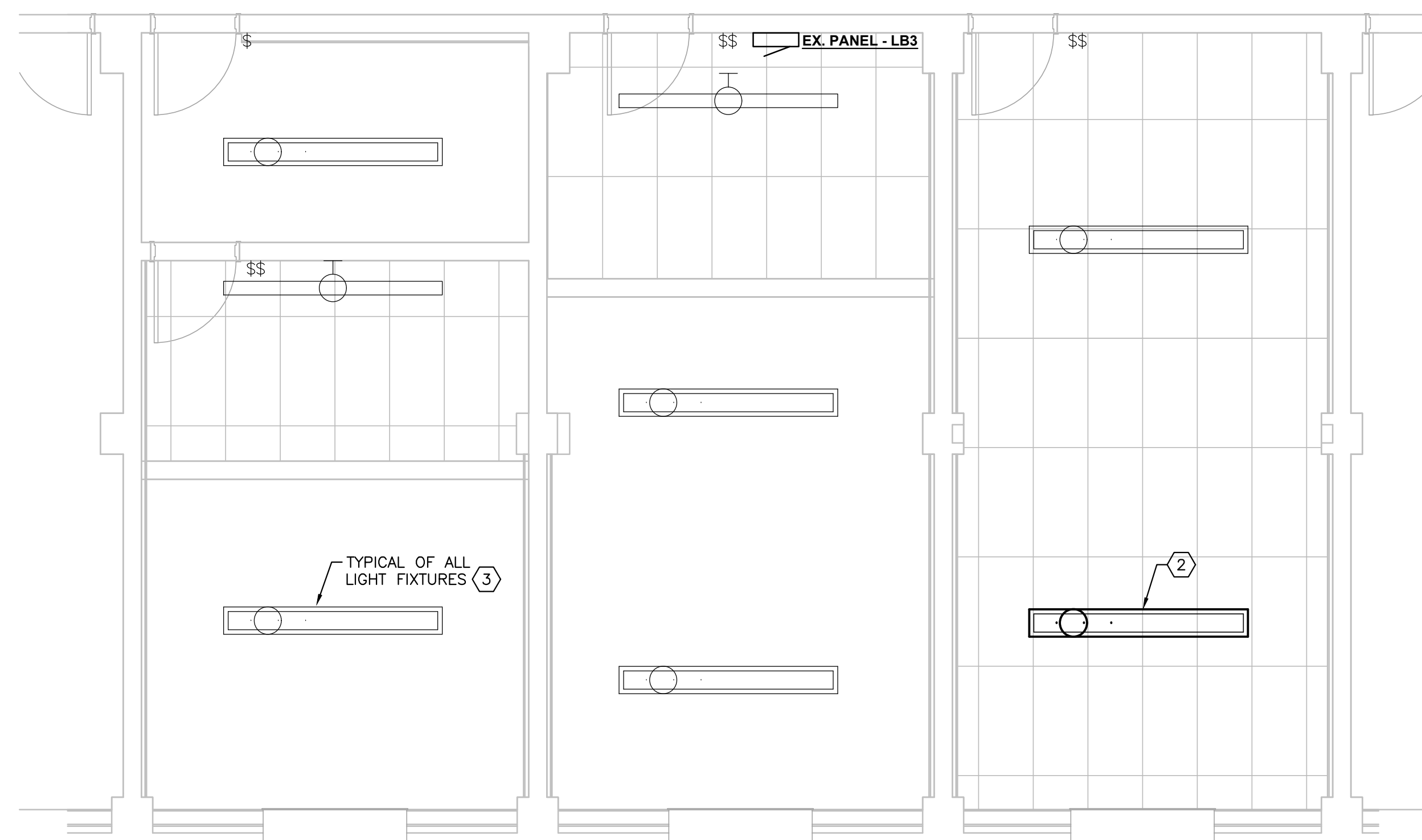
| SYMBOL        | DESCRIPTION   |
|---------------|---|
|               | POWER PANEL - 208Y/120 VOLT, 3Ø 4 WIRE  |
|               | VARIABLE FREQUENCY DRIVE  |
|               | DISCONNECT SWITCH   |
|               | BRANCH CIRCUIT CONCEALED IN WALL OR CEILING   |
|               | BRANCH CIRCUIT CONCEALED IN OR UNDER FLOOR  |
|               | CONDUIT RUN - NUMBER OF ARROWHEADS INDICATES THE NUMBER OF CIRCUITS REQUIRED.   |
|               | CONDUIT STUB  |
|               | LED LIGHT FIXTURE   |
|               | TELEPHONE/DATA ROUGH-IN (PROVIDE DOUBLE GANG BOX WITH SINGLE GANG MUD RING AND 1" CONDUIT STUBBED UP ABOVE CEILING LEVEL) |
|               | DUPLEX CONVENIENCE RECEPTACLE   |
|               | MOTOR (M - MOTOR, F - FAN, P - PUMP)  |
|               | SPECIAL EQUIPMENT CONNECTION OR OUTLET AS NOTED   |
|               | SWITCH  |
| ABBREVIATIONS | DESCRIPTION   |
| AIC           | AMPS INTERRUPTING CURRENT   |
| AC            | ABOVE COUNTER   |
| C             | CONDUIT   |
| CLF           | CURRENT LIMITING FUSE   |
| EC            | ELECTRICAL CONTRACTOR   |
| EX            | EXISTING  |
| G             | GROUND  |
| GFI           | GROUND FAULT CIRCUIT INTERRUPTER  |
| HP            | HORSEPOWER  |
| MC            | MECHANICAL CONTRACTOR   |
| PMR           | PER MANUFACTURER'S RECOMMENDATIONS  |
| XFMR          | TRANSFORMER   |
| VFD           | VARIABLE FREQUENCY DRIVE  |
| WP            | WEATHERPROOF  |
| W/            | WITH  |

