



UNIVERSITY FACILITIES MANAGEMENT

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ADDENDUM NO. 2 - OUTLINE AND SUMMARY INFORMATION

Project Name: Molecular Bioscience Renovation & Maintenance PPA No.: 22-0045
Location: Montana State University Bozeman Campus Date: August 27, 2026

To: *All Plan Holders of Record*

*The Plans and Specification prepared by (**Bechtle Architects**) dated (**Jun. 03, 2026**), shall be clarified and added as follow. The bidder proposes to perform all the following clarifications or changes. It is understood that the Base Bid shall include any modification of Work or Additional Work that may be required by reason of the following change or clarifications.*

The Bidders are to acknowledge the receipt of this Addendum by inserting its number and date into their Bid Forms. Failure to acknowledge may subject the Bidder to disqualification and rejection of the bid. This Addendum forms part of the Contract Documents as if bound therein and modifies them as follows:

I. PRIOR APPROVALS

- 1) 09 9123 – Rodda paint.
- 2) 09 7733 – Valto FRP

II. AMENDMENTS TO THE PROJECT MANUAL

- 1) Bid opening shall be Thursday, September 10th, 2026 at 2pm

III. AMENDMENTS TO THE DRAWINGS

- 2) **A001** - CMU generator screen shall have a 24"Wx10"D strip footing, reinf w/ (2) #5 bar cont., #5 bar vertical @ 24" oc. Height of wall, provide bond beam mid hight of wall & top cap, joint reinf 9-gauge wire joint @ 16" o.c., solid gout cells. Slab for generator to match existing, assumed 6" concrete w/ #5 bar @ 24" o.c., dowel into existing slab/CMU wall.
- 1) **A012** – Labs 223 & 227 cabinetry graphics modified to indicate existing to remain. **A112** same areas graphics modified for cabinetry to remain. No work in these areas.
- 2) **A111-113** – note 6 for "DEEP CLEAN" to include all surfaces of cabinetry (inside & out), countertops, flooring & walls.
- 3) **A112** – new wall separating Office 222 & Bio Safety RM 221 shall be P1; 5/8" GWB, 2X4 WD STUDS @ 16" O.C., 3-1/2" Batt insul, 5/8" GWB.
 - a) **PLF-3**, in Lab 220, is an existing stainless steel sink to be relocated.

- b) At existing casework in Labs 220 and 231 where tops are partially demolished provide new edge banding on exposed countertop edge.
- 4) **A122** – New GWB ceiling to be supported by 2x6 joist @ 16" o.c.
- 5) **A123** – clarification on blown-in insulation at 3rd floor attic space.
- 6) **EL011** – Shows light fixtures that shall be replaced with an LED fixture. The scope was updated from add/alt pricing to be included in the bid. **E000** Language has been updated as part of Addendum #2.

IV. **GENERAL INFORMATION**

- 1) Mechanical, Electrical & Fire suppression Schedule / Phasing shall be determined at a later date with the GC, MSU, and Tenants.
- 2) Material finish schedule is located on sheet G113.
- 3) Provide Allowance for replacement of:
 - a) 15% of vinyl tile in each lab spaces
 - b) 25% of ACT
- 4) Provide Unit price for:
 - a) Countertop replacement in labs where damage is identified during construction.
 - b) Base cabinet replacement in labs where damage is identified during construction
- 5) Floor to floor elevation is 13'-0"
- 6) Scope intent is to reinstall base cabinets behind new eyewash stations in labs 154, 156, 160 & 234.
- 7) Appliances shall be provided by MSU.
- 8) Lvl 2 rooms 223, 225, 227, 228, 223 are currently occupied and no work is scheduled immediately, the mechanical phasing will be discussed with GC, MSU and Tenant.
- 9) The existing system is Delta Controls and was previously installed by Electro Controls.
- 10) The existing system shall remain and will be modified to include new control points and devices noted on M501 and M502
- 11) M002 indicates demoing duct connection to FC-2.12. However M202 does not show any new ducting back to unit. Please confirm. - Per the drawing M002 the ductwork is NOT shown as dashed and therefore is not to be demo'd.
- 12) CONFIRM EXISTING UTILITY IS 120/208V WYE AS NOTED E001 (ONE LINE SHOWS IT AS 120/240 3PH (HI-LEG)), ALL NEW PANELS CALLED OUT AS 120/208V 3PH WYE.
 - a) Blacksheep Response: Incoming service is 208Y/120V, 3Ph, 4W. Refer to Revision 1 for updates.
- 13) SHORT CIRCUIT FEEDER SCHEDULE NOTES SINGLE PHASE RUN TO GENERATOR, CONFIRM THIS SHOULD BE (3) 3/0 PHASE CONDUCTORS.

- a) Blacksheep Response: The (2) within the Phase column is for 2 sets. This is a three phase run and should be 3 - 3/0. Refer to Revision 1 for updated schedule.

14) DETAIL E502/1 NOTE 4 INSTRUCTS TO INSTALL A NEW GENERATOR ANNUNCIATOR IN ELECTRICAL RM 168 AND NOTE 5 INSTRUCTS TO REUSE THE EXISTING CONDUIT AND WIRE WHICH WOULD IMPLY THAT THERES AN ANNUNCIATOR ALREADY INSTALLED. CONFIRM EXISTING ANNUNCIATOR IS IN LOCATION AS SHOWN FOR NEW ANNUNCIATOR.

- a) Blacksheep Response: Refer to Revision 1 for updates.

15) EXISTING GENERATOR IS A GENERAC SYSTEM AND NEW ONE IS SPECIFIED AS AN MTU WITH ASCO TRANSFER SWITCH WHICH APPEAR TO USE DIFFERENT PROTOCOLS TO COMMUNICATE WITH THE ANNUNCIATOR. CONFIRM IF EC SHOULD PLAN ON REUSING CONDUIT/WIRE AS INSTRUCTED BY NOTE 5 ON E502 OR IF WE SHOULD PLAN ON REPLACING WIRE IN CASE THE PROTOCOLS ARE IN FACT DIFFERENT.

- a) Blacksheep Response: Refer to Revision 1 for updates.

16) NOTE 3 ON E502 INSTRUCT TO PROVIDE A DISCONNECTING MEANS OUTSIDE THE GENERATOR ENCLOSURE, PROVIDE DESIRED LOCATION OF "EMERGENCY POWER OFF" PUSH BUTTON SO EC CAN PROVIDE CONDUIT/WIRE AND EXCAVATION DEPENDING ON WHERE OWNER WANTS IT.

- a) Blacksheep Response: NEC 445.18(C) has been removed from 2023 NEC and is no longer applicable. Refer to revision 1 for updates.

17) DETAIL E502/1 SHOWS PANEL "OS2" AS A 100A MLO WITH A 100A FEED FROM A 225A BREAKER AS SHOWN ON "OS1" PANEL SCHEDULE ON SHEET E504.

- a) Blacksheep Response: OS1 panel schedule has been updated as part of Revision 1. The breaker for panel OS2 shall be 100A.

18) PROVIDE SCR RATING FOR PANEL CH AND ADD CONDUIT/WIRE TO SHORT CIRCUIT FEEDER SCHEDULE ON E502.

- a) Blacksheep Response: CH has been updated within the Short Circuit + Feeder schedule as part of Revision 1.

19) PROVIDE MAKE/MODEL OF EXSITING MSB/MDP IN ORDER TO ACCURATELY PRICE NEW BREAKERS.

- a) Blacksheep Response: Added note to address this in Revision 1. Added photo of the nameplate to the drawings as well. Existing switchboard is an Eaton POW-R-LINE.

20) NO DETAILS PROVIDE OR ANYTHING SHOWN ON ONE LINE FOR GROUNDING OF THE GENERATOR. PROVIDE GROUNDING DETAIL SPECIFICALLY AS IT RELATES TO THE REPLACEMENT OF THE GENERATOR.

- a) Blacksheep Response: Generator wire is being replaced and generator size is slightly larger than existing. All grounding will be new.

21) PROVIDE SOP/OUTAGE WINDOW FOR CHANGING FREEZERS TO STANDYBY ATS CIRCUITS AND WHETHER OR NOT ANY TEMPORARY POWER/GENERATORS WILL BE REQUIRED WHEN REPLACING THE EMERGENCY STANDBY GENERATOR AND ATS.

- a) Blacksheep Response: EC shall coordinate with MSU and tenant's on an outage schedule. This has yet to be determined so far.

22) PROVIDE CLARIFICATION FOR THE CONNECTION OF NEW AND FUTURE FAN COILS. ARE THE FAN COILS NOTED AS FUTURE ON THE MECHANICAL SCHEDULE EXISTING AND WE JUST NEED TO SWAP THE POWER TO PANELS OS1, OS2, OS3 (DRAWING M301/M302 NOTE 1 CHILLERS ARE MARKED WITH THE (E) SYMBOL LIKE THEY'RE EXISTING) OR DO WE NEED TO RUN NEW CONDUIT/WIRE TO THESE LOCATIONS. ARE THE FAN COILS NOT NOTED AS FUTURE CURRENTLY INSTALLED OR ARE THEY GETTING ADDED REQUIRING NEW CONDUIT/WIRE?

- a) Blacksheep / SE Engineer's Response: The future fan coil units will be provided in "future" phases yet to be determined. The existing fan coil units that the future fan coil units will remain in place until those later phases. There are new fan coil units in the lab spaces noted in the contract documents that will need new power. There is an existing chiller in the mechanical room that will need to be demolished and will be replaced with an outdoor chiller noted on the plans.

23) PROVIDE DIRECTION AS TO HOW WE ARE SUPPOSED TO INTEGRATE THE NEW BOILERS INTO THE EXISTING BOILER EMERGENCY POWER OFF CIRCUIT OR IF WE NEED TO ADD AN E-STOP IF ONE DOESN'T CURRENTLY EXIST AND WHETHER OR NOT A CONTACTOR IS NEEDED TO KILL MULTIPLE BOILER CIRCUITS.

- a) Blacksheep / SE Engineer's Response: The new boiler need to be shut down on an emergency power off circuit.

24) CONFIRM SEQUENCING, SHUTDOWNS, AND TEMPORARY POWER IF REQUIRED FOR THE INSTALLATION OF THE CHILLED WATER PUMPS FOR NEW CHILLER WHEN THEY SIT WHERE THE EXISTING CHILLER IS CURRENTLY LOCATED WHICH CANNOT BE DEMOLISHED UNTIL THE NEW UNIT IS IN.

- a) Blacksheep / SE Engineer's Response: This sequencing has yet to be determined. It will need to be coordinated with G.C., MSU, and building occupants.

25) CONFIRM THE COUNTS FOR THE S1 AND D1 FIXTURES, WE'RE COMING UP WITH 5 VS 6 OF THE S1S AS NOTED ON THE ENGINEERS ESTIMATE

- a) Blacksheep Response: Note 2 on sheet EL011 about visiting the site to verify counts prior to bidding.

26) CONFIRM IF ANY OF THE BALLAST CONTAIN PCBS AND WHAT DISPOSAL DOCUMENTATION IS REQUIRED.

- a) Blacksheep Response: EC shall verify and confirm. Disposal shall be in accordance with state of Montana Environmental regulations.

27) CONFIRM THE PURPOSE OF SHEET EL012 "LIGHTING + FAN COIL PLAN", NOT MUCH CONTEXT PROVIDED.

- a) Blacksheep Response: This was to show where the fan coils sit in relation to the light fixtures to ensure that we are not overlapping.

28) ADD CIRCUITING TO POWER PLANS FOR RELOCATION OF EXISTING FACU CIRCUIT PER NOTE 2 ON FA100 AND CONFIRM IF ANY ADDITIONAL CIRCUITS ARE REQUIRED.

a) Blacksheep Response: Updated in Revision 1.

29) MATRIX FOOTNOTE ON FA001 NOTES TO MAINTAIN ELEVATOR SEQUENCE AS CURRENTLY PROVIDE, CONFIRM THAT NO ADDITIONAL ELECTRICAL IS REQUIRED FOR THE SHUNT TRIP AND WHO IS RESPONSIBLE FOR THE COST OF THE ELEVATOR TECHNICIAN THAT WILL BE REQUIRED TO BE ON SITE WHEN INSTALLING THE CONDUIT/FA WIRE FOR THE NEW DETECTION IN THE SHAFT, CONNECTION OF THE SHUNT TRIP TO THE EXISTING ELEVATOR EQUIPMENT, AND RETESTING OF THE ELEVATOR EQUIPMENT WITH MSU FIRE MARSHAL.

a) Blacksheep / Apex Fire Alarm Design Response: The shunt trip note is for the breaker that feeds the elevator to be able to turn the elevator off when the fire alarm system is triggered. Based on photos of House MDP the elevator already has a shunt trip breaker. This was noted since it was not certain if the shunt and fire alarm were connected properly as it stands. This note is to ensure these systems are tied together.

30) SHEET E112 NOTE 4 INDICATES THAT THE OUTLETS ARE INTEGRAL TO BIO SAFETY CABINET WITH NO OTHER DIRECTION, CONFIRM IF SOMETHING IS NEEDED HERE.

a) Blacksheep Response: This was a note for as built. All receptacles on this sheet with that note are existing.

