



## Historic Preservation Services

### Community Development & Neighborhood Services

281 North College Avenue  
P.O. Box 580  
Fort Collins, CO 80522.0580

970.416.4250

[preservation@fcgov.com](mailto:preservation@fcgov.com)

[fcgov.com/historicpreservation](http://fcgov.com/historicpreservation)

## CERTIFICATE OF APPROPRIATENESS

**ISSUED: November 8, 2022**

**EXPIRATION: November 8, 2023**

City of Fort Collins  
c/o Mark McLean  
300 Laporte Ave., Building B  
Fort Collins, CO 80521

Dear Property Owner:

This letter provides you with confirmation that the proposed changes to your designated Fort Collins landmark property, the Carnegie Library at 200 Mathews St., have been approved by the City's Historic Preservation Division because the proposed work meets the criteria and standards in Chapter 14, [Article IV](#) of the Fort Collins Municipal Code.

- 1) Demo of existing monument sign for Carnegie Center for Creativity by west elevation.
- 2) Heritage Courtyard gate replaced with structure with sliding gate panels and "Carnegie Center for Creativity" vinyl sign.
- 3) Fencing infill and new perforated steel panels for property north elevation mechanical enclosure.
- 4) All existing fencing directly associated with building painted.
- 5) New freestanding canopy for south elevation door.
- 6) Replacement of south door with two-leaf wood door (Door 101A); existing hollow metal frame reused.
- 7) Replacement 2<sup>nd</sup> floor north elevation egress door with wood door (Door 301B).
  - a. *Wood door frame refurbished.*
- 8) North elevation stair replacement to meet code.
  - a. *Use a stone masonry-appropriate seal to prevent water infiltration around the bolts if anchors into historic stone required.*
- 9) Masonry repair, including removal of existing sealant and new sealant installed at base of wall.
  - a. *Ensure there is a gap between the concrete and historic masonry to prevent cracking/spalling of stone prior to filling gap with sealant.*
  - b. *Refer to [NPS Preservation Brief 1](#) for any masonry cleaning; test patch the reaction of the stone to the selected cleaning agent before proceeding.*
  - c. *Refer to [NPS Preservation Brief 2](#) for any masonry repointing; new mortar should match in color and be softer and more vapor permeable than the stone.*
- 10) Exterior window and door frames paint removed, sanded, filled, and re-painted.
  - a. *Paint removal should not be done with water or sand blasting, through the use of rotary drill attachments, through extreme thermal techniques like propane or butane torches, and chemical solvents should only be used with extreme caution in areas where other methods are not feasible (see [NPS Preservation Brief 10](#)).*

- 11) Plywood art panels removed and salvaged (east elevation).
- 12) Plywood furring wall at gates replaced (south elevation).
- 13) Soffit, fascia, frieze, bracket, and molding repaired, replaced in-kind if needed, and painted; ivy tendrils removed.

*a. Refer to Technical Preservation Service's [publication](#) on epoxies for wood repairs for repair of these features.*

\*Please note that this Certificate of Appropriateness does not approve the exterior window refurbishment referenced in the attached plans. (Exterior windows – any existing metal bars removed; refurbished per evaluation given by third party historic window specialist). This project component will be reviewed separately.

Notice of the approved application has been provided to building and zoning staff to facilitate the processing of any permits that are needed for the work.

Please note that all ensuing work must conform to the approved plans. Any non-conforming alterations are subject to stop-work orders, denial of Certificate of Occupancy, and restoration requirements and penalties.

If the approved work is not completed prior to the expiration date noted above, you may apply for an extension by contacting staff at least 30 days prior to expiration. Extensions may be granted for up to 12 additional months, based on a satisfactory staff review of the extension request.

Property owners can appeal staff design review decisions by filing a written notice of appeal to the Director of Community Development & Neighborhood Services within fourteen (14) days of this decision. If you have any questions regarding this approval, or if I may be of any assistance, please do not hesitate to contact me. I can be reached at [yjones@fcgov.com](mailto:yjones@fcgov.com) or at 970-658-0263.

Sincerely,

Yani Jones  
Historic Preservation Planner



Applicable Code Standard	Summary of Code Requirement and Analysis (Rehabilitation)	Standard Met (Y/N)
SOI #1	<p><i>A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships;</i></p> <p><b>The use of the building is not significantly changing because of this building rehabilitation project.</b></p>	Y
SOI #2	<p><i>The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.</i></p> <p><b>The exterior features of the property that will be removed/replaced as part of this rehabilitation project do not have historic significance (modern sign, 2 non-original doors, egress stair, plywood elements, modern fencing and gate), and so distinctive materials, features, spaces, and special relationships characteristic of this property are not being impacted.</b></p>	Y
SOI #3	<p><i>Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.</i></p> <p><b>There are no conjectural features being added as a part of this project. Features added, such as the new gate and canopy, fencing modifications, and the modification to the egress stair on the north elevation are all clearly modern.</b></p>	Y
SOI #4	<p><i>Changes to a property that have acquired historic significance in their own right will be retained and preserved.</i></p> <p><b>The property has undergone several significant changes over time, such as the 1939 addition that doubled the size of the building and the small one-story stone structure on north elevation. There are minimal impacts to these elements because the scope of the project's exterior alterations is generally limited to repair of existing historic features and modification of non-historic features.</b></p>	Y

SOI #5	<p><i>Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.</i></p> <p><b>Because this project includes masonry repair, window and door frame refinishing, and repair or in-kind replacement of roof-level wood architectural features, the distinctive materials, features, finishes, construction techniques, and examples of craftsmanship characteristic to this property will be preserved.</b></p>	Y
SOI #6	<p><i>Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.</i></p> <p><b>Although the north egress door/stair was added to the building in 1970, more than 50 years ago, it is not a characteristic feature of the property, and so the replacement of the door with another wood door and the replacement of the stair with a modified stair that meets code but does not obscure the historic building still meets this standard. Other deteriorated features, such as the roof-level wood architectural elements, will be repaired or replaced in kind where the severity of the deterioration requires replacement.</b></p>	Y
SOI #7	<p><i>Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.</i></p> <p><b>Please adhere to the conditions outlined for the project on page 1 and 2, including the linked guidance on appropriate chemical or physical treatments for cleaning masonry, removing paint, etc.</b></p>	Y
SOI #8	<p><i>Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.</i></p> <p><b>It is unlikely that this project will impact archaeological resources, but the applicant shall protect and preserve in place any archaeological resources should any be found, and if disturbed, mitigation will be required.</b></p>	Y

<b>SOI #9</b>	<p><i>New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.</i></p> <p><b>The new canopy for the south elevation door and the new gate/sign are both clearly modern additions because of the smooth surfaces, colors, and materials used. The canopy is visually connected in its design to the gate. The gate is tied to the historic building through the integration of a sandstone pillar at the point nearest the building. The impact of the gate to the building's integrity of setting is reduced by the removal of the non-historic monument sign by the building's façade.</b></p> <p><b>The alterations to the north elevation second-story egress door and stair are for code compliance, and the design minimizes visual impact to the historic building. Should the associated structural components for the stair/platform require anchoring into historic masonry, a stone masonry-appropriate seal will be used to protect the stone by preventing water infiltration around the bolts.</b></p>	<b>Y</b>
<b>SOI #10</b>	<p><i>New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.</i></p> <p><b>Because neither the new canopy for the south elevation door nor the new gate structure are attached to the historic building, they could be removed in the future without impacting the historic building or its environment.</b></p> <p><b>The alterations to the north elevation second-story door and stair could also be reversed in the future because they do not disrupt the essential form or integrity of the historic property.</b></p>	<b>Y</b>



## BUILDING PERMIT APPLICATION

FOR OFFICE USE

APPLICATION NUMBER:

APPLICATION DATE:

Job Site Address \_\_\_\_\_ Unit# \_\_\_\_\_

**PROPERTY OWNER INFO: (All owner information is required – NOT optional)**

Last Name \_\_\_\_\_ First Name \_\_\_\_\_ Middle \_\_\_\_\_

Street Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone # \_\_\_\_\_ Email \_\_\_\_\_

Name of Business (COMMERCIAL USE ONLY) \_\_\_\_\_

**CONTRACTOR INFO:** Company Name \_\_\_\_\_

License Holder Name \_\_\_\_\_ LIC # \_\_\_\_\_ CERT # \_\_\_\_\_

**LEGAL INFO:**

Subdivision/PUD \_\_\_\_\_ Filing # \_\_\_\_\_ Lot # \_\_\_\_\_ Block # \_\_\_\_\_ Lot Sq Ft \_\_\_\_\_

**CONSTRUCTON INFO:** Total Building Sq Ft (NOT including basement) \_\_\_\_\_ Total Garage Sq. Ft. \_\_\_\_\_

Residential Sq Ft \_\_\_\_\_ Commercial Sq Ft \_\_\_\_\_ # of Stories \_\_\_\_\_ Bldg Ht \_\_\_\_\_ # of Dwelling Units \_\_\_\_\_

1st Floor Sq Ft \_\_\_\_\_ 2nd Floor Sq Ft \_\_\_\_\_ 3rd Floor Sq Ft \_\_\_\_\_ Unfinished Basement Sq Ft \_\_\_\_\_

Finished Basement Sq Ft \_\_\_\_\_ # of Bedrooms \_\_\_\_\_ # of Full Baths \_\_\_\_\_

¾ Baths \_\_\_\_\_ ½ Baths \_\_\_\_\_ # Fireplaces \_\_\_\_\_

**ENERGY INFORMATION: (CHECK ONE)**

Prescriptive ☐ Performance ☐ U/Arescheck ☐ ERI ☐ ASHRAE ☐ Component/Comcheck ☐ IDAP ☐

**Air Conditioning?** YES ☐ NO ☐

City of Fort Collins Approved Stock Plan # **SPO** \_\_\_\_\_ List Option #s \_\_\_\_\_

**Utilities INFO:**

New Electric Service ☐ Electric Service Upgrade ☐ Electric Meter Relocation ☐

Electric Main Breaker Size (Residential Only): 150 amps or less ☐ 200 amps ☐ Other: ☐

Gas ☐ Electric ☐ Electric Temp Pedestal? Yes ☐ No ☐

**ZONING INFO: (COMMERCIAL USE ONLY)**

Proposed Use: (i.e. medical, office, bank, retail, etc.) \_\_\_\_\_

**For Commercial remodels and tenant finishes, please answer the following questions:**

Is the remodel/tenant finishes for an existing or new tenant? (Please check one)

Existing Tenant ☐ New Tenant ☐

If for a new tenant, is this the first tenant to occupy this space?

Yes ☐ No ☐ If not for the initial tenant for this unit, what was the previous use of this tenant space?

Are there any exterior building changes (including mechanical) associated with the work? Yes ☐ No ☐

If yes, please describe: \_\_\_\_\_

**Value of Construction (materials and labor):** \$ \_\_\_\_\_

**Description of Work:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**JOBSITE SUPERVISOR CONTACT INFO:** Name \_\_\_\_\_ Phone \_\_\_\_\_

**SUBCONTRACTOR INFO:** Electrical \_\_\_\_\_ Mechanical \_\_\_\_\_


Plumbing \_\_\_\_\_ Framing \_\_\_\_\_ Roofing \_\_\_\_\_

Fireplace \_\_\_\_\_ Solar \_\_\_\_\_ Other \_\_\_\_\_

**ASBESTOS STATEMENT DISCLOSURE:** *In accordance with the State of Colorado Senate Bill 13-152, property owners, applying for a remodel permit, shall indicate their awareness about their property having been inspected for Asbestos Containing Materials (ACM's).*

- ☐ I do not know if an asbestos inspection has been conducted on this property.
- ☐ An asbestos inspection has been conducted on this property on or about (enter date) \_\_\_\_\_
- ☐ An asbestos inspection has not been conducted on this property.

**Applicant:** I hereby acknowledge that I have read this application and state that the above information is correct and agree to comply with all requirements contained herein and City of Fort Collins ordinances and state laws regulating building construction.

Applicant Signature  Type or Print Name \_\_\_\_\_

Phone # \_\_\_\_\_ Email \_\_\_\_\_

**THIS APPLICATION EXPIRES 180 DAYS FROM APPLICATION DATE**



Planning, Development & Transportation  
281 N. College Ave  
Fort Collins, CO 80524  
Phone 970-416-2740 Fax 224-6134

## BUILDING OWNER AUTHORIZATION TO OBTAIN A COMMERCIAL BUILDING PERMIT

I, (Print) Mark McLean as owner of record (property address) 200 Mathews Street known as (name of business) The Carnegie Building hereby authorize the work listed below to be done on said property. I understand that such work will **only be performed contractors licensed by the City of Fort Collins.**

☐ I am giving permission for **interior work only**. The scope of the work shall be limited to: \_\_\_\_\_

☐ I am giving permission for **exterior work only**. The scope of the work shall be limited to: \_\_\_\_\_

☒ I am giving permission for **interior and exterior work**. The scope of the work shall be limited to : Interior Renovation to include New HVAC, Lighting and power distribution; New Staircase to connect all floors. Restoration of Windows, exterior stone masonry, painting.

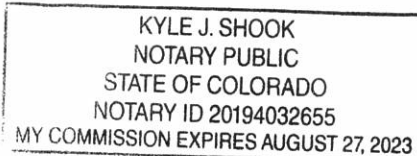
Mark McLean  
(Property owner signature)

Mark McLean  
(Property owner name; please print)

The foregoing affidavit was acknowledged before me on the 20<sup>th</sup> day of September 2022 (month, year) by Mark McLean for the purpose therein set forth.

Witness my hand and official seal.

My Commission expires: 8/27/23



Kyle J. Shook  
Notary Public

Permit # \_\_\_\_\_

Office use only



## Building Permit Submittal Checklist: Commercial Remodel/Tenant Finish

Incomplete or deferred submittals will not be accepted

Revised 11/4/2021

### Required at the time of permit submittal - Electronic submittal required.

Drawings depicting the scope of work
Plans must reflect current adopted codes and standards: <a href="http://www.fcgov.com/building/codes.php">www.fcgov.com/building/codes.php</a>
Plan Check Fee

Building Permit Application
Construction Waste Management Plan Form (Required for a scope of work over 2,500 sf.)
Owner Authorization Form

### Required Drawings

NA=Not Applicable NIS=Not in scope

**A Fully Stamped Set is required for any of the following (3) conditions:**

1. Scope of work greater than 5,000 square feet
2. First Tenant to occupy a space
3. Change of Occupancy (see additional handout)

### Drawing Checklist

<b>Existing and Proposed Scaled Drawings to include:</b> Floor Plans with room labels and areas Accessibility details as required Interior Elevations including restrooms <u>Structural Drawings</u> (stamped by a State of Colorado licensed Structural Engineer or qualified Architect) Exterior Elevations (see Zoning requirements) Wall types, sections and details.
<b>Mechanical Drawings</b> Drawings to show supply, Return, Exhaust, Hoods, and other special equipment.
<b>Electrical Drawing</b> show outlets, lighting, panel/s, equipment. A New 3 phase service or service change more than 225 amps requires an engineered + stamped Electrical One-Line Diagram.
<b>Plumbing Drawings</b> Waste and Vent Isometric, Supply, Equipment.
<b>ComCheck or Lighting Wattage Worksheet</b> Required for Lighting alterations more than 50%.

### Additional Requirements

(may require a separate submittal)

<b>Larimer County Health Department</b> 1525 Blue Spruce / (970)-498-6785 <a href="https://www.larimer.org/health">https://www.larimer.org/health</a> A separate submittal and review are required for food or drink service, preparation, or processing; Also, daycares; schools; and healthcare.
<b>Energy Assessment:</b> 970-221-6818 <a href="mailto:assessments@fcgov.com">assessments@fcgov.com</a> Upon submitting your permit, it will be reviewed to determine if a free, remote energy assessment is warranted. Our team may reach out directly to the building owner's representative concerning the assessment.
<b>Poudre Fire Authority:</b> 102 Remington / (970)-416-2891 <a href="https://www.poudre-fire.org/online-services">https://www.poudre-fire.org/online-services</a> <b>A separate submittal is required</b> through the Poudre Fire Authority website for most tenant finish projects. Fire suppression system modification will also require a separate additional submittal.
<b>Zoning:</b> 281 N College / (970) 416-2745 <a href="mailto:zoning@fcgov.com">zoning@fcgov.com</a> Change of Use or Exterior modifications (i.e.: façade, parking, landscaping, or other changes visible to the public), may require a minor amendment.
<b>Are you building in a Floodplain?</b> <a href="https://www.fcgov.com/utilities/what-we-do/stormwater/flooding/floodplain-maps-documents">https://www.fcgov.com/utilities/what-we-do/stormwater/flooding/floodplain-maps-documents</a>
<b>Historic Preservation Review</b> <a href="http://www.fcgov.com/historicpreservation">www.fcgov.com/historicpreservation</a> Alterations to, or Demolitions of buildings more than 50 years old will be reviewed for Historic Eligibility

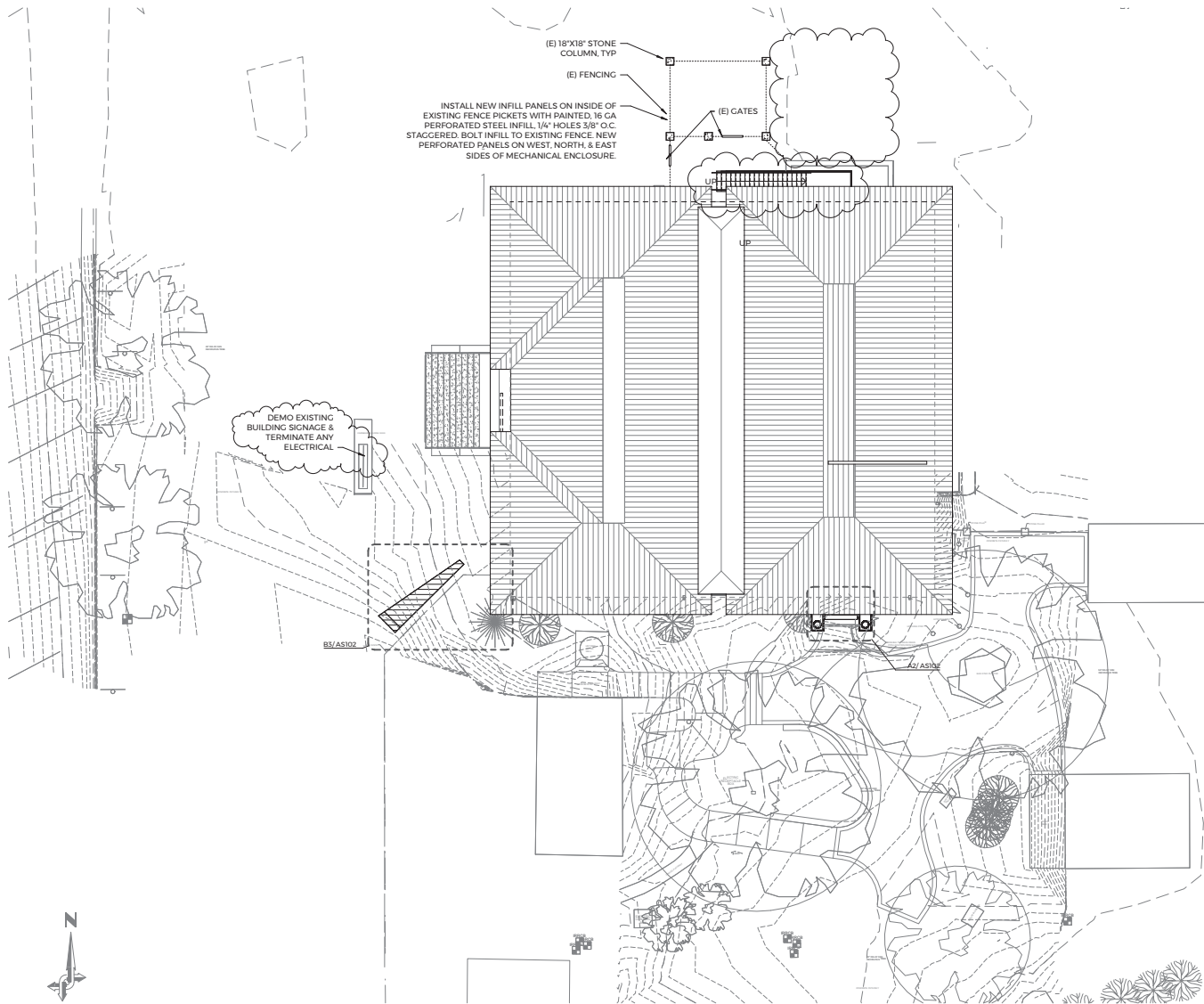
Applicant Name:	Job Site Address:
Phone:	Email (Required):



11/1/2022, 11:34:35 AM - PLOT DATE

# A5 - SITE PLAN

1"=10'-0"



NO	DESCRIPTION	DATE
1	Addendum 1	11.01.22



**auworkshop**  
ARCHITECTS + URBANISTS

401 LINDEN STREET, SUITE 2-228  
FORT COLLINS, CO. 80524  
T - 970.430.5220  
www.auworkshop.co

## CARNEGIE BUILDING RENOVATION

CITY OF FORT COLLINS  
200 Mathews Street  
Fort Collins, CO 80524

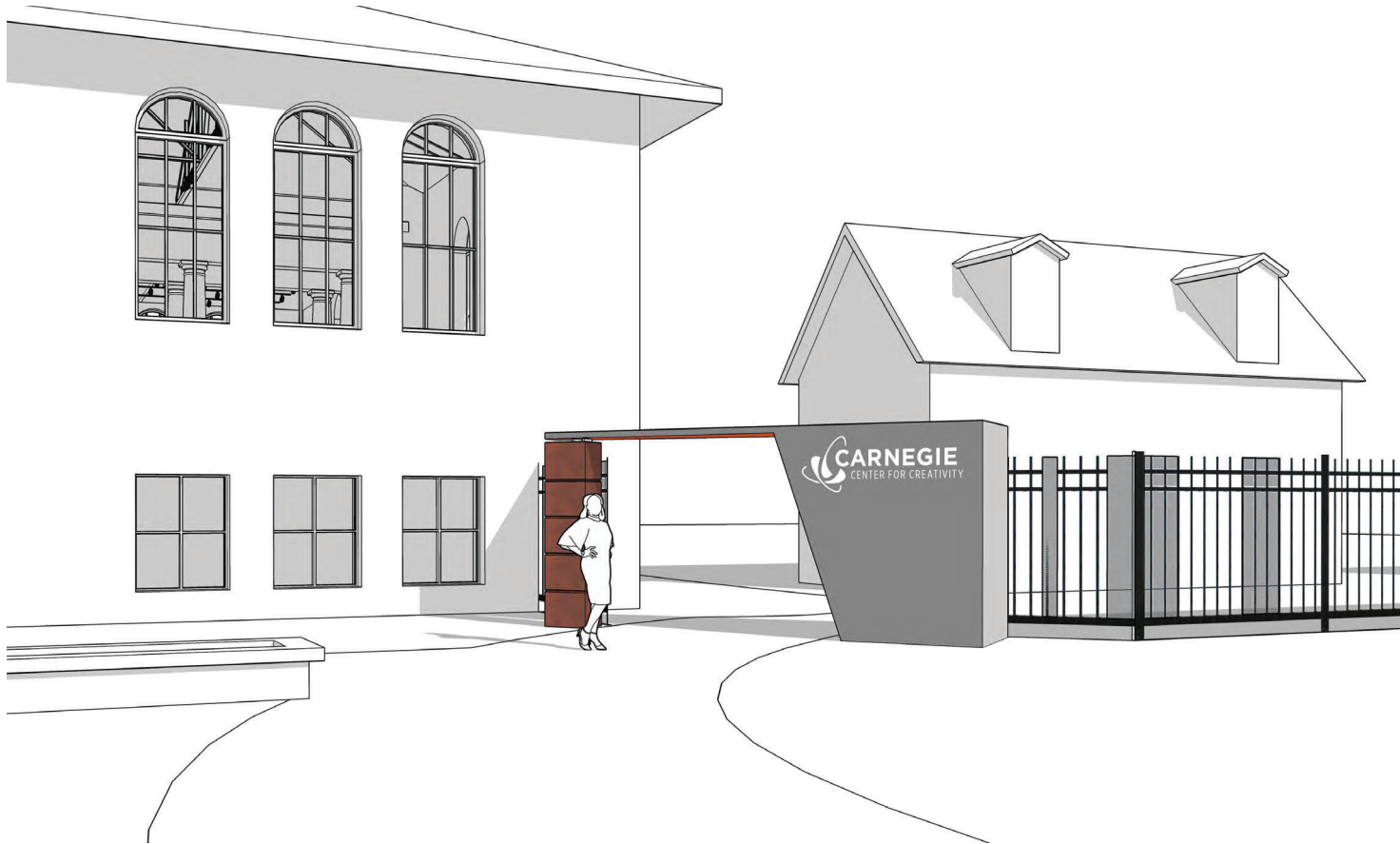
PROJECT #: 2118  
ISSUE DATE: 09/16/22

# AS101

SITE PLAN

PERMIT SET  
© 2022





#### ARCHITECT

[au]workshop, llc  
401 Linden Street | Unit 221  
Fort Collins, CO 80524

Phone: 970.430.5220

#### STRUCTURAL ENGINEER

JVA Consulting Engineers  
213 Linden Street, Suite #200  
Fort Collins, CO 80524

Phone: 970.225.9099

#### MECHANICAL ENGINEER

Integrated Mechanical  
320 Maple St, Ste 110  
Fort Collins, CO 80521

Phone: 970.556.0570

#### LIGHTING DESIGN

BC Buildingworks, Inc.  
1626 Cole Boulevard, Suite 300  
Lakewood, CO 80401

Phone: 303.278.3820

#### ELECTRICAL ENGINEER

RJ McNutt & Associates, LLC  
6801 W 20th Street, Suite #212  
Greeley, CO 80634

Phone: 970.330.3206

# CARNEGIE BUILDING RENOVATION

## CITY OF FORT COLLINS

## PERMIT SET

PROJECT #: 2118  
ISSUED: 09/16/22

**[au]workshop**  
ARCHITECTS • INTERIORS

401 LINDEN STREET  
SUITE 2-221  
FORT COLLINS, CO  
80524  
p:970-430-5220  
©2022

[www.auworkshop.co](http://www.auworkshop.co)





**A5** GALLERY & MEZZANINE LEVEL CODE PLAN  
1/8" = 1'-0"

$$1/8^{\circ} = 1-0^{\circ}$$


### A3 LOWER LEVEL CODE PLAN

$$1/8" = 1'-0"$$

## LEGEND

- 
- PARTITION TO RESIST THE PASSAGE OF SMOKE**
- 1-HOUR FIRE WALL**
- 2-HOUR FIRE WALL**
- PATH OF EGRESS**
- REQUIRED DOOR WIDTH**
- ACTUAL DOOR WIDTH PROVIDED**
- RESIDENTIAL**
- R-2**
- 800 SF**
- 200 sf/occ**
- 40 OCC**
- OCCUPANCY**
- FLOOR AREA**
- OCCUPANT LOAD FACTOR**
- NUMBER OF OCCUPANTS**
- FACP**
- FIRE ALARM CONTROL PANEL**
- AP**
- REMOTE ANNUNCIATOR PANEL**
- KB**
- KNOX BOX**
- XB**
- EMERGENCY EXIT SIGN**
- Fire Extinguisher**

## PLUMBING COUNTS

ASSEMBLY OCCUPANCY  
TOTAL OCCUPANT LOAD = 516

### PLUMBING FIXTURES REQUIRED

50% MEN & 50% WOMEN	=	258 WOMEN 258 MEN
1 WC/125 MEN	=	252/125
1 WC/65 WOMEN	=	253/65 = 3.9
1 LAV/200 MEN	=	252/200 = 2
1 LAV/200 WOMEN	=	253/200 = 2
1 DRINKING FOUNTAIN/500 OCC	=	516/500 = 2

**PLUMBING FIXTURES PROVIDED**

**MEN'S RESTROOMS**  
(1) WATER CLOSETS  
(2) URINALS  
(2) LAVATORIES

**WOMEN'S RESTROOMS**  
(1) WATER CLOSETS (ONE IN UNISEX RESTROOM)  
(3) WATER CLOSETS (MAIN RESTROOM)  
(2) LAVATORIES

DRINKING FOUNTAINS: 2

SERVICE SINK: 1

## CODE SUMMARY

## JURISDICTION

BUILDING AUTHORITY: CITY OF FORT COLLINS BUILDING  
DEPARTMENT  
FIRE AUTHORITY: POUDRE FIRE AUTHORITY

### CODES AND STANDARDS IN EFFECT

2021 INTERNATIONAL BUILDING CODE (IBC) WITH LOCAL AMENDMENTS  
2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) WITH LOCAL AMENDMENTS  
2021 INTERNATIONAL MECHANICAL CODE (IMC) WITH LOCAL AMENDMENTS  
2021 INTERNATIONAL FUEL GAS CODE (IFGC) WITH LOCAL AMENDMENTS  
2021 INTERNATIONAL PLUMBING CODE (IPC) AS AMENDED BY THE STATE OF COLORADO  
2020 NATIONAL ELECTRICAL CODE (NEC) AS AMENDED BY THE STATE OF COLORADO  
2017 ICC/ANSI A117.1  
ACCESSIBILITY STATE LAW CRS 9-5

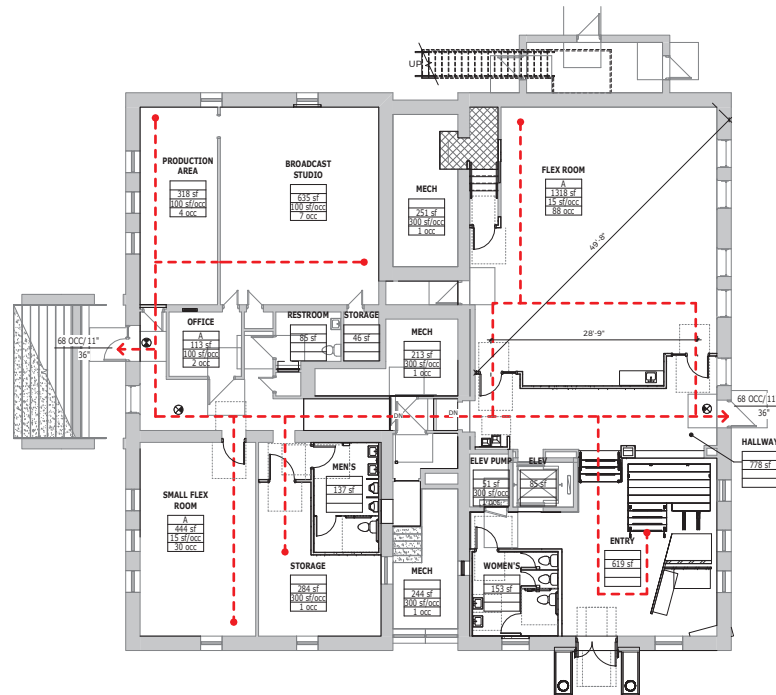
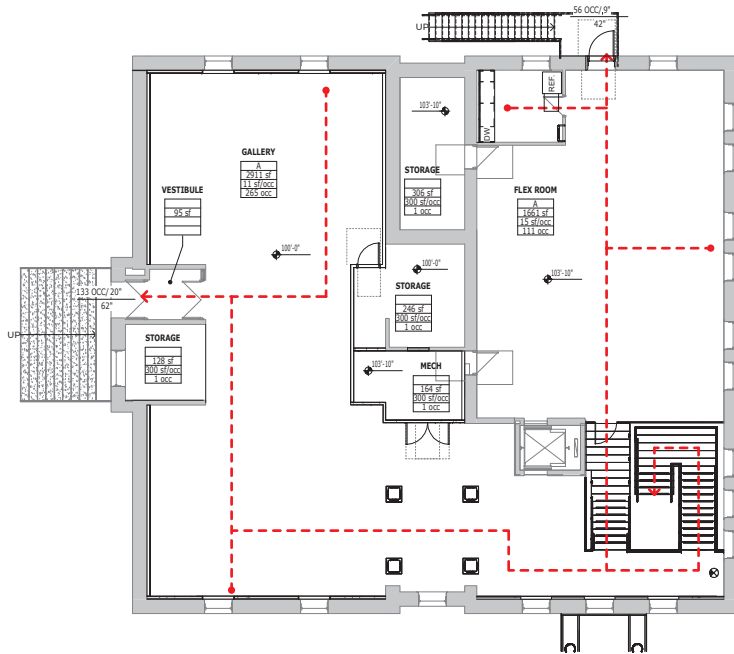
ALL WORK SHALL COMPLY WITH THE  
AMERICANS WITH DISABILITIES ACT.



## BUILDING AREA

CONSTRUCTION TYPE:	TYPE V-B
NUMBER OF STORIES:	TWO
OCCUPANCY:	A-3 ASSEMBLY
PASSIVE FIRE PROTECTION:	FIRE SPRINKLERS
ACTIVE FIRE PROTECTION:	NONE
ALLOWABLE HEIGHT:	60 FEET
ALLOWABLE STORIES:	TWO

ALLOWABLE AREA INCREASE DUE TO FRONTAGE (PER TABLE 506.3.3): 75% (WITH MORE THAN 75% OF THE PERIMETER HAVING MORE THAN 30' OPEN SPACE) OR AN INCREASE OF 13,500 SF

TOTAL ALLOWABLE EACH FLOOR:	31,500 SF
ACTUAL LOWER LEVEL:	5,867 SF
ACTUAL GALLERY & MEZZ. LEVEL:	5,920 SF
ACTUAL TOTAL BUILDING AREA:	11,787 SF

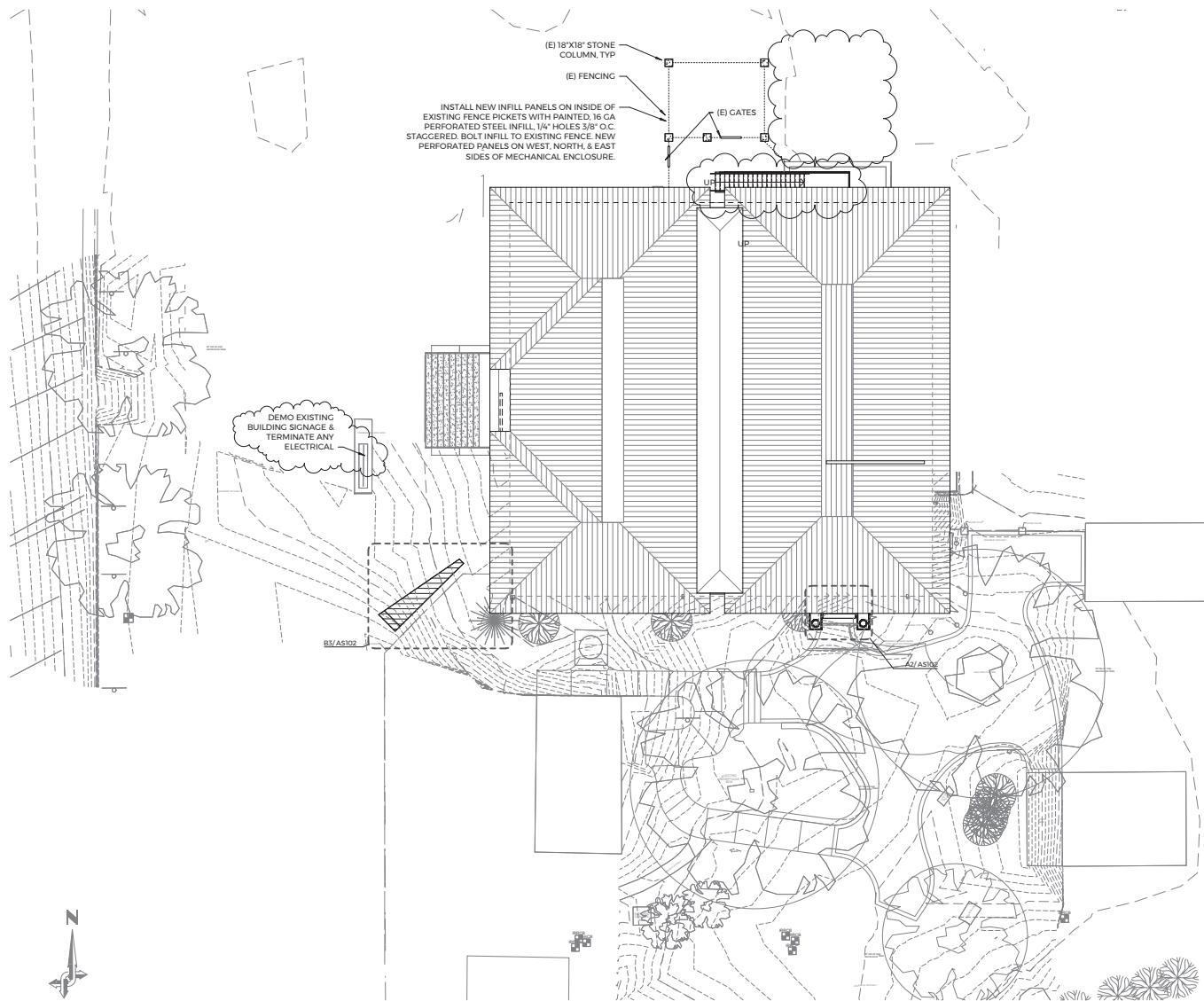


NO	DESCRIPTION	DATE
	<div><div><p>EXPIRES: 10/31/2023</p></div><div><div><div><b>workshop</b> ARCHITECTS + URBANISTS</div></div><div><p>401 LINDEN STREET, SUITE 2-228 FORT COLLINS, CO 80524 T: 970.430.5320 www.auworkshop.co</p></div></div><div><h1>CARNEGIE BUILDING RENOVATION</h1><p>CITY OF FORT COLLINS</p><p>200 Mathews Street Fort Collins, CO 80524</p><p><b>PROJECT #:</b> 2118 <b>ISSUE DATE:</b> 09/16/22</p><div><h1>G101</h1><p>CODE FOOTPRINTS</p><p>PERMIT SET</p><p>© 2022</p></div></div></div>	

11/1/2022, 11:34:35 AM - PLOT DATE

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1"=10'-0"



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## CARNEGIE BUILDING RENOVATION

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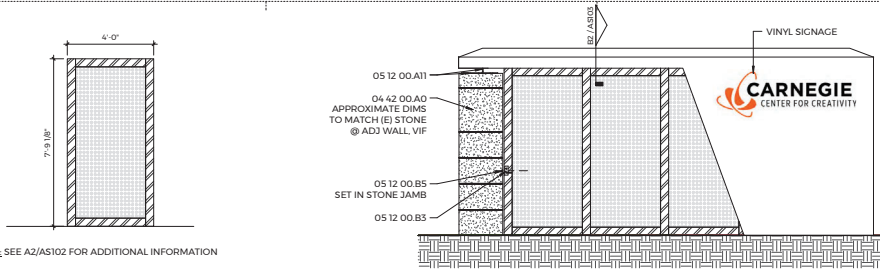
# AS101

SITE PLAN

PERMIT SET

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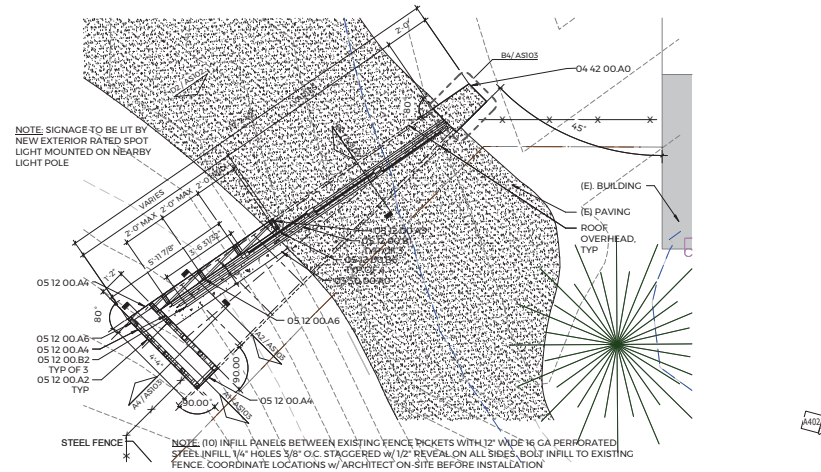




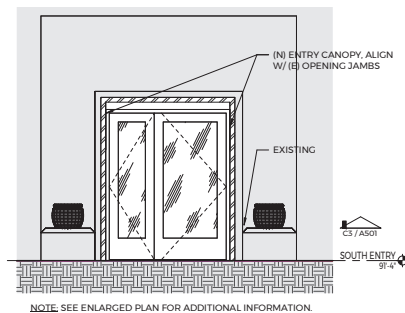
**D3 SLIDING GATE PANEL**  
3/8" = 1'-0"

**D2 GATE N ELEVATION**  
3/8" = 1'-0"

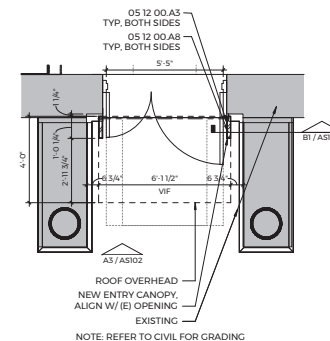
#	KEYNOTES
05 30 00 A0	CAST-IN-PLACE CONCRETE
04 42 00 A0	SANDSTONE
05 12 00 A2	2-1/2 x 2-1/2 x 1/8" HSS
05 12 00 A3	1/8" STEEL PLATE w/ CAR PAINT (ALL SIDES OF HSS FRAME)
05 12 00 A4	1/8" STEEL PLATE w/ CAR PAINT
05 12 00 A6	6 x 2 x 1/8" HSS
05 12 00 A8	12 x 2 x 3/16" HSS
05 12 00 A11	3/8" STEEL PLATE
05 12 00 B1	COMUNELLO SLIDING DOOR TRACK, ART. 293
05 12 00 B2	COMUNELLO SLIDING DOOR STOP, ART. 202F-A (EA. PANEL)
05 12 00 B3	COMUNELLO SLIDING DOOR LOCK, ART. 215
05 12 00 B5	COMUNELLO SLIDING DOOR STRIKE, ART. 216
05 12 00 B6	SLIDING GATE



**B3 GATE DETAIL - TOP OF STONE**  
3/8" = 1'-0"



**A3 CANOPY N ELEVATION**  
3/8" = 1'-0"

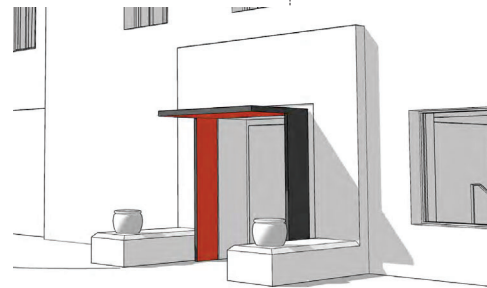


**A2 CANOPY ENLARGED PLAN**  
3/8" = 1'-0"

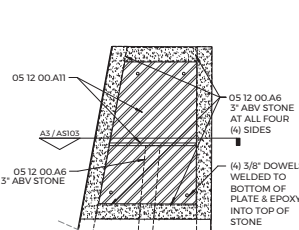
NO	DESCRIPTION	DATE
<b>auworkshop</b> 401 LINDEN STREET, SUITE 2-228 FORT COLLINS, CO. 80524 T - 970.430.5220 www.auworkshop.co		
<b>CARNEGIE BUILDING RENOVATION</b> CITY OF FORT COLLINS 200 Mathews Street Fort Collins, CO 80524 PROJECT #: 2118 ISSUE DATE: 09/16/22		
<b>AS102</b> GATE & CANOPY DETAILS PERMIT SET © 2022		



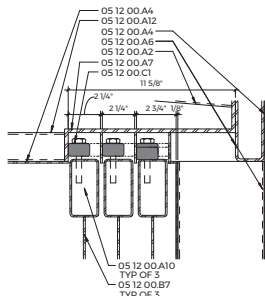
**C4** GATE PERSPECTIVE VIEW (FOR COLOR REFERENCE ONLY)



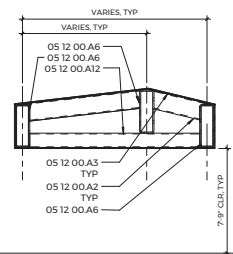
**C2** CANOPY PERSPECTIVE (FOR COLOR REFERENCE ONLY)



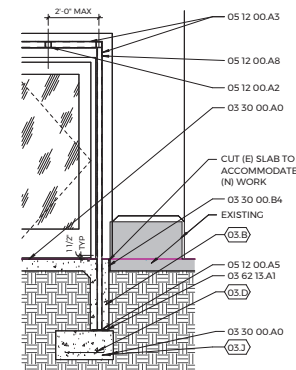
**B4** GATE TOP OF STONE DETAIL  
1/2" = 1'-0"



**B3** GATE HEAD DETAIL  
3" = 1'-0"

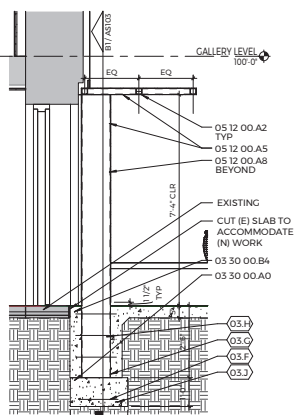


**B2** GATE ROOF DETAIL  
1/2" = 1'-0"

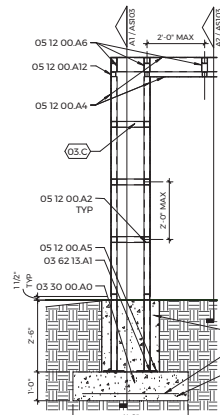


**B1** CANOPY SECTION 2  
1/2" = 1'-0"

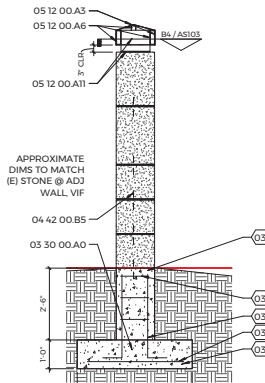
#	NOTE
03 30 00 A0	CAST-IN-PLACE CONCRETE
03 30 00 B4	EXPANSION JOINT
03 62 13 A1	NON-SHRINK GROUTING
03 B	ENCASE COLUMNS BELOW GRADE IN CONCRETE
03 C	CROSS PIECES TO FORM VERTICAL BOX TRUSS, TYP
03 D	#4 @ 2'-0"
03 E	4- #5 BARS CONT
03 F	4- #5 BARS EACH WAY
03 G	4- #4 VERTICALS
03 H	#4 TIES @ 12" MAX
03 J	3- #5 BARS CONT
04 42 00 B5	EPOXY (3) 8" LONG #4 BARS BETWEEN EACH STONE
05 12 00 A2	2-1/2 x 2-1/2 x 1/8" HSS
05 12 00 A3	1/8" STEEL PLATE w/ CAR PAINT (ALL SIDES OF HSS FRAME)
05 12 00 A4	1/8" STEEL PLATE w/ CAR PAINT
05 12 00 A5	1/8" STEEL PLATE
05 12 00 A6	6 x 2 x 1/8" HSS
05 12 00 A7	1/4" BENT PLATE
05 12 00 A8	12 x 2 x 3/16" HSS
05 12 00 A10	4 x 2 x 1/8" HSS w/ CAR PAINT
05 12 00 A11	3/8" STEEL PLATE
05 12 00 A12	2 x 2 x 1/8" HSS
05 12 00 B1	COMUNELLO SLIDING DOOR TRACK, ART. 293
05 12 00 B4	COMUNELLO SLIDING DOOR WHEEL, ART. 335V-340 (2/PANEL)
05 12 00 B7	16 GA PERFORATED STEEL INFILL, 1/4" HOLES 5/8" O.C. STAGGERED w/ 1/2" REVEAL ON ALL SIDES
05 12 00 C1	1/4" STEEL PLATE, MILL SCALE REMOVED w/ CLEAR FINISH



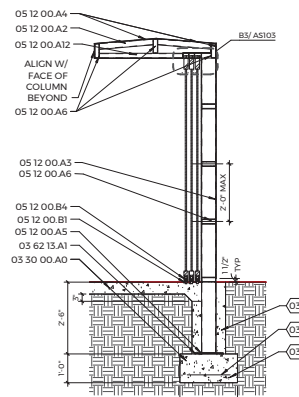
**A5** CANOPY SECTION 1  
1/2" = 1'-0"



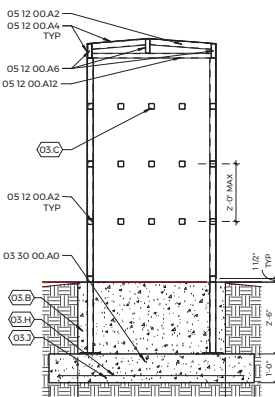
**A4** GATE SECTION 4  
1/2" = 1'-0"



**A3** GATE SECTION 3  
1/2" = 1'-0"



**A2** GATE SECTION 2  
1/2" = 1'-0"



**A1** GATE SECTION 1  
1/2" = 1'-0"

NO	DESCRIPTION	DATE
1	AS103	09/16/22

**au workshop**  
ARCHITECTS - URBANISTS

**CARNEGIE BUILDING RENOVATION**  
CITY OF FORT COLLINS  
200 Mathews Street  
Fort Collins, CO 80524

PROJECT #: 2118  
ISSUE DATE: 09/16/22

**AS103**  
GATE & CANOPY DETAILS  
PERMIT SET  
© 2022

GENERAL NOTES: DEMOLITION

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2. DRAWINGS INDICATE AN APPROXIMATION OF THE BUILDING CONSTRUCTION AND DIMENSIONS FOR BIDDING PURPOSES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS, INCLUDING REQUIRED DEMOLITION OF THE BUILDING & ITS CONTENTS, ACCOMMODATION OF DEMOLITION REMOVAL, AND NEW CONSTRUCTION SCOPE OF WORK. ADDITIONALLY, THESE DRAWINGS MAY NOT INCLUDE ALL EXISTING CONDITIONS WHICH MAY AFFECT THE WORK OF THIS CONTRACT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING CONSTRUCTION.

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4. EXISTING WALLS AND CONSTRUCTION SHALL BE REMOVED IN THEIR ENTIRETY TO EXTENT INDICATED ON THE DRAWINGS AND AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION. EXISTING WALLS (OR PORTIONS OF WALLS) TO BE REMOVED SHALL BE CUT FLUSH WHERE INTERSECTED WITH WALLS TO REMAIN. REMAINING WALLS TO BE PATCHED AND FINISHED SMOOTH. NEW OPENINGS TO BE CUT IN EXISTING WALLS SHALL BE SAW-CUT AT LOCATIONS INDICATED, TO THE HEIGHT AND WIDTH INDICATED, AND SMOOTHED/PATCHED AS NECESSARY FOR INSTALLATION OF FRAMES. NEW LINTELS SHALL BE INSTALLED TO SUPPORT EXISTING WALL CONSTRUCTION ABOVE AS INDICATED ON THE DRAWINGS, OR IF NOT INDICATED, AS REQUIRED FOR NEW WALL CONSTRUCTION PER STRUCTURE DRAWINGS.

5. REMOVE MECHANICAL, ELECTRICAL, AND PLUMBING FIXTURES, EQUIPMENT, AND DISTRIBUTION SYSTEMS TO THE EXTENT INDICATED AND AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION. CAP AND/OR RECONNECT ANY UTILITIES SERVING OTHER PORTIONS OF THE BUILDING OR ADJACENT PROPERTIES ACCORDING TO THE METHODS REQUIRED BY THE APPROPRIATE UTILITY AUTHORITY AND/OR AS INDICATED ON THE DRAWINGS.

6. PATCHING IS REQUIRED WHERE DEMOLITION OF ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND STRUCTURAL SYSTEMS LEAVES HOLES, Voids, OR UNFINISHED CONDITIONS @ FINISHED WALLS, FLOORS, AND CEILINGS. FILL ALL EXISTING FLOOR AND WALL PENETRATIONS RESULTING FROM PIPING AND CONDUIT REMOVAL WITH NON-SHRINK GROUT, READY TO RECEIVE FINAL FLOOR OR WALL FINISH.