## GENERAL PROJECT NOTES:

- THE COMPLETE ELECTRICAL INSTALLATION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, THE LATEST RULES AND REGULATIONS OF THE SAFETY ORDERS ISSUED BY THE DIVISION OF INDUSTRIAL SAFETY, THE NATIONAL BOARD OF FIRE UNDERWRITERS AND ALL APPLICABLE STATE AND LOCAL CODES ISSUED BY THE AUTHORITIES HAVING JURISDICTION.
- ELECTRICAL CONTRACTOR SHALL DIRECT, PROVIDE, & SUPERVISE ALL ELECTRICAL WORK AND SHALL COORDINATE ALL WORK WITH OTHER TRADES. THE CONTRACTOR SHALL CONSULT THE ARCHITECTURAL, MECHANICAL, AND OTHER DRAWINGS RELATED TO THIS PROJECT FOR OTHER ELECTRICAL WORK TO BE DONE, WHICH MAY NOT BE SHOWN ON THESE ELECTRICAL PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS AND INSPECTIONS.
- ELECTRICAL CONTRACTOR SHALL DETERMINE METHODS, PHASING, & SEQUENCE OF ELECTRICAL WORK TO SATISFY CONTRACT DOCUMENT REQUIREMENTS.
- ALL PENETRATIONS THROUGH WALLS SHALL BE TOTALLY SEALED TO PREVENT THE SPREAD OF SMOKE, FIRE, TOXIC GASES, AND WATER THROUGH THE PENETRATION. THE FIRE RATING OF THE SEALED PENETRATION SHALL BE AT LEAST THAT OF THE WALL INTO WHICH IT IS INSTALLED. THE SEAL SHALL PERMIT THE VIBRATION, EXPANSION AND/OR CONTRACTION OF THE CONDUIT PASSING THROUGH THE PENETRATION WITHOUT THE SEAL CRACKING OR CRUMBLING.
- UNLESS OTHERWISE INDICATED, THE MINIMUM SIZE OF CONDUIT FOR ALL CIRCUITS SHALL BE 1/2".
- GREEN INSULATED GROUND CONDUCTORS SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUIT CONDUIT.
- ALL 120V CIRCUITS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR.
- ELECTRICAL EQUIPMENT AND FEEDERS SHALL BE SUPPORTED AND/OR ANCHORED IN ACCORDANCE WITH ALL LOCAL SEISMIC REQUIREMENTS.
- ELECTRICAL CONTRACTOR SHALL REVIEW & VERIFY ALL DIMENSIONS PRIOR TO WORK. REPORT ANY OBSERVED AMBIGUITY, OMISSION, OR ERROR, IN WRITING, AT ONCE, TO THE GENERAL CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL COORDINATE ALL BACKER, CONCRETE PADS, & STRUCTURAL RELATED FRAMING ISSUES, WITH THE GENERAL CONTRACTOR, PRIOR TO ROUGH-IN. CONDUIT WHICH SPAN STRUCTURAL SEISMIC JOINTS REQUIRE 12" MINIMUM FLEXIBLE JOINT & SUPPORT.



