# LEWIS RINGELMAN, P.C. **101 UNIVERSITY** FOURTH FLOOR - SUITE 400 **101 UNIVERSITY BOULEVARD** DENVER, COLORADO 80206



-LONGEST DIAGONAL 103'-6"

-PROJECT LOCATION SUITE 400 6,202 RSF (AREA OF WORK)

COMMON PATH OF TRAVEL <100'-0" (67'-0")

EXIT SEPARATION REQUIRED >34'-6" (39'-9")

-EXIT ACCESS TRAVEL DISTANCE <108'-0" (00'-0")



04 / A0.1	COVER SHEET
04 / A0.2	GENERAL NOTES
04 / A0.3	GENERAL NOTES
04 / A0.4	GENERAL NOTES
04 / A0.5	GENERAL WALL DETAILS
04 / A0.6	ICC/ANSI A117.1-2017 DETAI
04 / D.1	DEMOLITION PLAN
04 / D.2	REFLECTED CEILING DEMO
04 / A.1	DIMENSION PLAN
04 / A.2	PARTITION PLAN
04 / A.3	OUTLET LOCATION PLAN
04 / A.4	REFLECTED CEILING PLAN
04 / A.5	FINISH PLAN
04 / A.6	<b>ELEVATIONS &amp; SECTIONS</b>

#### MECHANICAL DRAWINGS:

04 /M.1	MECHANICAL SPECIFICATION
04 /M.2	MECHANICAL SCHEDULES & [
04 /M.3	MECHANICAL DEMOLITION PL
04/M.4	MECHANICAL PLAN
04 /P.1	PLUMBING SPECIFICATIONS 8
04 /P.2	PLUMBING SCHEDULES & DIA
04 /P.3	PLUMBING DEMOLITION PLAN
04 /P.4	PLUMBING PLAN
ELECTRIC	AL DRAWINGS:
04 /E 1	ELECTRICAL SPECIFICATIONS

4 /E.1	ELECTRICAL SPECIFICATIONS
4 /E.2	<b>ONE-LINE DIAGRAM &amp; PANEL \$</b>
4 /E.3	COMCHECK
4 /E.4	ELECTRICAL DEMOLITION PLA
4 /E.5	POWER PLAN
4 /E.6	LIGHTING PLAN

### PROJECT DIRECTORY

TENANT: Lewis Ringleman, P.C. 2401 East 2nd Avenue, Suite 500

Denver, Colorado 80206 Telephone: 720.734.2020

**BUILDING OWNER / PROPERTY M** MDC Realty Advisors 101 South University Boulevard Denver, Colorado 80202 Telephone: 720.399.1461

Contact: jbackstrom@mdcra.com Email: Justin Backstrom ARCHITECT:

Kieding 4725 South Monaco Street, Suite 225 Denver, Colorado 80237 Telephone: 303.399.9100 Contact: l la Jenkins Email: tjenkins@kieding.com Ánnie Khong Contact: Email: akhong@kieding.com

MECHANICAL ENGINEER: MEP Engineering, Inc. 6402 South Troy Circle, Suite 100 Centennial Colorado 80111 Telephone: 303.936.1633 Contact: Travis Middlebrooks Email: travis@mep-eng.com

#### ELECTRICAL ENGINEER:

MEP Engineering, Inc. 6402 South Troy Circle, Suite 100 Centennial Colorado 80111 Telephone: 303.936.1633 Contact: Brian Clement Email: brian@mep-eng.com

### **GENERAL CONDITION**

CONSTRUCTION DOCUMENT APPROVAL

APPROVAL APPLIES TO ALL SHEETS LISTE USE OF THESE PLANS AND DOCUMENTS FOR MATERIALS ORDERING AND CONSTRUCTION REQUIRE APPROVAL BY BUILDING OWNER AND TENANT.

Construction and/or initiation of construction authorized by the Building Owner from these construction documents, shall be interpreted by the Designer as approval in full of these construction documents by both the Building Owner and Tenant.

**APPROVED:** Authorized Signature Only

BUILDING OWNER

**TENANT/CLIENT:** 



**KEY PLAN** Scale: 1/16" = 1'-0' 0' 8' 16'



	JURISDICTION:	
		DENVER FIRE DÉPARTMENT
		2021 IBC
		WITH 2022 AMENDMENTS
HEET	MECHANICAL CODE:	2021 IPC 2021 IMC
	ELECTRICAL CODE:	2023 NEC 2021 IECC
ON PLAN	FIRE/LIFE SAFETY:	2021 IEC 2021 IFC
		2017 ICC/ANSI A117.1
	BUILDING DESCRIPTION:	TE. 1005
	2. TYPE OF CONSTRUCTION:	II-B
	3. NO. OF STORIES: 4. SPRINKLERED:	4 YES
	THROUGHOUT:	YES
LEGEND		
RAM		/
GEND	SCOPE OF WOR	
MS	Remodel of existing suite. No change	of use, no change of occupancy.
EGEND	OCCUPANT LOAD	D SUMMARY
IEDULES	SUITE 400	
	(Area of Work)	
		6,202 RSF
	1. OCCUPANCY:	
	A. GROUP B. USE	B OFFICE
		1 PER 150
	E. LOAD	38
	2. ASSEMBLY OCCUPANCY:	
	A. GROUP B. USF	B ASSEMBLY
	C. FACTOR	1 PER 15
	E. LOAD	36
	3. TOTAL OCCUPANTS FOR SUITE:	74
	4. EXITS REQUIRED:	2
		2

Construction work shall not proceed until the Building Owner and Tenant have given their approval to these construction documents. The Contractor shall be responsible for confirming that the Building Owner and the Tenant have approved these construction documents and for advising the Designer of any requested revisions by the Building Owner and / or Tenant. The Contractor shall be solely responsible for any work performed without the Building Owner's / Tenant's approval of these construction documents. Approval by these parties shall be interpreted as acceptance of the construction documents for content, scope of work and all dimensions and special requirements by either party as being necessary to their operations, use of space for furnishings / equipment installation, finished appearance and any agreements between the Building Owner and Tenant.

DATE:

DATE:

AO 04E

street | Colora 303

Contact - Tia Jenki Contact - Annie Kho

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OR - SUITE 400 FY BOULEVARD - ORADO 80206 FOURTH FL 101 UNIVERS DENVER, CO

1.0 ARCHITECTURAL WORKING DRAWINGS SCOPE & INTENT

#### 1.1 Working Intent

- 1.1.1 Definition Architectural Working Drawings consist of these Project Plans and Detailed Drawings, General and Keyed Notes, Schedules and Legends descriptive of the Project scope of architectural work and such supplemental information and clarifications to the Architectural Working Drawings as may be prepared by the Architect.
- 1.1.2 Intent These Architectural Working Drawings are intended to ONLY DESCRIBE THE GENERAL SCOPE AND FINISHED APPEARANCE OF THE PROPOSED PROJECT ARCHITECTURAL WORK.
- 1.1.3 Not Included or Intended These Architectural Working Drawings are NOT intended to provide exhaustive or specific detail, or to instruct the Contractor in the details, or standard methods or practices of their trade. RE: Section 1.6, Interpretation or Clarification of
- 1.1.4 Basis for the Scope of Work

Architectural Working Drawings.

The Scope of architectural work described in these Architectural Working Drawings and Plans (the Project) is based upon:

Approved Project Space Plan and descriptive Space Plan design notes Architect's understanding of the Project requirements, Building Owner's requirements, Base Building and Project as-built information, Readily visible existing architectural conditions. RE: Section 1.3, Existing Architectural Conditions, Governing Building Codes, and ANSI (American National Standards) Accessible and Usable Buildings and Facilities.

1.2 Building Code and American National Standard Institute (ANSI) Compliance These Architectural Working Drawings only represent the Architect's understanding of the governing Building Codes. Final interpretation of governing Building Codes and regulations are subject to the binding interpretation of Building and Fire Department Officials having authority.

Therefore, PRIOR to commencing with Project work, the Contractor SHALL ADVISE AND PROVIDE the Architect with copies of ALL PROJECT CODE COMPLIANCE PLAN REVIEW COMMENTS from governing officials for any required inclusion in the Architectural Working Drawings by the Architect.

**1.3 Existing Architectural Conditions** 

Existing architectural conditions and improvements shown on these Architectural Working Drawings are based upon information provided to the Architect by the Building Owner and have NOT been verified by the Architect beyond observation of readily visible existing conditions.

ACTUAL EXISTING CONDITIONS AND IMPROVEMENTS MAY VARY FROM THOSE SHOWN ON THE PROJECT PLANS. RE: Section 3.0, Contractor Responsibilities.

1.4 Hazardous Materials

NO environmental survey was conducted by the Architect nor has the presence of asbestos or hazardous materials been made known or provided to the Architect.

As the project is located within an existing building, such material may be present and their removal or containment shall be in accordance with governing Building Codes and environmental regulations. RE: Section 1.4.1, State Certified Asbestos Inspection.

1.4.1 State Certified Asbestos Inspection

Prior to commencement of any demolition work, including floor covering removal, the General Contractor shall obtain from the State Certified Asbestos Inspector, approved by the Building Owner, a statement to the effect that the Inspector has determined that demolition of the space will not disturb building materials that contain asbestos, as defined by the following:

U.S. Environmental Protection Agency, U.S. Occupational Safety and Health Administration, and the State of Colorado, RE: Section 4.0. Architectural Demolition.

1.4.2 Project Materials

No materials containing any amount of asbestos are to be used in the performance of Work, including, but not limited to, asbestiform fiber structure varieties of chrysotile, amosite (cummingtonite-grunerite), crocidolite, anthophyllite, tremolite, and actinolite and/or "magnesium silicates" as identified in the product Material Safety Data Sheets.

Upon completion of the work and prior to a request for final payment, the Contractor shall provide a signed affidavit stating that no asbestos has been introduced into the building by the Contractor, it's subcontractors or suppliers during the performance of the Work.

#### 1.5 Project Bid Format and Contractor Bid

1.5.1 Bid Format

Project bids shall be submitted in the CSI Master Format Bid Outline, except as may otherwise be approved or directed by the Project party contracting with the Contractor for work on the Project.

1.5.2 Contractor Responsibility

PRIOR TO BID SUBMITTAL, the General Contractor shall be RESPONSIBLE for familiarizing themselves with the following:

Review of these Architectural Working Drawings, Existing Project conditions,

Any Building / Suite Standards RE: Section 2.0, Definitions, Clarification or interpretation of the Project Architectural Working Drawings by the Architect, RE: Section 1.6, Interpretation or Clarification of

Architectural Working Drawings, Governing codes and regulations, Determining the availability of specified materials required for a complete project

PRIOR to bid submittal and construction, the Contractor shall coordinate with the Project Party contracting with the Contractor for the Project work to determine and subsequently comply with the Project construction requirements governed by the general Building Rules and Regulations, access to the Project and rules related to Project access, construction operations, hours of construction operations, protection of property and occupants, and disruption to the building occupants.

#### 1.5.3 Bid Submittal Line Item Contingency

The Contractor shall coordinate with Building Management for any contingency inclusion in the final bid for Tenant improvements and related work not provided for on the Plan.

1.6 Interpretation or Clarification of Architectural Working Drawings Interpretation or clarification of these Architectural Working Drawings may ONLY be made by the Architect upon the Contractor's written request to the Architect followed by Architect's written response PRIOR to the Contractor accomplishing the work in guestion. The Contractor shall be SOLELY RESPONSIBLE for any assumptions made without written clarification from the Architect.

Any assumptions made without written interpretation or clarification by the Architect may result in the rejection of the work in question.

- 1.0 ARCHITECTURAL WORKING DRAWINGS SCOPE & INTENT (continued)
- 1.7.1 General Kieding is NOT a licensed engineer. These Architectural Working Drawings are NOT INTENDED to imply, in any manner, the design of engineered systems. All Engineering Working Drawings prepared for the Project have been independently accomplished by others.
- 1.7.2 Architectural and Engineering Working Drawings
- Insofar, as the Architectural and Engineering Working Drawings have been independently prepared, the Contractor shall be RESPONSIBLE for advising the Architect in writing of any apparent discrepancies between the two documents PRIOR TO BID SUBMITTAL. RE: Section 1.6, Interpretation or Clarification of Architectural Working Drawings.
- 1.7.3 Design-build Engineering
- Any Design Build Engineering required for the Project shall be APPROVED by the Project party contracting with the Contractor for Project work. All such Design-Build Engineering shall only be accomplished by qualified engineers, licensed to practice in the governing jurisdiction.
- 1.7.4 Issue and Distribution of Architectural and Engineering Working Drawings The General Contractor SHALL NOT ISSUE Engineering Working Drawings, whole or in part, separate from the Architectural Working Drawings, whole or in par
- 2.0 DEFINITIONS
- 2.1 Building Standards "BUILDING STANDARD(S)" shall mean the Building Owner's pre-selected or approved materials, products and methods of construction.
- 2.2 Suite Standards "SUITE STANDARD(S)" shall mean the existing materials, products and methods
- of construction in the existing Project Suite to be matched as noted in the Architectural Working Drawings.

#### 3.0 CONTRACTOR RESPONSIBILITIES

- 3.1 Contractor Use of Architectural Working Drawings The Contractor's use of these Architectural Working Drawings for other than cost estimating is expressly conditional on signed approval of these Architectural Working Drawings by the Project Party contracting with the Contractor for Project work, and issuance of a Building Permit by the Governing Authority.
- 3.2 Contractor Acceptance of Architectural Working Drawings Use of these Architectural Working Drawings by the Contractor for other than cost estimating shall be considered acceptance of these Architectural Working Drawings, plans, details, scheduled products and assemblies, keyed and general notes in full. RE: Section 1.6, Interpretation or Clarification of Architectural Working Drawings.
- 3.3 Code Compliance

All Project materials, products and workmanship shall comply with governing Building Codes, regulations and ANSI requirements, as a minimum standard. The Contractor shall promptly provide the Architect with all copies of Code Official building permit plan review comments and/or on-site Code requirements identified by the Building Code Inspector prior to accomplishing work on the Project. RE: Section 1.2, Building Code and American National Standard Institute (ANSI) Compliance.

- 3.4 Contractor Submittals
- 3.4.1 Contractor Responsibilities PRIOR to ordering or the fabrication of products or fabrication of assemblies requiring submittal and approvals, the Contractor shall be responsible for submitting all required, or otherwise requested, product information, samples and shop drawings to the Architect. Such submittals shall be received by the Architect in sufficient time for Architectural review and approval by the Project Party contracting with the Contractor for Project work. Unapproved products or shop drawings may result in the rejection of the work in question. RE: Section 3.4.2, Required Submittals.
- 3.4.2 Required Submittals Unless noted otherwise or directed by the Project Party contracting with the
- Contractor for Project work, the Contractor shall provide the Architect with: The Project construction budget or bid,
- Project construction schedule and The Contractor's list of proposed subcontractors.

Unless noted otherwise or directed by the Project Party contracting with the Contractor for Project work, the Contractor shall provide the Architect with one (1) set of product and/or material literature and one (1) reproducible or electronically printable set of shop or installation drawings for the following submittals:

Value Engineering Proposals, Material or Product Substitutions proposals complete with specifications,

- details and product information and cost comparisons, Shop drawings for any custom fabricated work, Custom details not specifically described in the Architectural Working Drawings,
- Requested finish material, product samples and manufacturer's literature. Architectural products and accessories (lighting fixtures, door assemblies, hardware, appliances, restroom accessories, etc.) and
- Flooring installation plans for the Project. 3.5 Dimensioning and Contractor Field Verification of Existing Conditions
- 3.5.1 Dimensioned Plans and Details
- Unless noted otherwise, all dimensions shown on these Architectural Working Drawings are to the finished face. THE CONTRACTOR SHALL NOT SCALE THE PROJECT DRAWINGS.
- 3.5.2 Field Verification and Notification of Plan Discrepancies The Contractor shall be responsible for field verifying existing dimensions, including existing real property improvements and conditions to remain or otherwise affecting the proposed work. The Contractor shall advise the Architect in writing of any discrepancies between the field conditions and dimensions and these Architectural Working Drawings for written direction by the Architect.

## 1.7 Engineering Working Drawings

	3.0	CONTRACTOR RESPONSIBILITIES (continued)
	3.6	Existing Conditions, Change Orders and Bid Contingency Allowance
	3.6.1	<b>Change Orders for Existing Conditions</b> No Change Orders, for additional project cost, will be approved for readily visible conditions that require repair or replacement, resulting from the Contractor's failure to Field Verify such existing conditions.
	3.6.2	<b>Bid Contingency Allowance</b> The Contractor shall coordinate with Building Management for any contingency inclusion in the final bid for Tenant improvements and related work not provided for on the Plan.
		Notice of existing concealed conditions requiring additional work shall be submitted PRIOR to accomplishing the work for review by the Architect and approval by the Project Party contracting with the Contractor for Project work.
	3.7	<b>Project Schedule</b> The Contractor shall be responsible for determining, maintaining, adhering to and advising all affected parties of the Project Schedule progress on a weekly basis as a minimum. The Contractor shall promptly notify all affected Project Parties of considerations or restraints affecting the Project Schedule.
		The Contractor shall determine and advise all Parties of any product or fabrication long lead times and submit order and delivery confirmations in a timely manner as determined and required by the Architect and/or the Project Party contracting with the Contractor for the Project work.
	3.8	<b>Project Workmanship</b> In performing work on the Project, the Contractor shall only use competent mechanics skilled in their trade and the specified products, or manufacturer's certified mechanics when required by the product manufacturer's warranty.
	3.9	<b>Full and Complete Project, Acceptance and Certificate of Occupancy</b> The Contractor shall provide for all necessary work, equipment and materials necessary to provide a full and complete Project described in the Project Architectural and Engineering Working Drawings.
		Such work shall be as required for Project acceptance by the Project Party contracting with the Contractor for Project work and as required for issuance of a Certificate of Occupancy by the governing Code Jurisdiction.
	3.10	<b>Contractor Warranties</b> Unless contractually required otherwise, all workmanship, products and materials within the scope of these Architectural Working Drawings shall be warranted by the Contractor for a minimum period of one calendar year following written acceptance of the completed Project by the Project Party contracting with the Contractor for the Project work, or for the product warrantee period, whichever is longer.
	4.0	ARCHITECTURAL DEMOLITION
	4.1	<b>Scope of Work</b> RE: Architectural Working Drawings, Architectural Floor and Reflected Ceiling Demolition Plans and/or information, Notes and Engineering Working Drawings.
	4.1.1	<b>Field Verification, Confirmation and Coordination of Demolition Work</b> Based upon the scope of the proposed real property improvements described in these Architectural Working Drawings and the Engineering Working Drawings, the Contractor shall field verify existing conditions, coordinate and confirm the scope, schedule and execute demolition work, including but not limited to the hours of operation, trash dumpster locations, use of the Building elevator(s) (if applicable) and the Building Rules regarding demolition activities with the Building Owner and/or the Project Party contracting with the Contractor for the Project work, if other than the Building Owner.
t	4.1.2	<b>Building Rules and Demolition Requirements</b> The Scope of Architectural Demolition Work shall include all architectural demolition work, as well as, all salvage and removal of debris in strict conformance with the Building Owner's Rules and other such requirements for Demolition Work in the Building.
	4.1.3	<b>Scheduling and Coordination of Demolition Work</b> For existing buildings or Projects which remain partially occupied, demolition and remodeling work shall be in accordance with a mutually agreed upon schedule between the Contractor, the Building Owner and other such Parties as may be directly affected by the Contractor's Demolition Work.
		Disruptive or potentially hazardous construction activities shall be coordinated with the Building Owner to occur before or after normal business hours, so as to minimize disturbance to Building Occupants.
	4.1.4	<b>Project Access</b> The Contractor shall provide for the unobstructed and safe passage of personnel and general public to and from the Project and all occupied portions of the building.
	4.1.5	<b>Protection of Existing Real Property Improvements</b> The Contractor shall protect all existing Project improvements to remain, to be reused or to be otherwise salvaged. In addition, the Contractor shall maintain and protect all areas outside the designated Project Work Area from wear, damage, soiling and debris including protective safety barriers and barriers to contain the spread of dust and fumes out of the Work Area.
		The Contractor shall repair any damage to existing work to remain or any other portion of the Building caused by the demolition activities or by the subcontractors at no additional cost to the Project, Tenant or Building Owner.
	4.1.6	<b>Project and Building Life Safety Devices</b> The Contractor shall protect existing smoke detectors and other fire alarm devices from dust, damage and disconnection at all times during demolition and subsequent construction. Protection shall be removed and the fire protection systems fully activated during periods when space is not occupied and when construction is not in progress.
	4.2	Architectural Elements and Materials Remove such door assemblies, door hardware, glazing assemblies, millwork and other architectural products noted or shown on the Project Plans or shown on the Architectural Working Drawings for reuse, salvage or disposal.
		Architectural elements shall be removed back to structure. If such removal is impractical according to Building Owner and approved by the Project Party contracting with the Contractor for Project work, if other than the Building Owner, then such elements shall be removed to the extent that patching and/or new work will conceal part of the element to remain.
	4.2.1	<b>Architectural Material Reuse</b> The Contractor shall field verify the condition, serviceability or governing Code compliance of all materials and products to remain or be reused on the Project.
		The Contractor shall advise the Architect in writing PRIOR to Bid Submittal and construction of any such reused products or material found to be unusable OR

more expensive to reuse than to replace with new, for review and written direction from the Architect and/or the Project Party contracting with the Contractor for the Project work.

Unless noted otherwise, any existing products, assemblies and materials to remain or be reused for the Project shall be repaired or refurbished to provide "like new" appearance and function as approved by the Project Party contracting with the Contractor for the Project work.

#### 4.0 ARCHITECTURAL DEMOLITION (continued)

4.2 Architectural Elements and Materials (continued)

#### 4.2.2 Salvageable Materials and Products

Unless otherwise approved by the Building Owner, ALL Salvageable Materials and Products removed during Demolition shall remain the property of the Build Owner for disposition by the Contractor as directed by the Building Owner.

#### 4.2.3 Ceiling Demolition Work RE: Section 4.3. Electrical and Mechanical Demolition Work.

For previously improved spaces, remove any existing ceiling elements as note shown to be demolished on the Architectural Reflected Ceiling Demolition Plan Remove or otherwise protect existing architectural ceilings and ceiling assemble and fixtures to remain from damage. Protect all lighting fixtures remaining in p as required from damage during demolition and subsequent construction. Ren any debris, abandoned cabling and wiring, and unused, combustible or hazard materials above the ceiling in compliance with governing Codes and regulation

#### 4.2.4 Demolition and Removal of Hazardous Materials Detection, demolition, removal and disposal of any asbestos or hazardous

materials shall be accomplished by licensed or certified Contractors in strict accordance with governing local, state and Federal laws and regulations. RE: Section 1.4, Hazardous Materials.

#### 4.2.5 Architectural Material Demolition Disposal and Recycling

RE: 4.2.4, Demolition and Removal of Hazardous Materials. Unless noted otherwise, all materials NOT shown or noted for reuse or salvag along with demolition rubbish and debris, shall be promptly removed from the Project and disposed of in compliance with governing local, state and EPA law and regulations.

#### Except as otherwise directed by the Building Owner and/or the Project Party contracting with the Contractor for the Project work, the Contractor shall divert demolition materials scheduled for disposal from the land fill for recycling purposes as required by the governing Code Jurisdiction.

4.2.6 Demolition Cleanup

Contractor shall provide for the removal of trash, debris and demolition materi and provide broom cleaning daily.

#### 4.2.7 Completion of Demolition Work

Demolition work shall be deemed complete when all materials, debris and salvageable materials are removed or stored and the Project areas cleaned in preparation for new architectural and engineering real property improvements. addition, the Contractor is responsible for patching and preparation of any disrupted walls, floors and ceilings as required for receiving finish after demolit Upon completion of demolition work, remove tools, equipment and demolished materials from site. Leave interior areas broom clean.

4.3 Electrical and Mechanical Demolition Work RE: Electrical and Mechanical Engineering Documents.

#### 4.3.1 Electrical and Mechanical Demolition

PRIOR TO DEMOLITION, the Contractor shall coordinate with the Building Ov to determine if existing electrical, voice and data service is servicing the Proje space or other tenant occupancies. Unless noted otherwise by the Engineerin Working Drawings or unless serving other occupants of the building or other portions of the Building outside of the scope of the Project, electrical and mechanical elements scheduled for demolition shall be removed back to the nearest junction box, panel, pipe, duct, etc. to assure no conflict with new work work related to electrical, communications/data and mechanical elements to be shut off, disconnected or capped outside of the Project or affecting occupants the Building shall be coordinated with Building Chief Engineer (if applicable) or Building Owner for approval.

#### 4.3.2 Electrical and Mechanical Life Safety Systems

Contractor shall determine which, if any, vendors or subcontractors are approv by the Building Owner for work on fire suppression systems (if applicable) and safety systems such as fire alarms and smoke detection. Any such vendors of subcontractors shall be certified for the respective specialty. All work and any demolition affecting these systems shall be scheduled and coordinated and approved by the Building Owner.

#### 5.0 DRYWALL FRAMING & CONSTRUCTION

5.1 General

#### 5.1.1 Dimensioning Definitions

'Align': Means the transition between new and existing finished surface shall b

'Hold' or 'Clear': Means that the clear dimension must be exact. 'Verify' or 'As Required': Means the dimension must be confirmed with the Architect or party noted, if other than the Architect, prior to layout, construction fabrication.

#### 5.1.2 Metal Stud Framing System Components

All metal stud framing system components shall be per ASTM C645 for galvanized sheet steel to comply with ASTM C754 for spacing, with maximum deflection of wall framing of L/240 at 10 psf. Resilient furring channels: 1/2 inch depth for attachment to substrate through o

Framing shall comply with specified standards, galvanized sheet steel, 25 gau unless specified, noted, scheduled or otherwise detailed. 20 gauge studs at do

#### 5.1.3 Gypsum Board

All new gypsum board shall be certified free of any hazardous material. RE: Section 1.4, Hazardous Materials. New gypsum board shall be received and kept dry through the Project work. Gypsum board with any amount of mold growth shall be promptly removed from the Project. Gypsum board shall be secured to metal studs with screws per the manufacturer's recommendations OR Code / UL requirements, whichever is n restrictive for the partition type application. Drywall tape, joint compound and accessories shall be as recommended by the gypsum board manufacturer. Gypsum panels as defined by ASTM C1396/C1396M, sized to minimize joints.

#### 5.1.4 Backing Material for Wet Areas

Wet areas: Tub, shower surrounds, shower ceilings and toilet rooms. Mold resistance score of 10, ASTM D3273. ANSI Cement Based Backing Board to comply with ANSI A118.9 or ASTM C1325. Glass-Mat Faced Backing Board p ASTM C1178/C1178M.

#### 5.1.5 Water Resistant Board for Non Wet Areas ASTM C1396/C1396M for ceilings and vertical surfaces in toilet, shower and

break areas, not behind tile. Mold resistance score of 10, ASTM D3273.

#### 5.2 New Partition Layout and Site Review The Contractor shall layout ("chalk") the partition locations as provided for on the

Architectural Dimension Plan. Prior to framing, the Contractor shall notify the Architect of any discrepancies between the Dimension Plan and measurement the field for required Plan clarifications.

The Contractor shall coordinate with the Architect and/or the Project Party contracting with the Contractor for the Project work to schedule a Site Review approval of the "chalked" partition layout by the Project Party contracting with the Contractor for the Project work PRIOR to framing the partitions.

#### 5.3 Existing Drywall Partitions

Repair any damage to existing drywall to provide a "like new" finished appearance as approved by the Project Party contracting with the Contractor for Project work. Match and blend all new drywall partitions to existing drywall finished surfaces to remain

s Iding	5.4	<b>Fire-rated Partitions</b> Fire-rated partitions shall comply with the Code required or otherwise specified fire-rated construction as specified by the most current editions of the Gypsum Association, Fire Resistance Design Manual, OR the Underwriters Laboratory Inc., Fire Resistance Directory.		eet   Suite 2	зоз.зээ.э t - Tia Jenk · Annie Kho
	5.5	New Drywall Partitions		Stre 7, Cc	ntact act -
red or an. blies blace move	5.5.1	<b>General</b> Unless noted otherwise, all new drywall partitions shall be true and plumb. New partition construction shall be in strict compliance with governing Codes, including lateral support. New partitions shall comply with the code required or otherwise specified construction as specified by the most current edition of the Gypsum Association.		South Monaco Denvei	Cont
aous ns.	5.5.2	Lateral Bracing For all full height drywall partitions, less than floor to structure, provide and install diagonal metal stud cross-bracing at 8'-0" on center (max.) to structure with slip joints as specified at structure. Unless noted otherwise, assume a 2-1/2 inch slip joint for partitions on grade or located in single story buildings, and a minimum of 1-1/2 inch slip joint at structure for other Project locations.		4725 9	
ge, ws	5.5.3	<b>New Partitions at Exterior Window Mullions</b> New partitions terminating with window mullions shall be centered on the window mullion, unless noted otherwise on the Dimension Plan. DO NOT MECHANICALLY FASTEN the drywall partition to the window mullion, double faced foam tape shall be applied at the drywall connection to the window mullion from sill to the window head.			
t	5.5.4	<b>New Partitions at Heating Convectors</b> At Interior spaces with exterior wall baseboard heating or unit convection interrupted by drywall partitions, the Contractor shall provide and install a Code complaint acoustical barrier at the intersection of the drywall partition and the baseboard heating or convector as approved by the Building Owner.			
ial n	5.5.5	Acoustical Partitions Provide and install unfaced full batt, thermafiber, friction fit acoustical insulation full height between studs for all acoustical partitions. For less than floor to structure partitions provide and install non-combustible, faced, plenum rated acoustical batt insulation for any acoustical partitions noted to receive above ceiling lay-over insulation or any otherwise exposed above ceiling acoustical insulation.			
s. In ition. :d	5.6	<b>Drywall Finishing</b> Finished drywall is ranked on a scale of 1 to 5. The scale is the level of preparedness for paint and other decorative coatings. Determining the appropriate finish level is important as it relates to products used and labor to achieve the required finish level.			
wner ect ig	5.6.1	<b>LEVEL 5, Drywall Finishing</b> As may be noted in these Architectural Working Drawings or as approved by the Project Party contracting with the Contractor for Project work, drywall finish prepared to LEVEL 5 may be required due to substrates to be applied to the drywall. LEVEL 5 provides a uniform surface and minimizes the possibility of joint and/or fasteners photographing through the final decoration. LEVEL 5 drywall finish is required for wallcovering, dry erase paint or other applied finishes (per manufacturer's installation requirements).			
rk. All be of or the		LEVEL 5 finish drywall shall have all joints and interior angles tape embedded in joint compound and be immediately wiped with a joint knife, leaving a thin coating of joint compound over all joints and interior angles. Add two coats of joint compound over all flat joints. Add one coat of joint compound over interior angles. Cover fastener heads and accessories with three coats of joint compound. Apply a skim coat of joint compound or material manufactured for this purpose to the entire surface. The surface shall be smooth and free of tool marks.		IAN, F	TE 400 EVARD 80206
oved d life or		If finishing glass mat or fiber-reinforced gypsum panels, check with the manufacturer for finishing instructions.			
	5.6.2	<b>LEVEL 4, Drywall Finishing</b> Unless noted otherwise in these Architectural Working Drawings, drywall finishing shall be a LEVEL 4 gypsum board finish for all visible drywall surfaces as follows:	i	VER	OR - OR
		Tape all drywall joints and interior corners as recommended by drywall manufacturer and embed in three (3) coats of drywall joint compound and wipe with a joint knife, leaving a thin coat of compound over the tape.			FLO FLO
be		Provide and install beaded metal trim at all corners and drywall terminations. Finish with three (3) coats of drywall compound and sand between coats.			NIVE VER
n or		Fully conceal all joints, accessories, fasteners, tape and compound from any irregularities, tool marks or excess compound to provide a smooth, even finished drywall surface.		5	
n one uge	5.6.3	<b>LEVEL 3, Drywall Finishing</b> As may be noted in these Architectural Working Drawings or as approved by the Project Party contracting with the Contractor for Project work, drywall finish for surfaces above ceiling areas and where approved for Warehouse or areas not subject to public view may receive a LEVEL 3 drywall finish. Drywall finish LEVEL 3 shall be similar to LEVEL 5 with two coats of drywall compound finished smooth and free of tool marks and ridges.			
oor	5.6.4	<b>LEVEL 2, Drywall Finishing Below Tile or Stone Applications</b> As may be noted in these Architectural Working Drawings or as approved by the Project Party contracting with the Contractor for Project work, drywall finish for water resistant gypsum board or for other substrates below ceramic tile or stone finishes may receive a LEVEL 2 drywall finish similar to LEVEL 3 Finish.			
om ne most		LEVEL 2 finish drywall joints shall be taped. Finish all joints, angles, fastener heads and accessories with one (1) coat of drywall compound. Drywall surface shall be free of all excess joint compound. Tool marks and ridges are acceptable.			
5.	5.7	<ul> <li>Drywall Expansion, Control and Slip Joints</li> <li>A) Extended Length Partitions: Provide and install drywall partition expansion joints not more than every thirty feet of uninterrupted length of drywall partitioning, whether specifically noted on the Project plans or not.</li> </ul>			
per		B) Concrete Floor Slab Expansion Joints: Discontinuous framing and beaded metal drywall control joints shall be provided and installed at all concrete floor slab expansion joints, whether specifically noted on the Project plans or not.			
		C) Floor to Structure Drywall Partition Slip Joints: In other than slab-on-grade Projects with expansive soil conditions or single story buildings subject to snow load structural deflection, provide and install			
the		1-1/2 inch minimum 'deflection' slip joints at structure for all floor to structure partitions. RE: Section 5.8, On-grade Projects with Expansive Soils.			
its IN		(CONTINUED)			
/ and					

5.0 DRYWALL FRAMING & CONSTRUCTION (continued)

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- 5.0 DRYWALL FRAMING & CONSTRUCTION (continued)
- 5.8 On-grade Projects with Expansive Soils
  - A) Slip and Control Joints: For concrete floor slabs-on-grade over expansive soils, provide and install drywall slip and control joints at the following conditions: Building expansion joints, Concrete floor control joints, Building core, structural columns and exterior wall connections, Both sides of interior door and window frames and
    - Suspended soffits and fascias
  - B) Partitions Less than Floor to Structure: All partitions less than floor to structure in height shall be 6 inches minimum in height above abutting suspended ceilings.
  - C) Floor to Structure Partitions: Full height drywall partitions from floor to structure shall be provided with a 2-1/2 inch slip joint (minimum) for partitions on grade or located in single story buildings. Projects located directly on expansive soils shall be provided with partition slip joints or as may be otherwise required by the Building Design Soils or Structural Engineer.