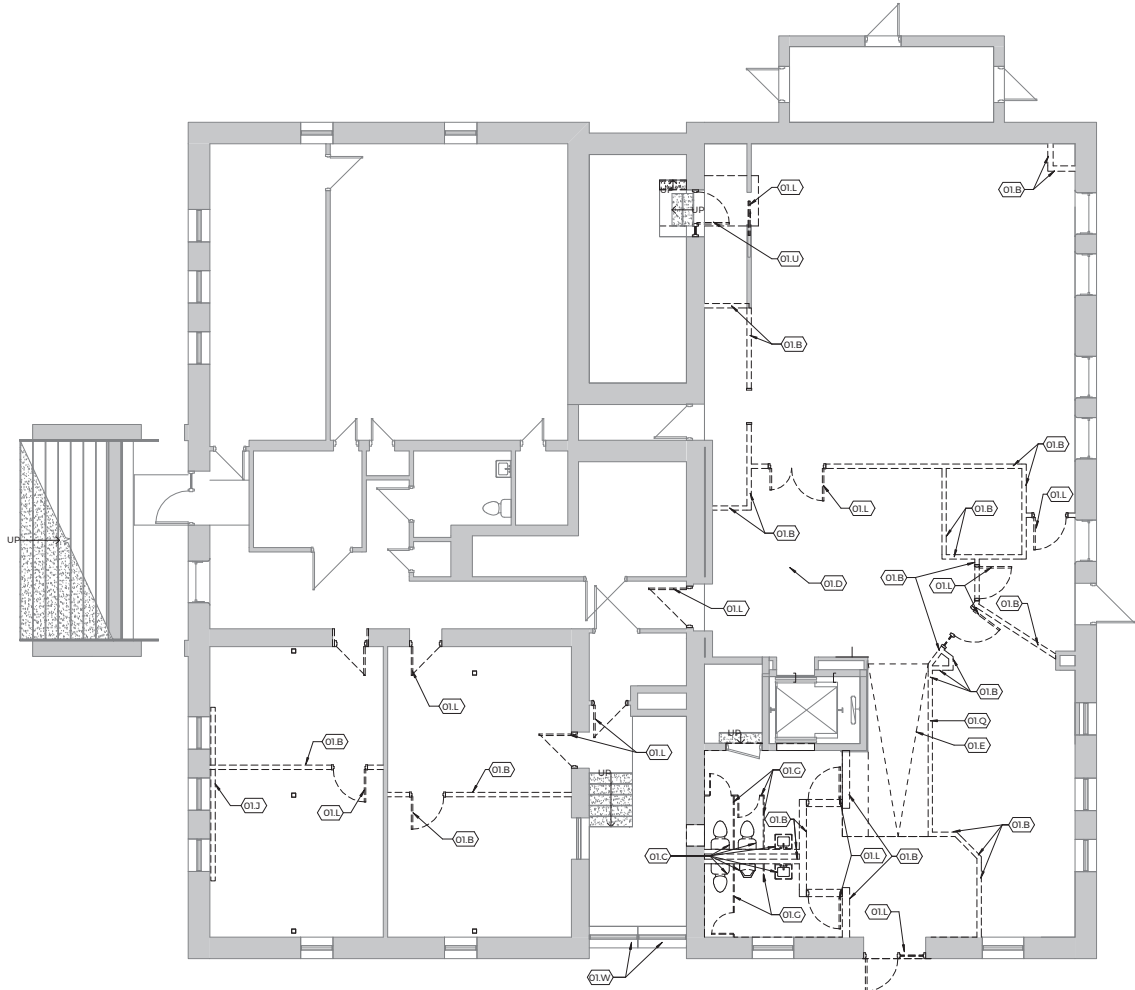
7. REPAIR EXISTING CONCRETE FLOOR SLABS AND PATCH, LEVEL AND REPAIR FLOOR SLABS AS REQUIRED FOR INSTALLATION OF NEW FLOORING. WHERE EXISTING CMU WALLS HAVE BEEN REMOVED, GRIND EDGES OF DEPRESSIONS AS NECESSARY TO PRODUCE A SMOOTH TRANSITION BETWEEN EXISTING SLABS AND NEW INFILL.

8. CLEAN AND PATCH ALL REMAINING WALL, FLOOR AND CEILING SURFACES DAMAGED BY DEMOLITION TO A CONDITION REQUIRED TO RECEIVE NEW CONSTRUCTION, OR IF TO REMAIN EXPOSED, TO A CONDITION COMPARABLE TO NEW CONSTRUCTION. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOOTHING IN NEW CONCRETE MASONRY TO REPLACE EXPOSED UNITS DAMAGED BEYOND REPAIR BY DEMOLITION; LEVELING (OR TAPERING) FLOOR SURFACE BETWEEN EXISTING FLOOR FINISHES AT LOCATIONS WHERE WALLS ARE REMOVED; AND PATCHING SMOOTH AREAS OF EXPOSED CONCRETE MASONRY STRUCTURE DAMAGED BY REMOVAL OF ADJACENT CONSTRUCTION.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL EXTRANEOUS HANGERS, CONDUITS, AND OTHER ITEMS THAT HAVE BEEN ABANDONED.

10. REMOVAL AND REINSTALLATION OF EXISTING CEILINGS MAY BE REQUIRED TO INSTALL NEW SYSTEMS. REFER TO STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR FULL SCOPE OF WORK.

KEYNOTES	
#	NOTE
01B	REMOVE (E) WALL
01C	REMOVE (E) PLUMBING FIXTURES
01D	REMOVE (E) FLOOR FINISH
01E	REMOVE (E) RAMP TO EXTENT REQUIRED TO INSTALL NEW FLOOR
01G	REMOVE (E) TOILET PARTITIONS & DOORS
01J	REMOVE (E) FURRED WALLS
01L	REMOVE (E) DOOR & FRAME
01Q	REMOVE (E) HANDRAIL
01U	REMOVE & SALVAGE (E) DOOR, FRAME & SIDELITES
01W	REMOVE (E) PLYWOOD ON GATES



A4 LOWER LEVEL DEMOLITION PLAN

NO	DESCRIPTION	DATE
401 LINDEN STREET, SUITE 2-228 FORT COLLINS, CO. 80524 T - 970.430.5220 www.auworkshop.co		
<b>CARNEGIE BUILDING RENOVATION</b> CITY OF FORT COLLINS 200 Mathews Street Fort Collins, CO 80524 PROJECT #: 2118 ISSUE DATE: 09/16/22		
<b>AD101</b> LOWER LEVEL DEMOLITION PLAN PERMIT SET © 2022		



GENERAL NOTES: DEMOLITION

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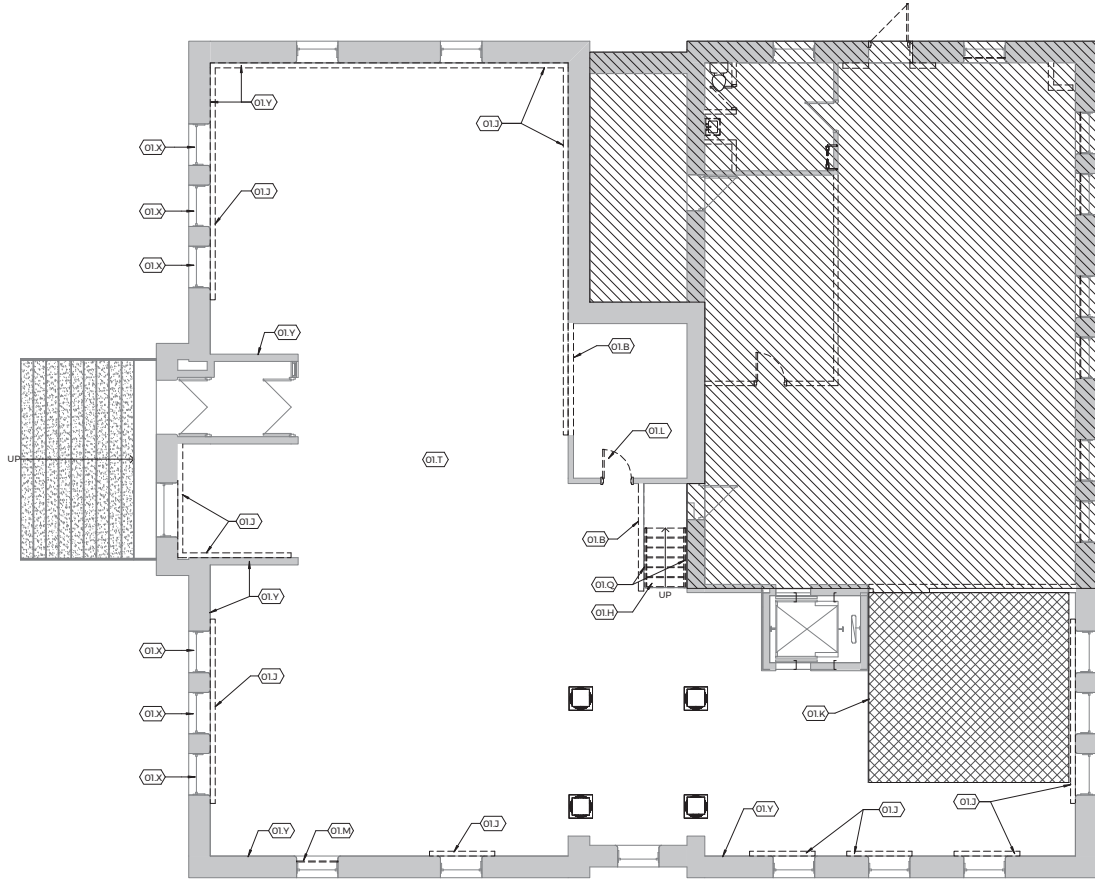
7. REPAIR EXISTING CONCRETE FLOOR SLABS AND PATCH, LEVEL AND REPAIR FLOOR SLABS AS REQUIRED FOR INSTALLATION OF NEW FLOORING. WHERE EXISTING CMU WALLS HAVE BEEN REMOVED, GRIND EDGES OF DEPRESSIONS AS NECESSARY TO PRODUCE A SMOOTH TRANSITION BETWEEN EXISTING SLABS AND NEW INFILL.

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KEYNOTES	
#	NOTE
01.B	REMOVE (E) WALL
01.H	REMOVE (E) STAIR
01.J	REMOVE (E) FURRED WALLS
01.K	REFER TO STRUCTURAL DRAWINGS FOR FLOOR DEMO
01.L	REMOVE (E) DOOR & FRAME
01.M	REMOVE (E) STORM WINDOW
01.Q	REMOVE (E) HANDRAIL
01.T	REMOVE & SALVAGE (E) GALLERY CARPET
01.X	REMOVE & SALVAGE (E) PLYWOOD ART PANELS
01.Y	REMOVE, SALVAGE, STRIP PAINT, & PREP FOR INSTALL (E) BASEBOARD (TYP ALL WOOD BASE IN GALLERY)



A4 GALLERY LEVEL DEMOLITION PLAN

3/8" = 1'-0"

NO	DESCRIPTION	DATE
----	-------------	------

401 LINDEN STREET, SUITE 2-228  
FORT COLLINS, CO. 80524  
T - 970.430.5220  
www.auiworkshop.co

**auworkshop**  
ARCHITECTS - URBANISTS

**CARNEGIE BUILDING  
RENOVATION**  
CITY OF FORT COLLINS  
200 Mathews Street  
Fort Collins, CO 80524  
PROJECT #: 2118  
ISSUE DATE: 09/16/22

**AD102**  
GALLERY LEVEL DEMOLITION PLAN  
PERMIT SET  
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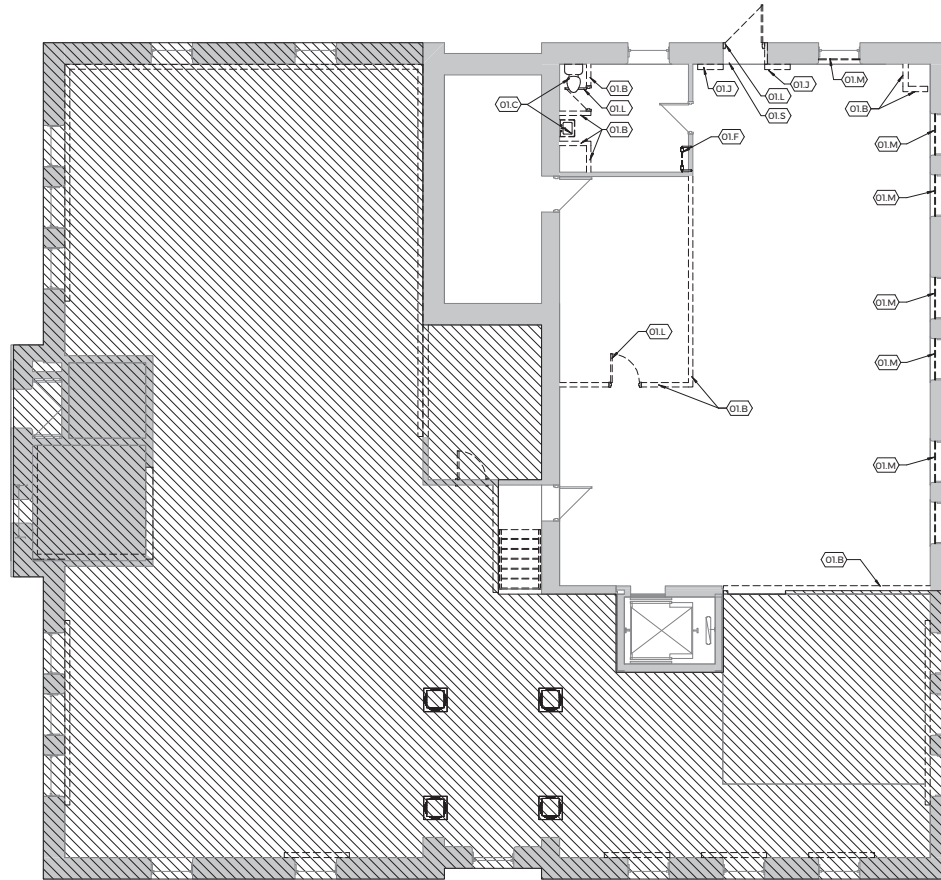
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KEYNOTES	
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01.C	REMOVE (E) PLUMBING FIXTURES
01.F	REMOVE (E) REMOVE & SALVAGE (E) ATTIC ACCESS LADDER
01.J	REMOVE (E) FURRED WALLS
01.L	REMOVE (E) DOOR & FRAME
01.M	REMOVE (E) STORM WINDOW
01.S	REMOVE (E) WALL ABOVE DOOR



**A4** MEZZANINE LEVEL DEMOLITION PLAN

3/8" = 1'-0"



NO	DESCRIPTION	DATE

**lau**workshop  
ARCHITECTS + ENGINEERS

401 LINDEN STREET, SUITE 2-228  
FORT COLLINS, CO. 80524  
T - 970.430.5220  
www.lauworkshop.co

## CARNEGIE BUILDING RENOVATION

CITY OF FORT COLLINS  
200 Mathews Street  
Fort Collins, CO 80524

PROJECT #: 2118  
ISSUE DATE: 09/16/22

## AD103

MEZZANINE LEVEL DEMOLITION PLAN

PERMIT SET

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GENERAL NOTES: DEMOLITION

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5. REMOVE MECHANICAL, ELECTRICAL, AND PLUMBING FIXTURES, EQUIPMENT, AND DISTRIBUTION SYSTEMS TO THE EXTENT INDICATED AND AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION. CAP AND/OR RECONNECT ANY UTILITIES SERVING OTHER PORTIONS OF THE BUILDING OR ADJACENT PROPERTIES ACCORDING TO THE METHODS REQUIRED BY THE APPROPRIATE UTILITY AUTHORITY AND/OR AS INDICATED ON THE DRAWINGS.

6. PATCHING IS REQUIRED WHERE DEMOLITION OF ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND STRUCTURAL SYSTEMS LEAVES HOLES, Voids, OR UNFINISHED CONDITIONS @ FINISHED WALLS, FLOORS, AND CEILINGS. FILL ALL EXISTING FLOOR AND WALL PENETRATIONS RESULTING FROM PIPING AND CONDUIT REMOVAL WITH NON-SHRINK GROUT, READY TO RECEIVE FINAL FLOOR OR WALL FINISH.

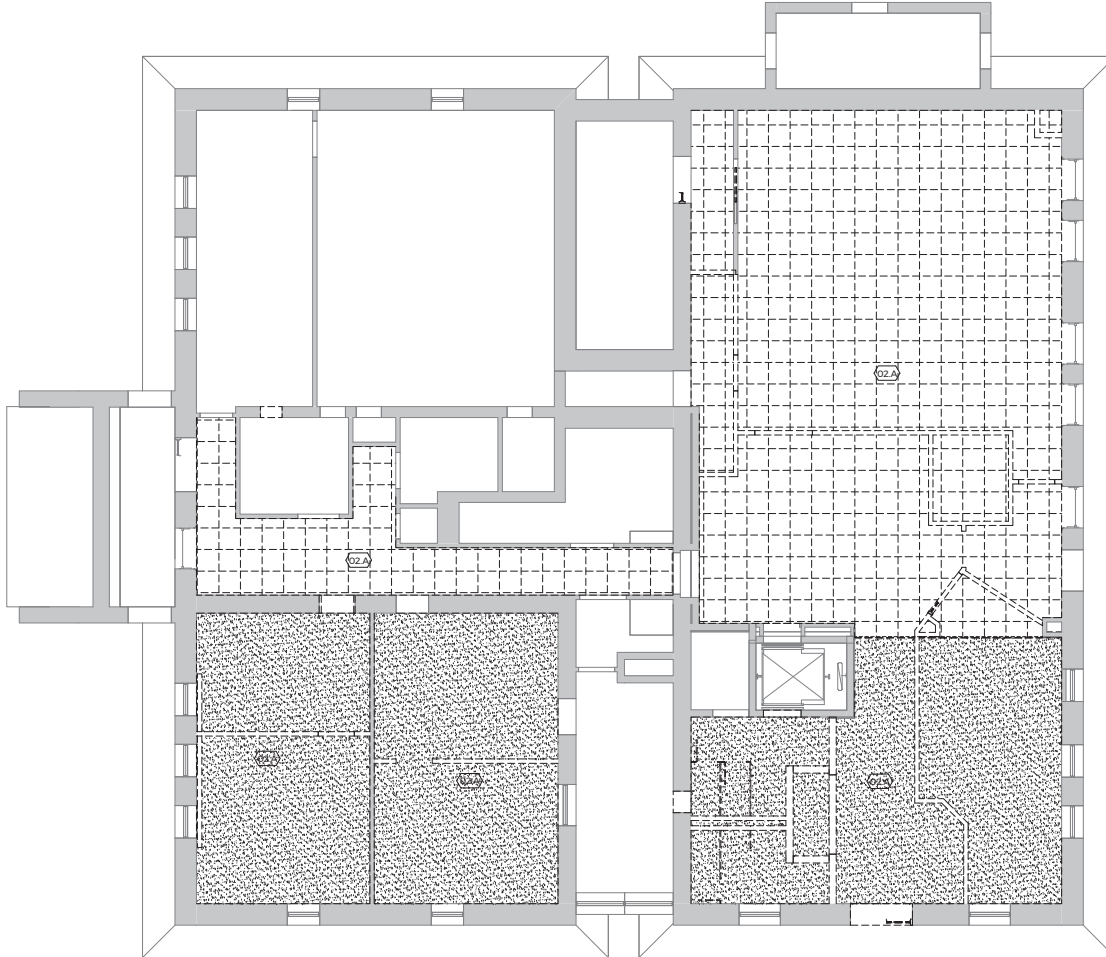
7. REPAIR EXISTING CONCRETE FLOOR SLABS AND PATCH, LEVEL AND REPAIR FLOOR SLABS AS REQUIRED FOR INSTALLATION OF NEW FLOORING. WHERE EXISTING CMU WALLS HAVE BEEN REMOVED, GRIND EDGES OF DEPRESSIONS AS NECESSARY TO PRODUCE A SMOOTH TRANSITION BETWEEN EXISTING SLABS AND NEW INFILL.

8. CLEAN AND PATCH ALL REMAINING WALL, FLOOR AND CEILING SURFACES DAMAGED BY DEMOLITION TO A CONDITION REQUIRED TO RECEIVE NEW CONSTRUCTION, OR IF TO REMAIN EXPOSED, TO A CONDITION COMPARABLE TO NEW CONSTRUCTION. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOOTHING IN NEW CONCRETE MASONRY TO REPLACE EXPOSED UNITS DAMAGED BEYOND REPAIR BY DEMOLITION. LEVELING (OR TAPERING) FLOOR SURFACE BETWEEN EXISTING FLOOR FINISHED AT LOCATIONS WHERE WALLS ARE REMOVED, AND PATCHING SMOOTH AREAS OF EXPOSED CONCRETE MASONRY STRUCTURE DAMAGED BY REMOVAL OF ADJACENT CONSTRUCTION.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL EXTRANEUS HANGERS, CONDUITS, AND OTHER ITEMS THAT HAVE BEEN ABANDONED.

10. REMOVAL AND REINSTALLATION OF EXISTING CEILINGS MAY BE REQUIRED TO INSTALL NEW SYSTEMS. REFER TO STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR FULL SCOPE OF WORK.

KEYNOTES	
#	NOTE
02A	REMOVE (E) CEILING



A4 LOWER LEVEL DEMOLITION REFLECTED CEILING PLAN

3/8" = 1'-0"

NO	DESCRIPTION	DATE
401 LINDEN STREET, SUITE 2-228 FORT COLLINS, CO. 80524 T - 970.430.5220 www.auworkshop.co		
<b>CARNEGIE BUILDING RENOVATION</b> CITY OF FORT COLLINS 200 Mathews Street Fort Collins, CO 80524 PROJECT #: 2118 ISSUE DATE: 09/16/22		
<b>AD141</b> LOWER LEVEL DEMOLITION REFLECTED CEILING PLAN PERMIT SET © 2022		

11/10/2022 11:34:52 AM - PLOT DATE

## GENERAL NOTES: DEMOLITION

1. RE-STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR FULL SCOPE OF DEMOLITION WORK.

2. DRAWINGS INDICATE AN APPROXIMATION OF THE BUILDING CONSTRUCTION AND DIMENSIONS FOR BIDDING PURPOSES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS, INCLUDING REQUIRED DEMOLITION OF THE BUILDING & ITS CONTENTS, ACCOMMODATION OF DEMOLITION REMOVAL, AND NEW CONSTRUCTION SCOPE OF WORK. ADDITIONALLY, THESE DRAWINGS MAY NOT INCLUDE ALL EXISTING CONDITIONS WHICH MAY AFFECT THE WORK OF THIS CONTRACT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING CONSTRUCTION.

3. PROVIDE INTERIOR AND EXTERIOR SHORING, BRACING, OR SUPPORT AS NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR DAMAGE TO STRUCTURES TO BE DEMOLISHED AND ADJACENT FACILITIES TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL METHODS OF STABILIZATION OF THE EXISTING AND ADJACENT STRUCTURES DURING AND AFTER DEMOLITION OF THE BUILDING ELEMENTS, INCLUDING ANY ADDITIONAL BRACING NOT SPECIFICALLY INDICATED ON THE ATTACHED DRAWINGS, AS REQUIRED BY CONDITIONS IN THE FIELD.

4. EXISTING WALLS AND CONSTRUCTION SHALL BE REMOVED IN THEIR ENTIRETY TO EXTENT INDICATED ON THE DRAWINGS AND AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION. EXISTING WALLS (OR PORTIONS OF WALLS) TO BE REMOVED SHALL BE CUT FLUSH WHERE INTERSECTED WITH WALLS TO REMAIN. REMAINING WALLS TO BE PATCHED AND FINISHED SMOOTH. NEW OPENINGS TO BE CUT IN EXISTING WALLS SHALL BE SAW-CUT AT LOCATIONS INDICATED, TO THE HEIGHT AND WIDTH INDICATED, AND SMOOTHED/PATCHED AS NECESSARY FOR INSTALLATION OF FRAMES. NEW INTELS SHALL BE INSTALLED TO SUPPORT EXISTING WALL CONSTRUCTION ABOVE AS INDICATED ON THE DRAWINGS, OR IF NOT INDICATED, AS REQUIRED FOR NEW WALL CONSTRUCTION PER STRUCTURE DRAWINGS.

5. REMOVE MECHANICAL, ELECTRICAL, AND PLUMBING FIXTURES, EQUIPMENT, AND DISTRIBUTION SYSTEMS TO THE EXTENT INDICATED AND AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION. CAP AND/OR RECONNECT ANY UTILITIES SERVING OTHER PORTIONS OF THE BUILDING OR ADJACENT PROPERTIES ACCORDING TO THE METHODS REQUIRED BY THE APPROPRIATE UTILITY AUTHORITY AND/OR AS INDICATED ON THE DRAWINGS.

6. PATCHING IS REQUIRED WHERE DEMOLITION OF ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND STRUCTURAL SYSTEMS LEAVES HOLES, VOIDS, OR UNFINISHED CONDITIONS @ FINISHED WALLS, FLOORS, AND CEILINGS. FILL ALL EXISTING FLOOR AND WALL PENETRATIONS RESULTING FROM PIPING AND CONDUIT REMOVAL WITH NON-SHRINK GROUT, READY TO RECEIVE FINAL FLOOR OR WALL FINISH.

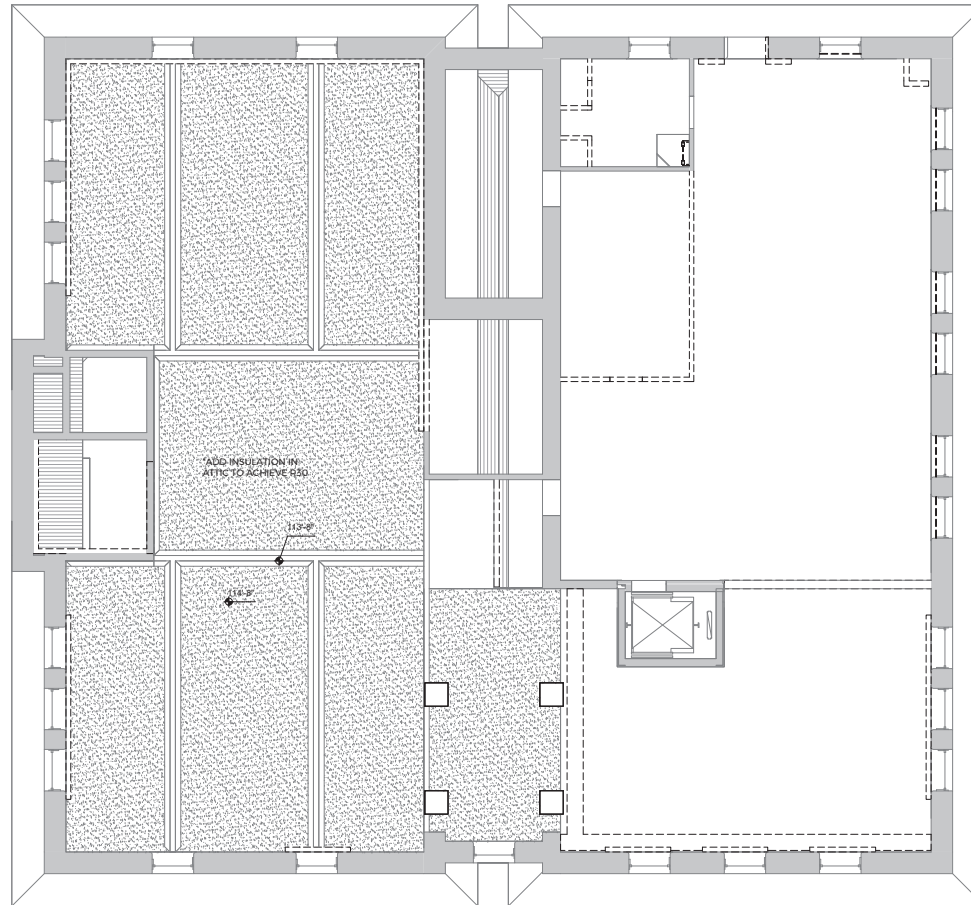
7. REPAIR EXISTING CONCRETE FLOOR SLABS AND PATCH, LEVEL AND REPAIR FLOOR SLABS AS REQUIRED FOR INSTALLATION OF NEW FLOORING. WHERE EXISTING CMU WALLS HAVE BEEN REMOVED, GRIND EDGES OF DEPRESSIONS AS NECESSARY TO PRODUCE A SMOOTH TRANSITION BETWEEN EXISTING SLABS AND NEW INFILL.

8. CLEAN AND PATCH ALL REMAINING WALL, FLOOR AND CEILING SURFACES DAMAGED BY DEMOLITION TO A CONDITION REQUIRED TO RECEIVE NEW CONSTRUCTION, OR IF TO REMAIN EXPOSED, TO A CONDITION COMPATIBLE TO NEW CONSTRUCTION. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOOTHING IN NEW CONCRETE MASONRY TO REPLACE EXPOSED UNITS DAMAGED BEYOND REPAIR BY DEMOLITION, LEVELING (OR TAPERING) FLOOR SURFACE BETWEEN EXISTING FLOOR FINISHED AT LOCATIONS WHERE WALLS ARE REMOVED, AND PATCHING SMOOTH AREAS OF EXPOSED CONCRETE MASONRY STRUCTURE DAMAGED BY REMOVAL OF ADJACENT CONSTRUCTION.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL EXTRANEOUS HANGERS, CONDUITS, AND OTHER ITEMS THAT HAVE BEEN ABANDONED.

10. REMOVAL AND REINSTALLATION OF EXISTING CEILINGS MAY BE REQUIRED TO INSTALL NEW SYSTEMS. REFER TO STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR FULL SCOPE OF WORK.

KEYNOTES	
#	NOTE



**A4** GALLERY & MEZZANINE DEMOLITION LEVEL REFLECTED CEILING PLAN

3/8" = 1'-0"



NO	DESCRIPTION	DATE
401 LINDEN STREET, SUITE 2-228 FORT COLLINS, CO. 80524 T - 970.430.5220 www.auworkshop.co		
<b>CARNEGIE BUILDING RENOVATION</b> CITY OF FORT COLLINS 200 Mathews Street Fort Collins, CO 80524 <b>PROJECT #:</b> 2118 <b>ISSUE DATE:</b> 09/16/22		
<b>AD142</b> GALLERY & MEZZANINE LEVEL DEMOLITION REFLECTED CEILING PLAN <b>PERMIT SET</b> © 2022		





STEEL SPECIAL INSPECTION (IBC 1705.2, 1705.12.3 & 1705.13.1)				
ITEM	REQUIRED QUALIFICATIONS	FREQUENCY	DETAILED INSTRUCTIONS	PERIODIC TEST OR INSPECTION FREQUENCY
FABRICATORS				
In-plant inspection	AWS-ASNC-SS ICC-SW6	Continuous	Required unless fabricator is approved and follows provisions of 1704.2.5.1	Infrequent
PRIOR TO WELDING				
Verify welding procedures (WPS) and consumables certificates	AWS-CWI ASNT	Continuous	Verify type and grade of material	
Material certification	AWS-CWI ASNT	Periodic	A system shall be maintained by which a welder who has welded a joint or member can be identified	
Welder identification	AWS-CWI ASNT	Periodic	Verify joint preparation, dimensions, cleanliness, tacking, and backing	
Fit-up groove welds	AWS-CWI ASNT	Periodic	Verify joint preparation, dimensions, cleanliness, and tacking	
Fit-up CJP groove welds of HSS joints without tacking	AWS-CWI ASNT	Periodic	Verify joint preparation, dimensions, cleanliness, and tacking	
Access holes	AWS-CWI ASNT	Periodic	Verify alignment, gaps at root, cleanliness of steel surfaces, and tack weld quality and location	
Fit-up of fillet welds	AWS-CWI ASNT	Periodic	Verify joint preparation, dimensions, cleanliness, and tacking	
DURING WELDING				
Use of qualified welders	AWS-CWI ASNT	Periodic	Verify that welders are appropriately qualified	
Control and handling of welding consumables	AWS-CWI ASNT	Periodic	Verify packaging and exposure control	
Cracked tack welds	AWS-CWI ASNT	Periodic	Verify that welding does not occur over cracked tack welds	
Environmental conditions	AWS-CWI ASNT	Periodic	Verify wind speed is within limits as well as precipitation and temperature	
WPS followed	AWS-CWI ASNT	Periodic	Verify items such as settings on welding equipment, travel speed, welding materials, shielding gas type/rate, preheat applied, interpass temperature maintained, and proper position	
Welding techniques	AWS-CWI ASNT	Periodic	Verify interpass and final cleaning, gaps in within profile limitations, and quality of each joint	
AFTER WELDING				
Welds cleaned	AWS-CWI ASNT	Periodic	Verify that welds have been properly cleaned	
Size, length, and location of welds	AWS-CWI ASNT	Continuous		
Welds meet visual acceptance criteria	AWS-CWI ASNT	Continuous		
Air cracks	AWS-CWI ASNT	Continuous		
in area	AWS-CWI ASNT	Continuous		
Weld access holes in heavy shapes	AWS-CWI ASNT	Continuous		
Backlog & weld test removed	AWS-CWI ASNT	Continuous		
Repair activities	AWS-CWI ASNT	Continuous		
Document acceptance or rejection of welded joint/member	AWS-CWI ASNT	Continuous		
NONDESTRUCTIVE TESTING				
CJP welds (Risk Cat. I)	AWS-CWI ASNT	Periodic	Ultrasonic testing shall be performed on 10% of CJP groove welds in butt, T, and corner joints subject to transverse applied tension loading in materials 5/16 inch thick or greater. Testing rate must be increased if 5% of welds tested have unacceptable defects	Yes
CJP welds (Risk Cat. II or IV)	AWS-CWI ASNT	Continuous	A reduction in the rate of ultrasonic testing is allowed per Section NS-6	Yes
Access holes (Range > 2")	AWS-CWI ASNT	Continuous		
Welded joints subject to fatigue	AWS-CWI ASNT	Continuous		
PRIOR TO BOLTING				
Fastener certifications	AWS-ASNC-SS ICC-SW6	Continuous		
Fasteners marked	AWS-ASNC-SS ICC-SW6	Periodic	Verify that fasteners have been marked in accordance with ASTM requirements	
Proper fasteners for joint	AWS-ASNC-SS ICC-SW6	Periodic	Verify grade, type, and bolt length if threads are excluded from the shear plane	
Proper bolting procedure	AWS-ASNC-SS ICC-SW6	Periodic	Verify proper procedure is used for the joint detail	
Connecting elements	AWS-ASNC-SS ICC-SW6	Periodic	Verify appropriate flaying surface condition and hole preparation (if specified, meet requirements)	
Pre-installation verification testing	AWS-ASNC-SS ICC-SW6	Periodic	Observe and document verification testing by installation personnel for fastener assemblies and methods used	
Proper storage	AWS-ASNC-SS ICC-SW6	Periodic	Verify proper storage of bolts, nuts, washers, and other fastener components	
DURING BOLTING				
Fastener assemblies	AWS-ASNC-SS ICC-SW6	Periodic	Verify that fastener assemblies are of suitable condition, placed in all holes, and washers are positioned as required	
Snug-tight prior to pretensioning	AWS-ASNC-SS ICC-SW6	Periodic	Verify that parts are brought to snug-tight condition prior to pretensioning operation	
Fastener component	AWS-ASNC-SS ICC-SW6	Periodic	Verify that fastener component is not turned by wrench reversed from rotating	
Pretensioned fasteners	AWS-ASNC-SS ICC-SW6	Periodic	Verify that fasteners are Pretensioned in accordance with RCSC Specifications, progressing systematically from the most rigid point toward the free edges	
AFTER BOLTING				
Document acceptance or rejection of bolted connections	AWS-ASNC-SS ICC-SW6	Continuous		

CONCRETE SPECIAL INSPECTION (IBC 1705.3 & 1705.12.1)				
ITEM	REQUIRED QUALIFICATIONS	FREQUENCY	DETAILED INSTRUCTIONS	PERIODIC TEST OR INSPECTION FREQUENCY
Reinforcing steel	ACI-CO ICC-RC3	Periodic	Verify prior to placing concrete that reinforcing is of specified type, grade and size, that it is free of oil, dirt and rust; that it is coated and spaced properly; that hooks, bends, ties, laps and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report	CONC Infrequent
Preexisting voids	ICC-PC3	Periodic	Verify prior to placing concrete that voids are of specified type, grade and size, that they are located and spaced properly, and that anchorages and supplemental reinforcement are placed correctly	Yes
Welding of reinforcing steel	AWS-CWI	Periodic	Visually inspect all welds and also verify weldability of reinforcing steel based upon carbon equivalent and in accordance with AWS D1.4	
Cast-in bolts & embeds	ACI-CO ICC-RC3	Periodic	Inspection of anchors or embeds cast in concrete is required when allowable loads have been increased or where strength design is used	
Post-installed anchors or dowels	ACI-CO ICC-RC3	Periodic	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report. Horizontally or upwardly inclined anchors that resist sustained tension loads require continuous inspection and approved installers	
Use of required mix design	ACI-CO ICC-RC3	Periodic	Verify that all mixes used comply with the approved construction documents, ACI 318, 28, 19, 28.3, 30.4, 4, and 194.1, 194.2, 1908.2, 1908.3	
Concrete sampling for strength tests, slump, air content, and temperature	ACI-CFTT ACI-S1	Continuous		

WOOD SPECIAL INSPECTION (IBC 1705.5)				
ITEM	REQUIRED QUALIFICATIONS	FREQUENCY	DETAILED INSTRUCTIONS	PERIODIC TEST OR INSPECTION FREQUENCY
Fabricator Certification/Quality Control Procedures		Periodic	Inspect shop fabrication process and quality control procedures of wood structural elements and assemblies in accordance with Section 1704.2.5.1	WOOD Infrequent
Material Grading		Periodic	Verify grade or certificate of inspection of sawn lumber	
Connections		Periodic	Inspection of wood / wood connections of elements	
Joint Connections		Continuous	Inspection of lateral connections (e.g., bolt-downs and straps)	
Framing Details		Continuous	Verify that framing details comply with construction documents or approved submittals	
Wood trusses spanning > 60 feet		Periodic	Verify that temporary and permanent truss bracing is installed in accordance with approved truss package	Yes
Permanent Truss Bracing		Periodic	Verify installation of permanent truss bracing in accordance with construction documents and approved truss package	
Roof and Floor Diaphragm Systems		Periodic	IBC 1705.12.7 & 1705.13.2	Yes
Member Size and Connection		Periodic	Verify thickness and grade of sheathing, size of framing members at panel edges, multiple diameters and lengths, and the number of fastener lines and fastener spacing per approved plans	No
Field Clang		Continuous	Inspection during field gluing of elements of the main wind force resisting system	Yes
Field Fastening		Periodic	Inspection during field nailing, bolting, anchoring and other fastening of wood diaphragms where sheathing fastener spacing is 4" or less	Yes
Collectors, Drag Straps and Boundary Elements		Periodic	Inspection of collectors, drag straps and boundary elements	Yes
Vertical Wind-Force-Resisting Systems, including Walls		Periodic	IBC 1705.12.1 & 1705.13.2	Yes
Member Size and Connection		Periodic	Verify thickness and grade of sheathing, size of framing members at panel edges, multiple diameters and lengths, and the number of fastener lines and fastener spacing per approved plans	No
Field Fastening		Periodic	Inspection during field nailing, bolting, anchoring and other fastening of wood shear walls where sheathing fastener spacing is 4" or less	Yes
Hold-downs		Periodic	Inspection of nailing, bolting, anchoring and other fastening of hold-downs	Yes

STATEMENT OF SPECIAL INSPECTIONS

The Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This Statement of Special Inspections encompasses the following disciplines:

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibility.

The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.

Interim Report Frequency: Within 48 hours of inspection, unless indicated otherwise.

A Final Report of Special Inspections documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy. Job site safety and means and methods of construction are solely the responsibility of the Contractor.

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agencies

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the Agency Number on the Schedule.

PE/SE Structural Engineer - a licensed SE or PE specializing in the design of building structures  
PE/GE Geotechnical Engineer - a licensed PE specializing in soil mechanics and foundations  
EST Engineer in Training - a graduate engineer who has received the Fundamentals of Engineering examination  
ACI Concrete Institute (ACI) Certification  
ACI CFTT Concrete Field Testing Technician - Grade 1  
ACI CCI Concrete Construction Inspector  
ACI LTT Laboratory Testing Technician - Grade 1 & 2  
ACI STT Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI Certified Welding Inspector

AWS-ASNC-SS Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT Non-Destructive Testing Technician - Level I or II

International Code Council (ICC) Certification

ICC-SW6 Structural Masonry Special Inspector

ICC-SW6 Structural Steel and Welding Special Inspector

ICC-SF3 Spray Applied Fireproofing Special Inspector

ICC-PC3 Prestressed Concrete Special Inspector

ICC-RC3 Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET CCI Concrete Technician - Levels I, II, III, IV, V

NICET ST Steel Technician - Levels I, II, III, IV

NICET GET Geotechnical Engineering Technician - Levels I, II, III, IV

Editor Design Institute (EDI) Certification

EDI-EIFS EIFS Third Party Inspector

Quality Assurance Plans

INTERIOR RENOVATION OF EXISTING BUILDING - NOT REQUIRED

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

Prepared by:

EOR NAME / Signature Date

Owner's Authorization:

Signature Date

Building Official's Acceptance:

Signature Date

SCHEDULE OF INSPECTION AND TESTING AGENCIES		
SPECIAL INSPECTION AGENCIES	FORM	ADDRESS, TELEPHONE, E-MAIL
Special Inspection Coordinator	TBD	
Inspector	TBD	
Inspector	TBD	
Testing Agency	TBD	
Testing Agency	TBD	
Continuities	TBD	
Other	TBD	



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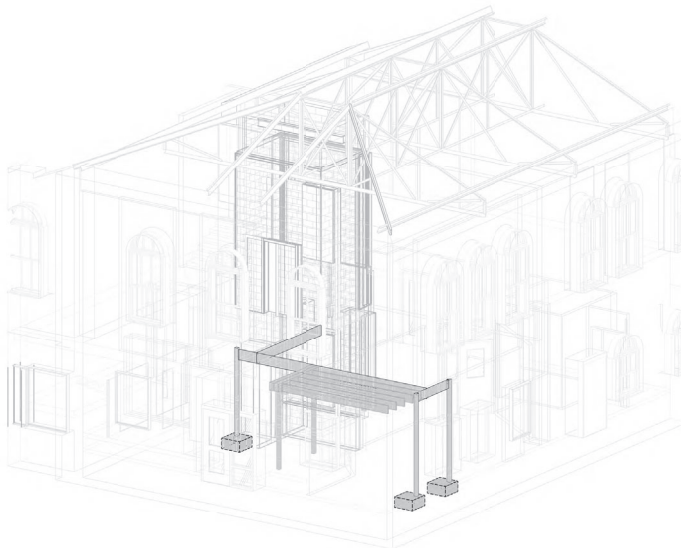
**S001**  
IBC 2021 STATEMENT OF SPECIAL INSPECTION  
PERMIT SET  
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## FIELD VERIFICATION

- ALL DIMENSIONS AND CONDITIONS SHALL BE FIELD VERIFIED BY CONTRACTOR
- IF DIMENSIONS AND CONDITIONS DIFFER THAN THOSE SHOWN ON DRAWINGS, NOTIFY ARCHITECT AND ENGINEER
- NOTIFY ARCHITECT AND ENGINEER ONCE FINISHES ARE REMOVED & FOUNDATION IS EXCAVATED TO ALLOW OBSERVATION

## ABBREVIATIONS KEY

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
(E)	ON CENTER SPACING	DWG	DRAWING	LGS	LIGHT GAGE STEEL
(E)	EXISTING	DWL	DOWEL	LL	LIVE LOAD
(N)	NEW	EA	EACH	LLH	LONG LEG HORIZONTAL
(R)	REMOVE	EOC	ECCENTRIC	LLV	LONG LEG VERTICAL
AB	ANCHOR ROD (BOLT)	E-E	END TO END	LOC	LOCATION
ADDL	ADDITIONAL	EP	LOW POINT	LOC	LOCATION
ADJ	ADJUSTABLE	EF	EXPANSION JOINT	LSL	LAMINATED STRAND LUMBER (GENERIC TERM)
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	EL	ELEVATION	LT	LIGHT
AFF	ABOVE FINISHED FLOOR	ELEC	ELECTRIC, ELECTRICAL	LVL	LAMINATED VENEER LUMBER (GENERIC TERM)
ALT	ALTERNATE	EMBED	EMBEDMENT	MACH	MACHINE
AMT	AMOUNT	ENGR	ENGINEER	MAS	MASONRY
ANCH	ANCHOR, ANCHORAGE	EQ	EQUAL	MATL	MATERIAL
APPROX	APPROXIMATE	EQUIV	EQUIVALENT	MAX	MAXIMUM
ARCH	ARCHITECT, ARCH	ES	EACH SIDE	MECH	MECHANICAL
ATR	ALL THREAD ROD	EST	ESTIMATE	MEZZ	MEZZANINE
AVG	AVERAGE	E-W	EAST TO WEST	MFR	MANUFACTURE, ER, ED
BC	BOTTOM OF CONCRETE	EXC	EXCAVATE	MIN	MINIMUM
BL	BRICK LEDGE	EXP	EXPANSION	ML	MISCELLANEOUS TRUSS JOIST BRAND LVL, MASONRY LINTEL
BLK	BLOCK	EXT	EXTERIOR	MO	MASONRY OPENING
BLUG	BLOCKING	FD	FLOOR DRAIN	MTL	METAL
BM	BEAM	FDN	FOUNDATION	NF	NEAR FACE
BOT	BOTTOM	FF	FINISHED FLOOR, FAR FACE	NC	NOT IN CONTRACT
BRG	BEARING	F-F	FACE TO FACE	NE	NEAR SIDE
BW	BOTTOM OF WALL	FIG	FIGURE	N-S	NORTH TO SOUTH
CB	COUNTERBORE	FL	FLOOR	NS	NORTH TO SCALE
CF	CONE FOOT	FLG	FLANGE	OCJ	OSM COLUMN JOIST
CFB	COLD-FORMED STEEL	FLR	FLOOR	OD	OUTSIDE DIAMETER
CG	CENTER OF GRAVITY	FO	FACE OF	OF	OUTSIDE FACE
CH	CHISEL	FP	FULL PENETRATION	OH	OPPOSITE HAND
CJ	CONSTRUCTION JOINT, CONTROL JOINT	FS	FOOTING STEP, FAR SIDE	OPNG	OPENING
CL	COMPLETE JOINT, PENETRATION	FTG	FOOTING	OPP	OPPOSITE
CLP	CENTERLINE	GA	GAGE, GAUGE	OSB	ORIENTED STRAND BOARD
CLG	CEILING	GALV	GALVANIZED	PAF	PONDER ACTIVATED FASTENER
CLR	CLEAR	GEN	GENERAL CONTRACTOR	PC	PRECAST
CM	CONSTRUCTION MANAGER, MEET	GEN	GENERAL	PCF	POUNDS PER CUBIC FOOT
CMU	CONCRETE MASONRY UNIT	GL	GLUED LAMINATED COLUMN	PE	PRE-ENGINEERED
COL	COLUMN	GND	GROUND	PEN	PENETRATION
COM	COMMON	GR	GRADE	PERP	PERPENDICULAR
COMB	COMBINATION	GT	GRATER TRUSS	PJP	PARTIAL JOINT, PENETRATION
CONC	CONCRETE	GYP	GYPSON BOARD	PL	PLATE
CONC	CONNECTION	HAS	HEADED ANCHOR STUD	PLF	POUND PER LINEAR FOOT
CONT	CONTINUOUS, CONTINUE	HDR	HOT-DIP GALVANIZED	PNL	PANEL
COORD	COORDINATE, COORDINATION	HDR	HEADER	PP	PANEL POINT
CS	COUNTERSINK	HORIZ	HORIZONTAL	PP	PRESTRESSED
CYB	CENTER	HP	HIGH POINT	PSF	POUNDS PER SQUARE FOOT
CY	CUBIC YARD	HT	HEIGHT	PSI	POUNDS PER SQUARE INCH
DAB	DEFORMED ANCHOR BAR	ID	INSIDE DIAMETER	PST	POST TENSIONED
DET	DETAIL	INS	INSIDE	PSL	PRESSURE TREATED
DEV	DEVELOP	INT	INTERIOR, INTERMEDIATE	PT	PARTITION
DWG	DRAWING	INT	INTERIOR, INTERMEDIATE	PN	PLYWOOD
DIM	DIMENSION	JB	JOIST BEARING	QTY	QUANTITY
DL	DEAD LOAD	JST	JOIST	R	RADIUS
DN	DOWN	JT	JOINT	RE	REFERENCE, REFER TO
DRILL PER	DRILLED PER	K	KIP (1,000 LBS)	RECT	RECTANGLE
DT	DOUBLE TEE				



3D SCHEMATIC VIEW

SYMBOLS KEY		
	DIRECTION OF DECK SPAN	
	GRID DESIGNATION	
	REVISION	
	INDICATES STRUCTURAL ELEVATION	
	SHEAR WALL	
	SHORING	
	STEP IN FLOOR ELEVATION	
	CMU (CONCRETE MASONRY UNIT)	
	BRICK	
	CIP CONCRETE	
	PRECAST CONCRETE	
	EXISTING CONCRETE	
	EARTH	
	ISOLATED SPREAD FOOTING MARK	
	SPREAD FOOTING MARK	
	STEP IN BOTTOM OF WALL/GRAZE BEAM	
	ROOF SLOPE	
	DIRECTION OF SLOPE (DOWN)	
	STAR OR RAMP DIRECTION	
	FULLY WELDED MOMENT FRAME CONNECTION	
	CANTILEVER MOMENT CONNECTION	
	LOCATION OF BEND IN BENT BEAM	
	NUMBER OF HEADED ANCHOR STUDS	
	TOP OF CONCRETE OR MASONRY ELEVATION	
	TOP OF BEAM ELEVATION	
	JOIST BEARING ELEVATION	
	BRICK LEDGE ELEVATION	
	TOP OF FOOTING ELEVATION	
	TOP OF FLOOR ELEVATION	
	COLUMN CONTINUOUS FROM LEVEL BELOW	
	COLUMN STARTING AT THIS LEVEL	
	COLUMN STOPPING BELOW THIS LEVEL, SEE FRAMING PLAN AT NEXT LOWER LEVEL	
	COLUMN STARTING AND ENDING AT THIS LEVEL OF FRAMING	
	COLUMN CONNECTING A LOWER BEAM TO A HIGHER BEAM AT THIS LEVEL OF FRAMING	
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	INDICATES BRACED BAY ELEVATION	
	INDICATES BRACED MEMBER (ON PLAN)	



### LOWER LEVEL FOUNDATION PLAN

$3/16'' = 1'-0''$

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## CARNEGIE BUILDING RENOVATION

CITY OF FORT COLLINS  
200 Mathew Street  
Fort Collins, CO 80524

PROJECT #: 2118  
ISSUE DATE: 09/16/22

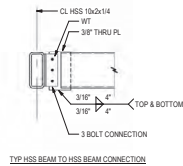
**S101**

LOWER LEVEL FOUNDATION PLAN

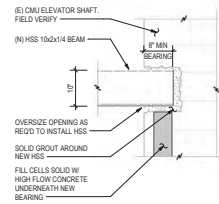
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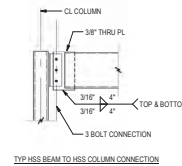




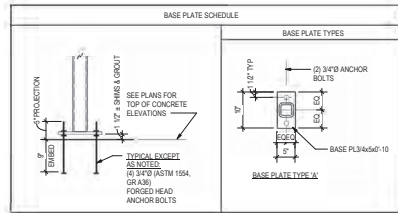
5 SECTION  
S500 3/4" = 1'-0"