**1 ENLARGED BASEMENT LIGHTING DEMOLITION PLAN**



**2 ENLARGED BASEMENT LIGHTING REMODEL PLAN**

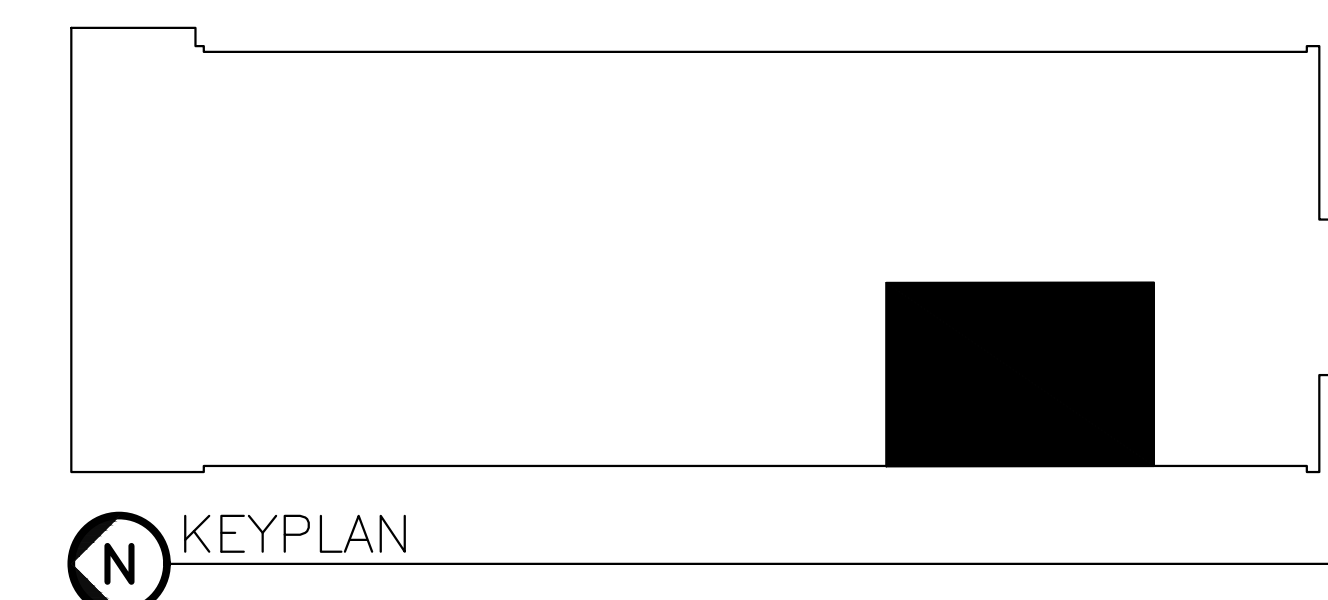


## GENERAL SHEET NOTES:

- THE ELECTRICAL CONTRACTOR SHALL BE COGNIZANT THAT THIS IS A REMODEL PROJECT AND AS SUCH, ELECTRICAL PANELS, DEVICES, CIRCUITS, ETC. SHOWN ARE DRAWN FROM EXISTING DRAWINGS AND FIELD OBSERVATIONS AND SHALL BE USED AS A REFERENCE ONLY. THERE MAY BE ADDITIONAL ELECTRICAL DEVICES THAT NEED TO BE REMOVED AND THEIR REMOVAL SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- ELECTRICAL DEVICES SHOWN LIGHT AND SOLID ARE EXISTING TO REMAIN. DEVICES SHOWN HEAVY AND DASHED ARE EXISTING TO BE REMOVED.
- ABANDONED CONDUIT, WIRE, J-BOXES AND SIGNALING WIRE IS TO BE REMOVED WHERE ACCESSIBLE.
- PATCH ALL HOLES FROM REMOVED CONDUIT AND CABLING WITH GROUT OR CAULK (FIRE RATED AS REQUIRED).
- ANY CIRCUITS (POWER, SYSTEMS, LIGHTING, FIRE ALARM, ETC.) THAT ARE IN THE WAY OF DEMOLITION SHALL BE EXTENDED/RE-ROUTED AS REQUIRED. ELECTRICIAN SHALL VISIT SITE PRIOR TO BID TO VERIFY THAT ALL REQUIRED DEMOLITION AND RE-ROUTING IS IN HIS BID.

## SPECIFIC SHEET NOTES:

- TEMPORARILY REMOVE LIGHT FIXTURE FOR CEILING REPLACEMENT. MAINTAIN CIRCUITING FOR REUSE.
- REINSTALL LIGHT FIXTURE ONCE NEW CEILING IS INSTALLED. RECONFIGURE SWITCHING SO THAT ALL LIGHTS ARE CONNECTED TO SAME LIGHT SWITCHES AT HALLWAY DOOR.
- CLEAN ALL DEBRIS FROM BASKET STYLE INDIRECT LIGHT FIXTURES ONCE PROJECT IS COMPLETE. IN ADDITION, WIPE DOWN LAMPS AND INSIDE OF LIGHT FIXTURES.



**KEYPLAN**



MSU-CPDC

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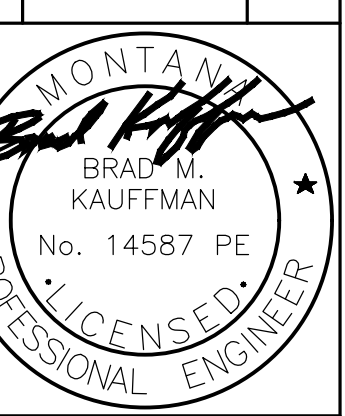
**AJM JOHNSON**  
DATA CENTER HVAC UPGRADES  
(GRADUATE OFFICES REMODEL)