31) SHEET E112 NOTE 7 INDICATES TO VERIFY IF CIRCUIT IS DEDICATE OR NOT, PROVIDE DIRECTION ON HOW CONTRACTOR SHOULD PRICE FOR NOW SINCE WE DON'T KNOW IF ITS DEDICATED OR NOT AT THIS TIME.

a) Blacksheep Response: EC should plan on adding in pricing for replacing branch circuit from panel to be safe

32) PANEL SCHEDULE NOTES CIRCUITS 22, 24, 26 AS NEW RECEPTACLES YET NOTHING IS NOTED ON SHEET E112 FOR WHAT WE NEED TO DO, PROVIDE DIRECTION FOR THESE DEVICES.

a) Blacksheep Response: Verified with Third Element that this is about panel 4E. These devices are new to this room (Office 221). Provide receptacle + branch circuit from panel.

33) NOTE 7 ON E111 INDICATE THAT ITS UP TO THE EC TO VERIFY IF THE EXISTING POWER IS SUFFICIENT, PROVIDE AS BUILDS AND MFG NAMEPLATE DATA AND WE CAN OTHERWISE, SPECIFY CLEARLY WHAT EC SHOULD PROVIDE IF NOT SIZED APPROPRIATELY, OR REMOVE NOTE.

a) Blacksheep Response: EC shall provide to Engineer what is currently installed. Engineer will verify if power is sufficient. Note reworded as part of Revision 1

34) MULTIPLE NOTES ON SHEETS E111 AND E112 ARE SUPER VAGUE INDICATING THAT "CIRCUIT TRACING COULD NOT TRACING COULD NOT BE PERFORMED DUE TO THE EQUIPMENT BEING ACTIVE", "CIRCUIT TRACING COULD NOT BE PERFORMED, THIS RECEPTACLE WAS NOT ACCESSIBLE", "CIRCUIT TRACING COULD NOT BE PERFORMED. CIRCUIT NUMBER ASSUMED FROM EXISTING PANEL SCHEDULE", "THIS JUNCTION BOX CAPPED OFF WITHIN PANEL 3B", "JUNCTION BOX HAS BEEN BLANKED OFF, NO CIRCUIT TRACING WAS MARKED", "JUNCTION BOX DOES NOT HAVE CIRCUIT, BOX WAS EMPTY", "EC SHALL REPLACE EXISTING DEAD OUTLET WITH NEW. VERIFY OUTLET IS FUNCTIONAL OR REPLACE BRANCH CIRCUIT BACK TO PANEL" THAT PROVIDE VERY LITTLE CONTEXT AS TO WHAT THE EC SHOULD BE CARRYING IN THEIR PROPOSAL PUTTING THE EC AND/OR OWNER AT RISK OF NOT CAPTURING THIS COST OR CAPTURING COST THAT

WEREN'T ACTUALLY NEEDED. PROVIDE DIRECTION IN EACH OF THESE CASES AS TO WHAT THE EC SHOULD BE CARRYING.

a) Refer to individual note for response:

35) "CIRCUIT TRACING COULD NOT BE PERFORMED DUE TO THE EQUIPMENT BEING ACTIVE"

a) Blacksheep Response: This note is for as building needs. Nothing needed from EC.

36) "CIRCUIT TRACING COULD NOT BE PERFORMED, THIS RECEPTACLE WAS NOT ACCESSIBLE"

a) Blacksheep Response: This note is for as building needs. Nothing needed from EC.

37) "CIRCUIT TRACING COULD NOT BE PERFORMED. CIRCUIT NUMBER ASSUMED FROM EXISTING PANEL SCHEDULE"

a) Blacksheep Response: This note is for as building needs. Nothing needed from EC.

38) "THIS JUNCTION BOX CAPPED OFF WITHIN PANEL 3B"

a) Blacksheep Response: This note is for as building needs. Nothing needed from EC.

39) "JUNCTION BOX HAS BEEN BLANKED OFF, NO CIRCUIT TRACING WAS MARKED"

a) Blacksheep Response: This note is for as building needs. Nothing needed from EC.

40) "JUNCTION BOX DOES NOT HAVE CIRCUIT, BOX WAS EMPTY"

a) Blacksheep Response: This note is for as building needs. Nothing needed from EC.

41) "EC SHALL REPLACE EXISTING DEAD OUTLET WITH NEW. VERIFY OUTLET IS FUNCTIONAL OR REPLACE BRANCH CIRCUIT BACK TO PANEL"

a) Blacksheep Response: For this note the hope is that the outlet is dead, circuit is fine and once the outlet is replaced, everything will be fine. EC should plan on adding in pricing for replacing branch circuit from panel to be safe.

V. ATTACHMENTS

1) Form099SubstitutionRequest1-Valto FRP_reviewed.pdf

2) MSU Form099 Sub Molecular Bioscience Building-Rodda 099123_reviewed.pdf

3) MOIR_2326_add-2.pdf

4) (BA) MSU Molecular Bioscience Building_Elec Addendum 2.pdf

SUBSTITUTION REQUEST (PRIOR APPROVAL)

Project Title: Molecular Bioscience Building Renovation
Location: Bozeman, MT

PPA No: 22-0045

Owner: MONTANA STATE UNIVERSITY

Bidder (Sub-): CWallA

This request is submitted for the approval of the Architect. Bidder / Sub-Bidder shall submit one request in accordance with Bidders' Instructions and Information for each proposed substitution. All blanks are to be completed.

The material, system, or equipment defined by this Substitution Request is proposed as a replacement for the material, system, or equipment originally specified and defined as follows:

SECTION	PARAGRAPH	SPECIFIED MATERIAL, SYSTEM, OR EQUIPMENT
<u>2</u>	<u>1 & 2</u>	<u>FRP panels</u>

PROPOSED SUBSTITUTION: The material, system, or equipment being proposed is defined as follows:
Valto FRP panels 4 by 8 smooth white .09" , ASTM E84.

- What are the differences between the specified material, system, or equipment and the proposed substitution?
Does not support mold or mildew ASTM D3273/D3274.
- Does the proposed substitution require dimensional changes on the Construction Drawings? (Y/**N**)
- Does the proposed substitution require changes to the Work of other trades? (Y/**N**)
- Is the warranty for the proposed substitution comparable with that of the specified product? (**Y**/N)

By signing and submitting this request, the Bidder / Sub-Bidder represents that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified material, system, or equipment.

By signing and submitting this request, the Bidder / Sub-Bidder agrees to pay all costs, including architectural and engineering fees, associated with the incorporation of the proposed substitution into the Project.

SUBMITTED BY (BIDDER / SUB-BIDDER)

AUTHORIZED AGENT

DATE

Received:

DATE

Architect's Action: ☐ Rejected



Approved

☐ Rejected – For reasons as follows:

☐ Approved as noted:

08/27/2026

REVIEWED BY (ARCHITECT)

AUTHORIZED AGENT

DATE

SUBSTITUTION REQUEST (PRIOR APPROVAL)

Project Title: _____

PPA No: ____-____

Location: _____

Owner: **MONTANA STATE UNIVERSITY** Bidder (Sub-): _____

This request is submitted for the approval of the Architect. Bidder / Sub-Bidder shall submit one request in accordance with Bidders' Instructions and Information for each proposed substitution. All blanks are to be completed.

The material, system, or equipment defined by this Substitution Request is proposed as a replacement for the material, system, or equipment originally specified and defined as follows:

SECTION	PARAGRAPH	SPECIFIED MATERIAL, SYSTEM, OR EQUIPMENT
_____	_____	_____

PROPOSED SUBSTITUTION: The material, system, or equipment being proposed is defined as follows:

- What are the differences between the specified material, system, or equipment and the proposed substitution?

- Does the proposed substitution require dimensional changes on the Construction Drawings? (~~Y~~/N)
- Does the proposed substitution require changes to the Work of other trades? (~~Y~~/N)
- Is the warranty for the proposed substitution comparable with that of the specified product? (Y/~~N~~)

By signing and submitting this request, the Bidder / Sub-Bidder represents that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified material, system, or equipment.

By signing and submitting this request, the Bidder / Sub-Bidder agrees to pay all costs, including architectural and engineering fees, associated with the incorporation of the proposed substitution into the Project.

Rodda Paint Co.
SUBMITTED BY (BIDDER / SUB-BIDDER)

Jeff McIntyre Business Development Manager
AUTHORIZED AGENT

8/24/2026
DATE

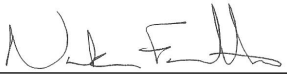
Received: _____
DATE

Architect's Action: ☐ Rejected

☐ Rejected – For reasons as follows:

☒ Approved

☐ Approved as noted:


REVIEWED BY (ARCHITECT)

AUTHORIZED AGENT

08/27/2026
DATE



Commercial • Industrial • Residential

TECHNICAL DATA SHEET

Interior Acrylic Latex

MASTER PAINTER ZERO

FLAT (4136 Series, previously 5136 Series)
 SATIN (4236 Series, previously 5236 Series)
 PEARL (4836, previously 5636 Series Series)
 EGGSHELL (4336 Series **NEW!**)
 LOW GLOSS (4436 Series, previously 5336 Series)
 SEMIGLOSS (4536 Series, previously 5436 Series)

DESCRIPTION

Master Painter ZERO is a high quality, water-borne, acrylic latex, interior paint with Zero VOC. Formulated for outstanding hide & coverage, exceptional flow & leveling and minimal spatter during application, Master Painter ZERO is a proven performer for Professionals and DIY homeowners. Designed to minimize surface imperfections Master Painter ZERO interior paint is washable for longer term service life of the paint. Advanced Zero VOC resin technology with virtually NO odor during application allows for use in occupied facilities. Uniform consistency and easy water clean-up delivered by the Master Painter ZERO line of interior paints affords application time advantages for the professionals, making it the trusted choice for Large/Commercial projects as well as a favorite for Residential applications.

INTENDED USE:

- This 'Best in Class' product is **designed** for Professional Contractors and Homeowners alike, for use on **interior surfaces** such as, properly prepared and primed Walls, including Gypsum Drywall & Plaster, or over Masonry and Primed Wood. It is ideal for routine color changes.

Coating Properties

Coating Category	Interior Acrylic Latex					
Package Size	Available in one gallon and five gallon pails.					
Viscosity	93 – 100 KU's					
MPI CERTIFICATIONS	FLAT (GL1) #53, #143	PEARL (GL2) -	SATIN (GL2) #44	EGGSHELL (GL3) #52	LOW GLOSS (GL4) #43	SEMIGLOSS (GL5) #54
VOC*	FLAT <2.0 g/L	PEARL <2.0 g/L	SATIN <2.0 g/L	EGGSHELL <2.0 g/L	LOW GLOSS <2.0 g/L	SEMIGLOSS <2.0 g/L
	LEED® v 4.1 VOC Compliant/Eligible for LEED® v4.1 credit					
Recommended Film Thickness per coat:	FLAT	PEARL	SATIN	EGGSHELL	LOW GLOSS	SEMIGLOSS
Wet Film	4.0 mils	4.0 mils	4.0 mils	4.0 mils	4.0 mils	4.0 mils
Dry Film	1.5 mils	1.5 mils	1.5 mils	1.5 mils	1.5 mils	1.5 mils

* **MAXIMUM VOC CONTENT 2 g/L (by ASTM Test Method D 6886) without Tint colorant. "Zero VOC" means "NO ORGANIC SOLVENTS ADDED."** Trace amounts of VOC may be present as residual components of other ingredients. Rodda Paint uses ZERO VOC Colorants; other additives may increase VOC emissions.