In NO instance shall construction provisions be made for less than a 2-1/2 inch floor slab or structural movement unless approved by the Architect.

- D) Drywall Furring: Unless noted otherwise, exterior and interior structure and core wall furring shall hold all furred framing and drywall 4 inches above finished ground floor level.
- E) HVAC Distribution and Plenum Return Air Openings: Provide framed drywall openings for HVAC distribution and plenum return
- air flow as required by the Project Mechanical Engineer in floor to structure partitions such that the framed opening allows for a minimum of 2-1/2 inch vertical drywall partition movement.
- F) Suspended Ceilings: DO NOT attach suspended ceilings to any drywall partitions, interior or exterior furred core of exterior walls or structure.

#### 5.9 Blocking for Wall Mounted Accessories and Millwork

All blocking required for millwork and support of wall mounted accessories, including wall mounted door stops, shall be non-combustible solid wood blocking, except as may be otherwise approved by the governing Code Official in writing.

ALTERNATIVELY 16 gauge metal sheets may be substituted for noncombustible solid wood blocking where prohibited or otherwise impractical.

- 5.10 Drywall Furring
- 5.10.1 General Drywall furring shall be as noted in these Architectural Working Drawings. RE: Architectural Plans and Notes and Section 5.8, On-grade Projects with Expansive Soils All new drywall furring shall be true and plumb with drywall finishes to match and blend with existing drywall surfaces. Provide and install beaded metal trim at all corners and terminations. Drywall furring and finishes shall match drywall partition quality and finish requirements described in these General Notes. RE: Section 5.0, Drywall Framing & Construction.
- 5.10.2 Drywall Furring at Exterior Walls
- Provide and install new vapor barrier and rigid thermal insulation to match existing in Building or as otherwise required by Code and at exterior building wall drywall furring as approved by the Building Owner.
- 5.11 Drywall Partition Schedule

Note: Contractor to verify existing wall thickness, and to match, unless noted otherwise.

#### **Existing Partition**

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**Demolition Partition** 

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Standard Interior Partition RE: Wall Details on Sheet A0.5 in this set of drawings.

#### Acoustical Partition

RE: Wall Details on Sheet A0.5 in this set of drawings.

- 5.0 DRYWALL FRAMING & CONSTRUCTION (continued)
- 5.12 Drywall Ceilings, Fascias and Soffits Unless noted otherwise, drywall ceilings, fascias and soffits shall be 5/8 inch drywall framed or suspended and installed as recommended by the drywall manufacturer for specific application. Framing, detailing and drywall application shall be per the design standards established by the United States Gypsum company and, for any fire rated construction, the UL Fire Resistance Directory.

All drywall joints, outside corners and exposed drywall terminations shall be LEVEL 5 drywall finish with beaded metal trim to match and blend to the finished drywall surface. RE: Section 5.6.1, LEVEL 5, Drywall Finishing, Section 5.7, Drywall Expansion, Control and Slip Joints and Section 5.8, On-grade Projects with Expansive Soils.

- 5.12.1 New Drywall Abutting Existing Drywall Ceilings, Fascias and Soffits New drywall ceilings, fascias and soffits abutting existing drywall in the same plane shall be flush with no visible joints, except as otherwise required for slip, control or expansion joints.
- 5.12.2 New Drywall Abutting New Drywall Ceilings, Fascias and Soffits All drywall fascias shall be true and plumb and drywall soffits and ceilings shall be level with no visible imperfections or joints except as otherwise required for slip, control or expansion joints.
- 5.12.3 Drywall Ceiling Access Panels, Mechanical Devices and Lighting Fixtures Drywall ceiling access panels, mechanical devices and lighting fixtures shall **ONLY** be permitted where specifically located on the Architectural and/or Engineering Working Drawings.
  - In the event that the access panel, mechanical devices and lighting fixture locations are not clearly defined or otherwise in conflict with the other drywall ceiling elements or lighting fixtures, the Contractor shall be responsible for coordinating the location and layout of such drywall ceiling elements with the Architect PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.

Drywall ceiling access panels, mechanical devices and lighting fixtures shall be installed in compliance with the manufacturer's recommendations.

Drywall ceiling access panels shall be installed flush with the finished drywall ceiling in such a manner to minimize the finished appearance of the access panel

5.12.4 Drywall Ceiling Fire Protection Sprinkler Heads

Except as may otherwise be approved by the Project Party contracting with the Contractor for the Project work, the Contractor shall install approved recessed fire protection sprinkler heads in drywall ceilings in compliance with governing Codes and located in coordination with the other drywall ceiling elements and lighting fixtures.

- 6.0 DOORS, DOOR and INTERIOR WINDOW FRAMES
- 6.1 General
  - Unless specially detailed otherwise, dimensions given for new doors, door and window frames are nominal dimensions, only. The Contractor shall take into consideration frame tolerances, ceiling clearances and door undercut requirements and deduct from the given nominal dimensions PRIOR TO PRODUCT ORDERING OR FABRICATION.
- 6.2 New Door, Door and Interior Window Frame Submittal

#### 6.2.1 New Manufactured Doors and Door Frames

The Contractor shall submit a door, door and interior window frame schedule with manufacturer's product information, door and window frame profile samples and finish samples to the Architect for review and approval by the Project Party contracting with the Contractor for the Project work PRIOR TO ORDERING.

6.2.2 New Custom Doors and Door Frames

Where Custom doors, door and interior window frames are noted or specified on the Architectural Working Drawings, the Contractor shall submit a custom door, door and window frame schedule, shop drawings, door and interior window frame profile samples and finish samples to the Architect for review and approval by the Project Party contracting with the Contractor for the Project work PRIOR TO ORDERING

6.3 New Doors

6.3.1 New Non-rated Interior Doors

RE: Partition Plan, Door and Door Frame Schedule. Unless noted otherwise, doors shall be 1-3/4 inch thick size, solid core, flush wood veneer faced construction free from any scratches, irregularities or warping, and shall conform to AWI Custom Grade standards as required and appropriate for the specified Project hardware as reviewed by the Architect and approved by the Project Party contracting with the Contractor for the Project

Unless noted otherwise or specified, new non-rated interior doors shall match the Building Owner's specified Building Standard door or existing Suite Standard doors to remain in existing Project spaces being remodeled.

6.3.2 New Fire-rated Interior Doors RE: Partition Plan. Door and Door Frame Schedule. All specified fire rated doors and door frame assemblies shall bear the required UL rating label attached to the door and door frame. Any modification to UL labeled fire-rated doors and frames shall be accomplished by a certified UL shop.

Unless noted otherwise or specified, new rated interior doors shall match the finished appearance of Building Owner's specified Building Standard door or, if noted, existing Suite Standard doors to remain in existing Project spaces being remodeled.

6.4 New Door and Interior Window Frames RE: Partition Plan, Door and Door Frame Schedule

6.4.1 General

Unless noted otherwise, door and interior window frames shall match the Building Owner's specified Building Standard size, construction, material and finish for door and interior window frames or, if noted, the existing Suite Standard door and interior window frames to remain in existing Project spaces being remodeled.

Door and interior window frames shall be as required and appropriate for the specified Project hardware.

6.4.2 Door and Window Frames on Expansive Soil Conditions Door and interior window frames for slab-on-grade construction over expansive soils shall be painted rigid hollow metal as reviewed by the Architect and approved by the Project Party contracting with the Contractor for the Project work. RE: Section 5.8, On-grade Projects with Expansive Soils.

6.0 <u>DOORS, DOOR and INTERIOR WINDOW FRAMES</u> (continued)

6.5 Existing Doors, Door and Interior Window Frames

6.5.1 Reuse of Existing Doors, Door and Interior Window Frames Prior to bid submittal the Contractor shall determine if any existing doors, door and interior window frames scheduled for reuse are damaged beyond reasonable and cost effective repair and provide for such existing doors, door and window frames to be replaced with new as approved by the Project Party contracting with the Contractor for the Project work.

6.5.2 Touch-up and Refinish Existing Doors, Door and Interior Window Frames Any existing or relocated doors, door or interior window frames to be used for the Project shall be refurbished as may be required to provide a "like new" appearance as approved by the Project Party contracting with the Contractor for the Project work.

6.5.3 Existing Metal Doors and Frames Metal doors and frames noted or scheduled to be painted shall be thoroughly prepared to eliminate any rough or irregular surfaces and provide a smooth, even surface suitable for the application of the specified paint. Paint shall be a spray application or electrostatically applied as approved by Building Owner. Brush or roller application to metallic surfaces shall be rejected.

#### 6.6 Door and Door Frame Installation Unless noted otherwise, the Contractor shall set all new and relocated doors and frames accurately in position, plumbed, aligned, secured and anchored permanently in opening and install per manufacturer's recommendations. The Contractor shall verify and correct existing doors and door frames as required to assure existing doors and door frames scheduled to remain are plumbed, aligned, secured and anchored permanently and installed per manufacturer's recommendations.

Unless noted otherwise or approved by the Architect and/or the Project Party contracting with the Contractor for the Project work, door frames located adjacent to a partition or wall shall be installed 4 inches clear from the outside edge of the door frame to the adjacent partition or wall.

All new doors shall be installed to ensure compliance with the current minimum ANSI (American National Standard, Accessible and Useable Buildings and Facilities) Maneuvering Clearances for Manual Swinging Doors. RE: Detail 5 on Sheet A0.6

#### 7.0 ARCHITECTURAL DOOR HARDWARE : Partition Plan, Hardware Schedule.

7.1 General

#### 7.1.1 Building and Suite Standards

Unless noted otherwise, architectural door hardware style and finish shall be Building Standard or Suite Standard as approved or selected by the Building Owner provided such hardware is both ANSI and governing Building Code compliant. RE: Section 7.1.2, ANSI and Code Compliance.

#### 7.1.2 ANSI and Code Compliance

- A) New Hardware: Unless noted otherwise and not otherwise required by governing Codes, all door hardware necessary for new Project doors shall comply with current ANSI (American National Standard, Accessible and Usable Buildings and Facilities) requirements with ANSI compliant lever style hardware sets.
- B) Existing Hardware:
- Existing door hardware not serving the general public, which is NOT noted for new Project doors may not be required to comply with ANSI requirements PROVIDED such existing hardware is specifically approved by the governing Building Code Official. All other existing non-compliant ANSI hardware shall be replaced as required with new ANSI compliant hardware to match the specified Project hardware.
- 7.2 New Architectural Door Hardware and Keying Submittal
- 7.2.1 New Architectural Door Hardware Submittal Except as directed otherwise by the Building Owner and/or the Project Party contracting with the Contractor for the Project work, the Contractor or the Contractor's Hardware Supplier shall submit to the Architect for review and approval by the Project Party contracting with the Contractor for the Project work, a complete hardware schedule in accordance with ASAHC "Architectural Hardware Scheduling Sequence and Format" with product cut sheets and hardware finish samples.

This submittal schedule shall include a complete template list for each penetration of wood doors and metal frames.

Any request for substitutions in the Project Hardware Schedule shall be accompanied by catalog cuts of items and itemized comparative costs.

#### 7.2.2 Lockset Keying Submittal

The Contractor or the Contractor's Hardware Supplier shall coordinate with the Building Owner and/or the Project Party contracting with the Contractor for the Project work on any specific requirements affecting the keying of Project lockset hardware sets. The Contractor or the Contractor's Hardware Supplier shall submit a complete keying schedule for all Project lockset hardware sets, for approval by the Building Owner and/or the Project Party contracting with the Contractor for the Project work.

Unless noted or authorized otherwise, the Contractor shall provide for all locks to be keyed to a "Building Master", with a minimum of two (2) masters and one (1) grand master and a keying schedule being provided to the Building Owner and/or the Project Party contracting with the Contractor for the Project work.

7.3 New Architectural Door Hardware All doors to or from public areas shall be provided with ANSI compliant lever style hardware sets and delayed action door closers (where required).

All doors with closers shall be self stopping with door hold-open function EXCEPT where such hold-open function is prohibited by the governing Building Code or noted otherwise.

Finish of hardware, including associated screws and bolts, shall be Building Standard or Suite Standard as noted. Weather-stripping, sound stripping or smoke seals shall be full height of both jambs and full width of head. RE: Partition Plan, Hardware Schedule.

The Contractor shall provide all miscellaneous hardware pieces, such as fasteners, silencers, seals, door stops, etc. as required for the complete installation and function of specified doors.

Prior to ordering the scheduled doors and door frames, the Contractor shall confirm that all hinges, etc. conform to the weight loads and specified sizes of the scheduled doors and door frames.

For all fire-rated openings, the Contractor shall provide UL rated hardware in compliance with the current NFPA Standards including ANSI compliant delayed action door closers and smoke seals.

Locking hardware for fire-rated doors shall allow for egress without keying or special knowledge for exit operation from the egress side of the door.

- 7.0 ARCHITECTURAL DOOR HARDWARE (continued)
- 7.4 Existing Architectural Door Hardware All existing or reused hardware shall be protected from damage during F work and refurbished as may be required to provide "like new" function appearance as approved by the Project Party contracting with the Contra the Project work.
- 7.5 Architectural Door Hardware Installation

7.5.1 General Installation of hardware shall be in strict compliance with the hardware manufacturer's recommendations

Unless noted otherwise, all lever handsets shall be installed to match the Standard or Suite Standard mounting heights, but always within ANSI co range (34 inches min.-46 inches max). If no standard height is establish leversets shall be mounted at 42 inches AFF to the centerline.

Prior to final Project acceptance, the Contractor or the Hardware Supplie inspect and adjust all door closers, locks and/or all items requiring close adjustment and/or regulation, and provide all keying in compliance with t approved hardware keying submittal.

#### 7.5.2 Door Stops

Unless noted otherwise or provided for, The Contractor shall provide do for all doors.

Contractor shall provide and install non-combustible, solid wood or meta below the finished surface in the partition behind all wall mounted door st attach the door stop firmly to existing studs.

Floor mounted door stops shall be located out of the path of travel, secu anchored to the floor structure and positioned at 90 degrees to the positi door in the full open position.

#### 7.5.3 Weather-stripping, Sound-stripping and Smoke Seals

Weather-stripping, sound stripping or smoke seals shall be installed in c with the manufacturer's recommendations the full height of both jambs a width of head with approved thresholds or sills as may be required for the specified door location.

#### 8.0 INTERIOR GLASS & GLAZING

8.1 General

RE: Section 6.0. Doors, Door and Interior Window Frames, Partition Plan Keyed Notes and Door and Door Frame Schedule (for any integral glass sideliahts).

#### 8.1.1 Minimum Non-rated Glass Thickness

The glass thickness for all non-rated interior glass installed for the Project comply with the following guidelines as a minimum standard: 1/4 inch thick glass Maximum glass span of 60 inches (5'-0"). 3/8 inch thick glass Maximum glass span of 90 inches (7'-6").

1/2 inch thick glass Maximum glass span of 108 inches (9'-0"). 5/8 inch thick glass Maximum glass span of 120 inches (10'-0").

#### 8.1.2 Fire-rated Glass: Thickness / Maximum Size Panes Except as otherwise approved by the Architect and governing Building ( Officials, all fire-rated glass shall be manufactured to approved UL rating

20-minute fire-rated glass: Fireglass 20, premium grade 1/4 inch thick. 48 inches x 96 inches maximum size.

45-minute to 90-minute fire-rated: FireLite, premium grade 3/16 inch thick, 48 inches x 96 inches maximum size.

Fire-rating and the maximum size of fire-rated openings shall not exceed governing Code allowable openings in rated partition construction.

For other than glass sidelights installed in 20-minute UL fire-rated and la integral door and frame assemblies, glass openings in one-hour fire rate partitions shall be 45-minute U.L. tested and labeled assembly in accord ASIM E119

#### 8.1.3 Safety Glass

For other than fire-rated openings, tempered or approved Code complia laminated safety glass shall be installed for all new or existing glass:

Within 24 inches of a door or adjoining a passageway less than +60 in AFF, glass panes that are greater than nine square feet and/or extend than 18 inches above the floor.

Laminated safety glass shall consist of two (2) layers of glass, specified C1036 or C1038. Laminate material shall comply with CPSC 16 CFR 12 Category I or II, Safety Glazing Standard and/or ANSI Z91.1.

#### 8.1.4 Clear Non-rated Float Glass

Unless noted otherwise on drawings, required by the governing Building recommended by glass manufacturer for application indicated, non-rated glass shall be Type 1, Class 1, Quality g3 clear float glass.

#### 8.2 Glass Identification

Each pane of glass shall bear the manufacturer's permanent identification designating the type of the glass or glazing material. For other than tem glass, permanent identification by the manufacturer will not be required, the governing Building Code Official approves evidence in writing confirm compliance with the governing Building Code.

Tempered glass shall be permanently identified by the glass manufactur etched, sand blasted or otherwise permanently marked in a manner that be removed without destroying the glass.

#### 8.3 Installation

8.3.1 General All glass and glazing shall comply with current standards specified in the Glass Marketing Association "Glazing Manual" and "Sealant Manual".

Interior glass and glazing frames and/or glazing channels to be as noted RE: Partition Plan Keyed Notes and Project dimensions.

Contractor shall field measure all openings prior to fabrication and suppl sizes required for glazing openings provided, with edge clearances and as recommended by glass manufacturer, unless noted otherwise.

Width of exposed butt or edge joints shall not exceed 1/8 inch. Unless n otherwise, exposed glass edges at jambs and joints shall be flat ground sealed

8.3.2 Sealant

Sealant shall conform to ASTM C-920, Grade NS, Class Standards for N A uses, and shall have a low modulus with additional capability to withsta increase or decrease in joint width of 50 percent.

Exposed sealant shall be clear, razor trimmed and free of bubbles and o irregularities. Setting blocks, spacers and sealant shall be compatible w surfaces contacted.

	8.0	INTERIOR GLASS & GLAZING (continued)		uite 225 o 80237 oq 9100	Jenkins
Project and actor for	8.3 8.3.3	Glass Installation and Cleaning Any scratching of glass will result in rejection of work. All components shall be of size, shape and hardness recommended by manufacturer for application indicated		Street   Si r, Colorado	ntact - Tia
		The Contractor shall be responsible for thoroughly cleaning all new and existing glass and ensuring that all new and existing glass is free from any scratches, except as may otherwise be approved by the Project Party contracting with the Contractor for Project work.		th Monaco Denve	CC
e Building ompliant ned,		Clean glazing channels and other framing members to receive glass immediately before glazing. Protect glass from contact with contaminating substances resulting from construction operations, remove any such substances by method approved by glass manufacturer.		4725 Sou	
er shall	9.0	MILLWORK			
the	9.1	<b>General</b> Unless noted otherwise, all millwork shall be AWI "Custom Grade," manufactured or fabricated in full compliance with the most current edition of Architectural Woodwork Institute (AWI) "Quality Standards." RE: Partition Plan Keyed Notes.			
or stops al blocking tops or	9.2	<b>Contractor Millwork Submittals</b> The Contractor shall prepare and submit shop drawings, finish material samples and hardware product cut sheets or samples, profile samples of millwork wall base and trim (if applicable to the Project) when required for the Project Schedule with outficient time for the Arabitect to available and for expressed of the Millwork			
rely ion of the		Submittals by the Project Party contracting with the Contractor for the Project work. Any fabrication done or millwork purchases prior to approval of Millwork Submittal			
		shall be at the Contractor's risk.			
ompilance and full ie		Shop Drawings shall show the following: Location of each item with field verified dimensioned plans and elevations, Large scale sections and details showing location of internal and field joints, Attachment devices and plastic laminate or veneer joints, Twiced detail treatments and Components and/or bardware (with			
		specifications and product information).			
n and S	9.3	Millwork Fabrication			
ct shall	9.3.1	Millwork fabrication shall be in strict compliance with the approved Millwork Submittal including approved shop drawing dimensions and the layout/placement of finished veneer joints and grain direction.			
		Failure of the millwork to comply with approved Millwork Submittal and Shop Drawings may result in the rejection of the work.			
	9.3.2	<b>Construction and Finish Materials</b> Unless noted otherwise in these Architectural Working Drawings, casework shall be overlay construction with wood, plastic laminate and Melamine veneer casework being applied over a MDF (medium density fiberboard) substrate.			
Code gs.		Where recommended by AWI Custom Grade standards wood veneer paneling, wood veneer and plastic laminate veneer casework shall be laminated on both sides, including both sides of cabinet and drawer fronts, as required to control contraction and expansion.			E 400 VARD
		Unless noted otherwise in these Architectural Working Drawings, wood veneer			
d the		Unless noted otherwise, the interiors for plastic laminate finished casework interiors shall be white Melamine and the interiors for wood veneer finished casework shall be black Melamine.		ERSIT	R - SL / BOU
beled d lance with		Unless noted otherwise, all fasteners shall be countersunk, filled and finished as required to blend with the finished surface to be invisible			
nt	9.3.3	<b>Heavy-duty Adjustable Shelves</b> 3/4 inch thick particleboard painted, plastic laminate and Melamine adjustable shelving may span up to 32 inches, spans of 32 inches to 42 inches shall be 1 inch thick and spans of 42 inches to 48 inches shall be 1-1/4 inch thick.		101 UI	VIVERS
nches ling lower	9.3.4	<b>Millwork Hardware</b> Unless noted otherwise in these Architectural Working Drawings, all millwork hardware shall be heavy-duty with concealed, ten-degree self-closing hinges with an ANSI compliant cabinet door and drawer pulls.		)	FOUR 101 UN
in ASTM 201,		Cabinet drawers shall be provided with heavy-duty, full extension drawer as required for the size and function of the drawer (file drawer or utility / utensil drawer).			
Codes or d interior		Hardware finishes shall match the Building Standard or Suite Standard architectural hardware finish OR as otherwise approved in the Millwork Submittal.			
		For pricing purposes, unless otherwise approved, specified or required, the following Millwork Hardware shall apply:			
on mark pered provided ming		Hinges: Stanley, Knape and Vogt or Mepla DS-Klip System, 120 degree opening / 10 degree self closing			
er's acid		Door and Drawer Pulls: Stanley, 4 inch wire pulls			
t cannot		Drawer Glides: File Drawers: Accuride model 4043 Box Drawers: Accuride model 3005 Pencil or utensil Drawers: Accuride model 2006			
e Flat		Grommets: 3 inch hole size, color TBD			
l. 		Adjustable Heavy-Duty Standards and Brackets: Knape & Vogt #87-186-187, anochrome finish Standards shall not be spaced more than 32 inches o.c.			
y glass in tolerances	9.4	Millwork Installation			
oted and	9.4.1	<b>Field and Equipment / Fixture Verification</b> The Contractor shall be responsible for field verifying and reviewing these Architectural Working Drawings for all proposed and existing conditions and dimensions applicable to millwork fabrication, installation and installation clearances within the Project and delivery to the Project and shall advise the			
NT, G, and and an		Arcnitect of any discrepancies, conflicts or design omissions for the Architect's direction PRIOR TO INITIATING WORK. The Contractor shall be responsible for verifying and confirming all appliances and vending equipment, office equipment, office fixtures, millwork accessories and			
other /ith		plumbing fixtures to be installed or provided by others on the Project.	57110139-71		

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#### 9.0 <u>MILLWORK</u> (continued)

#### Millwork Installation (continued) 9.4

#### 9.4.2 Blocking The Contractor shall provide fire retardant wood blocking in the partition behind all wall mounted millwork, shelving standards, cabinets, wall stops, wall mounted equipment, etc., or securely attach the millwork to existing studs as required to provide for a secure installation.

#### 9.4.3 Millwork Protection and Clean-up

The Contractor shall be responsible for protecting new and existing millwork to remain on the Project from damage prior to the acceptance of the completed Project.

The Contractor shall be responsible for repairing any damaged millwork and for cleaning and finishing all Project millwork to provide a "like new" condition free of any irregularities, blemishes and soiling as approved by the Project Party contracting with the Contractor for the Project work.

#### 10.0 ARCHITECTURAL OUTLET LOCATION PLAN

E: Section 1.7, Engineering Working Drawings.

#### 10.1 General

#### 10.1.1 Workmanship

All electrical materials and workmanship shall be in full compliance with governing Codes and regulations. Unless noted otherwise, mounting heights for new outlets shall be in compliance with current ANSI standards as a minimum.

#### 10.1.2 Approvals

Unless noted otherwise, all electrical, telephone and data outlet locations. mounting heights, and cover plate material(s), color(s) and finish(es) shall be as approved by the Project Party contracting with the Contractor for the Project work.

#### 10.1.3 Installation of Engineered "Architectural Devices" The Contractor shall be responsible for coordinating with the Architect on the location and placement of fire alarm strobe lighting devices and thermostats PRIOR to installation of such devices.

Failure by the Contractor to coordinate and confirm the location of such devices with the Architect may result in the relocation of such devices at the Contractor's expense.

#### 10.2 Architectural Outlet Plan

The Outlet Location Plan is intended ONLY to show the type of outlet, the general placement of new and existing outlets and devices and the outlet mounting height if other than standard mounting height of electrical, voice / data outlets, card key readers and other such outlets and devices. Reference the Electrical Engineering Working Drawings for all other requirements.

The Contractor shall be responsible for advising the Architect of any discrepancies between the Electrical Working Drawings and the Architectural Outlet Plan and these Architectural Working Drawings. RE: Architectural Outlet Location Plan and Electrical Engineering Working Drawings.

#### 10.3 Field Verification

Location, mounting height and type of outlet of existing outlets may vary from those shown in the Architectural Outlet Plan. PRIOR to submitting a Project Bid the Contractor shall be responsible for field verifying the existing outlet locations and types and for advising the Architect of any discrepancies between the Architectural Outlet Plan and findings in the field. RE: Section 1.3, Existing Architectural Conditions.

#### 10.4 Equipment / Systems Furniture Verification

The Contractor shall be responsible for confirming electrical power, voice and data outlet requirements for all appliances, office equipment and other special equipment being provided and installed on the Project.

Contractor shall coordinate with the Project furniture installer(s), cabling vendors, and security vendors to determine the location of and requirements for outlets and junction boxes prior to rough in installation of boxes and conduit. Unless noted or determined otherwise, service to furniture systems being provided and installed by others are assumed as requiring four circuit, eight wire service for a maximum of six (6) workstations.

The Contractor shall advise the Architect of any such additional or revised requirements for direction and/or approval PRIOR to accomplishing the work in auestion.

- 10.5 Furniture Systems Electrical, Telephone and Data Installation Unless noted on these Architectural Working Drawings or approved otherwise by the Project Party contracting with the Contractor for the Project work, the Contractor shall connect and wire all electrical services to the furniture systems with electrical whips as provided by the furniture systems vendor/installer as required by the governing Code jurisdiction.
- 10.6 Outlet and Electrical Device Installation

#### 10.6.1 General

Unless noted otherwise, all dimensions shown are from the finish face of surfaces to the centerlines of outlets or groups of outlets.

Outlets are NOT to be mounted back to back. Separate adjacent outlets shall have no more than 3 inches clear between cover plates, unless noted otherwise

Unless noted otherwise as a critical dimension, plan location(s) for wall mounted electrical, telephone and data outlets may vary up to 6 inches to avoid conflicts with stud locations.

Reference the Outlet Location Plan Keyed Notes for all outlets requiring the determination of outlet locations and/or mounting heights by others.

#### 10.6.2 Standard Outlet Mounting Heights

New outlets located directly adjacent to existing boxes are to be mounted at a height and orientation which matches the outlets to remain.

Outlets NOT located adjacent to existing boxes are to be mounted vertically, with centerlines at 18 inches above finished floor, unless noted otherwise by the Architect.

Wall mounted telephone outlet boxes, card key readers, electric cipher lock key pads, thermostats and fire alarm boxes shall be mounted vertically and centered at 44 inches for forward reach positions or 46 inches for side reach positions above finished floor, unless noted otherwise by the Architect.

#### 10.6.3 Floor Mounted Outlets

Unless noted otherwise, electrical, telephone and data floor receptacles shall be flush type as specified by the Project Electrical Engineer. For other than slabon-grade construction, such receptacles shall be UL fire-rated to maintain the floor slab fire separation.

#### 10.6.4 Floor Penetrations For Other than Slab-on-grade Construction A) All floor penetrations shall be coordinated with the Structural Engineers (if available and practicable) and X-rayed to ensure safe and practical structural and sub-floor obstacle clearance.

B) All floor penetrations shall be fire sealed, whether new or existing, as required to provide the Code required floor fire separation with a UL listing sealant appropriate for the type and rating of the floor. Floor penetrations 1-1/2 inch or greater may be sealed with non-shrink grout flush with the adjacent floor slab.

#### 11.0 ARCHITECTURAL REFLECTED CEILING PLAN RE: Section 1.7, Engineering Working Drawings.

#### 11.1 Architectural Reflected Ceiling Plan

#### 11.1.1 General

The Reflected Ceiling Plan is intended to show the extent of new and e ceiling materials (i.e., grid and tile, painted gypsum board, etc.), the loc new and existing light fixtures, the lighting fixture specification schedule the general notes only.

Unless noted otherwise, all suspended acoustical tile ceilings and light shall be Building or Suite Standard. RE: Architectural Reflected Ceiling Legend and Keyed Notes.

All Architectural products and installation shall be in conformance with governing Codes and regulations, as a minimum standard, and produce manufacturer's recommendations. All mechanical and electrical mater workmanship shall be in strict compliance with governing Codes and regulations, as a minimum standard.

For all other requirements, reference Mechanical and Electrical Engine Working Drawings, approved Fire Protection Shop Drawings and the lo all other engineered system ceiling devices.

#### 11.1.2 HVAC Installation

The Contractor shall be responsible for the coordination and installatio HVAC engineered plans and these Architectural Working Drawings to that above ceiling clearances required for the ceiling design and specif lighting layout DO NOT conflict.

#### 11.1.3 Fire Protection and Life Safety

The Contractor shall be responsible for coordinating with the Building determine which, if any, subcontractors and/or vendors are approved design and work on the Building life safety detection, alarm and fire sup systems.

Fire protection sprinkler plans, where required, shall be provided by the Contractor and prepared by a qualified engineer for the Building Owne approval and/or the Project Party contracting with the Contractor for the work.

#### 11.2 Field Verification

Grid layout and existing lighting and switching locations and quantities from that shown.

PRIOR to bid submittal, Contractor shall field verify the existing ceiling conditions, above ceiling clearances for light fixtures and other devices suspended acoustical ceiling grid layout, ceiling lighting locations and The Contractor shall be responsible for advising the Architect of any discrepancies or conflicts between these Architectural Working Drawing the Contractor's field verification findings. RE: Section 1.3, Existing Are Conditions.

The contractor shall field verify the existing above ceiling clearances ( structural elements, HVAC ducts and equipment, fire protection sprink or electrical, voice and data conduits) with the planned light fixture layer specifications. The Contractor shall be responsible for advising the Are any CONFLICTED light locations or conditions in a timely manner.

#### 11.3 Contractor Submittal

No substitutions to the specified or otherwise approved Project Submit be permitted without written recommendation by the Architect and appr the Project Party contracting with the Contractor for the Project work.

11.3.1 New Light Fixture, Lamping and Lighting Control Submittal The Contractor shall submit a Light Fixture Submittal and Lighting Cor Submittal with manufacturer's product information for all new non-Build non-Suite Standard light fixtures and lighting control devices, finish sar product information to the Architect for review and approval by the Pro contracting with the Contractor for the Project work.

The Contractor's Light Fixture Submittal shall include lamping for each of lighting fixture. Unless noted otherwise or approved by the Project F contracting with the Contractor for the Project work, new lighting shall specified or existing Building Standard wattage and lamp color temper

11.3.2 Lamping Submittal for Existing Light Fixtures Lamping or relamping of existing Project light fixtures shall be as appro the Building Owner and the Project Party contracting with the Contract Project work, if other than the Building Owner.