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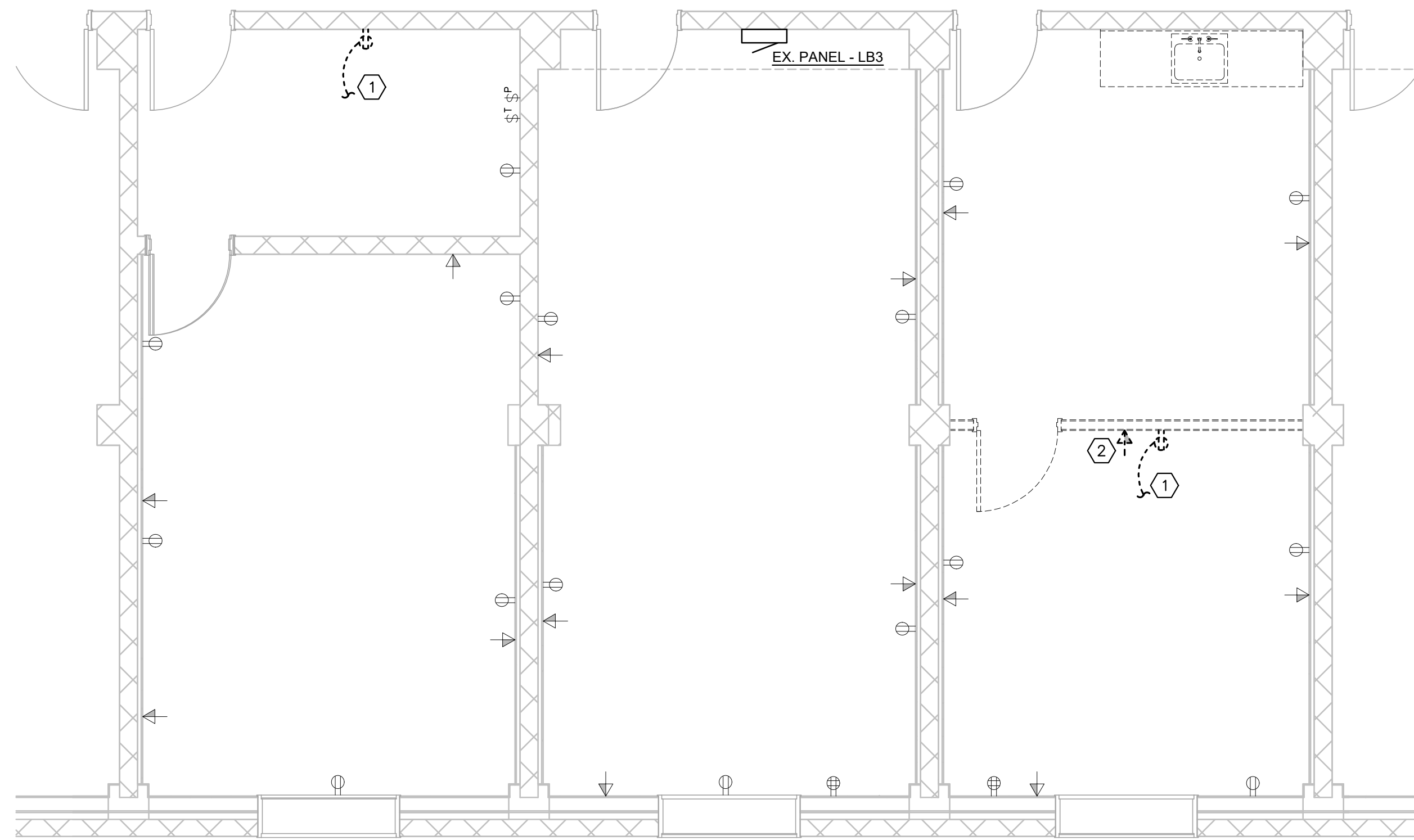
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