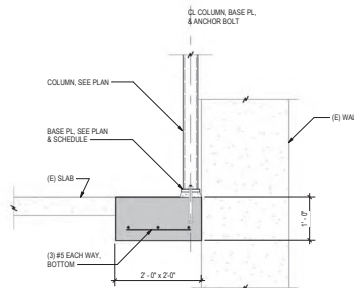
6 SECTION  
S500 3/4" = 1'-0"



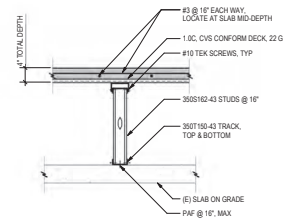
7 SECTION  
S500 3/4" = 1'-0"



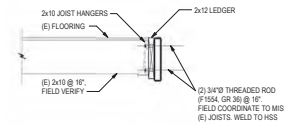
1 BASEPLATE SCHEDULE  
S500 NO SCALE



2 SECTION  
S500 3/4" = 1'-0"



3 SECTION  
S500 3/4" = 1'-0"



4 SECTION  
S500 3/4" = 1'-0"

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200 Mathew Street  
Fort Collins, CO 80524  
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**S500**  
SECTIONS  
PERMIT SET  
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FINISH SCHEDULE - GALLERY LEVEL								
ROOM NUMBER	NAME	FLOOR	BASE	WALLS				COMMENTS
				NORTH	EAST	SOUTH	WEST	
205	ELEC/STOR	REFINISH (E)	RB-1	PT	PT	PT	PT	REFER TO INTERIOR ELEVATIONS
201	GALLERY	REFINISH (E)	WD-2	PT-ACOUSTIC	PT-ACOUSTIC	PT-ACOUSTIC	PT-ACOUSTIC	
204	ELEV	REFINISH (E)	RB-1	PT	PT	PT	PT	
203	VESTIBULE	REFINISH (E)	WD-2	PT	PT	PT	PT	
206	STORAGE	REFINISH (E)	RB-1	PT	PT	PT	PT	
202	STORAGE	REPURPOSE FROM STAIR OPENING	RB-1	PT	PT	PT	PT	

KEYNOTES	
#	NOTE
0.A	ALIGN WALL
10.P	REMOVE PAINT FROM EXISTING GLAZING
10.Q	REINSTALL SALVAGED BASEBOARD
10.S	PATCH (E) WALLS & REPAINT

MATERIALS & COLORS LIST				
TYPE	SPEC	DESCRIPTION	MANUF'R	Material Model
		<varies>		
		<varies>		
CT-1	09 30 00	Ceramic Tile 12x24" White	Daltile	Folio Two - AT40 Glacier Ice
INTERIOR STUD PARTITION		<varies>		
PL-1	06 41 00	Plastic Laminate - Woodgrain - Cherry	Formica	Laminate - 7737 Natural Cherry
PT-1	09 90 00	Paint - White	Sherwin Williams	SW7004 SNOWBOU ND

NO	DESCRIPTION	DATE
1	Addendum 1	11.01.22



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## CARNEGIE BUILDING RENOVATION

CITY OF FORT COLLINS

200 Mathews Street  
Fort Collins, CO 80524

PROJECT #: 2118  
ISSUE DATE: 09/16/22

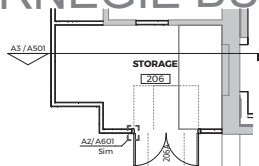
# A102

GALLERY LEVEL FLOOR PLAN AND FINISH PLAN

PERMIT SET

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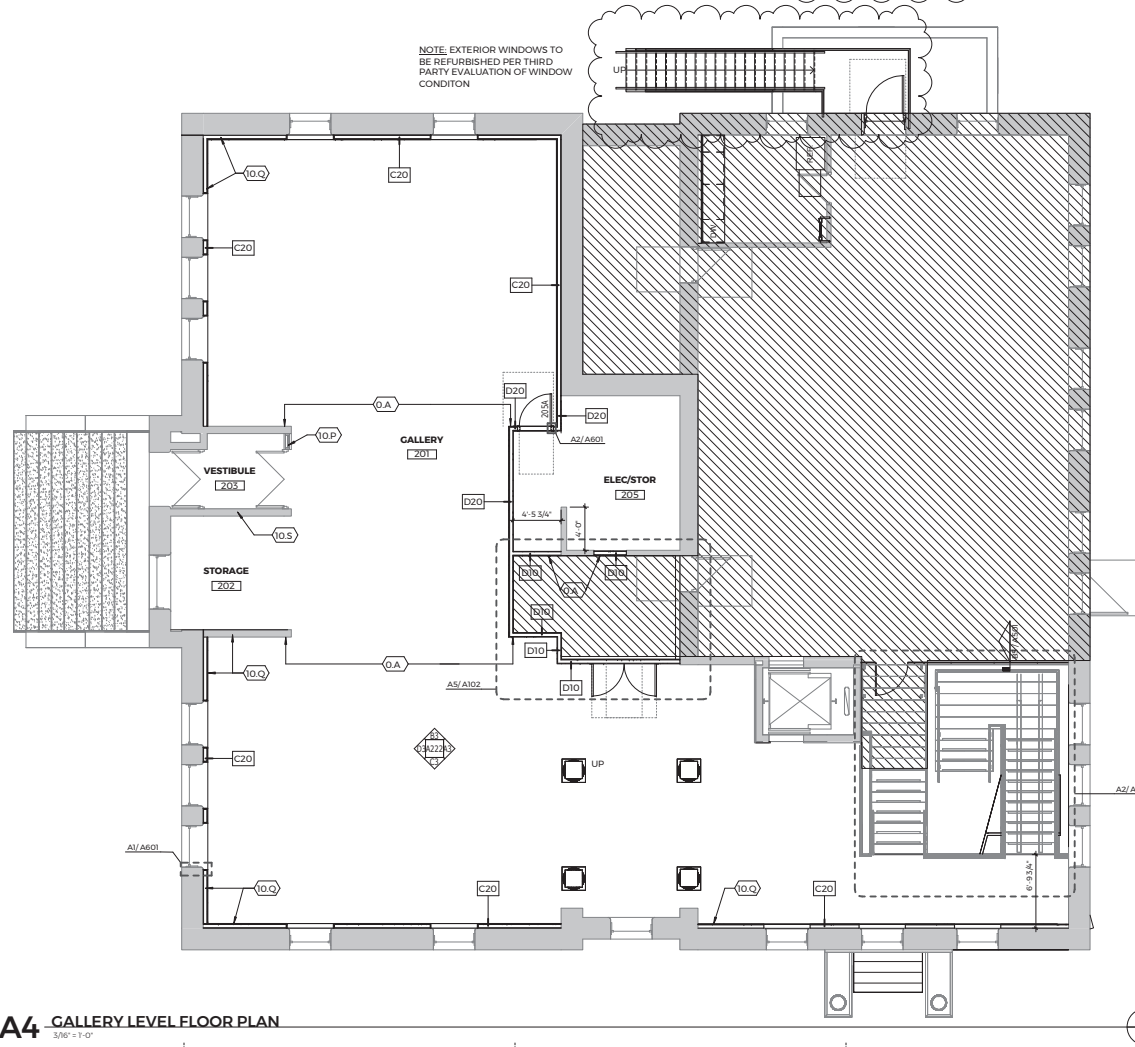
## CARNEGIE BUILDING



**A5 STORAGE 206 FLOOR PLAN**  
3/16" = 1'-0"

**A4 GALLERY LEVEL FLOOR PLAN**  
3/16" = 1'-0"

NOTE: EXTERIOR WINDOWS TO BE REFURBISHED PER THIRD PARTY EVALUATION OF WINDOW CONDITION



11/10/2022 11:34:56 AM - PLOT DATE

FINISH SCHEDULE - MEZZ LEVEL									
ROOM NUMBER	NAME	FLOOR	BASE	WALLS					COMMENTS
				NORTH	EAST	SOUTH	WEST		
301	LARGE FLEX ROOM	CPT	WD-1	PT-1	PT-1	PT-1	PT-1		
305	MECHANICAL	CPT-1	RB-1	PT-ACOUSTIC	PT-ACOUSTIC	PT-ACOUSTIC	PT-ACOUSTIC		
305	ELEC/STORAGE	SCONC	NA	(E) STONE	(E) STONE	(E) STONE	(E) STONE		
306	KITCHENETTE	CT-1	CT-1	PT-1	PT-1	PT-1	PT-1		
401	ATTIC MECH ROOM	NONE	NONE	NONE	NONE	NONE	NONE		

KEYNOTES	
#	NOTE
10X	END WALL BASE ALIGNED WITH STEEL PLATE, RE: GLAZING DETAIL

MATERIALS & COLORS LIST				
TYPE	SPEC	DESCRIPTION	MANUF'R	Material Model
		<varies>	<varies>	
CT-1	09 30 00	Ceramic Tile 12x24" White	Daltile	Folio Two - AT40 Glacier Ice
INTERIOR STUD PARTITIO N		<varies>		
PL-1	06 41 00	Plastic Laminate - Woodgrain - Cherry	Formica	Laminate - 7737 Natural Cherry
PT-1	09 90 00	Paint - White	Sherwin Williams	SW7004 SNOWBOU ND

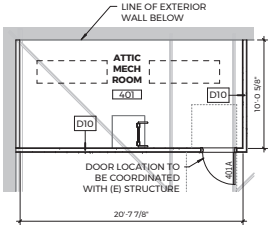
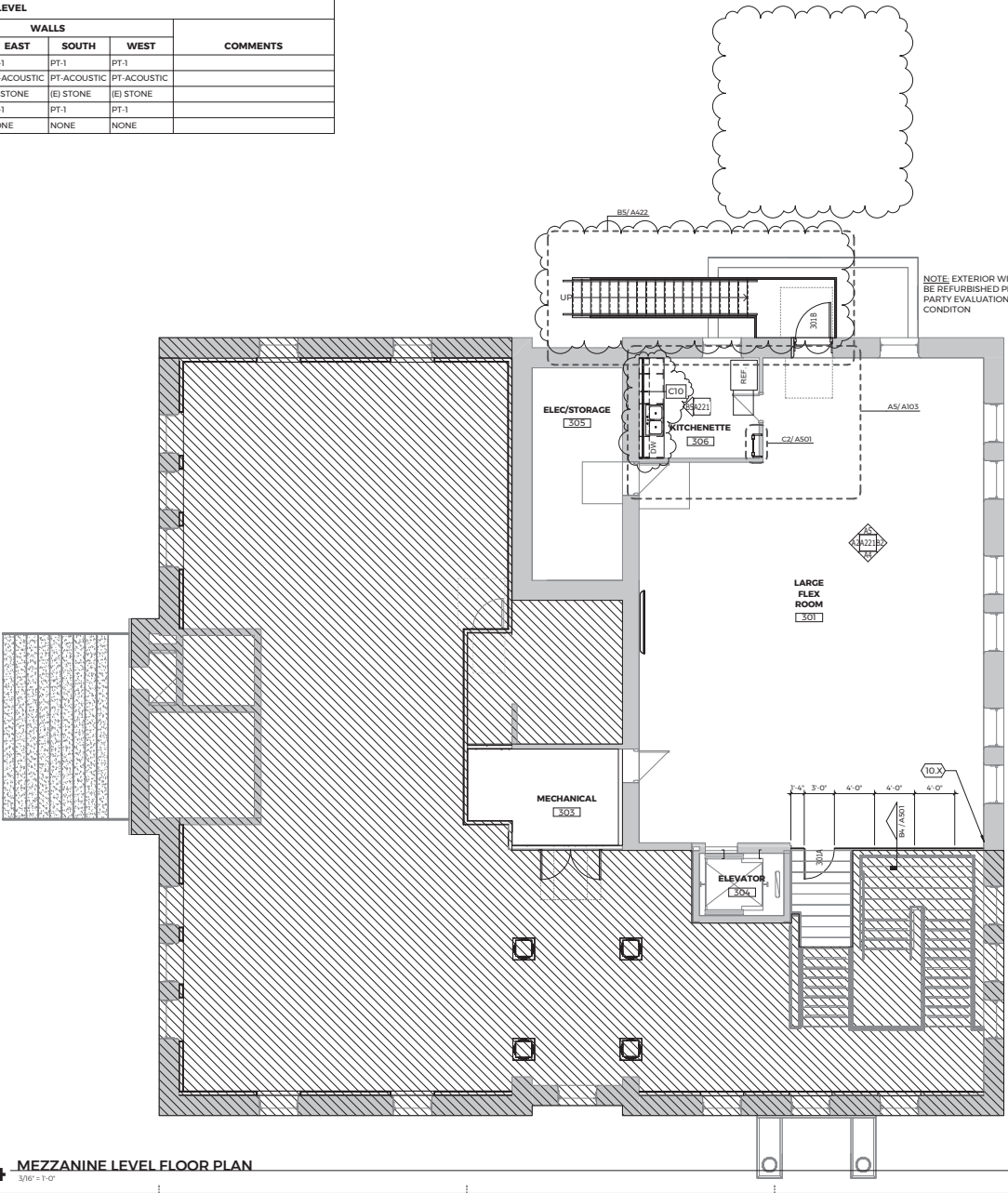
NO	DESCRIPTION	DATE
1	Addendum 1	11.01.22

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**CARNEGIE BUILDING  
RENOVATION**  
CITY OF FORT COLLINS  
200 Mathews Street  
Fort Collins, CO 80524  
**PROJECT #:** 2118  
**ISSUE DATE:** 09/16/22

**A103**  
MEZZANINE LEVEL FLOOR PLAN AND FINISH PLAN  
PERMIT SET  
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**A5 ATTIC MECH ROOM PLAN**  
3/16" = 1'-0"

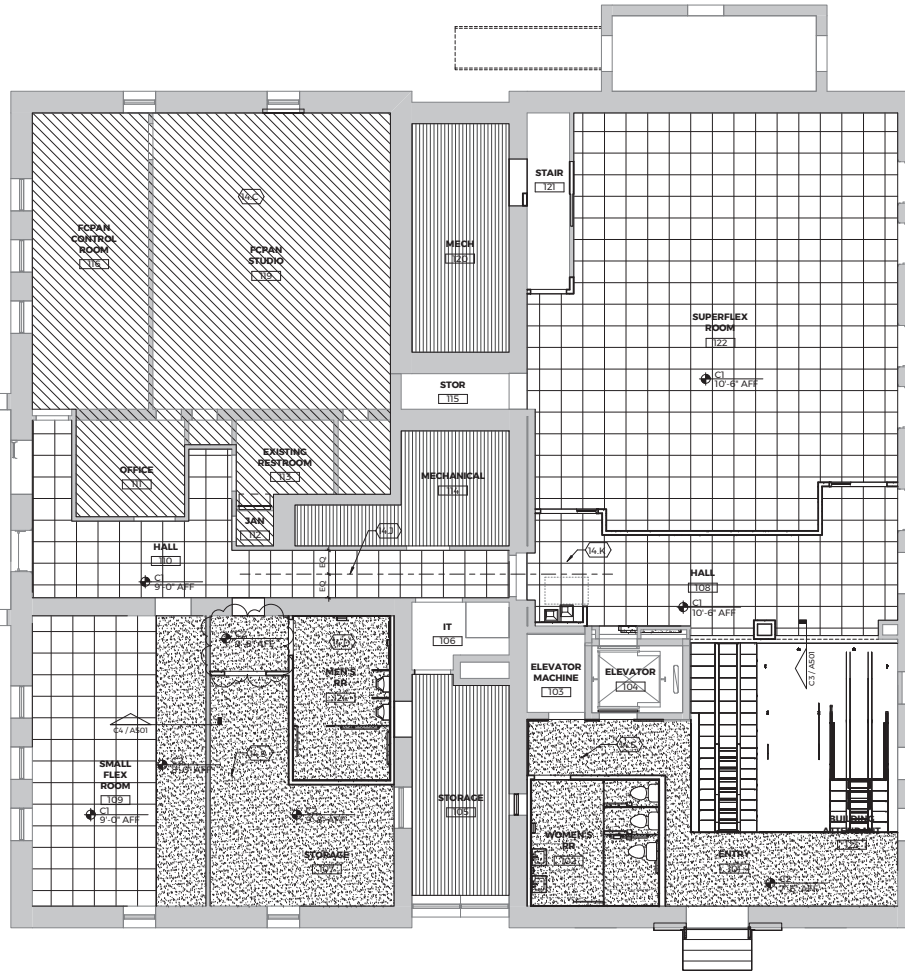
**A4 MEZZANINE LEVEL FLOOR PLAN**  
3/16" = 1'-0"

10/2022 11:35:00 AM - PLOT DATE

1/1/2022 11:35:03 AM - PLOT DATE

## A4 LOWER LEVEL RCP

3/16" = 1'-0"



### CEILING LEGEND

C1 09 51 13	ACOUSTICAL CEILING
CZ 09 29 00	GYP SUM WALLBOARD CEILING
OPEN TO (E) STRUCTURE	

### GENERAL NOTES: RCP

1. ALL SOFFITS, FACIA, FREEZE, & BRACKETS TO RECEIVE NEW PAINT TO MATCH EXISTING COLOR.
2. REMOVE ALL IVY AND IVY TENDRILS FROM ALL SOFFITS, EXPOSED BEAMS, AND BUILDING FACADES.
3. AFTER REMOVAL OF IVY & TENDRILS REPAIR SOFFIT AND EXPOSED BEAMS AS NEEDED FOR NEW PAINT.
4. PAINT EXPOSED STRUCTURE, DUCT WORK, PIPING, AND CONDUIT IN PCRAIN SPACES.
5. REMOVE EXISTING PAINT, FILL SAND, & PAINT ALL EXTERIOR WINDOW FRAMES.
6. REMOVE EXISTING PAINT, FILL SAND, & PAINT ALL EXTERIOR DOORS & FRAMES.
7. ALL EXISTING FENCING DIRECTLY ASSOCIATED WITH THE BUILDING TO BE PAINTED.

#	NOTE
14.C	ONLY HVAC WORK IN THIS AREA
14.D	ADD LAYER OF 5/8" GB OVER (E) CEILING
14.J	CENTER TILE IN HALLWAY
14.K	ALIGN W/ HALLWAY TILE
14.5	INSTALL NEW GYP.BD TO UNDERSIDE OF STRUCTURE ABOVE

NO	DESCRIPTION	DATE
1	Addendum 1	11.01.22



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## CARNEGIE BUILDING RENOVATION

CITY OF FORT COLLINS  
200 Mathews Street  
Fort Collins, CO 80524

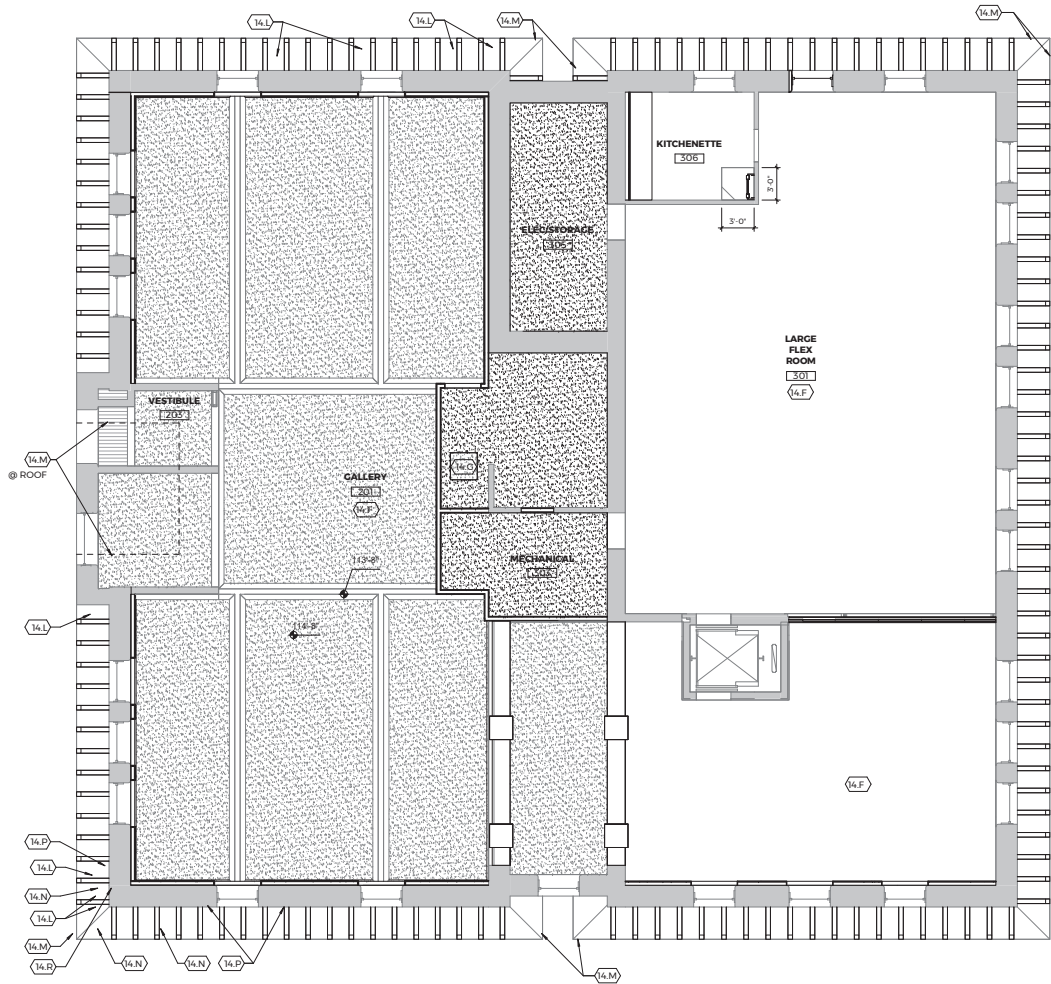
PROJECT #: 2118  
ISSUE DATE: 09/16/22

# A141

LOWER LEVEL REFLECTED CEILING PLAN

PERMIT SET  
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**A4** GALLERY & MEZZANINE LEVEL RCP  
3/16" = 1'-0"

#### CEILING LEGEND

	C1 09 5113 ACOUSTICAL CEILING
	C2 09 29 00 GYPSUM WALLBOARD CEILING
	OPEN TO (E) STRUCTURE

#### GENERAL NOTES, RCP

1. ALL SOFFITS, FACIA, FREEZE, & BRACKETS TO RECEIVE NEW PAINT TO MATCH EXISTING COLOR.
2. REMOVE ALL IVY AND IVY TENDRILS FROM ALL SOFFITS, EXPOSED BEAMS, AND BUILDING FACADES.
3. AFTER REMOVAL OF IVY & TENDRILS REPAIR SOFFIT AND EXPOSED BEAMS AS NEEDED FOR NEW PAINT.
4. PAINT EXPOSED STRUCTURE, DUCT WORK, PIPING, AND CONDUIT IN RCPAN SPACES.
5. REMOVE EXISTING PAINT, FILL SAND, & PAINT ALL EXTERIOR WIDOWS FRAMES.
6. REMOVE EXISTING PAINT, FILL SAND, & PAINT ALL EXTERIOR DOORS & FRAMES.
7. ALL EXISTING FENCING DIRECTLY ASSOCIATED WITH THE BUILDING TO BE PAINTED.

KEYNOTES	
#	NOTE
1/4.F	ADD INSULATION IN ATTIC TO ACHIEVE R30
1/4.G	30"x30" OPENING IN (E) CEILING
1/4.L	REPAIR SOFFIT
1/4.M	REPLACE/REPAIR MOLDINGS & PAINT
1/4.N	REMOVE IVY & TENDRILS FROM SOFFIT
1/4.P	REMOVE IVY & TENDRILS FROM WALL
1/4.R	REMOVE UNUSED DOWNSPOUT HARDWARE

NO	DESCRIPTION	DATE

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#### CARNEGIE BUILDING RENOVATION

CITY OF FORT COLLINS  
200 Mathews Street  
Fort Collins, CO 80524

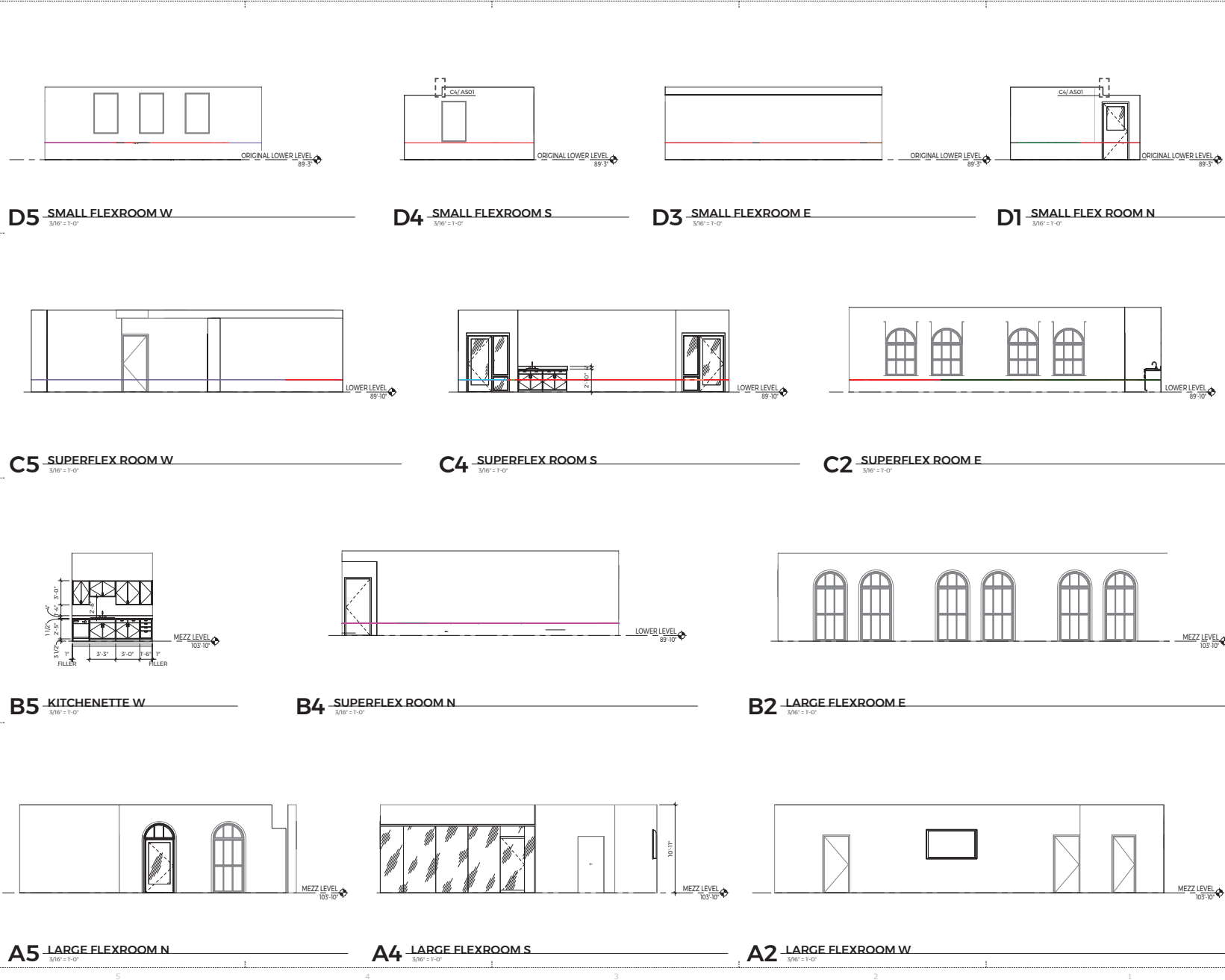
PROJECT #: 2118  
ISSUE DATE: 09/16/22

**A142**  
GALLERY & MEZZANINE LEVEL REFLECTED CEILING  
PLAN

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KEYNOTES	
#	NOTE

NO	DESCRIPTION	DATE

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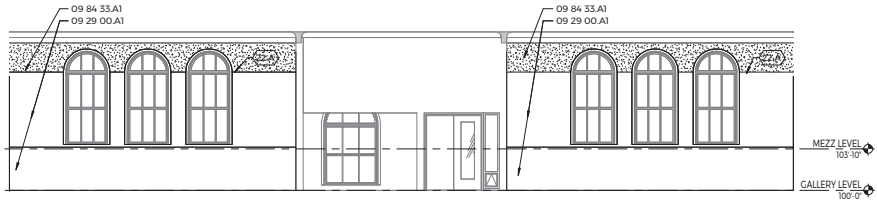
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**CARNEGIE BUILDING RENOVATION**  
CITY OF FORT COLLINS  
200 Mathews Street  
Fort Collins, CO 80524

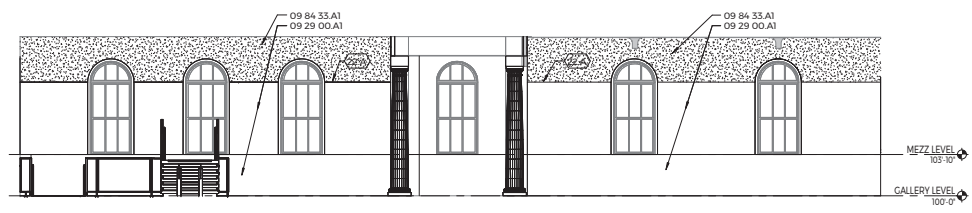
PROJECT #: 2118  
ISSUE DATE: 09/16/22

**A221**  
INTERIOR ELEVATIONS  
PERMIT SET  
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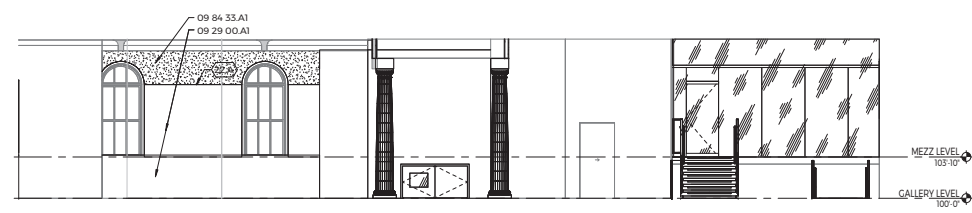




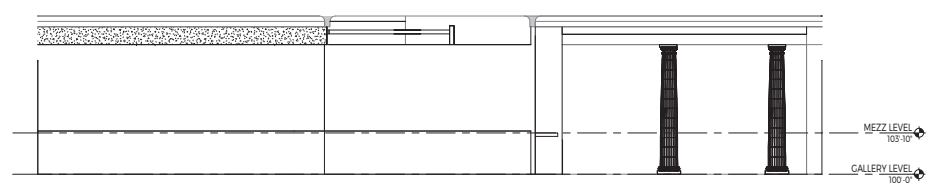
**D3** GALLERY W  
3/16" = 1'-0"



**C3** GALLERY S  
3/16" = 1'-0"



**B3** GALLERY N  
3/16" = 1'-0"



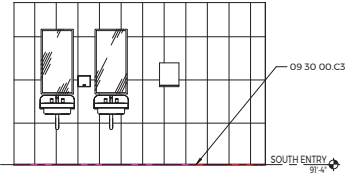
**A3** GALLERY E  
3/16" = 1'-0"

KEYNOTES	
#	NOTE
09 29 00.A1	1/2" GYPSUM WALLBOARD
09 84 33.A1	FABRIC-STRETCHED ACOUSTIC WALL
22A	ALIGN W/ B.O. ARCH WINDOW

7/1/2022 11:35:14 AM - PLOT DATE

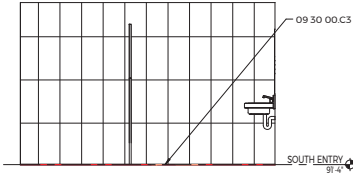
NO	DESCRIPTION	DATE
<b>auworkshop</b> <small>ARCHITECTS - INTERIORS</small> 401 LINDEN STREET, SUITE 2-228 FORT COLLINS, CO. 80524 T - 970.430.5220 www.auworkshop.co		
<b>CARNEGIE BUILDING RENOVATION</b> CITY OF FORT COLLINS 200 Mathews Street Fort Collins, CO 80524 <b>PROJECT #:</b> 2118 <b>ISSUE DATE:</b> 09/16/22		
<b>A222</b> INTERIOR ELEVATIONS PERMIT SET © 2022		

11/1/2022 11:53:17 AM - PLOT DATE



NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

**C5 WOMEN'S W**  
3/8" = 1'-0"



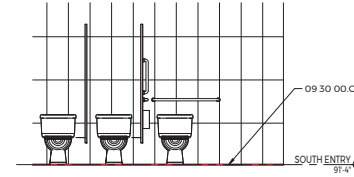
NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

**C4 WOMEN'S S**  
3/8" = 1'-0"



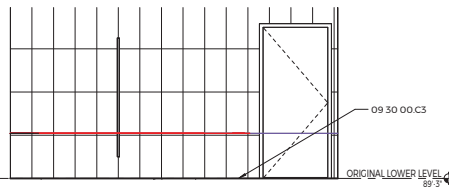
NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

**C3 WOMEN'S N**  
3/8" = 1'-0"



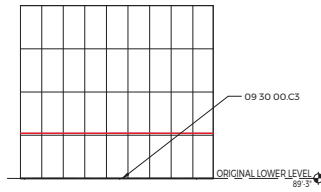
NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

**C2 WOMEN'S E**  
3/8" = 1'-0"



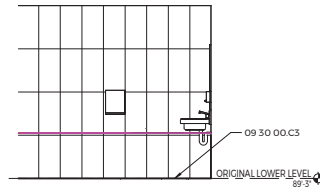
NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

**B5 MEN'S W**  
3/8" = 1'-0"



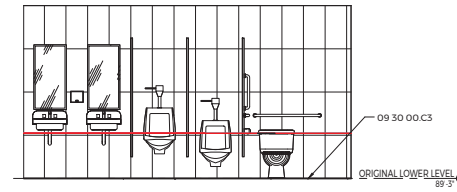
NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

**B4 MEN'S S**  
3/8" = 1'-0"



NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

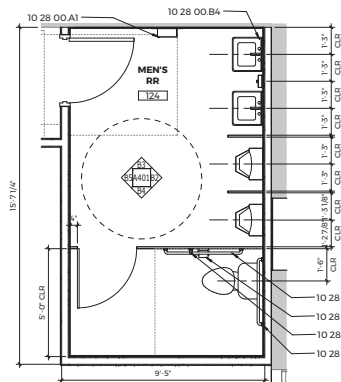
**B3 MEN'S N**  
3/8" = 1'-0"



NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

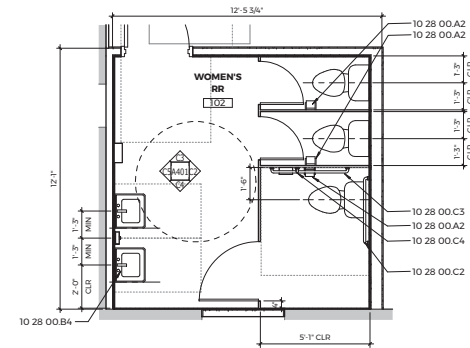
**B2 MEN'S E**  
3/8" = 1'-0"

KEYNOTES	
#	NOTE
09 30 00.C3	SCHLUTER DILEX-AHK @ FLOOR/WALL INTERSECTION
10 28 00.A1	PAPER TOWEL DISPENSER
10 28 00.A2	TOILET TISSUE DISPENSER
10 28 00.B4	MIRROR GLASS
10 28 00.C2	36" GRAB BAR
10 28 00.C3	42" GRAB BAR
10 28 00.C4	18" GRAB BAR





NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

**A3 MENS RR PLAN**  
3/8" = 1'-0"

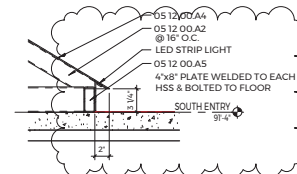


NOTE: SEE G002 FOR MOUNTING HEIGHTS & ACCESSORY DIMENSIONS

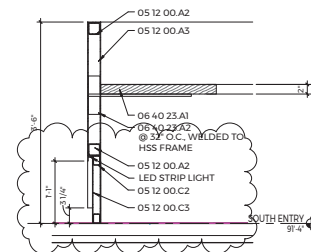
**A2 WOMENS RR PLAN**  
3/8" = 1'-0"

NO	DESCRIPTION	DATE
		
		
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<b>CARNEGIE BUILDING RENOVATION</b> CITY OF FORT COLLINS 200 Mathews Street Fort Collins, CO 80524 PROJECT #: 2118 ISSUE DATE: 09/16/22		
<b>A401</b> ENLARGED PLANS & DETAILS PERMIT SET © 2022		

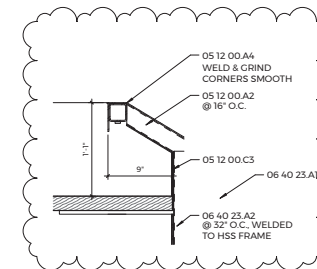
KEYNOTES	
#	NOTE
05 12 00.A2	2-1/2 x 2-1/2 x 1/8" HSS
05 12 00.A3	1/8" STEEL PLATE w/ CAR PAINT (ALL SIDES OF HSS FRAME)
05 12 00.A4	1/8" STEEL PLATE w/ CAR PAINT
05 12 00.A5	1/8" STEEL PLATE
05 12 00.C2	2-1/2 x 1-1/2 x 1/8" HSS
05 12 00.C3	1/8" STEEL PLATE w/ CAR PAINT (ORANGE)
06 40 23.A1	SOLID WHITE OAK w/ CLEAR FINISH
06 40 23.A2	FLOATING TOP WALL MOUNTING BRACKET



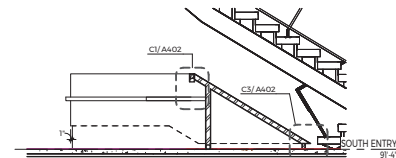
**C3 BASE OF RECEPTION @ SLOPE**  
 $1\frac{1}{2}'' = 1'-0''$



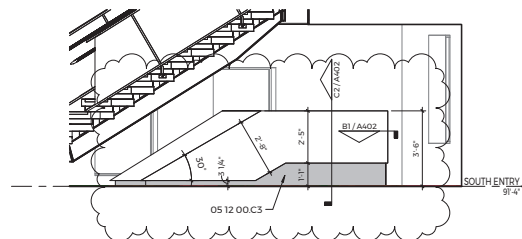
## C2 RECEPTION DESK SECTION



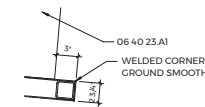
**C1** TOP OF RECEPTION DESK  
1 1/2" = 1'-0"



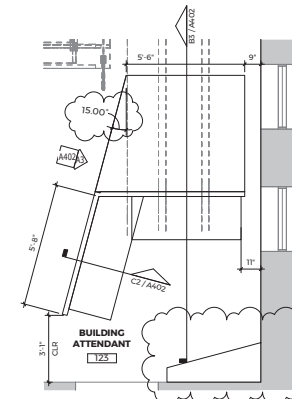
**B3** RECEPTION DESK SECTION  
3/8" = 1'-0"



### A3 RECEPTION DESK ELEVATIONS



**B1** END OF RECEPTION DESK  
11 1/2" = 1'-0"



## A1 RECEPTION PLAN

NO	DESCRIPTION	DATE
1	Addendum 1	11.01.22

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ARCHITECTS + URBANISTS

## CARNEGIE BUILDING RENOVATION

**CITY OF FORT COLLINS**  
200 Mathews Street  
Fort Collins, CO 80524

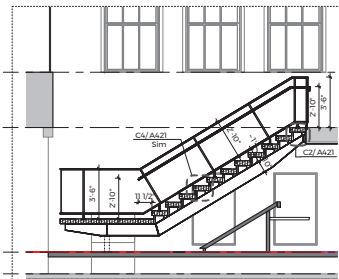
**PROJECT #:** 2118  
**ISSUE DATE:** 09/16/22

## A402

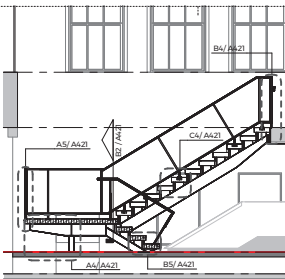
ENLARGED PLANS &amp; DETAILS

PERMIT SET

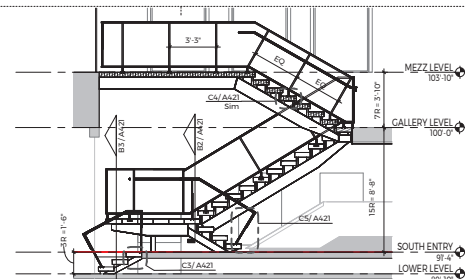
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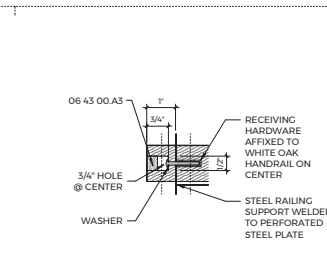
**D5 ENTRY STAIR SECTION THREE**  
1/4" = 1'-0"



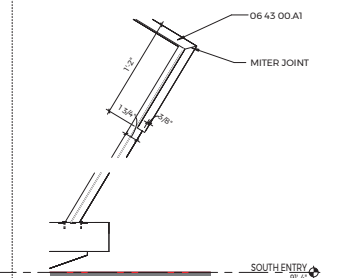
**D4 ENTRY STAIR SECTION TWO**  
1/4" = 1'-0"



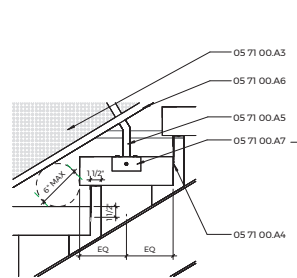
**D3 ENTRY STAIR SECTION ONE**  
1/4" = 1'-0"



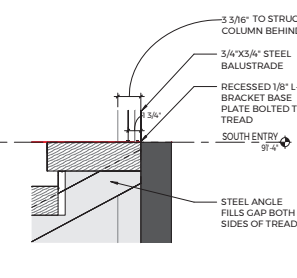
**D1 SECTION THROUGH ENDCAP**  
6" = 1'-0"



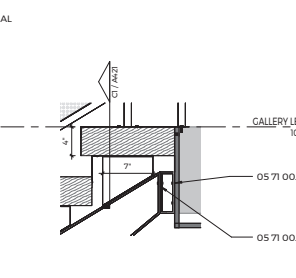
**C5 BASE OF STAIR RAIL ELEVATION**  
1 1/2" = 1'-0"



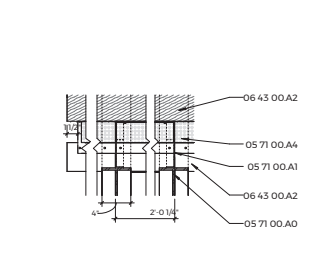
**C4 TYPICAL TREAD**  
1 1/2" = 1'-0"



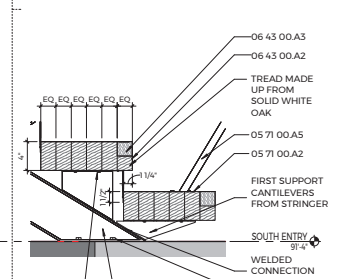
**C3 TOP TREAD LOWER LEVEL**  
1 1/2" = 1'-0"



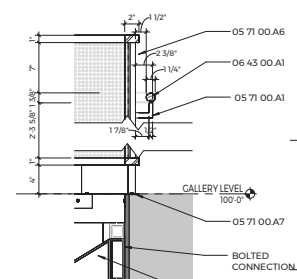
**C2 Top Tread Gallery**  
1 1/2" = 1'-0"



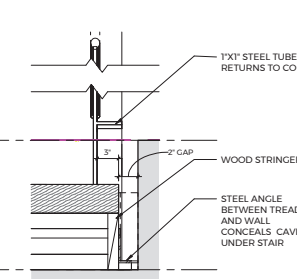
**C1 RISER & SUPPORT SECTION**  
1 1/2" = 1'-0"



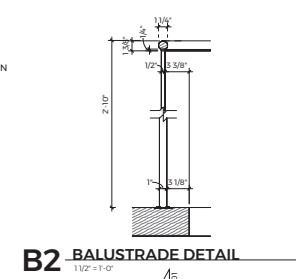
**B5 BASE OF STAIR**  
1 1/2" = 1'-0"



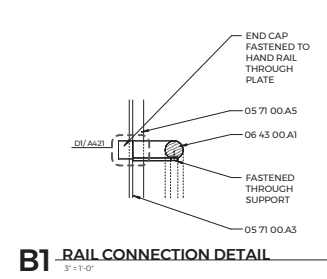
**B4 RAIL SECTION GALLERY LEVEL**  
1 1/2" = 1'-0"



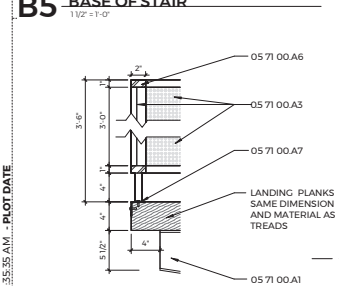
**B3 LOWER LEVEL RAIL**  
1 1/2" = 1'-0"



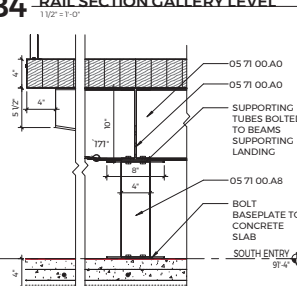
**B2 BALUSTRADE DETAIL**  
1 1/2" = 1'-0"



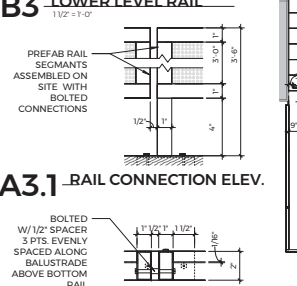
**B1 RAIL CONNECTION DETAIL**  
3" = 1'-0"



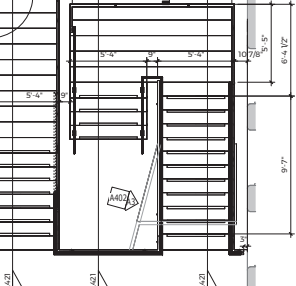
**A5 TYPICAL GUARD RAIL SECTION**  
1 1/2" = 1'-0"



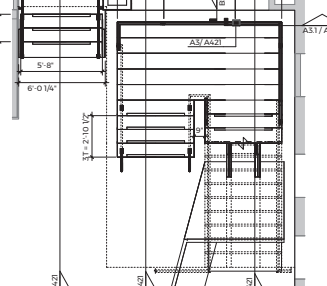
**A4 LANDING SUPPORT**  
1 1/2" = 1'-0"



**A3 RAIL CONNECTIONS**  
3" = 1'-0"



**A2 GALLERY LEVEL - STAIR PLAN**  
1/4" = 1'-0"



**A1 GRADE LEVEL - STAIR PLAN**  
1/4" = 1'-0"

KEYNOTES	
#	NOTE
05 71 00 A0	SHAPED WIDE FLANGE BEAM
05 71 00 A1	3/8" STEEL PLATE TREAD SUPPORT WELDED TO 12 GA PLATE LAG BOLTED TO UNDERSIDE OF WOOD TREAD
05 71 00 A2	1/4" STEEL PLATE HANDRAIL SUPPORT BRACKET
05 71 00 A3	16 GA PERFORATED STEEL INFFILL, 1/4" HOLES 3/8" O.C. STAGGERED w/ 1/2" REVEAL ON ALL SIDES
05 71 00 A4	16 GA PERFORATED STEEL RISER, 1/4" HOLES 3/8" O.C. STAGGERED w/ 1/2" REVEAL ON (3) SIDES w/ 2" REVEAL AT TOP
05 71 00 A5	7" x 1" STEEL TUBE
05 71 00 A6	1" x 2" STEEL TUBE
05 71 00 A7	RECESSED 12 GA BENT PLATE W/ (3) w/ 3/8"x3" LAG BOLTS
05 71 00 A8	4"x4" HSS
05 71 00 B1	BOLTED CONNECTION
06 43 00 A1	1 1/4" DIAMETER WHITE OAK HANDRAIL w/ CLEAR FINISH
06 43 00 A2	SOLID WHITE OAK GLU-LAM TREAD
06 43 00 A3	RED OAK CONTRASTING TREAD NOSING

NO	DESCRIPTION	DATE

**lau**workshop  
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**CARNEGIE BUILDING RENOVATION**  
CITY OF FORT COLLINS  
200 Mathews Street  
Fort Collins, CO 80524

PROJECT #: 2118  
ISSUE DATE: 09/16/22

**A421**  
VERTICAL CIRCULATION - MAIN STAIR  
PERMIT SET  
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5

4

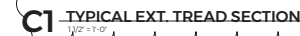
3

2

1



**B5** EXT. STAIR PLAN  
1/4" = 1'-0"



# A422


VERTICAL CIRCULATION - STAIRS

PERMIT SET

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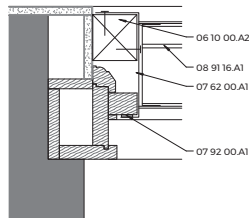
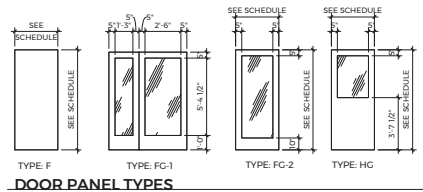
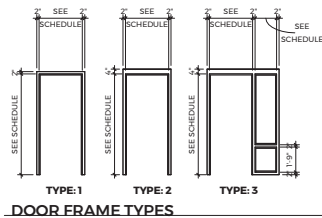


NO	DESCRIPTION	DATE
<div>  <div> <p>401 LINDEN STREET, SUITE 2-21 FORT COLLINS, CO. 80526 T - 970.450.522 www.auworkshop.co</p> </div> </div> <h2>CARNEGIE BUILDING RENOVATION</h2> <p>CITY OF FORT COLLINS</p> <p>200 Mathews Street Fort Collins, CO 80524</p> <p><b>PROJECT #:</b> 2118 <b>ISSUE DATE:</b> 09/16/22</p>		
<h1>A423</h1> <p>MAIN STAIR PERSPECTIVES</p> <p>PERMIT SET</p> <p>© 2022</p>		

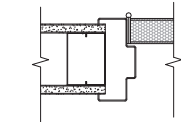


DOORS SCHEDULE										
ROOM	MARK	DOOR					FRAME			COMMENTS
		LEAVES	WIDTH	HEIGHT	MATERIAL	TYPE	GLAZING	TYPE		
ENTRY	101A	2	3'-4"	6'-10"	WD	FC-1	GL	2	HM	SECOND LEAF = 2'-1"
WOMEN'S RR	102A		3'-0"	7'-0"	WD	F		1	HM	
STORAGE	107A		3'-6"	7'-0"	WD	F		1	HM	
SUPERFLEX ROOM	122A		3'-0"	7'-0"	WD	FC-2	T	4	HM	
SUPERFLEX ROOM	122B		3'-0"	7'-0"	WD	F		1	HM	
SUPERFLEX ROOM	122C		3'-0"	7'-0"	WD	FC-2	T	4	HM	
MEN'S RR	124A		3'-0"	7'-0"	WD	F		1	HM	
ELEC/STOR	205A		3'-0"	7'-0"	WD	F		1	HM	
STORAGE	205A	2	3'-0"	3'-0"	WD	F	GL	2	HM	
LARGE FLEX ROOM	301A			7'-0"						
LARGE FLEX ROOM	301B		3'-6"	6'-8"	WD	FC-2	T	1	HM	
SMALL FLEX ROOM	301C		3'-0"	7'-3"	WD	FC-2	T	1	HM	
ATTIC MECH ROOM	401A		3'-0"	6'-0"	WD	F		1	HM	

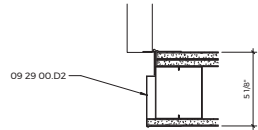
KEYNOTES	
#	NOTE
06 10 00.A2	WOOD BLOCKING
07 62 00.A1	SHEET FLASHING
07 92 00.A1	SEALANT
08 91 16.A1	FIXED ALUMINUM LOUVER
09 29 00.A1	1/2" GYPSUM WALLBOARD
09 29 00.D1	CORNER BEAD
09 29 00.D2	EZYJAMB SINGLE REBATE DOOR FRAME - SRC
60.A	REFURBISH WINDOWS PER THIRD PARTY INVESTIGATION



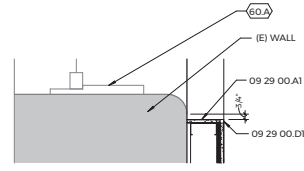
**A4** LOUVER @ SOUTH WINDOW  
3" = 1'-0"



**A3** TYPICAL HM FRAME  
3" = 1'-0"



**A2** HIDDEN DOOR JAMB  
3" = 1'-0"



**A1** ARCHED WINDOW JAMB DETAIL  
1 1/2" = 1'-0"

NO	DESCRIPTION	DATE
1	Addendum 1	11.01.22

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ARCHITECTS - INTERIORS

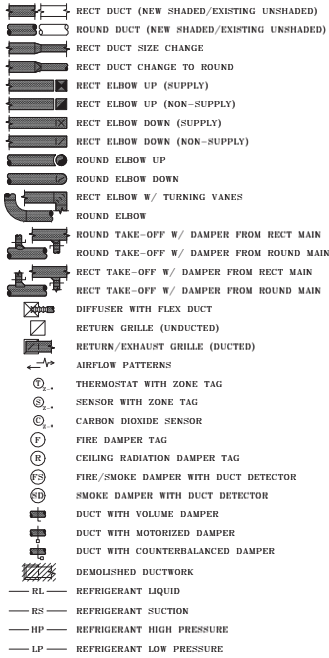
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**CARNEGIE BUILDING RENOVATION**  
CITY OF FORT COLLINS  
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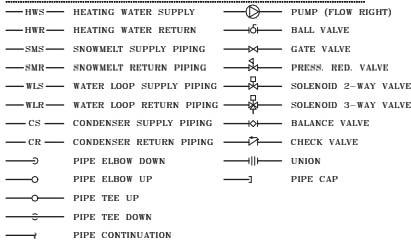
PROJECT #: 2118  
ISSUE DATE: 09/16/22

**A601**  
DOOR & WINDOW SCHEDULES  
PERMIT SET  
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## HVAC LEGEND:



## HYDRONIC PIPING LEGEND:



## GENERAL MECHANICAL REQUIREMENTS:

**CODES AND PERMITS**  
WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES, REGULATIONS AND ORDINANCES. PERMITS NECESSARY FOR PERFORMANCE OF WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR.