#### 11.3.3 Suspended Ceiling Submittal

The Contractor shall submit product information for all new non-Buildin Suite Standard suspended ceiling treatments with manufacturer's prod information, finish and product samples to the Architect for review and by the Project Party contracting with the Contractor for the Project wor

- 11.3.4 Ceiling Mounted Mechanical, Electrical and Life Safety Devices Unless otherwise directed, copies of the Mechanical and Electrical En Submittals for any Non-building Standard, visible life safety devices an ceiling mounted diffusers, registers or other mechanical devices shall approved by the Project Party contracting with the Contractor for the P work.
- 11.3.5 Fire Protection System Submittal For Projects with new or existing Fire Protection Systems, the Contract coordinate with the Building Owner to determine and use a subcontrac vendor which is approved for work in the Building.

The Contractor shall submit a copy of the Project fire protection sprinkl for approval approved by the Building Owner and the Project Party con with the Contractor for the Project work, if other than the Building Own

#### 11.4 Installation and Scope of Work

11.4.1 Suspended Ceiling Grid and Tile New ceiling grid and ceiling tile shall be installed level and plumb per manufacturer's recommendations. Unless noted otherwise, new suspe acoustical ceiling grid shall match and align with existing ceiling grid no shown to remain.

> Replace or repair any existing ceiling grid or tile that is damaged, disco scuffed, soiled or otherwise does not match and blend with new constr contiguous areas. Group existing tiles of uniform pattern, color, textur finish in adjacent areas as approved by the Project Party contracting w Contractor for the Project work.

> No tile shall be painted or refinished in a manner which affects original manufacturer's performance specifications unless noted or approved by Project Party contracting with the Contractor for the Project work. NO existing screw holes or similar irregularities will be accepted in existing remain, unless approved by the Building Owner.

#### 11.4.2 Above Ceiling Work

Any materials provided above the ceiling grid must be non-combustible plenum rated. RE: Section 4.0, Architectural Demolition.

All cabling and other such wiring and wire management systems shall suspended from the structure above. NO wiring will be permitted to lay on the suspended ceiling systems.

	11.0	ARCHITECTURAL REFLECTED CEILING PLAN (continued)	12.0	INTERIOR FINISHES (continued)	12.0	INTERIOR FINISHES (continued)
	11.4	Installation and Scope of Work (continued)	12.4	Luxury Vinyl Tile (LVT) and Vinyl Composition Tile (VCT)	12.7	Painting
oviation	11.4.3	Lighting All light fixtures shall be supported directly from structure separate from the		Installation workmanship shall comply with the manufacturer's guidelines. Work shall be accomplished by qualified mechanics, trained and certified for installation by the specified manufacturer.		Installation workmanship shall comply with the manufacturer's guidelines. Work shall be accomplished by qualified mechanics, trained and certified for installation by the specified manufacturer.
existing cation of le and/or		suspended ceiling system. Unless noted otherwise, center all downlight and wall washer fixtures in the acoustical tile panel shown on the Reflected Ceiling Plan.	12.4.1	<b>Contractor Submittal</b> The Contractor shall prepare and submit an installation diagram and material samples to the Architect for review and approval by the Project Party	12.7.1	Contractor Submittal The Contractor shall prepare and submit samples of the specified paint to the Architect for review and approval by the Project Party contracting with the
t fixtures g Plan		Install all recessed light fixtures such that the throat of the light fixture is flush with the face of the finished ceiling in a manner that prevents any light leak.		contracting with the Contractor for Project work, PRIOR to ordering. Failure to submit an installation diagram and/or failure to follow the approved installation diagram may result in rejection of work.		Contractor for Project work, PRIOR to ordering. Samples of each specified drywall paint shall be provided in 8-1/2 inch x 11 inch sample format. Failure to provide submittals may result in rejection of work.
t ct rials and	11.4.4	<b>Lighting and Mechanical Controls</b> Unless noted otherwise, all electrical switch and mechanical thermostat mounting heights and cover plate material(s), color(s) and finish(es) shall be Building or Suite Standard.	12.4.2	<b>Installation</b> For satisfactory performance, substrate surfaces must be smooth, flat, cleaned and free of all floor coverings, other surface treatments or any irregularities, with a maximum variation of 1/2 inch in 10'-0". Contractor shall remove subfloor ridges and bumps, then fill low spots, cracks, joints, holes and other defects with	12.7.2	<b>Surface Preparation</b> The Contractor shall be responsible for field inspection and preparation of all surfaces to receive paint treatment as required to ensure that such surfaces are acceptable for the finish application.
eering location of		Plan locations for electrical switches may vary up to 6 inches to avoid conflicts with stud locations. Unless noted otherwise, mount light switches to match Suite Standard mounting height for remodel projects, Building Standard where applicable for new projects located in leased space and centered at 48 inches		subfloor filler to achieve required smoothness. The subfloor shall be subject to the approval of the flooring contractor before application starts. Unless noted otherwise, lay tile flooring from center marks established with	40.7.0	All roughness or other irregularities that may appear after priming shall be thoroughly sanded out or otherwise corrected to provide a smooth, even surface for painting and finishing.
on of the ensure		AFF for all other projects. Provide and install a single cover plate over ganged switches for similar voltages.		principal wais and perpendicular to the principal wais as shown on the hoor plan adjusted as required to avoid use of cut units less than 1/2 - tile wide at perimeters. Match tiles for color and pattern by using manufactured and packaged sequence. RE: Finish Plan for installation pattern.	12.7.3	Application Application for all painted surfaces of new partitions shall be no less than a three (3) coat system using the complete paint system (sealer, primer, finish coat, etc.). Existing painted surfaces shall be properly cleaned and prepared, then painted with a two (2) coat system (primer, finish coat) to match and blend
fied		Group mechanical thermostats and fan switches with electrical switches wherever possible.		Extend the work into recesses and under equipment and fixtures to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at edges and corners of obstructions without disruption of pattern or		with new partitions. Finished application and wall appearance shall be free of surface and color
Owner to	12.0	INTERIOR FINISHES		joint alignment.		irregularities.
for the ippression ie	12.1	<b>General</b> All interior finishes shall be in compliance with governing codes (particularly the Chapter Eight "Table of Interior Wall and Ceiling Finish Requirements by Occupancy", and regulations and installed (including all required surface preparation) in strict accordance with manufacturer's recommendations, as a	12.5	<b>Resilient Vinyl and Linoleum Sheet Flooring</b> Installation workmanship shall comply with the manufacturer's guidelines. Work shall be accomplished by qualified mechanics, trained and certified for installation by the specified manufacturer.	12.7.4	<b>Nonmetallic Surfaces</b> Paint shall ONLY be roller applied to nonmetallic surfaces, using short nap (3/8 inch or less) and lint free roller covers, unless noted otherwise. Brush painted nonmetallic surfaces shall be rejected.
er's ne Project	12.1.1	minimum standard, and the latest edition of Industry Standards for Installation. <b>Concrete Slabs-on-grade</b> Verify that concrete slabs-on-grade (or below grade) are ready for carpet, LVT	12.5.1	<b>Contractor Submittal</b> The Contractor shall prepare and submit a seaming installation diagram, material samples, product components and accessories for approval by the Project Party contracting with the Contractor for Project work, PRIOR to		Drywall paint, unless noted otherwise, shall be acrylic latex, low sheen finish (other than flat) not readily susceptible to burnishing under normal office and commercial wear.
s may vary		or tile installation by testing for moisture emission rate and alkalinity per ASTM F1869 or other relevant ASTM standards for the materials (such as ASTM F2170). Comply with all flooring manufacturer's requirements. The General Contractor is responsible for testing all slabs for PH and moisture, and	12.5.2	approved installation diagram may result in rejection of work.	12.7.5	All transitions between accent and base paint must be visibly straight and without irregularity.  Metallic Surfaces
) s, switches.	12.2	presenting results to Building Owner and affected subcontractors.		For satisfactory performance, substrate surfaces must be smooth, flat, cleaned and free of all floor coverings, other surface treatments or any irregularities, with a maximum variation of 1/2 inch in 10'-0". Contractor shall remove subfloor		Paint shall ONLY be a spray application or electrostatically applied. Brush or roller application to metallic surfaces shall be rejected.
ngs and chitectural		Unless noted otherwise, all wall base shall be Building Standard or match Suite Standard style and height for remodel projects. Work shall be accomplished by qualified mechanics, trained and certified for installation by the specified manufacturer.		riages and pumps, then till low spots, cracks, joints, holes and other defects with subfloor filler to achieve required smoothness. The subfloor shall be subject to the approval of the flooring contractor before application starts.	12.7.6	Concrete Surfaces Only such paint or concrete coats/sealers specifically manufactured for application to concrete surfaces shall be permitted.
such as der lines out and	12.2.1	<b>Contractor Submittal</b> The Contractor shall submit sample(s) of the specified wall base for review by the Architect and approval by the Project Party contracting with the Contractor		Over cut vinyl or linoleum sheet from rolls as recommended by manufacturer for the specified application, layout and position sheet so that any seams fall at least 6 inches from underlayment joints or saw cuts in the concrete substrate, apply adhesive after proper set up time and roll with sheet flooring as required		Concrete surfaces shall be thoroughly prepared and cleaned to ensure a durable application without irregularities in the paint or covering application. Unless noted otherwise, approved concrete paint or sealers shall ONLY be roller applied as recommended by the coating manufacturer.
chitect of	12.2.2	for Project work, PRIOR to ordering.		by the manufacturer. Unless noted otherwise for integral coved base; scribe, cut, and fit to vertical surfaces. Scribe, cut, and fit sheet vinvl and lingleum flooring to all permanent	12.8	Wallcoverings Installation workmanship shall comply with the manufacturer's guidelines. Work
ittals shall proval by		joints tight and vertical. Maintain minimum of 18 inches between joints. Miter internal corners. Scribe and fit base to door frames and other interruptions. Remove excess adhesive from finished surfaces without damage.		vertical surfaces, permanent or built-in fixtures, including pipes, outlets, edgings, thresholds, nosings and transitions strips. Extend flooring into toe space, door reveals, closets and similar openings. Do not install sheet flooring over expansion joints, use manufacturer's recommended expansion joint covers.	12.8.1	Shall be accomplished by qualified mechanics, trained and certified for         installation by the specified manufacturer.         Contractor Submittal         The Contractor shall prepare and submit samples of the specified paint to the
ntrol ding or mples and	12.2.3	Wood Base     RE: Section 9.0, Millwork.     Carpet Base		Integral coved vinyl or linoleum base shall be installed in strict compliance with the manufacturer's recommendations utilizing the manufacturer's recommended trim and accessories.		Architect for review and approval by the Project Party contracting with the Contractor for Project work, PRIOR to ordering. Samples of each specified wallcovering shall be as required by the Architect for approval purposes. Failure to provide submittals may result in rejection of work.
n light type Party match the		Install carpet base on solid backing. Bond tight to wall and floor surfaces. Fit seams tight and vertical to provide an uninterrupted, uniform appearance. Maintain minimum of 60 inches between seams. Provide bound edges or provide and install top trim piece as may be specified on plans. Scribe and fit base to door frames and other interruptions. Remove excess adhesive from finished surfaces without damage. RE: Section 12.3. Carpet	12.6	<b>Ceramic, Porcelain and Natural Stone</b> Installation workmanship shall comply with the manufacturer's guidelines and the most recent edition of the Tile Council of America, Handbook for Ceramic Tile Installation. Work shall be accomplished by qualified mechanics, trained and certified for installation by the specified manufacturer.	12.8.2	<b>Surface Preparation</b> The Contractor shall be responsible for field inspection and preparation of all surfaces to receive wallcovering as required to ensure that such surfaces are acceptable for the finish application.
ature.	12.2.5	<b>Ceramic, Porcelain or Natural Stone Base</b> RE: Section 12.6, Ceramic, Porcelain and Natural Stone.		Materials shall be obtained from one source for each type and color of ceramic tile to minimize variations in appearance and quality.		All roughness or other irregularities shall be thoroughly sanded out or otherwise corrected to provide a smooth, even surface for application of the specified wallcovering.
ng or non-	12.3	<b>Carpet</b> Installation workmanship shall comply with the manufacturer's guidelines and the most recent edition of the American Carpet Institute. Work shall be accomplished by qualified mechanics, trained and certified for installation by the specified manufacturer.	12.6.1	<b>Contractor Submittal</b> The Contractor shall prepare and submit an installation diagram and material samples to the Architect for review and approval by the Project Party contracting with the Contractor for Project work. Failure to submit an installation diagram and/or failure to follow the approved installation diagram may result in rejection of work	12.8.3	<b>Material Application</b> Lay out rolls of wallcovering to ensure minimal variation between dye lots before cutting. Double cut wall covering to allow intended seam and pattern match. Make cuts straight, true and unfrayed. NO wallcovering seam or finish gaps or irregularities will be accepted.
l approval k.	12.3.1	<b>Contractor Submittal</b> The Contractor shall prepare and submit a carpet seaming diagram and material samples to the Architect for review and approval by the Project Party contracting with the Contractor for Project work, PRIOR to ordering. Failure to	12.6.2	<b>Installation</b> For satisfactory performance, substrate surfaces must be smooth, flat, cleaned and free of all floor coverings, other surface treatments or any irregularities, with		Unless noted otherwise, wallcovering shall NOT cover switch and outlet cover plates. Contractor shall remove such switch and outlet cover plates prior to the wallcovering application to ensure that there is no wall subsurface visible between the wallcovering and the cover plate.
gineering nd HVAC be Project	40.2.0	submit a seaming diagram and/or failure to follow the approved seaming diagram may result in rejection of work.		a maximum variation of 1/2 inch in 10'-0". Contractor shall remove subfloor ridges and bumps, then fill low spots, cracks, joints, holes and other defects with subfloor filler to achieve required smoothness. The subfloor shall be subject to the approval of the flooring contractor before application starts		Remove all excess adhesive and clean as required and recommended by the product manufacturer.
ctor shall ctor or	12.3.2	For satisfactory performance, substrate surfaces must be smooth, flat, cleaned and free of all floor coverings, other surface treatments or any irregularities, with a maximum variation of 1/2 inch in 10'-0". Contractor shall remove subfloor ridges and bumps, then fill low spots, cracks, joints, holes and other defects with subfloor filler to achieve required smoothness. The subfloor shall be subject to the approval of the flooring contractor before application starts.		Contractor to provide and install crack isolation membrane below all tile work as required. For slab-on-grade floors on expansive soils, tile and natural stone floor finishes shall be installed independent of the floor slab with isolation joints over all concrete floor slab control and expansion joints, strictly as recommended by the product manufacturer. Provide and install control or expansion joints as		Finished application shall be tightly and evenly bonded to the subsurface and wall appearance shall be free of any air bubbles or subsurface irregularities. (End of Specifications and General Notes)
ler layout ntracting er.		Carpet installation shall be glue down application, unless noted otherwise. Locate change of color or pattern between rooms under door centerline. Extend the work into recesses and under equipment and fixtures to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at edges and corners of obstructions without disruption of pattern or joint		required over control or expansion joints in concrete floor slab. Unless noted otherwise, floor and wall tile installation shall be thin set. All wall tile shall be installed on water-resistant gypsum board or cementitious board per the product manufacturer's recommendations for the Project application.		
ended		Provide and install ANSI compliant resilient or metal transition strips as noted between carpeted and hard surface floor treatments.		circumstances (cove base, corners, bull nose trim, etc.) in same material, size and finish as primary tiles specified by Architect.		
oted or olored, ruction in		Remove excess adhesive from floor, base and wall surfaces without damage. Clean and vacuum carpet surfaces, and prohibit traffic from carpet areas for 24 hours after installation.		conters noted otherwise, lay the in grid pattern and cut end tiles as required to center installation on each direction of walls and floors. Provide uniform joint widths throughout as approved by the Project Party contracting with the Contractor for Project work. Align joints of adjacent tiles between floor, base, walls and trim as possible.		
e and vith the by the		A) Carpet Tile: Unless noted otherwise, lay tile flooring from center marks established with principal walls and perpendicular to the principal walls as shown on the floor plan adjusted as required to avoid use of cut units less than 1/2 - tile wide at perimeters. Match tiles for color and pattern by using manufactured and packaged sequence. RE: Finish Plan for installation pattern.		Extend the work into recesses and under equipment and fixtures to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at edges and corners of obstructions without disruption of pattern or joint alignment. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Grind cut edges of tile abutting		
new or g grid to		B) Broadloom: Lay out rolls of carpet to ensure minimal variation between dye lots before cutting. Double carpet to allow intended seam and pattern match. Make cuts straight, true and unfrayed.	12.6.3	trim, pulit-in items, and other finishes for straight aligned joints. Fit file closely to electrical outlets, piping or fixtures, so that plates, collars or covers overlap file.  Sealing  Provide and apply an even coat of sealer (if required) over stope or coromic		
e and		Install carpet on floors with run of pile in same direction as anticipated traffic. Do not change run of pile in any room where carpet is continuous through a wall opening into another room. Locate carpet seams in area of least traffic. Fit seams straight, not crowded or peaked, and free of gene		tiles per manufacturer's directions. Contractor shall seal the grout on all natural stone and ceramic tile installations in strict accordance with the grout manufacturer's recommendations.		
y directly		ioust tranio. En soanis straight, not orowded of peaked, and nee of gaps.		Unglazed ceramic tile and natural stone shall be sealed as recommended by the product manufacturer.		

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2 Acoustical Partititon 1 1/2" = 1'-0"

3 Interior Partition 1 1/2" = 1'-0"





PLENUM RATED OR UNFACED ACOUSTICAL BATT INSULATION CENTERED ON PARTITION

BEADED METAL DRYWALL TRIM TYPICAL AT CEILING

STRUCTURE

CEILING

(BOTH SIDES)

- METAL STUD PARTITION CROSS BRACING AT 8'-0" MAX OC WITH DEFLECTION SLIP JOINT AT STRUCTURE



General Contractor shall field verify all ceiling, deck and structural heights from slab prior to providing cost estimates for the project. For projects with existing partitions, the General Contractor shall verify wall thicknesses, and match, unless the thickness does not comply with height schedules per the most current edition of the USG gypsum handbook. Notify Architect of any heights in the field not listed in the USG Gypsum Construction Handbook, so that a licensed Structural Engineer can provide the proper specifications PRIOR to project bids or installation.

#### Interior Framing Limiting Heights

Height Limitations for Non-Bearing Walls (L/240 allowable deflection) Minimum 1/2" gypsum board on each side. RE: Most current edition of the USG Gypsum Construction Handbook.

<u>1 5/8" Studs @ 24" O.C.</u> Gauge Max. Hgt. 25 Ga. 7'-11" 20 Ga. 8'-9" 18 Ga. 9'-11"

2 1/2" Studs @ 24" O.C. Gauge Max. Hgt. 25 Ga. 10'-7" 20 Ga. 11'-7" 18 Ga. 11'-11" 19 Ga. 11'-11"

16 Ga. 12'-9" 14 Ga. 13'-6" <u>3 5/8" Studs @ 24" O.C.</u> Gauge Max. Hgt. 25 Ga. 13'-5" 20 Ga. 14'-9" 18 Ga. 15'-10" 16 Ga. 16'-11" 14 Ga. 18'-2"

<u>4" Studs @ 24" O.C.</u> Gauge Max. Hgt. 25 Ga. 14'-2" 20 Ga. 16'-5" 18 Ga. 16'-5" 16 Ga. 18'-4" 14 Ga. 19'-6"

6" Studs @ 24" O.C. Gauge Max. Hgt. 25 Ga. 16'-9" 20 Ga. 21'-7" 18 Ga. 24'-0" 16 Ga. 26'-0" 14 Ga. 28'-0"

<u>1 5/8" Studs @ 16" O.C.</u> Gauge Max. Hgt. 25 Ga. 8'-4" 20 Ga. 9'-8"

<u>2 1/2" Studs @ 16" O.C.</u> Gauge Max. Hgt. 25 Ga. 11'-3" 20 Ga. 12'-10"

<u>3 5/8" Studs @ 16" O.C.</u> Gauge Max. Hgt. 25 Ga. 14'-4" 20 Ga. 16'-5"

<u>4" Studs @ 16" O.C.</u> Gauge Max. Hgt. 25 Ga. 15'-4" 20 Ga. 18'-4"

<u>6" Studs @ 16" O.C.</u> Gauge Max. Hgt. 25 Ga. 19-9" 20 Ga. 24'-6"

STRUCTURE METAL STUD PARTITION CROSS BRACING AT 8'-0" MAX OC WITH DEFLECTION SLIP JOINT AT STRUCTURE

CEILING

BEADED METAL DRYWALL TRIM TYPICAL AT CEILING (BOTH SIDES)

METAL STUDS RE: INTERIOR FRAMING LIMITING HEIGHTS SCHEDULE

5/8" TYPE X GYPSUM WALLBOARD BOTH SIDES

STEEL BOTTOM TRACK (MATCH STUD GAUGE) SPECIFIED WALL BASE SPECIFIED FLOOR FINISH

naco Street | Suite 225 enver, Colorado 80237 303.399.9100 ٥ď Ĺ

Contact - Tia Jenkins Contact - Annie Khong

# -Δ GELMAN, NIVERSITY 101 LEWIS

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FOURTH FLOOR - SUITE 400 101 UNIVERSITY BOULEVARD DENVER, COLORADO 80206

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FIGURE 703.3.10 HEIGHT OF RAISED CHARACTERS ABOVE FLOOR

8 Signage Information and Mounting Location 1/4" = 1'-0"



(E) HINGE APPROACH - PULL SIDE

5 Maneuvering Space at Doors 1/4" = 1'-0"



FIGURE 307.2 LIMITS OF PROTRUDING OBJECTS

3 Protruding Objects 1/4" = 1'-0"













# LEWIS RINGELMAN, P.C. Demolition Plan Fourth Floor 6,202 RSF 1/8" = 1'-0"



#### **DEMOLITION PLAN GENERAL NOTES** Purpose:

The purpose of this Plan is to generally describe the proposed demolition work required for the Project in conjunction with the other plans and Engineering Plans.

**Contractor's Responsibilities:** 

The Contractor shall be responsible for field verifying all existing conditions and familiarizing themselves with all Project Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building and governing Building Codes affecting the Project. Provide for all materials, work and all associated costs as may be required for a complete and finished Project. DO NOT SCALE THE DRAWINGS.

The Contractor shall advise the Architect of any discrepancies between the Construction Documents and the field conditions prior to proceeding with the Project work.

#### Hazardous Materials:

The Contractor is to examine the existing conditions for the existence of hazardous materials. If hazardous materials are found, the Building Owner should be contacted and the hazardous materials are to be removed. All removal work shall be in compliance with local, state and federal laws for the removal of asbestos.

No materials containing any amount of asbestos are to be used in the performance of the work, including but not limited to asbestiform fiber/structure varieties of chrysotile, amosite (cummingtonite-grunerite), crocidolite, anthophyllite, tremolite, and actinolite and/or "magnesium silicates" as identified in the product manufacturer's Material Safety Data Sheets.

Prior to commencement of any demolition work, including floor covering removal, the General Contractor shall obtain from the Building Owner or the Building Owner's designated state-certified asbestos inspector a statement to the effect that the inspector has determined that demolition of the space will not disturb building materials that contain asbestos, as defined by the U.S. Environmental Protection Agency, the U.S. Occupational Safety and Health Administration and the State Health Department.

Upon completion of the work and prior to a request for final payment, the General Contractor shall provide a signed affidavit stating that no asbestos has been introduced into the building by the General Contractor, its subs or suppliers during the performance of the work.

#### Material Salvage:

Remove all walls, millwork, plumbing fixtures, door and frame assemblies and glazing noted by dashed lines. All other items indicated are to remain, unless noted otherwise. As determined by the Building Owner and Contractor, salvage all millwork, plumbing fixtures, door and frame assemblies and glazing that are determined to be reusable and dispose of all others. Cap all unused plumbing lines below the floor slab. Patch and repair slab as required to receive new floor finishes.

#### DEMOLITION PLAN LEGEND

Refere	ence Electrical Engineering F	Plans / K	eyed Notes and General Notes	on this	sheet for any special functions	s or
	mplex outlet	-	Dedicated fourplex outlet	$H(\mathbf{J})$	Wall mounted junction box	
	edicated simplex outlet	BP	Blank plate	$\langle \mathbf{J} \rangle$	Floor mounted junction box	
	uplex outlet		Data receptacle	`\€→     \	Floor box	
	edicated duplex outlet		Cable/data/coax receptacle	CR □□□□	Card reader	
	ourplex outlet	PP	Power pole	ADA □□□□	Automatic door reader	

#### DEMOLITION PLAN GENERAL NOTES <u>(cont'd)</u>

#### **Protection of Real Property** Improvements:

Provide protective measures as required to protect existing improvements and to provide free unobstructed and safe passage of Building Owner's personnel and general public to and from occupied portions of the building. Maintain and protect all areas outside the designated work areas from soiling and debris.

Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.

The Contractor shall repair any damage to the facility caused by the demolition activities or by their Subcontractors at no cost to the Building Owner.

#### Architectural Demolition:

Architectural elements shall be removed back to structure, or if such removal is impractical according to Building Owner, then elements shall be removed to such an extent that patching and/or new work will conceal part of the element to remain.

**Electrical / Mechanical Demolition:** 

Remove electrical and mechanical elements present in wall and/or structures noted for demolition unless serving other portions of the building. Coordinate all work with the Building Chief Engineer and notify Architect of such conditions.

Electrical and mechanical elements shall be removed back to the nearest junction box, panel, pipe, duct, etc. to ensure no conflict with new work. Coordinate all work with the Building Chief Engineer. Elements shall be shut off, disconnected or capped.

#### Clean Up / Finish Work:

Patch and prepare all disrupted walls and remaining ceilings as required, suitable for receiving finishes after demolition.

Upon completion of demolition work, remove tools, equipment and demolished materials from site. Leave interior areas broom clean.

Removal of trash and demolition material shall occur daily.

The existing building will remain in partial occupancy with areas made available for demolition and remodeling work in accordance with a mutually agreed upon schedule between Contractor and Building Owner. Disruptive or potentially hazardous construction activities shall be coordinated to occur after normal business hours, so as to minimize disturbance to Building Occupants.

DEMOLITION PLAN KEYED **NOTES** 

The following Keyed Notes are intended to generally describe special conditions and improvements as a supplement to the plan drawing, legends, schedules and General Notes. The Contractor shall be responsible for pricing any materials and work required and related to the Project Work.

The following Keyed Notes **DO NOT** represent the required engineering design.

**Demolition Plan General Notes:** 

1. All existing electrical, telephone and data devices, including all low voltage cabling, indicated on demolition plan are to be removed back to source.

2. Where existing flooring is to be removed, Demolition Contractor to remove any existing adhesive (ridges from broadloom, ceramic tile, carpet tile, LVT, etc) to a smooth slab condition, ready for new finishes.

3. Remove all existing suite finishes. Prepare all surfaces as required to receive new finishes.

4. Where PVC backed carpets were installed and removed, seal all existing adhesives to prevent Plasticizer Migration.

5. Where flooring, wall base and wall coverings are removed, the remaining substrates should be patched, repaired or replaced to receive new wall finishes. The existing floor slab shall be free of all nails, screws and other protruding objects and prepared to receive new flooring finishes.

6. Repair, refurbish or replace damaged blinds as required by Building Owner to provide a Building Standard appearance, or where new partition placement requires re-sizing of blinds.

7. Repair wall scars where existing wall was removed. Prepare surface as required for new finishes.

Demolition Plan Keyed Notes:

Remove existing entry door and frame assembly in its entirety. Verify disposition with Property Manager.

D2 Remove existing door and frame assembly in its entirety. Salvage for possible reuse.

Remove existing glazing assembly in its entirety. Salvage for possible reuse.

Remove existing millwork and plumbing fixtures in their entirety. Abandon plumbing lines below slab, patch and repair floor slab and walls as required for like new appearance.

#### D5

Remove existing millwork as indicated by dashed lines in its entirety. Do not salvage. Patch and repair wall scars at area of demolition, smooth for new finish.

#### D6

D7

Existing window blinds to remain. Protect during demolition and construction. PRICE AS ALTERNATE:

Remove existing window coverings. Provide and install Mecho fabric shades, 5% openness within the window casings.

Remove existing floor core outlet as indicated by dashed lines. Infill slab as

required to maintain required fire rating to match and blend with existing floor finishes

#### PARTITION SCHEDULE

	Existing partition
	Partial height partition
===	Partition to be removed
	Partial height partition to be removed

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requiremen	ts.
	Existing flooring to be remove

sting partition



# LEWIS RINGELMAN, P.C. Reflected Ceiling Demolition Plan Fourth Floor 6,202 RSF 1/8" = 1'-0"



REFLECTED CEILING DEMOLITION PLAN LEGEND

Reference Electrical Engineering Plans / Keyed Notes and General Notes on this sheet for any special functions or requirements.									
	2'-0" x 4'-0" light fixture	$\diamond$	Wall washer light fixture		Vanity light fixture		Cove light fixture		
	2'-0" x 4'-0" light fixture to be removed	$\langle \cdot \rangle$	Wall washer light fixture to be removed	0=====0	Vanity light fixture to be removed		Cove light fixture to be removed		
	2'-0" x 2'-0" light fixture	0	Pendant light fixture	<u> </u>	Suspended linear light fixture		Light switch/occupancy sensor to be removed		
	2'-0" x 2'-0" light fixture to be removed	C	Pendant light fixture to be removed	r::::::::	Suspended linear light fixture to be removed		Ceiling grid and ceiling tile		
$\square \oslash$	Downlight fixture	D	Sconce light fixture		Surface mounted linear light fixture		Ceiling grid and ceiling tile to be removed		
Øß	Downlight fixture to be removed		Sconce light fixture to be removed	C()	Surface mounted linear light fixture to be removed		Drywall ceiling		

# REFLECTED CEILING PLAN DEMOLITION PLAN GENERAL NOTES

#### Purpose:

The purpose of this Plan is to generally describe the proposed demolition of ceiling treatments, light fixtures and ceiling mounted electrical devices required for the Project in conjunction with the other plans and Engineering Plans.

Contractor shall reference Construction Documents prepared by the Project Engineers for all electrical specifications, circuiting, mechanical and life safety requirements for the Project work.

Contractor's Responsibilities:

The Contractor shall be responsible for field verifying all existing conditions and familiarizing themselves with all Project Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building and governing Building Codes affecting the Project. Provide for all materials, work and all associated costs as may be required for a complete and finished Project.

The Contractor shall advise the Architect of any discrepancies between the Construction Documents and the field conditions prior to proceeding with the Project work.

# REFLECTED CEILING DEMOLITION PLAN KEYED NOTES

The following Keyed Notes are intended to generally describe special conditions and improvements as a supplement to the plan drawing, legends, schedules and General Notes. The Contractor shall be responsible for pricing any materials and work required and related to the Project Work.

The following Keyed Notes **DO NOT** represent the required engineering design.

**Demolition General Notes:** 

1. Contractor to remove all debris, abandoned wiring, cabling and combustible materials in the plenum space above the ceiling.

2. Existing suspended acoustical ceiling tile and ceiling grid will remain. Modify as required for new wall layout. Contractor to protect ceiling assembly during demolition.

**Demolition Keyed Notes:** 

#### D1

Remove existing light fixture as indicated by dashed lines. Salvage for possible reuse.



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# LEWIS

#### PARTITION SCHEDULE

Existing partition Partial height partition = The second sec Partial height partition to be removed

# ר) REFLECTED CEILIN 04 / D.2



LEWIS RINGELMAN, P.C.







#### DIMENSION PLAN GENERAL NOTES Purpose:

The purpose of this Plan is to generally describe the proposed architectural layout and tenant improvements required for the Project in conjunction with the other plans and Engineering Plans.

#### Contractor's Responsibilities:

The Contractor shall be responsible for field verifying all existing conditions and familiarizing themselves with all Project Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building and governing Building Codes affecting the Project. Provide for all materials, work and all associated costs as may be required for a complete and finished Project.

The Contractor shall advise the Architect of any discrepancies between the Construction Documents and the field conditions prior to proceeding with the Project work.

#### Degree of Accuracy/Scaled Plan Dimensions:

DO NOT SCALE THE DRAWINGS. The drafted plan is based upon CAD data provided to us by others and field verified for general conformance of the plan to the space shown. Exhaustive measurements have not been made and the actual space may vary slightly from that shown in plan.

#### Unless noted otherwise, furniture and

equipment are only generally representative of the size and configuration of the actual furniture and equipment. The Tenant shall be responsible for their vendors and installers verifying all critical dimensions and requirements necessary to assure such furniture and equipment fit and work to their satisfaction and for advising the architect of all such requirements affecting the Project plans.

# DIMENSION PLAN KEYED NOTES

The following Keyed Notes are intended to generally describe special conditions and improvements as a supplement to the plan drawing, legends, schedules and General Notes. The Contractor shall be responsible for pricing any materials and work required and related to the Project Work.

The following Keyed Notes **DO NOT** represent the required engineering design.