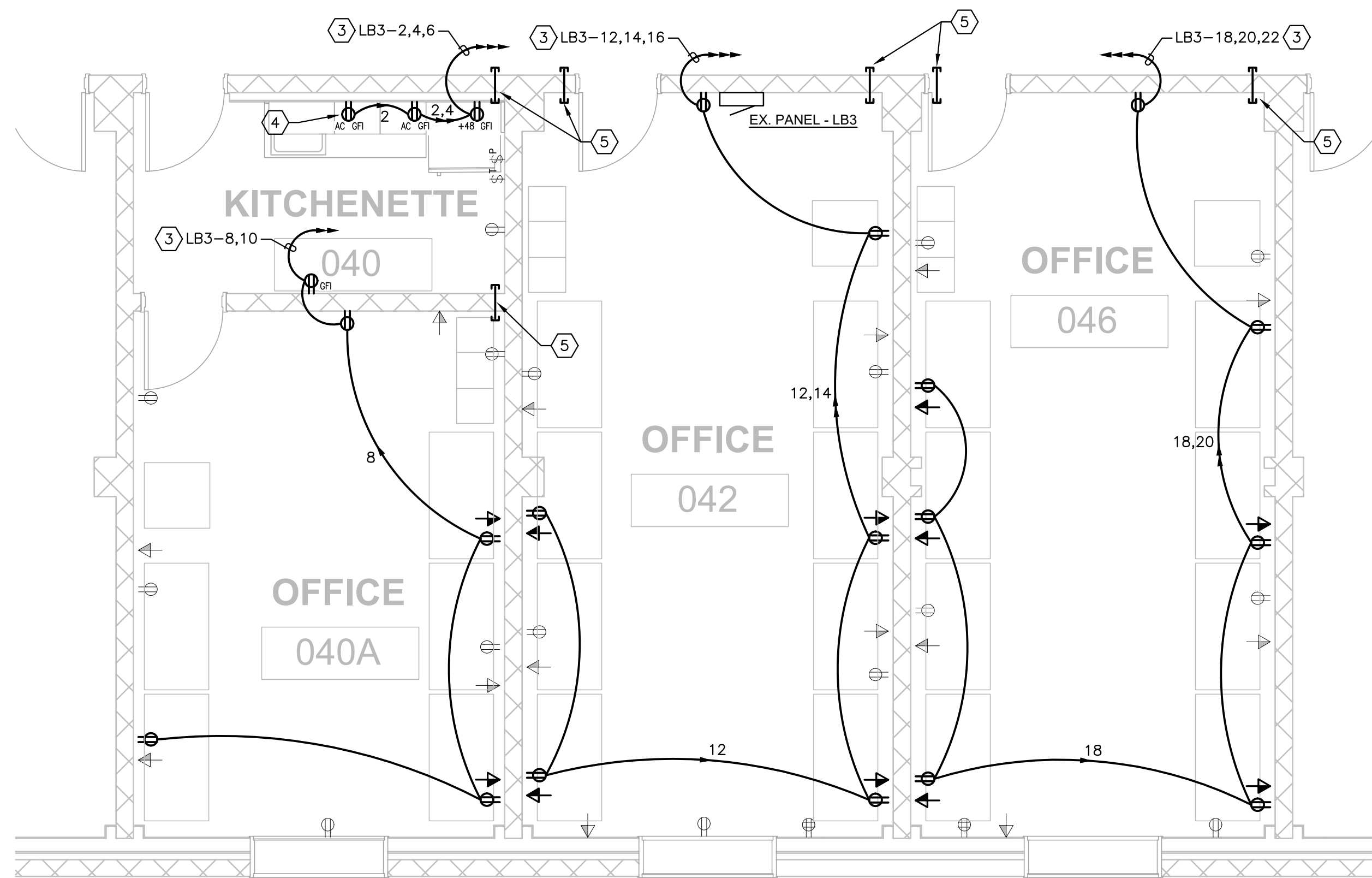
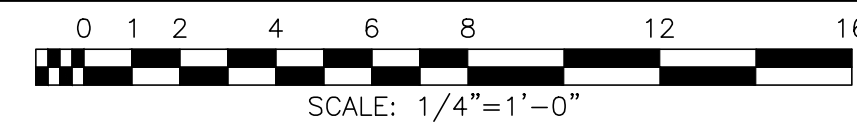
**SHEET TITLE**  
BASEMENT LIGHTING PLANS