**BID**  
FOR EXISTING BUILDINGS, THE BIDDERS SHALL PERFORM A BUILDING AND SPACE SITE VISIT PRIOR TO BID. THE ACT OF SUBMITTING A BID INDICATES THE BIDDER DOES AGREE THEY HAVE A FULL UNDERSTANDING OF THE SCOPE OF WORK INVOLVED WITH THE EXISTING CONDITIONS.

**DRAWINGS ARE COORDINATE**  
DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC IN NATURE, AND ARE NOT INTENDED TO BE SCALED FOR EXACT MEASUREMENTS NOR TO SERVE AS SHOP DRAWINGS. CHANGES FROM THE PLANS MADE WITHOUT CONSENT OF THE ENGINEER SHALL RELIEVE THE ENGINEER OF RESPONSIBILITY FOR ALL CONSEQUENCES ARISING OUT OF SUCH CHANGES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE CONDITIONS REQUIRE REASONABLE CHANGES TO THOSE INDICATED ON THE DRAWINGS, MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. COORDINATE ALL WORK WITH OTHER TRADES.

**WARRANTY**  
WORKMANSHIP, MATERIALS, EQUIPMENT AND PROPER OPERATION SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE FROM THE OWNER. INITIAL ACCEPTANCE OF WORK SHALL NOT WAIVE THIS GUARANTEE. THIS GUARANTEE SHALL NOT INCLUDE NORMAL MAINTENANCE REQUIRED BY THE OWNER AS DESCRIBED IN EQUIPMENT OPERATION AND MAINTENANCE MANUALS.

**SUBMITTALS**  
CONTRACTOR SHALL SUBMIT TO THE ARCHITECT/ENGINEER A PORTABLE DOCUMENT FORMAT "PDF" COPY OF SUBMITTAL BROCHURES FOR REVIEW. PROVIDE INFORMATION ON ALL MAJOR EQUIPMENT AS LISTED ON DRAWING EQUIPMENT SCHEDULES, AS WELL AS VALVES, DUCTWORK, ACCESSORIES AND TEMPERATURE CONTROL DIAGRAM AS APPLICABLE.

**OPERATION AND MAINTENANCE MANUALS**  
CONTRACTOR SHALL FURNISH AT THE COMPLETION OF THE PROJECT A PORTABLE DOCUMENT FORMAT "PDF" COPY OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO TURNOVER TO OWNER. MANUALS TO BE BOUND AND INCLUDE INSTALLATION INSTRUCTIONS, REPLACEMENT PARTS LISTS AND MAINTENANCE INFORMATION ON ALL EQUIPMENT AS DESCRIBED IN THE SUBMITTALS SECTION. COMPLETED OPERATION AND MAINTENANCE MANUALS ARE TO BE FORWARDED TO THE OWNER WITHIN 90 DAYS AFTER OWNER BUILDING ACCEPTANCE.

**PROJECT SUBSTITUTIONS**  
MANUFACTURER MODEL NUMBERS LISTED ON THE DRAWINGS AND/OR SPECIFICATIONS ARE TO BE CONSIDERED AS THE BASIS OF DESIGN. WHERE TWO OR MORE ALTERNATE MANUFACTURERS OR MATERIALS ARE LISTED, THE CHOICE OF THESE SHALL BE OPTIONAL WITH THE CONTRACTOR. PRIOR TO THE AWARING OF THE CONTRACT, CONTRACTOR MAY REQUEST A PROPOSED SUBSTITUTION OF MATERIALS IN WRITING TO THE ARCHITECT/ENGINEER NO LATER THAN SEVEN DAYS PRIOR TO THE RECEIPT OF BIDS. THE COST OF ANY CHANGES REQUIRED BY OTHER TRADES, INCLUDING A/E DESIGN, DUE TO THE USE OF EQUIPMENT AND/OR MATERIALS OTHER THAN THAT OF THE BASIS OF DESIGN SHALL BE PAID BY THE CONTRACTOR.

**ACCESS DOORS**  
CONTRACTORS SHALL MAINTAIN A COMPLETE AND ACCURATE SET OF MARKED UP DRAWINGS SHOWING ACTUAL LOCATIONS OF INSTALLED WORK. THESE DRAWINGS ARE TO BE FORWARDED TO THE OWNER AS PART OF THE OPERATION AND MAINTENANCE MANUALS AT THE COMPLETION OF THE PROJECT.

**ACCESS DOORS**  
PROVIDE ALL ACCESS DOORS/PANELS AS REQUIRED FOR ACCESS TO VALVES, DAMPERS, CONTROL DEVICES, FILTERS AND ANY OTHER ITEMS FOR WHICH ACCESS IS REQUIRED FOR EITHER OPERATION OR SERVICING. WHERE ACCESS DOORS ARE TO BE INSTALLED IN ASSEMBLIES REQUIRED TO HAVE A SPECIFIC FIRE RATING, ACCESS DOORS SHALL ALSO BE FIRE RATED.

**PIPING AND DUCTWORK SEALANT THROUGH RATED ASSEMBLIES**  
PENETRATIONS SHALL BE SEALED AS REQUIRED IN ACCORDANCE WITH BUILDING AND MECHANICAL CODES TO RESIST THE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION IN ORDER TO MAINTAIN THE RESISTANCE RATING OF THE CONSTRUCTION BEING PENETRATED.

**PROTECTION OF MATERIALS AND EQUIPMENT**  
CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL WORK, MATERIALS, AND EQUIPMENT PROVIDED UNDER THIS SECTION. PIPE OPENINGS SHALL BE CLOSED WITH CAPS OR PLUGS TO PREVENT THE ENTRANCE OF DEBRIS DURING CONSTRUCTION. ALL DUCTWORK OPENINGS SHALL BE SEALED CLOSED DURING CONSTRUCTION.

**ALTITUDE**  
SUPPLIES SHALL CONFIRM THAT ALL EQUIPMENT BEING FURNISHED IS APPROPRIATE FOR USE AT THE ALTITUDE OF THE SITE.

**EQUIPMENT AND PIPING IDENTIFICATION**  
PROVIDE EQUIPMENT LABELS FOR ALL MAJOR EQUIPMENT, INCLUDING BUT NOT LIMITED TO AIR HANDLING SYSTEMS, FANS, VAV BOXES, CONTROLS, DAMPERS, CONTROL VALVES AND PUMPS.

**TESTING**  
PROVIDE PIPE MARKERS ON CW, HW AND HWC SYSTEMS. LABELS TO BE AT MAXIMUM 6 FEET APART, WITH FLOW DIRECTION INDICATED AS APPLICABLE. ADDITIONALLY, PROVIDE LABELING ON POTABLE WATER MANIFOLDS INDICATING PLUMBING FIXTURE SERVED BY THE OUTLET, AS APPLICABLE. LABELS SHALL BE AFFIXED OR ADHERED PERMANENTLY TO EQUIPMENT. EQUIPMENT INSTALLED INDOORS TO BE LABELED WITH EMBROIDING TAPE. EQUIPMENT INSTALLED OUTDOORS TO BE LABELED WITH ENGRAVED PLASTIC LAMINATE SIGNS. PIPE MARKERS TO BE SELF-ADHESIVE, MANUFACTURED FOR SUCH PURPOSE.

**STARTERS AND DISCONNECTS**  
EQUIPMENT STARTERS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. EQUIPMENT DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE ON THE DRAWINGS. STARTERS SHALL BE NEMA TYPE, AND SHALL INCLUDE PHASE MONITORING FOR MOTORS 5 HP AND LARGER.

**TESTING**  
TESTING SHALL BE PERFORMED ON THE FOLLOWING SYSTEMS SPECIFIED. ALL SYSTEMS LISTED MAY NOT BE INCLUDED IN PROJECT. REFER TO DRAWINGS FOR APPLICABLE SYSTEMS. SOL, WASTE AND STORM DRAINAGE PIPING SHALL BE TESTED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL CODES. DOMESTIC WATER PIPING SHALL BE TESTED AND PROVIDE WATERHIGHT UNDER A PRESSURE NOT LESS THAN THE WORKING PRESSURE OF THE SYSTEM FOR A 24 HOUR PERIOD. DOMESTIC WATER PIPING SYSTEM SHALL BE CHLORINATED AND STERILIZED IN ACCORDANCE WITH REQUIREMENTS OF LOCAL JURISDICTION. NATURAL GAS PIPING SHALL BE TESTED WITH AN AIR PRESSURE OF MINIMUM TWO TIMES THE DESIGN SYSTEM PRESSURE, BUT NO LESS THAN 3 PSIG FOR A PERIOD OF 24 HOURS WITHOUT PRESSURE DROP.

**BALANCING**  
SYSTEM BALANCING SHALL BE PERFORMED BY A CERTIFIED BALANCING CONTRACTOR. BALANCE ALL SYSTEMS INCLUDING AIRFLOW TO AND FROM ALL OPENINGS, AND PUMPED WATER SYSTEMS INCLUDING DOMESTIC WATER RECIRCULATION SYSTEMS AS APPLICABLE. MAKE ANY ADJUSTMENTS NECESSARY TO RESULT IN CONDITIONS INDICATED AND PROVIDE READJUSTMENTS TO ITEMS REQUESTED AS MAY BE REQUESTED BY ARCHITECT/ENGINEER. SUBMIT TWO COPIES OF TEST AND BALANCE REPORT FOR APPROVAL. FAN AND PUMP SYSTEMS TO BE BALANCED WITH PLUS OR MINUS 5 PERCENT OF LISTED VALUES. AIR INLETS AND OUTLETS TO BE BALANCED WITHIN PLUS 10 PERCENT OR MINUS 5 PERCENT OF LISTED VALUES. BALANCE REPORT TO INCLUDE:  
UNIT IDENTIFICATION  
MANUFACTURER AND NAMEPLATE DATA  
EQUIPMENT NAMEPLATE AMPERAGE AND ACTUAL AMPERAGE  
RPM (DESIGN AND ACTUAL)  
FAN CFM (DESIGN AND ACTUAL)  
FAN STATIC PRESSURE (DESIGN AND ACTUAL)  
PUMP CFM (DESIGN AND ACTUAL)  
PUMP DISCHARGE AND SUCTION PRESSURE  
REGISTER, GRILLE, DIFFUSER REFERENCE NUMBER AND LOCATION  
INLET/OUTLET CFM (DESIGN AND ACTUAL)  
FLOW DEVICE PRESSURE DROP, CFM OR CFPM  
A FINAL BALANCING REPORT SHALL BE PROVIDED TO THE OWNER AFTER COMPLETION OF THE PROJECT.

**CLEANING**  
AT THE COMPLETION OF WORK, ALL FIXTURES AND EQUIPMENT SHALL BE THOROUGHLY CLEANED AND DELIVERED IN A CONDITION SATISFACTORY TO THE ARCHITECT. ALL FILTERS SHALL BE REPLACED WITH NEW PRIOR TO OWNER ACCEPTANCE OF THE BUILDING.

## GENERAL MECHANICAL NOTES

- MECHANICAL WORK SHALL COMPLY WITH ALL APPLICABLE CODES. VERIFY ALL REQUIREMENTS PRIOR TO SUBMITTING BID OR COMMENCING WORK. THE MECHANICAL DESIGN IS BASED ON THE 2021 INTERNATIONAL MECHANICAL CODE.
- WHERE CEILING SPACE IS TO BE USED AS A RETURN AIR PLENUM, COMPLY WITH ALL APPLICABLE CODES. ALL MATERIALS WITHIN THE CEILING PLENUM SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50.
- ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL - CONSTRUCTION AND INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF SMACNA OR AS REQUIRED BY ALL APPLICABLE CODES.
- CONSTRUCT ALL SUPPLY AND RETURN DUCTWORK TO SMACNA 2" PRESSURE CLASS.
- CONSTRUCT ALL EXHAUST DUCTWORK TO SMACNA 1" PRESSURE CLASS.
- DIMENSIONS OF DUCTWORK SHOWN INDICATES CLEAR INSIDE DIMENSIONS - WHERE DUCT LINER IS TO BE ADDED, INCREASE THE SIZE OF SHEET METAL ACCORDINGLY.
- UNLESS NOTED OTHERWISE, THE SIZE OF THE BRANCH DUCT SERVING A SINGLE DIFFUSER SHALL BE THE SAME AS THE NECK SIZE OF THE DIFFUSER SERVED. FLEXIBLE DUCTWORK SHALL NOT EXCEED 8'-0" IN LENGTH. FLEXIBLE DUCTWORK SHALL BE UL181 LISTED WITH 50/25 SMOKE/FLAME RATING, CONSISTING OF POLYESTER FILM ENCAPSULATING AN INNER FIBERGLASS REINFORCED SCRIM COVERING, AND BE INSTALLED DUCT SHALL INCLUDE AN EXTERIOR FIBERGLASS INSULATION WITH FOIL SCRIM FILM VAPOR BARRIER JACKET, R-6.
- MAINTAIN A MINIMUM 10'-0" SEPARATION FROM OUTSIDE AIR INTAKES TO EXHAUST TERMINATIONS AND PLUMBING VENTS.
- MAINTAIN A MINIMUM 3'-0" SEPARATION FROM EXHAUST TERMINATIONS TO OPERABLE WINDOWS AND DOORS.
- WALL MOUNTED THERMOSTATS AND SENSORS SHALL BE INSTALLED 48" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. THERMOSTATS AND SENSORS LOCATED ON EXTERIOR WALL SURFACES SHALL BE PROVIDED WITH AN INSULATED SUB-BASE.
- THERMOSTATS FOR COOLING AND HEATING EQUIPMENT SHALL BE 7-DAY PROGRAMMABLE, TYPE 4, PERIODS PER DAY, 10-HOUR BATTERY BACK-UP, 2-HOUR OVERHIDE, 5 DEG DEAD-BAND, HEAT/COOL/OFF/AUTO CHANGEOVER, AUTO SETBACK TO 55 DEG F (HEAT) AND 85 DEG F (COOL), LCD BACKLIT DISPLAY, HARD WIRED POWER, HARD WIRED CONTROL.
- TEMPORARY HEATING: THE PERMANENT HVAC SYSTEM MAY NOT BE UTILIZED FOR HEATING UNTIL ALL GYPSUM WORK IS COMPLETED AND HAS BEEN PAINTED. IF THE PERMANENT HVAC SYSTEM IS UTILIZED DURING CONSTRUCTION, ALL DUCT INTAKES SHALL BE COVERED WITH FILTER MEDIA (MERV-8 RATING). IF EXCESSIVE DUST OR DEBRIS HAS ENTERED THE SYSTEM THEN ALL COIL AND DUCT SURFACES SHALL BE CLEANED. NEW FILTERS ARE TO BE PROVIDED JUST PRIOR TO TURNOVER TO OWNER. TEMPORARY HEATING OF THE BUILDING PRIOR TO ANY USE OF THE PERMANENT HVAC SYSTEM SHALL BE THE RESPONSIBILITY OF THE G.C.
- PLENUM WRAP: PIPING SYSTEMS LOCATED WITHIN A RETURN PLENUM SPACE IN WHICH THE PIPING MATERIAL HAS A FLAME SPREAD INDEX GREATER THAN 25 OR A SMOKE DEVELOPED INDEX OF MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 SHALL BE PROVIDED WITH PLENUM WRAP LISTED AND LABELED FOR SUCH APPLICATION. PROVIDE BLANKET WRAP INSULATION WITH A NOMINAL THICKNESS OF 0.5" WITH A DENSITY OF 4-POUNDS PER CUBIC FOOT. BLANKET WRAP SHALL BE FULLY ENCAPSULATED WITH A POLY-ALUMINUM FOIL, FIBERGLASS REINFORCED SCRIM COVERING, AND BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS. 3M FIRE BARRIER PLENUM WRAP 5A OR APPROVED.
- HEATING AND CHILLED WATER PIPING 2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL WITH SCREWED FITTINGS. PIPING 2.5" AND LARGER SHALL BE SCHEDULE 40 BLACK STEEL WITH GROOVED VITACLIK FITTINGS.
- TEMPERATURE CONTROLS SHALL BE DESIGN BUILD, CUSTOM, FIELD FABRICATED TO MATCH CORRESPONDING EQUIPMENT. THE SYSTEM SHALL BE A FULL DIRECT DIGITAL CONTROL (DDC) BUILDING AUTOMATION SYSTEM (BAS). THE MC SHALL HIRE A TEMPERATURE CONTROL CONTRACTOR SPECIALIZING IN TEMPERATURE CONTROL SYSTEM DESIGN AND INSTALLATION. THE CONTRACTOR SHALL PROPERLY DESIGN, PROVIDE AND INSTALL SYSTEM(S) INCLUDING ALL COMPONENTS NECESSARY FOR A FULL AND COMPLETE OPERATIONAL SYSTEM. THIS INCLUDES, BUT IS NOT LIMITED TO: DESIGN, PROGRAMMING, LOGIC/VOLTAGE WIRING, THERMOSTATS, DAMPER MOTORS, SOLENOIDS, MOTORIZED VALVES, SENSORS, RELAYS, CONTROLS, STARTERS, TIME CLOCKS, VARIABLE FREQUENCY DRIVES, EQUIPMENT INTERFACE BOARDS, CENTRAL PROCESSOR (NOT CLOUD BASED), FULL GRAPHICS PACKAGE, DIGITAL FLOOR PLAN GRAPHICS, CONTROL PANELS, SYSTEM COMMISSIONING AND OWNER TRAINING. SYSTEMS SHALL UTILIZE OPEN PROTOCOL. BACKUP LOGIC ONLY. SYSTEM SHALL FEATURE REMOTE MONITORING AND SETPOINT ADJUSTMENT. ALL SYSTEM PASSWORDS SHALL BE GIVEN TO THE BUILDING OWNER. ALL LINE VOLTAGE INTERFACING SHALL BE COORDINATED DIRECTLY WITH THE ELECTRICAL CONTRACTOR. PROVIDE SUBMITTALS ON DESIGN, COMPONENTS, SEQUENCES AND WIRING DIAGRAMS PRIOR TO ORDERING.
- PRESS ON HYDRONIC FITTINGS AND PULLED THE FITTINGS WILL NOT BE ACCEPTED.
- HANGING, ANCHORING AND SUPPORT OF EQUIPMENT, DUCTS, PIPING AND ACCESSORIES IS DESIGN BUILD BY THE MC. THE SUPPORTS SHALL MEET CODE.
- ALWAYS INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

## INSULATION NOTES AND MECHANICAL ENERGY CODE

- THE MECHANICAL DESIGN IS BASED ON THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE.
- ALL SUPPLY, RETURN AND EXHAUST DUCTWORK SHALL BE SEALED AIRTIGHT WITH DUCT SEALANT ALONG ALL SEAMS AND JOINTS.
- SEE HVAC INSULATION SCHEDULE FOR DUCT INSULATION REQUIREMENTS.
- HYDRONIC HOT WATER PIPING SHALL BE INSULATED USING FIBERGLASS INSULATION WITH ALL SERVICE JACKET, HAVING MAXIMUM 'K' FACTOR OF 0.27. INSULATION THICKNESS SHALL BE:
  - ≤ 140 DEG F
  - 1" FOR 1.5" PIPE AND SMALLER
  - 1.5" FOR PIPES LARGER THAN 1.5"
  - > 140 DEG F
  - 1.5" FOR <1.5" PIPE
  - 2" FOR PIPES LARGER THAN 1.5"
- HYDRONIC CHILLED WATER PIPING SHALL BE INSULATED USING FIBERGLASS INSULATION WITH ALL SERVICE JACKET HAVING MAXIMUM 'K' FACTOR OF 0.27. INSULATION THICKNESS SHALL BE:
  - 1" FOR ALL SIZES

## CITY OF FORT COLLINS GREEN CODE REQUIREMENTS

- BEFORE OCCUPANCY AND AFTER ALL INTERIOR FINISHES ARE COMPLETE, THE BUILDING IS TO BE FLUSHED OUT (VENTILATED) FOR A PERIOD OF 14 DAYS. WHERE CONTINUOUS VENTILATION IS NOT POSSIBLE, THE AGGREGATE OF FLUSH-OUT PERIODS SHALL BE EQUIVALENT TO 14 DAYS. CONTRACTOR SHALL PROVIDE FLUSH-OUT REPORTS TO THE BUILDING OFFICIAL UPON COMPLETION OF WORK. CONTRACTOR TO COORDINATE WITH BUILDING OFFICIAL FOR INFORMATION TO BE CONTAINED IN FLUSH-OUT REPORTS.
- PROTECT HVAC EQUIPMENT FROM CONSTRUCTION DUST AND DEBRIS. DO NOT OPERATE HVAC EQUIPMENT DURING CONSTRUCTION AND SEAL ALL DUCT OPENINGS WITH PLASTIC.
- LOW-VOLATILE ORGANIC COMPOUND (VOC) DUCT INSULATION ADHESIVE SHALL BE USED. DESIGN POLYMERICS 2501, 2560 OR APPROVED EQUAL.
- LOW-VOLATILE ORGANIC COMPOUND (VOC) DUCT SEALANT SHALL BE USED. DESIGN POLYMERICS 1010, 1015 OR APPROVED EQUAL.
- LOW-VOLATILE ORGANIC COMPOUND (VOC) FIRE CAULK SHALL BE USED. 3M FIRE BARRIER IC 15WB+, FD 150+, CP 25WB+ OR APPROVED EQUAL.
- AIR SEALING VERIFICATION (BLOWER DOOR TEST) IS TO BE PERFORMED. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE G.C. AS NECESSARY TO ASSIST IN THIS TESTING. THE FOLLOWING ITEMS ARE TO BE COMPLETED FOR TESTING:
  - 1) DAMPERS SHALL BE CLOSED, BUT NOT SEALED, INCLUDING EXHAUST, INTAKE, MAKEUP AIR, BACKDRAFT AND FIRE DAMPERS.
  - 2) HEATING AND COOLING SYSTEMS SHALL BE TURNED OFF.
  - 3) HEATING, VENTILATING AND AIR CONDITIONING DUCTS SHALL NOT BE SEALED.
  - 4) SUPPLY AND RETURN AIR REGISTERS SHALL NOT BE SEALED.
  - 5) COMBUSTION AIR INLETS SHALL NOT BE CLOSED OR OTHERWISE OBSTRUCTED.
- IN ADDITION TO TESTING REQUIREMENTS LISTED IN THE GENERAL MECHANICAL REQUIREMENTS, ALL HEATING, COOLING AND VENTILATION SYSTEMS SHALL BE PERFORMANCE TESTED BY AN APPROVED AGENCY AND ADJUSTED TO OPERATE WITHIN DESIGN SPECIFICATIONS. DOCUMENTATION OF TESTING AND ADJUSTING RESULTS (TAB REPORT) SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO APPROVAL. COORDINATE WITH BUILDING OFFICIAL FOR LIST OF APPROVED AGENCIES.
- THE BUILDING AND ITS SYSTEMS WILL BE COMMISSIONED BY A COMMISSIONING AGENT. THE MECHANICAL AND PLUMBING CONTRACTORS SHALL ASSIST THE COMMISSIONING AGENT AS REQUESTED AND NECESSARY TO COMPLETE ANY ASPECTS OF COMMISSIONING RELATED TO THE MECHANICAL SCOPE OF WORK. MECHANICAL COMMISSIONING SCOPE MAY INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING: 1) ATTEND COMMISSIONING MEETINGS AS NECESSARY. 2) PERFORM FUNCTIONAL PERFORMANCE TESTING UNDER THE DIRECTION OF THE COMMISSIONING AGENT. 3) COMPLETE COMMISSIONING CHECKLISTS AND PROVIDE ANY DOCUMENTATION AS REQUESTED BY THE COMMISSIONING AGENT. 4) PROVIDE TRAINING FOR OWNER'S OPERATING PERSONNEL AS REQUIRED OR REQUESTED.
- A CONSTRUCTION WASTE MANAGEMENT PLAN WILL BE IMPLEMENTED REGARDING RECYCLING OF NONHAZARDOUS CONSTRUCTION DEBRIS. COORDINATE WITH G.C. FOR RECYCLING OF ITEMS RELATED TO THE MECHANICAL SCOPE OF WORK.

## MECHANICAL DRAWING INDEX

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M2.1	HVAC FIRST FLOOR PLAN	
M2.2	HVAC SECOND FLOOR PLAN	
M3.1	HVAC FIRST FLOOR HYDRONIC PLAN	
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M7.1	MECHANICAL DETAILS	
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M8.5	MECHANICAL SCHEDULES	



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## FC CARNEGIE

CITY OF FORT COLLINS  
FORT COLLINS, CO

PROJECT #: 21-207  
ISSUE DATE: 09/15/2022

HVAC NOTES, LEGEND, AND DRAWING INDEX

# M0.1



HVAC TEMPERATURE CONTROL SEQUENCE OF OPERATIONS

- 1.1 Scope:
- A. The existing building HVAC system and temperature controls are to be removed and replaced with new.
  - B. The HVAC system shall be controlled through a microprocessor based Direct Digital Control (DDC) system.
    - 1. DISTECH brand only
    - 2. BACnet open protocol
  - C. Additional points or software programming not listed but which are required to meet the sequence of operation shall be provided.
  - D. Provide a complete and operational (turn key) system including:
    - 1. Controllers.
    - 2. Wiring, including power wiring to control devices.
    - 3. Sensors.
    - 4. Thermostats.
    - 5. Dampers.
    - 6. Valves.
    - 7. Programming with graphics interface.
    - 8. Adjustments and calibration.
    - 9. Operational verification.
    - 10. Owner training.
    - 11. (1) year warranty.
  - E. The entire building HVAC system shall be linked and be capable of remote monitoring, setpoint adjustment, and scheduling adjustment via the owners existing system.
  - F. Normal (set) positions for dampers are as follows:
    - 1. Outside air damper - Closed
    - 2. Return air damper - Open
    - 3. Exhaust air damper - Closed
  - G. Alarms:
    - 1. All general application controller and network controller communication failures shall be capable of being annunciated at a remote workstation prior to an alarm. All specified I/O device alarms shall be capable of being annunciated to remote testing device (i.e. smart phone) with alarm messages tailored for the alarm by system type and device type (i.e. "RTU-1 High Discharge Air Temperature").
  - H. Coordination:
    - 1. This is a design build system, requiring direct coordination with all contractors and the Owner. The owner shall be directly involved in the design and component selections.
- 1.2 Controls:
- A. The following equipment is to be controlled through the Building Automation System (BAS). Occupied/unoccupied schedule shall be coordinated with the Owner.
  - B. All temperatures listed are in degrees Fahrenheit (°F).
  - C. All set points shall be adjustable.

H. WATER SOURCE HEAT PUMPS (WSHP-1 thru WSHP-10):

- 1. WSHP shall function as directed by the DDC zone thermostat.
    - a. Occupied:
      - 1a. Fan shall be on.
      - 2a. Unit shall use internal logic to energize cooling system.
      - 2b. Open zone water valve.
    - 1c. Call for heating:
      - 2a. Unit shall use internal logic to energize heating system.
      - 2b. Open zone water valve.
    - 1d. Satisfied:
      - 2a. Close water valve.
  - b. Unoccupied:
    - 1a. Supply fan normally off.
    - 1b. Call for Cooling:
      - 2a. Supply fan shall energize.
      - 2b. Unit shall use internal logic to energize cooling system.
      - 2c. Open zone water valve.
    - 1c. Satisfied:
      - 2a. Close water valve.
      - 2b. Fan off.
    - 1d. Call for heat:
      - 2a. Supply fan shall energize.
      - 2b. Unit shall use internal logic to energize heating system.
      - 2c. Open zone water valve.
2. Alarms
  - a. WSHP fail.

D. Occupied/unoccupied schedules shall be determined by building owner. TCC shall build schedule accordingly).

E. Occupied Temperature set points:

- 1. Occupied:
  - a. Heating: 70 Deg
  - b. Cooling: 74 Deg
- 2. Unoccupied:
  - a. Heating: 55 Deg
  - b. Cooling: 60 Deg

F. Energy Recovery Ventilator (ERV-1, ERV-2):

- 1. Occupied Mode:
  - a. Supply/Exhaust Fans:
    - 1a. Fans to operate continuously at 100%.
    - 1b. Inlet dampers shall be open.
  - b. Majority Call for Cooling in building:
    - 1a. OAT above 55 deg F:
      - 2a. Economizer bypass dampers shall be closed.
    - 1b. OAT below 55 deg F:
      - 2a. Economizer bypass dampers shall be open.
  - c. Majority Call for heating in building:
    - 1a. Economizer bypass dampers shall be closed.
- 2. Unoccupied Mode:
  - a. Supply Fan:
    - 1a. Supply and exhaust fans shall be off.
    - 1b. Inlet dampers shall be closed.
- 3. Alarms
  - a. Alarms generated by the ERV shall be sent through the DDC system to the alarm router:
    - 1a. Fan fail.

G. Water Hydraulic System

- 1. Boilers:
  - a. Boilers are sized for each at 50% of building load. Both boilers are required for full heating.
  - b. The boilers shall maintain hydronic heating temperature. All values shall be adjustable.
    - 1a. Maintain loop temperature above 70 deg F.
  - c. Each boiler shall use internal logic to modulate and supply the necessary heat to maintain loop temperatures.
  - d. Boilers shall flip load/stop position based on run time.
  - e. Each boiler shall energize the corresponding dedicated pump (P-1, P-2) through internal logic.

I. Electric Wall Heaters

- 1. Factory internal thermostats.
- 2. System shall self-regulate to maintain space temperature setpoints.
- 3. Install DDC room sensor in all WSHP room. Monitor with DDC system.
- 4. Alarm
  - a. Room temperature falls below 50 deg F.

J. Zone Thermostats:

- 1. Coordinate style directly with Owner.
- 2. DDC type.
- 3. No temperature display.
- 4. Slider temperature control. Adjustable range regulated from central DDC controller.
- 5. 3 hour override button.
- 6. Local temperature and set points to be sent to DDC Controller

K. DDC Controller:

- 1. Full graphical interface
- 2. Digital floor plans with active zone maps and temperatures.
- 3. Live digital display:
  - a. Boiler systems
  - b. Pumps
  - c. Cooling Tower
  - d. ERVs
  - e. WSHPs
  - f. Active alarms
- 4. Remote Access
- 5. Alarm notification
- 6. Provide stand alone control server with full display.
- 7. Trending capabilities minimum 250 GB data. Any data point shall be trendable if assigned. The following shall always be trended:
  - a. All alarms
  - b. Outdoor air temperature
  - c. Building water loop temperature
  - d. Pump status
  - e. Boiler status
  - f. Cooling Tower Status
  - g. ERV Status

2. Cooling Tower:

- a. The cooling tower shall maintain hydronic cooling temperature. All values shall be adjustable.
  - 1a. Maintain loop temperature below 80 deg F.
- b. The cooling tower shall use DDC logic, via TCC, to supply the necessary cooling to maintain loop temperatures.
- c. The cooling tower shall energize the corresponding dedicated pump (P-5) through the DDC system, via the TCC.
- d. When no cooling is needed P-5 shall disengage. The system shall naturally drain back to the indoor storage tank.
- 3. Building pumps (P-3, P-4)
  - a. Pumps are 100% redundant. Only one pump shall operate at any given time.
  - b. Pumps shall flip load/stop position based on run time.
  - c. Pumps shall be equipped with variable frequency drives (supplied as part of pump).
  - d. Provide and install a pressure sensor at the location shown on the plans. Pump shall modulate to maintain 20 ft of head at loop pressure sensor (adjustable).
- 4. Alarms
  - a. Pump fail.
  - b. Boiler fail.
  - c. Cooling tower fan fail.
  - d. High building water temperature of 90°F (adj.).
  - e. Low building water temperature of 60°F (adj.).
  - f. Low water in the cooling tower tank.



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SEQUENCE OF  
OPERATIONS

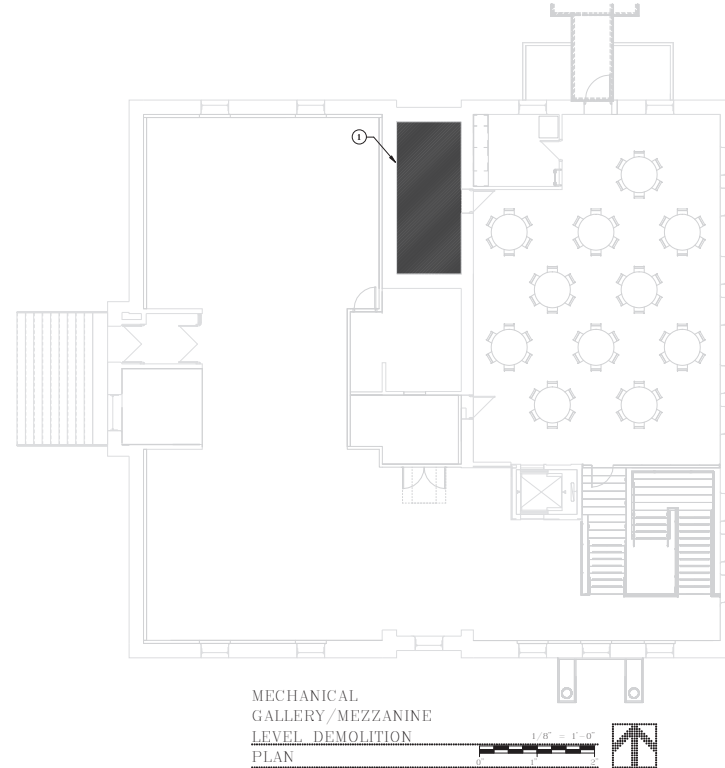
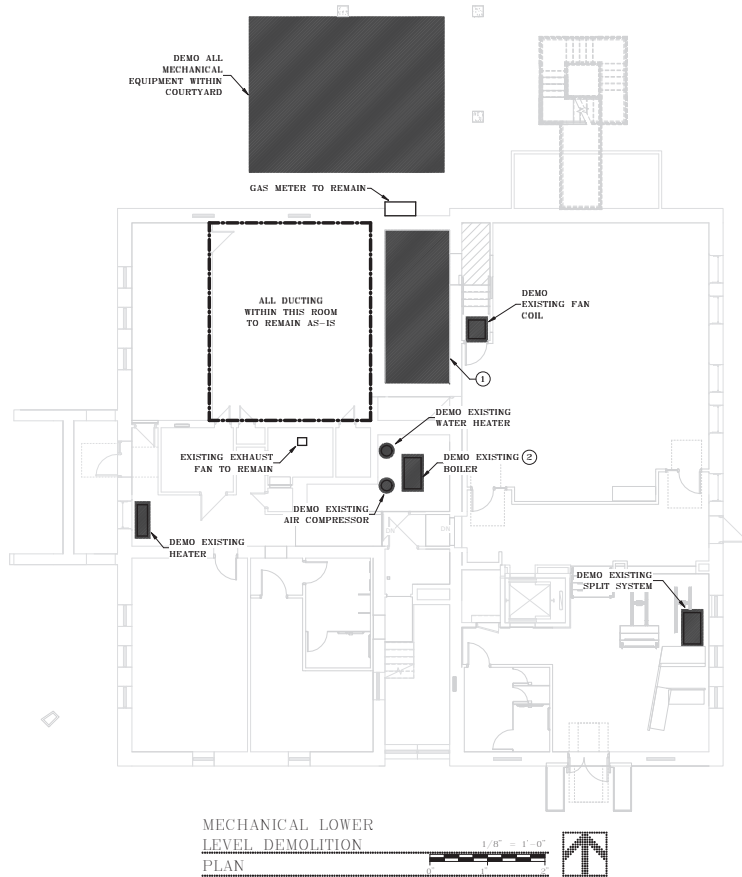
M0.2

**GENERAL NOTES:**

- ① ALL EXISTING DUCTWORK TO BE REMOVED UNLESS NOTED OTHERWISE
- ② REFER TO ARCHITECTURAL PLANS FOR ALL PLUMBING FIXTURES TO BE DEMOLISHED.

**FLAG NOTES:**

- ① ALL MECHANICAL EQUIPMENT WITHIN THIS ROOM TO BE REMOVED.
- ② DEMO ALL EQUIPMENT ASSOCIATED WITH EXISTING BOILER. THIS INCLUDES ALL PUMPS AND PIPING.



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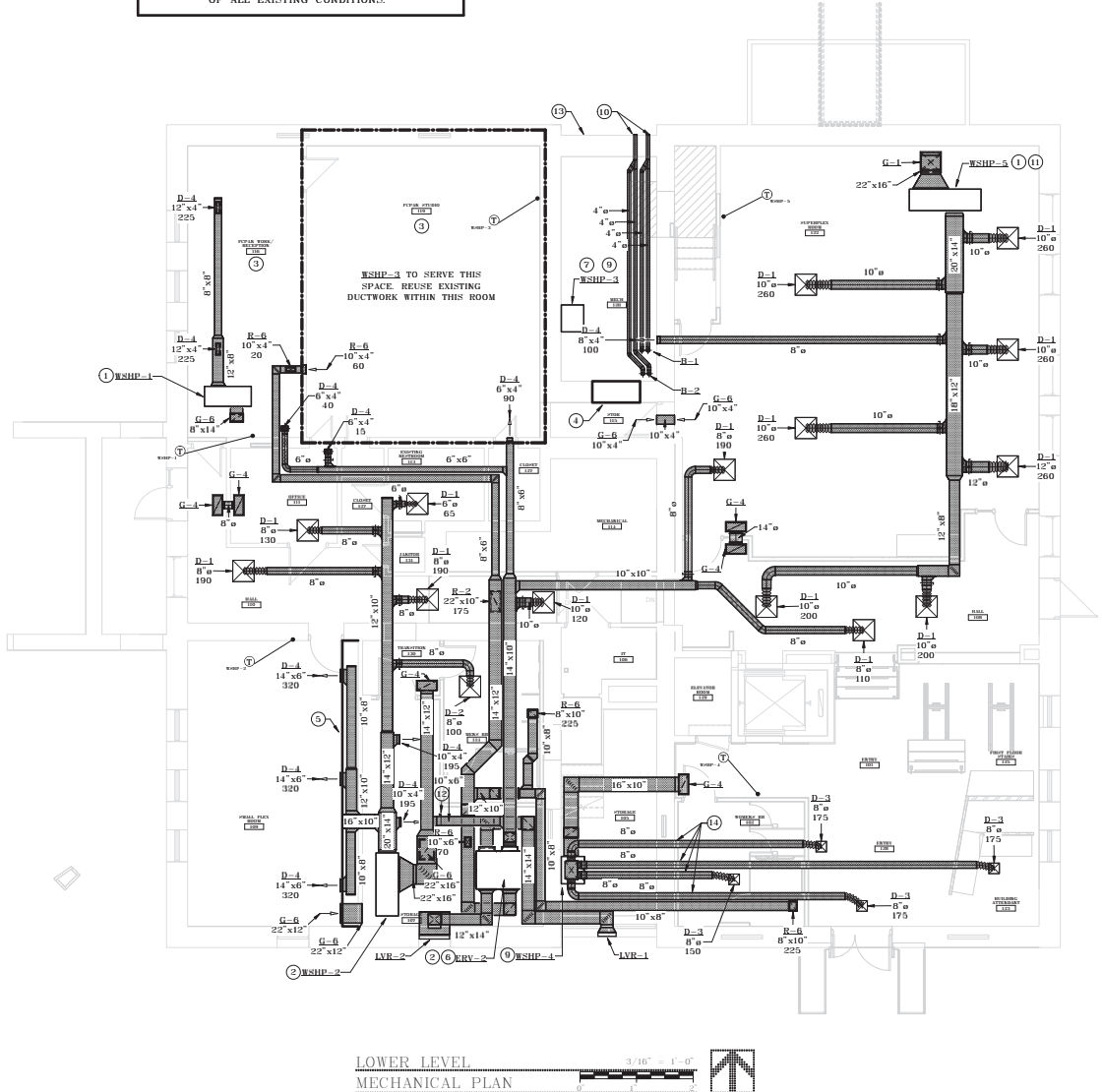
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DEMOLITION PLANS

**M1.1**



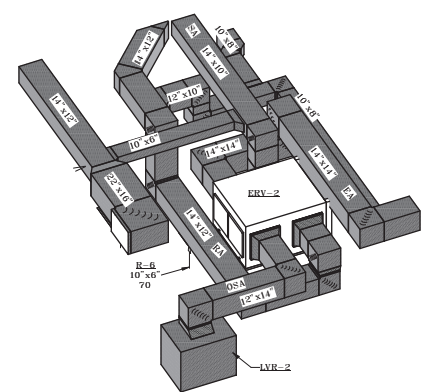
BIDDERS ARE REQUIRED TO VISIT THE SITE PRIOR TO BID TO GAIN A FULL UNDERSTANDING OF EXISTING SYSTEMS AND BUILDING CONDITIONS. SUBMITTING A BID INDICATES THE CONTRACTOR DOES HAVE THIS UNDERSTANDING AND IS AWARE OF ALL EXISTING CONDITIONS.



LOWER LEVEL  
MECHANICAL PLAN

# FLAG NOTES:

1. INSTALL EQUIPMENT WITHIN CEILING SPACE.
2. EQUIPMENT TO BE MOUNTED TO CEILING.
3. CONTRACTOR TO COVER AND PROTECT ANY EQUIPMENT LEFT IN SPACE DURING CONSTRUCTION PHASE.
4. EXISTING WALL PENETRATION TO SERVE AS RETURN AIR PATHWAY.
5. REFER TO ARCHITECTURAL PLAN FOR SOFFIT.
6. REFER TO ERV-2 ISOMETRIC ON THIS SHEET FOR MORE INFORMATION IN THIS AREA.
7. WSH-3 TO BE CONNECT INTO EXISTING SUPPLY AND RETURN DUCTWORK WITHIN FC PAN STUDIO.
8. WSH-2 TO BE INSTALLED IN TOP HALF OF EXISTING WINDOW.
9. UNIT TO BE INSTALLED VERTICALLY.
10. 4" FLUE TO PENETRATE THROUGH EXISTING LOUVER WITHIN MECHANICAL ROOM. REFER TO INSTALLATION MANUAL FOR VENTING REQUIREMENTS.
11. CONDENSATE LINE TO BE ROUTED OVER TO S-2 RE. PLUMBING PLANS.
12. DAMPER TO BE SET TO 210 CFM.
13. EXISTING LOUVER TO BE CLOSED OFF.
14. DUCTWORK OF INDICATED SIZE TO RUN THROUGH EXISTING JOINT STRUCTURE.



ERV-2 ISOMETRIC

NO SCALE

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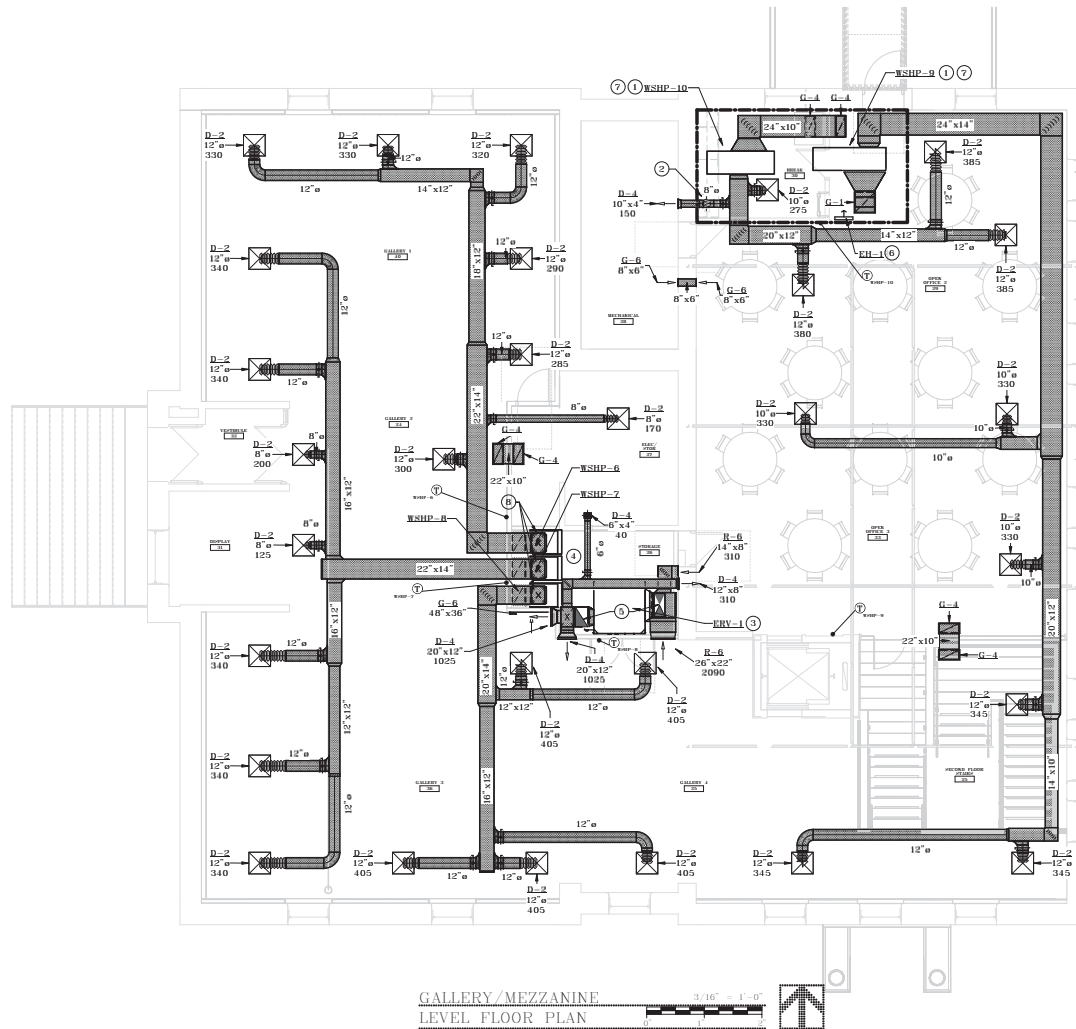
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HVAC FIRST FLOOR PLAN

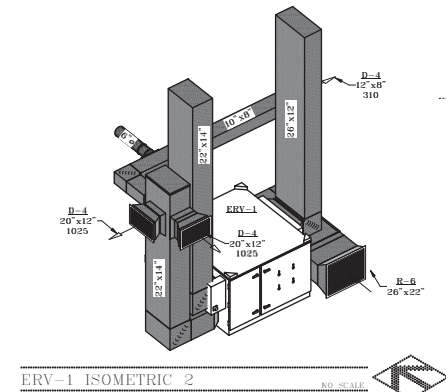
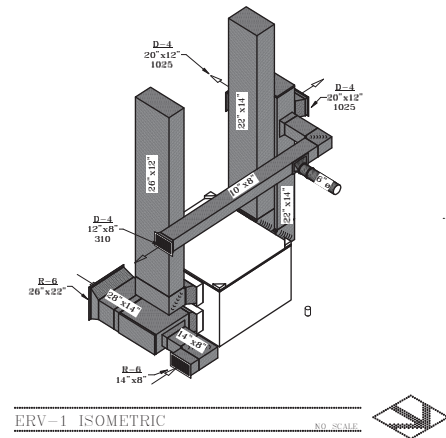
**M2.1**

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#### FLAG NOTES:

- 1 EQUIPMENT TO BE WITHIN ATTIC SPACE.
- 2 DROP DUCTWORK DOWN TO SIDEWALL DIFFUSER INTO STORAGE ROOM.
- 3 REFER TO **ERV-1 ISOMETRIC** AND **ERV-2 ISOMETRIC 2** ON THIS SHEET FOR MORE INFORMATION IN THIS AREA.
- 4 SPACE BELOW THIS AREA TO BE USED AS A RETURN AIR PLENUM. PLENUM TO BE SIZE OF GRILL, 48" x 36" AND SHALL EXTEND TO OPPOSING WALL.
- 5 MC TO ROUTE OSA AND EXHAUST DUCTWORK OF INDICATED SIZE UP THROUGH ROOF. ENSURE 10'-0" REMAIN BETWEEN OSA DUCT AND EXHAUST DUCTWORK. USE EXISTING ROOF PENETRATIONS IF POSSIBLE. TERMINATE EACH WITH GOOSENECK. COVER OPENING WITH 0.5" x 0.5" STAINLESS STEEL WIRE MESH. WRAP OSA DUCT WITH PROPER INSULATION PER SCHEDULE ON SHEET MR.2.
- 6 ELECTRIC WALL HEATER TO BE INSTALLED WITHIN NEW MECHANICAL ROOM IN ATTIC SPACE. INSTALL WITH BOTTOM OF UNIT AT 1'-0" ABOVE ATTIC.
- 7 CONDENSATE LINES FROM WSH-6 AND WSH-10 TO BE ROUTED WITHIN HEATED ATTIC MECHANICAL ROOM AND THEN BROUGHT DOWN TO SINK DRAIN.
- 8 ROUTE DUCTWORK UP TO ATTIC, AND RUN WITHIN ATTIC SPACE.