#### Dimension Plan Keyed Notes:

1. All new walls to match existing drywall texture; verify in field.

Dimension Plan Keyed Notes:

#### A1 Provide and install new Building

Standard acoustical partition from floor to finished ceiling. Provide and install new acoustical batts within stud cavities and 4' wide sections of plenum rated sound batts above ceiling.

#### A2 Upgrade existing partition as required to provide Building Standard acoustical partition.

#### A3

Provide and install non-combustible blocking strips in wall for Tenant supplied wall mounted screen and mounting hardware. Contractor to coordinate with Tenant's vendor to confirm exact location, mounting height and requirements in field prior to installation.

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Contact - Tia Jenkins Contact - Annie Khong

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DIMENSION PLAN

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ISSUES /

# PARTITION SCHEDULE

 Existing partition
 Interior partition
 Corridor partition
Demising partition
Acoustical partition
 Partial height partition



# LEWIS RINGELMAN, P.C. Partition Plan Fourth Floor 6,202 RSF 1/8" = 1'-0"



#### PARTITION PLAN GENERAL NOTES Purpose:

The purpose of this Plan is to generally describe the proposed architectural layout and tenant improvements required for the Project in conjunction with the other plans and Engineering Plans.

#### **Contractor's Responsibilities:**

The Contractor shall be responsible for field verifying all existing conditions and familiarizing themselves with all Project Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building and governing Building Codes affecting the Project. Provide for all materials, work and all associated costs as may be required for a complete and finished Project.

The Contractor shall advise the Architect of any discrepancies between the Construction Documents and the field  $\langle A9 \rangle$  conditions prior to proceeding with the Project work.

> Contractor to notify Building Management 24 hours in advance of any life safety / fire alarm testing.

Provide and install Building Standard fire extinguishers, emergency lights and exit signage. Ensure compliance pertaining to fire suppression, electrical and mechanical systems as required by the Building Department.

#### **Contingency Allowance:**

The Contractor shall coordinate with Building Management for any contingency inclusion in the final bid for Tenant improvements and related work not provided for on the Plan.

#### Systems Furniture/Casegoods:

All systems furniture, casegoods, equipment, etc. shown is for general reference purposes only. The Tenant is responsible for providing critical dimensions to the Architect/General Contractor for special equipment, freestanding furniture or systems furniture. The Tenant's Systems Furniture vendor is responsible for verifying all field dimensions relative to their furniture installation, supplying any critical finished dimensions to the Architect/General Contractor prior to construction, providing circuit/wiring requirements to the Engineers and providing final locations of power/data/telephone feeds to the General Contractor.

**Tenant Improvement Exclusions:** 

Unless noted otherwise or specifically approved by the Building Owner, the tollowing work is to be provided separately by the Tenant and is NOT included in this Plan NOR to be included in the Contractor's Tenant Improvement Construction Budget:

Computer / Telephone / Security equipment, installation and cabling.

Moveable furniture, fixtures, accessories, equipment and signage.

#### **PARTITION PLAN KEYED NOTES**

The following Keyed Notes are intended to generally describe special conditions and improvements as a supplement to the plan drawing, legends, schedules and General Notes. The Contractor shall be responsible for pricing any materials and work required and related to the Project Work

The following Keyed Notes **DO NOT** represent the required engineering design.

#### Architectural General Notes:

1. Provide and install new Building Standard finishes in the Suite as noted in the Finish Notes.

#### Architectural Keyed Notes:

Provide and install new width shown x 8'-2" high x 1/2" thick clear tempered glass glazing assembly centered in finished drywall cased opening. Header to align with top of door frame. Provide and install new aluminum glazing channels top and bottom and clear silicone seal at all vertical joints and jambs (1/8" max width). Provide structural support above ceiling as required. Provide submittal to Architect for approval.

#### A2

A1

Provide and install new width shown x 8'-2" x 1/2" thick clear tempered glass glazing assembly centered in finished drywall cased opening. Provide and install new aluminum glazing channels top and bottom and clear silicone seal at all vertical joints and jambs (1/8" max width). Provide and install new 3M frosted film at this location. (Verify pattern and extents/design with Tenant). Provide structural support above ceiling as required. Provide submittal to Architect for approval.

#### A3

New wall-mounted television and mounting bracket to be provided by Tenant and installed by General Contractor. Verify final location and mounting height with Tenant. Secure to non-combustible blocking in wall as required.

#### A4

Provide and install millwork as shown. Millwork to include 24" deep base cabinets, 25-1/2" deep countertop, 4" backsplash, 12" deep upper wall cabinets as shown. Materials and hardware as specified. RE: Elevation(s) and Section(s) on Sheet 04/A.6.

Provide and install new 4'-0" x 4'-0" x 3/4" thick AC fire retardant telephone board mounted tight to ceiling and corner. Paint with semi-gloss paint to match adjacent wall color. (If one is not existing).

#### A6

Provide and install new kitchen millwork: Plastic laminate base and upper cabinets with Quartz countertops. Millwork to include sink base cabinet, opening for dishwasher, 24" deep base cabinets, 25-1/2" deep countertop, 4" backsplash, 12" deep upper wall cabinets as shown. Materials and hardware as specified. Countertop at 34" AFF. RE: Elevation(s) and Section(s) on Sheet 04/A.6.

#### A7

(N.I.C.) Refrigerator to be provided and installed by Tenant.

#### **A**8

(N.I.C.) Beverage cooler to be provided and installed by Tenant.

A9 Remove existing window coverings. Provide and install Mecho fabric shades, 5% openness within the window casings.

installed by Tenant.

(N.I.C.)

A14 (N.I.C.)

Provide and install new copper water line with soldered shut-off valve and all required plumbing services. RE: Mechanical Engineering Plans.

#### <u>PARTITION PLAN KEYED NOTES</u> <u>(cont'd)</u>

A10 Provide and install new tile backsplash. (Material allowance of \$40 per square foot).

A11 (N.I.C.) Reception desk to be provided and

installed by Tenant. A12 (N.I.C.) All furniture shown to be provided and

A13

High table and stools to be provided and installed by Tenant.

Lateral File cabinets to be provided and installed by Tenant.

#### A15

Provide and install new width shown x 9'-0" high x 1/2" thick clear tempered glass glazing assembly centered in finished drywall cased opening. Provide and install new aluminum glazing channels top and bottom and clear silicone seal at all vertical joints and jambs (1/8" max width). Provide structural support above ceiling as required. Provide submittal to Architect for approval.

Provide and install new undermount

compliant faucet and all associated

plumbing services including hot water

garbage disposal with electrical outlet

and switch. Provide and install ANSI

Property Manager. RE: Mechanical

Provide and install ANSI compliant

undercounter quiet type dishwasher as

Engineering Plans.

M2

service. Provide and install new backset

compliant insulation on all exposed under

counter pipes. Confirm specification with

ANSI compliant single compartment rear

draining stainless steel sink with ANSI

Mechanical Keyed Notes:

approved by Property Manager. Provide all required plumbing services including hot water. Provide electrical connection as required. Color: Stainless Steel. RE: Mechanical Engineering Plans. M3

Existing leverset office function hardware to remain

DOOR/DOOR FRAME SCHEDULE

Unless noted otherwise, all doors and

Stock as approved by Building Owner

and shall be solid core with Building

Existing door and frame assembly to

remain. Protect during demolition and

construction. Touch up as required for

Existing corridor door and frame

required for like new appearance.

assembly to remain. Protect during

demolition and construction. Touch up as

Provide and install new pair of 3'-0" wide

Provide and install new 3'-0" wide x 9'-0"

door with clear aluminum metal rails top

high x 1/2" thick clear tempered glass

and bottom and pivot hinges with

Provide and install new Building

Standard 3'-0" wide x 8'-0" high solid

assembly to match and blend with

X HARDWARE SCHEDULE

Provide ANSI compliant hardware as

required on all new door hardware.

Reused hardware sets shall be

refurbished as required for proper

function and finished to match new

hardware as approved by the Building

Provide and install wall stops with solid,

fire-retardant wood blocking behind and

floor stops where otherwise required

based on door function and location.

Provide and install new Building

Standard cypher lock at this location.

existing within the suite.

General Notes:

Owner.

Schedule:

core wood veneer interior door and frame

coordinating glass sidelights.

x 9'-0" high x 1/2" thick clear tempered

glass doors with clear aluminum metal

rails top and bottom and pivot hinges

with coordinating glass sidelights.

frames are new or relocated with Building

General Notes:

Standard finish.

like new appearance.

Schedule:

Provide and install new Building Standard ANSI compliant lever passage set hardware set. Finish to match Building Standard.

Provide and install new Building Standard ANSI compliant lever office function lockset hardware set. Finish to match Building Standard.

Provide and install new CRL Brushed Stainless 12" Standard Pull on each side of the doors CM12X12BS, with recessed overhead closer (90 degree). Provide magnetic lock that coordinates with the new card reader.

Provide and install new CRL Brushed Stainless 12" standard pull on each side of door CM12X12BS, with recessed overhead closer (90 degree).

#### PARTITION SCHEDULE

	Existing partition		
	Interior partition		
	Corridor partition		
	Demising partition		
	Acoustical partition		
	Partial height partition		



Contact - Tia Jenkir Contact - Annie Khor

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LEWIS RINGELMAN, P.C.

Outlet Location Plan Fourth Floor 6,202 RSF <sub>1/8" = 1'-0"</sub>



OUTLET LOCATION PLAN LEGEND



# OUTLET LOCATION PLAN GENERAL NOTES

#### Purpose:

The purpose of this Plan is to generally describe the proposed location of electrical, telephone and data line devices required for the Project in conjunction with the other plans and Engineering Plans.

Contractor shall reference Construction Documents prepared by the Project Engineers for all electrical specifications, circuiting, mechanical and life safety requirements for the Project work.

Contractor's Responsibilities:

The Contractor shall be responsible for field verifying all existing conditions and familiarizing themselves with all Project Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building and governing Building Codes affecting the Project. Provide for all materials, work and all associated costs as may be required for a complete and finished Project.

The Contractor shall advise the Architect of any discrepancies between the Construction Documents and the field conditions prior to proceeding with the Project work.

#### **Existing Improvements:**

Unless noted otherwise, existing conditions and materials to remain or be reused shall be refurbished and / or cleaned to ensure a "like new" appearance subject to the approval of the Tenant and Building Owner.







The following Keyed Notes are intended to generally describe special conditions and improvements as a supplement to the plan drawing, legends, schedules and General Notes. The Contractor shall be responsible for pricing any materials and work required and related to the Project Work.

The following Keyed Notes **DO NOT** represent the required engineering design.

#### **Electrical General Notes:**

1. All cover plates and devices shall match existing. Verify in field and replace plates and devices as required.

2. Contractor to provide contingency allowance of \$2.50 per square foot for switching/sensored receptacles as required by current IECC code

#### **Electrical Keyed Notes:**

requirements.

#### E1 Provide and install new dedicated 20 amp duplex outlet. RE: Electrical Engineering Plans.

E2 Provide and install new recessed 4" x 4" gang box to supply both power and cable/data/coax connections to Tenant's equipment. General Contractor to verify exact location, mounting height and requirements with Tenant prior to installation. RE: Electrical Engineering Plans.

#### E3

Provide and install new flush floor device to provide electrical, telephone and data to Tenant's furniture. General Contractor to verify final location and requirements with Tenant. X-ray floor as required; coordinate this work with Property Manager. Device to accommodate (2) duplex outlets, (2) data lines and (1) HDMI connection. Provide specification sheet to Tenant for approval. Verify final locations with Tenant in field prior to installation. Provide 1-1/4" conduit from floor box to adjacent wall mounted gang box to connect to Tenant mounted audio visual equipment.

RE: Electrical Engineering Plans.

#### E4

Provide and install new junction box at standard switch height for Tenantprovided and installed card reader system. Verify final location with Tenant and/or Tenant's Vendor. Connect to and modify door hardware as required. RE: Electrical Engineering Plans.



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Existing partition
Interior partition

CR Card reader (J) Floor mounted junction box ADA Automatic door reader

Electrical panel box

N Indicates new device

+XX Indicates special device mounting height above finished floor

#### PARTITION SCHEDULE

Existing pa
 Interior pa
Corridor pa
Demising
Acoustical
 Partial bei

Existing partition
Interior partition
Corridor partition
Demising partition
Acoustical partition
Partial height partition

# 3 A 04



# REFLECTED CEILING PLAN GENERAL NOTES

#### Purpose:

The purpose of this Plan is to generally describe the proposed location of ceiling treatments, light fixtures and ceiling mounted electrical devices required for the Project in conjunction with the other plans and Engineering Plans.

Contractor shall reference Construction Documents prepared by the Project Engineers for all electrical specifications, circuiting, mechanical and life safety requirements for the Project work.

Contractor's Responsibilities:

The Contractor shall be responsible for field verifying all existing conditions and familiarizing themselves with all Project Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building and governing Building Codes affecting the Project. Provide for all materials, work and all associated costs as may be required for a complete and finished Project.

The Contractor shall advise the Architect of any discrepancies between the Construction Documents and the field conditions prior to proceeding with the Project work.

# LEWIS RINGELMAN, P.C.

Reflected Ceiling Plan Fourth Floor 6,202 RSF <sub>1/8"</sub> = 1'-0"

![](_page_11_Picture_10.jpeg)

REFLECTED CEILING PLAN LEGEND

Reference Electrical Engineering Plans / Keyed Notes and General Notes on this sheet for any special functions or requirements							
	2'-0" x 4'-0" light fixture		Vanity light fixture	<b>\$</b> <sub>3</sub>	Three-way light switch	Ν	Indicat and/or
	2'-0" x 2'-0" light fixture	0 0	Suspended linear light fixture	<b>\$</b> \$	Dual-level light switch	R	Indicat fixture
$\square \oslash$	Downlight fixture		Surface mounted linear light fixture	M	Occupancy sensor		ţ
$\diamond$	Wall washer light fixture		Cove light fixture		Ceiling grid and ceiling tile		Sprink for 2
0	Pendant light fixture	\$	Single pole light switch		New ceiling grid and ceiling tile		12"
D	Sconce light fixture	\$ <sub>D</sub>	Light switch with dimmer		Drywall ceiling		⊆ Sprink for 2

# REFLECTED CEILING PLAN KEYED NOTES

The following Keyed Notes are intended to generally describe special conditions and improvements as a supplement to the plan drawing, legends, schedules and General Notes. The Contractor shall be responsible for pricing any materials and work required and related to the Project Work.

The following Keyed Notes **DO NOT** represent the required engineering design.

#### Architectural General Notes:

1. Existing ceiling to remain. Rework ceiling grid and ceiling tile as required for new suite layout/expansion.

Architectural Keyed Notes:

A1

Assume 30% of ceiling tiles will be replaced with new tiles to match existing.

Mechanical General Notes:

1. Modify existing HVAC and Life safety system (including fire suppression system) as required for new wall layout and function and as required by governing local Building and Fire Code.

# REFLECTED CEILING PLAN KEYED NOTES (cont'd)

#### Electrical General Notes:

1. Assume that light fixtures will require quick tap disconnects for pricing purposes.

2. Controls and lighting shall meet governing code, including 2021 IECC requirements as applicable.

3. Contractor to provide contingency allowance of \$2.50 per square foot for lighting controls as required by current IECC code requirements.

**Electrical Keyed Notes:** 

E1

Provide and install new Building Standard Daybrite Flat Panel 2'x2' lights throughout entire Suite. Provide and install new motion sensor switches as required.

#### E2

Provide and install new recessed LED downlight fixture. Provide specification sheet to Property Manager for approval. RE: Electrical Engineering Plans.

![](_page_11_Picture_32.jpeg)

Contact - Tia Jenkins Contact - Annie Khong

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PARTITION SCHEDULE

light switch	Ν	Indicates new light fixture and/or device
light switch	R	Indicates relocated light fixture and/or device
/ sensor		

![](_page_11_Figure_41.jpeg)

Existing partition
 Interior partition
Corridor partition
Demising partition
Acoustical partition
 Partial height partition

![](_page_12_Figure_1.jpeg)

# LEWIS RINGELMAN, P.C.

![](_page_12_Picture_3.jpeg)

![](_page_12_Picture_4.jpeg)

# INTERIOR FINISH NOTES

#### Purpose:

The purpose of this Plan is to generally describe the proposed interior finishes required for the Project.

#### General:

Unless noted otherwise, the following Tenant interior finish materials shall be priced as new including material, installation, preparation, tax, freight, storage, delivery and all associated costs.

Finish Plan General Notes:

1. All finishes noted are for pricing purposes only. Final finish selections to be verified with submittals, and approved by Property Manager and Tenant prior to order and installation.

#### FLOOR FINISHES:

#### C-1

Carpet Tile: Manufacturer: Patcraft Style: PDQ Level 2 Color: TBD Installation Method: TBD Stock: include 2% attic stock Material allowance: TBD Installation allowance: TBD Note: Installation allowance needs to address costs for floor preparation (including additional sealing of adhesives to prevent Plasticizer Migration where PVC backed carpets were removed, additional adhesives at broadloom carpets, ceramic tile, LVT, etc), floor prep (skim coat, sealing, grinding, etc), estimated freight, sealants, new adhesives, and installation as required to deliver a finished installed product to the space.

#### LVT-1

Luxury Vinyl Tile: Manufacturer: Mannington Style: Drift Collection Color: TBD Size: 7.25" x 48"

#### VCT-1

**Existing Vinyl Composition Tile:** Existing vinyl composition tile and base to remain. Protect during demolition and construction.

RUG: Rug on top of LVT-1 to be provided by Tenant.

WALL BASE:

![](_page_12_Picture_22.jpeg)

B-1 **Resilient Wall Base:** Manufacturer: TBD Color: TBD Height: 4" Profile: Cove

#### INTERIOR FINISH NOTES (cont'd)

#### WALL FINISHES:

P-1 Field Color: Manufacturer: Sherwin Williams or Equal Color: TBD Finish: Eggshell Product: Zero VOC

P-2 Accent Color: (One per room) Manufacturer: Sherwin Williams or Equal Color: TBD Finish: Eggshell Note: Assume one (1) wall at each room. Final location to be determined by Tenant and approved by Building Owner. Product: Zero VOC

#### MILLWORK FINISH:

ES-1 Engineered Stone Countertop: Manufacturer: Cambria or Equal Color: TBD Edge: Straight Thickness: 3cm Assume \$50.00 PSF material cost only PL-1 Plastic Laminate Cabinets:

Manufacturer: Formica or Equal Color: TBD PL-2

Plastic Laminate Countertop: Manufacturer: Formica or Equal Color: TBD

#### WT-1

Tile Backsplash: Provide an allowance of \$40 per square foot material allowance.

![](_page_12_Figure_34.jpeg)

 Existing partition
 Interior partition
Corridor partition
Demising partition
Acoustical partition

Partial height partition

![](_page_12_Figure_36.jpeg)

# Contact - Tia Jenkins Contact - Annie Khong

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LOOR - SUITE 400 RSITY BOULEVARD COLORADO 80206 FOURTH FLO 101 UNIVERS DENVER, CO

FINISH PLAN 04 / A.5

57.

ISSUES / REVI

![](_page_13_Figure_0.jpeg)

7 Section at Base Cabinet Drawers 1" = 1'-0"

6 Section at Typical Break Area Casework 1" = 1'-0"

![](_page_13_Figure_3.jpeg)

3 Elevation at Break Room 2 1/2" = 1'-0"

NOTE: PROVIDE FINISHED ENDS AND FILLER PANELS WHERE REQUIRED.

![](_page_13_Figure_6.jpeg)

![](_page_13_Figure_8.jpeg)

![](_page_13_Figure_9.jpeg)

![](_page_13_Figure_10.jpeg)

![](_page_13_Figure_11.jpeg)

1 Elevation at Copy 1/2" = 1'-0"

NOTE: PROVIDE FINISHED ENDS AND FILLER PANELS WHERE REQUIRED.

NOTE: **REFERENCE FINISH PLAN FOR** FINISH AND HARDWARE SPECIFICATIONS.

![](_page_13_Figure_16.jpeg)

4 Section at Typical Casework 1" = 1'-0"

NOTE: PROVIDE FINISHED ENDS AND FILLER PANELS WHERE REQUIRED.

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Contact - Tia Jenkin Contact - Annie Khon

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# **DIVISION 230000 - MECHANICAL SPECIFICATIONS**

#### BASIC MECHANICAL REQUIREMENTS QUALITY ASSURANCE

1. IF MANUFACTURER'S MATERIAL OR EQUIPMENT IS LISTED IN SCHEDULES OR ON DRAWINGS, THEY ARE TYPES TO BE PROVIDED FOR ESTABLISHMENT OF SIZE. CAPACITY, GRADE, AND QUALITY. IF OTHER ACCEPTABLE MANUFACTURERS ARE USED, COST OF ANY CHANGE IN CONSTRUCTION REQUIRED BY THEIR USE SHALL BE BORNE BY CONTRACTOR. 2. EQUIPMENT SHALL CONFORM TO STATE AND/OR LOCAL ENERGY CONSERVATION STANDARDS

- INTENT AND INTERPRETATIONS 1. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO RESULT IN A COMPLETE MECHANICAL INSTALLATION IN COMPLETE ACCORDANCE WITH ALL APPLICABLE LOCAL CODES
- AND ORDINANCES 2. DRAWINGS ARE DIAGRAMATIC IN CHARACTER AND DO NOT NECESSARILY INDICATE EVERY REQUIRED PIPE, OFFSET, TRANSITION, ETC. ITEMS NOT SPECIFICALLY MENTIONED IN THE SPECIFICATION OR NOTED ON THE DRAWINGS, BUT WHICH ARE NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED.
- DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY. WHATEVER IS CALLED FOR IN EITHER REFRIGERANT COPPER PIPE CONNECTIONS IS BINDING AS THOUGH CALLED FOR IN BOTH JE THERE IS A CONFLICT IN THE CONTRACT DOCUMENTS. THE MORE DEMANDING AND COSTLY DESIGN SHALL BE SELECTED FOR BIDDING PURPOSES. THE CONTRACTOR SHALL IMMEDIATELY PRESENT THE CONFLICT FOUND IN THE CONTRACT DOCCUMENTS TO THE ARCHITECT/ENGINEER FOR RESOLUTION. IF THE
- RESOLUTION FAVORS A LESS COSTLY DESIGN, THE CONTRACTOR WILL BE REQUIRED TO REIMBURSE THE DIFFERENCE IN COS 4. DRAWINGS SHALL NOT BE SCALED FOR ROUGH-IN MEASUREMENTS OR USED AS SHOP DRAWINGS. WHERE DRAWINGS ARE REQUIRED FOR THESE PURPOSES OR HAVE TO BE MADE
- FROM FIELD MEASUREMENTS, TAKE THE NECESSARY MEASUREMENTS AND PREPARE THE DRAWING 5. BEFORE ANY WORK IS INSTALLED, DETERMINE THAT EQUIPMENT WILL PROPERLY FIT THE
- SPACE, THAT REQUIRED CLEARANCES CAN BE MAINTAINED AND THAT EQUIPMENT CAN BE LOCATED WITHOUT INTERFERENCES BETWEEN SYSTEMS, WITH STRUCTURAL ELEMENTS, OR WITH THE WORK OF OTHER TRADES . IF CONFLICTS ARE DISCOVERED IN CONTRACT DOCUMENTS AS WORK PROGRESSES, SUBMIT A
- SET OF DRAWINGS MARKED WITH RED PENCIL SHOWING RECOMMENDED MODIFICATIONS TO SUPPORTS, ANCHORS. SEALS THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. JOB CONDITIONS 1. CONFER, COOPERATE, AND COORDINATE WORK WITH OTHER TRADES. COORDINATE CEILING

CAVITY SPACE CAREFULLY WITH ALL TRADES. PERMITS AND FEES ARRANGE AND PAY FOR ALL INSPECTIONS, PERMITS, LICENSES, CERTIFICATES, AND FEES REQUIRED IN CONNECTION WITH WORK

- SUBMITTALS AND SHOP DRAWINGS: CONFORM TO REQUIREMENTS OF DIVISION 1 AND FOLLOWING PARAGRAPHS. SUBMITTALS SHALL INCLUDE CATALOG CUT-SHEETS AND MANUFACTURER'S DATA SHEETS PRIOR TO ORDERING EQUIPMENT OR BEGINNING INSTALLATION WORK, ASSEMBLE, PREPARE. AND FURNISH SUBMITTALS AND SHOP DRAWINGS REQUIRED FOR PROJECT. FURNISH SUBMITTALS AND SHOP DRAWINGS AS REQUIRED BY INDIVIDUAL SECTIONS OF
- SPECIFICATIONS. 4. CONTRACTOR SHALL THOROUGHLY CHECK SUBCONTRACTORS' OR VENDORS' SUBMITTALS AND SHOP DRAWINGS AND. AFTER APPROVING THEM. SUBMIT THEM FOR REVIEW. SUBMITTALS AND SHOP DRAWINGS THAT DO NOT BEAR CONTRACTOR'S REVIEW STAMP WILL BE RETURNED NOT REVIEWED
- 5. IF DISCREPANCIES BETWEEN SUBMITTALS, SHOP DRAWINGS, AND CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SUBMITTALS AND SHOP DRAWINGS ARE REVIEWED, REQUIREMENTS OF CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE. SUBMITTALS AND SHOP DRAWINGS WHICH ARE SUBMITTED, BUT WHICH ARE NOT REQUIRED BY CONTRACT DOCUMENTS, WILL BE RETURNED NOT REVIEWED.
- 6. SUBMITTALS AND SHOP DRAWINGS SHALL IDENTIFY SPECIFIC EQUIPMENT WITH NUMBERS OR LETTERS IDENTICAL TO THOSE LISTED OR SCHEDULED ON THE DRAWINGS OR SPECIFICATIONS RECORD DOCUMENTS:

1. KEEP IN CUSTODY DURING ENTIRE PERIOD OF CONSTRUCTION. A CURRENT SET OF DOCUMENTS INDICATING CHANGES THAT HAVE BEEN MADE TO THE CONTRACT DOCUMENTS. 2. UPON COMPLETION OF WORK, SUBMIT THE COMPLETE SET OF RECORD DOCUMENTS TO THE ARCHITECT PROTECTION OF EQUIPMENT

- PROTECT MATERIALS AND EQUIPMENT FROM PHYSICAL DAMAGE, CONSTRUCTION DIRT, AND THE ELEMENTS FROM TIME OF SHIPMENT TO TIME INSTALLATION IS ACCEPTED BY OWNER. GUARANTEE 1. GUARENTEE MATERIALS, WORKMANSHIP, AND OPERATION OF EQUIPMENT INSTALLED FOR
- PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE OF ENTIRE WORK. REPAIR OR REPLACE ANY PART OF WORK WHICH SHOWS DEFECT DURING THAT TIME 2. BE RESPONSIBLE FOR DAMAGE TO PROPERTY OF OWNER OR TO WORK OF OTHER CONTRACTORS DURING CONSTRUCTION AND GUARANTEE PERIOD. 3. FURNISH EQUIPMENT WARRANTIES TO OWNER.

MECHANICAL FOUIPMENT WIRING AND CONNECTIONS 1. VOLTAGE CHARACTERISTICS SHALL BE AS IN ELECTRICAL DIVISION OF SPECIFICATION AND ON ELECTRICAL DRAWINGS TEMPORARY FACILITIES:

. USE OF EXISTING EQUIPMENT FOR TEMPORARY HEATING OR COOLING: DO NOT USE NEW OR EXISTING BUILDING EQUIPMENT WITHOUT WRITTEN PERMISSION FROM OWNER. INSPECTIONS: 1. DO NOT COVER UP OR ENCLOSE WORK UNTIL INSPECTED, TESTED, AND APPROVED. ANY

- WORK ENCLOSED OR COVERED UP BEFORE SUCH APPROVAL SHALL BE UNCOVERED, TESTED, AND APPROVED ACCESS DOORS: FURNISH HINGED STEEL ACCESS DOORS WITH CONCEALED LATCH, WHETHER SHOWN OR
- NOT, IN WALLS AND PLASTER OR GYPSUM BOARD CEILINGS FOR ACCESS TO CONCEALED VALVES, SHOCK ARRESTERS, AIR VENTS, MOTORS, FANS, BALANCING VALVES, OR OTHER OPERATING DEVICES REQUIRING ADJUSTMENT OR SERVICING. . ACCESS DOOR SHALL BE SIZE OF EQUIPMENT TO BE REMOVED OR 24" BY 24" IF USED FOR SERVICE ONLY. SUPERVISION:
- 1. SUPERVISE WORK TO PROCEED IN PROPER SEQUENCE WITHOUT DELAY TO OTHER CONTRACTORS. KEEP SUPERVISOR ON PREMISES AT ALL TIMES TO ENSURE THAT INTENT OF DRAWINGS AND SPECIFICATIONS IS BEING FOLLOWED. INSTALLATION:
- 1. WORKMANSHIP SHALL BE FIRST QUALITY. APPEARANCE OF WORK SHALL BE OF EQUAL IMPORTANCE TO ITS MECHANICAL OPERATION. LACK OF QUALITY WORKMANSHIP SHALL BE REASON FOR REJECTION OF SYSTEM IN PART OR IN WHOLE. INSTALL SO THAT ALL VALVES AND EQUIPMENT CAN BE EASILY ACCESSED AND SERVICED BY
- ADEQUATE CLEARANCE, INSTALLATION OF ACCESS DOORS, UNIONS IN PIPING, OR OTHER METHODS . COMPLETE INSTALLATION SHALL FUNCTION SMOOTHLY AND NOISELESSLY. 4. INSTALL EQUIPMENT AND MATERIALS PER MANUFACTURERS' RECOMMENDATIONS AND LOCAL
- CODES OR REGULATIONS 5. PLACE OR REPLACE ALL EQUIPMENT NAMEPLATES WHERE THEY CAN BE SEEN AND READ WITHOUT DIFFICULTY.
- 6. FLUSH PIPES FREE OF FOREIGN SUBSTANCES BEFORE INSTALLING VALVES OR MAKING FINAL CONNECTIONS. CLEAN ALL PIPING AND EQUIPMENT. COMPLETION:
- 1. CLEAN INSULATION COVERING, DUCTS, PIPES, EQUIPMENT, AND ACCESSORIES TO RECEIVE PRIME COAT OF PAINT. CLEAN EQUIPMENT RECEIVED WITH PRIME COAT TO RECEIVE FINAL REPLACE AIR FILTERS IF UNITS WERE OPERATED DURING CONSTRUCTION. CLEAN DUCTS,
- BLOWERS, AND COILS IF UNITS WERE OPERATED WITHOUT FILTERS DURING CONSTRUCTION. INSTRUCT OWNER IN OPERATION AND MAINTENANCE OF MECHANICAL SYSTEMS, MINIMUM PARTICIPANTS SHALL INCLUDE MECHANICAL CONTRACTOR AND CONTROLS CONTRACTOR
- REPRESENTATIVES 4. AFTER TESTS AND ADJUSTMENTS HAVE BEEN MADE AND SYSTEMS PRONOUNCED SATISFACTORY FOR PERMANENT OPERATION, REFINISH DAMAGED FINISH AND LEAVE
- EVERYTHING IN PROPER WORKING ORDER AND APPEARANCE. 5. ON COMPLETION OF WORK, REMOVE TOOLS, SCAFFOLDING, ETC., FROM GROUNDS AND LEAVE PREMISES CLEAN. OPERATION AND MAINTENANCE MANUALS
- PRIOR TO COMPLETION OF PROJECT SUBMIT OPERATION AND MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT WITH MOVING OR MOVABLE PARTS, INCLUDING PLUMBING SYSTEMS, PER IECC. INSTRUCTIONS SHALL BE IN PAMPHLET, TYPEWRITTEN OR PDF FORM. INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT SHALL BE INDICATED BY A SEPARATE TAB. INCLUDE TEST AND BALANCE REPORT.
- INCLUDE STARTING, STOPPING, LUBRICATION, PREVENTATIVE MAINTENANCE SCHEDULE, AND ADJUSTMENT INFORMATION FOR EACH PIECE OF EQUIPMENT.
- 4. INCLUDE GUARANTEES AND WARRANTIES OF ALL EQUIPMENT.