**SHEET**  
**E1.0**

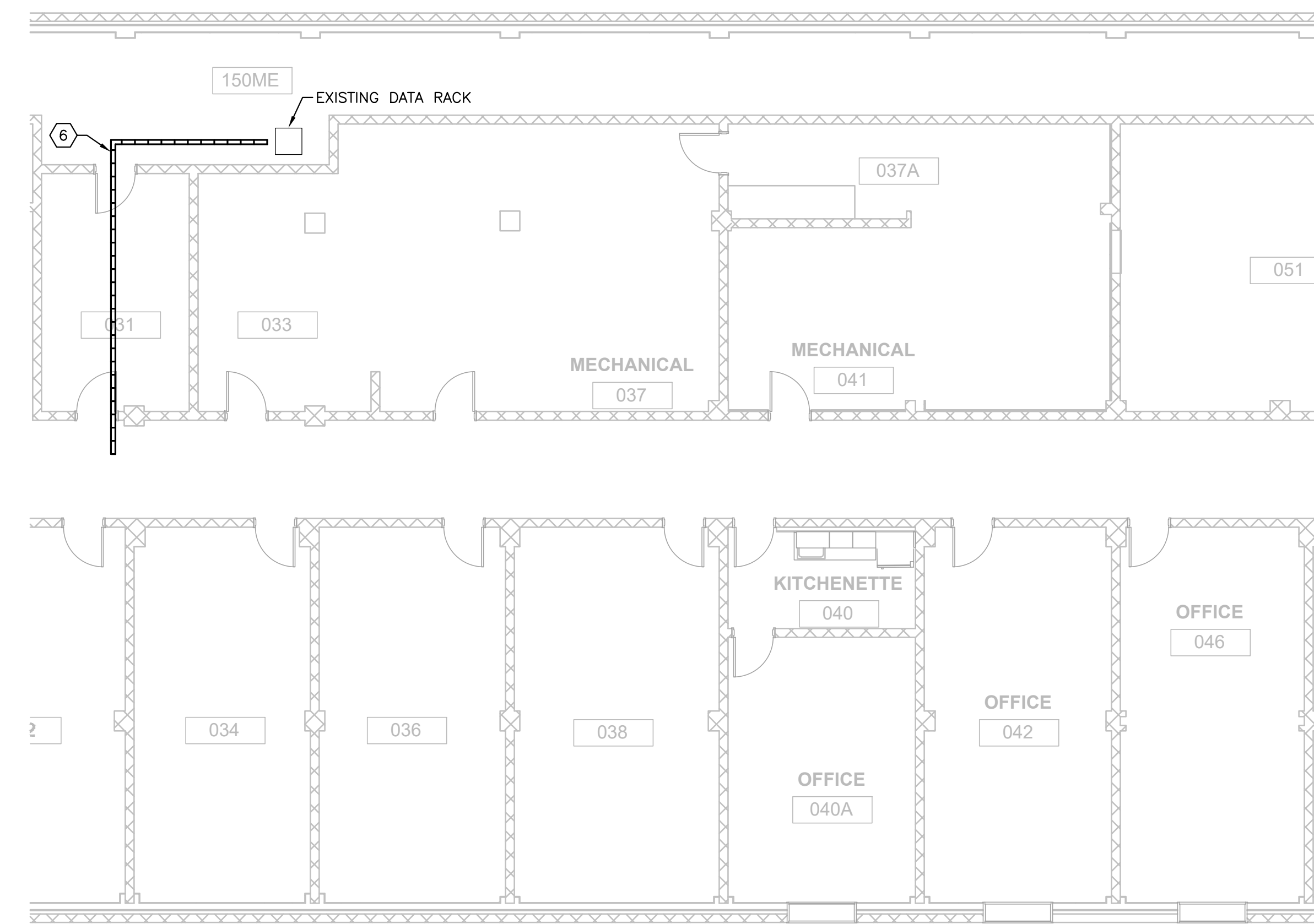
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**2-23-24**



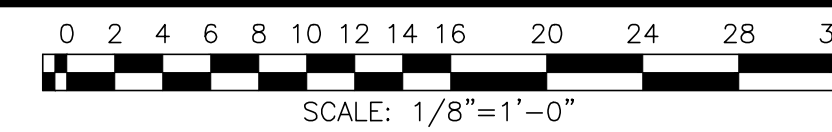
**N 1 ENLARGED BASEMENT ELECTRICAL DEMOLITION PLAN**