Test Results

Coating: MASTER PAINTER Interior Acrylic Latex (Flat, Pearl, Satin, Eggshell, Low Gloss and SemiGloss)	
Coverage Hide: Method: MPI 43, 44, 52, 53, 54, 143 Test Result: >98%	Application & Appearance: Method: MPI 43, 44, 52, 53, 54, 143 Test Result: Pass (Exceeded Requirement Finish)
Flexibility: Method: ASTM D522 (1/4" Mandrel) Result: Pass (1/4" bend)	Odor (Low/No Objectionable odor) Method: MPI Standard Test Result: Pass (NO/LOW Odor during Application & Drying)
Spatter Resistance: Method: ASTM D4707 Result: Excellent	Scrub Resistance: Method: ASTM D2486 Result: Pass (Exceeded Requirement for each Finish) With No shim, Non-abrasive media

MARKETS / END-USES:

- Commercial
- New Home Construction
- Multi-Family
- Maintenance
- Residential
- Re-Paint
- Facilities (Hospitals, Schools, Institutions)

SUBSTRATES:

Properly Prepared & Primed Interior:

- Gypsum Drywall
- Plaster
- Masonry – Brick, Pre-Cast, Cast-in-Place
- Wood
- Metals – Ferrous, Non-Ferrous

PRODUCT WEIGHT:

10.33 – 11.63 lb. per gallon
 (depending on the base)

SKU/GLOSS INFORMATION:

GLOSS LEVEL 1 - Non-reflective, exquisite, designer finish; Great for touch ups; Masks surface irregularities; Not for high traffic area;

FLAT

White Base: 413601
 Deep Base: 413603
 Neutral Base: 413604

GLOSS LEVEL 2 - Slight Sheen; Durable, Easy Clean; Provides depth of color; Most specified wall finish;

SATIN PEARL

White Base: 423601 483601
 Hi-Hide White Base: 423611 -
 Deep Base: 423603 483603
 Neutral Base: 423604 483604

GLOSS LEVEL 3 - Glossier, Durable, Easier clean; Brings greater warmth/depth to surfaces; resists stains; ideal for areas with traffic;

EGGSHELL

White Base: 433601
 Deep Base: 433603
 Neutral Base: 433604

GLOSS LEVEL 4 – Glossier appearance; Good cleaning properties; Ideal for higher traffic & moisture areas;

LOW GLOSS

White Base: 443601
 Deep Base: 443603 (MTO Only)
 Neutral Base: 443604 (MTO Only)

GLOSS LEVEL 5 – Higher Gloss, Maximum Durability; Good stain resistance/easy to clean; Ideal for Areas that Take a Lot of abuse and Higher Moisture areas;

SEMIGLOSS

White Base: 453601
 Deep Base: 453603
 Neutral Base: 453604

TINT COLORANT TYPE:

Universal/ZERO VOC Colorant

TINT LOAD CAPACITY:

Check with your Rodda Paint Store/Rep for tinting information



Rodda Paint Company
 6107 North Marine Drive, Portland, Oregon 97203, USA
 1.800.452.2315
www.rodmapaint.com



Formulated and Manufactured
 in Portland, Oregon, USA

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Revised: 5/4/2026



TECHNICAL DATA SHEET

Commercial • Industrial • Residential

COVERAGE INFORMATION

VOLUME Solids – WHITE Base Variation by Base/Color	Flat 37% +/-2%	Pearl 38% +/-2%	Satin 37% +/-2%	Eggshell 37% +/-2%	Low Gloss 36% +/-2%	SemiGloss 36% +/-2%
WEIGHT Solids – WHITE Base Variation by Base/Color	Flat 50% +/-2%	Pearl 53% +/-2%	Satin 50% +/-2%	Eggshell 49% +/-2%	Low Gloss 47% +/-2%	SemiGloss 47% +/-2%
Finish: Gloss (@60°) Sheen (@85°)	Flat 2 - 3 1 - 2	Pearl 3 - 5 14 - 25	Satin 6 - 10 20 - 35	Eggshell 10 - 20 25 - 35	Low Gloss 20 - 28 57 - 66	SemiGloss 36 - 44 75+
Applied Coverage	370-420 Sq. ft. /gal Note: Actual coverage may vary depending on substrate, application methods and specified wet and dry film thickness Coverage will be less on more porous or textured surfaces Please contact your Sales Representative for specific project recommendations					
Shelf Life	Maximum Shelf Life of 3 Years when stored in unopened container					
Storage Temperature	Store indoors at 40F – 90F. Keep from Freezing					

APPLICATION PARAMETERS

Relative Humidity Restrictions	Do not exceed 90% during application or curing phase
Minimum Application Temperature	50F (substrate)
Maximum Application Temperature	95F (substrate)
Application & Curing Information Dry to Touch : Dry to Recoat :	At 77F and 50% Relative Humidity: 30 minutes 2 - 3 hours Note: Film thickness, temperature, humidity and air movement will affect dry/cure times
Technical Notes	• Not Recommended for application when the relative humidity is above 85% • Ambient temperatures should be between 50 - 95F • Superior performance will result from properly priming (see Surface Preparation section) • FOR INTERIOR USE. Not Recommended For Floors.

COATING RECOMMENDATION:

- Apply **two** coats over properly prepared surfaces

NOTE: Air, surface and product temperature must be at 50F-95F during application and drying

MIXING:

- Stir thoroughly to a uniform consistency
- For multiple containers, mix paint together for color consistency
- Approve Color Prior To Application

NOTE: Color chip approximates the color

THINNING/REDUCERS:

- Ideally do not thin.
- In hot environments, it may be necessary to add clean tap water to improve performance/workability for spray use – Can be thinned sparingly with clean/potable tap water for spray application
- Use least amount of reducer to provide desired workability,

NOTE: Excessive reduction with water can reduce sag resistance during application

APPLICATOR INFORMATION:

BRUSH:

Use a polyester brush

ROLLER COVER:

Use a 3/8" – 3/4" nap synthetic cover depending on the degree of texture of the surface to be painted

AIRLESS SPRAY:

Pressure 2,000 psi
Tip: .015 to .021
Back roll with spray application

CLEANING:

- Immediately wipe up any drips or spatters with a damp cloth
- Clean application tools immediately after use with warm soapy water and rinse thoroughly
 - If pausing for a break, wrap wet applicator in plastic wrap or seal in a poly bag
 - Prevent rusting of spray equipment – flush with a compliant cleanup solvent after cleaning

NOTE: Follow manufacturer's safety recommendations when using solvents



Rodda Paint Company
6107 North Marine Drive, Portland, Oregon 97203, USA
1.800.452.2315
www.rodmapaint.com



Formulated and Manufactured
in Portland, Oregon, USA

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TECHNICAL DATA SHEET

Commercial • Industrial • Residential

SUBSTRATES AND SURFACE PREPARATION

SURFACE PREPARATION IS IMPORTANT - All surfaces must be of uniform porosity, clean, dry and free of mildew, grease, chalk, soap film, sanding dust or other contaminants

- Remove all loose or peeling material from previously painted surfaces
- Wash with an appropriate cleaner/mild detergent and water solution, rinse thoroughly and allow to dry
- Ensure all substrates to be coated are free of Mildew, Mold, Algae or other biological contaminants
 - Wash with a cleaner such as JOMAX or bleach/water (1:3) solution - Apply the solution, scrub the mildewed area, allow solution to remain on the surface for 10 minutes, rinse thoroughly and allow to dry
- Repair all surface imperfections, holes and other voids with appropriate patching compound or elastomeric sealant.
- On glossy or smooth surfaces, scuff sand using appropriate sandpaper to provide a uniformly dulled appearance
- Remove all sanding dust and debris prior to painting
- Do not apply at ambient or substrate temperatures below 50F
- Surface preparation and cleanup can compromise the longevity of the application

PVC BUILDING PRODUCTS:

- Repair all surface defects with proper patching compounds and allow to dry.
- Remove all sanding dust and debris prior to priming and painting.

FERROUS METAL:

- Clean metal of any contaminants by pressure washing or solvent wiping in accordance with SSPC-SP-1. At a minimum, power tool clean the metal per SSPC-SP-3 being careful not to polish the metal.
 - Wire Wheeling should be avoided to prevent polishing the metal
- Properly prepared metal surface should have appropriate sharp & angular profile for the paint to mechanically bond.
- All corrosion must be removed with sandpaper, wire brush or other abrasion method.
- Prime all properly prepared ferrous metal with suitable primer after proper surface preparation to prevent flash rusting and improve adhesion performance.

NON-FERROUS METAL & FIBERGLASS:

- Clean the metal/fiberglass surface of any contaminants such as oil, grease, mold release or dirt.
- At a minimum, scuff sand the metal or fiberglass surface with appropriate sandpaper to provide a uniformly dulled surface with adequate surface profile and remove sanding dust prior to painting.
- Apply a bonding primer suitable for the metal and fiberglass substrates.

SURFACE PREP FOR UNPAINTED MASONRY:

- Remove all surface contamination, form release agents, moisture curing membranes, mildew, efflorescence, etc. by washing with an appropriate cleaner. Then rinse and allow to dry.
- Do not apply to damp or wet surfaces.
- Concrete or mortar needs to be cured approximately 30 days at 70F.
- Prime all properly prepared cementitious substrates with a suitable primer.
- For porous CMU substrates use appropriate block filler and back roll to fill voids.
 - Do not apply block filler to smooth surfaces as peeling may occur.

NEW OR BARE WOOD:

- Remove mill glaze and expose fresh wood cells prior to applying appropriate wood sealer or primer. Use chemical solution or sand with appropriate sandpaper.
- Remove sanding dust prior to application of sealer or primer.
- Seal with correct primer for wood substrates.

PRE-PAINTED SURFACES:

- Wash with a mild detergent and water solution. Rinse thoroughly, allow to dry thoroughly.
- All glossy or hard smooth surfaces should be scuff sanded using appropriate sandpaper to provide a uniformly dull appearance on all substrates.
- Remove all sanding dust prior to priming... Prime all bare substrates with a suitable primer prior to painting.

WARNING! If you scrape, sand or remove old paint from any surface you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN.

PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a **NIOSH** approved respirator to control lead exposure. Carefully clean up with a wet mop or HEPA vacuum. For additional information on surfaces that may contain lead paint, contact the U.S. EPA / Lead Information Hotline at **1.800.424.LEAD (5323)**.

PRIMER RECOMMENDATION:

- For **optimal** hide and color representation use Rodda Paint's 501601 PrimeSolutions First Coat Primer or a suitable primer for the substrate

- For **drastic** color changes it is **imperative** to use a coat of gray based primer for the best hide performance and color representation

Gypsum Wallboard:

501601 Prime Solutions First Coat Primer, 503601 Master Painter Roseal Primer or suitable primer

Steel (Ferrous Metal):

4087 Series Metal Master, 708225 Barrier III HS Metal Primer

Galvanized Metal:

4087 Series Metal Master, 501601 Prime Solutions First Coat Primer

Aluminum (non-ferrous metal):

83020 ClovaPrep Epoxy, 83060 Vinyl Wash Primer or 501601 Prime Solutions First Coat Primer or 4087 Series Metal Master

Rusted Metal:

CorroSeal Rust Converter or 708225 Barrier III HS Metal Primer

Fiberglass, Doors, PVC Building Products:

501601 Prime Solutions First Coat Primer or suitable bonding primer

Concrete, New Masonry, New Masonry Block, Plaster:

501601 Prime Solutions First Coat Primer or 512301 pHlex-tite Primer

Porous Masonry Block:

Fill voids with 501901 Sprayable Block Filler

Dry New Wood, Plywood T-111:

501601 Prime Solutions First Coat Primer

NOTE: If tannin staining appears on cedar/redwood, apply a 2nd coat of PrimeSolutions First Coat Primer and allow to dry thoroughly (24-48 hours) before top coating

CAULKING RECOMMENDATION:

- Repair surface using an appropriate filler – make sure to fill cracks, holes, voids and any irregularities
- Fill all gaps between windows, doors, trim, etc. with the appropriate caulk
- Allow the Caulk to dry as per the appropriate drying time before application of the paint
 - RODDA PROPlus Siliconized Acrylic Sealant
 - Pro Stretch Acrylic Urethane Elastomeric Sealant

NOTE: Check with your Rodda Paint store or Sales Representative for specific advice



Rodda Paint Company
6107 North Marine Drive, Portland, Oregon 97203, USA
1.800.452.2315
www.rodmapaint.com



Formulated and Manufactured
in Portland, Oregon, USA

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Revised: 5/4/2026



TECHNICAL DATA SHEET

Commercial • Industrial • Residential

SAFETY PRECAUTION

Safety Precautions: For detailed information please refer to this product's safety data sheet (SDS) – A copy of which can be found on our website, www.rodmapaint.com under Products/Product Data Sheets and SDS

First Aid: In case of eye contact, flush immediately with plenty of water for at least 15 minutes. Wash contaminated skin with soap and water. If ingested, call physician or the Poison Control Center immediately.

UPDATES/AMENDMENTS

Please visit www.rodmapaint.com for the most recent versions of Technical Data Sheets and Safety Data Sheets

LIMITATION OF LIABILITY

To the best of our knowledge, the technical data contained herein are true and accurate at the time of issuance but are subject to change without prior notice. We guarantee our product to conform to the specifications contained herein. All technical advice, recommendations and services regarding this product are rendered by the Seller gratis.

They are based on technical data which the Seller believes to be reliable and are intended for use by persons having skill and know-how, at their discretion and risk. Seller assumes no responsibility for results obtained or damages incurred from this product use by Buyer whether as recommended herein or otherwise. Such recommendations, technical advice or services are not to be taken as a license to operate under or suggest infringement of any patent.

WARRANTY

Rodda Paint Co. manufactures quality products and warrants its product to be free from defects in materials and workmanship. In the event that this product is defective or in any way unsuitable for the application for which it was sold, Rodda Paint Co. will REPLACE ANY PRODUCT PROVED TO BE DEFECTIVE free of charge OR REFUND THE ORIGINAL PURCHASE PRICE OF THE QUANTITY PROVED. This warranty is the only guarantee of quality made in respect of this product by Rodda Paint Co. By purchasing this product the customer accepts this warranty in lieu of all others, and waives all claims to any other remedy arising from any warranty or guarantee of quality, whether such warranty or guarantee of quality was made expressly to the customer or implied by any applicable law.

TO BE DEFECTIVE – Requests for refund or replacement of product must be made in writing within one year from the original date of purchase. This Warranty does not apply to defects due, directly or indirectly, to misuse, abuse, negligent application, or acts of God.

Rodda Paint. WILL NOT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCT, INCLUDING DOWNTIME OR LOSS OF USE OF PRODUCT.

All data, statements, and recommendations made herein are based upon information we believe to be reliable, but are made without any representation, guarantee or warranty of accuracy. Our products are sold on the condition that the user themselves will evaluate them, as well as our recommendations, to determine the suitability for their own purpose before adoption. Also, statements regarding the use of our products or processes are not to be construed as recommendations for their use in violation of any patent rights or in violation of any applicable laws or regulations.

See your Rodda Sales Rep or Store Manager for details.

READ LABEL AND SAFETY DATA SHEET PRIOR TO USE!