#### PIPE AND PIPE FITTINGS PIPE AND TUBE A. COPPER REFRIGERANT TUBE: ASTM B280-03, SEAMLESS.

- B. COPPER DRAINAGE TUBE (DWV): ASTM B306-88. PIPE AND TUBE JOINTS AND FITTINGS: A. COPPER AND BRASS PIPE FITTINGS: ASME B16.23, PRESSURE FITTINGS; ASME B16.29, DRAINAGE FITTINGS. GENERAL A. COOLING COIL CONDENSATE DRAIN PIPING: MAINTAIN PIPE SLOPE 1/8" DOWN PER LINEAR FOOT IN THE DIRECTION OF FLOW UNLESS OTHERWISE NOTED ON DRAWINGS MAKE CONNECTIONS TO EQUIPMENT WITH UNIONS OR ELANGES COOLING COIL CONDENSATE DRAIN PIPING SHALL BE EQUAL TO OR LARGER THAN THE
- EXIT DIAMETER OF THE DRAIN PAN DRAIN CONNECTION. D. FLUSH EACH PIPING SYSTEM AND PROVE CLEAN.
- COPPER PIPE CONNECTIONS: A. USE 15% SILVER BRAZING ALLOY AND SILVER BRAZING FLUX ON CONCEALED JOINTS. A 2-5/8" O.D. AND SMALLER: 95% TIN 5% ANTIMONY LEAD-FREE SOLDER
- B. 3-1/8" O.D. AND LARGER, HOT GAS PIPING, BURIED PIPING: 15% SILVER BRAZING ALLOY. CONTINUOUSLY PURGE PIPING WITH DRY NITROGEN DURING SILVER BRAZING PROCESS PIPE TESTING:
- A. TEST ALL PIPING SYSTEMS. CORRECT LEAKS BY REMAKING JOINTS. REMOVE EQUIPMENT NOT ABLE TO WITHSTAND TEST PRESSURE FROM SYSTEM DURING TEST. CONSULT GOVERNING CODES FOR SPECIAL SYSTEM REQUIREMENTS. TEST PIPING BEFORE BEING PERMANENTLY ENCLOSED. OBTAIN CERTIFICATES OF APPROVAL, ACCEPTANCE, COMPLIANCE WITH REGULATIONS
- OF AGENCIES HAVING JURISDICTION, SUBMIT TO OWNER. D. REFRIGERANT PIPING SYSTEM TEST: TEST WITH NITROGEN AT 300 PSIG ON HIGH SIDE OF SYSTEM AND AT 150 PSIG ON LOW SIDE. MAINTAIN PRESSURE FOR 4 HOURS. AFTER TEST, EVACUATE PIPING WITH VACUUM PUMP FOR MINIMUM 24 HOURS OR UNTIL SYSTEM
- HAS BEEN COMPLETELY EVACUATED.

<u> 30F F</u>	UNTO, ANOIDINO, SEALO
NORK II	NCLUDED:
1.	DUCT HANGERS AND SUPPORTS.
2.	EQUIPMENT BASES AND SUPPORTS.
3.	FLASHING FOR MECHANICAL EQUIPMENT.
4.	SLEEVING FOR MECHANICAL EQUIPMENT.
KEFERE	
1.	PIPE SUPPORTS: ANSI B31.1, POWER PIPING.
2.	
SUBMIT	TALS' $\Delta T = 0.000000000000000000000000000000000$
1.	FURNISH MANUFACTURER'S SUBMITTAL DATA FOR PREFABRICATED EQUIPMENT SUPPORTS.
DUCT H	ANGERS AND SUPPORTS:
1.	HANGERS: GALVANIZED STEEL BAND, ROLLED ANGLE, OR UNISTRUT TYPE MEMBERS WITH
	THREADED RODS.
2.	WALL SUPPORTS: GALVANIZED STEEL BAND IRON OR FABRICATED ANGLE BRACKET.
3.	VERTICAL SUPPORT AT FLOOR: ROLLED ANGLE.
4.	RIGID ROUND DUCTWORK: 1" WIDE GALVANIZED STEEL STRAPS; QUANTITY, SPACING, AND GALIGE PER SMACNA STANDARDS
5	ELEXIBLE FOR TWORK OF THE SAGE VANIZED STEEL STRAPS MAXIMUM ALLOWABLE SAG 1/2"
•••	PER FOOT.
6.	SPACING AND GAUGE OF HANGERS PER INTERNATIONAL MECHANICAL CODE, SMACNA
	STANDARDS, AND DUCT MANUFACTURER'S RECOMMENDATIONS.
7.	PROVIDE A MINIMUM OF TWO FASTENERS INTO DUCT AND INTO TOP ATTACHMENT FOR ALL
	DUCTS WITH LONG SIDE EXCEEDING 18".
PREFAE	BRICATED EQUIPMENT SUPPORTS:
١.	
	ROOF INSULATION PITCH BASE TO MATCH ROOF PITCH PROVIDE LEVEL INSTALLATION
=XECUT	TON/INSTALLATION:
1.	INSERTS
	A. USE INSERTS FOR SUSPENDING HANGERS FROM REINFORCED CONCRETE SLABS AND
	SIDES OF REINFORCED CONCRETE BEAMS.
	B. SET INSERTS IN POSITION IN ADVANCE OF COMCRETE WORK. PROVIDE REINFORCEMENT
	ROD IN CONCRETE FOR INSERTS CARRYING PIPE OVER 4" OR DUCTS OVER 60" WIDE.
	C. WHERE CONCRETE SLABS FORM FINISHED CEILING, FINISH INSERTS FLUSH WITH SLAB
	OURFACE. D WHERE INSERTS ARE OMITTED DRILL THROUGH CONCRETE SLAR FROM RELOW AND
	PROVIDE ROD WITH RECESSED SQUARE STEEL PLATE AND NUT ABOVE SLAB. OBTAIN
	WRITTEN PERMISSION OF LOCATION AND PROCEDURE FROM STRUCTURAL ENGINEER
	PRIOR TO COMMENCING WORK.
2.	ANCHORS
	A. USE ANCHORS FOR SUSPENDING HANGERS FROM REINFORCED CONCRETE SLABS, AND
	SIDES OF REINFORCED CONCRETE BEAMS.
	B. REVIEW ANCHOR LOCATIONS, DEPTHS WITH ARCHITECT AND STRUCTURAL ENGINEER
	BEFURE INSTALLATION.
лист н	C. INSTALL PER MANUFACTURER'S DESIGN GRITERIA, INSTALLATION INSTRUCTIONS. ANGERS AND STIDDORTS:
1	SUPPORT DUCTWORK IN ACCORDANCE WITH INTERNATIONAL MECHANICAL CODE SMACNA
	AND ASHRAE REQUIREMENTS AND RECOMMENDATIONS.
EQUIPM	IENT BASES:
1.	CONCRETE BASES FOR EQUIPMENT WILL BE PROVIDED BY OTHERS ONLY IF SHOWN IN
	ARCHITECTURAL OR STRUCTURAL DRAWINGS. ALL OTHER BASES SHALL BE PROVIDED BY THIS
0	
2.	BASES SHALL BE 4" THICK MINIMUM, EXTEND 6" BEYOND MACHINERY BEDPLATES. THICKEN
з	SIZE AND LOCATE ALL BASES ELIBNISH ALL REQUIRED ANCHOR BOLTS AND SLEEVES
3. 4	SECURE FOURPMENT OR VIBRATION ISOLATION DEVICES FOR FOURPMENT TO BASES WITH
т.	ANCHOR BOLTS, ANCHOR BOLTS SHALL BE PROVIDED BY EQUIPMENT MANUFACTURER OR
	SPECIFIED BY EQUIPMENT MANUFACTURER AND SUPPLIED BY CONTRACTOR. BOLTS SHALL BE
	SECURELY IMBEDDED IN THE CONCRETE BASE. GROUT MACHINERY UNDER ENTIRE BEARING
	SURFACE UNLESS ISOLATED FOR VIBRATION. AFTER GROUT HAS SET, REMOVE ALL WEDGES,
	SHIMS, JACK BOLTS. FILL SPACE WITH NONSHRINKING GROUT. PROVIDE LEAD WASHERS AT
	EQUIPMENT ANCHOR BOLTS.

- 5. FABRICATE EQUIPMENT SUPPORTS OF STRUCTURAL STEEL MEMBERS OR STEE FITTINGS. BRACE AND FASTEN WITH FLANGES BOLTED TO STRUCTURE. FLASHING AND SAFING:
- WHERE EXPOSED PIPING AND DUCTWORK PASSES THROUGH WALLS. FLOORS. PROVIDE CHROME PLATED OR STAINLESS STEEL ESCUTCHEON FOR PIPING AN GAUGE GALVANIZED ANGLE FROM FOR DUCTWORK. ROLL FRAME TO MATCH TH ROUND DUCT
- PROVIDE SOUND RATED FLASHING AROUND DUCTS AND PIPES PASSING FROM EQUIPMENT ROOMS, INSTALLED PER MANUFACTURER'S DATA FOR SOUND CONTROL TO MEET THE ATTENUATION SPECIFIED ON ARCHITECTURAL DRAWINGS FOR THE DESIGNATED WALL FLASH AND COUNTERFLASH WHERE MECHANICAL EQUIPMENT PASSES THROUGH WEATHER-
- OR WATER-PROOF WALLS, FLOORS, ROOFS. SI FEVES PROVIDE FRAMED 18 GAUGE GALVANIZED SHEET METAL SLEEVES FOR DUCTWORK. UNLESS
- OTHERWISE INDICATED. SLEEVES SHALL BE OF SIZE TO PROVIDE PROM 1/4" TO 1" CLEARANCE BETWEEN BARE PIPE OR DUCT AND SLEEVE OR BETWEEN INSULATION JACKET AND SLEEVE. WHERE PIPE OR DUCT PASSES THROUGH CONCRETE FLOOR, EXTEND SLEEVE MINIMUM 1" ABOVE FINISHED FLOOR.
- SLEEVES IN BEARING WALLS. WATERPROOF MEMBRANE FLOORS. WET AREAS SHALL BE STEEL PIPE OR CAST IRON PIPE FOR SMALL ROUND DUCTS AND PIPES. 16 GAUGE GALVANIZED STEEL METAL FOR DUCTS SLEEVES IN NON-BEARING WALLS FLOORS CEILINGS SHALL BE STEEL PIPE, CAST IRON PIPE, OR GALVANIZED SHEET METAL WITH LOCK-TYPE LONGITUDINAL SEAM. WHERE DUCTS PENETRATE BEARING WALLS (EXCLUDING FOUNDATIONS), FIRE RATED WALLS, PARTITIONS, FLOORS, PACK AND SEAL ENTIRE SPACE BETWEEN DUCT AND SLEEVE WITH DOW
- CORNING 3-6548 SILICONE RTV FOAM. OR 1" MINIMUM THICKNESS OF 3M FIRE BARRIER, CP-25 CAULK, OR 303 PUTTY ON EACH SIDE OF OPENING WHERE DUCT PENETRATIONS OCCUR IN NON-FIRE RATED FLOORS OR WALLS, PACK SPACE BETWEEN DUCT AND SLEEVE OR INSULATION INSERT AND SLEEVE ON EACH END WITH MINERAL WOOL OR OTHER NON-COMBUSTIBLE MATERIAL

#### MECHANICAL IDENTIFICATION QUIPMENT IDENTIFICATION

- 1. IDENTIFY EQUIPMENT WITH LAMINATED BLACK PLASTIC TAG ENGRAVED WHITE CORE LETTERING TAG SHALL INDICATE EQUIPMENT DUTY SUCH AS "FURNACE". "CONDENSING UNIT". AND EQUIPMENT DESIGNATION AS SHOWN ON DRAWINGS. TAGS SHALL HAVE MINIMUM THICKNESS OF 1/16" MINIMUM SIZE OF 1-1/2" X 4", WITH MOUNTING HOLES. SECURE TAGS TO EQUIPMENT BY MEANS OF SCREWS, BOLTS, CHAINS
- 2. IDENTIFY EACH THERMOSTAT BY MEANS OF GUN TAG INDICATING CORRESPONDING UNIT WHICH IT CONTROLS. LOCATE TAG INSIDE THE INSTRUMENT COVER.

#### INSULATION

- 1. FURNISH AND INSTALL INSULATION FOR ALL SUPPLY. RETURN, AND EXHAUST DUCTWORK SYSTEMS, INSULATION THICKNESS AND R-VALUE PER THE IECC, LINE LOW PRESSURE
- RECTANGULAR DUCTWORK, INSULATE OUTSIDE AIR DUCTS ON THE OUTSIDE, PROVIDE FOR 1 DUCT LINER FOR RECTANGULAR EXHAUST DUCTS FOR 15 FEET STARTING AT FAN.
- FURNISH AND INSTALL INSULATION FOR ALL REFRIGERANT PIPING SYSTEMS. REFRIGERANT LIQUID AND INDOOR REFRIGERATED SUCTION PIPING, ALL SIZES: 1" THICKNESS. REFRIGERANT PIPING OUTDOORS, ALL SIZES: 3/4" THICKNESS.
- MECHANICAL PIPING INSULATION SCHEDULE

	SERVICE	PIPE SIZE		THICKNESS	CONDUCTIVITY K-VALUE Btu.in./(h/Ft²/°F)
		1-1/4" AND SMALLER		1/2"	0.21-0.27
		1-1/2" AND LARGER		1"	0.21-0.27
HEATING WATER 105-140		1-1/4" AND SMALLER		1"	0.21-0.28
		1-1/2" AND LARGER		1-1/2"	0.21-0.28
	HEATING WATER	1-1/4" AND SMALLER		1-1/2"	0.25-0.29
141-200		1-1/2" AND LARGER		2"	0.25-0.29
4. MECHANICAL DUCT INSULATION SCHEDULE:					
	SERVIC	E	W	/RAP	LINER
		DUCTS OUTSIDE	3" (F	R-12)	3" (R-12)

OR UNCONDITIONED SPACE RECTANGULAR SUPPLY 2" (R-6) 1-1/2" (R-6) DUCTS IN EXTERIOR WALLS\* ROUND SUPPLY DUCTS 1-1/2" (R-6) 2" (R-6) IN EXTERIOR WALLS \* WHERE THE DESIGN TEMPERATURE DIFFERENCE BETWEEN THE INTERIOR AND EXTERIOR OF

THE DUCT IS NOT GREATER THAN 15 DEG F. <u>DUCTWORK</u>

#### FLEXIBLE AIR DUC

- 1. LISTED UNDER UL-181 STANDARDS AS CLASS I AIR DUCT MATERIAL. MAXIMUM OPERATING PRESSURE 6" W.C., WORKING VELOCITY 4,000 FPM. MATERIAL SHALL BE APPROVED BY AUTHORITY HAVING JURISDICTION. 2. INSULATED: ALUMINUM LAMINATE INNER CORE GALVANIZED STEEL HELIX, 10" W.G., 1 1/2" THICK 3/4
- LB. DENSITY FIBERGLASS INSULATION (MINIMUM R-6), METAL OR APPROVED METALLIZED POLYESTER OR SCUFF-RESISTANT FOIL SCRIM OUTER JACKET (MAXIMUM VAPOR TRANSMISSION RATE 0.05
- SPIN-IN FITTING: FLARED INLET; MANUAL VOLUME DAMPER AND REGULATOR WHERE NOTED. FABRICATION DUCT PRESSURE AND LEAKAGE CLASSIFICATIONS
- FABRICATE ALL DUCTWORK PER SMACNA STANDARDS, THE INTERNATIONAL MECHANICAL CODE (IMC) AND THE REQUIREMENTS OF THE FOLLOWING PRESSURE CLASSIFICATIONS TABLE.

DUCTWORK PRESSURE CHART			
DUCTWORK		MIN. DUCT PRESSURE CLASSIFICATION (W.C.)	
VARIABLE AIR VOLUME DUCTWORK	FROM FAN OUTLET TO TERMINAL UNIT	4"	
SUPPLY DUCTWORK	FROM FAN TO OUTLET	2"	
VARIABLE AIR VOLUME DUCTWORK	FROM TERMINAL UNIT TO AIR DEVICES	1"	
RETURN DUCTWORK		-1"	
EXHAUST DUCTWORK	FROM AIR DEVICES TO FAN INLET	-1"	
EXHAUST DUCTWORK		1/2"	

#### PROVIDED BY THIS ATES. THICKEN

EL PIPE AND	LEEVES. BASES WITH ACTURER OR BOLTS SHALL BE UTIRE BEARING E ALL WEDGES, WASHERS AT	
	EL PIPE AND	

- TO DISCHARGE POINT
- MAKE EQUIVALENT DUCT SIZE CHANGES FROM ASHRAE TABLE OF EQUIVALENT RECTANGULAR AND ROUND DUCTS. NO VARIATION OF DUCT CONFIGURATION OR SIZES PERMITTED EXCEPT BY WRITTEN PERMISSION
- CROSS BREAK OR BEAD ALL DUCTS IN EXCESS OF 18". LAP METAL DUCTS IN DIRECTION OF AIR FLOW. HAMMER DOWN EDGES AND SLIPS TO LEAVE SMOOTH
- DUCT INTERIOR, PROVIDE CORNER CLOSURES. BRANCH CONNECTIONS IN RECTANGULAR DUCTWORK SHALL BE 45 DEGREE ENTRY TYPE WITH 4"
- MINIMUM CONNECTOR LENGTH. H. CONSTRUCT TEES, BENDS, ELBOWS WITH MINIMUM CENTER LINE RADIUS 1-1/2" TIMES WIDTH OF DUCT. WHERE NOT POSSIBLE AND WHERE RECTANGULAR ELBOWS USED, PROVIDE TURNING VANES.
- INCREASE DUCT SIZES MAXIMUM 15 DEGREE DIVERGENCE. MAXIMUM DIVERGENCE: 20 DEGREE UPSTREAM OF EQUIPMENT, 30 DEGREE DOWNSTREAM. RIGIDLY CONSTRUCT METAL DUCTS WITH JOINTS MECHANICALLY TIGHT, AIRTIGHT, BRACED AND
- K. SEAL ALL DUCTWORK (USING LIQUIDS, MASTICS, OR GASKETS, AS APPLICABLE) PER THE INTERNATIONAL
- MECHANICAL CODE (IMC). JOINTS IN RECTANGULAR DUCTWORK MAY BE MADE WITH DUCTMATE SYSTEM, NEXUS 4 BOLT DUCT CONNECTION SYSTEM, OR TDO
- WORK INCLUDES ACCESS DOOR, BALANCING DAMPER, FLEXIBLE CONNECTION AND TURNING VANES. N. DUCT ACCESS DOORS SHALL BE UL LABLED, FABRICATE PER ASHRAE AND SMACNA, FURNISH MANUFACTURER'S SUBMITTAL DATA FOR ACCESS DOORS, BALANCING DAMPERS, FLEXIBLE
- CONNECTIONS AND TURNING VANES. O. DUCT ACCESS DOOR SHALL RATED FOR SAME STATIC PRESSURE AS DUCTWORK AND SHALL BE FRAMED, HINGED, GASKETED TYPE WITH SASH LOCKS; FULLY INSULATED. PROVIDE ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS,
- AUTOMATIC DAMPERS, FIRE OR COMBINATION FIRE/SMOKE DAMPERS, AND ELSEWHERE AS INDICATED. REVIEW LOCATION WITH ARCHITECT PRIOR TO FABRICATION. PROVIDE 6" X 6" QUICK OPENING ACCESS DOORS FOR INSPECTION AT BAI ANCING DAMPERS AND TURNING VANES VOLUME DAMPER SHALL BE MULTIPLE OPPOSED BLADE TYPE, CLOSE FITTED DUCTS, SUITABLE FOR STATIC PRESSURE IN DUCTWORK AT INSTALLED LOCATION. DAMPERS 12" OR LESS IN HEIGHT SHALL HAVE SINGLE BLADE. DAMPER BLADES SHALL BE STAMPED 16 GAUGE GALVANIZED STEEL, MAXIMUM
- LENGTH 48". SHAFT SPACING SHALL NOT EXCEED 9". BEARINGS SHALL BE MOLDED SYNTHETIC. POSITIONING DEVICE SHALL BE LOCKING LEVER AND QUADRANT TYPE, LEVER PARALLEL TO BLADE, LOCKED TO QUADRANT WITH THUMBSCREW OR WING NUT, END OF SHAFT NOTCHED PARALLEL TO DAMPER POSITION. CONSTRUCT DAMPER BLADES FOR MEDIUM AND HIGH PRESSURE SYSTEMS WITH END BEARINGS OR OTHER SEALING DEVICE. SUPPLY LOCKING TYPE HANDLES.

- DUCTWORK (CONTINUED)
- R. NOT ALL BALANCING DAMPERS REQUIRED FOR THE BALANCING WORK ARE SHOWN ON THE DRAWINGS PROVIDE BALANCING DAMPERS AT POINTS ON LOW PRESSURE SUPPLY, RETURN EXHAUST SYSTEMS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AND AS REQUIRED FOR AIR BALANCING. COORDINATE WITH BALANCING CONTRACTOR AND PROVIDE ANY ADDITIONAL BALANCING DAMPERS REQUIRED. INSTALL DAMPERS IN ACCESSIBLE LOCATION
- FLEXIBLE CONNECTION SHALL BE NEOPRENE COATED, 30 OZ. FIBERGLASS FABRIC, 6" WIDE TIGHTLY CRIMPED INTO METAL EDGING STRIP. ATTACHED TO DUCTING AND EQUIPMENT BY SCREWS OR BOLTS AT 6" INTERVALS, PLENUM RATED WHERE REQUIRED. FLEXIBLE CONNECTIONS EXPOSED TO WEATHER SHALL BE COATED WITH DEWPOINT HYPALON.
- T. TURNING VANES SHALL BE INSTALLED IN SUPPLY, RETURN, AND EXHAUST MITERED ELBOWS THEY SHALL BE FORMED SINGLE WALL (36" MAXIMUM LENGTH) OR DOUBLE WALL (GREATER THAN 36" LENGTH) GALVANIZED STEEL BLADES. FOR METAL DUCTWORK OTHER THAN STEEL USE SAME TYPE MATERIAL AS DUCT TURNING VANES INSTALLED IN UNEQUAL ELBOWS: ADJUSTABLE TYPE THAT REMAINS ALIGNED TO AIRSTREAM IN ALL POSITIONS.
- U. ALL DUCTWORK SHALL BE GALVANIZED STEEL METAL WITH INSULATION PER SPECIFICATIONS. FLEX DUCT SHALL BE UL-181 LISTED, CLASS 1, FACTORY PRE-INSULATED 1-1/2", WITH INNER LINER AND STEEL HELIX. FLEX DUCTS SHALL BE MINIMUM 5'-0" LONG V. PAINT ALL DUCTWORK ABOVE CEILING RETURN GRILLES FLAT BLACK.
- W. STATIC FIRE DAMPER STATIC FIRE DAMPERS WITH CURTAIN TYPE BLADES MEETING REQUIREMENTS OF UL STANDARDS 555 SIXTH EDITION, GALVANIZED STEEL OR PRIME COATED STEEL. PROVIDE RFINFORCEMENT IN CORNERS TO PROVIDE MAXIMUM RESISTANCE TO RACKING. 2. FIRE RESISTANCE: DAMPERS SHALL HAVE A UL 555 FIRE RESISTANCE RATING OF 1-1/2
- HOURS. 3. FIRE CLOSURE TEMPERATURE: EACH FIRE DAMPER SHALL BE EQUIPPED WITH A FACTORY INSTALLED HEAT RESPONSIVE DEVICE (FUSIBLE LINK) RATED TO CLOSE THE DAMPER WHEN TEMPERATURE AT THE DAMPER REACHES 165 F. 4. FIRE DAMPER SHALL HAVE BLADES RETAINED IN A RECESS SO FREE AREA OF CONNECTING
- DUCTWORK IS NOT REDUCED (TYPE B). X. DYNAMIC FIRE DAMPERS DYNAMIC FIRE DAMPERS WITH STEEL 3-V BLADES MEETING REQUIREMENTS OF UL STANDARD 555, SIXTH EDITION. GALVANIZED STEEL OR PRIME COATED BLACK STEEL
- PROVIDE REINFORCEMENT TO CORNERS TO PROVIDE MAXIMUM RESISTANCE TO RACKING. FIRE RESISTANCE: DAMPERS SHALL HAVE UL 555 FIRE RESISTANCE RATING OF 1-1/2 3. FIRE CLOSURE TEMPERATURE: EACH FIRE DAMPER SHALL BE EQUIPPED WITH A FACTORY
- INSTALLED HEAT RESPONSE DEVICE (FUSIBLE LINK) RATED TO CLOSE THE DAMPER WHEN TEMPERATURE AT THE DAMPER RACHES 165 F. 4. DIFFERENTIAL PRESSURE: DAMPERS SHALL HAVE A MINIMUM UL 555 DIFFERENTIAL
- PRESSURE RATING OF 4 INCHES W.G. . VELOCITY: DAMPERS SHALL HAVE A MINIMUM UL 555 VELOCITY RATING OF 3000 FPM. COMBINATION SMOKE AND FIRE DAMPER
- A. COMBINATION FIRE SMOKE DAMPERS WITH STEEL 3-V BLADES MEETING REQUIREMENTS OF UL STANDARD 555, SIXTH EDITION AND UL STANDARD 555S, FOURTH EDITION. ACTUATED BY FUSIBLE LINK AND SMOKE DETECTOR. 6" MAXIMUM BLADE WIDTH. GALVANIZED STEEL OR PRIME COATED BLACK STEEL, REINFORCE CORNERS TO MAXIMIZE RESISTANCE TO RACKING
- B. LEAKAGE RATING: CLASS 1 (DUCT STATIC PRESSURE EXCEEDS 2" W.C.) OR CLASS II (DUCT STATIC PRESSURE LESS THAN 2" W.C.)
- FIRE RESISTANCE: DAMPERS SHALL HAVE A UL 555 FIRE RESISTANCE RATING OF 1-1/2 HOURS
- D. FIRE CLOSURE TEMPERATURE: EACH COMBINATION FIRE SMOKE DAMPER SHALL BE EQUIPPED WITH A THERMOSTAT TO CLOSE THE DAMPER AT 165 F. DIFFERENTIAL PRESSURE: DAMPERS SHALL HAVE A MINIMUM UL 555S DIFFERENTIAL
- PRESSURE RATING OF 4 INCHES W.G. VELOCITY: DAMPERS SHALL HAVE A MINIMUM UL 555S VELOCITY RATING OF 3000 FPM. G. OPERATING SHAFT: 90 DEGREES BETWEEN CLOSED AND OPEN, SUITABLE FOR LINKING TO AND OPERATION BY DAMPER OPERATOR, WITH END SWITCH TO SIGNAL FULL OPEN
- POSITION H. ACTUATORS: TYPE: ELECTRIC, 120 VOLT AC, 60 HZ, 2-POSITION, FAIL CLOSE. EXTERNAL MOUNTED
- Z. PROVIDE FIRE OR COMBINATION FIRE/SMOKE DAMPERS AT LOCATIONS SHOWN AND WHERE REQUIRED BY AUTHORITIES HAVING JURISDICTION.

### **TEMPERATURE CONTROL SYSTEMS**

- ALL CONTROLS TO BE PROVIDED BY THE EQUIPMENT MANUFACTURER OR AN INDEPENDENT CONTROLS CONTRACTOR. MATCH EXISTING TEMPERATURE CONTROL MANUFACTURER.
- EQUIPMENT AS INDICATED OR AS REQUIRED FOR PROPER OPERATION OF THE EQUIPMENT. 3. CONCEAL WIRING WITHIN BUILDING CONSTRUCTION EXCEPT IN MECHANICAL ROOMS AND AREAS WHERE OTHER CONDUIT AND PIPING ARE EXPOSED. INSTALL CONTROL WIRING SYSTEM IN CONDUIT WHERE EXPOSED OR SUBJECT TO DAMAGE. THE USE OF WIREMOLD SHALL NOT BE
- 4. ALL CONTROL WIRING SHALL BE INSTALLED IN A NEAT AND PROFESSIONAL MANNER. PARALLEL TO BUILDING LINES WITH ADEQUATE SUPPORT. BOTH CONDUIT AND PLENUM WIRING SHALL BE SUPPORTED FROM OR ANCHORED TO STRUCTURAL MEMBERS. CONDUIT OR PLENUM WIRING SUPPORTED FROM OR ANCHORED TO PIPING, DUCT SUPPORTS, AND CEILING SUSPENSION SYSTEM, OR THE ELECTRICAL CONDUITS IS NOT ACCEPTABLE.
- 5. U.L. PLENUM RATED CABLE SHALL BE ALLOWABLE IN AIR PLENUMS AS APPROVED BY LOCAL CODES
- INSTRUCTIONS.
- 7. TIME CLOCKS REQUIRED TO COMPLETE THE TEMPERATURE CONTROL SEQUENCE SHALL BE 7-DAY. 24-HOUR ELECTRONIC TYPE. EQUIP TIME CLOCKS WITH BATTERY BACKUP TO MAINTAIN IMING IN CASE OF POWER FAILUR 8. INSTRUCT OWNER'S PERSONNEL IN OPERATION AND MAINTENANCE OF ELECTRIC CONTROL
- SYSTEMS TESTING AND BALANCING

DESCRIPTION OF SOLUTION.