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HVAC SECOND FLOOR  
PLAN

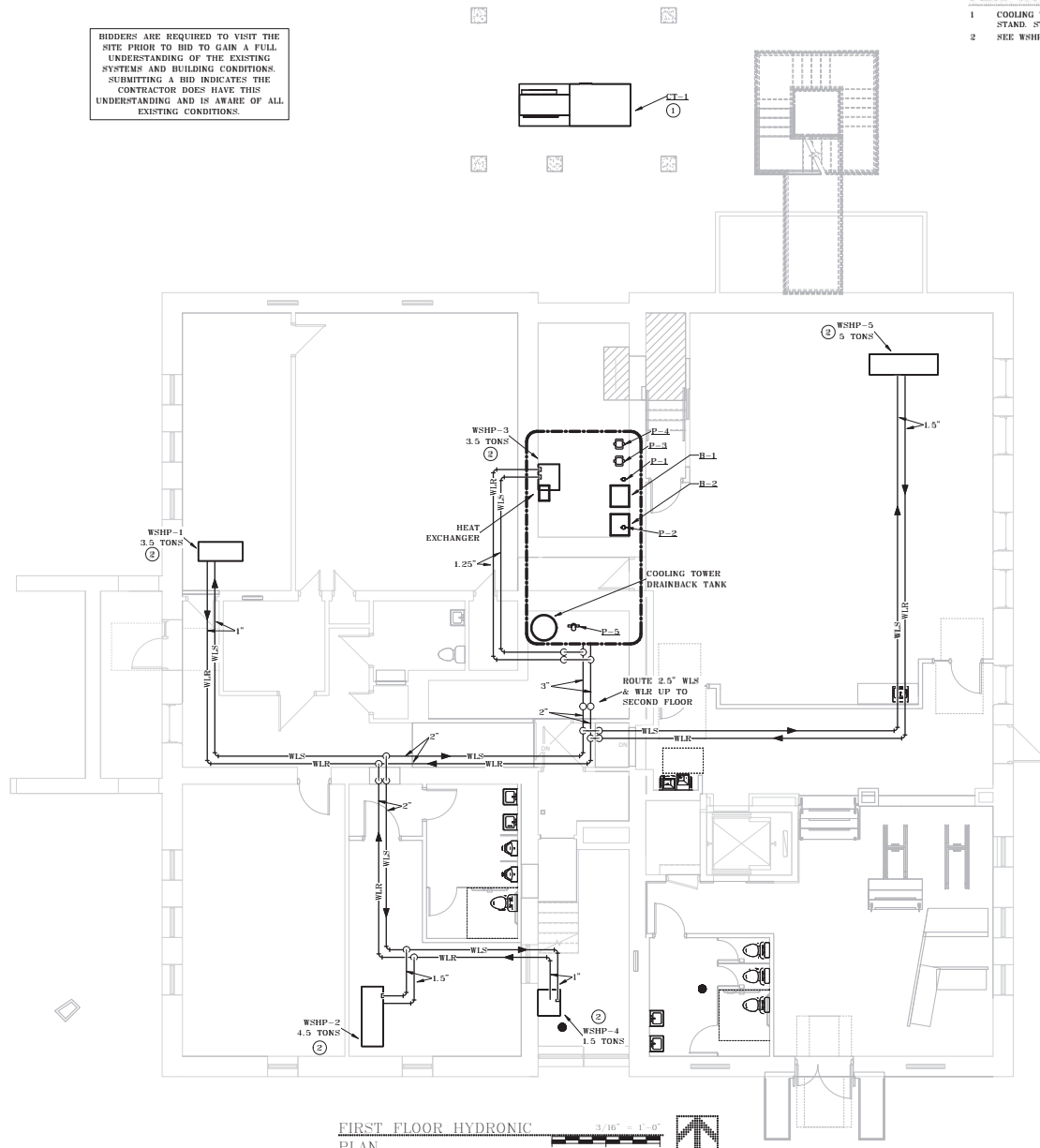
**M2.2**

15-Sep-22 2:04:48 PM - PLOT DATE

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### FLAG NOTES:

1. COOLING TOWER TO BE INSTALLED ON A 24" HIGH STRUCTURAL STAND. STAND BY OTHERS.
2. SEE WSHP COIL PIPING DETAIL, SHEET M7.1.



FIRST FLOOR HYDRONIC  
PLAN



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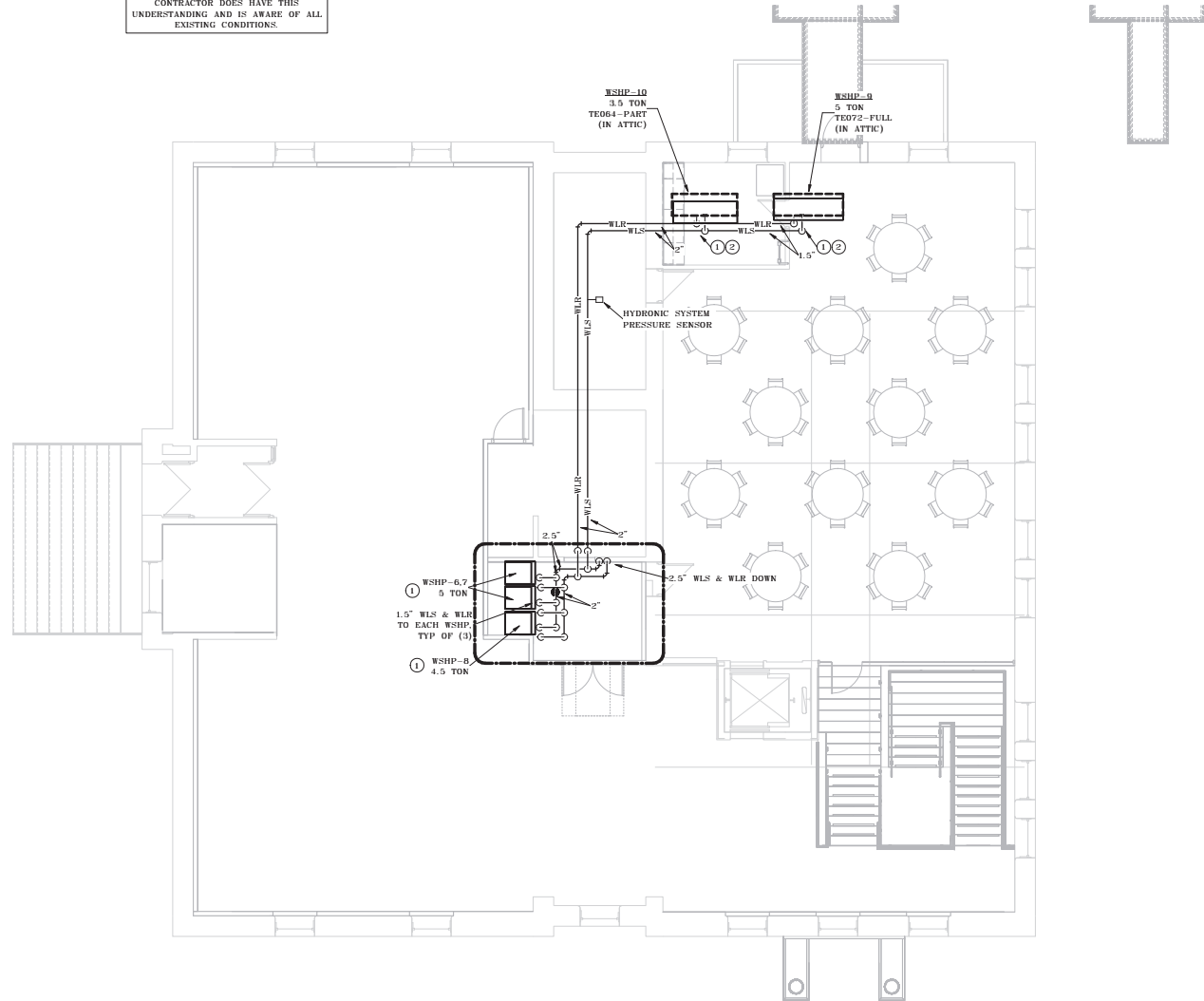
HVAC FIRST FLOOR  
HYDRONIC PLAN

# M3.1

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# FLAG NOTES:

- 1 SEE WSPH COIL PIPING DETAIL, SHEET M7.1.
- 2 RE. ARCH FOR NEW HEATED ATTIC SPACE.



SECOND FLOOR  
HYDRONIC PLAN



19 SEP 2022 2:04:50 PM - PLOT DATE



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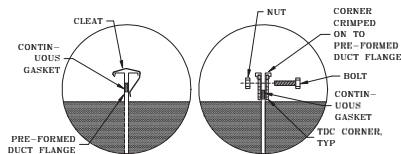
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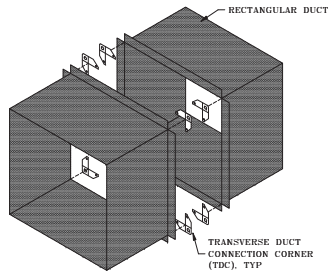
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HVAC SECOND FLOOR  
HYDRONIC PLAN

M3.2

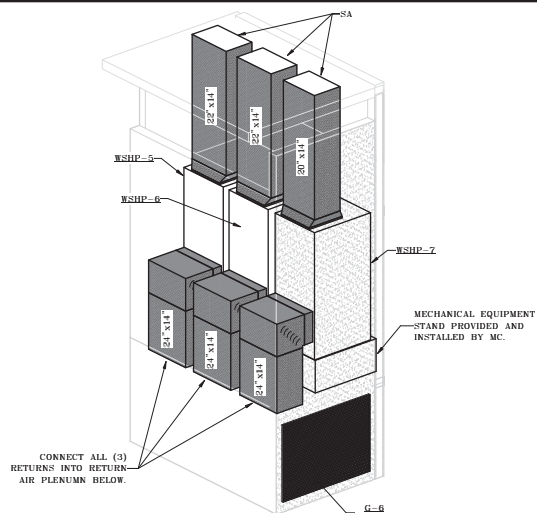


JOINT SECTION CORNER DETAIL



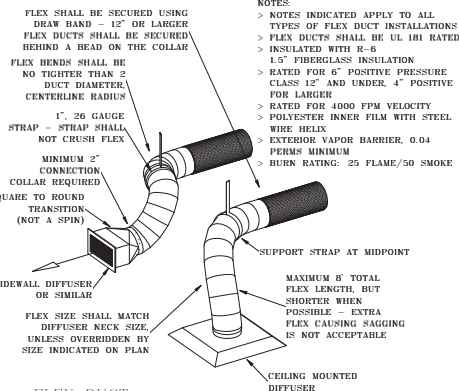
RECTANGULAR DUCT  
TRANSVERSE JOINT DETAIL

SCALE  
NONE



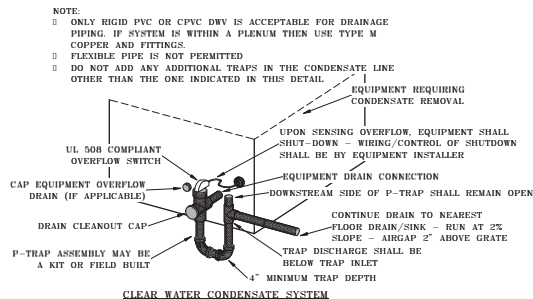
MECHANICAL ROOM  
ISOMETRIC

NO SCALE



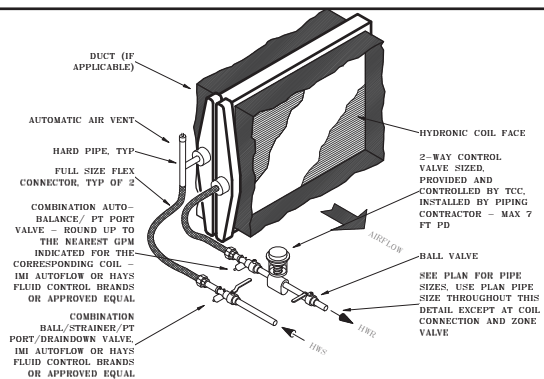
FLEX DUCT  
DETAIL

SCALE  
NONE



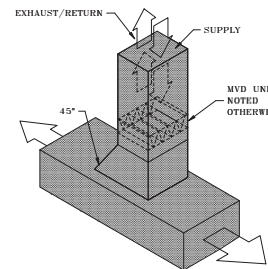
CONDENSATE DRAIN  
DETAIL

SCALE  
N/A



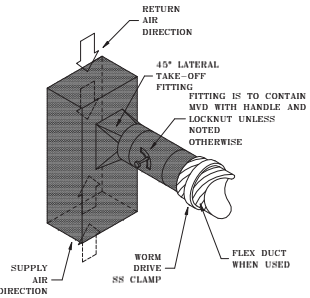
WSHIP COIL  
PIPING DETAIL

SCALE  
N/A



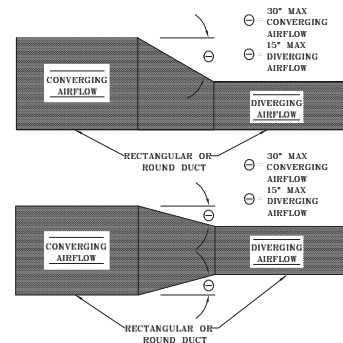
DUCT TAKE-OFF DETAIL  
RECTANGULAR

SCALE  
NONE



DUCT TAKE-OFF DETAIL  
ROUND

SCALE  
NONE



DUCT TRANSITION  
DETAIL

SCALE  
NONE



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MECHANICAL DETAILS

M7.1







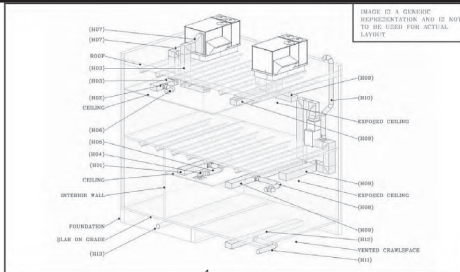


## GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

TAG	MAKE & MODEL NUMBER	DESCRIPTION	NECK SIZE	DUTY	COLOR	FRAME SIZE	FRAME TYPE	FRAME CONST	DAMPER	REMARKS
D-1	TITUS OMNI-3	ARCHITECTURAL UNI-FLO DIFFUSER	6"ø	SUPPLY	WHITE	24"x24"	LAY-IN	STEEL	NO	
D-1	TITUS OMNI-3	ARCHITECTURAL UNI-FLO DIFFUSER	8"ø	SUPPLY	WHITE	24"x24"	LAY-IN	STEEL	NO	
D-1	TITUS OMNI-3	ARCHITECTURAL UNI-FLO DIFFUSER	10"ø	SUPPLY	WHITE	24"x24"	LAY-IN	STEEL	NO	
D-1	TITUS OMNI-3	ARCHITECTURAL UNI-FLO DIFFUSER	12"ø	SUPPLY	WHITE	24"x24"	LAY-IN	STEEL	NO	
D-2	TITUS OMNI-1	ARCHITECTURAL UNI-FLO DIFFUSER	8"ø	SUPPLY	WHITE	24"x24"	SURFACE	STEEL	YES	WITH TRIM FRAME
D-2	TITUS OMNI-1	ARCHITECTURAL UNI-FLO DIFFUSER	10"ø	SUPPLY	WHITE	24"x24"	SURFACE	STEEL	YES	WITH TRIM FRAME
D-2	TITUS OMNI-1	ARCHITECTURAL UNI-FLO DIFFUSER	12"ø	SUPPLY	WHITE	24"x24"	SURFACE	STEEL	YES	WITH TRIM FRAME
D-3	TITUS OMNI-1	ARCHITECTURAL UNI-FLO DIFFUSER	8"ø	SUPPLY	WHITE	12"x12"	SURFACE	STEEL	YES	WITH TRIM FRAME
D-4	TITUS 300RL-1	SIDEWALL SUPPLY DIFFUSER	6"x4"	SUPPLY	WHITE	NECK +2	SIDEWALL	STEEL	YES	
D-4	TITUS 300RL-1	SIDEWALL SUPPLY DIFFUSER	8"x4"	SUPPLY	WHITE	NECK +2	SIDEWALL	STEEL	YES	
D-4	TITUS 300RL-1	SIDEWALL SUPPLY DIFFUSER	10"x4"	SUPPLY	WHITE	NECK +2	SIDEWALL	STEEL	YES	
D-4	TITUS 300RL-1	SIDEWALL SUPPLY DIFFUSER	12"x4"	SUPPLY	WHITE	NECK +2	SIDEWALL	STEEL	YES	
D-4	TITUS 300RL-1	SIDEWALL SUPPLY DIFFUSER	12"x8"	SUPPLY	WHITE	NECK +2	SIDEWALL	STEEL	YES	
D-4	TITUS 300RL-1	SIDEWALL SUPPLY DIFFUSER	14"x8"	SUPPLY	WHITE	NECK +2	SIDEWALL	STEEL	YES	
D-4	TITUS 300RL-1	SIDEWALL SUPPLY DIFFUSER	20"x12"	SUPPLY	WHITE	NECK +2	SIDEWALL	STEEL	YES	
G-1	TITUS PAR-3	PERFORATED FACE GRILLE	22"x22"	RETURN	WHITE	24"x24"	LAY-IN	STEEL	NO	
G-4	TITUS BF-1	PERFORATED FACE GRILLE	22"x10"	RETURN	WHITE	24"x12"	SURFACE	ALUM	NO	
G-6	TITUS 350RL	LOUVERED FACE GRILLE	8"x6"	RETURN	WHITE	NECK +1.75"	SIDEWALL	ALUM	NO	
G-6	TITUS 350RL	LOUVERED FACE GRILLE	8"x14"	RETURN	WHITE	NECK +1.75"	SIDEWALL	ALUM	NO	
G-6	TITUS 350RL	LOUVERED FACE GRILLE	10"x4"	RETURN	WHITE	NECK +1.75"	SIDEWALL	ALUM	NO	
G-6	TITUS 350RL	LOUVERED FACE GRILLE	22"x12"	RETURN	WHITE	NECK +1.75"	SIDEWALL	ALUM	NO	
G-6	TITUS 350RL	LOUVERED FACE GRILLE	22"x16"	RETURN	WHITE	NECK +1.75"	SIDEWALL	ALUM	NO	
G-6	TITUS 350RL	LOUVERED FACE GRILLE	48"x36"	RETURN	WHITE	NECK +1.75"	SIDEWALL	ALUM	NO	
R-2	TITUS PAR-3	PERFORATED FACE REGISTER	22"x10"	RETURN/EXHAUST	WHITE	24"x12"	LAY-IN	STEEL	YES	
R-6	TITUS 350RL	LOUVERED FACE REGISTER	8"x10"	RETURN/EXHAUST	WHITE	NECK +1.75"	SIDEWALL	ALUM	YES	
R-6	TITUS 350RL	LOUVERED FACE REGISTER	10"x4"	RETURN/EXHAUST	WHITE	NECK +1.75"	SIDEWALL	ALUM	YES	
R-6	TITUS 350RL	LOUVERED FACE REGISTER	10"x6"	RETURN/EXHAUST	WHITE	NECK +1.75"	SIDEWALL	ALUM	YES	
R-6	TITUS 350RL	LOUVERED FACE REGISTER	14"x8"	RETURN/EXHAUST	WHITE	NECK +1.75"	SIDEWALL	ALUM	YES	
R-6	TITUS 350RL	LOUVERED FACE REGISTER	26"x22"	RETURN/EXHAUST	WHITE	NECK +1.75"	SIDEWALL	ALUM	YES	

## MECHANICAL DUCT INSULATION SCHEDULE

INSULATION KEY	INSULATION DESCRIPTION	TYPE	THICKNESS (IN)	DENSITY (PCF)	TOTAL R VALUE	ACCOUSTICAL (NRC)
H01	RECTANGULAR DUCT IN CEILING SPACE WITH NO ROOF	LINER	1.0	1.5	4.2	0.70
H02	RECTANGULAR DUCT IN CEILING SPACE ADJACENT TO EXTERIOR ROOF	LINER	1.5	1.5	6.0	0.80
H03	RECTANGULAR DUCT IN CEILING SPACE ADJACENT TO EXTERIOR ROOF AND SPACE IS A RETURN PLENUM	LINER	1.0	1.5	4.2	0.70
H04	FLEXIBLE DUCT TO DIFFUSER	FLEX	1.5	~	6.0	~
H05	ROUND DUCT IN CEILING SPACE WITH NO ROOF	WRAP	1.5	0.75	4.2	~
H06	ROUND DUCT IN SPACE ADJACENT TO EXTERIOR ROOF	WRAP	2.1	0.75	6.0	~
H07	RECTANGULAR DUCT EXTERIOR TO BUILDING ENVELOPE. DOUBLE WALL WATER TIGHT CONSTRUCTION. WRAP NOT ACCEPTABLE	LINER	3.0	1.5	12	0.95
H08	ROUND DUCT EXPOSED IN CONDITIONED SPACE	R/R	~	~	~	~
H09	RECTANGULAR DUCT EXPOSED IN CONDITIONED SPACE	LINER	1.0	1.5	4.2	0.70
H10	ROUND OR RECTANGULAR OUTSIDE AIR DUCT	WRAP	5.0	0.75	12	~
H11	ROUND DUCT IN VENTILATED CRAWL SPACE	WRAP	5.0	0.75	12	~
H12	RECTANGULAR DUCT IN VENTILATED CRAWL SPACE	LINER	3.0	1.5	12	0.95
H13	BURIED ROUND DUCT	INTERNAL	~	~	6.0	~



## WSHP 1 VENTILATION SCHEDULE

OUTDOOR AIR RATES HAVE BEEN ADJUSTED FOR 80% DISTRIBUTION EFFECTIVENESS												
A	B	C	D	E	F	G	H	I	J	K	L	M
SPACE NUM	SPACE NAME	AREA (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT	DE	PEOPLE	CO <sub>2</sub>	PEOPLE	OA	R	AREA	OA
116	ITCPAN ROOM RECEPTION	228	021-005-Office-Open	MODN	1	1	0.00	0.15	0	0	13	17
Grand Total: 1												30

## WSHP 2 VENTILATION SCHEDULE

OUTDOOR AIR RATES HAVE BEEN ADJUSTED FOR 80% DISTRIBUTION EFFECTIVENESS												
A	B	C	D	E	F	G	H	I	J	K	L	M
SPACE NUM	SPACE NAME	AREA (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT	DE	PEOPLE	CO <sub>2</sub>	PEOPLE	OA	R	AREA	OA
127	CLOSET	30	021-005-Storage-Room	1	1	0.00	0.00	0	0	6	6	0
113	EXISTING RESTROOM	74	021-005-Restroom	1	1	0.00	0.00	0	0	0	0	0
128	CLOSET	13	021-005-Storage-Room	1	1	0.00	0.15	0	0	2	2	0
111	OFFICE	96	021-005-Office-Private	5	1	6.25	0.08	6	2	13	13	0
110	HALL	331	021-005-Corridor	1	1	0.00	0.00	0	0	25	25	0
131	JANITOR	13	021-005-Storage-Room	1	1	0.00	0.15	0	0	2	2	0
109	SMALL PUB ROOM	444	021-005-Conference	50	23	6.25	0.08	144	33	172	172	0
107	STORAGE	267	021-005-Storage-Room	1	1	0.00	0.15	0	0	10	10	0
130	TRANSITION	42	021-005-Corridor	1	1	0.00	0.00	0	0	3	3	0
124	MENS RR	155	021-005-Restroom	1	1	0.00	0.00	0	0	0	0	0
Grand Total: 10												268

## WSHP 3 VENTILATION SCHEDULE

OUTDOOR AIR RATES HAVE BEEN ADJUSTED FOR 80% DISTRIBUTION EFFECTIVENESS												
A	B	C	D	E	F	G	H	I	J	K	L	M
SPACE NUM	SPACE NAME	AREA (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT	DE	PEOPLE	CO <sub>2</sub>	PEOPLE	OA	R	AREA	OA
119	ITCPAN STATION	627	021-005-Office-Open	MODN	1	1	6.25	0.08	36	51	51	0
Grand Total: 1												51

## WSHP 4 VENTILATION SCHEDULE

OUTDOOR AIR RATES HAVE BEEN ADJUSTED FOR 80% DISTRIBUTION EFFECTIVENESS												
A	B	C	D	E	F	G	H	I	J	K	L	M
SPACE NUM	SPACE NAME	AREA (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT	DE	PEOPLE	CO <sub>2</sub>	PEOPLE	OA	R	AREA	OA
125	FIRST FLOOR STAIRS	217	021-005-Corridor	1	1	0.00	0.08	0	0	16	16	0
102	WORKING RR	150	021-005-Restroom	1	1	0.00	0.00	0	0	0	0	0
103	ENTRY	218	021-005-Corridor	1	1	0.00	0.08	0	0	16	16	0
123	BUILDING ATTENDANT	81	021-005-Reception-Area	30	3	6.25	0.08	19	6	25	25	0
126	ENTRY	62	021-005-Main-Entry-Lobby-Office	10	1	6.25	0.08	6	5	6	6	0
Grand Total: 5												68

## WSHP 5 VENTILATION SCHEDULE

OUTDOOR AIR RATES HAVE BEEN ADJUSTED FOR 80% DISTRIBUTION EFFECTIVENESS												
A	B	C	D	E	F	G	H	I	J	K	L	M
SPACE NUM	SPACE NAME	AREA (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT	DE	PEOPLE	CO <sub>2</sub>	PEOPLE	OA	R	AREA	OA
122	STORAGE ROOM	108	021-005-Office-Open	1	1	0.00	0.00	0	0	49	49	0
108	HALL	375	021-005-Corridor	1	1	0.00	0.00	0	0	28	28	0
Grand Total: 2												78

## WSHP 6 VENTILATION SCHEDULE

OUTDOOR AIR RATES HAVE BEEN ADJUSTED FOR 80% DISTRIBUTION EFFECTIVENESS												
A	B	C	D	E	F	G	H	I	J	K	L	M
SPACE NUM	SPACE NAME	AREA (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT	DE	PEOPLE	CO <sub>2</sub>	PEOPLE	OA	R	AREA	OA
23	GALLERY 2	246	021-005-Office-Open	1	1	0.00	0.15	0	0	37	37	0
40	GALLERY 1	816	021-005-Assembly-Multipurpose	120	48	6.25	0.08	613	61	671	671	0
Grand Total: 2												711

## WSHP 7 VENTILATION SCHEDULE

OUTDOOR AIR RATES HAVE BEEN ADJUSTED FOR 80% DISTRIBUTION EFFECTIVENESS												
A	B	C	D	E	F	G	H	I	J	K	L	M
SPACE NUM	SPACE NAME	AREA (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT	DE	PEOPLE	CO <sub>2</sub>	PEOPLE	OA	R	AREA	OA
24	GALLERY 2	628	021-005-Assembly-Multipurpose	120	76	6.25	0.08	775	12	822	822	0
38	RECEIVING	881	021-005-Storage-Room	1	1	0.00	0.15	0	0	15	15	0
32	VESTIBULE	52	021-005-Main-Entry-Lobby-Office	10	1	6.25	0.08	6	1	10	10	0
Grand Total: 3												947

## WSHP 8 VENTILATION SCHEDULE

OUTDOOR AIR RATES HAVE BEEN ADJUSTED FOR 80% DISTRIBUTION EFFECTIVENESS												
A	B	C	D	E	F	G	H	I	J	K	L	M
SPACE NUM	SPACE NAME	AREA (SF)	OCCUPANCY CLASSIFICATION	OCCUPANT	DE	PEOPLE	CO <sub>2</sub>	PEOPLE	OA	R	AREA	OA
36	GALLERY 3	808	021-005-Assembly-Multipurpose	120	99	6.25	0.08	619	61	680	680	0
Grand Total: 1												680

## WSHP 9 VENTILATION SCHEDULE

OUTDOOR AIR RATES HAVE BEEN ADJUSTED FOR 80% DISTRIBUTION EFFECTIVENESS												
A	B	C	D	E	F	G	H	I	J	K	L	M
SPACE NUM	SPACE NAME	AREA (SFL)	OCCUPANCY CLASSIFICATION	OCCUPANT	DE	PEOPLE	CO <sub>2</sub>	PEOPLE	OA	R	AREA	OA
25	SECOND FLOOR STAIRS	363	021-005-Corridor	1	1	0.00	0.00	0	0	27	27	0
33	OFFICE OFFICE 3	881	021-005-Office-Open	8	2	6.25	0.08	14	61	105	105	0
28	GALLERY 4	601	021-005-Corridor	1	1	0.00	0.00	0	0	15	15	0
Grand Total:												177



# WSHP-1,2,3,4,5,6,7,8,9 & 10

Project Number - Carnegie Hall  
McCoy Sales LLC

Performance Data  
Model: TRL-015  
Top Reference R: WSHP-1 /  
Qty: 1

General Information  
Unit Configuration: Horizontal Low Profile  
Opening Height: 120 in.  
Unit Length/Width/Height: 53.832/59.8 in.

Systems Information  
Fluid Flow: 3.13 GPM  
Fluid Type: Water  
Unit Load: Full Load

Entering Conditions  
Cooling: 68.0 °F  
Heating: 68.0 °F  
Entering Air Dry Bulb: 67.0 °F  
Entering Air Wet Bulb: 67.0 °F  
Entering Water/Fuel: 80.0 °F  
Fan Speed: Speed Tap 2

Unit Performance  
Cooling: 435 CFM  
Heating: 435 CFM  
Total Capacity: 13.9 MBH  
Sensible Capacity: 5.4 MBH  
Heat of Rejection: 17.7 MBH  
Heat of Absorption: 5.8 MBH  
Leaving Air Dry Bulb: 57.0 °F  
Leaving Air Wet Bulb: 57.0 °F  
Leaving Fluid Temp: 71.4 °F  
Fluid Pressure Drop: 9.5 H<sub>2</sub>O  
Input Power: 0.9 kW  
Efficiency: 15.5 EER

Unit Electrical Data  
Unit Amps - FLA: 7.8  
Min. Ct. Amps - MCA: 8.3  
Max. Fuse Size - MFS: 15

Fan Performance  
External Dust Status: 0.35 in. H<sub>2</sub>O  
Motor / Compressor Data  
Qty: 1  
FLA (mA): 2.3  
RLA (mA): 5.6  
LRA (mA): 29

Project Number - Carnegie Hall  
McCoy Sales LLC

Performance Data  
Model: TE-072  
Top Reference R: WSHP-2 & 8 (9) /  
Qty: 6

General Information  
Unit Configuration: Horizontal  
Opening Height: 472 in.  
Unit Length/Width/Height: 91.252/421.3 in.

Systems Information  
Fluid Flow: 14.33 GPM  
Fluid Type: Water  
Unit Load: Full Load

Entering Conditions  
Cooling: 68.0 °F  
Heating: 68.0 °F  
Entering Air Dry Bulb: 67.0 °F  
Entering Air Wet Bulb: 67.0 °F  
Entering Water/Fuel: 80.0 °F

Unit Performance  
Cooling: 2441 CFM  
Heating: 2441 CFM  
Total Capacity: 77.5 MBH  
Sensible Capacity: 29.6 MBH  
Heat of Rejection: 91.9 MBH  
Heat of Absorption: 30.5 MBH  
Leaving Air Dry Bulb: 56.4 °F  
Leaving Air Wet Bulb: 56.4 °F  
Leaving Fluid Temp: 82.9 °F  
Fluid Pressure Drop: 8.7 H<sub>2</sub>O  
Input Power: 4.2 kW  
Efficiency: 18.4 EER

Unit Electrical Data  
Unit Amps - FLA: 36.4  
Min. Ct. Amps - MCA: 44  
Max. Fuse Size - MFS: 70

Fan Performance  
External Dust Status: 0.60 in. H<sub>2</sub>O  
Motor / Compressor Data  
Qty: 1  
FLA (mA): 6.5  
RLA (mA): 29.7  
LRA (mA): 179.2

Project Number - Carnegie Hall  
McCoy Sales LLC

Performance Data  
Model: TE-049  
Top Reference R: WSHP-3 & 10 /  
Qty: 2

General Information  
Unit Configuration: Horizontal  
Opening Height: 460 in.  
Unit Length/Width/Height: 76.252/421.3 in.

Systems Information  
Fluid Flow: 16.15 GPM  
Fluid Type: Water  
Unit Load: Full Load

Entering Conditions  
Cooling: 68.0 °F  
Heating: 68.0 °F  
Entering Air Dry Bulb: 67.0 °F  
Entering Air Wet Bulb: 67.0 °F  
Entering Water/Fuel: 80.0 °F

Unit Performance  
Cooling: 1898 CFM  
Heating: 1898 CFM  
Total Capacity: 57.5 MBH  
Sensible Capacity: 33.6 MBH  
Heat of Rejection: 61.5 MBH  
Heat of Absorption: 50.1 MBH  
Leaving Air Dry Bulb: 56.4 °F  
Leaving Air Wet Bulb: 56.4 °F  
Leaving Fluid Temp: 82.1 °F  
Fluid Pressure Drop: 8.3 H<sub>2</sub>O  
Input Power: 3.9 kW  
Efficiency: 17.5 EER

Unit Electrical Data  
Unit Amps - FLA: 28.1  
Min. Ct. Amps - MCA: 33.4  
Max. Fuse Size - MFS: 50

Fan Performance  
External Dust Status: 0.60 in. H<sub>2</sub>O  
Motor / Compressor Data  
Qty: 1  
FLA (mA): 5.9  
RLA (mA): 21.2  
LRA (mA): 104

Project Number - Carnegie Hall  
McCoy Sales LLC

Performance Data  
Model: TE-026  
Top Reference R: WSHP-4 /  
Qty: 1

General Information  
Unit Configuration: Horizontal  
Opening Height: 296 in.  
Unit Length/Width/Height: 62.252/419.3 in.

Systems Information  
Fluid Flow: 5.27 GPM  
Fluid Type: Water  
Unit Load: Full Load

Entering Conditions  
Cooling: 68.0 °F  
Heating: 68.0 °F  
Entering Air Dry Bulb: 67.0 °F  
Entering Air Wet Bulb: 67.0 °F  
Entering Water/Fuel: 80.0 °F

Unit Performance  
Cooling: 814 CFM  
Heating: 814 CFM  
Total Capacity: 25.9 MBH  
Sensible Capacity: 16.1 MBH  
Heat of Rejection: 30.7 MBH  
Heat of Absorption: 27.9 MBH  
Leaving Air Dry Bulb: 54.3 °F  
Leaving Air Wet Bulb: 54.3 °F  
Leaving Fluid Temp: 91.6 °F  
Fluid Pressure Drop: 2.8 H<sub>2</sub>O  
Input Power: 1.4 kW  
Efficiency: 18.2 EER

Unit Electrical Data  
Unit Amps - FLA: 15.5  
Min. Ct. Amps - MCA: 18.5  
Max. Fuse Size - MFS: 30

Fan Performance  
External Dust Status: 0.60 in. H<sub>2</sub>O  
Motor / Compressor Data  
Qty: 1  
FLA (mA): 3.9  
RLA (mA): 11.7  
LRA (mA): 58.3

## LVR-1

PORTOFF EFD-435 Drainable

Depth: 4 in  
Opening Size: 20 in x 20 in  
Airflow: 839 cfm  
Free Area Velocity: 700 fpm  
Beg. of Water  
Penetration: 966 fpm  
Δ Pressure: 0.07 in. w.g.  
Free Area: 1.2 ft<sup>2</sup>  
Free Area %: 45.4%  
Sections: 1 x 1

## LVR-2

PORTOFF EFD-435 Drainable

Depth: 4 in  
Opening Size: 34 in x 29 in  
Airflow: 775 cfm  
Free Area Velocity: 223 fpm  
Beg. of Water  
Penetration: 966 fpm  
Δ Pressure: 0.07 in. w.g.  
Free Area: 3.5 ft<sup>2</sup>  
Free Area %: 52.5%  
Sections: 1 x 1

## CT-1

Baltimore Aircoil Company  
Cooling Tower Selection Report

Version: 8.11.17 NA  
Product data correct as of: July 28, 2022

Project Name: Port Collins Carnegie  
Selection Name: CT-1 - FXT  
Project State/Province: Colorado  
Project Country/Region: United States  
Date: September 14, 2022

Model Information  
Product Line: FXT  
Model: FXT-68  
Number of Units: 1  
Fan Type: Standard Fan  
Total Standard Fan Power: 503.788 BTU/H  
Inlet Option: None  
Discharge Option: None

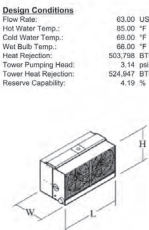
Engineering Data, per Unit  
Unit Length: 06' 00" 20"  
Unit Width: 07' 03" 20"  
Unit Height: 07' 03" 20"  
Air Flow: 21,700 CFM  
Approximate Shipping Weight: 1,230 pounds  
Approximate Operating Weight: 3,190 pounds

Minimum Distance Required for Single Unit:  
(For multiple units, refer to Layout Guidelines)  
From Solid Wall: 3 ft.  
From 50% Open Wall: 3 ft.

Energy Rating:  
91.20 USGPM/Hp per ASHRAE 90.1, ASHRAE 189 and CA Title 24.

Note: These unit weights and dimensions account for the selected fan type for the standard cataloged drive configuration, but they do not include for other options/accessories. Please contact your local BAC sales representative for weights and dimensions of units with other options/accessories.

Warning  
1. One or more selection parameters are outside of CTI Certification limits.



Baltimore Aircoil Company  
Cooling Tower Selection Report

Version: 8.11.17 NA  
Product data correct as of: July 28, 2022

Project Name: Port Collins Carnegie  
Selection Name: CT-1 - FXT  
Project State/Province: Colorado  
Project Country/Region: United States  
Date: September 14, 2022

Model & Fan Motor  
Product Line: FXT  
Model: FXT-68  
Number of Units: 1  
Fan Motor: (1) 5.00 = 5.00 HP/Unit  
Total Standard Fan Power: 503.788 BTU/H

Design Conditions @ Standard Total Fan Motor Power per Unit (5.00 HP)  
Flow Rate: 63.00 USGPM  
Hot Water Temp.: 85.00 °F  
Cold Water Temp.: 65.00 °F  
Wet Bulb Temp.: 68.00 °F  
Tower Pumping Head: 3.14 psi  
Tower Heat Rejection: 524.847 BTU/H  
Reserve Capacity: 4.19 %

Model Accessories  
Inlet Option: None  
Internal Option: None  
Discharge Option: None  
Fan Type: Standard Fan

Estimated Performance  
Fan Motor Alternative = Full Speed, 5.00 BHP  
Flow Rate = 63.00 USGPM (100.00% of Design)

Wet Bulb Temperature (°F)

These performance curves are based on constant fan power.

Baltimore Aircoil Company  
Cooling Tower Selection Report

Version: 8.11.17 NA  
Product data correct as of: July 28, 2022

Project Name: Port Collins Carnegie  
Selection Name: CT-1 - FXT  
Project State/Province: Colorado  
Project Country/Region: United States  
Date: September 14, 2022

Model Information  
Product Line: FXT  
Model: FXT-68  
Number of Units: 1  
Fan Type: Standard Fan  
Total Standard Fan Power: Full Speed, 5.00 BHP/Unit

Octane band and A-weighted sound pressure levels (Lp) are expressed in decibels (dB) reference 0.0002 microbar. Sound power levels (Lw) are expressed in decibels (dB) reference one picowatt. Octane band 1 has a center frequency of 63 Hertz.

Back Sound Pressure (dB)  
Octane Band: 1, 2, 3, 4, 5, 6, 7, 8  
Sound Pressure (dB): 65, 66, 67, 68, 69, 70, 71, 72

End Sound Pressure (dB)  
Octane Band: 1, 2, 3, 4, 5, 6, 7, 8  
Sound Pressure (dB): 65, 66, 67, 68, 69, 70, 71, 72

Air Inlet Sound Pressure (dB)  
Octane Band: 1, 2, 3, 4, 5, 6, 7, 8  
Sound Pressure (dB): 65, 66, 67, 68, 69, 70, 71, 72

Total Sound Power (dB)  
Octane Band: 1, 2, 3, 4, 5, 6, 7, 8  
Sound Power (dB): 65, 66, 67, 68, 69, 70, 71, 72

**INTEGRATED MECHANICAL**

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COLORADO 80521

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970-566-0570  
FRONT-DESK@INT-MECH.COM

15 SEPT 2022

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**FC CARNEGIE**

CITY OF FORT COLLINS  
FORT COLLINS, CO

PROJECT #: 21-207  
ISSUE DATE: 09/15/2022

MECHANICAL SCHEDULES

**M8.3**

## P-1 & P-2

GRUNDFOS

Submittal Data

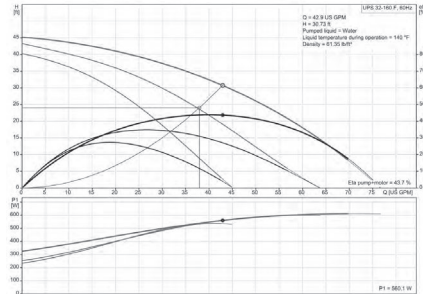
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REPRESENTATIVE:	TYPE OF SERVICE:	DATE:
ENGINEER:	SUBMITTED BY:	DATE:
CONTRACTOR:	APPROVED BY:	DATE:
	ORDER NO.:	DATE:



### UPS 32-160 F

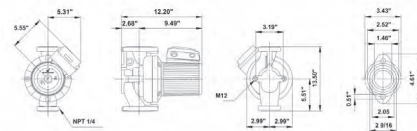
UPS is a three-speed circulator pump designed for heating and air-conditioning systems and is also used for central and district heating systems. The pump provides reliable and maintenance-free operation.

Conditions of Service	Pump Data	Motor Data
Flow: 42.9 US GPM Head: 30.73 ft Efficiency: 43.7 % Liquid: Water Temperature: 140 °F NPSH required: 32.81 ft Specific Gravity: 0.855	Maximum operating pressure: 145.04 psf Liquid temperature range: 14 - 248 °F Maximum ambient temperature: 104 °F Approvals: CUL Type of connection: H Flange standard: USA Oval Pipe connection: G1 40x3 Product number: 96450730	Max. power input: 625 W Rated voltage: 115 V Motor frequency: 60 Hz Enclosure class: X4D Insulation class: H Motor protection: CONTACT Thermal protection: internal

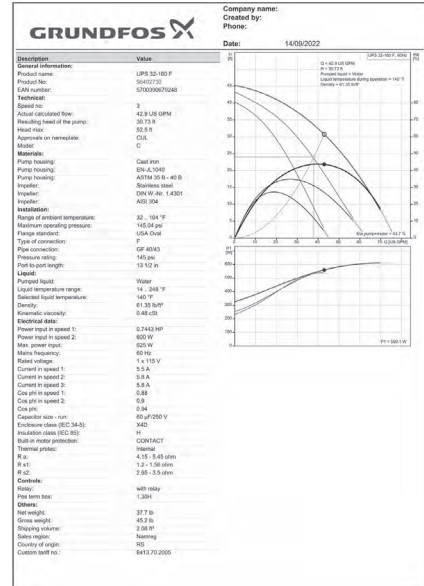
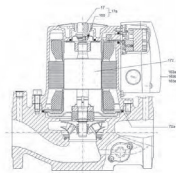


GRUNDFOS

Submittal Data



**Materials:**  
Cast iron  
Pump housing: EN-4.1040  
Pump housing: ASTM A305-B-40 B  
Impeller: Stainless steel  
Impeller: DIN W.Nr. 1.4301  
Impeller: AISI 304



## P-3 & P-4

GRUNDFOS

Submittal Data

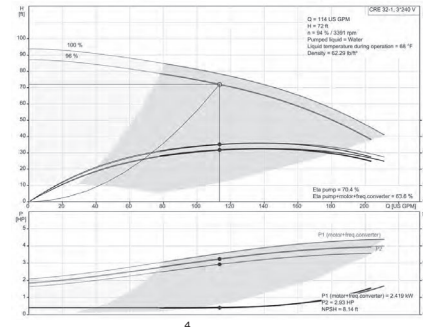
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REPRESENTATIVE:	TYPE OF SERVICE:	DATE:
ENGINEER:	SUBMITTED BY:	DATE:
CONTRACTOR:	APPROVED BY:	DATE:
	ORDER NO.:	DATE:



### CRE 32-1 A-G-A-HQOE

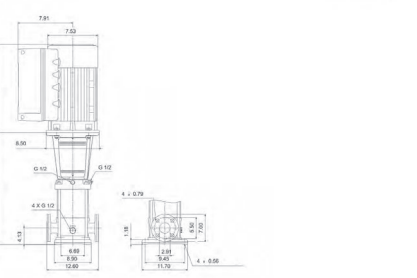
Vertical, multistage centrifugal pump with integrated frequency converter. The pump head and base are in cast iron - all other wetted parts are in stainless steel (EN 1.4301)

Conditions of Service	Pump Data	Motor Data
Flow: 114 US GPM Head: 72 ft Efficiency: 63.6 % Liquid: Water Temperature: 68 °F NPSH required: 6.22 ft Specific Gravity: 1.000	Max pressure at stated temp: 232 psi / 250 °F Liquid temperature range: -22 - 248 °F Maximum ambient temperature: 104 °F Shaft seal: HQOE Product number: 95932710	Rated power - P2: 5 HP Rated voltage: 200-240 V Motor frequency: 60 Hz Enclosure class: IP55 Insulation class: F Motor protection: ELEC Motor type: 112C Eff. 115

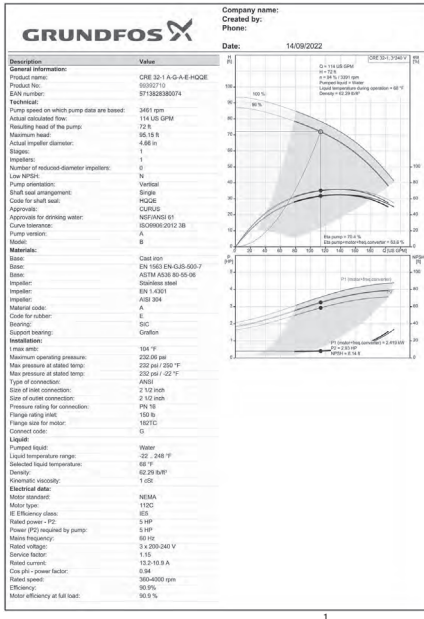


GRUNDFOS

Submittal Data



**Materials:**  
Base: Cast iron  
Base: EN 1563 EN-GJS-500-7  
Base: ASTM A538-B-55-06  
Impeller: Stainless steel  
Impeller: AISI 304  
Impeller: EN 1.4301  
Material code: A  
Code for rubber: E



**INTEGRATED MECHANICAL**

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CITY OF FORT  
COLLINS  
FORT COLLINS, CO

PROJECT #: 21-207  
ISSUE DATE: 09/15/2022

MECHANICAL SCHEDULES

**M8.4**

P-5



Submittal Data

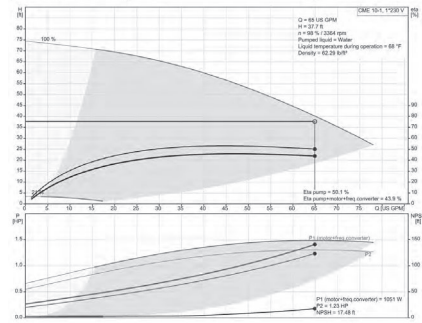
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REPRESENTATIVE:	TYPE OF SERVICE:	DATE:
ENGINEER:	SUBMITTED BY:	DATE:
CONTRACTOR:	APPROVED BY:	DATE:
	ORDER NO.:	DATE:



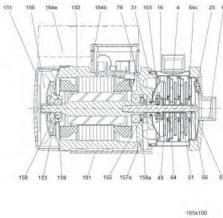
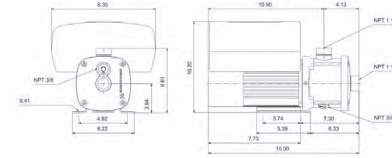
CME 10-1 A-S-I-E-AQQE U-A-A-N

CME is a reliable, quite and compact horizontal end-suction pump with integrated frequency converter and intelligent features. The modular pump design makes it easy to make customised solutions.

Conditions of Service	Pump Data	Motor Data
Flow: 65 US GPM	Max pressure at stated temp: 232 psi / 194 °F	Mains frequency: 50 / 60 Hz
Head: 37.7 ft	Liquid temperature range: -4 - 245 °F	Enclosure class: IP55
Efficiency: 43.9 %	Maximum ambient temperature: 131 °F	
Liquid: Water	Shaft seal: AQQE	
Temperature: 68 °F	Product number: 99329816	
NPSH required: 17.39 ft		
Specific Gravity: 1.000		



Submittal Data



**Materials:**  
 Pump housing: Stainless steel  
 Pump housing: AISI 304  
 Impeller: Stainless steel  
 Impeller: AISI 304  
 Impeller: EN 1.4301  
 Material code: I  
 Code for rubber: E

# GRUNDFOS X

Company name:

Created by:

Phone:

Date:

14/05/2022

Description	Value
General information	
Product name	SD 10.5 A-S-E-ADGE
Product No.	510.0110
EAN	7317003201852
Technical	
Pump speed on which pump data are listed	3400 rpm
Actual calculated flow	10.5 GPM
Resulting head of the pump	37.7 ft
Impeller	1
Code of shell seal	1
Approvals	CE, CASACURUS, UKCA
Approval for drinking water	WHLAC, NSF, NSF 184
Core literature	IS09001:2015
Pump version	A
Model	A
Materials	
Pump housing	Stainless steel
Pump housing	EN 1.4301
Pump shaft	AISI 304, 304
Impeller	Stainless steel
Impeller	EN 1.4301
Impeller seal	AISI 304
Motor code	AISI 304
Motor	
Control for temperature	Installation
Rated inlet temperature	41 °C/104 °F
Maximum operating pressure	232.98 psf
Max pressure at closed pump	232.98 psf
Max pressure at closed pump	145 psf / 20.7" H <sub>2</sub> O
Type of connection	MPF/1
Size of inlet connection	1.52 inch
Size of outlet connection	1.52 inch
Outlet position	12
Weight	
Liquid	
Product liquid	Water
Liquid temperature range	41 °C/104 °F
Selected liquid temperature	50 °F
Density	62.428 lb/ft <sup>3</sup>
Viscosity	1.05
Electrical data	
Motor standard	NEMA
Frame size	308A
Rated power / P2	1.5 kW
Motor frequency	50 / 60 Hz
Isolate for D005 Hz	Y
Rated voltage [V]	1.120, 240 V
Rated current [A]	8.705, 6.62 A
Rated speed	3400-4000 rpm
Enclosure class (IEC 88)	IP65
Insulation class (IEC 88)	F
Castings	
Frequency converter	Built in
Others	
Terminal box position	12
Minimum efficiency index, MII (%)	62.9
Net weight	41.7 lb
Gross weight	46.3 lb
Country of origin	Denmark
Country leaflet ref.	0417.01.2040

SD 10.5 A-S-E-ADGE

10.5 GPM

Flow rate (GPM) vs. Head (ft)

Legend:

- 10.5 GPM
- 10.5 GPM

Head (ft) ranges from 0 to 100.

Flow rate (GPM) ranges from 0 to 10.

Operating point: 10.5 GPM, 37.7 ft

Efficiency: 62.9%

Power: 1.120, 240 V

Current: 8.705, 6.62 A

Speed: 3400-4000 rpm

Enclosure class: IP65

Insulation class: F

Terminal box position: 12

Minimum efficiency index, MII (%): 62.9

Net weight: 41.7 lb

Gross weight: 46.3 lb

Country of origin: Denmark

Country leaflet ref.: 0417.01.2040



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COLORADO 80521

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COOLING TOWER DRAINBACK TANK



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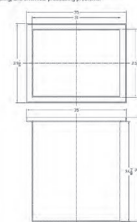


**Chem-Tainer 112 Gallon Rectangular Tank**  
SKU: R243036A | [www.chem-tainer.com](http://www.chem-tainer.com) | 800.955.2222

128 **Hearst.** Monthly payment options. [Get.itsa.com](http://get.itsa.com)

YES → ☐ Rectangular Tank Flat Steel Cover Only - R24

Part Number:	9243336A	Technical Drawings:
Capacity:	112 Gallons	 <a href="#">View Technical Drawing</a>
Dimensions:	30"L x 24"W x 36"H	
Shipping Dimensions:	30"L x 24"W x 36"H	
Ship From:	West Babylon, NY	



## Product Overview

**Description:**  
Chemtainer Industries have been an industry leader for over 50 years. They are leaders in designing, developing, and manufacturing plastic molding and other products that provide environmentally friendly chemical solutions. Chemtainer has the best solutions for difficult storage or processing problems. If you're looking for plastic or septic tanks, Chemtainer offers responsible solutions for difficult chemical storage, chemical handling, and chemical processing problems.