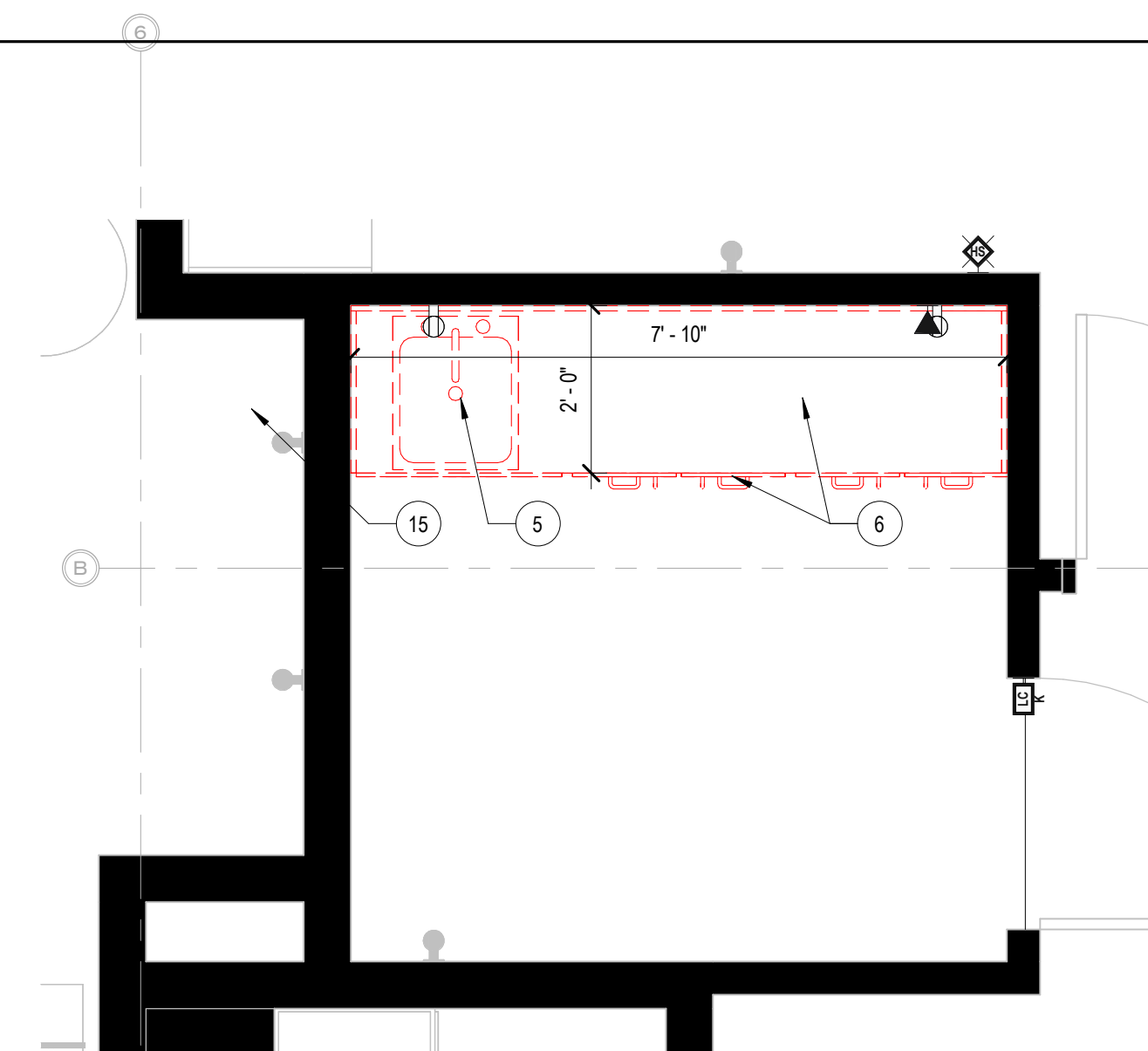


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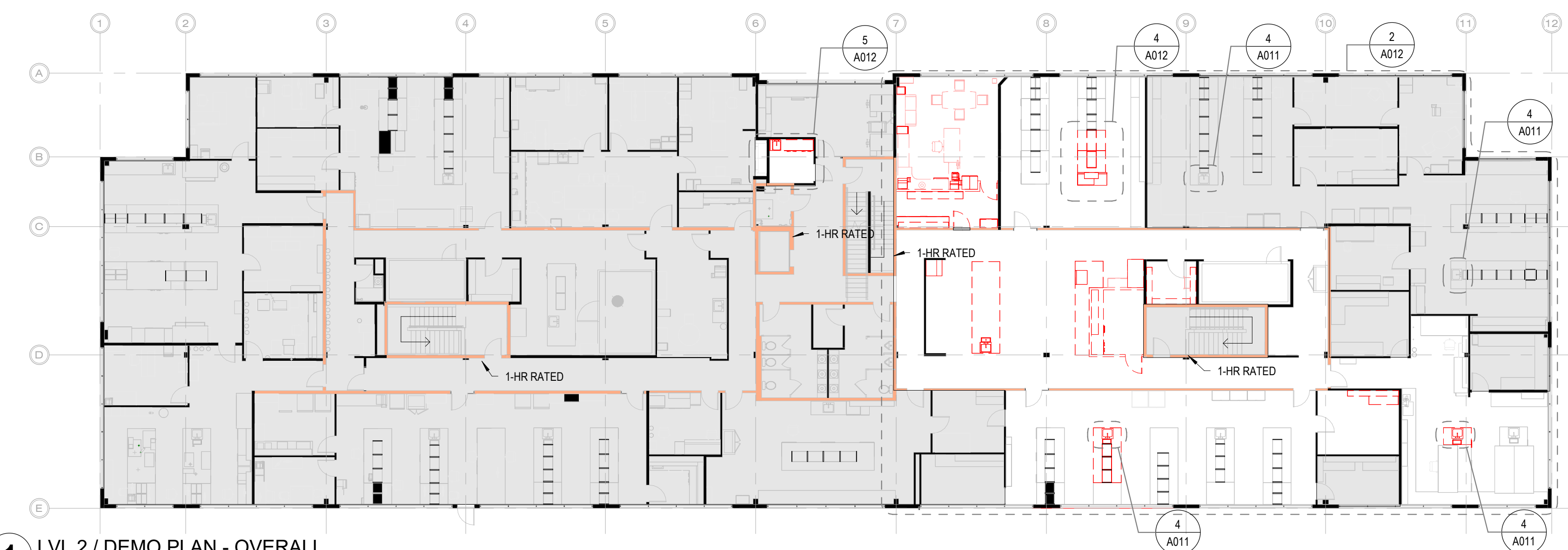


Formulated and Manufactured
in Portland, Oregon, USA

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Created: 1/20/2021
Revised: 5/4/2026



5 L2 - DATA CLOSET REMODEL1
SCALE: 1/2" = 1'-0"



1 LVL 2 / DEMO PLAN - OVERALL
SCALE: 1/16" = 1'-0"



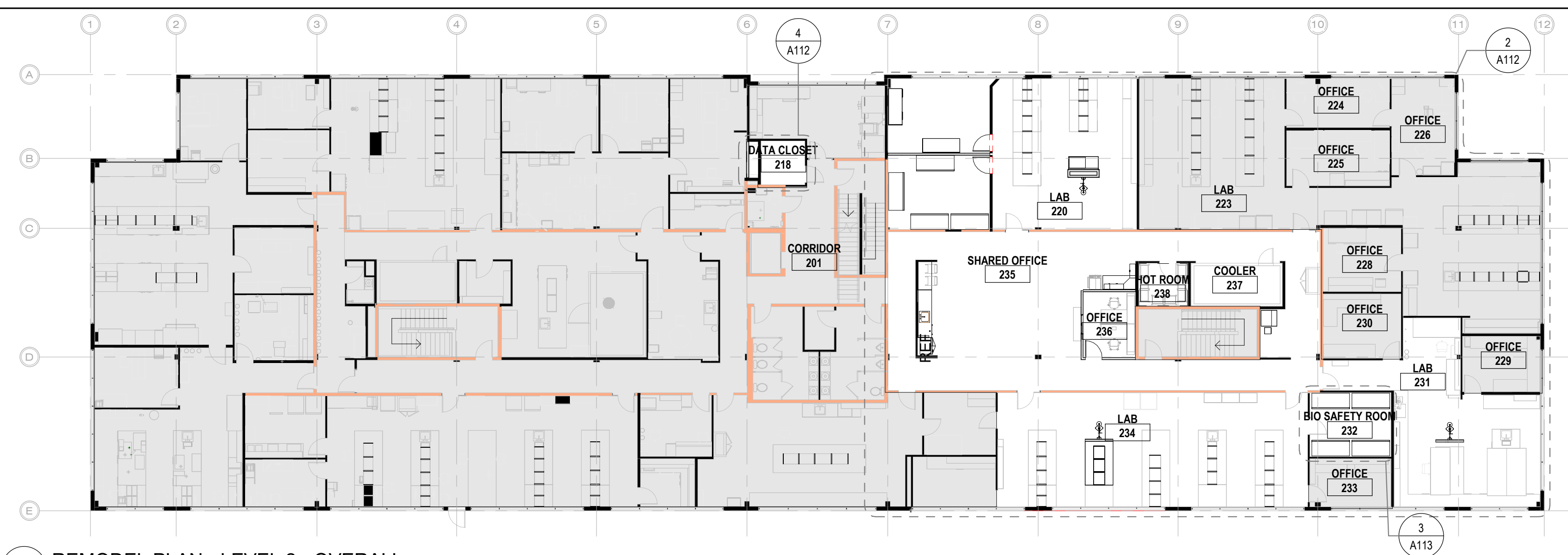
2 L2 / DEMO ENLARGED PLAN - SHARED OFFICE
SCALE: 1/4" = 1'-0"

	(E) WALL/ITEM TO BE DEMOLISHED
	(E) WALL/ITEM TO REMAIN
	NOT IN SCOPE OF WORK - EXISTING TO REMAIN

A	DRAWINGS COMMUNICATE DESIGN INTENT ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS AND CONTRACTOR SHALL CONTACT ARCHITECT WITH ANY DISCREPANCIES PRIOR TO COMMENCING WORK
B	CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL PERMITS PRIOR TO COMMENCEMENT OF ANY AND ALL DEMOLITION WORK.
C	CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING AND PLACEMENT OF TEMPORARY STRUCTURES FOR EXISTING MECHANICAL COMPONENTS.
D	CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF ANY, AND ALL DEMOLITION WORK.
E	CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE OCCURRING DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. ALSO, CONTRACTOR SHALL PREP AND MATCH DEMOLISHED SURFACES, AND THEN INSTALL MATCHING FINISHES AS REQUIRED.
F	CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL WASTE LEGALLY AND CONTRACTOR SHALL HAVE IT DOCUMENTED. THE OWNER RESERVES THE RIGHT TO RETAIN ANY REMOVED ITEMS. ITEMS REQUESTED TO BE RETAINED BY THE OWNER WILL BE IDENTIFIED DURING THE PRE-CONSTRUCTION MEETING, AS WELL AS IDENTIFYING A LOCATION ON SITE FOR STORAGE OF REQUESTED ITEMS).
G	CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ARCHITECT OF ANY EXISTING MATERIALS TO REMAIN THAT HAVE BEEN UNCOVERED AND SHOWS SIGNS OF OTHER DAMAGE (MOLD, AND/OR DETEIORATION).
H	ALL EXISTING CEILING TILES & GROSIS SHALL BE REMOVED. REINSTATE CEILING TILES THAT ARE IN GOOD CONDITION.
I	ALL EXISTING FINISH FLOORING SHALL BE PREPARED AS NECESSARY FOR REMODEL.
J	REFER TO THE MECHANICAL DRAWINGS FOR HVAC DEMOLITION
K	REFER TO THE ELECTRICAL DRAWINGS FOR LIGHTING FIXTURES & ELECTRICAL OUTLETS / SWITCHES TO BE REMOVED

NO.	NOTE DESCRIPTION
1	ROOM LAYOUT TO SAY AS IS
5	DEMO SINK
6	DEMO COUNTERTOP/CASEWORK/SHELVING
8	REMOVE SHELVING & RETAIN FOR REINSTALLATION
10	DEMO WALLS OF EXISTING CHASE TO EXPOSE MEP
11	REMOVE SINK AND RETAIN FOR REINSTALLATION PER REMODEL PLANS
12	DEMO WALL
13	DEMO WALL OF EXISTING CHASE & MEP. PERROUTE PER MECHANICAL
14	REMOVE FLOOR MACHINE, RELOCATE PER REMODEL DRAWINGS
15	PREP FLOOR FOR NEW PAVEMENTATION
16	EXISTING DOOR TO BE REMOVED & RELOCATED
17	DEMO SECTION OF WALL FOR NEW DOORS

100% CONSTRUCTION DOCUMENTS



1 REMODEL PLAN - LEVEL 2 - OVERALL
SCALE: 1/16" = 1'-0"

SHADING LEGEND

- NOT IN SCOPE OF WORK - EXISTING TO REMAIN
- 1 HR FIRE RATED ASSEMBLY

GENERAL FLOOR PLAN NOTES

- A SEE G113 FOR PARTITIONS & ASSEMBLIES.
- B DIMENSIONS ARE TO F.O. STUD, F.O. CONCRETE, OR CENTERLINE OF COLUMN.
- C USE WRITTEN DIMENSIONS. DO NOT SCALE DRAWINGS. WHERE NO DIMENSION IS PROVIDED, CONSULT THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- D FRAMING CONTRACTOR IS TO COORDINATE LOCATION AND INSTALL ADEQUATE BLOCKING FOR ALL OWNER AND CONTRACTOR SUPPLIED EQUIPMENT.
- E ALL MATERIAL AND FINISHES ARE TO BE AS SPECIFIED, OR APPROVED EQUAL.
- F CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS SHOWING ANY CHANGES TO PLANS AND DIMENSIONING.