- WORK INCLUDES TESTING AND BALANCING OF AIR AND WATER DISTRIBUTION SYSTEMS AND EQUIPMENT. TESTING AND BALANCING SHALL BE RESPONSIBILITY OF ONE FIRM. MINIMUM STANDARDS: CHAPTER 38, 2011 EDITION OF ASHRAE HVAC APPLICATIONS HANDBOOK.
- TESTING AND BALANCING WORK SHALL BE DIRECTLY SUPERVISED AND RESULTS ATTESTED TO BY PROFESSIONAL ENGINEER WHO SHALL REPRESENT TESTING AND BALANCING FIRM IN PROGRESS MEETINGS AS REQUESTED, AND SHALL BE AVAILABLE FOR INTERPRETING MATERIAL IN BALANCE
- 3. DO NOT BEGIN TESTING AND BALANCING WORK UNTIL SYSTEM HAS BEEN COMPLETED AND IS IN FULL WORKING ORDER. PUT SYSTEMS AND EQUIPMENT INTO FULL OPERATION AND CONTINUE OPERATION OF SAME DURING FACH WORKING DAY OF TESTING AND BALANCING ASCERTAIN PRELIMINARY TAB REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK THROUGH REVIEW OF AVAILABLE DRAWINGS AND SPECIFICATIONS. MAKE VISUAL OBSERVATIONS AT SITE DURING
- CONSTRUCTION TO DETERMINE LOCATION AND SUITABILITY OF REQUIRED BALANCING DEVICES. BEFORE BALANCE WORK IS STARTED. CHECK SYSTEM FOR DUCT LEAKAGE. UNIMPEDED RETURN AIR PATH, CLEAN FILTERS INSTALLED, CORRECT FAN ROTATION, EQUIPMENT START-UP STRAINERS, EQUIPMENT VIBRATION, PROPER OPERATION OF AUTOMATIC DAMPERS, VOLUME CONTROL DAMPERS AND AIR DEVICES OPEN. REPORT ANY DEFICIENCIES TO CONTRACTOR FOR CORRECTION
- OR RESOLUTION. BALANCE AIR SYSTEM WITH PATH PRESENTING GREATEST RESISTANCE TO THE FLOW, FULLY OPEN AND UNOBSTRUCTED. MAKE ALL NECESSARY SHEAVE AND IMPELLER REPLACEMENTS TO ACHIEVE ABOVE. DO NOT USE BALANCING DEVICES IN LIEU OF SHEAVE AND IMPELLER REPLACEMENT TO ACHIEVE DESIGN AIR FLOW
- ADJUST ALL AIR DEVICES FOR OPTIMUM, DRAFT-FREE AIR DISTRIBUTION PATTERN. ADJUST LINEAR CEILING DIFFUSERS FOR HORIZONTAL DISCHARGE ALONG THE CEILING AND/OR VERTICAL DISCHARGE AT AN OUTSIDE WALL. SET AIR DIFFUSION PATTERNS TO MINIMIZE OBJECTIONABLE DRAFTS AND NOISE
- INSPECT TEMPERATURE CONTROL SYSTEM FOR PROPER SEQUENCE OF OPERATION AND APPROXIMATE CALIBRATION. REPORT ANY DEFICIENCIES TO CONTRACTOR. BALANCE ALL AIR AND WATER FLOWS WITHIN 10% OF DESIGN. MEASURE AND RECORD. QUANTITIES FOR EACH DEVICE; AIR HANDLING UNITS INCLUDE SUPPLY, RETURN, MIXED, OUTSIDE AIR
- TEMPERATURES AND FAN DATA INCLUDING CFM, STATIC PRESSURE, RPM, MOTOR RUNNING AND FULL LOAD AMPERAGE BEFORE AND AFTER FINAL BALANCE. SUBMIT FINAL TESTING AND BALANCING REPORT PRIOR TO CONTRACTOR'S REQUEST FOR FINAL
- INSPECTION. SIGNED BY SUPERVISING ENGINEER AND AFFIXED WITH HIS CERTIFICATION SEAL. PROVIDE (1) TEST AND BALANCE REPORT TO INSPECTOR AT TIME OF HEATING FINAL INSPECTION. 11. SET UP AND CALIBRATE THERMOSTATS. SET THERMOSTAT AT 74 DEG. F +/- 2 DEG. F. 12. UPON COMPLETION OF WORK, SUBMIT DOCUMENTATION TO OWNER ITEMIZING AND DATING ALL PROBLEMS DISCOVERED AND REPORTED TO OWNER'S MAINTENANCE STAFF, AND TIME AND

2021 INTERNATIONAL PLUMBING CODE

- PROVIDE ALL CONTROLS FOR A COMPLETE OPERATIONAL SYSTEM. PROVIDE ALL INTERLOCKS TO
- PERMITTED
- 6. INSTALL SYSTEMS, COMPONENTS AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S

NOT ALL ITEMS LISTED BELOW ARE USED ON THIS SET OF MECHANICAL DRAWINGS										
SYMBOL	GENERAL		E SYMBOL	PIPIN Arr						
	DESCRIPTION		HS	HS	HOT WATER SUPPLY					
SHT	REFERENCE BUBBLE		— —HR— —	HR	HOT WATER RETURN					
$\mathbf{U}$	MECHANICAL/ELECTRICAL EQUIPMENT DESIGNATION		CHS	CH	S CHILLED WATER SUPPLY					
	REMOVE EXISTING		— — CHR— —	CHI	R CHILLED WATER RETURN					
			CS	CS	CONDENSER SUPPLY					
-∪-►	UNLESS OTHERWISE NOTED		— — CR— —	CR	CONDENSER RETURN					
•	CONNECT NEW TO EXISTING		HPS	HP	S HIGH PRESSURE STEAM					
XX x XX	SIZE TAG		— — НРС— —	HP	C HIGH PRESSURE CONDENSATE					
XXØ	ROUND DUCTWORK SIZE TAG		PC	PC	PUMPED CONDENSATE					
XX / XX	OVAL DUCTWORK SIZE TAG		— D —	ט						
EQUIPMENT ID MAX CFM   MIN CFM	VAV/FPB TAG									
HTG DATA 🔫	(WHEN APPLICABLE)				G SYMBOLS					
DOUBLE	LINE DUCTWORK	i	SYMBOL		DESCRIPTION					
SYMBOL	DESCRIPTION			-	ARROW IN LINE INDICATES DIRECTIONOF FLOW					
	RECTANGULAR SUPPLY AIR DUCT UP		xx	_	INDICATES PIPESLOPE DOWN					
FICI	RECTANGULAR SUPPLY		<							
			÷	-	BOTTOM PIPE CONNECTION					
	AIR / EXHAUST DUCT UP			0	PIPING UP					
	RECTANGULAR RETURN AIR / EXHAUST DUCT DOWN			€	PIPING DOWN					
	ROUND DUCT UP		x	>	FIXTURE TRAP OR DRAIN TRAP					
			∃	1	PIPING CAP OR PLUG					
<u> </u>	ROUND DUCT DOWN		$ \bigcirc$	-	PUMP					
	BRANCH DUCT 45° TAKE-OFF			-	BALANCING VALVE/FLOW MEASURING DEVICE					
		$\left  \right $	₩	_	CALIBRATEDBALANCING VALVE					
$\mathbb{T}$	WITH TURNING VANES			_	BALL VALVE					
			——	_	PLUG VALVE					
F	RADIUS ELBOW RECTANGULAR/ROUND DUCT		×	_	GATE VALVE					
			N							
	DUCT TRANSITION		. Г.							
	FLEX CONNECTION			-	BUTTERFLY VALVE					
		]		_	FLOW SWITCH					
SINGLE			₽							
	RECTANGULAR DUCT ELBOW		~ <b>&gt;</b>							
	WITH TURNING VANES		────────────	-	PRESSURE REDUCING VALVE					
	RADIUS ELBOW RECTANGULAR/ROUND DUCT			-	3-WAY TEMPERATURECONTROL					
	DUCT TRANSITION		<u>&amp;</u>		2-WAY TEMPERATURE CONTROL					
	CONICAL SPIN-IN FITTING				VALVE					
	CONICAL SPIN-IN FITTING		о <u>қ</u> і—							
				-	STRAINER					
· \			<del>───<u> </u>⊀</del>	-	STRAINER WITHBLOW-OFF VALVE					
CONTROL DE SYMBOL	VICES AND DAMPERS DESCRIPTION		│   <sup>▶</sup>	_	UNION					
B	HUMIDISTAT	1	φ		PRESSURE GUAGE					
<b>ତ</b> ତ	PRESSURE SENSOR SENSOR		П		THERMOMETER					
Ū	WALL MOUNTED THERMOSTAT	$\left  \right $	<b>Ψ</b> P/T							
$\nabla$	UNIT MOUNTED THERMOSTAT		T	-						
	SWITCH			-						
	FIRE DAMPER			-						
$\mathbf{A}^{R}$	SMOKE DAMPER				HOSE END DRAIN VALVE					
	COMBINATION FIRE AND		<u>م</u>	<b>-</b> ∎	MANUAL AIR VENT					
r	SMOKE DAMPER									
	W/LOCKING QUADRANT									
	MOTORIZED DAMPER	$\left  \right $								
	ABBRI	EVI	ATIONS							
AFF ABOVE FIN	IISHED FLOOR MC ME	ECH	ANICAL CONTRACTOR	R						
C COMMON	NC NC	יי דע RM) יי דע	IALLY CLOSED	S						
EC ELECTRICA	AL CONTRACTOR NO NC	) RM T	ALLY OPEN	S	CC TEMPERATURE CONTROL					
ELEV ELEVATION EQ EQUIPMEN		ר ו JTS שרכ	U SUALE IDE AIR	Т	YP TYPICAL					
OTE: GENERAL	UNITAUIUK PRV PR	<u>,⊏S</u>	SURE REDUCING VALVE							
APPLICABLE CODE STA	ANDARDS									
2021 INTERNATIONAL	BUILDING CODE 2021 II	NTE	ERNATIONAL ENERGY CO		ERVATION CODE					
2021 INTERNATIONAL	MECHANICAL CODE 2022 E	DBC		500	-					

![](_page_14_Picture_127.jpeg)

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VENTILATION SCHEDULE													
ООМ	ROOM	OCCUPANCY CLASSIFICATION AREA OF OCCUPANCY OOC DANCY LOAD NUMBER OF OUTDOOR AIR PER OCCUPANCY OUTDOOR AIR PER SQ. FT. EXHAUST RATE ZONE AIR DISTRIBUTION OUTDOOR AIR REQUIRED PRIMARY AIRFLOW											PRIMARY OUTDOOR AIR
MBER	NAME	2021 IMC, <sup>-</sup>	TABLE 403.3	(SQ.FT)	(PER 1,000 SF)	PEOPLE	(CFM PER PERSON)	(CFM)	(CFM)	EFFECTIVENESS	(CFM)	(CFM)	FRACTION, Zp
l01	RECEPTION	OFFICES	RECEPTION AREAS	417	30	13	5	0.06		0.8	113	420	0.27
102	OFFICE	OFFICES	OFFICE SPACES	158	5	1	5	0.06		0.8	19	120	0.16
l03	COPY	OFFICES	OFFICE SPACES	110	5	1	5	0.06		0.8	15	110	0.14
804	OFFICE	OFFICES	OFFICE SPACES	134	5	1	5	0.06		0.8	17	280	0.06
109	OFFICE	OFFICES	OFFICE SPACES	134	5	1	5	0.06		0.8	17	280	0.06
10	OFFICE	OFFICES	OFFICE SPACES	134	5	1	5	0.06		0.8	17	280	0.06
11	OFFICE	OFFICES	OFFICE SPACES	134	5	1	5	0.06		0.8	17	280	0.06
12	CONF.	OFFICES	CONFERENCE ROOMS	237	50	12	5	0.06		0.8	93	600	0.16
13	OFFICE	OFFICES	OFFICE SPACES	132	5	1	5	0.06		0.8	17	140	0.12
14	OFFICE	OFFICES	OFFICE SPACES	133	5	1	5	0.06		0.8	17	140	0.12
15	OFFICE	OFFICES	OFFICE SPACES	139	5	1	5	0.06		0.8	17	140	0.12
16	OFFICE	OFFICES	OFFICE SPACES	139	5	1	5	0.06		0.8	17	140	0.12
17	OPEN AREA	OFFICES	OFFICE SPACES	911	5	5	5	0.06		0.8	100	780	0.13
18	BREAK	OFFICES	OFFICE SPACES	172	5	1	5	0.06		0.8	20	170	0.12
19	OFFICE	OFFICES	OFFICE SPACES	134	5	1	5	0.06		0.8	17	120	0.14
20	CONFERENCE	OFFICES	OFFICE SPACES	297	5	2	5	0.06		0.8	35	450	0.08
	HALL	PUBLIC SPACES	CORRIDORS	710				0.06		0.8	54	430	0.13
ES													
1.	SCHEDULE BASED ON	INTERNATIONAL MECHANIC	AL CODE, 2021 EDITION, CHAP	PTER 4 VENTILATION.									

2. ZONE AIR DISTRIBUTION EFFECTIVENESS DETERMINED USING TABLE 403.3.1.2. 3. SYSTEM VENTILATION EFFICIENCY DETERMINED USING TABLE 403.3.2.3.2. INTERPOLATION UTILIZED.

4. OCCUPANT DIVERSITY ASSUMED TO BE NEGLIGIBLE.

5. OA REQUIRED IS THE SUM OF THE CALCULATED OUTDOOR AIR DIVIDED BY THE VENTILATION EFFICIENCY, EV.

SUMMARY					
	OA REQUIRED	684	CFM	MAX Zp 0.27	TOTAL AREA, (SQ FT) 4,225
	SA PROVIDED	4,880	CFM	EV 0.88	CFM PER SQ FT 1.2
	OA PERCENTAGE	30	%		
	OA PROVIDED	1,465	CFM		

THE AMOUNT OF OUTSIDE AIR PROVIDED EXCEEDS THE CODE REQUIRED MINIMUM.

![](_page_15_Picture_10.jpeg)

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![](_page_15_Figure_13.jpeg)

AIR DEVICE DIAGRAM

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![](_page_16_Figure_1.jpeg)

![](_page_16_Picture_2.jpeg)

- 1. ALL EXISTING HVAC EQUIPMENT AND DEVICES TO REMAIN UNLESS NOTED OTHERWISE.
- COORDINATE REPLACEMENT/REPAIR OF CEILING AND WALLS WITH 2. GENERAL CONTRACTOR. MATCH EXISTING BUILDING STANDARDS.
- COORDINATE DISPOSAL/RETURN TO BUILDING STOCK OF ALL 3. DEMOLISHED HVAC MATERIALS WITH PROPERTY MANAGER.
- ANY UNUSED SPIN-IN FITTINGS SHALL BE CAPPED AND SEALED. CONTRACTOR SHALL INSPECT ALL EXISTING DUCTWORK AND REPAIR ANY AUDIBLE OR FELT LEAKS. 4.
- REFERENCE HVAC PLANS FOR NEW LOCATIONS OF RELOCATED HVAC 5. EQUIPMENT, ETC.
- CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES THAT MAY AFFECT THE HVAC SYSTEM. 6.
- 7. ALL DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS.

# **O DRAWING NOTES:**

- RELOCATE EXISTING SUPPLY AIR DEVICE. REMOVE EXISTING DUCTWORK AS 1 SHOWN.
- EXISTING SUPPLY AIR DEVICE TO REMAIN. REMOVE EXISTING BRANCH DUCT AND SPIN-IN FITTING. PATCH MAIN DUCTWORK AIRTIGHT. 2
- RELOCATE EXISTING SUPPLY AIR DEVICE. REMOVE EXISTING BRANCH DUCT AND SPIN-IN FITTING. PATCH MAIN DUCTWORK AIRTIGHT. 3
- 4 RELOCATE EXISTING RETURN AIR DEVICE.
- REMOVE EXISTING SUPPLY AIR DEVICE. REMOVE EXISTING BRANCH DUCT AND SPIN-IN FITTING. PATCH MAIN DUCTWORK AIRTIGHT 5
- RELOCATE EXISTING THERMOSTAT. 6
- EXISTING MECHANICAL TO REMAIN, NO MECHANICAL WORK IN THIS AREA. 7
- REMOVE EXISTING BRANCH DUCTWORK AS SHOWN. PREPARE TO RECONNECT PER NEW PLAN. 8

![](_page_16_Picture_20.jpeg)

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![](_page_17_Figure_74.jpeg)

- ALL EQUIPMENT, GRDs AND MATERIALS ARE NEW EXCEPT WHEN 1. AVAILABLE IN OWNERS' STOCK. CHECK OWNERS' STOCK PRIOR TO PRICING OR BID. COORDINATE WITH BUILDING ENGINEER.
- REFERENCE EQUIPMENT TAGS FOR VAV/FPB UNIT BALANCING VALUES. 2.
- REFERENCE DIAGRAMS FOR INSTALLATION OF NEW AND RELOCATED 3. HVAC EQUIPMENT AND DEVICES.
- PLANS ARE DIAGRAMMATIC AND ONLY SHOW THE GENERAL 4. ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. THE PLANS DO NOT SHOW EVERY OFFSET AND TRANSITION. CONTRACTOR SHALL FOLLOW PLANS IN LAYING OUT WORK AND COORDINATE WITH OTHER TRADES TO VERIFY SPACE IN WHICH WORK IS INSTALLED.
- ALL DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS. 5.
- NOT ALL DUCT TRANSITIONS AND OFFSETS ARE SHOWN. CONTRACTOR 6. SHALL PROVIDE THE NECESSARY FITTING REQUIRED AND INSTALL ACCORDINGLY.
- COORDINATE NEW AND OR RELOCATED AIR DEVICE LOCATIONS WITH EXISTING SPRINKLER HEADS AND LIGHTING LAYOUT, FIELD VERIFY. 7.
- COORDINATE THERMOSTAT LOCATIONS WITH FURNITURE LAYOUT, INSTALL ACCORDINGLY. VERIFY FURNITURE LAYOUT WITH 8. ARCHITECTURAL DRAWINGS.
- CONTRACTOR SHALL PROVIDE NECESSARY CODE COMPLYING 9. CLEARANCES FOR ALL EQUIPMENT INSTALLED.

## **ORAWING NOTES:**

- NEW LOCATION, EXISTING SUPPLY AIR DEVICE. SHORTEN/EXTEND EXISTING 1 BRANCH DUCTWORK AS REQUIRED. BALANCE TO CFM NOTED.
- 2 EXISTING SUPPLY AIR DEVICE. PROVIDE NEW SPIN-IN FITTING AND BRANCH DUCTWORK AS SHOWN. BALANCE TO CFM NOTED.
- NEW LOCATION, EXISTING SUPPLY AIR DEVICE. PROVIDE NEW SPIN-IN FITTING AND BRANCH DUCTWORK AS SHOWN. BALANCE TO CFM NOTED. 3
- 4 NEW LOCATION, EXISTING RETURN AIR DEVICE.
- 5 EXISTING SUPPLY AIR DEVICE. BALANCE TO CFM NOTED.
- NEW LOCATION, EXISTING THERMOSTAT. SHORTEN/EXTEND CONTROL 6 WIRING AS REQUIRED.
- EXISTING VAV/FPB UNIT, BALANCE TO CFM NOTED IN EQUIPMENT TAG. 7
- EXISTING WALLS WITH 4" GAP FOR RETURN AIR PATH. 8
- PROVIDE NEW CO2 SENSOR AND INTERLOCK WITH EXISTING VAV OPERATION. SEE DEMAND CONTROL VENTILATION SEQUENCE OF 9 OPERATION.

![](_page_17_Picture_95.jpeg)

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CENTENNIAL	., CO 80111
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# **DIVISION 220000 - PLUMBING SPECIFICATIONS**

#### BASIC MECHANICAL REQUIREMENTS

- QUALITY ASSURANCE: 1. IF MANUFACTURER'S MATERIAL OR EQUIPMENT IS LISTED IN SCHEDULES OR ON DRAWINGS, THEY ARE TYPES TO BE PROVIDED FOR ESTABLISHMENT OF SIZE, CAPACITY, GRADE, AND QUALITY. IF OTHER ACCEPTABLE MANUFACTURERS ARE USED, COST OF ANY CHANGE IN CONSTRUCTION REQUIRED BY THEIR USE SHALL BE BORNE BY CONTRACTOR.
- 2. EQUIPMENT SHALL CONFORM TO STATE AND/OR LOCAL ENERGY CONSERVATION STANDARDS.
- 3. COMPLY WITH RULES AND REGULATIONS OF LOCAL UTILITY COMPANIES. INCLUDE COST OF VALVES, VALVE BOXES, METER BOXES, METERS, ACCESSORY EQUIPMENT REQUIRED FOR PROJECT.
- INTENT AND INTERPRETATIONS: 1. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO RESULT IN A COMPLETE MECHANICAL INSTALLATION IN COMPLETE ACCORDANCE WITH ALL APPLICABLE LOCAL CODES AND ORDINANCES.
- DRAWINGS ARE DIAGRAMMATIC IN CHARACTER AND DO NOT NECESSARILY INDICATE EVERY REQUIRED PIPE, OFFSET, TRANSITION, ETC. ITEMS NOT SPECIFICALLY MENTIONED IN THE SPECIFICATION OR NOTED ON THE DRAWINGS, BUT WHICH ARE NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED.
- DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WHATEVER IS CALLED FOR IN EITHER IS BINDING AS THOUGH CALLED FOR IN BOTH. IF THERE IS A CONFLICT IN THE CONTRACT DOCUMENTS, THE MORE DEMANDING AND COSTLY DESIGN SHALL BE SELECTED FOR BIDDING PURPOSES. THE CONTRACTOR SHALL IMMEDIATELY PRESENT THE CONFLICT FOUND IN THE CONTRACT DOCUMENTS TO THE ARCHITECT/ENGINEER FOR RESOLUTION. IF THE RESOLUTION FAVORS A LESS COSTLY DESIGN, THE CONTRACTOR WILL BE REQUIRED TO REIMBURSE THE DIFFERENCE IN COST.
- 4. DRAWINGS SHALL NOT BE SCALED FOR ROUGH-IN MEASUREMENTS OR USED AS SHOP DRAWINGS. WHERE DRAWINGS ARE REQUIRED FOR THESE PURPOSES OR HAVE TO BE MADE FROM FIELD MEASUREMENTS, TAKE THE NECESSARY MEASUREMENTS AND PREPARE THE DRAWINGS.
- 5. BEFORE ANY WORK IS INSTALLED, DETERMINE THAT EQUIPMENT WILL PROPERLY FIT THE SPACE, THAT REQUIRED CLEARANCES CAN BE MAINTAINED AND THAT EQUIPMENT CAN BE LOCATED WITHOUT INTERFERENCES BETWEEN SYSTEMS, WITH STRUCTURAL ELEMENTS, OR WITH THE WORK OF OTHER TRADES.
- 6. IF CONFLICTS ARE DISCOVERED IN CONTRACT DOCUMENTS AS WORK PROGRESSES, SUBMIT A SET OF DRAWINGS MARKED WITH RED PENCIL SHOWING RECOMMENDED MODIFICATIONS TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.
- 7. CONTRACTOR SHALL COORDINATE WITH ALL OWNER SUPPLIED EQUIPMENT PRIOR TO ROUGH-IN. ENSURE ALL EQUIPMENT CONNECTIONS ARE PROVIDED FOR AND THAT THE INSTALLATION WILL MEET ALL LOCAL AND NATIONAL CODE REQUIREMENTS.
- JOB CONDITIONS: CONFER, COOPERATE, AND COORDINATE WORK WITH OTHER TRADES. COORDINATE CEILING CAVITY SPACE CAREFULLY WITH ALL TRADES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AS WELL AS COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT, UNLESS THE CONTRACT DOCUMENTS GIVE OTHER SPECIFIC INSTRUCTIONS CONCERNING THESE MATTERS.

#### PERMITS AND FEES: 1. ARRANGE AND PAY FOR ALL INSPECTIONS, PERMITS, LICENSES, CERTIFICATES, AND FEES REQUIRED IN CONNECTION WITH WORK.

SUBMITTALS AND SHOP DRAWINGS: 1. CONFORM TO REQUIREMENTS OF DIVISION 1 AND FOLLOWING PARAGRAPHS.

FROM TIME OF SHIPMENT TO TIME INSTALLATION IS ACCEPTED BY OWNER.

- 2. SUBMITTALS SHALL INCLUDE CATALOG CUT-SHEETS AND MANUFACTURER'S DATA SHEETS,
- 3. PRIOR TO ORDERING EQUIPMENT OR BEGINNING INSTALLATION WORK, ASSEMBLE, PREPARE, AND FURNISH SUBMITTALS AND SHOP DRAWINGS REQUIRED FOR PROJECT. FURNISH SUBMITTALS AND SHOP DRAWINGS AS REQUIRED BY INDIVIDUAL SECTIONS OF SPECIFICATIONS.
- 4. CONTRACTOR SHALL THOROUGHLY CHECK SUBCONTRACTORS' OR VENDORS' SUBMITTALS AND SHOP DRAWINGS AND, AFTER APPROVING THEM, SUBMIT THEM FOR REVIEW. SUBMITTALS AND SHOP DRAWINGS THAT DO NOT BEAR CONTRACTOR'S REVIEW STAMP WILL BE RETURNED NOT REVIEWED.
- 5. IF DISCREPANCIES BETWEEN SUBMITTALS, SHOP DRAWINGS, AND CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SUBMITTALS AND SHOP DRAWINGS ARE REVIEWED, REQUIREMENTS OF CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE. SUBMITTALS AND SHOP DRAWINGS WHICH ARE SUBMITTED, BUT WHICH ARE NOT REQUIRED BY CONTRACT DOCUMENTS, WILL BE RETURNED NOT REVIEWED.
- 6. SUBMITTALS AND SHOP DRAWINGS SHALL IDENTIFY SPECIFIC EQUIPMENT WITH NUMBERS OR LETTERS IDENTICAL TO THOSE LISTED OR SCHEDULED ON THE DRAWINGS OR SPECIFICATIONS. RECORD DOCUMENTS:
- 1. KEEP IN CUSTODY DURING ENTIRE PERIOD OF CONSTRUCTION, A CURRENT SET OF DOCUMENTS INDICATING CHANGES THAT HAVE BEEN MADE TO THE CONTRACT DOCUMENTS.
- 2. UPON COMPLETION OF WORK, SUBMIT THE COMPLETE SET OF RECORD DOCUMENTS TO THE ARCHITECT. PROTECTION OF EQUIPMENT: 1. PROTECT MATERIALS AND EQUIPMENT FROM PHYSICAL DAMAGE, CONSTRUCTION DIRT, AND THE ELEMENTS
- GUARANTEE: 1. GUARANTEE MATERIALS, WORKMANSHIP, AND OPERATION OF EQUIPMENT INSTALLED FOR PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE OF ENTIRE WORK. REPAIR OR REPLACE ANY PART OF WORK WHICH SHOWS DEFECT DURING THAT TIME.
- 2. BE RESPONSIBLE FOR DAMAGE TO PROPERTY OF OWNER OR TO WORK OF OTHER CONTRACTORS DURING CONSTRUCTION AND GUARANTEE PERIOD.
- 3. FURNISH EQUIPMENT WARRANTIES TO OWNER.
- MECHANICAL EQUIPMENT WIRING AND CONNECTIONS:
- 1. VOLTAGE CHARACTERISTICS SHALL BE AS IN ELECTRICAL DIVISION OF SPECIFICATIONS AND ON ELECTRICAL DRAWINGS. TEMPORARY FACILITIES:
- 1. USE OF EXISTING EQUIPMENT FOR TEMPORARY HEATING OR COOLING: DO NOT USE NEW OR EXISTING BUILDING EQUIPMENT WITHOUT WRITTEN PERMISSION FROM OWNER.
- INSPECTIONS: 1. DO NOT COVER UP OR ENCLOSE WORK UNTIL INSPECTED. TESTED, AND APPROVED, ANY WORK ENCLOSED OR COVERED UP BEFORE SUCH APPROVAL SHALL BE UNCOVERED, TESTED, AND APPROVED. ACCESS DOORS:
- 1. FURNISH HINGED STEEL ACCESS DOORS WITH CONCEALED LATCH, WHETHER SHOWN OR NOT, IN WALLS AND PLASTER OR GYPSUM BOARD CEILINGS FOR ACCESS TO CONCEALED VALVES, SHOCK ARRESTERS, AIR VENTS, MOTORS, FANS, BALANCING VALVES, OR OTHER OPERATING DEVICES REQUIRING ADJUSTMENT OR SERVICING. 2. ACCESS DOOR SHALL BE SIZE OF EQUIPMENT TO BE REMOVED OR 24" BY 24" IF USED FOR SERVICE ONLY.
- INSTALLATION: 1. WORKMANSHIP SHALL BE FIRST QUALITY. APPEARANCE OF WORK SHALL BE OF EQUAL IMPORTANCE TO ITS
- MECHANICAL OPERATION. LACK OF QUALITY WORKMANSHIP SHALL BE REASON FOR REJECTION OF SYSTEM IN PART OR IN WHOLE. 2. INSTALL SO THAT ALL VALVES AND EQUIPMENT CAN BE EASILY ACCESSED AND SERVICED BY ADEQUATE
- CLEARANCE, INSTALLATION OF ACCESS DOORS, UNIONS IN PIPING, OR OTHER METHODS.
- 3. COMPLETE INSTALLATION SHALL FUNCTION SMOOTHLY AND NOISELESSLY. 4. INSTALL EQUIPMENT AND MATERIALS PER MANUFACTURERS' RECOMMENDATIONS AND LOCAL CODES OR
- REGULATIONS.
- 5. PLACE OR REPLACE ALL EQUIPMENT NAMEPLATES WHERE THEY CAN BE SEEN AND READ WITHOUT DIFFICULTY. 6. FLUSH PIPES FREE OF FOREIGN SUBSTANCES BEFORE INSTALLING VALVES OR MAKING FINAL CONNECTIONS. CLEAN ALL PIPING AND EQUIPMENT.
- COMPLETION: 1. CLEAN INSULATION COVERING, PIPES, EQUIPMENT, AND ACCESSORIES TO RECEIVE PRIME COAT OF PAINT. CLEAN EQUIPMENT RECEIVED WITH PRIME COAT TO RECEIVE FINAL COAT.
- 2. INSTRUCT OWNER IN OPERATION AND MAINTENANCE OF PLUMBING SYSTEMS. MINIMUM PARTICIPANTS SHALL INCLUDE PLUMBING CONTRACTOR AND CONTROLS CONTRACTOR REPRESENTATIVES.
- 3. AFTER TESTS AND ADJUSTMENTS HAVE BEEN MADE AND SYSTEMS PRONOUNCED SATISFACTORY FOR PERMANENT OPERATION, REFINISH DAMAGED FINISH AND LEAVE EVERYTHING IN PROPER WORKING ORDER AND APPEARANCE.
- 4. ON COMPLETION OF WORK, REMOVE TOOLS, SCAFFOLDING, DEBRIS, ETC., FROM GROUNDS AND LEAVE PREMISES CLEAN.
- OPERATION AND MAINTENANCE MANUALS: 1. PRIOR TO COMPLETION OF PROJECT SUBMIT OPERATION AND MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT WITH MOVING OR MOVABLE PARTS, INCLUDING PLUMBING SYSTEMS, PER IECC. INSTRUCTIONS SHALL BE IN PAMPHLET, TYPEWRITTEN OR PDF FORM. INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT SHALL BE INDICATED BY A SEPARATE TAB.
- 2. INCLUDE STARTING, STOPPING, LUBRICATION, PREVENTATIVE MAINTENANCE SCHEDULE, AND ADJUSTMENT INFORMATION FOR EACH PIECE OF EQUIPMENT.