**N 2 ENLARGED BASEMENT ELECTRICAL REMODEL PLAN**



**N 3 BASEMENT CABLE TRAY MODIFICATION PLAN**



**GENERAL SHEET NOTES:**

- A. THE ELECTRICAL CONTRACTOR SHALL BE COGNIZANT THAT THIS IS A REMODEL PROJECT AND AS SUCH, ELECTRICAL PANELS, DEVICES, CIRCUITS, ETC. SHOWN ARE DRAWN FROM EXISTING DRAWINGS AND FIELD OBSERVATIONS AND SHALL BE USED AS A REFERENCE ONLY. THERE MAY BE ADDITIONAL ELECTRICAL DEVICES THAT NEED TO BE REMOVED AND THEIR REMOVAL SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- B. ELECTRICAL DEVICES SHOWN LIGHT AND SOLID ARE EXISTING TO REMAIN. DEVICES SHOWN HEAVY AND DASHED ARE EXISTING TO BE REMOVED.
- C. ABANDONED CONDUIT, WIRE, J-BOXES AND SIGNALING WIRE IS TO BE REMOVED WHERE ACCESSIBLE.
- D. PATCH ALL HOLES FROM REMOVED CONDUIT AND CABLING WITH GROUT OR CAULK (FIRE RATED AS REQUIRED).
- E. ANY CIRCUITS (POWER, SYSTEMS, LIGHTING, FIRE ALARM, ETC.) THAT ARE IN THE WAY OF DEMOLITION SHALL BE EXTENDED/RE-ROUTED AS REQUIRED. ELECTRICIAN SHALL VISIT SITE PRIOR TO BID TO VERIFY THAT ALL REQUIRED DEMOLITION AND RE-ROUTING IS IN HIS BID.
- F. AT EACH TEL/DATA RECEPTACLE LOCATION, PROVIDE OVERSIZED 4-11/16" X 4-11/16" X 2-1/8" DEEP BOX WITH SINGLE GANG MUD RING AND 1-1/4" CONDUIT WITH PULL STRING TO ABOVE ACCESSIBLE CEILING. FROM THERE, PROVIDE J-HOOKS SPACED 4'-0" ON-CENTER TO HALLWAY WALL. DATA CABLE INSTALLATION BY MSU.
- G. ALL WIRING SHALL BE IN EMT CONDUIT, THE USE OF MC CABLE IS NOT PERMITTED. ALL NEW CONDUIT AND BOXES SHALL BE SURFACE MOUNTED ON EXISTING WALLS, UNLESS NOTED OTHERWISE.

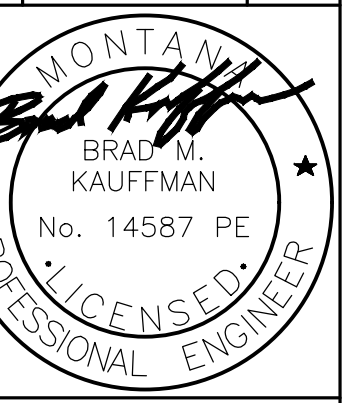
**SPECIFIC SHEET NOTES:**

- ① REMOVE EXISTING RECEPTACLE AND ASSOCIATED BOX, CONDUIT AND WIRE. MAINTAIN CIRCUITING TO ANY OTHER DEVICES ON THIS CIRCUIT AS REQUIRED.
- ② REMOVE DATA RECEPTACLE BOX AND CONDUIT. DATA CABLING TO BE REMOVED BY MSU.
- ③ PROVIDE NEW 20A-1P CIRCUIT BREAKER IN EXISTING PANEL FOR EACH NEW CIRCUIT.
- ④ PROVIDE RECESSED BOXES AND CONDUITS AT THIS LOCATION (IN NEW FRAMED WALL). TYPICAL OF ALL RECEPTACLES ON THIS WALL.
- ⑤ PROVIDE NEW 2" CONDUIT SLEEVE ABOVE LAY-IN CEILING TO ALLOW CLEAR PATH TO HALLWAY CABLE TRAY. DRILL THROUGH BLOCK WALL AS REQUIRED.
- ⑥ REMOVE EXISTING 4" WIDE X 2" DEEP CABLE TRAY AND REPLACE WITH 4" WIDE X 4" DEEP CABLE TRAY. PROVIDE TEMPORARY SUPPORT FOR EXISTING CABLES AS REQUIRED. CABLE TRAY SHALL BE CABLOFIL CF105 SERIES, 304 STAINLESS STEEL, OR APPROVED EQUAL. PROVIDE ALL COMPONENTS (INCLUDING MOUNTING HARDWARE) AS REQUIRED FOR A COMPLETE SYSTEM.

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**SHEET TITLE**  
BASEMENT POWER AND  
SYSTEMS PLANS

**SHEET**  
**E2.0**

**DATE**  
2-23-24