SKU	8243036A
Part Number	8243036A
Capacity	112 Gallons
Dimensions	30" x 24"W x 36"H
Weight	60 lbs.
Manufacturer	Chem-Tainer

B



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CITY OF FORT  
COLLINS  
FORT COLLINS, CO

PROJECT #: 21-207  
ISSUE DATE: 09/15/2022

## MECHANICAL SCHEDULES

## M8.5

A

2

1

3

4

5



**GENERAL PLUMBING NOTES**

- 1 PLUMBING WORK SHALL COMPLY WITH ALL APPLICABLE CODES. VERIFY ALL REQUIREMENTS PRIOR TO SUBMITTING BID OR COMMENCING WORK. THE PLUMBING DESIGN IS BASED ON THE 2021 INTERNATIONAL PLUMBING CODE.
- 2 WASTE AND VENT PIPING BELOW SLAB SHALL BE SCHEDULE 40, DRV, PVC, PLASTIC. FITTINGS SHALL BE PVC.
- 3 WASTE AND VENT PIPING ABOVE SLAB (NOT IN RETURN AIR PLENUM) SHALL BE SCHEDULE 40, DRV, PVC, PLASTIC. FITTINGS SHALL BE PVC.
- 4 POTABLE WATER PIPING BELOW GRADE SHALL BE TYPE K SOFT DRAWN, COPPER WITHOUT JOINTS.
- 5 POTABLE WATER PIPING ABOVE GRADE, LARGER THAN 2", SHALL BE TYPE L COPPER WITH SOLDERED COPPER FITTINGS AND NO LEAD SOLDER UNLESS NOTED OTHERWISE.
- 6 POTABLE WATER PIPING 2" AND SMALLER SHALL BE PEX-A TUBING MANUFACTURED BY UPONOR/WIRSBO OR APPROVED EQUAL. FITTINGS SHALL BE EXPANSION TYPE WITH SECONDARY EXPANSION RING (NOT CRIMPED). CW SHALL BE RUN IN BLUE PIPE. HW & HWC IN RED, OTHER SYSTEMS CLEAR. PIPING SHALL BE PROPERLY SUPPORTED USING PLENUM RATED GALVANIZED TROUGHS OR CHANNELS HUNG AT MAXIMUM 8' INTERVALS. UNSUPPORTED PEX MAY NOT EXCEED 32".
- 7 PUSH-TO-CONNECT PLUMBING FITTINGS (I.E. SHARKHTE OR SIMILAR) AND PULLED THE FITTINGS WILL NOT BE ACCEPTED.
- 8 POTABLE WATER VALVES SHALL BE FULL PORT, BALL TYPE.
- 9 GAS PIPE 2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL. FITTINGS SHALL BE MALLEABLE SCREW TYPE.
- 10 GAS PIPE 2.5" AND LARGER SHALL BE SCHEDULE 40 BLACK STEEL. FITTINGS SHALL BE FULLY WELDED.
- 11 INSTALL UNION, GAS COCK AND FULL SIZE 6" LONG DIRT LEG FOR ALL GAS FIRED EQUIPMENT.
- 12 INSTALL FULL SIZE CONDENSATE AND TRAP FOR ALL COOLING COILS. DISCHARGE FULL SIZE DRAIN TO MOP SINK OR LAVATORY P-TRAP TAILPIECE AND TO ROOF FOR ROOFTOP UNITS.
- 13 HANGING, ANCHORING AND SUPPORT OF EQUIPMENT, PIPING AND ACCESSORIES IS DESIGN BUILD BY THE PC. THE SUPPORTS SHALL MEET CODE.
- 14 ALWAYS INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 15 PRIOR TO BUILDING TURNOVER, THE POTABLE WATER SYSTEM SHALL BE CLEANED AND DISINFECTED PER IPC SECTION 610. THE SYSTEM SHALL BE FLUSHED, CHLORINATED AND PURGED. REPEAT UNTIL THE SYSTEM HAS BEEN PROVEN TO PASS BACTERIAL EXAMINATION. A REPORT SHALL BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION.

**GENERAL MECHANICAL REQUIREMENTS:**

**CODES AND PERMITS**  
WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES, REGULATIONS AND ORDINANCES. PERMITS NECESSARY FOR PERFORMANCE OF WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR.

**PFE-BID**  
FOR EXISTING BUILDINGS, THE BIDDERS SHALL PERFORM A BUILDING AND SPACE SITE VISIT PRIOR TO BID. THE ACT OF SUBMITTING A BID INDICATES THE BIDDER DOES AGREE THEY HAVE A FULL UNDERSTANDING OF THE SCOPE OF WORK INVOLVED WITH THE EXISTING CONDITIONS.

**DRAWINGS AND COORDINATION**  
DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC IN NATURE, AND ARE NOT INTENDED TO BE SCALED FOR EXACT MEASUREMENTS NOR TO SERVE AS SHOP DRAWINGS. CHANGES FROM THE PLANS MADE WITHOUT CONSENT OF THE ENGINEER SHALL RELIEVE THE ENGINEER OF RESPONSIBILITY FOR ALL CONSEQUENCES ARISING OUT OF SUCH CHANGES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE CONDITIONS REQUIRE REASONABLE CHANGES TO THOSE INDICATED ON THE DRAWINGS, MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. COORDINATE ALL WORK WITH OTHER TRADES.

**WARRANTY**  
WORKMANSHIP, MATERIALS, EQUIPMENT AND PROPER OPERATION SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE FROM THE OWNER. INITIAL ACCEPTANCE OF WORK SHALL NOT WAIVE THIS GUARANTEE. THIS GUARANTEE SHALL NOT INCLUDE NORMAL MAINTENANCE REQUIRED BY THE OWNER AS DESCRIBED IN EQUIPMENT OPERATION AND MAINTENANCE MANUALS.

**SUBMITTALS**  
CONTRACTOR SHALL SUBMIT TO THE ARCHITECT/ENGINEER A PORTABLE DOCUMENT FORMAT "PDF" COPY OF SUBMITTAL REQUIREMENTS FOR REVIEW. PROVIDE INFORMATION ON ALL MAJOR EQUIPMENT AS LISTED ON DRAWING EQUIPMENT SCHEDULES, AS WELL AS VALVES, DUCTWORK ACCESSORIES AND TEMPERATURE CONTROL DIAGRAMS AS APPLICABLE.

**OPERATION AND MAINTENANCE MANUALS**  
CONTRACTOR SHALL FURNISH AT THE COMPLETION OF THE PROJECT A PORTABLE DOCUMENT FORMAT "PDF" COPY OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO TURNOVER TO OWNER. MANUALS TO BE BOUND AND INCLUDE INSTALLATION INSTRUCTIONS, REPLACEMENT PARTS LISTS AND MAINTENANCE INFORMATION ON ALL EQUIPMENT AS DESCRIBED IN THE SUBMITTALS SECTION. COMPLETED OPERATION AND MAINTENANCE MANUALS ARE TO BE FORWARDED TO THE OWNER WITHIN 90 DAYS AFTER OWNER BUILDING ACCEPTANCE.

**EQUIPMENT SUBSTITUTIONS**  
MANUFACTURER MODEL NUMBERS LISTED ON THE DRAWINGS AND/OR SPECIFICATIONS ARE TO BE CONSIDERED AS THE BASIS OF DESIGN. WHERE TWO OR MORE ALTERNATE MANUFACTURERS OR MATERIALS ARE LISTED, THE CHOICE OF THESE SHALL BE OPTIONAL WITH THE CONTRACTOR. PRIOR TO THE AWARDING OF THE CONTRACT, CONTRACTOR MAY REQUEST A PROPOSED SUBSTITUTION OF MATERIALS IN WRITING TO THE ARCHITECT/ENGINEER NO LATER THAN SEVEN DAYS PRIOR TO THE RECEIPT OF BIDS. THE COST OF ANY CHANGES REQUIRED BY OTHER TRADES, INCLUDING A/E DESIGN, DUE TO THE USE OF EQUIPMENT AND/OR MATERIALS OTHER THAN THAT OF THE BASIS OF DESIGN SHALL BE PAID BY THE CONTRACTOR.

**RECORD DRAWINGS**  
CONTRACTORS SHALL MAINTAIN A COMPLETE AND ACCURATE SET OF MARKED UP DRAWINGS SHOWING ACTUAL LOCATIONS OF INSTALLED WORK. THESE DRAWINGS ARE TO BE FORWARDED TO THE OWNER AS PART OF THE OPERATION AND MAINTENANCE MANUALS AT THE COMPLETION OF THE PROJECT.

**ACCESS DOORS**  
PROVIDE ALL ACCESS DOORS/PANELS AS REQUIRED FOR ACCESS TO VALVES, DAMPERS, CONTROL DEVICES, FILTERS AND ANY OTHER ITEMS FOR WHICH ACCESS IS REQUIRED FOR EITHER OPERATION OR SERVICING. WHERE ACCESS DOORS ARE TO BE INSTALLED IN ASSEMBLIES REQUIRED TO HAVE A SPECIFIC FIRE RATING, ACCESS DOORS SHALL ALSO BE FIRE RATED.

**PIPING AND DUCTWORK SEALANT THROUGH RATED ASSEMBLIES**  
PENETRATIONS SHALL BE SEALED AS REQUIRED IN ACCORDANCE WITH BUILDING AND MECHANICAL CODES TO RESIST THE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION IN ORDER TO MAINTAIN THE RESISTANCE RATING OF THE CONSTRUCTION BEING PENETRATED.

**PROTECTION OF MATERIALS AND EQUIPMENT**  
CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL WORK, MATERIALS, AND EQUIPMENT PROVIDED UNDER THIS SECTION. PIPE OPENINGS SHALL BE CLOSED WITH CAPS OR PLUGS TO PREVENT THE ENTRANCE OF DEBRIS DURING CONSTRUCTION. ALL DUCTWORK OPENINGS SHALL BE SEALED CLOSED DURING CONSTRUCTION.

**ALTITUDE**  
SUPPLIERS SHALL CONFIRM THAT ALL EQUIPMENT BEING FURNISHED IS APPROPRIATE FOR USE AT THE ALTITUDE OF THE SITE.

**EQUIPMENT AND PIPING IDENTIFICATION**  
PROVIDE EQUIPMENT LABELS FOR ALL MAJOR EQUIPMENT, INCLUDING BUT NOT LIMITED TO AIR HANDLING SYSTEMS, FANS, VAV BOXES, CONTROLS, DAMPERS, CONTROL VALVES AND PUMPS.

PROVIDE PIPE MARKERS ON CW, HW AND HWC SYSTEMS. LABELS TO BE AT MAXIMUM 8 FEET APART, WITH FLOW DIRECTION INDICATED, AS APPLICABLE.

ADDITIONALLY, PROVIDE LABELING ON POTABLE WATER MAINFOLDS INDICATING PLUMBING FEATURE SERVED BY THE OUTLET, AS APPLICABLE.

LABELS SHALL BE AFFIXED OR ADHERED PERMANENTLY TO EQUIPMENT. EQUIPMENT INSTALLED INDODORS TO BE LABELED WITH EMBOSSED TAPE.

EQUIPMENT INSTALLED OUTDOORS TO BE LABELED WITH ENGRAVED PLASTIC LAMINATE SIGNS.

PIPE MARKERS TO BE SELF-ADHESIVE, MANUFACTURED FOR SUCH PURPOSE.

**STARTERS AND DISCONNECTS**  
EQUIPMENT STARTERS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. EQUIPMENT DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE ON THE DRAWINGS. STARTERS SHALL BE NEMA TYPE, AND SHALL INCLUDE PHASE MONITORING FOR MOTORS 5 HP AND LARGER.

**TESTING**  
TESTING SHALL BE PERFORMED ON THE FOLLOWING SYSTEMS SPECIFIED. ALL SYSTEMS LISTED MAY NOT BE INCLUDED IN PROJECT. REFER TO DRAWINGS FOR APPLICABLE SYSTEMS.

SOIL, WASTE AND STORM DRAINAGE PIPING SHALL BE TESTED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL CODES.

DOMESTIC WATER PIPING SHALL BE TESTED AND PROVEN WATER TIGHT UNDER A PRESSURE NOT LESS THAN THE WORKING PRESSURE OF THE SYSTEM FOR A 24 HOUR PERIOD.

DOMESTIC WATER PIPING SYSTEM SHALL BE CHLORINATED AND STERILIZED IN ACCORDANCE WITH REQUIREMENTS OF LOCAL JURISDICTION.

NATURAL GAS PIPING SHALL BE TESTED WITH AN AIR PRESSURE OF MINIMUM TWO TIMES THE DESIGN SYSTEM PRESSURE, BUT NO LESS THAN 3 PSIG, FOR A PERIOD OF 24 HOURS WITHOUT PRESSURE DROP.

**BALANCING**  
SYSTEM BALANCING SHALL BE PERFORMED BY A CERTIFIED BALANCING CONTRACTOR. BALANCE ALL SYSTEMS INCLUDING AIRFLOW TO AND FROM ALL OPENINGS, AND PUMPED WATER SYSTEMS INCLUDING DOMESTIC WATER RECIRCULATION SYSTEMS AS APPLICABLE. MAKE ANY ADJUSTMENTS NECESSARY TO RESULT IN CONDITIONS INDICATED AND PROVIDE READJUSTMENTS TO ITEMS IN REPORT AS MAY BE REQUESTED BY ARCHITECT/ENGINEER. SUBMIT TWO COPIES OF TEST AND BALANCE REPORT FOR APPROVAL. FAN AND PUMP SYSTEMS TO BE BALANCED WITHIN PLUS OR MINUS 5 PERCENT OF LISTED VALUES. AIR INLETS AND OUTLETS TO BE BALANCED WITHIN PLUS 10 PERCENT OR MINUS 5 PERCENT OF LISTED VALUES. BALANCE REPORT TO INCLUDE:

UNIT IDENTIFICATION  
MANUFACTURER AND NAMEPLATE DATA  
EQUIPMENT NAMEPLATE AMPERAGE AND ACTUAL AMPERAGE  
BPM (DESIGN AND ACTUAL)  
FAN CFM (DESIGN AND ACTUAL)  
FAN STATIC PRESSURE (DESIGN AND ACTUAL)  
PUMP GPM (DESIGN AND ACTUAL)  
PUMP DISCHARGE AND SUCTION PRESSURE  
REGISTER, GRILLE, DIFFUSER REFERENCE NUMBER AND LOCATION  
INLET/OUTLET CFM (DESIGN AND ACTUAL)  
FLOW DEVICE PRESSURE DROP, CFM OR GPM

A FINAL BALANCING REPORT SHALL BE PROVIDED TO THE OWNER AFTER COMPLETION OF THE PROJECT.

**CLEANING**  
AT THE COMPLETION OF WORK, ALL FIXTURES AND EQUIPMENT SHALL BE THOROUGHLY CLEANED AND DELIVERED IN A CONDITION SATISFACTORY TO THE ARCHITECT. ALL FILTERS SHALL BE REPLACED WITH NEW PRIOR TO OWNER ACCEPTANCE OF THE BUILDING.

**INSULATION NOTES AND PLUMBING ENERGY CODE**

- 1 THE MECHANICAL DESIGN IS BASED ON THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE.
- 2 COMMERCIAL POTABLE HOT WATER PIPING,  $\leq 140$  DEG F, SHALL BE INSULATED USING FIBERGLASS INSULATION, WITH ALL SERVICE JACKET, HAVING MAXIMUM "K" FACTOR OF 0.27. INSULATION THICKNESS SHALL BE:
  - 1" FOR 1.5" PIPE AND SMALLER
  - 1.5" FOR PIPES LARGER THAN 1.5"
- 3 COMMERCIAL POTABLE HOT WATER RECIRCULATION PIPING,  $\leq 140$  DEG F, SHALL BE INSULATED USING FIBERGLASS INSULATION, WITH ALL SERVICE JACKET, HAVING MAXIMUM "K" FACTOR OF 0.27. INSULATION THICKNESS SHALL BE:
  - 1" FOR 1.5" PIPE AND SMALLER
  - 1.5" FOR PIPES LARGER THAN 1.5"
- 4 COMMERCIAL POTABLE COLD WATER PIPING SHALL BE INSULATED USING FIBERGLASS INSULATION WITH ALL SERVICE JACKET HAVING MAXIMUM "K" FACTOR OF 0.27. INSULATION THICKNESS SHALL BE 0.5" DO NOT REMOVE THIS ITEM FROM THE PROJECT AS IT IS REQUIRED FOR CONDENSATE CONTROL.

**PLUMBING LEGEND:**

CW	COLD WATER PIPING	5	BALL VALVE
HW	HOT WATER PIPING	6	GATE VALVE
HWC	HOT WATER CIRC.	7	GAS COCK
TW	TEMPERED WATER	8	PRESS. RED. VALVE
V	VENT PIPING	9	T & P RELIEF VALVE
W	WASTE PIPING	10	SOLENOID VALVE
GW	GREASE WASTE PIPING	11	BALANCE VALVE
CD	CONDENSATE PIPING	12	CHECK VALVE
G	NATURAL GAS PIPING	13	UNION
F	FIRE PIPING	14	PIPE CAP
LP	PROPANE PIPING	15	PIPE CONTINUATION
VAC	VACUUM PIPING	16	ROOF DRAIN PIPE
CA	COMP AIR PIPING	17	OVERFLOW RD PIPE
ED	PIPE ELBOW DOWN	18	ROOF DRAIN
EU	PIPE ELBOW UP	19	FLOOR/GRADE CLEANOUT
ET	PIPE TEE UP	20	FLOOR DRAIN/SINK
ETD	PIPE TEE DOWN	21	WALL CLEANOUT
X	DETAIL #	22	PIPE TO BE REMOVED
SHT #	SHEET #	23	I.E. INVERT ELEVATION
101	REFERENCE OR ISOMETRIC	(N)	NEW
		(E)	EXISTING
		(R)	RELOCATE

**PLUMBING DRAWING INDEX**

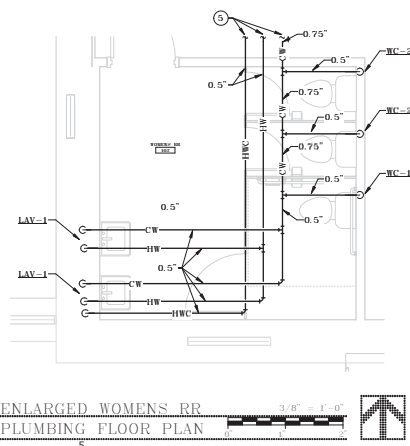
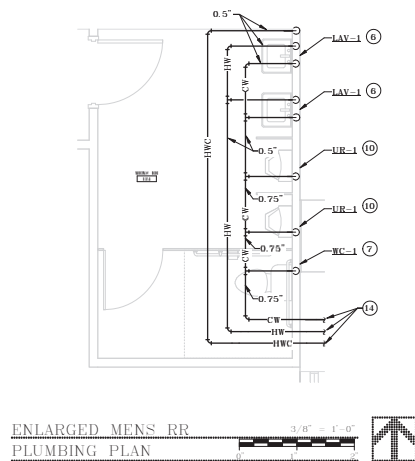
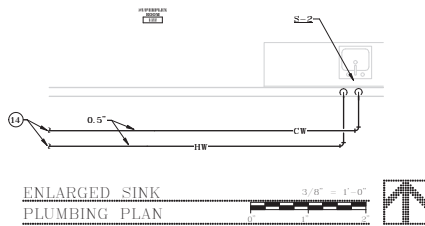
SHEET NUMBER	SHEET NAME
PG.1	PLUMBING NOTES, LEGEND, AND DRAWING INDEX
P2.1	PLUMBING FLOOR PLANS
P2.2	PLUMBING FLOOR PLANS
P7.1	PLUMBING DETAILS AND ISOMETRICS
PG.1	PLUMBING SCHEDULES

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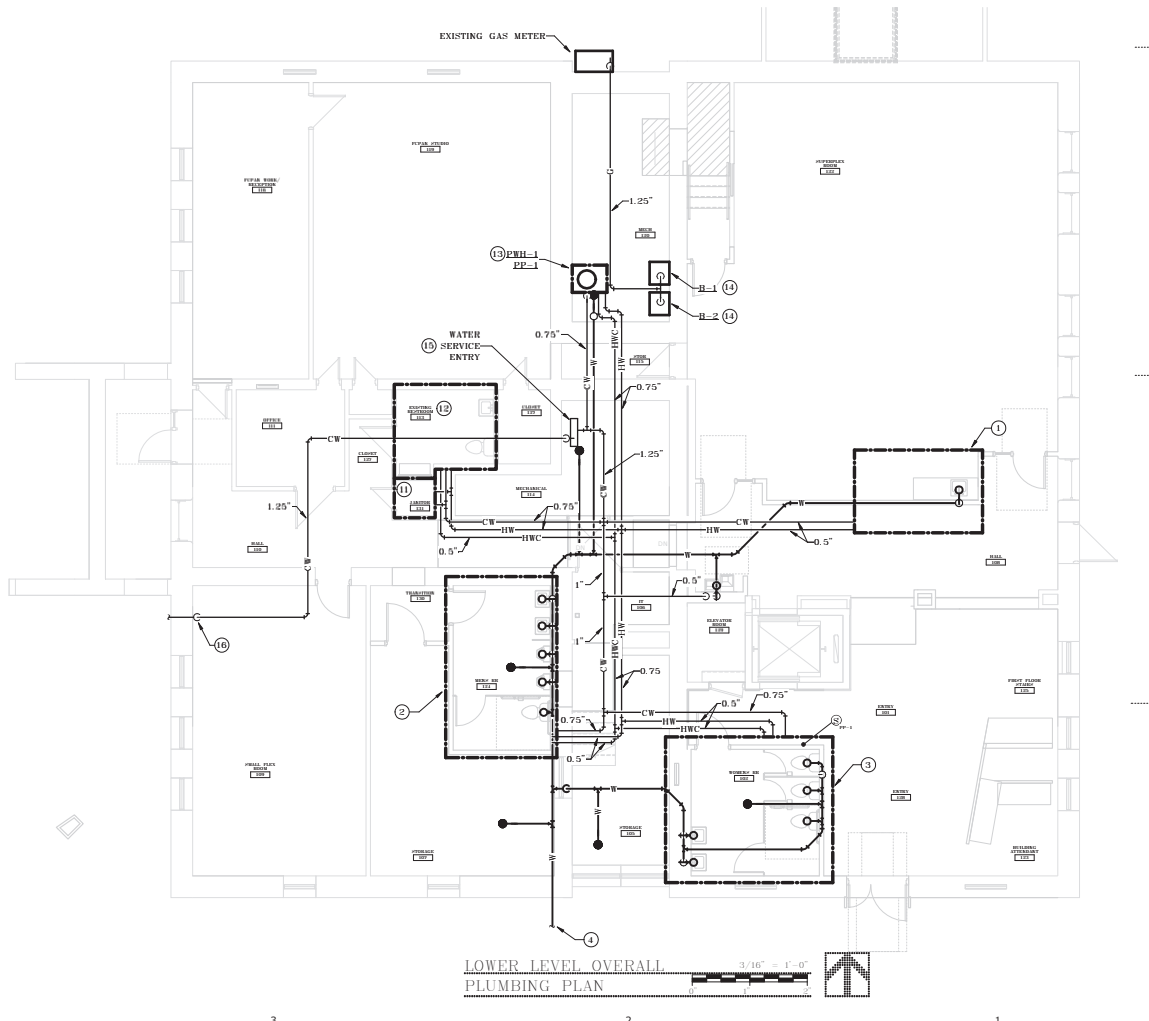
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COLLINS  
FORT COLLINS, COPROJECT #: 21-207  
ISSUE DATE: 09/15/2022PLUMBING NOTES,  
LEGEND, AND DRAWING  
INDEX**P0.1**





# FLAG NOTES:

- 1 REFER TO ENLARGED SINK PLUMBING PLAN FOR MORE INFORMATION IN THIS AREA.
- 2 REFER TO ENLARGED MENS RR PLUMBING PLAN FOR MORE INFORMATION IN THIS AREA.
- 3 REFER TO ENLARGED WOMENS RR PLUMBING PLAN FOR MORE INFORMATION IN THIS AREA.
- 4 REFER TO CIVIL PLANS FOR WASTE CONTINUATION.
- 5 REFER TO OVERALL PLUMBING FLOOR PLAN FOR CONTINUATION.
- 6 ROUTE 0.5\"/>



**INTEGRATED MECHANICAL**  
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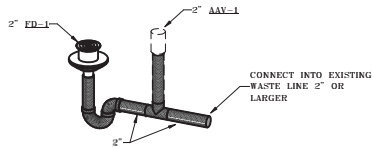
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STATE OF COLORADO  
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15 SEP 2022

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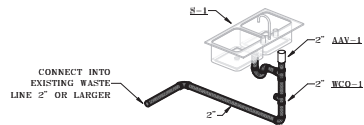
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PLUMBING FLOOR PLANS  
**P2.1**



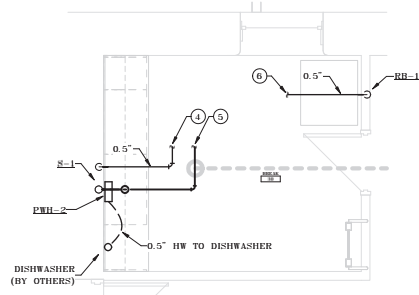
MECHANICAL ROOM  
WASTE AND VENT  
ISOMETRIC

NO SCALE



KITCHENETTE WASTE  
AND VENT ISOMETRIC

NO SCALE



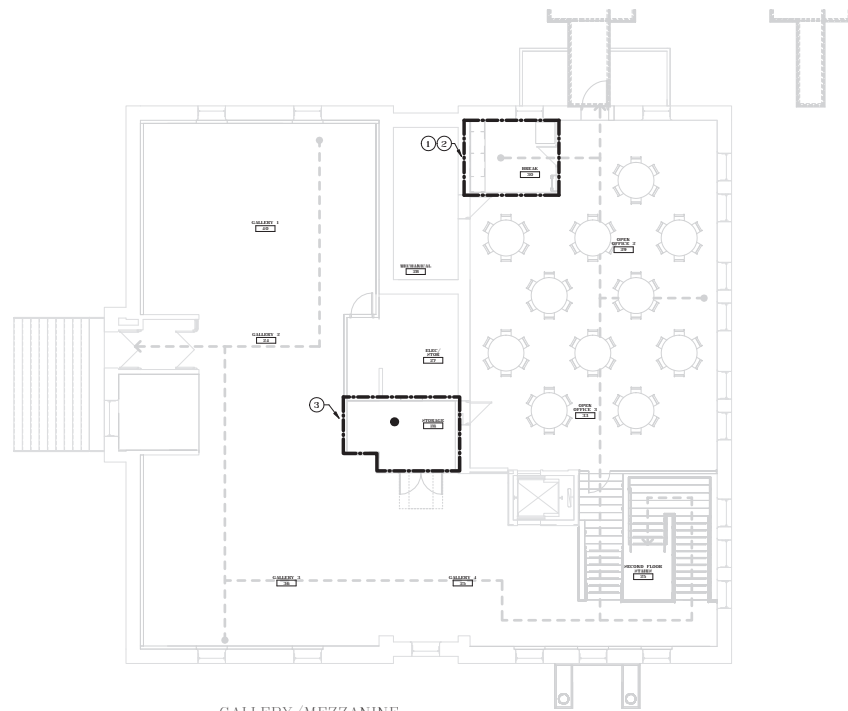
SECOND FLOOR  
MECHANICAL PLAN

3/8" = 1'-0"



**FLAG NOTES: (ALL PLANS THIS SHEET)**

- ① REFER TO ENLARGED KITCHENETTE PLUMBING PLAN ON THIS SHEET FOR MORE INFORMATION IN THIS AREA.
- ② REFER TO KITCHENETTE WASTE AND VENT ISOMETRIC ON THIS SHEET FOR MORE INFORMATION IN THIS AREA.
- ③ REFER TO MECHANICAL ROOM WASTE AND VENT ISOMETRIC ON THIS SHEET FOR MORE INFORMATION IN THIS AREA.
- ④ CONNECT 0.5" CW INTO EXISTING LINE OF SIZE 0.5" OR GREATER.
- ⑤ CONNECT 2" W INTO EXISTING WASTE LINE 2" OR LARGER.
- ⑥ CONNECT 0.5" CW INTO EXISTING LINE 0.5" OR LARGER.



GALLERY/MEZZANINE  
LEVEL OVERALL  
PLUMBING PLAN

1/8" = 1'-0"



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PLUMBING FLOOR PLANS

**P2.2**



## GAS METER SCHEDULE

6" W.C. / 798 MBH LOAD / 85" T.E.L.

EQUIPMENT	MBH
B-1	399
B-2	399
<b>TOTAL GAS LOAD</b>	<b>798</b>

NOTE: PC TO CONFIRM EXISTING GAS DELIVERY PRESSURE IS 6" W.C. IF GREATER, PC TO PROVIDE AND INSTALL A GAS PRESSURE REGULATOR AT EACH PIECE OF GAS FIRED EQUIPMENT.

## PWH-1



State Industries, Inc.  
Phone: 1.888.562.8888  
www.statewaterheaters.com

### StateSize Selection Report

September 13, 2022

#### Project Information

Project #: 21-207  
Project Name: PC Garage  
Location: Fort Collins  
Engineer: GNF  
Contractor: GNF

Prepared for: GNF  
Prepared by: GNF

#### Selected Product

##### PCE 30 20LSA-8

##### Patrol® Light-Duty

# Heaters: 1 Heater Recovery: 24 USGPH @ 80°F Rise  
Model Number: PCE 30 20LSA-8 48 USGPH  
Heater Storage (gal): 30 USG 3 Year Average: 32 USGPH  
Heater (gal): 63.000 Est. Storage Recovery: 76 min  
New External Tanks: 0 % Of Demand: 136%  
Tank Capacity (gal): 0 USG  
Total Usable Storage: 28 USG

MODEL NUMBER	# Cold Water Inlet Factor	Active Capacity	Recovery (USGPH)	Heater Size (Gal)	Heater	Recovery (USGPH)	Recovery (USGPH)
PCE 30 20LSA-8	0.33	0	24	63.000	30	32	76

- Factory-Installed Controls
- Class-1/2 Tank with Anode Rod
- Meets or exceeds the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE 90.1
- 30-Piece Copper Sheath Heating Elements
- Standard Voltages for Easy Installation
- Factory-Installed Terminal Block

#### Application Loads

##### Summary

Peak Demand: 28 USGPH Temperature Rise: 80°F

##### Slating Notes

Hot water tanks for pools, hot tubs, or other uses should be considered separately. Residential or food service tanks should be considered separately if products that meet the specific size requirements. It is the sole responsibility of the system designer to select the correct products needed for the specific application. State Industries has the right to make changes to slating without notice.

#### Application Settings

Type: Office Building  
Building User: Not Specified  
Peak Demand Period: 2.00 Hours  
Cold Water Temp: 45°F  
Stored Water Temp: 120°F  
Approx. Storage: 25%

The StateSize slating program is a tool that can be used to estimate water heater requirements for many common applications. StateSize is intended to assist in selecting water heaters or tanks that best meet the specific size requirements. It is the sole responsibility of the system designer to select the correct products needed for the specific application. State Industries has the right to make changes to slating without notice.

Equipment	Water Heaters Only (no external storage)	# Storage Tanks: Existing Storage	Not Specified
Pool Type:	Indoor	None	
Location:	Indoor		
Leakage:	Not Required		
Ultra-low leakage:	Not Required		
ADME:	Not Specified		
# Heaters:	Not Specified		
Altitude:	5000 ft to 8000 ft		

#### Load Data

Shower Head Flowrate: 2.5 USGPM  
Number of Occupants: 12  
Number of Private Lavatories: 0  
Number of Public Lavatories: 0  
Number of Kitchen Sinks: 1  
Number of Party Sinks: 0  
Number of Shower Heads: 0  
Number of Service Sinks: 0  
Number of Bradley Washmounts (Full): 0  
Number of Bradley Washmounts (Half): 0  
Laundry Mop 1: 0 @ 0 lbs  
Laundry Mop 2: 0 @ 0 lbs  
Additional Load: 0 USGPH  
Design Overload: 0%

The StateSize slating program is a tool that can be used to estimate water heater requirements for many common applications. StateSize is intended to assist in selecting water heaters or tanks that best meet the specific size requirements. It is the sole responsibility of the system designer to select the correct products needed for the specific application. State Industries has the right to make changes to slating without notice.

## PWH-2



The new degree of comfort™

### Professional Classic® tankless electric water heaters offer continuous hot water

#### Performance Features

- On demand, consistent and continuous hot water
- Compact and stylish with digital temperature control in increments of 1° ranging from 80°F to 140°F
- Robust copper immersion heating elements with bronze foil increases durability and are threaded for easy replacement
- Digital temperature display
- External controls to adjust temperature in increments of 1°

#### Warranty

- 5-Year heating chamber and 1-year parts limited warranty
- See Residential Warranty Card for complete information

RTX-04 and RTX-05 only show output temperature and water temperature control

TEMPERATURE (°F)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
GPM	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0

#### Single Point-of-Use

MULTIPLE APPLICATIONS										
RTEX-08	+	55°	36°	27°	22°	18°	14°	-	-	-
RTEX-11	+	75°	50°	36°	30°	25°	19°	-	-	-
RTEX-12	+	88°	59°	44°	36°	30°	23°	-	-	-

#### Multiple Applications

RTEX-24	+	+	108°	82°	66°	55°	41°	33°	27°
RTEX-27	+	+	+	52°	74°	62°	46°	37°	31°
RTEX-36	+	+	+	+	98°	82°	62°	49°	41°

± Temperature electronically limited setting on adjustable thermostat (in front cover)

#### Multiple Applications

Flow Rate (GPM)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5	90.0	90.5	91.0	91.5	92.0	92.5	93.0	93.5	94.0	94.5	95.0	95.5	96.0	96.5	97.0	97.5	98.0	98.5	99.0	99.5	100.0

#### Multiple Applications

Model	RTX-04	RTX-05	RTX-06	RTX-07	RTX-08	RTX-09	RTX-10	RTX-11	RTX-12	RTX-13	RTX-14	RTX-15	RTX-16	RTX-17	RTX-18	RTX-19	RTX-20	RTX-21	RTX-22	RTX-23	RTX-24	RTX-25	RTX-26	RTX-27	RTX-28	RTX-29	RTX-30	RTX-31	RTX-32	RTX-33	RTX-34	RTX-35	RTX-36	RTX-37	RTX-38	RTX-39	RTX-40
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GENERAL CONSTRUCTION NOTES

1. THE ELECTRICAL CONTRACTOR SHALL VERIFY THAT ALL ELECTRICAL ITEMS TO REMAIN OR BE RELOCATED AND REUSED ARE IN WORKING ORDER PRIOR TO ANY DEMOLITION WORK. IF THE EXISTING MATERIAL IS FOUND TO BE NONREPAIRABLE, CONTRACTOR SHALL INFORM THE OWNER. ONCE ANY DEMOLITION WORK HAS BEGUN, ANY NONREPAIRABLE OR DAMAGED MATERIAL SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
2. VERIFICATION OF EXISTING CONDITIONS: "IN AS MUCH AS THE REMODELING AND/OR REHABILITATION OF THE EXISTING BUILDING REQUIRES THAT CERTAIN ASSUMPTIONS BE MADE REGARDING EXISTING CONDITIONS, AND BECAUSE SOME OF THESE ASSUMPTIONS MAY NOT BE VERIFIABLE WITHOUT DESTROYING OTHERWISE ADEQUATE OR SERVICEABLE PORTIONS OF THE BUILDING, THE GENERAL CONTRACTOR AGREES THAT, EXCEPT FOR NEGLIGENCE ON THAT PART OF THE DESIGN PROFESSIONAL, THE CONTRACTOR WILL HOLD HARMLESS, INDEMNIFY AND DEFEND THE DESIGN PROFESSIONAL, FROM AND AGAINST ANY AND ALL CLAIMS ARISING OUT OF THE PROFESSIONAL SERVICES PROVIDED."
3. ANY ELECTRICAL ITEMS SHOWN OR NOT SHOWN ON THE PLANS, OR WHERE CIRCUITS ARE REMOVED BY DEMOLITION, SHALL UPON COMPLETION OF REMODEL WORK BE LEFT IN WORKING CONDITION.
4. ALL PHASES OF THE ELECTRICAL WORK SHALL BE COORDINATED WITH THE ARCHITECT. WORK SHALL BE DONE IN A FASHION TO CAUSE AS LITTLE INCONVENIENCE AS POSSIBLE TO THE OWNER.
5. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO REVIEW ALL DRAWINGS FOR WORK UNDER THIS CONTRACT. SHOP PLANS AND REFLECTED CEILING PLANS DESCRIBE ELECTRICAL WORK. NO EXTRAS WILL BE ALLOWED FOR WORK SHOWN ON MECHANICAL AND ARCHITECTURAL DRAWINGS.
6. ELECTRICAL DEVICES NOTED TO BE REMOVED SHALL BE REMOVED BACK TO A POINT WHERE EXISTING CONDUIT CAN BE ABANDONED IN CONCEALED SPACES. REMOVE ALL WIRING FROM ABANDONED CONDUIT. ALL BOXES TO BE REMOVED SHALL BE TAKEN OUT OF WALLS AND HAVE HOLES REFINISHED TO MATCH WALL FINISH.
7. ELECTRICAL CONTRACTOR SHALL NOT DEFACE ANY AREAS OF THE BUILDING WHERE REMODELING IS NOT BEING DONE.
8. THE ELECTRICAL CONTRACTOR SHALL BE ON SITE DURING ALL ELECTRICAL INSPECTIONS. NO ADDITIONAL FEES OR OVERTIME WILL BE PAID FOR AFTER HOURS INSPECTIONS.
9. RACEWAYS: ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. CONDUIT SHALL NOT BE EXPOSED IN FINISHED AREAS EXCLUDES MECHANICAL ROOMS, STORAGE CLOSETS, AND SIMILAR AREAS. EXPOSED RACEWAYS SHALL BE SURFACE RACEWAYS PER SPECIFICATIONS.
10. SURFACE RACEWAY: WHEREVER CONCEALED CONDUIT IN FINISHED AREAS IS NOT POSSIBLE, ELECTRICAL CONTRACTOR SHALL BE REQUIRED TO INSTALL SURFACE RACEWAYS EQUAL TO WIREMOLD. RUN SURFACE RACEWAYS IN CORNER OF WALL AND CEILING. ALL RACEWAYS THAT ARE EXPOSED SHALL BE APPROVED BY ARCHITECT PRIOR TO ROUGH-IN.
11. TERMINATING AND SPLICING: MAKE ALL JOINTS AND SPLICES IN BRANCH CIRCUIT WIRING WITH APPROVED SOLDERLESS TOOL APPLIED OR TWIST-ON CONNECTORS. IN THE VARIOUS BOXES, GUTTERS, AND SIMILAR LOCATIONS, BUT NOT IN RACEWAYS, LEAVE SUFFICIENT SLACK TO PERMIT TWO (2) OR MORE SPLICES OR JOINTS TO BE REMADE IN CASE OF FAULT.
12. NM (ROMEX CABLE) OR AC CONDUIT WILL NOT BE ALLOWED ON THIS PROJECT. ENT WILL NOT BE ALLOWED ON THIS PROJECT. FLEX CONDUIT OR FUTURE WHIPS, LONGER THAN SIX FEET, WILL NOT BE ALLOWED ON THIS PROJECT. WIRE SPLICES IN CONDUIT BODIES ARE NOT ALLOWED ON THIS PROJECT.
13. MC CABLE WILL BE ALLOWED ON THIS PROJECT, EXCEPT FOR THE FOLLOWING:  
A. IN EXPOSED AREAS.  
B. ALL FEEDERS AND MECHANICAL CIRCUITS (SHALL BE IN CONDUITS).  
C. AS PROHIBITED BY N.E.C.
14. ELECTRICAL CONTRACTOR SHALL RECEIVE, FROM SYSTEM SUPPLIERS, ALL WIRING DIAGRAMS FOR ALL EQUIPMENT, PRIOR TO ANY ROUGH-IN, TO ASSURE PROPER ELECTRICAL CHARACTERISTICS ARE PROVIDED. ELECTRICAL CONTRACTOR SHALL PROVIDE ARCHITECT WRITTEN NOTIFICATION PRIOR TO ROUGH-IN, THAT ALL WIRING DIAGRAMS HAVE BEEN RECEIVED AND REVIEWED FOR CORRECTNESS. ANY INCORRECT WIRING OR DEVICES INSTALLED BY ELECTRICAL CONTRACTOR WITHOUT WIRING DIAGRAMS SHALL BE CORRECTED AT ELECTRICAL CONTRACTOR'S EXPENSE.
15. ELECTRICAL CONTRACTOR SHALL RECEIVE, FROM MECHANICAL CONTRACTOR, ALL WIRING DIAGRAMS AND SHOP DRAWINGS FOR ALL MECHANICAL EQUIPMENT, PRIOR TO ANY ROUGH-IN, TO ASSURE PROPER ELECTRICAL CHARACTERISTICS, VOLTAGE, PHASE, HSEPOWER, AMPERE, KILOVOLTS AND ETC. ARE PROVIDED. ELECTRICAL CONTRACTOR SHALL PROVIDE ARCHITECT WRITTEN NOTIFICATION PRIOR TO ANY ROUGH-IN, THAT ALL WIRING DIAGRAMS AND SHOP DRAWINGS HAVE BEEN RECEIVED AND REVIEWED FOR CORRECTNESS. ANY INCORRECT WIRING OR DEVICES INSTALLED BY ELECTRICAL CONTRACTOR WITHOUT WIRING DIAGRAMS SHALL BE CORRECTED AT ELECTRICAL CONTRACTOR'S EXPENSE.
16. COORDINATE WITH MECHANICAL CONTRACTOR LOCATION AND INSTALLATION OF ANY ELECTRICAL CONTROLS FOR MECHANICAL UNITS. PROVIDE UNSWITCHED 120 VOLT CIRCUIT AS REQUIRED.
17. ELECTRICAL CONTRACTOR SHALL VERIFY ELECTRICAL DEVICE LOCATIONS IN ALL CASEWORK WITH ARCHITECTURAL CASEWORK DETAILS PRIOR TO ANY ROUGH-IN.
18. THE CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DEVICE LOCATIONS WITH THE ARCHITECTURAL PLANS, ELEVATIONS, AND DIAGRAMS.
19. ELECTRICAL CONTRACTOR SHALL VERIFY FINAL LOCATIONS OF ALL SINKS WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN. ANY ELECTRICAL DEVICES LOCATED ABOVE COUNTER AND BEHIND FINAL SINK LOCATIONS SHALL BE SHIFTED A MINIMUM OF 6" TO EITHER SIDE OF SINK. ANY ELECTRICAL DEVICES LEFT BEHIND SINK AT TIME OF FINAL ELECTRICAL OBSERVATION SHALL BE RELOCATED AT ELECTRICAL CONTRACTOR'S EXPENSE.
20. BACK TO BACK RECEPTACLES ARE NOT PERMITTED. MAINTAIN SEPARATION OF AT LEAST ONE STUD. RECEPTACLES TO ARCHITECTURAL FINISH ROUGH-INS ARE WITHIN 24" OF EACH OTHER IN A FIRE RATED WALL. A FIRE BARRIER MOLDABLE PUTTY (2M OR EQUIVALENT) SHALL BE USED.
21. FEED THROUGH GFCI PROTECTION OF RECEPTACLES IS ACCEPTABLE ONLY WHERE RECEPTACLES ARE IN SAME ROOM AND DRAWINGS DO NOT INDICATE OTHERWISE.
22. PROVIDE BLANK COVER PLATES AND INSTALL THEM ON ALL UNUSED ROUGH-INS.
23. INSTALL PITGAL AT ALL RECEPTACLES FOR FINAL CONNECTIONS.
24. ALL NEW ELECTRICAL ITEMS SHOWN ON EXISTING WALLS AND CEILINGS SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. CUT AND PATCH EXISTING WALLS AND CEILINGS TO CONCEAL ALL MOUNTING BOXES AND CONDUITS.
25. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GC TO MAINTAIN FIRE RATINGS FOR ALL CONDUIT PENETRATIONS, INCLUDING CONDUIT SLEEVES. THROUGH FIRE RATED CONSTRUCTION, THIS INCLUDES SEALING ALL SPARE CONDUITS (I.E. FIRE ALARM, SPECIAL SYSTEMS, ETC.).
26. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEASURE THE HORIZONTAL AND VERTICAL DIMENSIONS OF HIS WORK BEFORE INSTALLATION AND COORDINATE THESE DIMENSIONS WITH OTHER CONTRACTORS IMMEDIATELY IF CEILING HEIGHTS ARE AFFECTED, NOTIFY THE OTHER CONTRACTORS AND THE ARCHITECT IMMEDIATELY. FAILING TO DO SO WILL RESULT IN REJECTION OF INSTALLED WORK AND REINSTALLATION OF PROPERLY LOCATED AND COORDINATED WORK WILL BE AT THIS CONTRACTOR'S EXPENSE.
27. LIGHT FIXTURES AND DEVICES IN 1-4 HOUR FIRE RATED CEILINGS MUST BE "TENTED". TENTING WILL BE PERFORMED BY OTHERS (E.G. TO COORDINATE WITH GC). COORDINATE HEIGHT REQUIRED FOR ADDITIONAL TENTING WITH CEILING AND MECHANICAL CONTRACTORS. REFER TO ARCHITECTURAL DRAWINGS.
28. FIXTURE WHIPS SHALL BE SUPPORTED ABOVE ACCESSIBLE CEILING. LAYING FIXTURE WHIPS ON TOP OF THE GRID OR SUPPORTING USING THE FIXTURE HANGERS IS NOT ALLOWED. FIXTURE WHIPS SHALL NOT CONTACT PLUMBING.
29. RELOCATIONS: OWNER RESERVES THE RIGHT TO RELOCATE ANY ELECTRICAL DEVICE, UP TO A DISTANCE OF 12'-0", BEFORE INSTALLATION WITHOUT EXTRA CHARGE FROM ELECTRICAL CONTRACTOR.
30. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. EXACT LOCATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH OTHER TRADES PRIOR TO ANY INSTALLATION, WHERE EXACT LOCATIONS ARE NECESSARY. THEY ARE DRAWINGS, WHERE THERE IS A QUESTION OF ADEQUATE CLEARANCE OR COORDINATION BETWEEN TRADES, THIS CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ENGINEERS REVIEW. ON ALL SPECIAL SYSTEMS REQUIRING DRAWINGS BY LICENSED INSTALLATION CONTRACTORS, SUCH AS FIRE PROTECTION, SUCH DRAWINGS SHALL BE SUBMITTED WITHIN 30 DAYS AFTER AWARD OF CONTRACT.
31. EMT CONDUIT FITTINGS: DRY LOCATIONS ALL EMT COUPLERS AND CONNECTORS SHALL BE STEEL SET SCREW TYPE. DIE CAST FITTINGS SHALL NOT BE USED ON THIS PROJECT. EMPT/RT LOCATIONS, USE STEEL COMPRESSION (GLAND) TYPE COUPLER AND CONNECTORS.
32. ALL WIRING INCLUDING SPECIAL SYSTEMS/LOW VOLTAGE THAT IS IN AN EXPOSED CEILING AREA SHALL BE IN CONDUIT. ALL SPLICES SHALL BE IN J-BOXES.
33. ACCESS PANELS REQUIRED BY THE ELECTRICAL CONTRACTOR SHALL BE PROVIDED BY THE ELECTRICAL BID CONTRACTOR, THEN TURNED OVER TO THE APPROPRIATE TRADE FOR INSTALLATION. SEE ARCHITECTURAL SPECIFICATION.
34. PHASE PROTECTION: ALL MOTORS USING 3 PHASE POWER AND ALL 3 PHASE AIR CONDITIONING UNITS SHALL HAVE PROTECTION FOR PHASE REVERSAL, LOSS OF PHASE OR PHASE UNBALANCE OF 10% VOLTAGE DROP OR GREATER ON ANY ONE PHASE, MANUFACTURED BY TIME MARK SERIES 2644.
35. CONTRACTOR SHALL NOT FASTEN, ATTACH OR HANG ANY MATERIAL, FROM THE ROOF DECK, ALL CONDUITS, JUNCTION BOXES, FIXTURES, DEVICES AND EQUIPMENT SHALL BE HUNG FROM THE STRUCTURAL STEEL FRAME AND SHALL BE PLACED WITH A MINIMUM CLEARANCE PER NEC BELOW THE ROOF DECK. WIRING AND CONDUITS SHALL NOT BE PLACED WITHIN THE RISERS OF THE ROOF DECK. CONTRACTOR SHALL NOT LOOSEN, REMOVE OR CUT ANY ROOFING SYSTEM FASTENERS PROTRUDING THROUGH THE ROOF DECK.
36. ALL ELECTRICAL DEVICES, CONDUIT, J-BOXES, CABLE SUPPORTS, ETC. THAT ARE REQUIRED TO BE SUPPORTED ABOVE THE GRID CEILINGS SHALL BE SUPPORTED FROM THE STRUCTURE VIA THREADED RODS, ALL AREAS.
37. MULTI-WIRE BRANCH CIRCUITS ARE NOT PERMITTED U.O.N. ON DRAWINGS, WHERE THEY ARE INSTALLED THEY SHALL BE COMMON TRIP OR HAVE HANDLE TIES AS REQUIRED BY N.E.C.
38. SWITCHES AND RECEPTACLES SHALL BE IDENTIFIED AS TO PANEL AND CIRCUIT BREAKER FED FROM LABEL, COVER PLATE ON FRONT PER SPECIFICATION AND ON BACK WITH PERMANENT INK ENSURE NO BLEED THROUGH.
39. THESE DRAWINGS ARE SUBJECT TO AN APPROVAL OF THE BUILDING DEPARTMENT, FIRE MARSHAL, UTILITY COMPANY, AND OTHER AGENCIES AUTHORITY HAVING JURISDICTION (A.U.). BY THE ACT OF SUBMITTING A BID PROPOSAL FOR WORK, THE CONTRACTOR HAS REVIEWED THE PLANS THOROUGHLY AND ACCEPTS FULL RESPONSIBILITY OF PLAN CORRECTIONS AND ASSOCIATED CONSTRUCTION COSTS REQUIRED BY A.U.
40. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURES.
41. PROVIDE AN UPDATED, COMPLETE, OPERATIVE, COORDINATED AND TESTED NON-CODED, INTELLIGENT, ADDRESSABLE FIRE DETECTION, AND ALARM SYSTEM. DRAWINGS ARE DIAGRAMMATIC IN CHARACTER AND DOES NOT NECESSARILY INDICATE EVERY REQUIRED PIECE OF EQUIPMENT AND DEVICE. PROVIDE ALL ITEMS NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. PROVIDE AUXILIARY DEVICES, MODULES, RELAYS, POWER SUPPLIES, WIRING, AND ACCESSORIES AS REQUIRED TO ACHIEVE PROPER SYSTEM FUNCTION. THE ENGINEER OF OPERATION, MANUFACTURER SHALL HAVE A REGISTERED ENGINEER PERFORM NECESSARY DESIGN AND PREPARATION FOR SUBMITTALS. MANUFACTURER'S ENGINEER SHALL BE THE ENGINEER OF RECORD FOR THE FIRE ALARM SYSTEM AND SIGNED & SEALED DRAWINGS WITH COLORADO PE STAMP OR NICET LEVEL IV.