PARTITION NOTES

- A GWB FINISH & TEXTURE:
• TYPICAL GWB FINISH SHALL BE LEVEL 4 WITH LIGHT HAND TROWEL TEXTURE.
• UNLESS NOTED OTHERWISE.
- B SOUND ATTENUATION AT SOUND WALLS:
• LEAVE 1/4" GAP AT ALL EDGES OF GWB ABUTTING PERPENDICULAR SURFACES AND FILL GAP WITH ACOUSTICAL SEALANT.
• APPLY 1/4" BEAD ACOUSTICAL SEALANT AROUND ALL ELECTRICAL BOXES, DUCTWORK, PIPES & OTHER WALL PENETRATIONS (THIS INCLUDES ALL PENETRATIONS OF SOUND WALLS IN CONCEALED CEILING SPACES).
- C MOLD RESISTANCE:
• INSTALL 5/8" MOLD RESISTANT GWB AT ALL WALLS & CEILINGS OF BATHROOMS WITH SHOWERS.
• INSTALL 6 MIL VAPOR RETARDER IMMEDIATELY BEHIND GYP @ WET SIDE OF ROOM.
- D COORDINATION:
• CONTRACTOR RESPONSIBLE FOR COORDINATING INSTALLATION OF SOUND ISOLATION CLIPS AND SHEAR WALL PLYWOOD WITH ALL OTHER TRADES.
- E CONTINUITY:
• EXTEND PARTITIONS TO UNDERSIDE OF FLOOR OR ROOF STRUCTURE ABOVE UNLESS NOTED OTHERWISE.
• AT WALL, GWB AND SOUND INSULATION SHALL EXTEND TO THE UNDERSIDE OF THE SUBFLOOR OR TO THE ROOF'S SHEATHING ABOVE, TYPICAL.
• FOR WALLS PERPENDICULAR TO THE STRUCTURE, BLOCKING SHALL BE INSTALLED OVER PARTITIONS, AND THE ENTIRE PERIMETER OF BLOCKING SHALL BE CAULKED WITH ACOUSTICAL SEALANT. SOUND INSULATION SHALL EXTEND UP INTO JOIST BAYS TYPICAL AT ALL SOUND WALLS.
• AT GROUND FLOOR TENANT LEASE SPACES, INSTALL GWB AT EXTERIOR PERIMETER WALLS AND DEMISING WALLS BETWEEN UNITS 9' BELOW BOTTOM OF SUSPENSION GRID ONLY.
- F SILL PLATES @ CONCRETE:
• EXTERIOR AND INTERIOR WALLS FRAMED OVER CONCRETE SLAB SHALL HAVE A SINGLE P.T. SILL PLATE, TYPICAL.

INSULATION REQUIREMENTS

CONTRACTOR SHALL BE RESPONSIBLE FOR INSULATING THE RESIDENCE IN ACCORDANCE WITH THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) INCLUDING ALL MONTANA AMENDMENTS.

APPLICABLE PRESCRIPTIVE PATH MINIMUM REQUIREMENTS:

ROOFS	
INSUL ENTIRELY ABOVE ROOF DECK:	R-30 CI
METAL BUILDINGS:	R-25 + R-11 LS
ATTIC AND OTHER:	R-48
WALLS ABOVE GRADE	
MASS:	R-13.3 CI
METAL BUILDING:	R-13 + R-14 CI
METAL FRAMED:	R-13 + R-12.5 CI
WOOD FRAMED AND OTHER:	R-13 + R-7.5 CI OR R-20 + R-3.8 CI
WALLS BELOW GRADE:	R-10 CI
FLOORS	
MASS:	R-16.7 CI
JOIST FRAMING:	R-38
SLAB-ON-GRADE FLOORS	
UNHEATED SLABS:	R-20 FOR 24" BELOW
HEATED SLABS:	R-15 FOR 38" BELOW +R-5 FULL SLAB

NOTE: A RESCHECK ANALYSIS MAY ALLOW LOWER R-VALUES (R-10 MIN.)

REMODEL FP KEYED NOTES

NO.	NOTE DESCRIPTION
1	ROOM LAYOUT TO STAY AS IS
3	COUNTERTOP AND CASEWORK TO REMAIN, REPAIR DAMAGES AS NEEDED
5	EMERGENCY EYE WASH/SHOWER STATION. EMERGENCY FIXTURES ARE TO BE PROVIDED WITH TEMPERED WATER SYSTEMS WITH ADEQUATE CAPACITY TO PROVIDE REQUIRED TEMPERATURE OF WATER FOR REQUIRED LENGTH OF TIME PER ANSI GUIDELINES. SEE PLUMBING.
6	DEEP CLEAN, PATCH & PAINT AS NEEDED
7	DEEP CLEAN COOLER
9	IT/DATA CONNECTION TO BE COORDINATED WITH OWNER, SEE ELEC
10	FURNITURE BY OWNER
11	SE-1 SPECIALTY LAB EQUIPMENT BY OWNER
14	PATCH FLOOR
15	REINSTALL SINK, SEE PLUMBING
16	INSTALL NEW COUNTERTOP
17	REINSTALL SHELVING
18	POWER NEEDED FOR 3RD PARTY ISP. APPLY 3/4" PLYWOOD FROM BASE WALL TO T.O. FLOOR DECKING ABOVE. FINISH TO BE FIRE-RATED PAINT.
20	UT/DATA JACK, ASSUMED 2 CAT6 CABLES UNLESS OTHERWISE SPECIFIC. 1-1/4" CONDUIT FROM SINGLE GANG BOX UP TO J-HOOKS EVERY 4' OR CABLE TRAY LEADING TO TELECOMM ROOM. SEE ELEC.
21	PROVIDE TWO DATA CABLES PER WORK STATION, SUPPLY FROM OVERHEAD
22	CABLE TRAY, 12" WIDE PERIMETER, 18" WIDE CENTER
23	DOOR RELOCATED
24	INFIL DOOR OPENING, PATCH WALL BASE / FLOORING

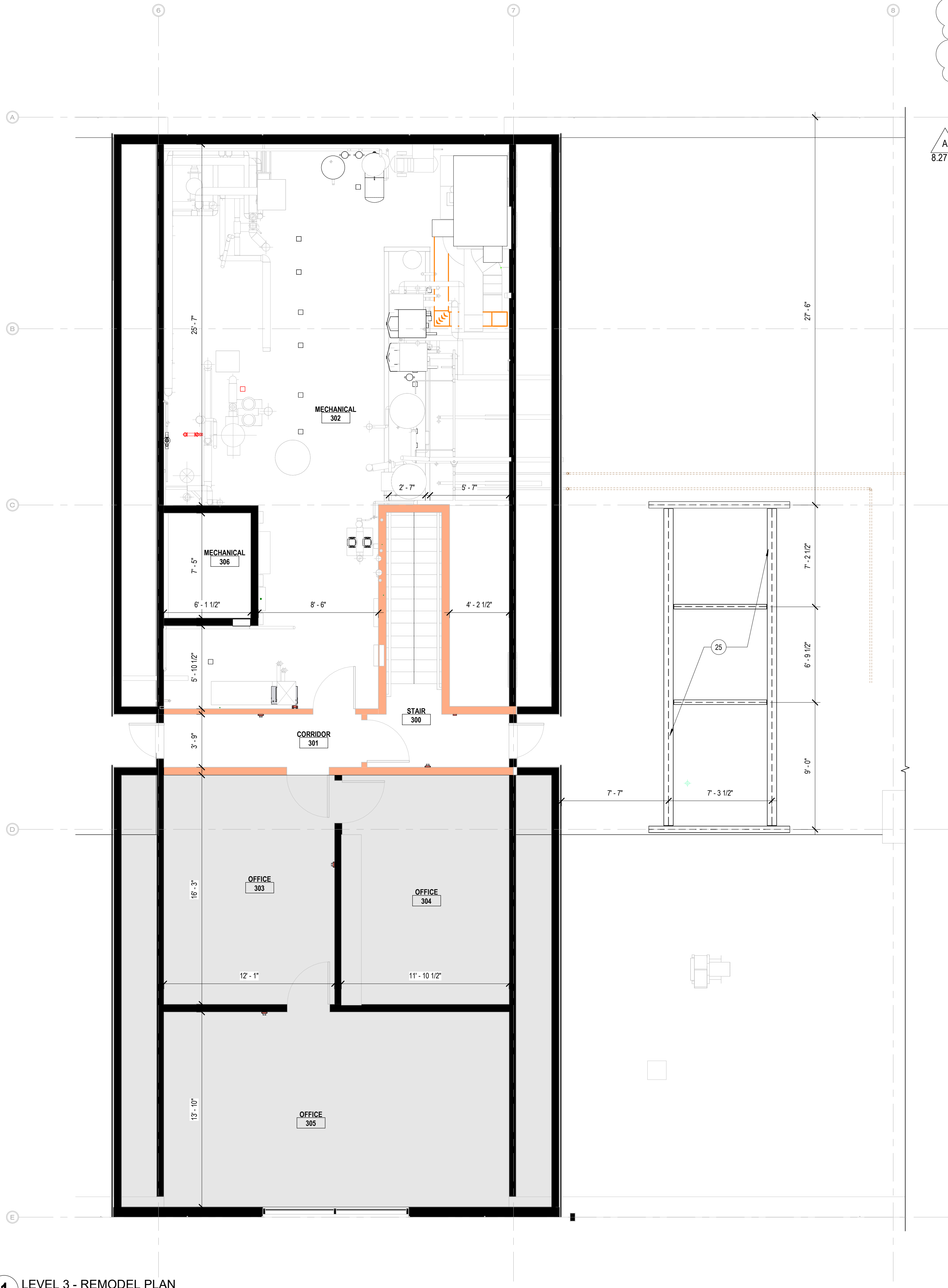
3 LAB - SHOWER & EYEWASH STATION
SCALE: 1/2" = 1'-0"