#### PIPE AND PIPE FITTINGS

PIPE AND PIPE FITTINGS		VALVES (CONTINU	<u>JED)</u>				METERS AND GAUGES (CONTINUED) CONSTANT READ PRESSURE GAUGES							
QUALITY ASSURANCE A. WELDING MATERIALS AND LABOR SHALL C STATE LABOR REGULATIONS	ONFORM TO ASME CODE FOR PRESSURE PIPING AND APPLICABLE	GAS VALVE A. IRON OR FORGED BR	ASS BODY INDOO!	RS, BRONZE (	OR FORGED BRASS BOD	Y OUTDOORS.	CONSTANT READ PRESSURE GAUGES A. 4-1/2" OR 5" DIAL, STANDARD BLACK CASE, BRASS PRESSURE SNUBBER AND NEEDLE VALVE. ACCURATE WITHIN 1% OVER MIDDLE HALF OF SCALE RANGE. 2% OVER REMAINDER.							
<ul> <li>B. USE WELDERS FULLY QUALIFIED AND LICEI</li> </ul>	NSED BY STATE AUTHORITIES. FURNISH CERTIFICATION FROM	B. FORGED BRASS BALL	VALVE. CERTIFIE	D TO CSA, AS	ME B16.33, AND UL FOR	GAS PIPING SYSTEMS.								
WORK ARE CERTIFIED.	A. BALL VALVE WITH NIF	PLE, CAP, HOSE 7	THREAD.			A. URIFICE OR VENTURI TYPE, FACTORY ASSEMBLED WITH 300 PSIG RATED BALL VALVE OR 125 PSIG RATED MULTI-TURN GLOBE VALVE WITH ADJUSTABLE MEMORY STOP. SCHRADER TYPE PRESSURE TEST PORTS AND CAPS WITH PORT EXTENSIONS. CHAINED METAL TAG INDICATING LOCATION, GPM, AND METER								
C. ALL PIPING MATERIALS SHALL COMPLY WIT	INSTALLATION A. PROVIDE VALVES SUI	TABLE TO CONNE		NING PIPING AS SPECIFIE	ed for PIPE Joints. Use PIPE									
<ul> <li>A. 2" AND SMALLER: 125 PSI CAST IRON FOR T SOLDERED JOINTS.</li> </ul>	HREADED FERROUS PIPING; BRONZE FOR COPPER OR BRASS PIPE,	B. 2" AND SMALLER: THE	EADED OR SOLD	ERED.			A. MOUNT THERMOMETERS TO BE EASILY READ FROM FLOOR.							
B. 2-1/2" AND LARGER: 150 PSI FORGED STEEL BRONZE ELANGES FOR COPPER OR BRASS	FLANGES, RAISED FACE WITH WELDING NECK, FOR FERROUS PIPING; PIPING, GASKETS FOR WATER PIPING TO 140 F FOUAL TO GARLOCK	C. 2-1/2" AND LARGER: F	∟ANGED.				B. INSTALL FL	LOW MEASURING DEVICES PER MANUFAC	TURER'S RECOMMENDATION	IS. TION DESIGNATION GPM				
PREMIUM GRADE STYLE 22 RED RUBBER, 1 GARD STYLE 3000 SYNTHETIC FIBER WITH	/16" THICK. GASKETS FOR NATURAL GAS EQUAL TO GARLOCK BLUE- NITRILE BINDER, 1/16" THICK. GASKETS FOR CONDENSATE, AND WATER	D. SOLDER OR SCREW 1	O SOLDER ADAPT	TERS FOR CO	PPER TUBING.									
C. DIELECTRIC UNIONS AND FLANGES: EPCO	I ALLIC. DR EQUAL HAVING PROPER GASKET MATERIAL FOR CONNECTION OF	<ul><li>F. USE SPRING LOADED</li></ul>	-S AT MAIN SHUT CHECK VALVES A		), LOW POINTS OF PIPING	G AND APPARATUS. VERTICAL POSITION.		CALIDENTITICATION CATION EACH PIPING SYSTEM AND INDICATE DIRE	CTION OF FLOW WITH BAND	SECURED OR SNAP-ON				
DISSIMILAR METALS. UNIONS, 2" AND SMAL DIELECTRIC CONNECTIONS WHEREVER JO	LER; DIELECTRICALLY GASKETED FLANGES, 2-1/2" AND LARGER. USE NING DISSIMILAR METALS IN OPEN DOMESTIC WATER SYSTEMS.	SUPPORTS, ANCH	IORS, SEAL	<u>s</u>			PRINTED L ADHESIVE	ABELS IN MECHANICAL ROOM AND OTHER LABELS IN CONCEALED AREAS. APPLY M	R EXPOSED AREAS AND PRE ARKINGS AFTER PAINTING AI	SSURE SENSITIVE, SELF- ND CLEANING OF PIPING AND				
EXECUTION A. VERIFY LOCATION(S) OF ALL AIR PLENUMS.	ALL PIPING AND SUPPORT MATERIALS INSTALLED IN AIR PLENUMS	A. PIPE SUPPORTS: ANS	I B31.1, POWER P	IPING.			B. APPLY LEC	IN IS COMPLETED. GEND AND FLOW ARROWS AT VALVE LOC.	ATIONS, AT POINTS WHERE F	PIPING ENTERS OR LEAVES				
SHALL BE PLENUM-RATED. DO NOT INSTAL PLENUM-RATED OPTIONS.	_ SPECIFIED NON-PLENUM-RATED MATERIALS IN AIR PLENUMS; USE	INSERTS A. MALLEABLE IRON CAS	E, GALVANIZED S		EXPANDER PLUG FOR T	THREADED CONNECTION WITH	VALVE OR LOCATION	METER BOX, AT NOT LESS THAN EVERY 3 L LOCATE MARKINGS FOR MAXIMUM VISIB	30'-0" OF RUN OR AT LEAST C ILITY.	NCE IN EVERY EXPOSED				
B. ROUTE PIPING IN ORDERLY MANNER AND M		INSERTS AND ANCHO	RS SUITABLE FOR	R TYPE OF STR	RUCTURALCONDITIONS	AND COMPONENTS.	C. WORDING/ OTHERWIS	/COLOR COMBINATIONS SHALL MEET ANS SE.	I SPECIFICATIONS UNLESS C	OLORS ARE SPECIFIED				
D. MAINTAIN FOLLOWING PIPE SLOPES UNLES	S OTHERWISE NOTED ON DRAWINGS:	PIPE HANGERS AND SUPF A. HANGERS, PIPE SIZES	DRTS ; TO 1-1/2": ADJUS	STABLE STEEL	RING (INSULATED PIPE)	) OR BAND (UNINSULATED PIPE).	D. SIZES OF L	LETTERING AND FLOW ARROWS SHALL BE	E AS FOLLOWS:	_				
<ul> <li>COOLING COIL CONDENSATE DRAIN PIL</li> <li>SANITARY WASTE 2-1/2" AND SMALLER</li> <li>SANITARY WASTE 3" AND LARGER: 1/8"</li> </ul>	2ING: 1/8" DOWN PER LINEAR FOOT IN THE DIRECTION OF FLOW. : 1/4" DOWN PER 1'-0" IN DIRECTION OF FLOW. DOWN PER 1'-0" IN DIRECTION OF FLOW.	B. HANGERS, HOT PIPE	SIZES 2" TO 4" ANI	D ALL COLD P	IPE SIZES: ADJUSTABLE	STEEL CLEVIS.		OUTSIDE DIAMETER OF PIPE SIZ OR COVERING (INCLUSIVE) LET	E OF MINIMUM LENGTH TER OF FLOW ARROW					
<ul> <li>GREASE WASTE: 1/4" DOWN PER 1'-0" I</li> <li>SANITARY VENT PIPING, ALL SIZES: GF</li> <li>DRAINAGE PIPE IT SERVES</li> </ul>	N DIRECTION OF FLOW. ADED AND CONNECTED AS TO DRIP BACK BY GRAVITY TO THE	D. WALL SUPPORT, PIPE	SIZES 4" AND OV	ER: WELDED	STEEL BRACKET AND PI	PE STRAP. ADJUSTABLE STEEL	F	5/8" TO 2" 1	/2" 2-1/2"	_				
STORM DRAIN PIPING, ALL SIZES: 1/8" [	OWN PER 1'-0" IN DIRECTION OF FLOW.	E. VERTICAL SUPPORT:	STEEL RISER CLA	MP.	SIZES 5" AND OVER.		L	2-1/2" AND LARGER	1" 4"					
EQUIPMENT.	AND CONTRACTION WITHOUT STRESSING PIPE OR CONNECTED	F. FLOOR SUPPORT, HO		4" AND ALL CO	OLD PIPE SIZES: CARBON	N STEEL, ADJUSTABLE PIPE		CAL INSULATION						
F. PROVIDE CLEARANCE FOR INSTALLATION OUNIONS.	F INSULATION AND FOR ACCESS TO VALVES, AIR VENTS, DRAINS,	ELEVATION.					A. ADHESIVE	S AND INSULATION MATERIALS: COMPOSI READ AND 50 FOR SMOKE DEVELOPED. A	TE FIRE AND SMOKE HAZARI DHESIVES SHALL BE WATERI	D RATINGS MAXIMUM 25 FOR PROOF.				
G. INSTALL SAME TYPE PIPING MATERIAL SPE	CIFIED FOR INSIDE BUILDING TO 5'-0" OUTSIDE BUILDING.	G. FOR PIPE SIZES 1-1/2' 180 DEGREE, 12" LON MATERIAL.	AND SMALLER, P G SHEET METAL §	PROTECT INSU SHIELD. NO HA	JLATED HORIZONTAL PIP ANGER SHALL PENETRA <sup>-</sup>	PE AT POINT OF SUPPORT BY TE OR CRUSH INSULATING		ON NSITY ONE-PIECE FIRERGI ASS, FACTORY		ACKET, DOUBLE SURFACE				
H. MAKE CONNECTIONS TO EQUIPMENT WITH STEEL PIPE CONNECTIONS	UNIONS OR FLANGES.	H. FOR PIPE SIZES 2" AN					ADHESIVE WEATHER	SELF-SEALING LAP, "K" FACTOR 0.23 AT 7 :: PROTECT INSULATION WITH WEATHERP	75 F MEAN TEMPERATURE. IN ROOF METAL JACKET. JACK	SULATION EXPOSED TO ET SHALL BE FACTORY				
A. 2" AND SMALLER - THREADED; 2-1/2" AND LA	ARGER - WELDED.	DEGREE, 12" LONG G DENSITY CALCIUM SIL PIPING, EXTEND INSU	ICATE INSULATIO	NOF SAME TI BEYOND SHE	HICKNESS AS ADJOINING EET METAL SHIELD AT E/	G PIPE INSULATION. ON COLD ACH END. OVERSIZE HANGERS	APPLIED A SEAL EACH WITH 1/2" \	ALOMINUM, U.UTO" THICK, WITH LAMINATED H JOINT WITH SNAP STRAPS CONTAINING WIDE STAINLESS STEEL BANDS. INSULATI	PREASTINGS WITH MITERED SI FITTINGS WITH MITERED SI	NG COMPOUND. SECURE ECTIONS OF SAME MATERIAL.				
C. DIE CUT THREADED JOINTS WITH FULL CUT	STANDARD TAPER PIPE THREADS WITH 1/2" WIDE WHITE TEFLON PIPE	TO ACCOMMODATE S AT CONTRACTOR'S O BARRIER FOULIVALEN	HELDED INSERTS PTION, PRE-MANU	S. NO HANGEF JFACTURED T INFERED PRO	R SHALL PENETRATE OR HERMAL HANGER SHIEL DUCTS PRO-SHIELD OR	CRUSH INSULATING MATERIAL. DS WITH INTEGRAL VAPOR PRO-SHIELD N/T MAY BE	SEAL JOIN	WITH 172 WIDE STAINLESS STEEL BANDS. INSULATE HITTINGS WITH MITERED SECTIONS OF SAME MATERIAL SEAL JOINTS WITH SEALING COMPOUND AND PREFORMED ALUMINUM BANDS.						
D. USE ONLY MALLEABLE IRON THREADED PIF	READS ONLY. PE FITTINGS FOR GAS PIPING.	UTILIZED. FOR EXTER		NS USE WEAT	THER SHIELD WITH ALUN		A. INSULATIO SUPPORTI	ON SHALL BE CONTINUOUS THROUGH INSI ING INSULATION MATERIAL, FULLY SEALEI	DE WALLS. PACK AROUND P D.	PES WITH FIREPROOF SELF-				
E. USE BUTT WELD FITTINGS FOR WELDED ST	EEL PIPES. USE OXYACETYLENE OR ELECTRIC ARC PROCESS.	ARE IN DIRECT CONT.	ACT WITH ONE AN	ND SUPPORT NOTHER.	S FOR COPPER PIPING V	WHERE PIPING AND HANGER	B. FINISH INS BREAKS FO	SULATION NEATLY AT HANGERS, SUPPOR OR SERVICE OR ACCESS REQUIREMENTS	IS, OTHER PROTRUSIONS, AI	ND WHERE THE INSULATION				
CAST IRON PIPE CONNECTIONS A. JOINTS FOR BELL AND SPIGOT PIPES: NEOL	PRENE GASKETING SYSTEM WITH "TY-SEAL" WATER SOLUBLE	PIPE HANGER RODS A. THREADED STEEL.					C. DO NOT COVER PIPING UNTIL TESTED.							
LUBRICANT. B. JOINTS FOR PLAIN END PIPE ABOVE GRADE	STAINLESS STEEL BAND TYPE GASKET AND CLAMP MECHANICAL	PIPE HANGERS AND SUPF A. SUPPORT HORIZONT	ORTS AL PIPING AS FOLI	LOWS:			D. REMOVE AND REAPPLY INSULATION IF, IN OPINION OF ARCHITECT, IT HAS NOT BEEN INSTALLED IN FIRST CLASS WORKMANLIKE MANNER.							
		NOMINAL	N	MAXIMUM HAN	IGER SPACING	HANGER ROD	E. REPAIR SEPARATION OF JOINTS OR CRACKING OF INSULATION DUE TO THERMAL MOVEMENT OR POOR WORKMANSHIP.							
COPPER PIPE CONNECTIONS		PIPE SIZE	STEEL	COPPER	SCHEDULE 40 PVC	DIAMETER								
A. 2-1/2" AND SMALLER: USE 15% SILVER BRA 95% TIN, 5% ANTIMONY LEAD-FREE SOLDER FLUX ON CLEANED END OF PIPE AND INSID	1-1/2" AND SMALLER	6'-0"	6'-0"	4'-0"	3/8"	PRESSURE SENSITIVE ADHESIVE SYSTEM. SEAL END JOINTS WITH 7ACTORT AFFLIED DOUBLE VAPOR BARRIER ADHESIVE. SEAL ALL SEAMS ON COLD WATER PIPING WITH BENJAMIN FOSTER (								
B. 3" AND LARGER: USE 15% SILVER BRAZING	2" TO 4"	10'-0"	10'-0"	4'-0" 4' 0"	3/8"	FAST MAS	TIC. OF INSULATION ON FITTINGS AND VALVE	S						
APPLICATION OF PIPING SYSTEMS:	A. INSTALL HANGE	RS TO PROVIDE M	MINIMUM 1/2" (	CLEAR SPACE BETWEEN	N FINISHED COVERING AND	A. INSULATE UL RATED	FITTINGS AND VALVES WITH FIRMLY COM PVC FITTING COVERS (ZESTON OR EQUA	IPRESSED FOIL-FACED FIBER L).	GLASS BLANKET AND 25/50					
SERVICE	MATERIAL	ADJACENT WOR SEPARATION.	K, EXCEPT WHER	RE UL LISTING	FOR FIRE RATED CEILIN	NG REQUIRES 4" MINIMUM	B. WHERE IN AND VALVE	STALLATION OF PVC FITTING COVERS IS I ES WITH MOLDED FIBERGLASS FITTINGS (	PROHIBITED BY LOCAL AUTH OR FIRMLY COMPRESSED FC	ORITIES, INSULATE FITTINGS IIL-FACED FIBERGLASS				
	COPPER, TYPE M	B. SUPPORT HORI. 5'-0" MAXIMUM S	CONTAL CAST IRO	N HUB AND S	PIGOT PIPE WITHIN 1'-0" EXCEPT THAT PIPE EXCE	' OF EACH HUB AND WITH EEDING 5'-0" IN LENGTH	BLANKET. SECURE IN PLACE WITH 20 GAUGE CORROSION RESISTANT WIRE AND APPLY SMOOTHING COAT OF INSULATING CEMENT. FINISH WITH LAYER OF GLASS CLOTH EMBEDDED BETWEEN TWO COATS OF VAPOR BARRIER MASTIC. LAP GLASS FABRIC 2" ONTO ADJACENT INSULATION.							
SANITARY DRAIN AND VENT	COPPER, TYPE DWV, HARD DRAWN; CAST IRON; SCH 40 PVC	CAST IRON PIPE LEAST ONE HAN	, RUNS AT EACH F IGER. SUPPORT F	FITTING AND A FIRTING AND A FORIZONTAL N	AT EACH LENGTH OF PIPI NO-HUB PIPES LONGER T	PE LESS THAN 4'-0" WITH AT THAN 4'-0" ON BOTH SIDES	C. INSULATIO	ON ON FITTINGS AND VALVES SHALL BE SA	AME THICKNESS AS ON PIPE.					
ABOVE SLAB-ON-GRADE SANITARY DRAIN AND VENT, BELOW	(PVC NOT ALLOWED IN ANY RETURN AIR PLENUM) CAST IRON; SCHEDULE 40 PVC	OF EACH JOINT C. PLACE HANGER	WITHIN 1'-6" OF E	EACH ELBOW	OR TEE.		INSULATION SC	CHEDULE:						
SLAB-ON-GRADE INSIDE BUILDING	(PVC NOT ALLOWED IN ANY RETURN AIR PLENUM)			VERY FLOOR.		DIL PIPE AT EACH FLOOR			PIPE SIZE	THICKNESS				
INSIDE BUILDING	(PVC NOT ALLOWED IN ANY RETURN AIR PLENUM)	FROM JOINT TO RESTRAINTS AL	SUPPORT. SUPPO EQUATE TO PRE	ORT 2" AND SI VENT PERPEN	MALLER PIPES MIDWAY I IDICULAR AXIAL MOVEM	BETWEEN FLOORS WITH ENT.		DOMESTIC HOT WATER.	1-1/2" AND SMALLER	1"				
DOMESTIC WATER UNBURIED	CROSS-LINKED POLYETHYLENE (PEX) ASTM F877 FOR DOMESTIC HOT AND COLD WATER	E. SUPPORT EACH	BRANCH PIPE TC	) EQUIPMENT	AT TAKE-OFF AND WITH	IN 12" OF TERMINATION.	D0	OMESTIC HOT WATER RECIRCULATION	2" AND LARGER	2"				
	COPPER, TYPE K, HARD DRAWN CROSS-LINKED POLYETHYLENE (PEX)	F. PROVIDE GALV/ INSULATED PIPI	NIZED STEEL INS	SULATION PRO	DTECTION SADDLES AT A	ALL SUPPORT POINTS FOR	R (VI	OOF DRAIN, OVERFLOW DRAIN PIPING ERTICAL LEADER FROM DRAIN BOWLS, AND ALL HORIZONTAL)	ALL	1/2"				
DOMESTIC WATER	ASTM F877 FOR DOMESTIC HOT AND COLD WATER SEAMLESS BRASS PIPE,	G. ANCHOR ALL SU	PPORTING LUGS	OR GUIDES T	O BUILDING STRUCTURE	E.	R	ROOF DRAIN, OVERFLOW DRAIN BOWL	ALL	1"				
		H. ANCHOR AND S WALLS, TO FIXT ADJUSTO-SPAC	JPPORT WATER C URE CARRIERS O ER SYSTEM AS M	CONNECTIONS R WASTE AND ANUFACTURE	S TO PLUMBING FIXTURE D VENT PIPING. SUPPOR D BY THOMAS INDUSTRI	ES, IN PIPE CHASES OR RTS SHALL BE SIMILAR TO IES. PLACE ADJUSTO-	TESTING /	AND BALANCING						
CAST IRON PIPING AND FITTINGS:		SPACERS EVER PIPE AREA IN C	Y 10'-0" ON VERTI ONTACT WITH AD,	CAL PIPE AND JUSTO-SPACE	) EVERY 5'-0" ON HORIZC ERS WITH DUCT TAPE, FE	ONTAL PIPE. INSULATE ELT LINER, OR PLASTIC	STATUS OF SYSTEMS A. DO NOT BEGIN TESTING AND BALANCING WORK UNTIL SYSTEM HAS BEEN COMPLETED AND IS IN FULL							
A. CAST IRON PIPING SHALL BEAR THE COLLE LISTED BY NSF INTERNATIONAL.	CTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND	FLASHING AND SAFING					WORKING ORDER. B. PUT SYSTEMS AND EQUIPMENT INTO FULL OPERATION AND CONTINUE OPERATION OF SAME DURING EACH							
A. HUBLESS STANDARD DUTY CAST IRON PIP INTERNATIONAL.	E AND FITTINGS SHALL CONFORM TO CISPI 310 AND LISTED BY NSF	A. WHERE EXPOSED PIP STAINLESS STEEL ES	CUTCHEON FOR F	OUGH WALLS PIPING.	, FLOORS, ROOFS, PROV	VIDE CHROME PLATED OR	WORKING COMMENC VISUAL OF	DAY OF TESTING AND BALANCING. ASCEI CEMENT OF WORK THROUGH REVIEW OF A SSERVATIONS AT SITE DUBING CONSTRU	RTAIN PRELIMINARY TAB REC AVAILABLE DRAWINGS AND S CTION TO DETERMINE LOCAT	QUIREMENTS PRIOR TO SPECIFICATIONS. MAKE				
UNDERGROUND PIPE INSTALLATION A. PROTECT STEEL PIPE INSTALLED BELOW (	RADE AND TO MINIMUM 6" ABOVE GRADE WITH FACTORY APPLIED	B. FLASH AND COUNTER PROOFED WALLS, FL	FLASH WHERE MI JORS, ROOFS.	ECHANICAL E	QUIPMENT PASSES THR	OUGH WEATHER- OR WATER-	REQUIRED	) BALANCING DEVICES.						
COVERING, PRO-CO FELT AND PIPE LINE EI PROTECT FIELD JOINTS ON STEEL PIPE BY #20 HEAT APPI IED, 62 MII, TAPE PER MANU	VAMEL NO. 4 DOUBLE WRAP OR X-TRU-COAT PLASTIC COATING. WITH TAPECOAT COMPANY PRIME COAT AND ONE LAYER OF TAPECOAT FACTURER'S RECOMMENDATIONS	C. PROVIDE PRE-MANUF SECURE BOOT TO PIP	ACTURED PIPE BO	OOT FOR VEN	T AND/OR WASTE STACH ID CLAMP OR OTHER CL/	KS PASSING THROUGH ROOF. AMPING DEVICE AS APPROVED	REQUIREMENTS OF WORK A. DOMESTIC CIRCULATING HOT WATER a. ADJUST MANUAL BALANCING VALVES IN SYSTEM SO ALL HOT WATER OUTLETS RECEIVE ADEQUATE							
B. PROVIDE THRUST BLOCK AT ALL DIRECTIO	N CHANGES ON PRESSURE PIPE.	SLEEVES	JIURER, RE: ARU	JHITECT.			SUPPLY OF HOT WATER. b. WHEN BALANCING IS DONE, MARK VALVES IN BALANCED POSITION, SET LOCKING RINGS.							
C. BURY ALL OUTSIDE WATER PIPING MINIMU	1 5'-0" BELOW GRADE TO TOP OF PIPE.	A. PROVIDE PIPE SLEEV THROUGH CONCRETE OF SIZE TO PROVIDE	ES TO APPLICABLE OR MASONRY CO FROM 1/4" TO 1" (	E TRADES WI	TH PRECISE ROUGH-IN L N. UNLESS OTHERWISE I ETWEEN BARE PIPE AND	LOCATIONS FOR PIPES PASSING INDICATED, SLEEVES SHALL BE D SLEEVE, WHERE PIPE PASSES	GENERAL PIPE A. TEST ALL I	E TESTING PIPING SYSTEMS. CORRECT LEAKS BY RE	MAKING JOINTS. REMOVE E					
D. BURY ALL OUTSIDE GAS PIPING MINIMUM 1	-6" BELOW GRADE TO TOP OF PIPE.		FLOOR, EXTEND	SLEEVE MINI	MUM 1" ABOVE FINISHED		SYSTEM R	REQUIREMENTS.	IG TEST. CONSULT GOVERNI	NG CODES FOR SPECIAL				
SUBMITTALS A. FURNISH MANUFACTURER'S SUBMITTAL DA	B. SLEEVES IN BEARING WALLS, WATERPROOF MEMBRANE FLOORS, WET AREAS SHALL BE STEEL PIPE OR CAST IRON PIPE. SLEEVES IN NON-BEARING WALLS, FLOORS, CEILINGS SHALL BE STEEL PIPE OR CAST IRON PIPE.						B. TEST PIPING BEFORE BEING PERMANENTLY ENCLOSED.							
B. VALVES SHALL BE OF SAME MANUFACTURI	ER WHERE POSSIBLE. VALVE SEATS AND MATERIALS SHALL BE SUITABLE	E C. WHERE UNINSULATED PIPES PENETRATE BEARING WALLS (EXCLUDING FOUNDATIONS), FIRE RATED WALLS,						U. UBTAIN CERTIFICATES OF APPROVAL, ACCEPTANCE, COMPLIANCE WITH REGULATIONS OF AGENCIES HAVING JURISDICTION. SUBMIT TO OWNER.						
ACCEPTABLE MANUFACTURES	3-6548 SILICONE RTV ON EACH SIDE OF OP	FOAM, OR 1" MINII ENING.	MUM THICKNE	ESS OF 3M FIRE BARRIEF	R, CP-25 CAULK, OR 303 PUTTY	A. STERILIZE SYSTEM, II	DOMESTIC WATER LINE DOMESTIC WATER SYSTEM AFTER PRES NTRODUCE CHLORINE OR HYPOCHLORITI	SURE TESTS HAVE BEEN CO E TO NOT LESS THAN 50 PPM	MPLETED. FLUSH ENTIRE I RESIDUAL CHLORINE. LET					
<ul><li>A. BALL VALVE: APOLLO, KITZ, NIBCO.</li><li>B. GAS VALVE: DEZURIK.</li></ul>		D. ENCASE ALL INSULAT INSULATION INSERTS	ED PIPES PENETF AS MANUFACTUF	RATING FIRE V RED BY VALUE	WALLS AND FLOORS IN 3 E ENGINEERED PRODUCT	360 DEGREE METAL-SHIELDED TS. PACK AND SEAL SPACE	STATEM, INTRODUCE OF CONTROLOGIE OF THE OFFICIENT IN THE SUPPORT OF A DOMESTIC CHLORINE. LET STAND FOR 24 HOURS MINIMUM.							
		BETWEEN SHIELD AND SLEEVE PER PRECEDING PARAGRAPH. EXTEND INSULATION INSERT ON ALL DOMESTIC WATER LINES 1" BEYOND SHEET METAL SHIELD.						B. FLUSH SYSTEM WITH CLEAN WATER UNTIL CHLORINE CONTENT IS REDUCED TO 1 PPM AT POINT FURTHEST FROM WHERE CHLORINE WAS INTRODUCED.						
SHUTOFF VALVE		E. PIPE TO SLEEVE CLO FLOORS, WET AREAS	JURE FOR PIPES I SHALL BE "LINK-S	PENETRATINO SEAL."	G FOUNDATIONS, WATER	RPROOFING MEMBRANE	A. HYDROST 150% OF C	ATIC TEST - WATER PIPING (NEW PIPING ( PPERATING PRESSURE. MAINTAIN PRESSU	ONLY): HAND PUMP SYSTEM JRE UNTIL SYSTEM HAS BEE	TO GREATER OF 100 PSIG OR N INSPECTED FOR LEAKS				
<ul> <li>A. BALL VALVE, ALL SIZES: TWO-PIECE BRONZ 150 SWP/600 WOG, FULL PORT, BLOWOUT- PACKING. STEM EXTENSION WHERE INSUI</li> </ul>	LE OR FORGED BRASS BODY WITH PTFE SEATS, PRESSURE RATED TO PROOF STEM AND POSITIVE SHUT-OFF. PACKING GLAND WITH PTFE ATED, LOCKABLE HANDLE.	METERS AND GAU SUBMITTALS	<u>IGES</u>				BUT NOT L	LESS THAN FOUR HOURS. ISED AIR OR NITROGEN TEST FOR NATI IR.	AL GAS PIPING: SUBJECT PIP	ING SYSTEM TO REALIBED				
	G STOPS	A. FURNISH MANUFACTU MEASURING DEVICES	RER'S SUBMITTA <sup>I</sup> , TEST PLUGS.	L DATA FOR: <sup>-</sup>	THERMOMETERS, PRESS	SURE GAUGES, FLOW	D. COMPRESSED AIR OR NITROGEN TEST FOR NATURAL GAS PIPING: SUBJECT PIPING SYSTEM TO REQUIRED GAS PRESSURE WITH OIL FREE AIR OR NITROGEN. SYSTEM SHALL MAINTAIN PRESSURE FOR DURATION OF SOAPY WATER TEST OF EACH JOINT. TEST PRESSURE OF 100 PSIG FOR 4 HOURS OR TEST PRESSURE OF 60							
CHECK VALVE		PORTABLE INSERTION TY A. 5" STEMS, ACCURATE	<sup>2</sup> E THERMOMETE WITHIN 1% OVEF	RS R DIAL RANGE	, HERMETICALLY SEALEI	D.	PSIG OR ABOVE FOR 24 HOURS SHOWING NO PRESSURE DROP EXCEPT THAT CAUSED BY TEMPERATURE CHANGES. DO NOT USE FLAME OR OTHER LIQUID FOR TESTING. DO NOT REPAIR DEFECTS IN GAS PIPING OR FITTINGS; REMOVE AND REPLACE WITH SOUND MATERIAL.							
<ul><li>A. 2" AND SMALLER: BRONZE, SWING DISC, SC</li><li>B. 2-1/2" AND LARGER: IRON BODY. BRONZE T</li></ul>	DLDER OR THREADED ENDS. RIM, SWING DISC, RENEWABLE DISC AND SEAT. FLANGED ENDS	CONSTANT READ THERM	)METERS {MOMETER <sup>,</sup> 9" Δι	UMINUM CASE	, NON-TOXIC HEAT TRAN	NSFER MEDIUM-FILLED TUBE	C. WASTE, DI	RAIN, VENT PIPING: FILL SYSTEM WITH WA	ATER TO POINT OF OVERFLC	W BUT NOT LESS THAN 10'-0"				
			CONNECTION, EX		K TO CLEAR INSULATION	N, SWIVEL ANGLE STEM, FULLY								
	, 18000 I, 18222, 7 1000 I			ICE.										

A. 4-1/2" DIAL, PHOSPHOR-BRONZE BOURDON TUBE, STAINLESS STEEL MOVEMENT, ACCURATE WITHIN 1/2%

OVER SCALE RANGE.

			PLUMBING	L	EGEND	
	NOT AL	L ITEM	S LISTED BELOW ARE USED OI	N 1	THIS SET OF PLUMBING DR	AWINGS
	PLU	MBING	PIPING		PIPING	SYMBOLS
	SYMBOL	ABBV.	DESCRIPTION		SYMBOL	DESCRIPTION
		CW	DOMESTIC COLD WATER			WALL HYDRANT
		НW	DOMESTIC HOT WATER			
			DOMESTIC HOT WATER			
— ·		HWC	CIRCULATION			
	- 180	НW	DOMESTIC HOT WATER		─────────	BALANCING VALVE
	_ T	Ι -				
	—TR——	TR	CIRCULATION			
	-SAN	SAN	SOIL OR WASTE			
	—GW— —	GW	GREASE WASTE			VALVE
	-sod	SOD	SEDIMENT & OIL DRAIN		K	
	—FM———	FM	FORCE MAIN DRAINAGE			
	— D ———	D	DRAIN			PUMP
— -	— V — —	V	SANITARY VENT		ዋነ	ATMOSPHERIC VACUUM
	—GV———	GV	GREASE VENT		,	BREAKER
	— RD———	RD	ROOF DRAIN		<u> </u> 2	STRAINER
	OD	OD				RELIEF VALVE
	— F ———	F	FIRE SPRINKI FR		'	DOWNSPOUT NOZZLE
		FDC	FIRE DEPT. CONNECTION		<b> </b> Q ''	WATER HAMMER
			NATURAL GAS			ARRESTER
	— G ———	G	LOW PRESSURE			
	-MPG	MPG	NATURAL GAS			REDUCER
			MEDIUM PRESSURE		M	WATER METER
						GAG WETER
	SYMBOL		DESCRIPTION			PRESSURE GAUGE
		AR	ROW IN LINE INDICATES		Ш	THERMOMETER
		— DIF	RECTION OF FLOW			FLOOR SINK
	— xx—		DICATES PIPE SLOPE DOWN		$\otimes$	AREA/FLOOR DRAIN
	<b>—</b>				0	ROOF DRAIN OR
					-	
		—  во	TTOM PIPE CONNECTION			WALL CLEANOUT AND
		o Pif	PING UP		ີ	
		Э PIF	PING DOWN			
		<b>DO</b> FIX	TURE TRAP OR DRAIN TRAP		€	EXISTING
					$\begin{pmatrix} 1 \end{pmatrix} \begin{pmatrix} DTL \end{pmatrix}$	RISER BUBBLE AND
-	\$	PIF	PEDROP		P101 SHT	KEFEKENCE BUBBLE
	X	GA	TE VALVE IN VERTICAL			EQUIPMENT DESIGNATION
	y	PIF	PE DROP		L	
					NS	
AFF	ABOVE FINIS	HED FLO HED GR	OOR FFE FINISHEL	) н ОТ	CONTRACTOR NO	NOT IN CONTRACT
AP	ACCESS PAN	EL	GC GENERA	LC	CONTRACTOR NTS	NOT TO SCALE
BFP	BACKFLOW P		TER IE INVERTE	ELE	EVATION SCO	SURFACE CLEAN OUT
(E)	EXISTING	NUZZL	MC MECHAN	.aı IIC	AL CONTRACTOR VTR	VENT THROUGH ROOF
ÈĆ	ELECTRICAL	CONTR	ACTOR MH MANHOL	E	WCC	D WALL CLEAN OUT
IEL IECO	ELEVATION		(N) NEW	ĮV	CLOSED	
				1		
NOTE:						
APPLICA	BLE CODE STA	NDARD	S			
2021 INT	ERNATIONAL B	UILDING	CODE 2021 INTE	ER	NATIONAL ENERGY CONSE	RVATION CODE
2021 INT	ERNATIONAL FI	RE COL	DE 2021 INTE	ERI	NATIONAL FUEL GAS CODE	
2021 INT	ERNATIONAL M		IGAL CODE ZUZZ DBC	<i>,</i> A		

![](_page_18_Picture_95.jpeg)

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	PLUMBING FIXTURE SCHEDULE												
									ROUGH IN CONNECTION SIZING				
SYMBOL	TYPE	ADA	ACCESSORIES	FINISH	MANUFACTURER &	MANUFACTURER &	ACCEPTABLE	REMARKS	WASTE	VENT	HOT	COLD	
						MODEL NUMBER			(INCHES)	(INCHES)	(INCHES)	(INCHES)	
BFP-1	ICE MACHINE/BEVERAGE DISPENSER DOUBLE CHECK BACKFLOW PREVENTER	N/A	ASSE 1032 CERTIFIED	BRONZE	ZURN 700XL	-	APOLLO VALVES CONBRACO WATTS	LEAD FREE ASSEMBLY	-	-	-	1/4	
D-1	DISPOSER - 3/4 HP, 120-1-60 STAINLESS STEEL ELEMENTS	N/A	MOTOR OVERLOAD PROTECTION, PLUG AND CORD.	-	IN SINK ERATOR BADGER 5XP	-	NATIONAL WASTE KING	4-YEAR WARRANTY	-	-	-	-	
S-1	SINK - 23-1/2"x18-1/4" O.D. SINGLE COMPARTMENT, UNDERMOUNT, SINGLE HANDLE PULL-DOWN KITCHEN FAUCET, METAL CONSTRUCTION & 9" SPOUT; 1.8 GPM	YES	INTEGRAL SPRAY FAUCET, OFFSET DRAIN OPENING FOR ADA COMPLIANCE, LEAD FREE	STAINLESS STEEL CHROME FAUCETS	ELKAY ELUHAD211555PD	DELTA 9159-DST	JUST, KOHLER, STANADYNE	5-3/8" DEEP SINK, COORDINATE FAUCET HOLE CONFIGURATION WITH FAUCET	2	2	1/2	1/2	
TMV-1	POINT OF USE THERMOSTATIC MIXING VALVE WITH HIGH TEMPERATURE LIMIT STOP, INTEGRAL CHECK VALVES	N/A	MINIMUM FLOW 0.5 GPM, MAXIMUM FLOW 7 GPM, LOCKING TEMPERATURE CONTROL	BRONZE	LEONARD #270-LF	-	LAWLER POWERS SYMMONS	SET MAXIMUM TEMPERATURE TO 110°F LEAD FREE ASSEMBLY	-	-	1/2	1/2	
WB-1	ICE MACHINE/BEVERAGE DISPENSER WALL BOX, STEEL RECESSED, 1/2" NPT BOTTOM INLET 1/4" COMPRESSION OUTLET	N/A	INTEGRAL HAMMER ARRESTER OPEN FRAME FACEPLATE	PAINTED STEEL	OATEY 39140	-	LSP PRODUCTS GUY GRAY SIOUX CHIEF	FOR COMMERCIAL APPLICATIONS	-	-	-	1/2	
WCO-1	WALL CLEANOUT TEE WITH COUNTERSUNK PLUG STAINLESS STEEL COVER PLATE	N/A	-	STAINLESS STEEL	ZURN Z1446	-	JOSAM J.R. SMITH WADE, WATTS	-	-	-	-	-	
NOTES:	· · · · · · · · · · · · · · · · · · ·		1	1	1	1	1		1				

1. FIXTURES SHOWN CONSTITUTE NEGLIGIBLE CHANGE TO OVERALL WATER SERVICE.

2. ALL CONNECTIONS TO POTABLE WATER SYSTEM SHALL CONFORM TO NSF/ANSI-61 AND NSF/ANSI-372 EFFECTIVE 01/04/2014. 3. PLUMBING FIXTURES SHALL MEET MAXIMUM FLOW RATE/CONSUMPTION VALUES PER 2022 DPC TABLE 604.4.