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER	IG	ISOLATED GROUND
AFF	ABOVE FINISHED FLOOR	J	JUNCTION BOX
AFG	ABOVE FINISHED GRADE	LTS	LIGHTS
AC	AMP. INTERRUPTING CAPACITY	LTF	LIQUID TIGHT FLEXIBLE CONDUIT
AL	ALUMINUM	LTS	LIGHTS
ANN	ANNUNCIATOR	MC	MECHANICAL CONTRACTOR
ARCH	ARCHITECT	MCB	MAIN CIRCUIT BREAKER
BFG	BELOW FINISHED GRADE	MDP	MAIN DISTRIBUTION PANEL
BKR	BREAKER	MECH	MECHANICAL
BPS	FIRE ALARM BOOSTER POWER SUPPLY	MLO	MAIN LUG ONLY
BTM	BOTTOM	MTD	MOUNTED
BWE	BAKED WHITE ENAMEL	N	NEW
C	CONDUIT	NF	NON FUSED
CASA	COLOR AS SELECTED BY ARCHITECT	N.T.S.	NOT TO SCALE
CATV	CABLE TELEVISION	NL	NIGHT LIGHT
CB	CIRCUIT BREAKER	PC	PHOTO CELL
CKT	CIRCUIT	PH	PHASE
CLG	CEILING	PNL	PANEL
CM	FIRE ALARM CONTROL MODULE	PWR	POWER
CT	CURRENT TRANSFORMER	RECEPT.	RECEPTACLE
CU	COPPER	RCPT, REC	
DC	DEDICATED CIRCUIT	RL	RELOCATE
DISC	DISCONNECT	RT	RAIN TIGHT, NEMA 3R
EB	ELECTRONIC BALLAST	SCA	SHORT CIRCUIT AMPERAGE
EC	ELECTRICAL CONTRACTOR	SPD	SURGE PROTECTION DEVICE
ELEC	ELECTRICAL	T-STAT	THERMOSTAT
EM	EMERGENCY	TBD	TO BE DETERMINED
EMT	ELECTRICAL METALLIC TUBING	TC	TIME CLOCK
E.O.L.	ELECTRICAL OVERLOAD	TIB	TELEPHONE TERMINAL BACKBOARD
EWC	ELECTRICAL WATER COOLER	TYP	TYPICAL
EXIST, EX	EXISTING	U.O.N.	UNLESS OTHERWISE NOTED
F	FUSED	UC	UNDER COUNTER
FB	FIBER OPTICS	V	VOLTS
FLR	FLOOR	W	WATTS
FLUOR	FLUORESCENT	W	WITH
GC	GENERAL CONTRACTOR	WO	WITHOUT
GFI	GROUND FAULT INTERRUPTER	WG	WIRE GUARD
GRG	GALVANIZED RIGID CONDUIT	WP	WEATHERPROOF
GRD	GROUND	XFMR	TRANSFORMER

NOTE: THIS IS A COMPREHENSIVE LEGEND AND ABBREVIATIONS LIST AND ALL SYMBOLS SHOWN MAY NOT APPEAR ON DRAWINGS.

ELECTRICAL LEGEND

	FLAG NOTE		COMBINATION SWITCH/RECEPTACLE
	MECHANICAL EQUIPMENT SYMBOL		SINGLE RECEPTACLE + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	SPECIAL EQUIPMENT SYMBOL		DUPLEX RECEPTACLE + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	INDICATES AIMING DIRECTION		DUPLEX RECEPTACLE, INDIVIDUAL GROUND FAULT RECEPTACLE
	INDICATES EXISTING DEVICE TO REMAIN		DOUBLE DUPLEX RECEPTACLE + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	INDICATES EXISTING DEVICE TO BE REMOVED		DUPLEX RECEPTACLE, SPLIT WIRED
	EXISTING CIRCUIT RUN TO REMAIN		DUPLEX SWITCHED RECEPTACLE, SPLIT WIRED
	EXISTING CIRCUIT RUN TO BE REMOVED		DUPLEX RECEPTACLE, CEILING MOUNTED
	CIRCUIT RUN EXPOSED		DOUBLE DUPLEX RECEPTACLE, CEILING MOUNTED
	CIRCUIT RUN UNDER FLOOR		SPECIAL PURPOSE OUTLET AS NOTED, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	CIRCUIT RUN UNDERGROUND		COMBINATION C/CV/CVAT WITH DUPLEX RECEPTACLE, + 12" AFF TO BOTTOM OF BOX (U.O.N.)
	CIRCUIT RUN WALLS OR CEILING		TELEVISION OUTLET, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	CIRCUIT TURNS UP		COMBINATION C/CV/CVAT WITH U.C., + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	CIRCUIT TURNS DOWN		TELEPHONE OUTLET, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	UNDERGROUND TELEPHONE RUN		W. WALL OUTLET, + 16" AFF (U.O.N.)
	UNDERGROUND SECONDARY OR PRIMARY SERVICE		P. PAYPHONE, + 40" AFF (U.O.N.)
	GROUND BUS		X DENOTES # OF JACKS
	SURFACE RACEWAY		DATA OUTLET, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	PLUG STRIP AS NOTED		X DENOTES # OF JACKS
	LOW VOLTAGE CIRCUIT		DATA/VOICE OUTLET, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	MOISTURE OR EXPLOSION PROOF SEAL		FLUSH FLOOR TELEPHONE OUTLET S- SURFACE PEDESTAL
	HOME RUN		FLUSH FLOOR DUPLEX OUTLET S- SURFACE PEDESTAL
	A-13.5 CIRCUIT DESIGNATION 13.5 - CIRCUIT NUMBER, 6 CONDUCTORS U.O.N.		MULTI-CELL FLOOR BOX
	TRANSFORMER		J-BOX CEILING
	WEATHERHEAD		J-BOX WALL
	MAIN DISTRIBUTION PANEL		PUSH BUTTON STATION
	SWITCH AND FUSE		CARD ACCESS STATION
	CIRCUIT BREAKER		HANDICAP ACCESS STATION
	METER		EMERGENCY POWER OFF
	CTS		EMERGENCY POWER OFF (MUSHROOM HEAD)
	PTS		THERMOSTAT
	GROUND		MOTOR OUTLET AND CONNECTION
	ELECTRICAL PANEL		MAGNETIC STARTER OR CONTACTOR
	TELEPHONE TERMINAL BOARD		DISCONNECT SWITCH NF- NON FUSED
	MOUNTING BACKBOARD		POWER POLES
	CONTACT - NORMALLY CLOSED (NC)		DUCT SMOKE DETECTOR
	CONTACT - NORMALLY OPEN (NO)		FIRE ALARM CONTROL PANEL
	LIGHTING OUTLET - CEILING RECESSED		FIRE SMOKE DETECTOR/SMOKE DAMPER
	LIGHTING OUTLET - CEILING SURFACE A - FIXTURE TYPE, B - SWITCHING		
	LIGHTING OUTLET - WALL MOUNTED		
	SPOT LIGHT		
	FLUORESCENT FIXTURE - SURFACE		
	FLUORESCENT FIXTURE - SUSPENDED DIRECT/INDIRECT		
	FLUORESCENT FIXTURE - RECESSED IN DRYWALL		
	FLUORESCENT FIXTURE - RECESSED IN GRID		
	FLUORESCENT FIXTURE - RECESSED IN GRID DIRECT/INDIRECT		
	FLUORESCENT FIXTURE - WALL MOUNTED		
	FLUORESCENT STRIP		
	TRACK LIGHTING FIXTURE		
	INDICATES NIGHT LIGHT OR EMERGENCY CIRCUIT		
	INDICATES NIGHT LIGHT OR EMERGENCY CIRCUIT		
	EXIT SIGN - CEILING MOUNTED		
	EXIT SIGN - WALL MOUNTED		
	EMERGENCY BATTERY WITH LAMPS		
	REMOTE INDICATING LIGHT		
	POLE MOUNTED FIXTURE		
	POST TOP FIXTURE		
	LIGHTING CONTROL STATION		
	OCCUPANCY SENSOR		
	VACANCY SENSOR		
	PHOTO CELL - ELECTRIC		
	CONTACTOR		
	RELAY		
	PHASE MONITOR		
	NOTE: ALL SWITCHES SHALL BE MOUNTED AT 48" AFF TO TOP OF BOX (U.O.N.)		
	SINGLE POLE SWITCH, 20 AMP U.O.N.		
	DOUBLE POLE SWITCH, 20 AMP U.O.N.		
	3-WAY SWITCH, 20 AMP U.O.N.		
	SINGLE POLE SWITCH, 20 AMP U.O.N.		
	THREE WAY, a - SWITCHING		
	4-WAY SWITCH, 20 AMP U.O.N.		
	KEYED SWITCH, 20 AMP U.O.N.		
	PILOT SWITCH, 20 AMP U.O.N.		
	SWITCH ON LIGHT ON		
	SWITCH WITH THERMAL OVERLOAD, 20 AMP U.O.N.		
	SWITCHED FUSED, 20 AMP U.O.N.		
	SWITCH VARIABLE SPEED		
	SWITCH LOW VOLTAGE		
	DIMMER SWITCH AS NOTED, 20 AMP U.O.N.		

ELECTRICAL DRAWING INDEX

Sheet Number	Sheet Name
EP001	GENERAL CONSTRUCTION NOTES AND LEGEND
EP100	ELECTRICAL SITE PLAN
EPD101	DEMO LOWER LEVEL ELECTRICAL PLANS
EPD102	DEMO GALLERY AND MEZZANINE LEVEL ELECTRICAL PLANS
EPD101	NEW LOWER LEVEL ELECTRICAL PLANS
EP102	GALLERY AND MEZZANINE LEVEL ELECTRICAL PLANS
EP500	ELECTRICAL ONE-LINE
EP501	PANEL SCHEDULES
EP502	PANEL SCHEDULES AND FAULT CURRENT
EP600	ELECTRICAL SCHEDULES
EP601	COMCHECK
EP700	ELECTRICAL DETAILS
EP701	ELECTRICAL DETAILS
EP702	ELECTRICAL DETAILS
EP800	ELECTRICAL SPECIFICATIONS

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CARNEGIE BUILDING  
DESIGN

CITY OF FORT COLLINS

200 Mathew Street  
Fort Collins, CO  
80524

PROJECT #: 2118

ISSUE DATE: 09/15/2022

EP001

GENERAL CONSTRUCTION NOTES AND LEGEND

PERMIT SET

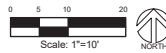
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10/31/2022 3:45:29 PM - PLOT DATE

① ELECTRICAL SITE PLAN  
1" = 10'-0"



COORDINATE DEMOLITION OF EXISTING MECHANICAL EQUIPMENT AND ALL ASSOCIATED DISCONNECTS, CONDUIT, WIRING, ETC WITH MECHANICAL PRIOR TO STARTING ANY WORK. NOTIFY ENGINEER IMMEDIATELY OF DISCREPANCIES.

- FLAG NOTES - THIS SHEET ONLY
1. CONNECT NEW EXTERIOR LIGHT FIXTURES TO EXISTING EXTERIOR LIGHTING CONTROLS. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
  2. PROVIDE UL924 MODULE TO OVERRIDE SWITCHING UPON LOSS OF UTILITY POWER.
  3. VIA LIGHTING INVERTER, REFER TO DETAIL SHEET E701 FOR FURTHER INFORMATION.
  4. STUB UP (1) 2" WITH PULLCORD FOR FUTURE GATE POWER BACK TO PANEL L110 AND (1) 2" WITH PULLCORD FOR FUTURE GATE SECURITY BACK TO TTB. SEAL CONDUIT TO PREVENT ENTRY OF MOISTURE AND RODENTS. COORDINATE FINAL LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.
  5. WP DISCONNECT AND WP, GF1 RECEPTACLE WITH WP METAL WHILE-IN-USE COVER TO BE MOUNTED ON UN-STRUCT RACK. COORDINATE FINAL LOCATION WITH MECHANICAL PRIOR TO ROUGH-IN.
  6. TO MDP-1, REFER TO ELECTRICAL ONE-LINE SHEET E500 FOR FURTHER INFORMATION.

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# EP100

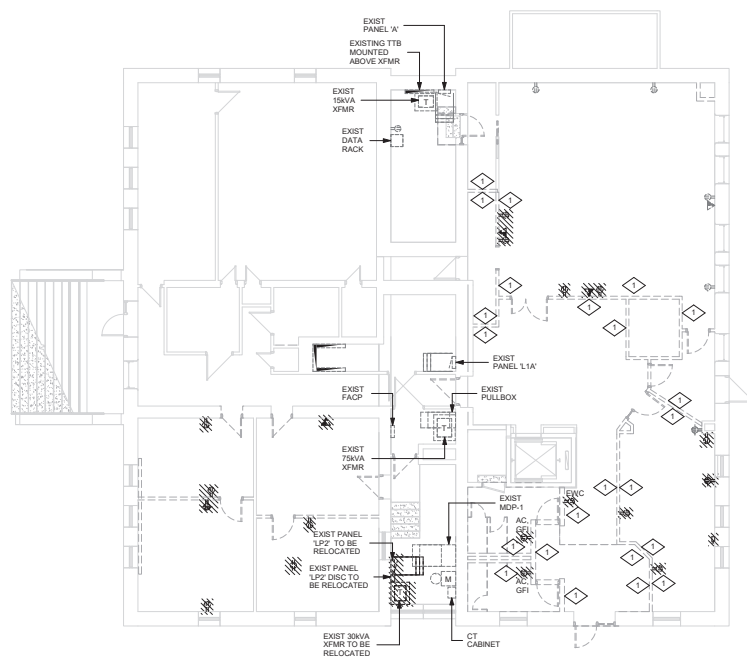
ELECTRICAL SITE PLAN

PERMIT SET  
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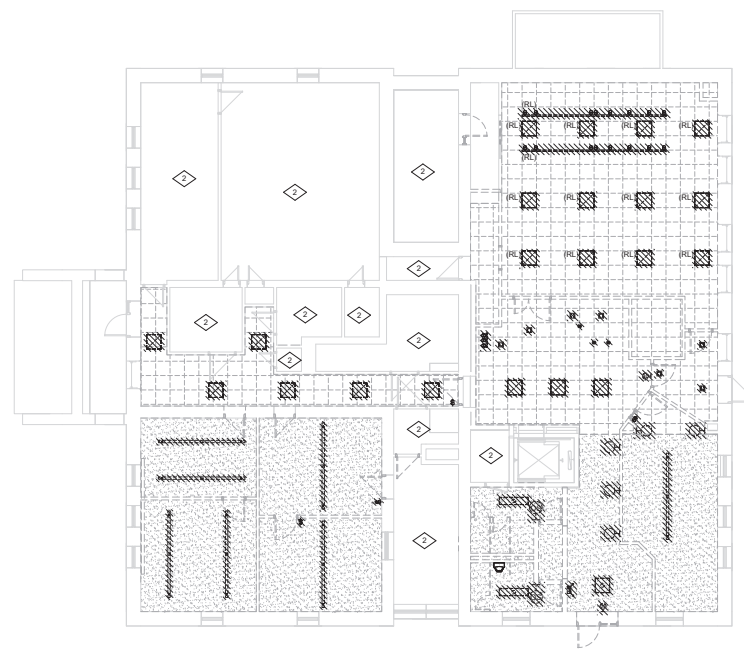
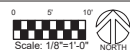




9/16/2022 11:22:04 AM - PLOT DATE



① DEMO LOWER LEVEL POWER PLAN  
1/8" = 1'-0"



② DEMO LOWER LEVEL LIGHTING PLAN  
1/8" = 1'-0"



FLAG NOTES - THIS SHEET ONLY

- |   |  |
|---|--|
| 1 | REMOVE ALL EXISTING POWER AND DATA FROM WALLS TO BE REMOVED. MAINTAIN CIRCUIT CONTINUITY. COORDINATE DEMOLITION WITH ARCHITECT PRIOR TO STARTING ANY WORK. |
| 2 | EXISTING LIGHTING AND SWITCHING TO REMAIN IN THIS ROOM.  |

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## CARNEGIE BUILDING DESIGN

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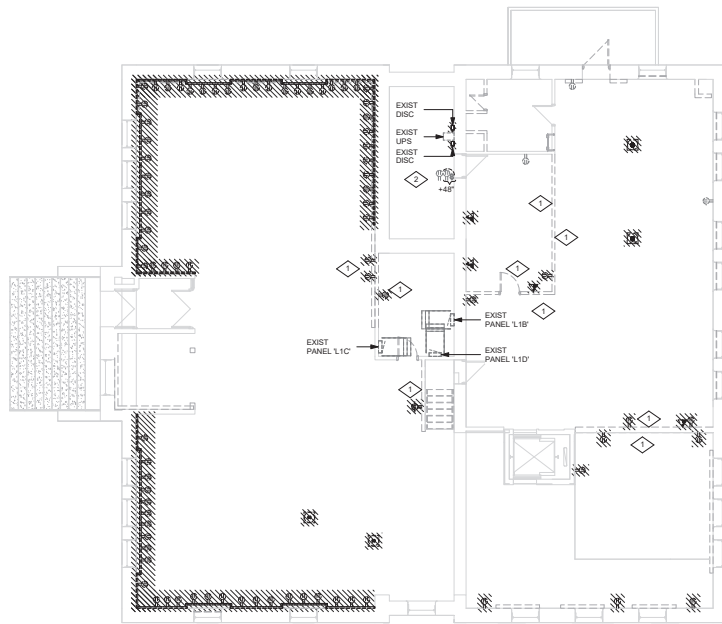
PROJECT #: 2118

ISSUE DATE: 09/15/2022

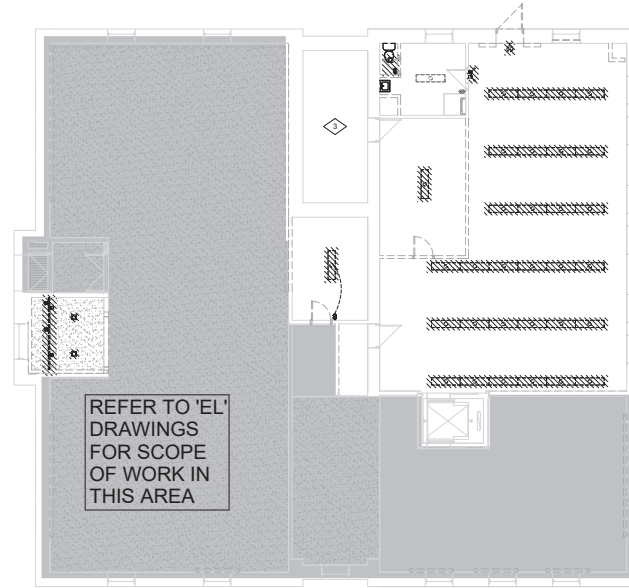
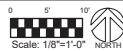
# EPD101

DEMO LOWER LEVEL ELECTRICAL PLANS

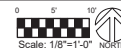
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1 DEMO GALLERY & MEZZ POWER PLAN  
1/8" = 1'-0"



2 DEMO GALLERY & MEZZ LIGHTING PLAN  
1/8" = 1'-0"



FLAG NOTES - THIS SHEET ONLY	
1	REMOVE ALL EXISTING POWER AND DATA FROM WALLS TO BE REMOVED. MAINTAIN CIRCUIT CONTINUITY. COORDINATE DEMOLITION WITH ARCHITECT PRIOR TO STARTING ANY WORK.
2	COORDINATE DEMOLITION OF MECHANICAL EQUIPMENT AND ALL ASSOCIATED DISCONNECT, CONDUIT, WIRING, ETC WITH MECHANICAL PRIOR TO STARTING ANY WORK. NOTIFY ENGINEER IMMEDIATELY OF DISCREPANCIES.
3	EXISTING LIGHTING AND SWITCHING TO REMAIN IN THIS ROOM.

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## CARNEGIE BUILDING DESIGN

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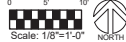
PROJECT #: 2118  
ISSUE DATE: 09/15/2022

# EPD102

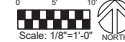
DEMO GALLERY AND MEZZANINE LEVEL ELECTRICAL  
PLANS

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① LOWER LEVEL POWER PLAN  
1/8" = 1'-0"



② LOWER LEVEL LIGHTING PLAN  
1/8" = 1'-0"



NORMAL POWER  
LIC-1  
LIC-3  
LIC-5  
LIC-7  
LIC-9  
GALLERY/RECEPTION EM POWER  
INVERTER OUTPUT-1 (OCB-1)  
EXTERIOR EM LG POWER  
INVERTER OUTPUT-2 (OCB-2)  
REFER TO DETAIL SHEET E701.  
IC TO COORDINATE ALL  
LIGHTING CONTROL  
REQUIREMENTS WITH BG  
BUILDINGWORKS PRIOR TO  
ROUGH-IN.



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# CARNEGIE BUILDING DESIGN

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# EP101

NEW LOWER LEVEL ELECTRICAL PLANS

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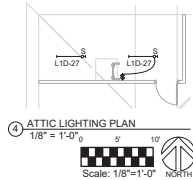
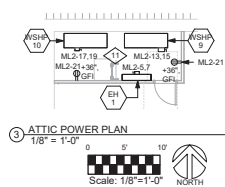
## FLAG NOTES - THIS SHEET ONLY

- ① PROVIDE PULLBOX ABOVE ACCESSIBLE CEILING TO EXTEND ALL BRANCH CIRCUITS TO REMAIN TO NEW PANEL LOCATION.
- ② CONNECT VIA GFI BREAKER.
- ③ CONNECT TO UNSWITCHED PORTION OF LOCAL LIGHTING CIRCUIT.
- ④ SEE TYPICAL LIGHTING CONTROL DETAILS, SHEETS E701 AND E702 FOR ADDITIONAL INFORMATION.
- ⑤ DIRECT AND INDIRECT LIGHTING TO BE CONTROLLED INDEPENDENTLY. DIRECT LIGHTING TO BE CONTROLLED VIA SWITCHLEG W AND INDIRECT LIGHTING TO BE CONTROLLED VIA SWITCHLEG V.
- ⑥ RECEPTIONIST RECEPTACLES TO COMPLY WITH IEC 2021-AUTOMATIC RECEPTACLE CONTROLS. COORDINATE LIGHTING CONTROLS IN THIS AREA WITH 'E' DRAWINGS PRIOR TO ROUGH-IN.
- ⑦ PROVIDE PULLBOX ABOVE EXISTING PANEL LOCATION TO EXTEND ALL BRANCH CIRCUITS TO REMAIN TO NEW PANEL LOCATION. COORDINATE WORK WITH ARCHITECTURAL AND MECHANICAL PRIOR TO STARTING ANY WORK.
- ⑧ RELOCATED PANEL LP2 AND DISCONNECT TO BE MOUNTED ON NEW UNISTRUT RACK. COORDINATE FINAL LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN. ALL CLEARANCES AND WORKING DISTANCES MUST BE PROVIDED PER NEC.
- ⑨ ALL CLEARANCES AND WORKING DISTANCES ARE REQUIRED TO BE PROVIDED PER NEC FOR ALL NEW ELECTRICAL EQUIPMENT INCLUDING PANELBOARDS, TRANSFORMERS, DISCONNECTS, ETC.
- ⑩ RELOCATE AND RECONNECT EXISTING LIGHT FIXTURES TO EXISTING CIRCUIT. RELOCATED LIGHT FIXTURES TO BE CONNECTED AND CONTROLLED VIA NEW LIGHTING CONTROLS.
- ⑪ EXISTING LIGHTING AND SWITCHING TO REMAIN IN THIS ROOM.

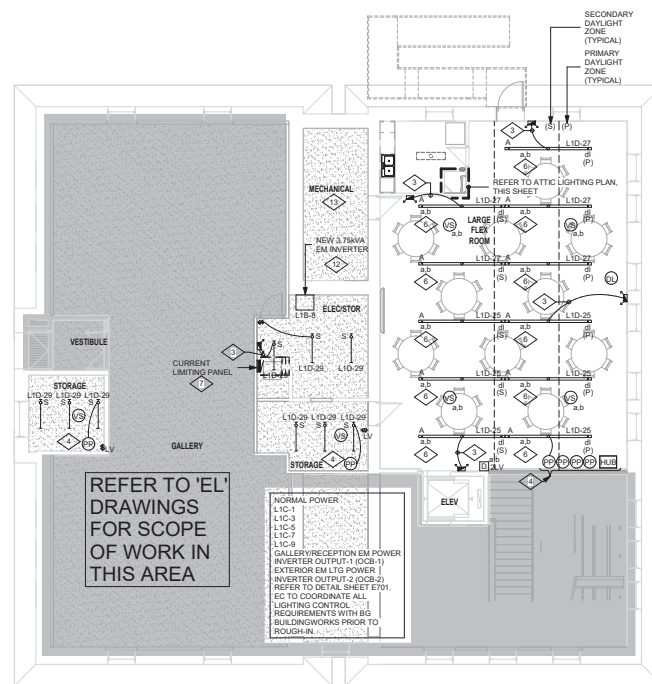
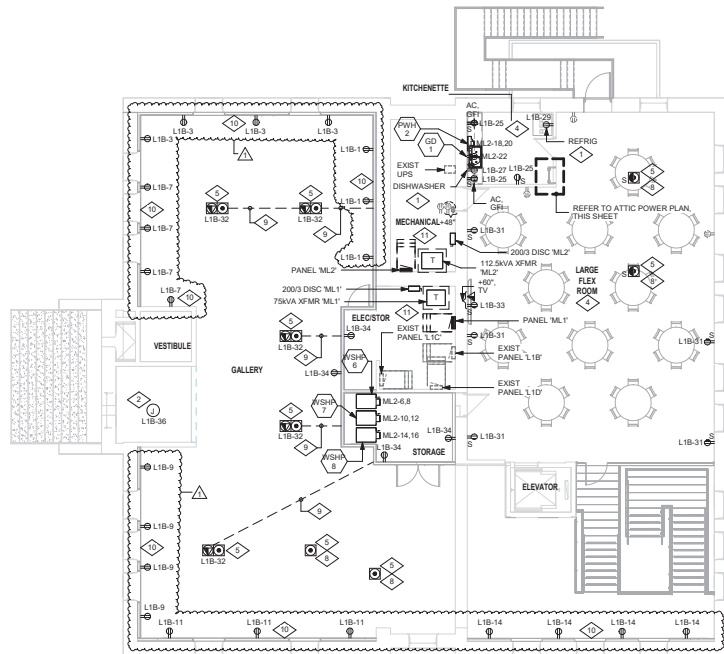
NOTE:  
LOW VOLTAGE OCCUPANCY SENSORS AND VACANCY SENSORS NOT SHOWN ON ELECTRICAL LIGHTING PLANS. CONTRACTOR TO VERIFY ALL REQUIRED OCCUPANCY SENSORS WITH BG BUILDINGWORKS LIGHTING DRAWINGS.

SECONDARY DAYLIGHT ZONES (TYPICAL)  
PRIMARY DAYLIGHT ZONES (TYPICAL)

REFER TO 'EL' DRAWINGS FOR SCOPE OF WORK IN THIS AREA



NOTE:  
LOW VOLTAGE OCCUPANCY SENSORS AND VACANCY SENSORS NOT SHOWN ON ELECTRICAL LIGHTING PLANS. CONTRACTOR TO VERIFY ALL REQUIRED OCCUPANCY SENSORS WITH BG BUILDING WORKS LIGHTING DRAWINGS.



- FLAG NOTES - THIS SHEET ONLY
- 1 GFI BREAKER.
  - 2 J-BOX FOR CEILING MOUNTED PROJECTOR. COORDINATE FINAL LOCATION AND INSTALLATION WITH BG BUILDINGWORKS PRIOR TO ROUGH-IN.
  - 3 CONNECT TO UNSWITCHED PORTION OF LOCAL LIGHTING CIRCUIT.
  - 4 SEE TYPICAL LIGHTING CONTROL DETAILS, SHEET E701 AND E702 FOR ADDITIONAL INFORMATION.
  - 5 PROVIDE WIREMOLD EVOLUTION 6 POKE THRU FLOOR BOX WITH TWO DUPLEX OUTLET AND TWO DATA OUTLET. COORDINATE LOCATION AND INSTALLATION WITH FURNITURE LAYOUT. PRIOR TO ROUGH-IN.
  - 6 DIRECT AND INDIRECT LIGHTING TO BE CONTROLLED INDEPENDENTLY. DIRECT LIGHTING TO BE CONTROLLED VIA SWITCHES 'X' AND INDIRECT LIGHTING TO BE CONTROLLED VIA SWITCHES 'Y'.
  - 7 CURRENT LIMITING PANEL SHOWN FOR REFERENCE ONLY. COORDINATE CONNECTIONS AND LOCATION WITH BG BUILDINGWORKS.
  - 8 REPLACE EXISTING FLOORBOXES WITH NEW. RECONNECT TO EXISTING CIRCUIT.
  - 9 (1) 3/4" FOR DATA AND (1) 3/4" FOR POWER.
  - 10 REPLACE EXISTING PLUMBOLD WITH NEW. RECONNECT TO EXISTING CIRCUIT.
  - 11 ALL CLEARANCES AND WORKING DISTANCES ARE REQUIRED TO BE PROVIDED PER NEC FOR ALL NEW ELECTRICAL EQUIPMENT INCLUDING PANELBOARDS, TRANSFORMERS, DISCONNECTS, ETC.
  - 12 EM INVERTER, EMERGO LITE #1EIPS-4, SS-120-20-3-21WT OR APPROVED EQUAL. COORDINATE FINAL LOCATION WITH ARCHITECT/OWNER. COORDINATE FINAL CONNECTIONS AND REQUIREMENTS PRIOR TO ORDER.
  - 13 EXISTING LIGHTING AND SWITCHING TO REMAIN IN THIS ROOM.

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**CARNEGIE BUILDING DESIGN**  
CITY OF FORT COLLINS

200 Mathew Street  
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PROJECT #: 2118  
ISSUE DATE: 09/15/2022

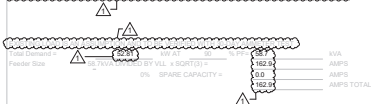
**EP102**  
GALLERY AND MEZZANINE LEVEL ELECTRICAL PLANS

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120/208		Panel		Exist 1.5A		Surface		Mountings	
3 Phase, 4 Wire		AIC		10000 @ 24KV		250A MLO		Main	
NEC 1.1		Enclosure Rating		100%		Neutral Rating		100%	
48 CIRCUIT PANEL									
Description	Load (kW)	BKRS	CKT #	PH	CKT #	BKRS	Load (kW)	Description	
Air Compressor	2011	1	A	2	10/5			West Pump Bulder Room	
Outer North Side	2011	3	B	4	7				
Outer North Side	2011	5	C	6	10/5			East Pump Bulder Room	
Ltg Meeting Room	2011	7	A	8	10/5				
Space In J-box Hallway	2011	9	B	10	7				
East Wall Outer GFI Shop	2011	11	C	12	10/5			Elevator Equipment Rm	
New Handrails Store Rm	2011	13	A	14	20/1			Elevator Stump Pump	
Ac Unit North Wall	2022	15	B	16	20/1			GFI Shop Warehouse Right	
Space In J-box Hallway	2011	17	C	18	10/5			East GFI Shop	
Baseboard Entry	2011	19	A	20	20/1			Meeting Room Outlets	
Ltg Meeting Room	2011	21	B	22	20/1			Boiler Room Lts	
Outside West Wall GFI Shop	2011	23	C	24	20/1			Boiler	
Baseboard Heat Ex GFI	2011	25	A	26	20/1			Lts In closest Meeting Rm	
Outside Buildings	2011	27	B	28	20/1			Boiler Control Panel	
Outside Buildings	2011	31	A	32	20/1			Mini Outlets and Lts	
Outside Buildings	2011	33	B	34	20/1			A/C Unit GFI Shop	
Outside Buildings	2011	35	C	36	20/1			Liberty Ltg	
Outside Buildings	2022	37	A	38	40/2				
Outside Buildings	2011	39	B	40	40/2				
Outside Buildings	2011	41	C	42	40/2				

Lighting Load	4.68	kW	AT	125	% Demand =	5.89	kW
Receptacle	7.56	kW	AT	100	% Demand =	7.56	kW
Misc	0.50	kW	AT	100	% Demand =	0.50	kW
Kitchen	2.00	kW	AT	100	% Demand =	1.40	kW



LOAD SUMMARY - SERVICE	
MAX DEMAND PER FORT COLLINS LIGHT AND POWER	168.700 kW
@ 125% PER NEC	210.88 kW
@ 80% POWER FACTOR	263.59 kVA
NEW LOAD PANEL 'A'	6.87 kVA
NEW LOAD PANEL 'L1B'	17.01 kVA
NEW LOAD PANEL 'L1D'	2.57 kVA
PANEL 'ML1'	65.70 kVA
PANEL 'ML2'	80.19 kVA
CT-1	6.32 kVA
@ 480V 3PH	144 AMPS
25% SPARE	111 AMPS
TOTAL	155 AMPS

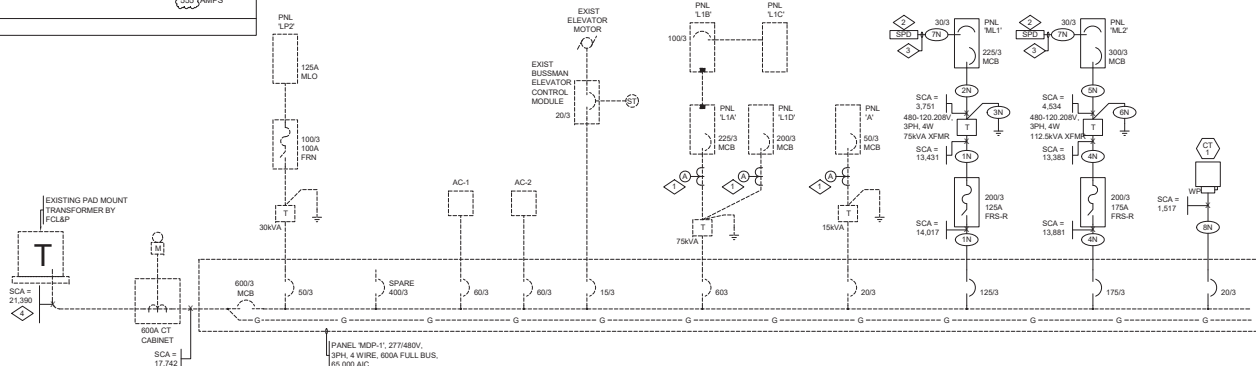
120/208		Panel		Exist 1.5A CONTINUED		Surface		Mountings	
3 Phase, 4 Wire		Voltage		AIC		10000 @ 24KV		250A MLO	
NEEMA 1		Enclosure Rating		100%		Neutral Rating		Installed Ground Bar	
				48 CIRCUIT PANEL				No	
Description	Load (kW)	BKRS	CKT #	PH	CKT #	BKRS	Load (kW)	Description	
Space	45	A	44					Space	
Space	45	B	46					Space	
Space	47	C	48					Space	

Total Demand =	0.00	kW	AT	50	% PF =	0.0	kVA
Feeder Size	0.0	kVA	DIVIDED BY VLL x SQRT(3) =	0.0			AMPS

FEEDER SCHEDULE	
KEY	DESCRIPTION
(1B)	(3 #10 THWN CU & #6 CU GRD) 2'C.
(2B)	(4 #10 THWN CU & #2 CU GRD) 3'C.
(3B)	(62 CU GRD) 3/4"C.
(4B)	(3 #10 THWN CU & #6 CU GRD) 2'C.
(5B)	(4 #350 KCMIL THWN CU & #2 CU GRD) 3 1/2"C.
(6B)	(62 CU GRD) 3/4"C.
(7B)	(4 #10 THWN CU & #10 CU GRD) 3/4"C.
(8B)	REFER TO MECHANICAL EQUIPMENT SCHEDULE, SHEET E800.

FLAG NOTES - THIS SHEET ONLY	
1	PROVIDE 30-DAY AMMETER TEST PER NEC AND SPECIFICATIONS REQUIREMENTS.
2	SPD SHALL BE SQUARE D XOSE #SSP02XDSE20A - 120208V 3PH 4W OR APPROVED EQUAL BY LEA, ASCO, OR GEAR MANUFACTURER.
3	PROVIDE THREE TWISTS PER FOOT OF CONDUCTOR LENGTH - LOCATE SPD AS CLOSE AS POSSIBLE TO OCPD. DO NOT EXCEED 18" OF CONDUCTOR LENGTH.
4	EC TO CONFIRM EXISTING XFMR V/A AND SCA SHOWN WITH UTILITY PRIOR TO SHOP DRAWINGS SUBMITTAL. NOTIFY ENGINEER OF DISCREPANCIES IMMEDIATELY.

- 30-DAY AMMETER TEST REQUIREMENTS
- ELECTRICAL CONTRACTOR SHALL HIRE A QUALIFIED THIRD PARTY TESTING AGENCY THAT SPECIALIZES IN ASSOCIATED WORK SUCH AS ERS (ELECTRICAL RELIABILITY SERVICES) TO PERFORM 30-DAY AMMETER TESTS IN ACCORDANCE WITH NEC 220.87. RECORDINGS SHALL BE STORED ELECTRONICALLY AND REPORTED TO THE ENGINEER ELECTRONICALLY IN A FORMAT COMPATIBLE WITH MICROSOFT EXCEL. ELECTRICIAN SHALL PROVIDE ENGINEER WITH THE ACTUAL MAXIMUM DEMAND VALUES (PER NEC 220.87) FOR EACH FEEDER. IN ADDITION TO THE ELECTRONIC DATA, AMMETER TESTS SHALL BE PERFORMED ON ALL THREE PHASES FOR THE FEEDERS INDICATED ON THE DRAWINGS.
  - RECORDINGS SHALL BE COORDINATED WITH OWNER TO MINIMIZE RECORDING DURING PERIODS OF WHEN THE FACILITY IS NOT OPERATING UNDER "TYPICAL" CONDITIONS.
  - RECORDINGS SHALL BE EMAILED TO ENGINEER (PROVIDE ONE "XLS" FILE PER RECORDING) AND INCLUDE A SUMMARY INDICATING ALL INFORMATION OUTLINED BELOW FOR EACH AMMETER TEST CALLED FOR ON THE DRAWINGS:
    - FEEDER EQUIPMENT FED FROM(TO):
    - SIZE AND TYPE OF OCPD'S AT EACH END OF FEEDER:
    - PHASE CONDUCTOR SIZE AND INSULATION TYPE:
    - NEUTRAL CONDUCTOR SIZE AND INSULATION TYPE:
    - GROUND SIZE AND INSULATION TYPE:
    - CONDUIT SIZE AND TYPE:
    - NUMBER OF PARALLEL RUNS:
    - DATE TIME TEST BEGAN AND ENDED:
    - MAXIMUM (PER NEC 220.87) - AMPERAGE RECORDED ON EACH PHASE:
  - METER USED SHALL BE DESIGNED SPECIFICALLY TO MAKE RECORDINGS IN ACCORDANCE WITH NEC 220.87 REQUIREMENTS.
  - FIRM PERFORMING AMMETER TEST IS RESPONSIBLE FOR INTERPRETATION OF AMMETER TEST RESULTS.



ELECTRICAL ONE-LINE  
N.T.S.  
SECONDARY VOLTAGE  
277/480V, 3PH, 4W, WYE

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**CARNEGIE BUILDING  
DESIGN**  
CITY OF FORT COLLINS  
200 Mathew Street  
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80524  
PROJECT #: 2118  
ISSUE DATE: 09/15/2022

**EP500**  
ELECTRICAL ONE-LINE  
PERMIT SET  
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10/20/20		Voltage		Panel		East JK		Surge		Mountings	
3 Phase, 4 wire				10000 @ 240V				SDA MCR		Maine	
NEMA 1		Enclosure Rating						100%		Neutral Rating	
Description		Load (kW)		No		Isolated Ground Bar					
Description		Load (kW)	BKR	CKT #	PH	CKT #	BKR	Load (kW)	Description		
Used		20/1	1	A	2	20/1		Used			
Used		20/1	3	B	4	20/1		Used			
Used		20/1	5	C	8	20/1		Used			
Used		20/1	7	B	10	20/1	0.90	SUPERFLEX RCPSTS			
HALL RCPSTS	0.90	20/1	9	B	10	20/1	0.18	SUPERFLEX RCPSTS			
NECFIXPOINT RCPSTS	0.54	20/1	11	C	12	20/1	0.90	LOWER LEVEL LTG			
STORAGE RCPSTS	0.54	20/1	13	A	14	20/1	0.90	SMALL FLEX LTG			
Main		50/3	15	B	16	20/1	1.08	SMALL FLEX RCPSTS			
-		/	17	C	18	20/1	0.18	SMALL FLEX TV			
Unstable Space		0/3	19	A	20			Space			
Unstable Space			23	C	24			Space			

Lighting Receptacle	1.49	kW	AT	125	% Demand =	1.86	kW
	4.32	kW	AT	100	% Demand =	4.32	kW

Total Demand =	<b>6.18</b>	kW	AT	90	% PF=	<b>6.9</b>	kVA
Feeder Size	6/9 kVA DIVIDED BY (VLLT + SHORTS) =			<b>19.1</b>	AMPS		
	5% AMPER CAPACITY =			<b>19.1</b>	AMPS TOTAL		

12/2/20		Voltage		Panel		Eckst L18		Mountings	
3 Phase, 4 Wire								225A MLC	
NEMA 1		Enclosure Rating						Main Neutral Rating	
								100% Ground Bar	
Description	Load (kW)	BW5	CHT	PHL	CANL	PHL	CANL	BW5	Load (kW)
<b>GALLERY RCPT</b> <b>0.72</b>	20/1	1	A	2	20/1			Heater Off Area South	
<b>GALLERY RCPT</b> <b>0.72</b>	20/1	3	B	4	20/1			Heater Off Area NW	
<b>GALLERY RCPT</b> <b>0.72</b>	20/1	5	C	6	20/1			Heater Off Area	
<b>GALLERY RCPT</b> <b>0.72</b>	20/1	7	A	8	<b>50/1</b>			<b>EM INVERTER</b>	
<b>GALLERY RCPT</b> <b>0.72</b>	20/1	9	B	10	20/1			EM OFF	
<b>GALLERY RCPT</b> <b>0.94</b>	20/1	11	C	12	20/1				
	20/1	13	A	14	20/1				
Office Lights	20/1	15	B	16	20/1				
Used	20/1	17	C	18	20/1				
Office Lights	20/1	19	A	20	20/1			Track South	
Outlets East Wall	20/1	21	B	22	20/1			Office Lights	
Chronic South Wall	20/1	23	A	24	20/1				
KITCHENETTE RCPTS	<b>0.90</b>	20/1	25	A	26	20/1		Bus Panel	
DISHWASHER	<b>1.00</b>	20/1	27	B	28	#			
REFRIGERATOR	<b>1.50</b>	<b>20/1</b>	29	A	29	20/1			
LARGE FLEX RCPTS	<b>0.90</b>	20/1	31	A	32	20/1		<b>0.90</b> GALLERY FLR RCPTS	
LARGE FLEX TV	<b>0.18</b>	20/1	33	B	34	20/1		<b>0.72</b> STORAGE BLEC RCPTS	
		20/1	35	A	36	20/1		<b>0.90</b> STORAGE PROJECTOR	
Spares	19/3	37	A	38	20/1				
		#	39	B	40	20/1		Spares	
		WB	41	C	42			Spares	
<b>Lighting</b>	<b>4.68</b> kW AT 125 % Demand = <b>5.85</b> kW								
<b>Receptacle</b>	<b>0.90</b> kW AT 100 % Demand = <b>0.90</b> kW								
<b>Misc.</b>	<b>0.90</b> kW AT 100 % Demand = <b>0.90</b> kW								
<b>Kitchen</b>	<b>2.00</b> kW AT 100 % Demand = <b>2.00</b> kW								
* = GFI BREAKER									
Total Demand =	17.24 kW DEMAND BY ALL AT 90 % = 15.52 kW								
Feeder Size:	0% WIRE CAPACITY = 17.24 kW								

120208 Voltage Panel		Estat 1,10T		Phase		Mountings	
2 Phase, 3 wire		Panel 10000 (3) 240V		200A MCB		100% Demand	
TERMA 1 Enclosure Rating				100%		Installed Demand Bar	
Description	Load (kW)	BKPL	CR1	PH	CR2	BKRL	Description
5th Row Gateway Trac Lig	2001	1	A	2	2	2001	1st Row Gateway Trac Lig
4th Row Gateway Trac Lig	2001	3	B	4	5	2001	2nd Row Gateway Trac Lig
3rd Row Gateway Trac Lig	2001	5	C	6	7	2001	3rd Row Gateway Trac Lig
2nd Row Gateway Trac Lig	2001	7	A	8	9	2001	4th Row Gateway Trac Lig
1st Row Gateway Trac Lig	2001	9	B	10	2001	5th Gateway Trac Lig	
Entry 4th Row Trac Lig	2001	11	C	12	2001	Entry 3rd Row Trac Lig	
Spares W 240v	2001	13	A	14	2001	Entry 1st Row Trac Lig	
4th Row Gateway Trac Lig	2001	15	B	16	2001	Entry 2nd Row Trac Lig	
5th Row Gateway Trac Lig	2001	17	C	18	2001	1st Row Gateway Trac Lig	
Middle 5th Trac Lig	2001	19	A	20	2001	2nd Row Gateway Trac Lig	
Middle 5th Trac Lig	2001	21	B	22	2001	3rd Row Gateway Trac Lig	
	2001	23	C	24	4002		Temp Power
LARGE FLEX LTO	1.00					02	
LARGE FLEX LTO	0.83	2001	27	B	28		Spance
STORAGE LTO	0.10	2001	29	C	30		Spance
Spance			31	C	32		Spance
Spance			33	B	34		Spance
Spance			35	C	36		Spance
Spance			37	B	38		Spance
Spance			39	B	40		Spance
Spance			41	C	42		Spance
Lighting	1.92 kW	AT	125	% PFH	2.40 kW		
Total Demand =	2.40 kW	kW	AT	125	% PFH	2.7	kVA
Feeder Size	2.7 kVA DIVIDED BY 1.80 =	1.5	kVA	0.83	% PFH	1.6	kVA
	0%	WAVE CAPACITY =	74	AMPS			
			74	AMPS			
				AMPS			

FLAG NOTES - THIS SHEET ONLY	
1	EC TO VERIFY EXISTING CIRCUITS, PRIOR TO STARTING ANY WORK. NOTIFY ENGINEER IMMEDIATELY OF DISCREPANCIES.

**au** workshop  
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**CARNEGIE BUILDING  
DESIGN**  
CITY OF FORT COLLINS

200 Mathew Street  
Fort Collins, CO  
80524

**PROJECT #:** 2118  
**ISSUE DATE:** 09/15/2022

**EP501**

PANEL SCHEDULES

**PERMIT SET**

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MECHANICAL EQUIPMENT SCHEDULE										
	DESCRIPTION	HP	KW	AMP	VOLTAGE PHASE	WIRE SIZE	CONDUIT	BREAKER	SWITCH & FUSE	REMARKS
B 1	BOILER #1	5HP		MCA = 4.5A	120V	2 #12 THWN CU & #12 CU GRD	1/2"	20/1	STO	
B 2	BOILER #2			MCA = 4.5A	120V	2 #12 THWN CU & #12 CU GRD	1/2"	20/1	STO	
CT 1	COOLING TOWER #1		7.6A	480V 3PH		4 #12 THWN CU & #12 CU GRD	3/4"	20/3	30/3 WP 20A FRN-R	
EH 1	ELECTRIC HEATER #1		9.6A	208V 1PH		3 #12 THWN CU & #12 CU GRD	3/4"	20/2	30/2 9.6A FRN-R	
ERV 1	ENERGY RECOVERY VENTILATOR #1			MCA = 24.3A MOCP = 35A	208V 1PH	3 #8 THWN CU & #10 CU GRD	1"	35/2	60/2 35A FRN-R	
ERV 2	ENERGY RECOVERY VENTILATOR #2	1/2		MCA = 7.7A MOCP = 15A	208V 1PH	3 #12 THWN CU & #12 CU GRD	3/4"	15/2	30/2 15A FRN-R	
GD 1	GARBAGE DISPOSAL #1		9.8A	120V		2 #12 THWN CU & #12 CU GRD	1/2"	20/1	RCPT	
P 1	PUMP #1		625W	120V		2 #12 THWN CU & #12 CU GRD	1/2"	20/1	RCPT	
P 2	PUMP #2		625W	120V		2 #12 THWN CU & #12 CU GRD	1/2"	20/1	RCPT	
P 3	PUMP #3		5	17.5A	208V 3PH	4 #8 THWN CU & #10 CU GRD	1 1/4"	35/3	60/3 35A FRN-R	
P 4	PUMP #3	5	17.5A	208V 3PH	4 #8 THWN CU & #10 CU GRD	1 1/4"	35/3	60/3 35A FRN-R		
P 5	PUMP #5	1.5	11A	208V 1PH	3 #12 THWN CU & #12 CU GRD	3/4"	20/2	30/2 20A FRN-R		
PP 1	WATER HEATER PUMP #1	1/8	4.4A	120V	2 #12 THWN CU & #12 CU GRD	1/2"	20/1	STO		
PWH 1	POTABLE WATER HEATER #1	8kW		208V 1PH	3 #8 THWN CU & #10 CU GRD	1"	40/2	60/2 40A FRN-R		
PWH 2	POTABLE WATER HEATER #2		25A	208V 1PH	3 #8 THWN CU & #10 CU GRD	1"	40/2	60/2 40A FRN-R		
WSHP 1	WATER SOURCE HEAT PUMP #1			MCA = 9.3A MOCP = 15A	208V 1PH	3 #12 THWN CU & #12 CU GRD	3/4"	15/2	30/2 15A FRN-R	
WSHP 2	WATER SOURCE HEAT PUMP #2			MCA = 44A MOCP = 70A	208V 1PH	3 #4 THWN CU & #8 CU GRD	1 1/4"	70/2	100/2 70A FRN-R	
WSHP 3	WATER SOURCE HEAT PUMP #3			MCA = 33.4A MOCP = 50A	208V 1PH	3 #6 THWN CU & #10 CU GRD	1 1/4"	50/2	60/2 50A FRN-R	
WSHP 4	WATER SOURCE HEAT PUMP #4			MCA = 18.5A MOCP = 30A	208V 1PH	3 #10 THWN CU & #10 CU GRD	3/4"	30/2	30/2 30A FRN-R	
WSHP 5	WATER SOURCE HEAT PUMP #5			MCA = 44A MOCP = 70A	208V 1PH	3 #4 THWN CU & #8 CU GRD	1 1/4"	70/2	100/2 70A FRN-R	
WSHP 6	WATER SOURCE HEAT PUMP #6			MCA = 44A MOCP = 70A	208V 1PH	3 #4 THWN CU & #8 CU GRD	1 1/4"	70/2	100/2 70A FRN-R	
WSHP 7	WATER SOURCE HEAT PUMP #7			MCA = 44A MOCP = 70A	208V 1PH	3 #4 THWN CU & #8 CU GRD	1 1/4"	70/2	100/2 70A FRN-R	
WSHP 8	WATER SOURCE HEAT PUMP #8			MCA = 44A MOCP = 70A	208V 1PH	3 #4 THWN CU & #8 CU GRD	1 1/4"	70/2	100/2 70A FRN-R	
WSHP 9	WATER SOURCE HEAT PUMP #9			MCA = 44A MOCP = 70A	208V 1PH	3 #4 THWN CU & #8 CU GRD	1 1/4"	70/2	100/2 70A FRN-R	
WSHP 10	WATER SOURCE HEAT PUMP #10			MCA = 33.4A MOCP = 50A	208V 1PH	3 #6 THWN CU & #10 CU GRD	1 1/4"	50/2	60/2 50A FRN-R	
NOTES										

LIGHTING FIXTURE SCHEDULE										
TYPE	LAMPS	DESCRIPTION	FINISH	MOUNTING	MANUFACT.	CATALOG #	VOLT.	NOTES		
A	55.2W/4FT 3000K 750 LUMENS/FT	DIRECT/INDIRECT PENDANT WITH LAMERTIAN OPTIC. DIRECT/INDIRECT LIGHTING TO BE CONTROLLED INDEPENDENTLY.	CASA	PENDANT	LUX ILLUMINAIRE	EOS 3.0-P-DH-LAM-750-LAM-750-35K- 8-2-UNV-S1-W-42-WF	MVOLT	2.8		
B	LED-20W 3000K 960 LUMENS	36" NANO VANITY LIGHT WITH FROSTED ACRYLIC DIFFUSER.	CASA	WALL MOUNTED ABOVE	BLACKJACK LIGHTING	NAN-36V-CASA-127-30K-SO-DB	MVOLT	6		
C	LED-44W 3000K 4482 LUMENS	2' X 2' RECESSED TROFFER WITH 0-10V DIMMING DRIVER.	WHITE	RECESSED	CREE LIGHTING	ZR22-30L-835-10V5-UNV	MVOLT	1.8		
D	LED-20W 3000K 2000 LUMENS	6" DOWNLIGHT WITH 0-10V DIMMING. DAMP LISTED	CASA	RECESSED	SPECTRUM LIGHTING	SPIES-20L-35K-D1 TRIM-ARGES-CASA-MF	MVOLT	6		
S	LED-31W 3000K 4000 LUMENS	4" LED STRIPLIGHT WITH FULL FROSTED LENS. WIDE LIGHT DISTRIBUTION. DAMP LISTED.	BWE	SURFACE	CREE LIGHTING	LS4-40L-835-R-UL-10V	MVOLT	6		
⊗	LED	UNIVERSAL EXIT FIXTURE WITH GREEN LETTERS. UNIVERSAL MOUNTING. ADVANCED DIAGNOSTICS.	WHITE	AS REQUIRED	EMERG-LITE	PN-G-6-AD	MVOLT	3.4,5,6		
↗	LED	RECESSED LED EMERGENCY LIGHT WITH NICKEL-CAD BATTERY. ADVANCED DIAGNOSTICS	WHITE	WALL MOUNTED	EMERG-LITE	MRTN40-2(L)-ADNA-DL	MVOLT	3.5,6		
CC	LED-5.9W/FT 3000K 680 LUMENS/FT	ICON SURFACE EXTRUSION WITH LED TAPELIGHT. WET LISTED LENGTHS AND MOUNTING TO BE VERIFIED PRIOR TO ORDER.	CASA	RECESSED	LLI LIGHTING	LLI-KCN-S-F-T-5.9W-65-30K-24V-XXX POWER FEED: PWR-48-EP POWER SUPPLY: LLI-PS-LIDEFF-080W- 24V-KO	MVOLT	5,6,7		
NOTES: 1. EC TO CONFIRM EXISTING TROFFER SHIELDING PRIOR TO ORDER. 2. EC TO VERIFY PENDANT MOUNTING TYPE AND LENGTHS PRIOR TO ORDER. 3. CONNECT VIA UNSWITCHED LEG OF LOCAL LIGHTING CIRCUIT FOR EM OPERATIONS. 4. PROVIDE CHEVRON AS INDICATED OR REQUIRED. 5. PROVIDE MOUNTING HARDWARE AS REQUIRED TO FIT APPLICATION, NOT NECESSARILY SHOWN. CONFIRM MOUNTING WITH ARCH PRIOR TO ROUGH-IN. 6. COORDINATE WITH ARCHITECT FOR ALL LIGHTING FIXTURES TO BE ORDERED. 7. EC TO CONFIRM FIXTURE LENGTHS PRIOR TO ORDER. COORDINATE WITH ARCHITECT OWNER.										