4 L2 - DATA CLOSET REMODEL
SCALE: 1/2" = 1'-0"

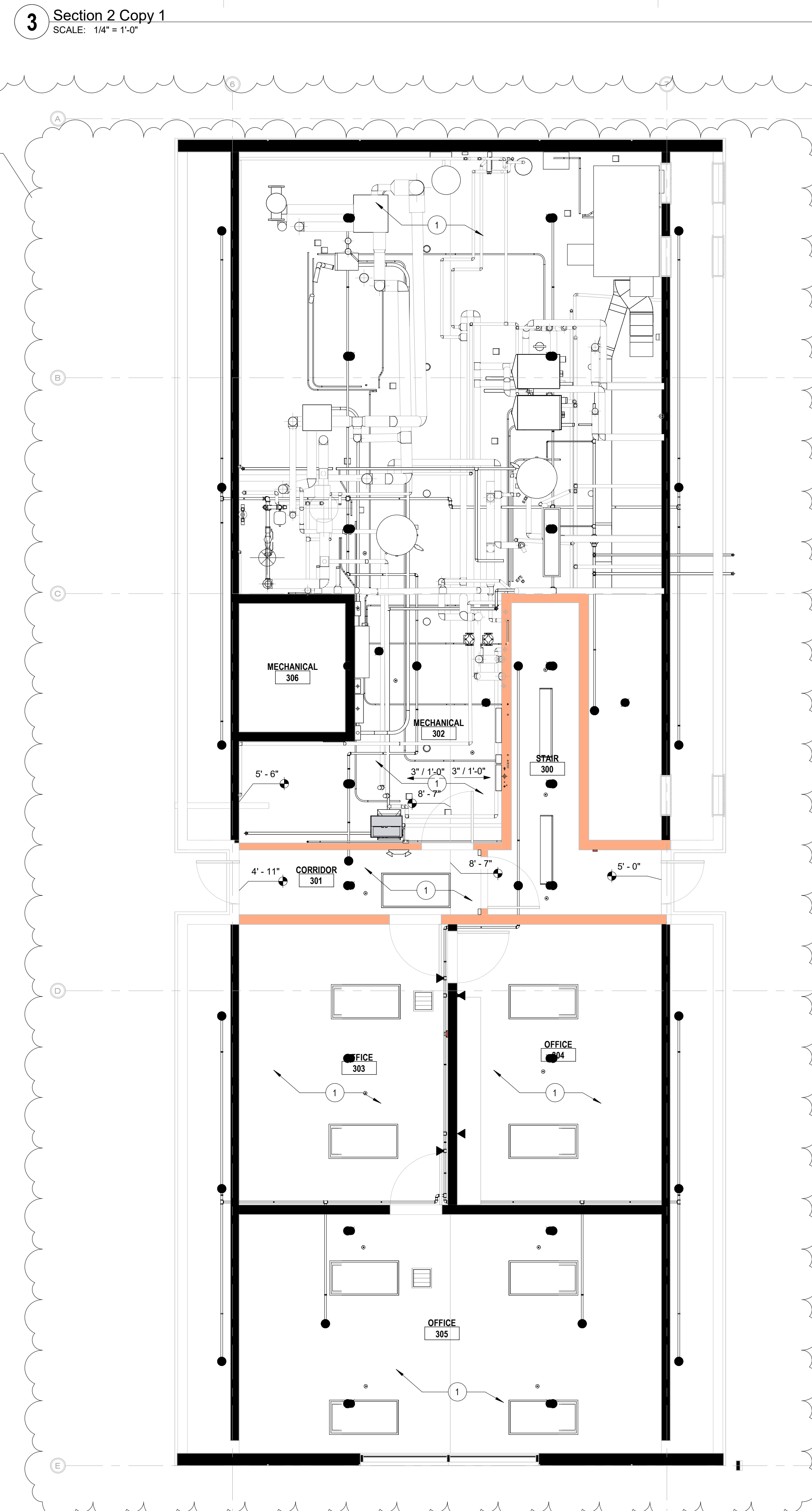


2 L2 - REMODEL PLAN - SHARED OFFICE
SCALE: 1/4" = 1'-0"

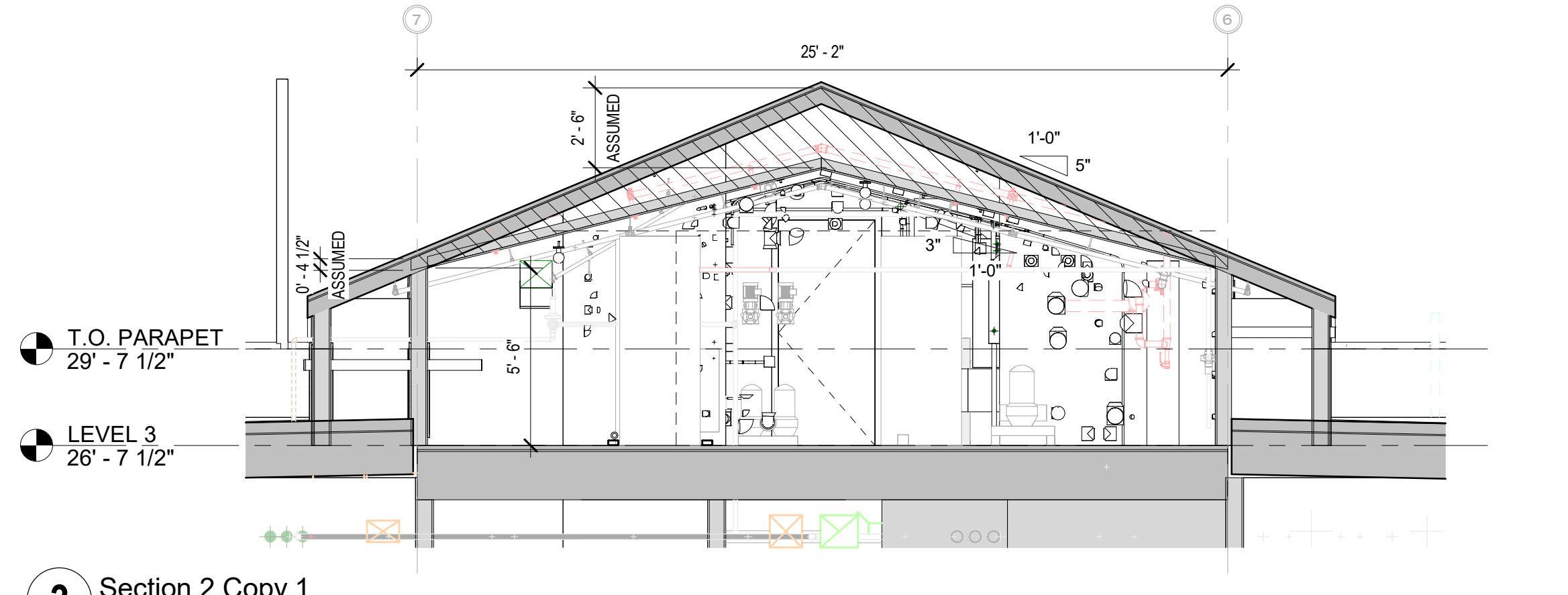




1 LEVEL 3 - REMODEL PLAN
SCALE: 1/4" = 1'-0"



2 LEVEL 3 - REMODEL RCP
SCALE: 1/4" = 1'-0"



3 Section 2 Copy 1
SCALE: 1/4" = 1'-0"

SHADING LEGEND

	NOT IN SCOPE OF WORK - EXISTING TO REMAIN
	1 HR FIRE RATED ASSEMBLY

GENERAL FLOOR PLAN NOTES

- A SEE G113 FOR PARTITIONS & ASSEMBLIES.
- B DIMENSIONS ARE TO F.O. STUD, F.O. CONCRETE, OR CENTERLINE OF COLUMN.
- C USE WRITTEN DIMENSIONS. DO NOT SCALE DRAWINGS. WHERE NO DIMENSION IS PROVIDED, CONSULT THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- D FRAMING CONTRACTOR IS TO COORDINATE LOCATION AND INSTALL ADEQUATE BLOCKING FOR ALL OWNER AND CONTRACTOR SUPPLIED EQUIPMENT.
- E ALL MATERIAL AND FINISHES ARE TO BE AS SPECIFIED, OR APPROVED EQUAL.
- F CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS SHOWING ANY CHANGES TO PLANS AND DIMENSIONING.

PARTITION NOTES

- A GWB FINISH & TEXTURE:
• TYPICAL GWB FINISH SHALL BE LEVEL 4 WITH LIGHT HAND TROWEL TEXTURE.
- B SOUND ATTENUATION AT SOUND WALLS:
• LEAVE 1/4" GAP AT ALL EDGES OF GWB ABUTTING PERPENDICULAR SURFACES AND FILL GAP WITH ACOUSTICAL SEALANT.
• APPLY 1/4" BEAD ACOUSTICAL SEALANT AROUND ALL ELECTRICAL BOXES, DUCTWORK, PIPES & OTHER WALL PENETRATIONS (THIS INCLUDES ALL PENETRATIONS OF SOUND WALLS IN CONCEALED CEILING SPACES)
- C MOLD RESISTANCE:
• INSTALL 5/8" MOLD RESISTANT GWB AT ALL WALLS & CEILINGS OF BATHROOMS WITH SHOWERS.
• INSTALL 6 MIL. VAPOR RETARDER IMMEDIATELY BEHIND GYP @ WET SIDE OF ROOM.
- D COORDINATION:
• CONTRACTOR RESPONSIBLE FOR COORDINATING INSTALLATION OF SOUND ISOLATION CLIPS AND SHEAR WALL PLYWOOD WITH ALL OTHER TRADES.
- E CONTINUITY:
• EXTEND PARTITIONS TO UNDERSIDE OF FLOOR OR ROOF STRUCTURE ABOVE UNLESS NOTED OTHERWISE.
• AT WALL, GWB AND SOUND INSULATION SHALL EXTEND TO THE UNDERSIDE OF THE SUBFLOOR OR TO THE ROOF'S SHEATHING ABOVE, TYPICAL.
• FOR WALLS PERPENDICULAR TO THE STRUCTURE, BLOCKING SHALL BE INSTALLED OVER PARTITIONS, AND THE ENTIRE PERIMETER OF BLOCKING SHALL BE CAULKED WITH ACOUSTICAL SEALANT. SOUND INSULATION SHALL EXTEND UP INTO JOIST BAYS TYPICAL AT ALL SOUND WALLS.
• AT GROUND FLOOR TENANT LEASE SPACES, INSTALL GWB AT EXTERIOR PERIMETER WALLS AND DEMISING WALLS BETWEEN UNITS 6' BELOW BOTTOM OF SUSPENSION GRID ONLY.
- F SILL PLATES @ CONCRETE:
• EXTERIOR AND INTERIOR WALLS FRAMED OVER CONCRETE SLAB SHALL HAVE A SINGLE P.T. SILL PLATE, TYPICAL.

GENERAL RCP NOTES

- A SEE G116 FOR PARTITIONS & ASSEMBLIES
- B DIMENSIONS ARE TO F.O. OF STRUCTURE
- C USE WRITTEN DIMENSIONS. DO NOT SCALE DRAWINGS. WHERE NO DIMENSION IS PROVIDED, CONSULT THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- D FRAMING CONTRACTOR IS TO COORDINATE LOCATION AND INSTALL ADEQUATE BLOCKING FOR ALL OWNER AND CONTRACTOR SUPPLIED EQUIPMENT.
- E ALL MATERIAL AND FINISHES ARE TO BE AS SPECIFIED, OR APPROVED EQUAL.
- F CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS SHOWING ANY CHANGES TO PLANS AND DIMENSIONING.
- G ALL CEILING TILES AND GRIDS TO BE RE-INSTALLED TO ORIGINAL LOCATIONS / LAYOUTS

REMODEL RCP KEYED NOTES

NO.	NOTE DESCRIPTION
1	PROVIDE BLOW-IN INSULATION TO FILL (E) ATTIC SPACE. SEE SECTION 3/A123 FOR ASSUMED ATTIC SPACE

REMODEL FP KEYED NOTES

NO.	NOTE DESCRIPTION
25	NEW STEEL FRAME FOR CHILLER, SEE STRUCT. REPORT & DETAILING

REFLECTED CEILING LEGEND

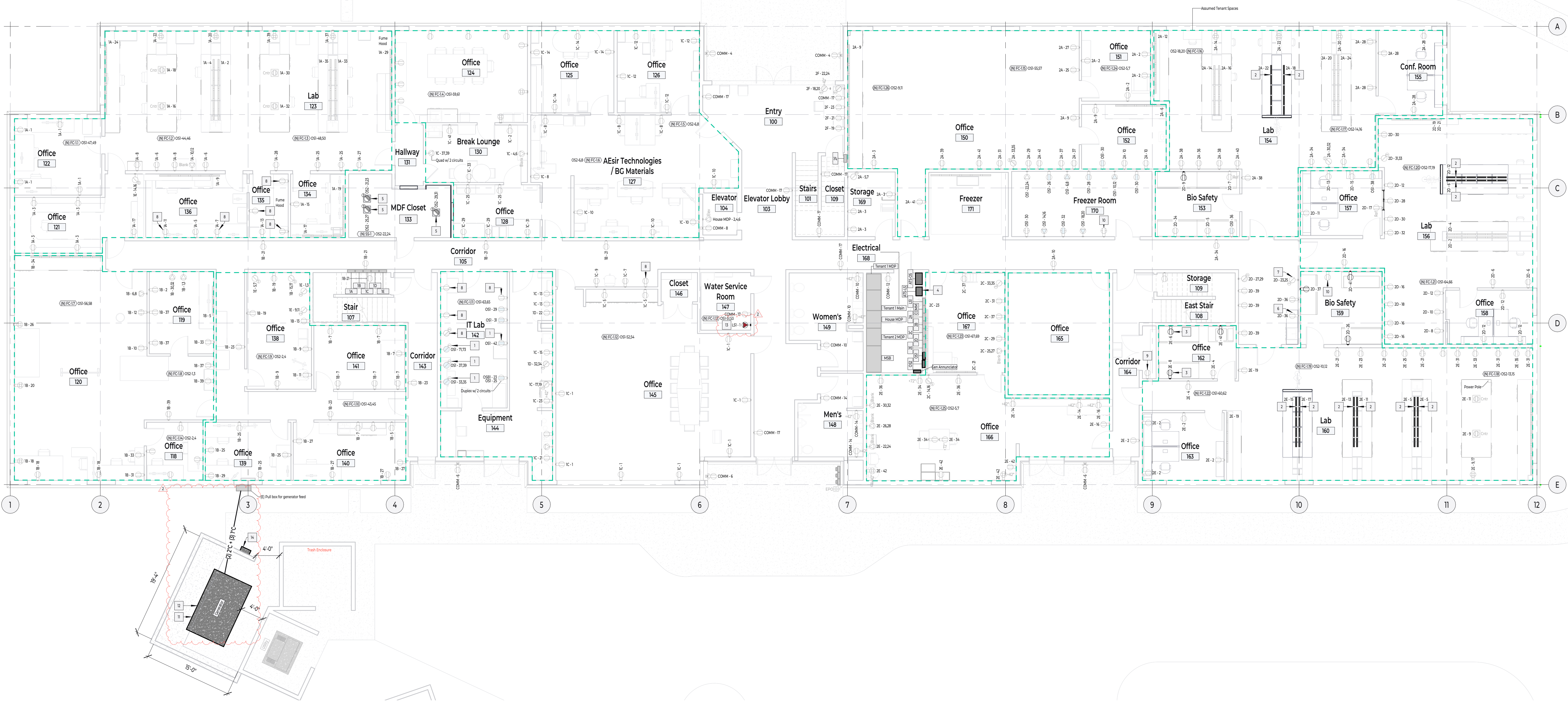
CEILING MATERIAL	
CEILING HEIGHT	
ADDITIONAL NOTES	
LIGHTING - SEE ELECTRICAL	
HVAC REGISTERS - SEE MECHANICAL	

CEILING MATERIALS

ACT

CEILING HEIGHT

VAR - VARIES



- Reference Keynotes

1

E.C. shall relocate circuit to Optional Standby ATS, panel OSB# Refer to specific device for which OSB panel to circuit. Splice and extend branch circuit, as needed.