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CARNEGIE BUILDING  
DESIGN

CITY OF FORT COLLINS

200 Mathew Street  
Fort Collins, CO  
80524

PROJECT #: 2118  
ISSUE DATE: 09/15/2022



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& ASSOCIATES, LLC  
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EP600

ELECTRICAL SCHEDULES

PERMIT SET  
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## COMcheck Software Version COMcheckWeb Interior Lighting Compliance Certificate

### Project Information

Energy Code: 2021 IECC  
Project Title: CoFC Carnegie Building  
Project Type: Alteration

Construction Site:  
200 Matthews Street  
Fort Collins, Colorado 80524

Owner/Agent:  
Jason Kinsley  
AJ Workshop  
401 Linden St, Suite 221  
Fort Collins, Colorado 80524  
970-430-5220  
jksnley@ajworkshop.co

Designer/Contractor:  
Waylon Calk  
A.J. McHutt & Associates, LLC  
401 Linden St, Suite 221  
Fort Collins, Colorado 80524  
970-430-5220  
waylon@ajmchutt.com

### Allowed Interior Lighting Power

Area Category	B Floor Area (sq ft)	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts
1 Common Space Types: Restrooms	290	0.63	183
2 Common Space Types: Conference/Meeting/Multipurpose	3423	0.87	3320
3 Common Space Types: Corridor/Transition <8 ft wide	778	0.71	552
4 Common Space Types: Storage	462	0.38	176
Total Allowed Watts =			4231

### Proposed Interior Lighting Power

Fixture ID / Description / Lamp / Wattage Per Lamp / Ballast	A Lamps/ Fixture	B # of Fixture Watt.	C X	D Y	E (C X D)
Common Space Types: Restrooms (290 sq ft.) LED, 8" 36" NANO VANITY LIGHT, 20W, Other: LED, 6" 6" DOWNLIGHT, 20W, Other:	1	2	20	40	
Common Space Types: Conference/Meeting/Multipurpose (3423 sq ft.) LED, DIRECT/INDIRECT PENDANT, 55.2W, Other:	1	42	55	2318	
Common Space Types: Corridor/Transition <8 ft wide (778 sq ft.) LED, C-722 RECESSED TRACKER, 44W, Other:	1	16	44	704	
Common Space Types: Storage (462 sq ft.) LED, 6" 4" STRIP LIGHT, 31W, Other:	1	10	31	310	
Total Proposed Watts =					3512

### Interior Lighting PASS/FAIL

#### Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Project Title: CoFC Carnegie Building  
Data Filename: Report date: 10/31/22  
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James Rupp - Electrical Designer  
Name - Title Signature Date 10/31/2022

Project Title: CoFC Carnegie Building  
Data Filename: Report date: 10/31/22  
Page 2 of 7



## COMcheck Software Version COMcheckWeb Exterior Lighting Compliance Certificate

### Project Information

Energy Code: 2021 IECC  
Project Title: CoFC Carnegie Building  
Project Type: Alteration  
Exterior Lighting Zone: 2 (Residential mixed use area (L2))

Construction Site:  
200 Matthews Street  
Fort Collins, Colorado 80524

Owner/Agent:  
Jason Kinsley  
AJ Workshop  
401 Linden St, Suite 221  
Fort Collins, Colorado 80524  
970-430-5220  
jksnley@ajworkshop.co

Designer/Contractor:  
Waylon Calk  
A.J. McHutt & Associates, LLC  
401 Linden St, Suite 221  
Fort Collins, Colorado 80524  
970-430-5220  
waylon@ajmchutt.com

### Allowed Exterior Lighting Power

Area Category	B Quantity	C Allowed Watts / ft <sup>2</sup>	D Tradeable Wattage	E Allowed Watts (B X C)
Entry canopy	100 ft <sup>2</sup>	0.25	Yes	25
Total Allowed Watts =				25
Total Allowed Supplemental Watts (b) =				400

(a) Wattage tradeoffs are only allowed between tradeable area/surfaces.  
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradeable and tradeable area/surfaces.

### Proposed Exterior Lighting Power

Fixture ID / Description / Lamp / Wattage Per Lamp / Ballast	A Lamps/ Fixture	B # of Fixture Watt.	C X	D Y	E (C X D)
Entry canopy (100 ft <sup>2</sup> ) Tradeable Wattage LED, C-722 RECESSED TRACKER, 20W, Other:	1	20	60	120	
Total Proposed Watts =					120

### Exterior Lighting PASS/FAIL

#### Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

James Rupp - Electrical Designer  
Name - Title Signature Date 10/31/2022

Project Title: CoFC Carnegie Building  
Data Filename: Report date: 10/31/22  
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## COMcheck Software Version COMcheckWeb Inspection Checklist

Energy Code: 2021 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req ID	Plan Review	Complies?	Comments/Assumptions
C103.2 (PR47)	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment, and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C103.2 (PR47)	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment, and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

### Additional Comments/Assumptions:

Project Title: CoFC Carnegie Building  
Data Filename: Report date: 10/31/22  
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Section # & Req ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3 (EL227)	Spaces required to have light reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform full illumination pattern >= 50 percent.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.1 (EL187)	Occupancy sensors installed in classrooms, lecture halls, meeting rooms, computer labs, open plan office areas, restrooms, storage rooms, locker rooms, corridors, warehouse storage areas, and other spaces <= 300 sq ft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.1 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.1 (EL187)	Occupancy sensors control function in warehouses. In warehouses, the lighting in aisles and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more within 20 minutes of when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor. Lights not tested or if occupant sensors is done so by time-lapse.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.1 (EL207)	Occupant sensor control function in open plan office areas. Occupant sensor controls in open office spaces >= 300 sq ft have controls 1) configured so that general lighting can be controlled separately in core zones with floor areas <= 600 sq ft within the space; 2) general lighting in each zone permitted to turn on upon occupancy in control zone; 3) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space; 4) is configured so that general lighting power in each control zone is reduced by >= 40% of the full general lighting power within 20 minutes of all occupants leaving that space.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.2 (EL217)	Each area not served by occupancy sensors shall have time switch controls and functions detailed in sections C405.2.2.1.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)  
Project Title: CoFC Carnegie Building  
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Section # & Req ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.4 (EL207)	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.4.1 for responsive controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.3 (EL227)	Daylight-responsive controls for responsive control function and section C405.2.3.2.1.1.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.3 (EL227)	Automatic lighting control for exterior lighting installed. Controls will be daylight controlled, not based on business operation time-of-day, or reduce connected lighting > 30%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.7 (EL269)	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.8 (EL277)	Electric motors meet the minimum efficiency requirements of Tables C405.11 through C405.14. (Efficiency verified through certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).)	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.9.1 (EL287)	Elevators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.10 (EL297)	Total voltage drop across the combination of feeders and branch circuits <= 5%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.1.1 (EL307)	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/w or luminaires with efficacy >= 45 lm/w or comply with C405.2.4 or C405.3.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.11.1 (EL317)	50% of 1500 amp receptacles related in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have permanent receptacle only in accordance with C405.11.1.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

### Additional Comments/Assumptions:

Project Title: CoFC Carnegie Building  
Data Filename: Report date: 10/31/22  
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Section # & Req ID	Final Inspection	Complies?	Comments/Assumptions
C103.3 (C405.2.3 (P17))	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.1.1 (P197)	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Exterior Lighting fixture schedule for values.
C408.1.1 (P197)	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturer's information, specifications, programming procedures and means of flushing out over time building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.3 (P161)	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.3 (P197)	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

### Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)  
Project Title: CoFC Carnegie Building  
Data Filename: Report date: 10/31/22  
Page 7 of 7



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## CARNEGIE BUILDING DESIGN

CITY OF FORT COLLINS

200 MATTHEWS STREET  
FORT COLLINS, CO  
80524

PROJECT #: 2118

ISSUE DATE: 09/15/2022

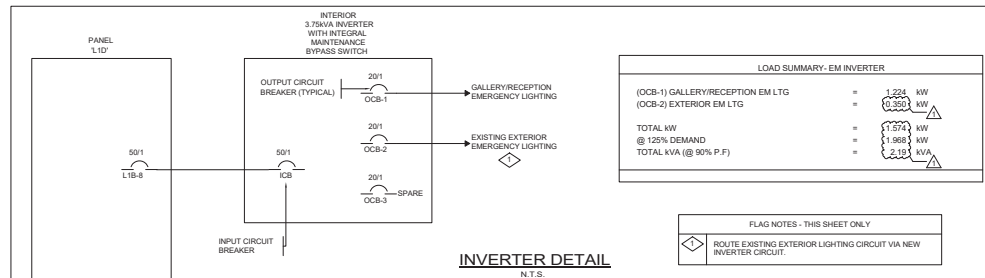
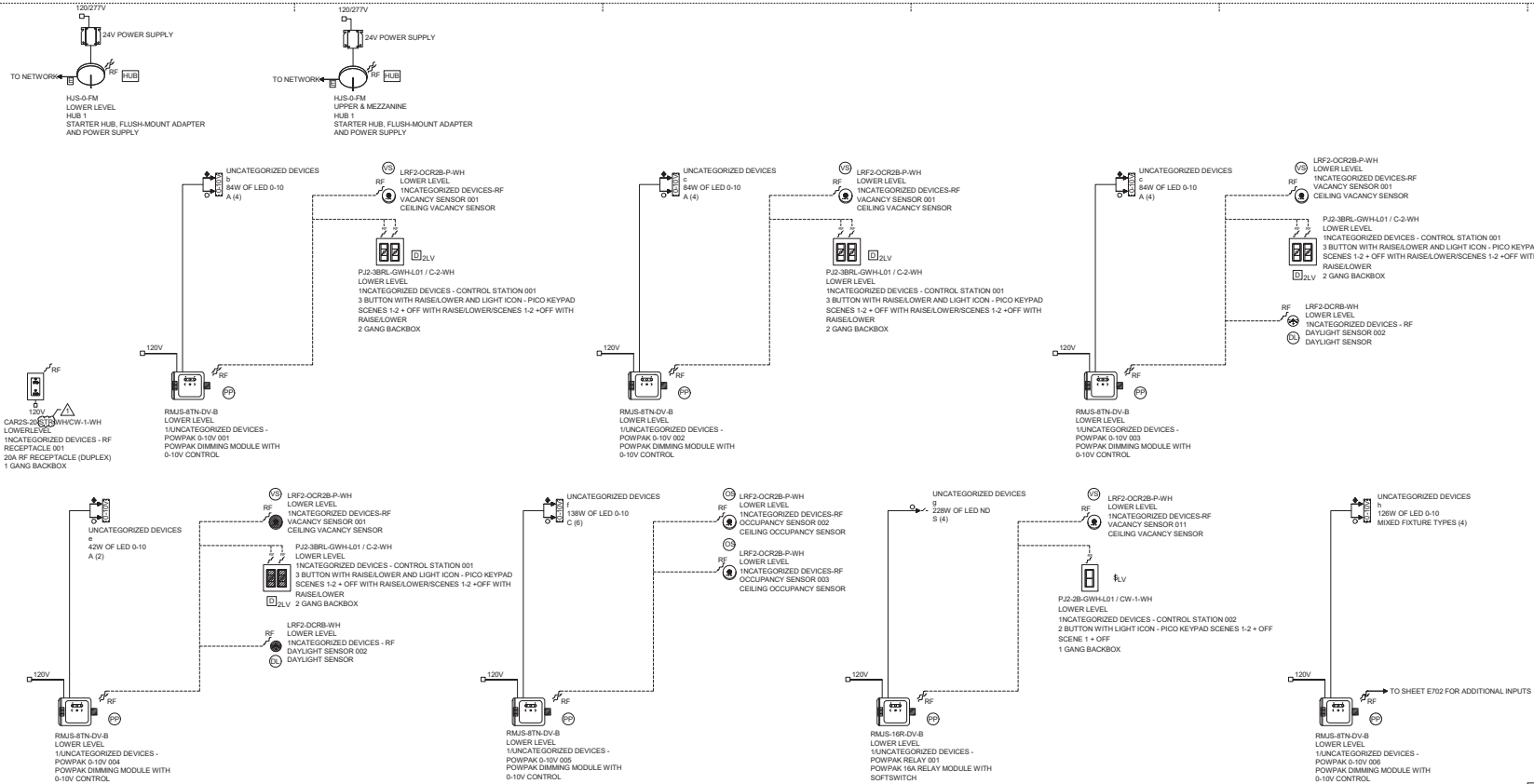
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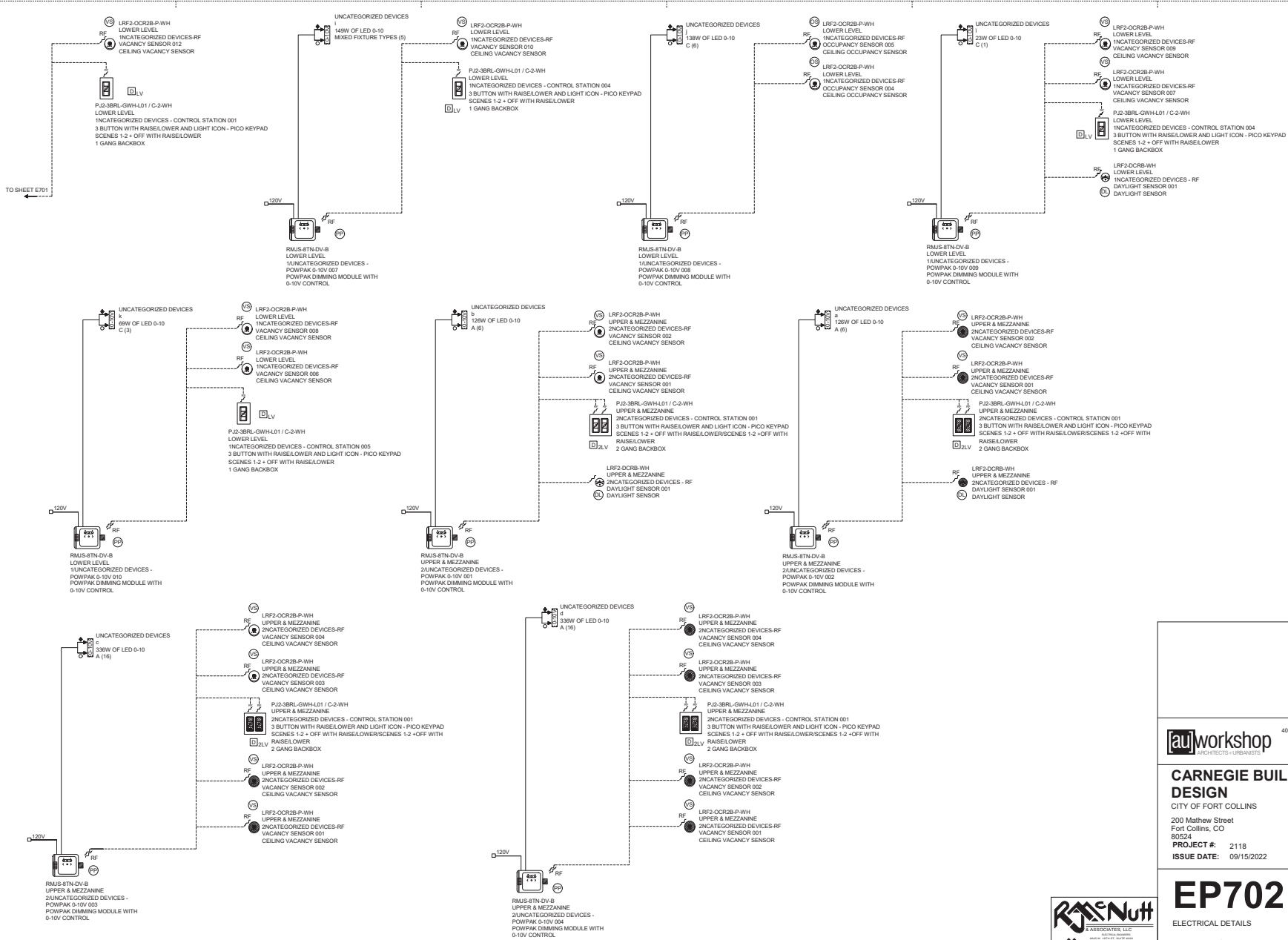
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ELECTRICAL DETAILS

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**CARNEGIE BUILDING DESIGN**  
CITY OF FORT COLLINS

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PROJECT #: 2118  
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**EP702**  
ELECTRICAL DETAILS

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ARCHITECTS





LIGHTING FIXTURE SYMBOLS	
	RECESSED FIXTURE
	RECESSED WALL WASHER
	RECESSED ADJUSTABLE ACCENT
	RECESSED INGRADE UPLIGHT
	SURFACE MOUNTED LINEAR TROFFER
	RECESSED LINEAR TROFFER
	RECESSED LINEAR WALL WASHER
	RECESSED INGRADE LINEAR UPLIGHT
	RECESSED INGRADE LINEAR WALL WASHER
	LINEAR PENDANT MOUNTED LIGHT
	STRIP LIGHT
	SURFACE MOUNTED LED PANEL
	SURFACE MOUNTED LIGHT
	PENDANT MOUNTED LIGHT
	WALL MOUNTED LIGHT
	WALL MOUNTED DECORATIVE SCONCE
	WALL MOUNTED ADJUSTABLE LIGHT
	WALL MOUNTED UPLIGHT
	WALL MOUNTED READING LIGHT
	WALL MOUNTED SWING ARM LIGHT
	WALL MOUNTED LINEAR LIGHT
	ILLUMINATED MIRROR
	ADJUSTABLE MULTI-THREAD LIGHT
	CEILING/PENDANT MOUNTED TRACK WITH ADJUSTABLE TRACK HEAD
	LINEAR TAPE LIGHT OR COVE LIGHT
	LINEAR CLOSET ROD FIXTURE
	LINEAR LIGHTING (VERTICAL)
	RECESSED STEP LIGHT
	MONO-POINT LIGHTING FIXTURE
	MONO-POINT STAKE MOUNT ACCENT
	TABLE LAMP
	FLOOR LAMP
	CEILING MOUNTED EXIT SIGN W/ FACES & ARROWS AS SHOWN
	WALL MOUNTED EXIT SIGN W/ FACES & ARROWS AS SHOWN
	WALL MOUNTED COMBO EXIT SIGN / EGRESS LIGHT
	EMERGENCY LIGHTS
	EXTERIOR POLE MOUNTED LIGHT
	EXTERIOR POST (BOLLARD) MOUNTED LIGHT
	CEILING FAN WITH LIGHT
	FIXTURE WITH EMERGENCY BACKUP OR ON EM CIRCUIT
LIGHTING CONTROL SYMBOLS	
	LINE VOLTAGE WALL MOUNTED SWITCH
	THREE-WAY SWITCH
	FOUR-WAY SWITCH
	DOOR JAMB SWITCH
	KEY SWITCH
	OWNER SWITCH
	WALL MOUNTED DEVICE
	WIRELESS WALL MOUNTED DEVICE
	ROOM CONTROLLER
	PLUG LOAD CONTROLLER
	OCCUPANCY/VACANCY PROGRAMMED SENSOR - CEILING MOUNTED
	WIRELESS OCCUPANCY/VACANCY PROGRAMMED SENSOR
	OCCUPANCY/VACANCY PROGRAMMED SENSOR - CORNER MOUNTED
	WIRELESS OCCUPANCY/VACANCY PROGRAMMED SENSOR - CORNER MOUNTED
	DAYLIGHT PHOTO SENSOR
	WIRELESS DAYLIGHT PHOTO SENSOR
LIGHTING DRAWING SYMBOLS	
	ALIGNMENT LINE
	CENTER LINE DESIGNATION
	DAYLIGHT ZONE
NOTE: SEE CONTROLS SCHEDULE FOR FURTHER SPECIFICATION INFORMATION	

ELECTRICAL SYSTEMS LEGEND	
POWER SYMBOLS	
	SINGLE RECEPTACLE - WALL MOUNTED
	DUPLEX RECEPTACLE - WALL MOUNTED
	DUPLEX RECEPTACLE WITH USB PORTS - WALL MOUNTED
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER - WALL MOUNTED
	QUADPLEX RECEPTACLE - WALL MOUNTED
	DUPLEX RECEPTACLE - GFCI - WALL MOUNTED
	DUPLEX RECEPTACLE - HALF SWITCHED - WALL MOUNTED
	DUPLEX RECEPTACLE - ISOLATED GROUND - WALL MOUNTED
	DUPLEX RECEPTACLE - HALF DIMMED - WALL MOUNTED
	DUPLEX RECEPTACLE - FULL DIMMED - WALL MOUNTED
	SPECIAL OUTLET AS NOTED - WALL MOUNTED
	DUPLEX RECEPTACLE - CEILING MOUNTED, TYP. ALL TYPES
	DUPLEX RECEPTACLE - FLUSH FLOOR MOUNTED, TYP. ALL TYPES
	FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE AND TELECOM
	JUNCTION BOX - WALL MOUNTED
	JUNCTION BOX - FLUSH FLOOR MOUNTED
	JUNCTION BOX - CEILING MOUNTED
	MULTI-OUTLET PLUG STRIP
	POWER/TELECOM POLE
	MECHANICAL EQUIPMENT POWER CONNECTION
	KITCHEN EQUIPMENT POWER CONNECTION
	POOL EQUIPMENT POWER CONNECTION
	TIMER SWITCH
	FUSED DISCONNECT
	NON FUSED DISCONNECT
	MOTOR STARTER
	ENCLOSED CIRCUIT BREAKER
	PULL BOX
	PUSH BUTTON
	TIME CLOCK
	PHOTO-CELL
	TRANSFORMER
	PANELBOARD OR LOAD CENTER
	CONTACTOR
	ELECTRIC MOTOR
	METER
	THERMOSTAT
	AUTOMATIC TRANSFER SWITCH
	CIRCUIT HOME RUN
	CONDUIT RUN
	CONDUIT RUN BELOW GRADE
	CONDUIT UP
	CONDUIT DOWN
	SWITCH
	THERMAL OVERLOAD SWITCH
	VARIABLE SPEED SWITCH
	KEY SWITCH
ONE-LINE DIAGRAM SYMBOLS	
	DISCONNECT SWITCH
	FUSE
	CIRCUIT BREAKER
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	METER
	VOLT-METER
	SURGE PROTECTION DEVICE
	SELECTOR SWITCH
	GROUND FAULT PROTECTION
	SHUNT TRIP
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	GROUND
	COLD WATER GROUND CONNECTION
	BUILDING STEEL GROUND CONNECTION
	TRANSFORMER
	DISCONNECT
	AUTOMATIC TRANSFER SWITCH

ABBREVIATIONS	
AFD	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AL	ALUMINUM
AP	ACCESS POINT
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CATV	COMMUNITY (CABLE) ANTENNA TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CRCT	CIRCUIT
CPU	CENTRAL PROCESSING UNIT
CT	CURRENT TRANSFORMER
DSP	GARBAGE DISPOSAL
DW	DISHWASHER
EX	EXISTING
EM	EMERGENCY
EWIC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FED	FURNISHED BY OTHERS
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GRD	GROUND
IAW	IN ACCORDANCE WITH
IC	INTERMEDIATE CROSS-CONNECT
IF	INTERMEDIATE DISTRIBUTION FRAME
IS	ISOLATED GROUND
IR	INFRARED
LAN	LOCAL AREA NETWORK
MDP	MAIN DISTRIBUTION FRAME
(N)	NEW
NC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
PA	PUBLIC ADDRESS
REF	REFRIGERATOR
SDP	SURGE PROTECTION DEVICE
T	TAMPER RESISTANT
TTB	TELECOMMUNICATIONS TERMINAL BOARD
TVTB	TELEVISION TERMINAL BOARD
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VOLT
W	WATT
WAN	WIDE AREA NETWORK
WAP	WIRELESS ACCESS POINT
WAN	WIRELESS LOCAL AREA NETWORK
WP	WEATHERPROOF
XP	EXPLOSIONPROOF
*1P	MOUNTING HEIGHT TO CENTERLINE OF DEVICE ABOVE FINISH FLOOR (VERIFY IF ARCH ELEVATIONS)
NOTES	
- LIGHT LINEWEIGHT INDICATES EXISTING.	
- HATCHED AREAS INDICATE DEMOLITION.	
- 'C' ADJACENT TO A DEVICE INDICATES MOUNTING ABOVE COUNTERTOP.	

ELECTRICAL SHEET INDEX	
ISSUE LOG	
#	TITLE
EL000	ELECTRICAL COVER SHEET
EL001	LIGHTING SCHEDULES
EL101	LOWER LEVEL LIGHTING PLAN
EL102	GALLERY LEVEL LIGHTING PLAN
EL400	ELECTRICAL DIAGRAMS
ISSUE LOG KEY:	
1	ISSUED AS PART OF SET
2	NOT PART OF SET
3	ISSUED FOR INFORMATION ONLY

- GENERAL NOTES:**
- THESE DRAWINGS ACCOMPANY THE PUBLISHED CONSTRUCTION DOCUMENT SPECIFICATION BOOK (PROJECT MANUAL).
  - DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS ON ARCHITECTURAL DRAWINGS AND IN FIELD PRIOR TO COMMENCEMENT OF WORK.
  - VISIT SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED. CONTRACTOR SHALL INCLUDE IN HIS BID COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS.
  - SYSTEM OUTAGES SHALL BE PERMITTED ONLY AT TIMES APPROVED BY OWNER - IN WRITING. WORK WHICH COULD RESULT IN AN ACCIDENTAL OUTAGE (BEYOND BRANCH CIRCUITS) SHALL BE PERFORMED WITH THE OWNER'S MAINTENANCE PERSONNEL ADVISED OF SUCH WORK.
  - SERVICE SHALL BE MAINTAINED TO EXISTING AREAS DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE PORTABLE GENERATORS, CABLES OUTLETS, ETC. AS REQUIRED TO MAINTAIN CONTINUITY OF SERVICE. PLACEMENT OF SUCH PORTABLE EQUIPMENT SHALL BE SUBJECT TO OWNER APPROVAL.
  - REVIEW ARCHITECTURAL, MECHANICAL AND OTHER DRAWINGS PRIOR TO BID.
  - WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT.
  - WORK, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE, AND NATIONAL CODES AND ORDINANCES.
  - PROVIDE PERMITS AND INSPECTIONS REQUIRED.
  - PROVIDE 1/4" SCALE LAYOUT DRAWINGS OF ROOMS WITH ELECTRICAL SWITCHBOARDS AND TRANSFORMERS WITH SHOP DRAWING SUBMITTAL. LAYOUTS SHALL SHOW LOCATIONS OF, AND SHALL BE COORDINATED WITH MECHANICAL EQUIPMENT. ALL EQUIPMENT SHALL BE DRAWN TO SCALE.
  - CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT, OR INSTALLATION METHODS.
  - VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMER PADS, BANGOUTING AND PATIOING, CONCRETE PAVING, ETC. REQUIRED. BACKFILL TRENCHES TO 10% PERCENT FOR REMOVAL AND PATIOING TO 10% PERCENT. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS. ELECTRICAL CONTRACTOR IS TO SUBMIT A COMPLETE CONSTRUCTION DRAWING SET TO THE ELECTRICAL UTILITY COMPANY WITHIN 15 DAYS OF AWARD OF CONTRACT. COORDINATE TIMING OF THEIR REVIEW. APPROVAL. CONTRACTOR SHALL SCHEDULE AND INSTALLATION OF THE UTILITY TRANSFORMER WITH THE UTILITY COMPANY. NOTIFY OWNER OF ANY SCHEDULING CONFLICTS.
  - EXISTING SYSTEMS AND CONDITIONS SHOWN ON DRAWINGS FOR EXISTING BUILDINGS ARE TO BE NOTED "FOR GUIDANCE ONLY". THE ELECTRICAL CONTRACTOR TO FIELD CHECK ALL EXISTING CONDITIONS PRIOR TO BIDDING AND TO INCLUDE IN HIS BID AN ALLOWANCE FOR REMOVAL AND/OR RELOCATION OF EXISTING CONDUITS, WIRES, DEVICES, FIXTURES, OR OTHER EQUIPMENT AS INDICATED ON THE PLANS OR AS REQUIRED TO COORDINATE AND ADAPT NEW AND EXISTING ELECTRICAL SYSTEM TO ALL OTHER WORK AS REQUIRED.
  - PROVIDE ELECTRICAL DEMOLITION REQUIRED. REFER TO ARCHITECTURAL AND ELECTRICAL DEMOLITION DRAWINGS FOR LOCATION AND EXTENT OF DEMOLITION REQUIRED. CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO DETERMINE EXTENT OF WORK INVOLVED.
  - PROVIDE ALL NECESSARY DEMOLITION TO REMOVE EXISTING UNUSED CONDUIT, WIRE, CABLE, J-BOXES, RECEPTACLES, SWITCHES, LIGHTS, FIRE ALARM DEVICES, ETC. COMPLETE WITH ASSOCIATED CIRCUITING TO SOURCE. WHERE IT IS NOT FEASIBLE TO REMOVE THE ABOVE, OUTLET SHALL BE ABANDONED, WIRE REMOVED, AND BLANK COVER PLATES PROVIDED.
  - ALL (E) EQUIPMENT, LAMPS, BALLASTS, ETC. BEING REMOVED SHALL BE DISCARDED IN ACCORDANCE WITH APPLICABLE EPA REQUIREMENTS.
  - EXISTING LIGHT FIXTURES, ELECTRICAL EQUIPMENT, ETC. BEING REMOVED SHALL BE RETURNED TO THE OWNER, EXCEPT FOR THOSE ITEMS BEING RELOCATED.
  - VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
  - INSTALL ALL MATERIAL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ANY DEVIATIONS SHALL BE BROUGHT TO THE ARCHITECT/ENGINEER'S ATTENTION PRIOR TO INSTALLATION.
  - FINAL CONNECTIONS TO EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION, OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
  - ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE LISTED OR LABELED BY U/L OR OTHER RECOGNIZED TESTING FACILITY.
  - WIRING DEVICES SHALL BE SPECIFICATION GRADE AND RATED AT 20 AMPERES FOR LIGHT SWITCHES, AND 20 AMPERES FOR DUPLEX RECEPTACLES. THE COLOR OF THE DEVICES AND COVER PLATES SHALL BE AS DIRECTED BY ARCHITECT.
  - ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS. EXIST FITTINGS SHALL BE MALLEABLE IRON OR STEEL. CONNECTORS SHALL BE INSULATED THROAT TYPE. MINIMUM CONDUIT SIZE IS 3/4". FOLLOW NEC FOR MAXIMUM NUMBER OF CONDUCTORS PER CONDUIT. CONDUIT SHALL BE OF SUFFICIENT SIZE AND CONDUCTOR QUANTITY SHALL BE LIMITED TO ELIMINATE THE NEED TO DE-RATE CONDUCTORS. METAL CLAD CABLE IS NOT PERMITTED.
  - ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A 20LB NYLON PULL STRING OR EQUAL, AND SHALL BE IDENTIFIED AT ALL JUNCTION, PULL AND TERMINATION POINTS, USING PERMANENT METALLIC TAGS. TAG SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATOR, AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT.
  - WIRE SHALL BE COPPER, IN DEGREE CELSIUS RATED FOR GENERAL USE. WIRING WITHIN 18 INCHES OF FLUORESCENT BALLASTS WIRE SHALL BE COPPER, MINIMUM 90 DEGREE CELSIUS RATED. SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30 DEGREE CELSIUS AMBIENT. CONDUCTOR AMPACITY SHALL BE DETERMINED FOR HIGHER AMBIENT INSTALLATIONS.
  - PROVIDE NEW UPDATED PANELBOARD DIRECTORIES FOR EXISTING AND NEW CIRCUITS BEING UTILIZED FOR COMPLETION OF PROJECT.
  - PANEL DIRECTORIES SHALL BE REMOVABLE. ROOM NAMES AND NUMBERS SHALL BE AS DIRECTED BY OWNER. DIRECTORIES SHALL BE TYPED AND INSTALLED UNDER CLEAR PLASTIC COVERS.
  - FINAL CONNECTIONS TO MOTORS, TRANSFORMERS, AND OTHER VIBRATING EQUIPMENT SHALL BE SEAL TIE FLEX AND APPROVED FITTINGS. DON'T SECURE CONDUITS, DISCONNECTS, OR DEVICES TO STRUCTURAL OR MECHANICAL EQUIPMENT.
  - FIRE ALARM, SOUND, TELEPHONE, COMPUTER AND SIMILAR SYSTEMS CONDUITS LARGER THAN 1" SHALL HAVE LONG RADIAL SWEEPS (10 TIMES THE DIAMETER).
  - SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
  - GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
  - SYSTEMS SHALL BE COMPLETE, OPERABLE, AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC. SHALL BE CONNECTED AND OPERABLE.



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**CARNEGIE BUILDING  
DESIGN**

CITY OF FORT COLLINS

200 Madison Street  
Fort Collins, CO 80524

PROJECT #: 21#6  
ISSUE DATE: 09/16/22

**EL000**

ELECTRICAL COVER SHEET

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**CARNEGIE BUILDING  
DESIGN**

CITY OF FORT COLLINS  
200 Mathew Street  
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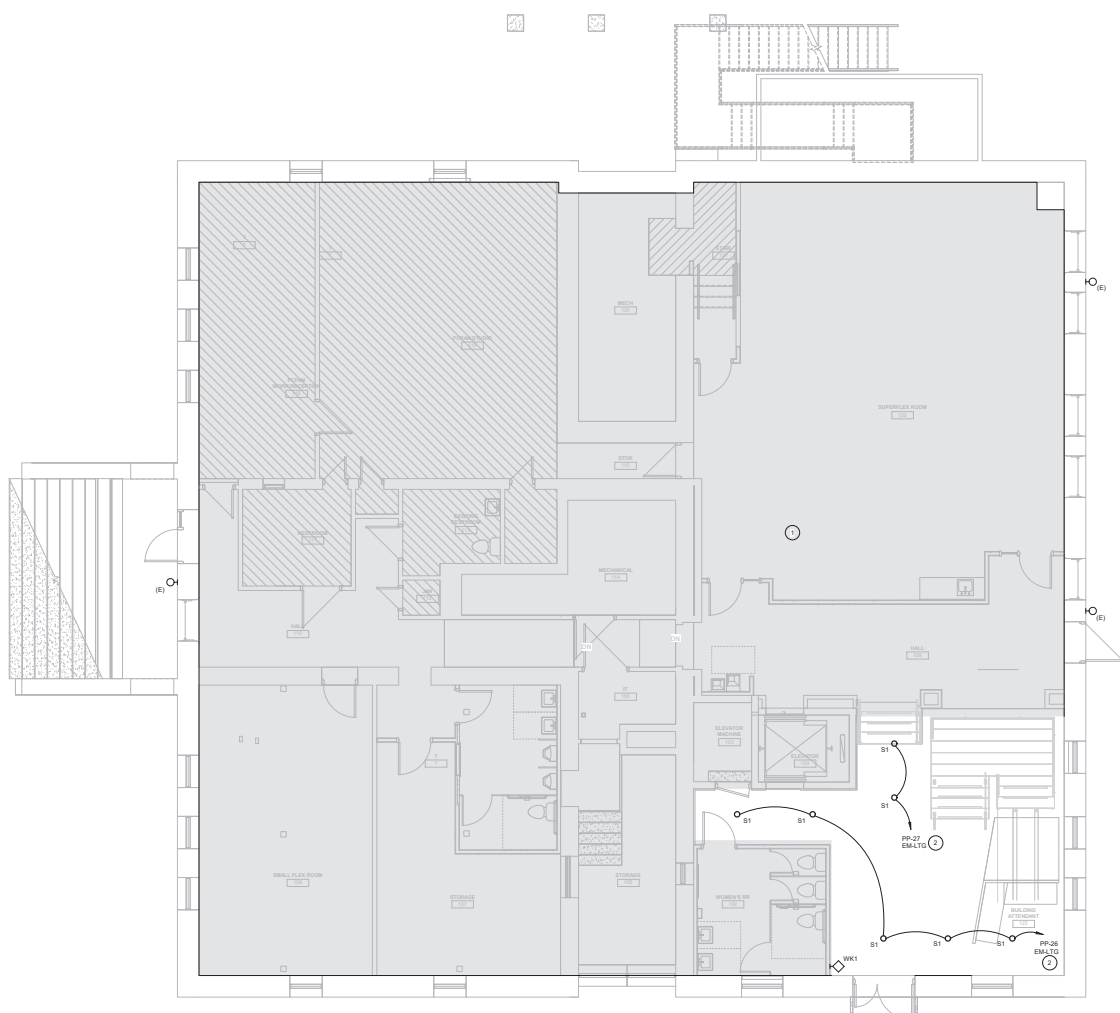
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**ISSUE DATE:** 09/16/22

**EL001**

LIGHTING SCHEDULES

**PERMIT SET**

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## LOWER LEVEL LIGHTING PLAN

SCALE: 3/16" = 1'-0"



Ⓢ FLAG NOTES:

- 1 SCOPE PER ELECTRICAL ENGINEER.
- 2 EMERGENCY LIGHTING TO BE CONNECTED TO LIGHTING INVERTER. REFER TO ELECTRICAL ENGINEERING DRAWINGS FOR MORE INFORMATION.

NOTES:

- [illegible]



**GALLERY LEVEL LIGHTING PLAN**  
SCALE: 3/16" = 1'-0"

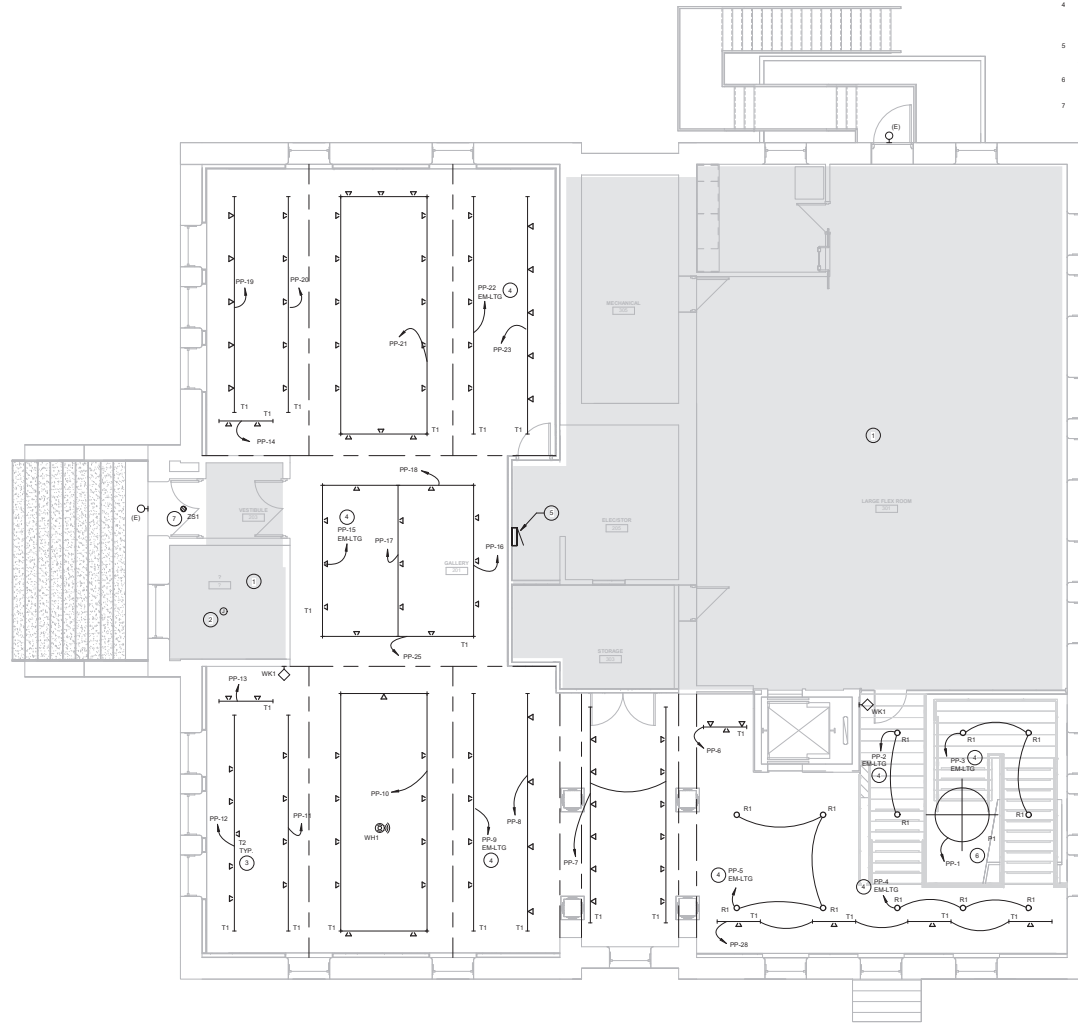


### FLAG NOTES:

1. SCOPE PER ELECTRICAL ENGINEER.
2. PROVIDE POWER TO THIS LOCATION FOR FUTURE IMAGE PROJECTOR ONTO WINDOW SCREEN. CONTROL TYPE TO BE DETERMINED.
3. CONFIRM QUANTITY WITH OWNER PRIOR TO ORDERING.
4. EMERGENCY LIGHTING TO BE CONNECTED TO LIGHTING INVERTER. REFER TO ELECTRICAL ENGINEERING DRAWINGS FOR MORE INFORMATION.
5. CURRENT LIMITING PANEL, COORDINATE FINAL LOCATION WITH ELECTRICAL ENGINEER AND ARCHITECT PRIOR TO INSTALL.
6. MOUNT PENDANT 30" BOTTOM OF LOWEST RING 15-47" ABOVE GALLERY LEVEL FLOOR.
7. SEE ELECTRICAL PLANS FOR CONTROL OF THIS FIXTURE.

### NOTES:

1. REFER TO ELECTRICAL PLANS FOR ALL CIRCUITING.
2. LIGHT FIXTURES THAT APPEAR TO BE CENTERED IN A SPACE OR CEILING PANEL SHALL BE CENTERED UNLESS OTHERWISE NOTED.
3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING MOUNTING HARDWARE REQUIRED FOR INSTALLING ALL LIGHT FIXTURES. VERIFY ALL CEILING PARTS, CEILING TYPES, AND CEILING THICKNESS PRIOR TO FINAL FIXTURE PURCHASE AND PROCUREMENT.
4. ALL CONDUIT SHALL BE CONCEALED IN WALLS, FLOOR SLAB, OR ABOVE CEILING, WHERE POSSIBLE. ROUTE CONDUIT AS CLOSE TO STRUCTURAL SLAB OR DECK AS POSSIBLE, AND SUPPORT CONDUIT AND JUNCTION BOXES DIRECTLY FROM THE STRUCTURAL SLAB, DECK OR FRAMING PROVIDED FOR THAT PURPOSE. ANY EXPOSED CONDUIT SHALL BE LEFT AS CLOSE TO STRUCTURAL MEMBERS AS POSSIBLE AND PAINTED TO MATCH THE ADJACENT SURFACE. CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL EXPOSED CONDUIT WITH ARCHITECT PRIOR TO ROUGH-IN.
5. REFER TO ARCHITECTURAL AND INTERIORS PACKAGE FOR FUTURE INSTALLATION REQUIREMENTS, INCLUDING MOUNTING HEIGHTS AND LAMP DETAILS. BUILDINGWORKS SHALL REVIEW AND APPROVE ALL MILLWORK SHOP DRAWINGS WITH INTEGRATED LIGHTING PRIOR TO RELEASE AND FABRICATION.
6. ALL DIMMED LIGHTING CIRCUITS ARE TO RECEIVE DEDICATED NEUTRALS. DO NOT SHARE NEUTRALS ON DIMMED LIGHTING CIRCUITS.
7. CONTRACTOR TO PROVIDE OWNER WITH A COMPLETE LISTING OF ALL LAMPS UTILIZED ON THE PROJECT, INCLUDING MANUFACTURER AND CATALOG INFORMATION. PROVIDE A SUGGESTED SOURCE, INCLUDING CONTACT NAME AND PHONE NUMBER, FOR RE-ORDERING.
8. CONTRACTOR SHALL CONDUCT FUNCTIONAL TESTING OF LIGHTING CONTROL EQUIPMENT AS REQUIRED BY IBC 901 SECTION 408.3. AFTER THIS TESTING IS OBSERVED AND COMPLETED, THE REGISTERED DESIGN PROFESSIONAL, COMMISSIONING AUTHORITY OR APPROVED AGENCY SHALL PROVIDE DOCUMENTATION TO THE BAA THAT CERTIFIES THAT THE INSTALLATION MEETS THE DOCUMENTED PERFORMANCE CRITERIA OF SECTION 408.3. THE REGISTERED DESIGN PROFESSIONAL, COMMISSIONING AUTHORITY OR APPROVED AGENCY SHALL PROVIDE THIS FUNCTIONAL TESTING REPORT TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 60 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
9. REFER TO ARCHITECTURAL/INTERIORS PLANS AND SPECIFICATIONS FOR DECORATIVE LIGHTING FIXTURE TYPES AND SPECIFICATIONS.
10. CONTRACTOR TO FIELD VERIFY ALL LIGHT FIXTURE MOUNTING DIMENSIONS. CONTRACTOR TO NOTIFY BAA BUILDINGWORKS PRIOR TO INSTALLATION IF INSTALLATION MUST VARY FROM WRITTEN DIMENSIONS OR IF WRITTEN DIMENSIONS VARY FROM THAT SHOWN ON ARCHITECTURAL PLANS. ALL WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
11. FOR TRACK LIGHTING FIXTURES AND LINEAR LED SYSTEMS, ELECTRICAL CONTRACTOR MUST PROVIDE ALL NECESSARY COMPONENTS FOR A FULLY FUNCTIONING SYSTEM.
12. SPACES WITH NORMAL AND EMERGENCY LIGHTING SHALL HAVE AN AUTOMATIC LOAD CONTROL RELAY. EMERGENCY LIGHTING IS TO BE CONTROLLED WITH THE NORMAL LIGHTING UNDER NORMAL POWER CONDITIONS. EMERGENCY LIGHTING TO AUTOMATICALLY RETURN TO FULL BRIGHT IN THE EVENT OF EMERGENCY POWER OPERATION.



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## CARNEGIE BUILDING DESIGN

CITY OF FORT COLLINS

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PROJECT #: 21#  
ISSUE DATE: 09/16/22

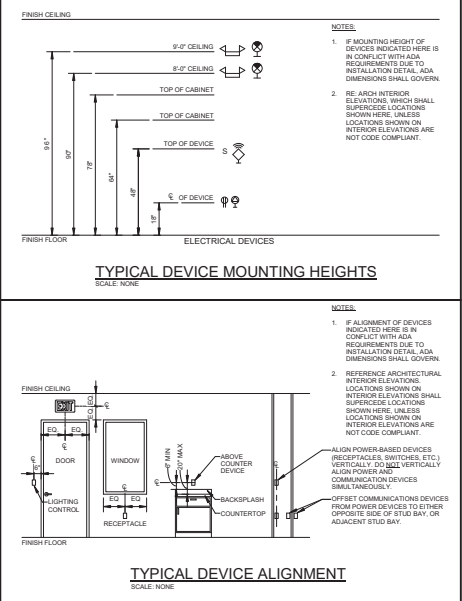
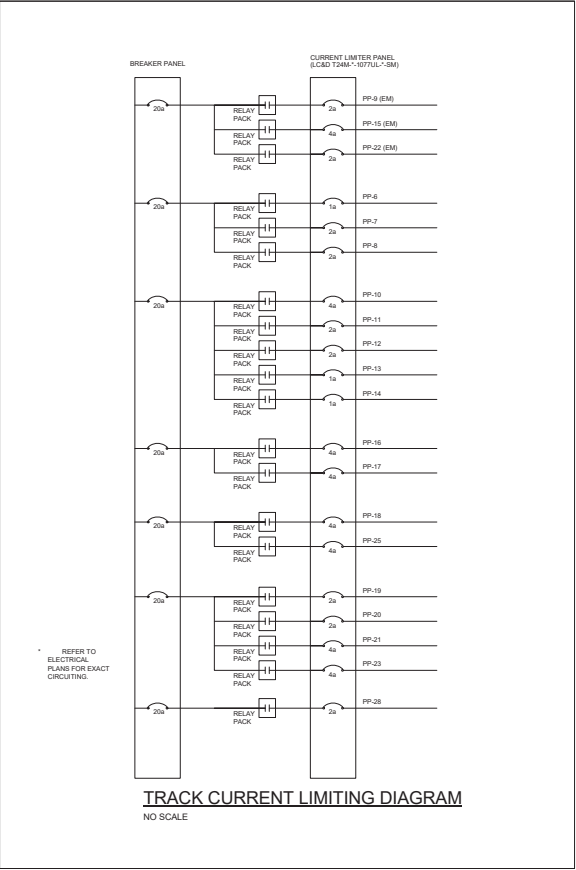
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GALLERY LEVEL LIGHTING PLAN

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**ISSUE DATE:** 09/16/22

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