2

Provide new plugload (Wiremold #2068506TR, color by Architect and/or Owner) to counter top. Length of plugload to be verified with approved millwork shop drawings prior to ordering. Connect to saved circuit from demolition.

3

Reconnect to existing circuit saved from demolition. Extend branch circuit and conduit as needed.

4

Replace Generac ATS with new ATS that will communicate with new generator. Basis of design: ASCO.

5

Receptacles shall be placed facing vertically or down, to prevent debris from building up on within the receptacles. Coordinate final location of receptacle with LIT representative.

6

Existing receptacle to remain. Recircuit to dedicated circuit for new dishwasher. Receptacle shall be located to be readily accessible under the sink, as needed. Device shall be replaced with GFCI-rated device or a GFCI breaker shall be provided.

7

E.C. shall inform Engineer of what size wire is connected to device. Engineer shall verify existing circuit is sufficient for new cooler. Circuit was labeled as (2) circuit plugload on panel schedule. This is a 30A2P breaker. Assuming this is 2P10 CU.

8

Circuit tracing could not be performed due to the equipment being active.

9

E.C. shall replace existing dead outlet with new. Verify outlet is functional or replace branch circuit back to panel.

10

Circuit tracing could not be performed, this receptacle was not accessible.

11

Generator basis of design is MTU 180kW (112" L x 48" W x 53" H). Level 3 enclosure is assumed to be 135" L x 48" W x 53" H. Clearances shall be 4" minimum from sides of generator to ensure air intake and electrical clearances are maintained per NEC 110.26. If E.C. proposes substitutes [refer to MSU Engineering Guidelines], E.C. must coordinate changes to size and enclosure clearances with G.C. prior to bidding.

12

Provide new (2) 2" TC from new generator to existing pull box and (2) 2" TC for generator annunciator and ATS start/stop circuit per ATS from generator to main electrical room. Replace pull box as needed. Coordinate final location of conduits with generator manufacturer. Existing concrete for old generator shall be ripped up for new concrete pad for new larger generator.

13

Extend 120V circuit from existing FAO (outside Elevator) to new location in Water Service Room. Refer to FAO for additional information.

14

Location for generator disconnecting means, as required. Verify final location with MSU and Architect. Refer to one-line diagram for additional information.
- General Sheet Notes

1

Installation of all work shall be in accordance with all local codes and ordinances and the edition of the National Electric Code NFPA 70 (NEC) in effect.

2

The electrical plans are diagrammatic only. Coordinate the electrical equipment location and installation with equipment being served.

3

Exact location of mechanical and plumbing equipment that require electrical connections are shown on the mechanical and plumbing drawings. Coordinate with mechanical and plumbing contractors.

4

All conductors shall be copper, unless otherwise noted. Minimum size shall be #12 AWG. Aluminum conductors are permitted above 100A.

5

Refer to the mechanical equipment connection schedule for disconnect requirements.

6

Refer to the architectural drawings for exact mounting height of receptacles.

1 Level 1 Electrical Plan
E111
1/8" = 1'-0"

100% Construction Documents

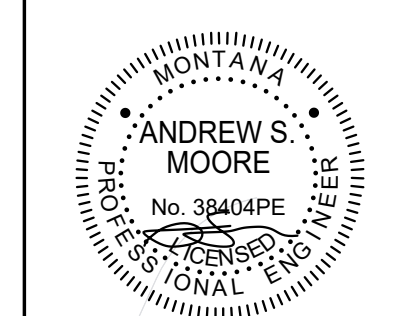
Molecular Bioscience Building

MSU



4515 Valley Commons Drive #201
Bozeman, MT 59718
406.585.4161 ph 406.565.6919 fax

DRAWN BY: Author		
REVIEWED BY: Checker		
REV.	DESCRIPTION	DATE
1	Addenum #2	08.27.2



01.30.2026

PPA#22-0045

A/E#00-00-00

BA# 2236

SHEET TITLE

Level 1 Electrical Plan

SHEET

E111

DATE

01.30.2026



1 Level 2 Electrical Plan
ET12 1/8" = 1'-0"

- | Reference Keynotes | General Sheet Notes |
|--|--|
| 1. E.C. shall replace existing dead outlet with new. Verify outlet is functional or replace branch circuit back to panel. | 1. Installation of all work shall be in accordance with all local codes and ordinances and the edition of the National Electric Code NFPA 70 (NEC) in effect. |
| 2. E.C. shall reconnect circuit to closest new Optional Standby Panel, OSSB. Refer to specific device for which OSSB panel to circuit. | 2. The electrical plans are diagrammatic only. Coordinate the electrical equipment location and installation with equipment being served. |
| 3. E.C. shall relocate circuit to Optional Standby ATS, panel OSSA. Refer to specific device for which OSSB panel to circuit. Splice and extend branch circuit, as needed. | 3. Exact location of mechanical and plumbing equipment that require electrical connections are shown on the mechanical and plumbing drawings. Coordinate with mechanical and plumbing contractors. |
| 4. Receptacles are integral to Bio Safety Cabinet. | 4. All conductors shall be copper, unless otherwise noted. Minimum size shall be #12 AWG. Aluminum conductors are permitted above 100A. |
| 5. Replace device with a standard duplex. | 5. Refer to the mechanical equipment connection schedule for disconnect requirements. |
| 6. Provide new plugload (Wemold #20GB506TR, color by Architect and/or Owner) to counter top. Length of plugload to be verified with approved millwork shop drawings prior to ordering. Connect to saved circuit from demolition. | 6. Refer to the architectural drawings for exact mounting height of receptacles. |
| 7. Verify outlet is dedicated for new Bio Safety cabinet. | |
| 8. This junction box is capped off within panel 3B. | |
| 9. Junction box has been blanked off, no circuit tracing was marked. | |
| 10. Junction box does not have a circuit, box was empty. | |
| 11. Circuit tracing could not be performed due to the equipment being active. Circuit number is assumed from existing panel schedule. | |
| 12. Circuit tracing could not be performed, this receptacle was not accessible. | |
| 13. New furniture feed power pole provided and installed by furniture supplier. E.C. shall utilize raceway system for furniture system power & data connections. Refer to Technology plans for data requirements. Coordinate final cubicle layout and requirements with MSU prior to rough-in. | |
| 14. Rack receptacles shall be placed facing vertically or down, to prevent debris from building up on within the receptacles. Coordinate final location of receptacle with UT representative. | |
| 15. Remove existing circuit for different tenant suite. Existing traced circuit is shown in gray. Connect to circuit within room, as shown in black. | |
| 16. New furniture feed, wall mounted, provided and installed by furniture supplier. E.C. shall utilize raceway system for furniture system power & data connections. Refer to Technology plans for data requirements. Coordinate final cubicle layout and requirements with MSU prior to rough-in. | |

100% Construction Documents

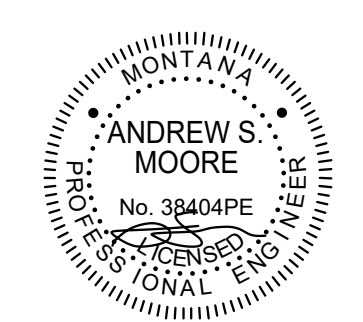
Molecular Bioscience Building

MSU



4515 Valley Commons Drive #201
Bozeman, MT 59718
406.595.4161 ph 406.595.6919 fax

DRAWN BY: Author		
REVIEWED BY: Checker		
REV.	DESCRIPTION	DATE
1	Addendum #2	08.27.26



PPA#22-0045

A/E#00-00-00

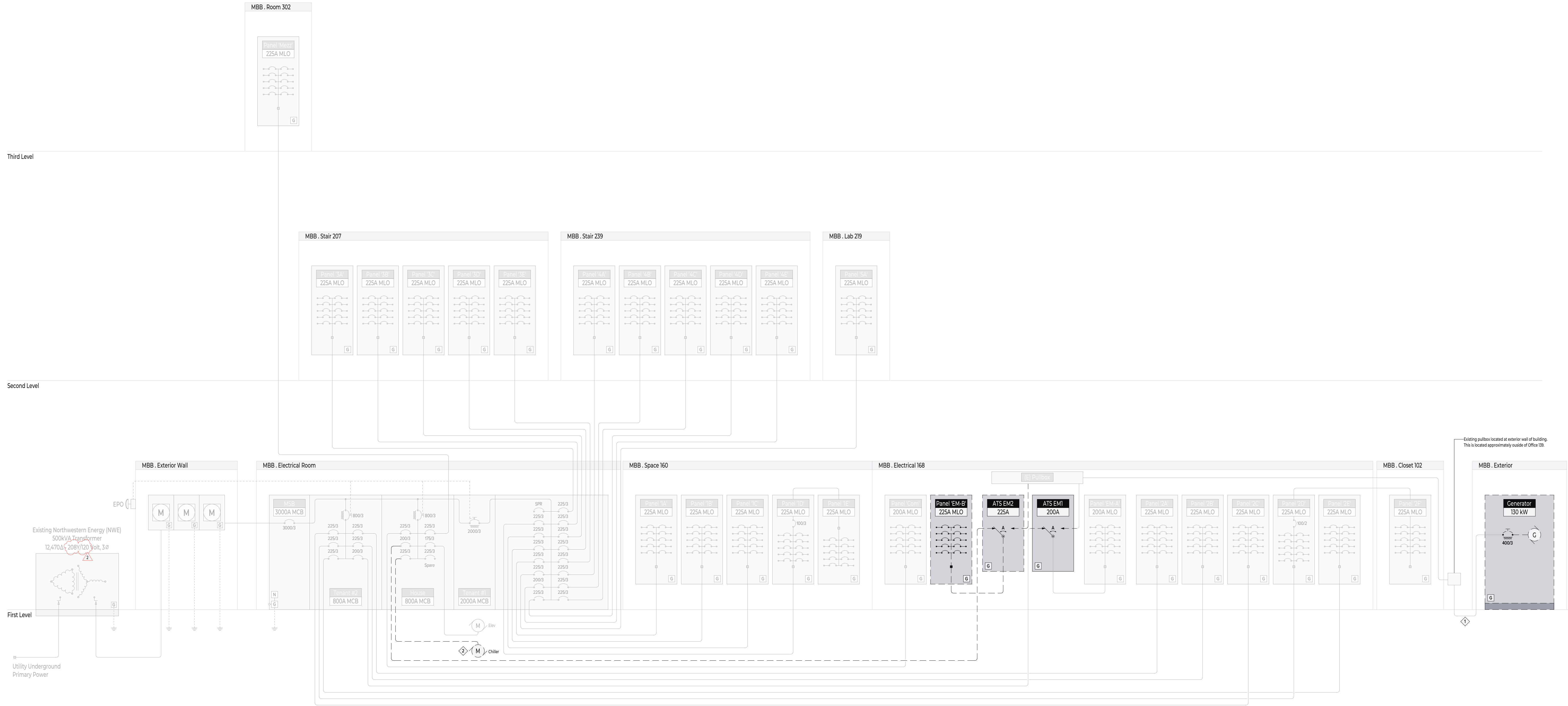
BA# 2236

SHEET TITLE
Level 2 Electrical
Plan

SHEET

E112

DATE
01.30.2026



- Demo One-Line Diagram Notes
- ⚠ Maintain existing conduit from generator to pullbox, remove existing feeder conductors, and provide pull string for future feeder. Refer to updated One-Line Diagram for additional information. It is assumed that this is an existing 4" conduit from the generator to the pull box on the exterior wall. Conduit from exterior pull box to the ATS pull box is assumed to be 2" E.C. shall verify prior to bidding and provide additional pricing to replace conduit from generator to exterior pull box and to ATS pull box.
 - ⚠ Existing Chiller to be removed as part of this scope. Remove existing chiller once new CH-1 system has been installed and is operational. Refer to mechanical drawings for additional details.

1 Electrical Demolition Riser Diagram
ES01 1/4" = 1'-0"

100% Construction Documents

Molecular Bioscience Building

MSU

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DRAWN BY: EB		
REVIEWED BY: AM		
REV.	DESCRIPTION	DATE
1	Addendum #2	08.27.26



PPA#22-0045
A/E#00-00-00

BA# 2236

SHEET TITLE
Electrical Demo
One-Line Diagram

SHEET

E501

DATE
01.30.2026

Schedule OSI																				
Panel	OS1	Voltage	120/208 Wye			Main Bus Rating			400 A			Main Bus Feed Location								
Location	Office 162	Phases	3Ø			Main Interior Type			MLO			Main Bus Feed-Through Load								
Mounting		Wire	4			Main Circuit Breaker			400 A			Sub-Feed #1 Breaker Rating								
Fed From	ATS-OS	Enclosure Type	NEMA 1			Short Circuit AIC Rating			45,000 A			Sub-Feed #2 Breaker Rating								
Details:			Notes:																	
Circuit Breaker Protection Types			[1] Circuit shall be relocated from new Life Safety Panel L51.																	
C = Ground-Fault Personnel			[2] Load from 30-day meter study for use in panel loading only. This value is combining L51 30-day meter reading and OSI meter reading since several circuits were relocated from the emergency panel.																	
D = Dual Arc-Fault and Ground-Fault Protection			[3] Load is included within meter study load.																	
E = Ground-Fault Equipment			1. All conductors to be copper unless otherwise noted. Conductors shall be upsized for all runs over 100 feet to keep maximum allowable voltage drop at 3%.																	
Ex = Existing			2. Where panel schedule and plans indicate GFCI protection for the same circuit, E.C. shall determine whether to install a GFCI receptacle / device or a GFCI circuit breaker but not both.																	
L = Breaker Lock-Off Device			3. Reference Mechanical Equipment Connection Schedule and manufacturer instructions for electrical installation requirements.																	
Re = Relocated			4. If mechanical equipment is within sight (less than 50-feet) of the load center, a molded case circuit breaker may serve as the disconnecting means. The circuit breaker must be capable of being locked in the open.																	
S = Furnish with Standard Breaker..																				
CKT	Circuit Description	Wire	Type	Trip	Poles	A	B	C	Poles	Trip	Type	Wire	Circuit Description	CKT						
1	(E) Rm 152 Dedicated 20A [3]	Existing	S	20 A	1	0 VA	0 VA		1	20 A	--	--	Spare	2						
3	(E) AC-1 [3]	Existing	S	20 A	2		0 VA	0 VA	1	20 A	S	1#12, #12N, #12G	(R) #240 Incbtr (relocated from L51 - 40) [1] [3]	4						
5	--	--	--	--	--			0 VA	0 VA	2	20 A	S	(E) Freezer -80 Dedicated [3]	6						
7	(E) AC-2 [3]	Existing	S	20 A	2	0 VA	0 VA		--	--	--	--	--	8						
9	--	--	--	--	--				2	20 A	S	2#12, #12N, #12G	--	10						
11	(E) Rm -80 MR Slim Fan [3]	Existing	S	20 A	1		0 VA	0 VA	2	20 A	S	2#12, #12N, #12G	(E) Freezer -80 Dedicated [3]	12						
13	(E) Rm -80 MR Slim Fan Rm 142 [3]	Existing	S	20 A	1	0 VA	0 VA		2	20 A	S	2#12, #12N, #12G	(E) Freezer -80 Dedicated [3]	14						
15	(E) Rm 170 Rooftop Compressor [3]	Existing	S	20 A	2		0 VA	0 VA	--	--	--	--	--	16						
17	--	--	--	--	--				0 VA	0 VA	2	20 A	S	2#12, #12N, #12G						
19	(E) Generator Heater [3]	Existing	S	20 A	1	0 VA	0 VA		--	--	--	--	--	20						
21	(E) Battery Charger Generator [3]	Existing	S	20 A	1		0 VA	0 VA	2	20 A	S	2#12, #12N, #12G	(E) Freezer -80 Dedicated [3]	22						
23	(R) Frzr Rm 142 (relocated from L51 - 28) [1] [3]	1#12, #12N, #12G	S	20 A	1			0 VA	0 VA	1	20 A	S	1#12, #12N, #12G	(E) Freezer -80 Dedicated 20A [3]	24					
25	(R) Frzr Rm 142 (relocated from L51 - 30) [1] [3]	1#12, #12N, #12G	S	20 A	1	0 VA	0 VA		1	20 A	S	1#12, #12N, #12G	(E) Freezer -80 Dedicated 20A [3]	26						
27	(R) Incbtr 251 (relocated from L51 - 16) [1] [3]	1#12, #12N, #12G	S	20 A	1		0 VA	0 VA	1	20 A	S	1#12, #12N, #12G	(E) Freezer -80 Dedicated 20A [3]	28						
29	(R) Frzr Rm 142 (relocated from L51 - 4) [1] [3]	1#12, #12N, #12G	S	20 A	1			0 VA	1	20 A	S	1#12, #12N, #12G	(E) Freezer -80 Dedicated 20A [3]	30						
31	(R) Frzr Rm 142 (relocated from L51 - 6) [1] [3]	1#12, #12N, #12G	S	20 A	1	0 VA	0 VA		1	20 A	S	1#12, #12N, #12G	(E) Freezer -80 Dedicated 20A [3]	32						
33	(R) Frzr 142 (relocated from L51 - 8/10) [1] [3]	2#12, #12N, #12G	S	20 A	2		0 VA	0 VA	1	20 A	S	1#12, #12N, #12G	(E) Freezer -80 Dedicated 20A [3]	34						
35	--	--	--	--	--				0 VA	0 VA	1	20 A	S	(E) Rm 153 Dedicated 20A [3]	36					
37	(R) Frzr Rm 142 (relocated from L51 - 11/13) [1] [3]	2#12, #12N, #12G	S	20 A	2	0 VA	0 VA		1	20 A	S	1#12, #12N, #12G	(E) Rm 157 Dedicated 20A [3]	38						
39	--	--	--	--	--			0 VA	1	20 A	S	1#12, #12N, #12G	(E) Rm 159 Dedicated 20A [3]	40						
41	(R) #222 Outlets (relocated from L51 - 5) [1] [3]	1#12, #12N, #12G	S	20 A	1			500 VA	1	20 A	S	1#12, #12N, #12G	(R) Incbtr 142 (relocated from L51 - 34) [1] [3]	42						
43	(N) FC-1.10	2#12, #12N, #12G	S	20 A	2	312 VA	998 VA		2	20 A	S	2#10, #10N, #10G	(N) FC-1.2	44						
45	--	--	--	--	--				--	--	--	--	--	46						
47	(N) C-1.1	2#12, #12N, #12G	S	20 A	2		312 VA	998 VA	312 VA	998 VA	2	20 A	S	2#12, #12N, #12G	(N) FC-1.3	48				
49	--	--	--	--	--				--	--	--	--	--	50						
51	(N) FC-1.13	2#12, #12N, #12G	S	20 A	2		312 VA	998 VA		2	20 A	S	2#12, #12N, #12G	(N) FC-1.12	52					
53	--	--	--	--	--				312 VA	998 VA	--	--	--	54						
55	(N) FC-1.15	2#12, #12N, #12G	S	20 A	2	312 VA	655 VA		2	20 A	S	2#12, #12N, #12G	(N) FC-1.7	56						
57	--	--	--	--	--			312 VA	655 VA		--	--	--	58						
59	(N) FC-1.4	2#12, #12N, #12G	S	20 A	2			655 VA	312 VA	2	20 A	S	2#12, #12N, #12G	(N) FC-1.22	60					
61	--	--	--	--	--					--	--	--	--	62						
63	(N) FC-1.11	2#12, #12N, #12G	S	20 A	2	655 VA	312 VA	655 VA	655 VA	2	20 A	S	2#12, #12N, #12G	(N) FC-1.21	64					
65	--	--	--	--	--				655 VA	655 VA	--	--	--	66						
67	(N) FC-1.23	2#12, #12N, #12G	S	20 A	2	655 VA	--		1	--	--	--	Space	68						
69	--	--	--	--	--				1	--	--	--	Space	70						
71	(R) Frzr Rm 142 (relocated from L51 - 7/9) [1]..	2#12, #12N, #12G	S	20 A	2				1	--	--	--	Space	72						
73	--	--	--	--	--		0 VA	5908 VA		3	0 A	N/A	Existing Metered Load [2]	74						
75	Space	--	--	--	1	--	--	5908 VA	--	--	--	--	--	76						
77	Space	--	--	--	1	--	--	--	--	--	--	--	--	78						
79	(N) Panel 'OS2'	1-1/2"C, 3#1, #1N, #8G	S	100 A	3	10483 VA	16981 VA	9905 VA	15640 VA	3	225 A	S	2-1/2"C, 3-4/0, 4#GN, #4G	(N) Panel 'OS3'	80					
81	--	--	--	--	--						--	--	--	82						
83	--	--	--	--	--						--	--	--	84						
Total Apparent Power Phase Loads:						38583 VA	37006 VA	38965 VA												
Total Current Phase Loads:						324 A	308 A	327 A												
Connected Loads:																				
Phase A:		38583 VA	Load Classification		Commercial - Receptacles		Connected Load (VA)		Demand Factor		Estimated Demand (VA)		Panel Totals							
Phase B:		37006 VA			Equipment		25460 VA		69.64%		17750 VA		Total Connected Load:							
Phase C:		38965 VA			Existing Load - 30 Day Metered		17725 VA		125.00%		22156 VA		Total Estimated Demand:							
Total:		114554 VA			HVAC		71369 VA		100.00%		71369 VA		Total Connected Current:							
													309 A							
Schedule OS2																				
Panel	OS2	Voltage	120/208 Wye			Main Bus Rating			100 A						Main Bus Feed Location					
Location	Office 162	Phases	3Ø			Main Interior Type			MLO						Main Bus Feed-Through Load					
Mounting	Recessed	Wire	4			Main Circuit Breaker			35,000 A						Sub-Feed #1 Breaker Rating					
Fed From	OS1	Enclosure Type	NEMA 1			Short Circuit AIC Rating									Sub-Feed #2 Breaker Rating					
Details:			Notes:																	
Circuit Breaker Protection Types			[1] Circuit shall be relocated from new Life Safety Panel L51.																	
C = Ground-Fault Personnel			[2] Load is included within meter study load on panel OS1.																	
D = Dual Arc-Fault and Ground-Fault Protection			1. All conductors to be copper unless otherwise noted. Conductors shall be upsized for all runs over 100 feet to keep maximum allowable voltage drop at 3%.																	
E = Ground-Fault Equipment			2. Where panel schedule and plans indicate GFCI protection for the same circuit, E.C. shall determine whether to install a GFCI receptacle / device or a GFCI circuit breaker but not both.																	
Ex = Existing			3. Reference Mechanical Equipment Connection Schedule and manufacturer instructions for electrical installation requirements.																	
L = Breaker Lock-Off Device			4. If mechanical equipment is within sight (less than 50-feet) of the load center, a molded case circuit breaker may serve as the disconnecting means. The circuit breaker must be capable of being locked in the open position.																	
Re = Relocated																				
S = Furnish with Standard Breaker..																				
CKT	Circuit Description	Wire	Type	Trip	Poles	A	B	C	Poles	Trip	Type	Wire	Circuit Description	CKT						
1	(N) FC-1.8	2#12, #12N, #12G	S	20 A	2	655 VA	624 VA		2	20 A	S	2#12, #12N, #12G	(N) FC-1.9,14	2						
3	--	--	--	--	--			655 VA	624 VA	--	--	--	--	4						
5	(N) FC-1.24,25	2#12, #12N, #12G	S	20 A	2				967 VA	624 VA	2	20 A	S	2#12, #12N, #12G	(N) FC-1.5,6	6				
7	--	--	--	--	--				--	--	--	--	--	8						
9	(N) FC-1.26	2#12, #12N, #12G	S	20 A	2		655 VA	655 VA		2	20 A	S	2#12, #12N, #12G	(N) FC-1.19	10					
11	--	--	--	--	--			655 VA	655 VA	--	--	--	--	12						
13	(N) FC-1.18	2#12, #12N, #12G	S	20 A	2	655 VA	312 VA		2	20 A	S	2#12, #12N, #12G	(N) FC-1.17	14						
15	--	--	--	--	--			655 VA	312 VA		--	--	--	16						
17	(N) FC-1.20	2#12, #12N, #12G	S	20 A	2			655 VA	998 VA	2	20 A	S	2#12, #12N, #12G	(N) FC-1.16	18					
19	--	--	--	--	--				--	--	--	--	--	20						
21	(N) Receptacle MDF - Rack	2#10, #10N, #10G	S	30 A	2		2496 VA	1356 VA		2	20 A	S	2#12, #12N, #12G	(N) SS-1 MDF Closet	22					
23	--	--	--	--	--				2496 VA	1356 VA	--	--	--	24						
25	(N) Receptacle MDF - Rack	2#10, #10N, #10G	S	30 A	2	2496 VA	0 VA		1	20 A	S	1#12, #12N, #12G	(R) Incubators (relocated from L51-10) [1] [2]	26						
27	--	--	--	--	--			2496 VA	0 VA	1	20 A	S	1#12, #12N, #12G	(R) Incubators (relocated from L51-14) [1] [2]	28					
29	(N) Receptacle MDF - 3rd Party Rack	2#8, #8N, #8G	S	30 A	2			2496 VA	0 VA	1	20 A	S	1#12, #12N, #12G	(R) Freezer Rm (relocated from L51-32) [1] [2]	30					
31	--	--	--	--	--			2496 VA	0 VA	1	20 A	S	1#12, #12N, #12G	(R) Incubators (relocated from L51-36) [1] [2]	32					
33	Space	--	--	--	1	--	--	0 VA		1	20 A	S	1#12, #12N, #12G	(R) Incubators (relocated from L51-38) [1] [2]	34					
35	Space	--	--	--	1	--	--	--	0 VA	1	20 A	S	1#12, #12N, #12G	(R) -80 Freezer (relocated from L51-42) [1] [2]	36					
37	Space	--	--	--	1	--	--	--	--	1	--	--	Space	38						
39	Space	--	--	--	1	--	--	--	--	1	--	--	Space	40						
41	Space	--	--	--	1	--	--	--	--	1	--	--	Space	42						
Total Apparent Power Phase Loads:						10483 VA	9905 VA	10903 VA												
Total Current Phase Loads:						88 A	83 A	92 A												