![](_page_19_Figure_4.jpeg)

#### SINK WITH DISHWASHER DIAGRAM NOT TO SCALE

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![](_page_19_Picture_7.jpeg)

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![](_page_19_Figure_10.jpeg)

#### TMV-THERMOSTATIC MIXING VALVE DIAGRAM NOT TO SCALE 221119.07

J<u>−</u> 1/2"

1/2" —

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![](_page_20_Figure_0.jpeg)

![](_page_20_Picture_1.jpeg)

- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CUTTING 1. AND PATCH WITH GENERAL CONTRACTOR.
- CONTRACTOR SHALL FIELD VERIFY ALL PLUMBING SYSTEMS, PIPE SIZES, SLOPES, INVERTS, DIRECTIONS OF FLOW, AND EXACT LOCATIONS PRIOR 2. TO BEGINNING WORK.
- PLANS ARE DIAGRAMMATIC AND ONLY SHOW THE GENERAL 3. ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. THE PLANS DO NOT SHOW EVERY OFFSET AND TRANSITION. CONTRACTOR SHALL FOLLOW PLANS IN LAYING OUT WORK AND COORDINATE WITH OTHER TRADES TO VERIFY SPACE IN WHICH WORK IS INSTALLED.
- REFER TO SCHEDULES, DIAGRAMS AND ISOMETRIC DIAGRAMS FOR ALL 4. PIPE SIZES NOT SHOWN ON PLAN. FIELD VERIFY EXISTING PIPE SIZES PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ANY AND ALL 5. SERVICE DOWNTIME WITH AFFECTED TENANT(S) AND PROJECT MANAGER PRIOR TO THE INTERRUPTION OF SERVICE.
- COORDINATE SCHEDULE OF FLOOR PENETRATIONS AND WASTE PIPE INSTALLATION WITH TENANT BELOW AND BUILDING MANAGEMENT PRIOR 6. TO BEGINNING CONSTRUCTION. UTILIZE ANY EXISTING ROUGH-IN AND BUILDING MAIN WASTE AND VENT CONNECTIONS.
- CONTRACTOR SHALL CONFIRM REQUIREMENTS FOR LOCATING STEEL 7. REINFORCING PRIOR TO MAKING FLOOR PENETRATIONS. PERFORM FLOOR X-RAY AS REQUIRED TO LOCATE STEEL.
- CONTRACTOR SHALL FIELD VERIFY THE PIPING CONTINUITY OF SERVICE TO EXISTING FIXTURES TO REMAIN PRIOR TO BEGINNING DEMOLITION OF 8. PIPING.

# **O DRAWING NOTES:**

- REMOVE EXISTING SINK AND ALL ASSOCIATED ACCESSORIES. REMOVE 1 CW/HW/VENT/WASTE PIPING BACK TO MAINS AND CAP.
- 2 REMOVE CW PIPING AS SHOWN AND CAP.

![](_page_20_Picture_15.jpeg)

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PLUMBING DEMOL

![](_page_21_Figure_0.jpeg)

![](_page_21_Picture_1.jpeg)

- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CUTTING 1. AND PATCH WITH GENERAL CONTRACTOR.
- CONTRACTOR SHALL FIELD VERIFY ALL PLUMBING SYSTEMS, PIPE SIZES, SLOPES, INVERTS, DIRECTIONS OF FLOW, AND EXACT LOCATIONS PRIOR 2. TO BEGINNING WORK.
- PLANS ARE DIAGRAMMATIC AND ONLY SHOW THE GENERAL 3. ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. THE PLANS DO NOT SHOW EVERY OFFSET AND TRANSITION. CONTRACTOR SHALL FOLLOW PLANS IN LAYING OUT WORK AND COORDINATE WITH OTHER TRADES TO VERIFY SPACE IN WHICH WORK IS INSTALLED.
- REFER TO SCHEDULES, DIAGRAMS AND ISOMETRIC DIAGRAMS FOR ALL 4. PIPE SIZES NOT SHOWN ON PLAN. FIELD VERIFY EXISTING PIPE SIZES PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ANY AND ALL SERVICE DOWNTIME WITH AFFECTED TENANT(S) AND PROJECT MANAGER 5. PRIOR TO THE INTERRUPTION OF SERVICE.
- COORDINATE SCHEDULE OF FLOOR PENETRATIONS AND WASTE PIPE INSTALLATION WITH TENANT BELOW AND BUILDING MANAGEMENT PRIOR 6. TO BEGINNING CONSTRUCTION. UTILIZE ANY EXISTING ROUGH-IN AND BUILDING MAIN WASTE AND VENT CONNECTIONS.
- CONTRACTOR SHALL CONFIRM REQUIREMENTS FOR LOCATING STEEL 7. REINFORCING PRIOR TO MAKING FLOOR PENETRATIONS. PERFORM FLOOR X-RAY AS REQUIRED TO LOCATE STEEL.
- CONTRACTOR SHALL FIELD VERIFY THE PIPING CONTINUITY OF SERVICE TO EXISTING FIXTURES TO REMAIN PRIOR TO BEGINNING DEMOLITION OF 8. PIPING.

## **ORAWING NOTES:**

- 1 CONNECT TO EXISTING CW PIPE IN THIS AREA, FIELD VERIFY.
- 2 CONNECT TO EXISTING HW PIPE IN THIS AREA, FIELD VERIFY.
- CONNECT TO EXISTING VENT PIPE IN THIS AREA, FIELD VERIFY. 3
- CONNECT TO EXISTING 4" WASTE STACK IN THIS AREA. FIELD VERIFY EXACT LOCATION, SLOPE, AND DIRECTION OF FLOW PRIOR TO CONSTRUCTION. 4
- 3/4" CW/1/2" HW/2" VENT DOWN AND 3" WASTE UP TO NEW SINK. PROVIDE STOP VALVES AND FLEXIBLE SUPPLIES AND CONNECT TO SINK. OFFSET 1/2"HW FROM SINK AND CONNECT TO DISHWASHER PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS. ROUTE DISHWASHER DRAIN HOSE TO DISCHARGE INTO SINK STANDPIPE WITH AIR BREAK SEE DIAGRAM.
- 1/2" CW DOWN TO NEW RECESSED WALL BOX. CONNECT TO REFRIGERATOR PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS. 6
- 1/2" CW DOWN TO NEW RECESSED WALL BOX. PROVIDE DOUBLE CHECK 7 BACKFLOW PREVENTOR AND CONNECT TO COFFEE MAKER PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.

![](_page_21_Picture_20.jpeg)

![](_page_21_Picture_21.jpeg)

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PLUMBING PLAN 04 / P.4

ISSUES / REVISION

# **DIVISION 26 - ELECTRICAL SPECIFICATIONS**

- 1. PRIOR TO SUBMITTING BIDS, THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING ELECTRICAL EQUIPMENT CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. FIELD VERIFY QUANTITIES OF EXISTING LIGHT FIXTURES. ELECTRICAL DEVICES. COMMUNICATION DEVICES. FIRE ALARM DEVICES. AND ELECTRICAL EQUIPMENT. NOTIFY THE ARCHITECT AND ENGINEER OF ANY EXISTING CONDITIONS, WHICH MODIFY THE SCOPE OF WORK AS SHOWN ON THE CONSTRUCTION DOCUMENTS. SUBMISSION OF A BID PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR MOBILIZATION, LABOR, EQUIPMENT, AND/OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
- 2. ELECTRICAL CONTRACTOR SHALL FULLY COORDINATE WITH OWNER REPRESENTATIVES. ALL ELECTRICAL WORK PERFORMED UNDER THIS CONTRACT SHALL CONFORM WITH LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, UNIFORM BUILDING CODE OR INTERNATIONAL BUILDING CODE. LOCAL BUILDING AND FIRE DEPARTMENT REQUIREMENTS. PERFORM WORK IN ACCORDANCE WITH REQUIREMENTS OF OWNER REPRESENTATIVES.
- 3. ELECTRICAL CONTRACTOR SHALL MAINTAIN ON THE JOB AN UP TO DATE SET OF WORKING DRAWINGS, MARKED UP TO SHOW ELECTRICAL SYSTEMS AS INSTALLED. PROVIDE TENANT REPRESENTATIVES WITH ONE SET OF REPRODUCIBLES WITH "AS BUILT" PROJECT RECORD INFORMATION CLEARLY INDICATED. ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LOCAL FEES, PERMITS, AND SERVICES OF INSPECTION AUTHORITIES REQUIRED BY ELECTRICAL WORK FOR THIS ELECTRICAL CONSTRUCTION
- 4. REFER TO ARCHITECTURAL AND MECHANICAL EQUIPMENT DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL DEVICES AND 4. INTERIOR CONDUIT SHALL BE ELECTRICAL METALLIC TUBING WITH SET SCREW FIT LIGHT FIXTURES. DO NOT SCALE FROM THE ELECTRICAL PLANS. ADDITIONAL ELECTRICAL REQUIREMENTS ON ARCHITECTURAL PLANS, KITCHEN EQUIPMENT PLANS, AND MECHANICAL PLANS SHALL BE INCLUDED IN THE ELECTRICAL CONTRACTOR'S BID. 5. EXTERIOR CONDUIT SHALL BE RIGID METAL CONDUIT, GALVANIZED, WITH THREADE
- 5. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF ELECTRICAL WORK. LOCATIONS ARE APPROXIMATE AND SHALL BE SUBJECT TO MINOR MODIFICATIONS AS DIRECTED BY THE GENERAL CONTRACTOR AND OWNER REPRESENTATIVES. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT FITTING OF ALL MATERIALS, EQUIPMENT, ETC., IN THE BUILDING AND TENANT SPACE. ALL DIMENSIONS SHALL BE VERIFIED ON THE JOB. 7. CONDUIT SUBJECT TO VIBRATION OR WHERE USED FOR MECHANICAL EQUIPMENT ELECTRICAL CONTRACTOR SHALL CUT, CHANNEL, CHASE, AND/OR DRILL FLOORS, WALLS, PARTITIONS, CEILINGS, OR OTHER SURFACES AS REQUIRED FOR INSTALLATION, SUPPORT, ANCHORAGE, ETC., OF WORK. PROVIDE X-RAY OF FLOOR PRIOR TO CORE DRILLS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUBSEQUENT PATCHING WORK.
- 6. EXISTING EQUIPMENT IS SHOWN FOR REFERENCE PURPOSES AND SHALL REMAIN. EXISTING EQUIPMENT NOT SHOWN SHALL ALSO REMAIN, EXISTING EQUIPMENT TO REMAIN SHALL BE PROTECTED FROM DAMAGE.
- 7. WORK SHOWN AS EXISTING CONDITIONS WAS TAKEN FROM OWNER FURNISHED DRAWINGS AND/OR VERIFIED DURING FIELD SURVEY. MEP IS NOT RESPONSIBLE FOR THE ACCURACY OF ANY INFORMATION OR THE ADEQUACY, SAFETY AND CONFORMANCE TO CURRENT PREVAILING CODES OF ANY WORK SHOWN AS EXISTING ON THESE DOCUMENTS.
- 8. IT IS THE INTENT OF THESE DOCUMENTS TO RESULT IN A COMPLETE ELECTRICAL INSTALLATION IN COMPLETE ACCORDANCE WITH APPLICABLE CODES AND ORDINANCES. THE DRAWINGS ARE DIAGRAMMATIC IN CHARACTER AND DO NOT NECESSARILY INDICATE EVERY REQUIRED JUNCTION BOX, PULL BOX, FITTING, ETCETERA, ITEMS NOT SPECIFICALLY MENTIONED IN THE SPECIFICATION OR NOTED ON THE DRAWINGS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED.
- 9. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WHATEVER IS CALLED FOR IN EITHER IS BINDING AS THOUGH CALLED FOR IN BOTH. THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
- 10. IF CONFLICTS ARE DISCOVERED IN CONTRACT DOCUMENTS AS WORK PROGRESSES, A SET OF PRINTS MARKED WITH RED PENCIL SHOWING RECOMMENDED MODIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- 11. IN THE EVENT THAT DISCREPANCIES EXIST OR REQUIRED ITEMS OR DETAILS HAVE BEEN OMITTED, NOTIFY THE ARCHITECT IN WRITING OF SUCH DISCREPANCY OR OMISSION AT LEAST THREE DAYS PRIOR TO BID DATE. FAILURE TO DO SO SHALL BE CONSTRUED AS WILLINGNESS TO SUPPLY NECESSARY MATERIALS AND LABOR REQUIRED FOR THE PROPER COMPLETION OF THIS WORK. FOR DISCREPANCIES WHICH ARE NOT REPORTED BY CONTRACTOR THE MOST STRINGENT REQUIREMENT SHALL APPLY
- 12. IN THE EVENT THAT ADDITIONAL INFORMATION IS REQUIRED DURING CONSTRUCTION, REQUEST SUCH INFORMATION FROM THE ARCHITECT IN WRITING PRIOR TO PERFORMING RELATED WORK. THE REQUEST FOR INFORMATION SHALL INCLUDE AN EXPLANATION OF THE INFORMATION REQUIRED INCLUDING REFERENCES TO RELATED PORTIONS OF THE DOCUMENTS AND CONTRACTOR'S RECOMMENDATIONS.
- 13. THE TERM "PROVIDE" SHALL MEAN FURNISH AND INSTALL ITEMS OR SYSTEMS IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
- 14. INSTALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- 15. PROVIDE APPURTENANCES AND CONSUMABLES AS REQUIRED.
- 16. WORK SHALL CONFORM TO BASE BUILDING SPECIFICATIONS EXCEPT AS AMENDED BY THESE SPECIFICATIONS. CONTRACTOR SHALL VERIFY EXISTING CIRCUITS PRIOR TO STARTING WORK.
- 17. COMPLY WITH THE LATEST EDITION OF NATIONAL ELECTRICAL CODE, APPLICABLE STATE AND LOCAL CODES, ORDINANCES AND OSHA REQUIREMENTS.
- 18. WHERE A CONFLICT EXISTS BETWEEN ANY PREVAILING CODES AND WORK INDICATED ON THESE DOCUMENTS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
- 19. PAY FOR ALL ELECTRICAL PERMITS, LICENSES AND CONSTRUCTION FEES.
- 20. EXAMINE SITE AND PREMISES PRIOR TO SUBMISSION OF BID. NO ADDITIONAL COMPENSATION WILL BE MADE FOR EXTRA EXPENSE INCURRED DUE TO FAILURE TO EXAMINE EXISTING SITE CONDITIONS.
- 21. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER OF ANY CHANGES REQUIRED BY THE BUILDING MANAGEMENT AND TENANT REPRESENTATIVES. DEMOLITION OR ABANDONING ANY ELECTRICAL AND COMMUNICATIONS CONDUIT, WIRING, CABLING, OR DEVICE MEANS TO REMOVE IN ITS ENTIRETY. REMOVE UNUSED CONDUITS FROM CEILING SPACES IN AREAS OF WORK. ABANDONED OUTLET JUNCTION BOXES ARE TO BE REMOVED AND COVERED WITH NEW GYPSUM BOARD. ABANDONED POKE THRU OUTLETS SHALL HAVE COVER PLATES AND BE FILLED WITH FIRE RATED FOAM SEALANT TO MAINTAIN FIRE RATING OF FLOOR.
- 22. ELECTRICAL CONTRACTOR SHALL RE-USE EXISTING BRANCH CIRCUIT CONDUIT AND WIRING WHERE POSSIBLE. RE- ROUTE AND EXTEND AS NECESSARY FOR THIS TENANT FINISH CONSTRUCTION. PROVIDE ADDITIONAL NEW CONDUIT, WIRING, COMPONENTS, AND CONNECTIONS AS REQUIRED FOR COMPLETE AND OPERATIONAL SYSTEMS, TYPICAL.
- 23. SCHEDULE SERVICE INTERRUPTIONS IN WRITING WITH OWNER AND BUILDING OCCUPANTS ONE (1) WEEK IN ADVANCE.
- 24. COORDINATE WORK AND POWER OUTAGES WITH BUILDING MANAGEMENT, AFFECTED TENANTS, AND OTHER TRADES. 25. PROVIDE TEMPORARY ELECTRICAL SERVICE AND POWER FOR CONSTRUCTION. REMOVE ALL TEMPORARY WIRING AFTER COMPLETION OF CONSTRUCTION.
- 26. COORDINATE BUILDING ELECTRICAL SERVICE REVISIONS AND ADDITIONS WITH LOCAL UTILITY COMPANY.
- 27. EQUIPMENT REMOVED IS THE PROPERTY OF THE OWNER AND SHALL BE RETURNED TO THE OWNER FOR DISPOSITION. SALVAGE ALL REMOVED EQUIPMENT FOR OWNER AND STORE IN OWNER DESIGNATED LOCATION. EQUIPMENT NOT RETAINED BY THE OWNER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.
- 28. ALL MATERIALS SHALL BE NEW AND BEAR THE "UL" LABEL.
- 29. REMOVE ALL REFUSE AND WASTE MATERIAL FROM BUILDING DAILY.
- 30. LEFT OVER OR REMOVED EQUIPMENT REQUIRING HAZARDOUS WASTE REMOVAL SHALL BE REMOVED FROM THE SITE BY THE POWERED AT ALL TIMES. CONTRACTOR UPON COMPLETION OF THE CONSTRUCTION PROJECT AND DISPOSED OF PER EPA REQUIREMENTS. 31. NOTIFY ARCHITECT IMMEDIATELY UPON DISCOVERY OF HAZARDOUS MATERIALS.
- 32. PROVIDE TEST EQUIPMENT AND CONDUCT NECESSARY TESTING TO DETERMINE CONFORMITY WITH EQUIPMENT SPECIFICATIONS. PERFORM TESTS UNDER OBSERVATION OF OWNER'S REPRESENTATIVE. CORRECT DEFECTS AND RETEST. COMPLETE TESTS TO SATISFACTION OF OWNER'S REPRESENTATIVE.
- 33. PROVIDE UPDATED, COMPLETE AND ACCURATE TYPED PANELBOARD CIRCUIT DIRECTORIES AT THE COMPLETION OF WORK. CLEARLY LABEL ALL SPACES AND SPARES IN PENCIL. CLEAN EXPOSED PANELBOARD SURFACES AND CHECK TIGHTNESS OF ELECTRICAL CONNECTIONS. REPLACE DAMAGED CIRCUIT BREAKERS AS REQUIRED AND PROVIDE FILLER PLATES FOR VACANT SPACES
- 34. PROVIDE UPDATED LABELING OF ALL NEW AND RELOCATED ELECTRICAL EQUIPMENT IN SCOPE OF WORK INCLUDING, BUT NOT LIMITED TO, ENGINE GENERATOR SYSTEMS, TRANSFER SWITCHES, TRANSFORMERS, SWITCHGEAR, SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL CENTERS, AND DISCONNECTS TO INDICATE THE AMPERE RATING, VOLTAGE RATING, PHASE, CONDUCTOR COLOR CODING WITHIN THE EQUIPMENT AND APPLICABLE AIC RATING.
- 35. GUARANTEE ELECTRICAL INSTALLATION AND ALL WORK UNDER THIS DIVISION (EXCLUDING LAMPS) FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER AGAINST ALL EVIDENCE OF IMPERFECT WORKMANSHIP, FAILURE OR MALFUNCTION OF MATERIALS AND EQUIPMENT. REPLACE WORK FOUND DEFECTIVE WITHIN THIS PERIOD PROMPTLY AT NO COST TO OWNER.

#### 1. WIRE AND CABLE SHALL BE MINIMUM NUMBER 12 AWG COPPER WITH THWN OR TH SMALLER WIRE EXCEPT FOR MOTOR CIRCUITS SHALL BE SOLID. LARGER WIRE AN STRANDED. MOTOR CONNECTIONS SHALL BE WITH STRANDED CONDUCTORS. WIR MANUFACTURED BY SOUTHWIRE, OR APPROVED EQUIVALENT.

MATERIALS AND EQUIPMENT

FITTINGS

- ALL CONDUCTORS SHALL BE THHN/THWN INSULATED COPPER UNLESS OTHERWIS FOR 120 VOLT, 20 AMPERE CIRCUITS, 75 FEET OR LESS; #12 AWG FOR 277 VOLT, 20 TO FIRST DEVICE, TYPE THHN OR THWN INSULATION. PROVIDE WIRE COLOR CODIN ELECTRICAL CODE. ALL WIRING SHALL BE RUN CONCEALED AND IN EMT CONDUIT. CONDUIT. ALL EMPTY CONDUITS INDICATED ON THE DRAWINGS SHALL BE SUPPLIE
- ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT. WRITTEN APPROVAL FF PROPERTY MANAGEMENT FOR THE USE OF "MC" AND "AC" TYPE CABLING. IF APPR SHALL BE PERMITTED FOR USE IN BRANCH CIRCUIT WIRING FROM JUNCTION BOXE SHALL BE RUN IN CONDUIT. "MC" AND "AC" CABLING SHALL BE INSTALLED PER NAT BUILDING DEPARTMENT REQUIREMENTS. USE APPROVED TYPE COUPLINGS AND C SUPPORTS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AS A MINIMUM. PRE SHALL NOT BE PERMITTED
- 6. CONDUIT IN AREAS SUBJECT TO MECHANICAL INJURY SHALL BE RIGID METAL CONI
- JACKETED FLEXIBLE METAL CONDUIT.
- CONDUIT IN AIR PLENUMS SHALL BE RIGID METAL CONDUIT OR ELECTRICAL METAL MECHANICAL EQUIPMENT CONNECTIONS SHALL BE FLEXIBLE METAL CONDUIT.
- 9. BELOW GRADE CONDUIT. IN CONTACT WITH EARTH. SHALL BE RIGID METAL CONDU CONDUIT IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE. CONDUIT STUB-UPS CONDUIT
- 10. CONDUIT IN CONCRETE SLABS SHALL BE SCHEDULE 40 PVC.
- 11. OUTLET AND JUNCTION BOXES SHALL BE OF PRESSED STEEL AND AS MANUFACTU RACO. OUTLET BOXES SHALL BE DOUBLE GANG BOX WITH SINGLE OR DOUBLE GAI
- . WIRING DEVICES SHALL BE SPECIFICATION GRADE; 20 AMP FOR GENERAL APPLICA DEDICATED CIRCUITS AND AS REQUIRED BY CIRCUIT LOAD. LEVITON #5362 RECEP GROUND RECEPTACLES, and #1221 SWITCHES (OR EQUAL), COLOR TO MATCH EXI PROVIDE (WHITE) UNLESS OTHERWISE NOTED. PROVIDE MATCHING COLOR NYLON ELECTRICAL CONTRACTOR SHALL VERIFY ALL DEVICES WITH ARCHITECTURAL PLA AND PURCHASING OF MATERIALS, TYPICAL.
- 13. PROVIDE 4" SQUARE (DOUBLE GANG) JUNCTION BOX WITH SINGLE GANG PLASTER TELEPHONE/DATA OUTLETS SHOWN ON PLANS. STUB 1" EMPTY CONDUIT UP TO 6" PULL WIRE IN CONDUIT AND PLASTIC BUSHINGS ON CONDUIT ENDS. ALL COMMUNI TENANT'S COMMUNICATION SYSTEM SHALL BE INSTALLED BY THE TENANT'S VEND COORDINATE EXACT REQUIREMENTS AND OUTLET LOCATIONS WITH ARCHITECTU TYPICAL
- 14. FIRE RESISTIVE WALLS AND OPENINGS MAY HAVE OPENINGS FOR STEEL ELECTRIC SQUARE INCHES IN AREA, PROVIDED THE AGGREGATE AREA OF SUCH OPENINGS INCHES FOR ANY 100 SQUARE FEET OF WALL, TYPICAL.
- 15. ALL 15 AMPERE AND 20 AMPERE, 125 VOLT AND 250 VOLT NON-LOCKING RECEPTAC LOCATIONS SHALL BE LISTED AS WEATHER-RESISTANT PER 2023 NEC, ARTICLE 406 MOUNTED IN WET LOCATIONS AS REFERENCED ABOVE SHALL HAVE AN "IN-USE" W
- 16. ALL 125 VOLT, SINGLE PHASE, 15 AND 20 AMPERE RECEPTACLES SHALL HAVE GFCI FOLLOWING AREAS: BATHROOMS, KITCHENS (AREAS WITH A SINK AND PERMANEN AND COOKING), ROOFTOPS, OUTDOORS AND WITHIN 6 FEET FROM THE OUTSIDE E
- 17. EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH NATIONAL ELECTRICAL C GROUNDING CONDUCTOR SHALL BE INSTALLED WITH ALL FEEDER AND BRANCH CI WIRES SHALL BE COPPER.
- 18. A SEPARATE NEUTRAL CONDUCTOR SHALL BE INSTALLED WITH EACH BRANCH CIRC HAVING A DOUBLE OR 200% NEUTRAL BUS, UNLESS OTHERWISE INDICATED.
- 19. FUSES SHALL BE AS INDICATED AND AS MANUFACTURED BY COOPER-BUSSMANN. 20. CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC, QUICK-MAKE, QUICK-BREAK, TI POLE CIRCUIT BREAKERS SHALL BE EQUIPPED WITH AN INTERNAL COMMON TRIP N
- BE OF SAME MANUFACTURER AS PANELBOARD OR DISCONNECTING DEVICE. 21. TRANSFORMERS SHALL MEET THE EFFICIENCY REQUIREMENTS OR EXEMPTIONS (
- FIRE ALARM
- FIRE ALARM SHALL BE UNDER SEPARATE DESIGN BUILD CONTRACT. FIRE ALARM MANAGEMENT APPROVED AND WILL SUBMIT FIRE ALARM DESIGN TO THE FIRE MAR DEPARTMENT HAVING JURISDICTION FOR APPROVAL. FIRE ALARM DRAWINGS SHA MARSHALL AND ALL CURRENT CODES IN THE JURISDICTION. THE FIRE ALARM SHO SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE PROJECT'S STATE.
- ALL NEW AND RELOCATED FLUORESCENT LUMINAIRES THAT UTILIZE DOUBLE-END THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER I LUMINAIRE
- CLEAN (INSIDE AND LENS) AND RE-LAMP ALL LUMINAIRES THAT ARE TO BE REUSED RELOCATED LOCATIONS. VERIFY ALL LUMINAIRES THAT CONTAIN MALFUNCTIONIN WITH APPROVED EQUIVALENT. RESTORE ALL MALFUNCTIONING LUMINAIRES TO FU
- 3. ALL LUMINAIRES PENETRATING A ONE HOUR FIRE RESISTIVE ENCLOSURE SHALL B FIRE RATING OF THE ENCLOSURE. ALL LUMINAIRES SHALL BE SUPPORTED INDEPENDENTLY FROM STRUCTURE. REFE
- EXACT LOCATIONS OF LUMINAIRES AND ELECTRICAL DEVICES. LEVEL, AND ALIGN REQUIREMENTS
- 5. FIELD VERIFY ALL LUMINAIRE AND EQUIPMENT LOCATIONS SHOWN ON PLANS TO E EQUIPMENT DO NOT EXIST. IF A DISCREPANCY IS FOUND, NOTIFY ENGINEER PRIOR
- 6. CONNECT EXIT SIGNS AHEAD OF LOCAL SWITCHING AND AUTOMATIC CONTROL DE
- 7. CONNECT ALL EM LIGHTING WITH BATTERY PACKS AHEAD OF LOCAL SWITCHING A

![](_page_22_Figure_63.jpeg)

**CONTROLLED RECEPTACLE WIRING DIAGRAM - WALL SENSOR** NO SCALE

PLUG LOAD

CONTROL

		ELECTRICAL SYMBOLS LEGEND					
D MOTOR CIRCUIT FEEDERS SHALL BE E AND CABLE SHALL BE AS	CIRCUITS AND 150 FEET FOR 277 VOLT, 20 AMP CIRCUITS. SIZE CONDUCTORS FOR MINIMUM VOLTAGE DROP ALLOWED PER THE NATIONAL ELECTRICAL CODE.		ALL SYMBOLS	INDICATED	N THE LEGEND MAY NOT NECESSARILY BE USED	ON PLANS.	
E NOTED ON THE DRAWINGS. #12 AWG	<ol> <li>ELECTRICAL CONTRACTOR SHALL USE #8 AWG CU WIRE WHEN LENGTH OF CONDUCTOR EXCEEDS 150 FEET FOR 120 VOLT, 20 AMP CIRCUITS AND 300 FEET FOR 277 VOLT, 20 AMP CIRCUITS. SIZE CONDUCTORS FOR MINIMUM VOLTAGE DROP ALLOWED PER THE</li> </ol>	SYMBOL	CIRCUITING	SYMBOL	POWER SYMBOLS DESCRIPTION	SYMBOI	FIRE ALARM SYMBOLS
AMPERE CIRCUITS, 150 FEET OR LESS NG AS REQUIRED BY THE NATIONAL ALL HOMERUNS SHALL BE IN EMT D WITH NYLON PULL LINES.	<ul> <li>NATIONAL ELECTRICAL CODE.</li> <li>3. ELECTRICAL CONTRACTOR SHALL INCREASE SIZE OF SHARED NEUTRAL CONDUCTOR WITHIN FURNITURE SYSTEMS TO A #10 AWG CU CONDUCTOR. ELECTRICAL CONTRACTOR TO CONSIDER THE NEUTRAL CONDUCTOR AS A CURRENT CARRYING CONDUCTOR WHEN FEEDING ELECTRONIC LOADS.</li> </ul>		CIRCUITING DESIGNATION - OPEN 277/480V., SOLID 120/208V. CIRCUITING - RUN CONCEALED IN WALL		JUNCTION BOX; J-BOX WITH BLANK COVER SIMPLEX RECEPTACLE	E E	CEILING MOUNTED FIRE HORN/STROBE CEILING MOUNTED FIRE SPEAKER
ROM DESIGN ENGINEER AND OVED, "MC" AND "AC" TYPE CABLE IS TO DEVICES ONLY. ALL HOME RUNS IONAL ELECTRICAL CODE AND LOCAL	4. DEVICES FOR DEDICATED EQUIPMENT, INCLUDING BUT NOT LIMITED TO, COMPUTERS, COPIERS, AND PRINTERS, WHICH ARE INDICATED AS SEMI-DEDICATED, DEDICATED, OR ISOLATED GROUND (IG) ON THE PLANS SHALL HAVE SEPARATE NEUTRAL AND GROUND CONDUCTORS RUN FROM THE BRANCH CIRCUIT PANEL BOARD.		OR CEILING CIRCUITING - RUN CONCEALED IN FLOOR OR GRADE CONDUIT RISER - TURNED UP TURNED		COMBINATION DUPLEX RECEPT / USB OUTLET DEDICATED DUPLEX RECEPTACLE	K EK ↓	WALL MOUNTED STROBE WALL MOUNTED FIRE HORN/STROBE REMOTE INDICATOR LAMP
UNNEUTURS. PROVIDE CONDUIT E-MANUFACTURED CABLE ASSEMBLIES	<ol> <li>NEUTRALS, RACEWAYS, AND NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN FULL ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE HARD WIRED GROUND CONNECTIONS TO ALL DEVICES AND SEPARATE INSULATED GROUND WIRE CONTINUOUS IN EACH CIRCUIT (#12 AWG CU MINIMUM "GREEN" TRACER GROUND)</li> </ol>		DOWN CIRCUITING - CONTINUED AS DESIGNATED CIRCUITING - END CAP		HALF SWITCHED DUPLEX RECEPTACLE CEILING MOUNTED DUPLEX RECEPTACLE FOURPLEX RECEPTACLE		MANUAL PULL STATION DUCT DETECTOR
ED FITTINGS. DUIT, GALVANIZED, WITH THREADED	<ol> <li>ALL FLOOR AND WALL PENETRATIONS WHERE ELECTRICAL DEVICES AND RACEWAY HAVE BEEN REMOVED MUST BE REPAIRED AND SEALED TO MAINTAIN THE REQUIRED FIRE RATING. CONDUITS PENETRATING FIRE RATED WALLS OR CEILINGS SHALL BE FIRE STOPPED WITH A U.L. LISTED FIRE STOPPING COMPOUND SEALANT TO MAINTAIN THE REQUIRED FIRE RATING. FIRE RATED FLOOR AND MUM PENETRATIONS WHERE STOPPING COMPOUND SEALANT TO MAINTAIN THE REQUIRED FIRE RATING. FIRE RATED FLOOR</li> </ol>		LINETYPES AND LINEWEIGHTS NEW CIRCUITING - CONTINUOUS AND BOLD	¦	DEDICATED FOURPLEX RECEPTACLE CLG. MOUNTED FOURPLEX RECEPTACLE SPECIAL RECEPTACLE - SEE DRAWING NOTES	<ul> <li>H</li> <li>H</li> <li>N</li> </ul>	HEAT DETECTOR SMOKE DETECTOR
CONNECTIONS SHALL BE PVC	AND WALL PENETRATIONS IMMEDIATELY. 7. ELECTRICAL CONTRACTOR SHALL PROVIDE PRODUCT LITERATURE INFORMATION ON SITE FOR FIELD INSPECTOR REGARDING FIRE	——	NEW CIRCUITING - UNDER FLOOR OR GRADE - LARGER DASHED AND BOLD	1 10=	CLG. MOUNTED SPECIAL RECPTACLE - SEE DWG. NOTES		
LIC CONDUIT. CONDUIT USED FOR	<ol> <li>ALL CONDUITS PENETRATING A ONE HOUR FIRE RATED WALL OR CEILING SHALL BE FIRE STOPPED WITH A U.L. LISTED FIRE STOPPING COMPOLING SEALANT</li> </ol>		THIN DEMOLITION CIRCUITING - CONTINUOUS AND DEMOLITION CIRCUITING - LARGER		FLOOR MOUNTED POWER FLOOR BOX DEVICE		1" CONDUIT STUB TO ACCESSIBLE CEILING DATA OUTLET, DOUBLE GANG BOX.
JIT OR SCHEDULE 40 PVC. BURY S SHALL BE PVC COATED RIGID METAL	<ol> <li>ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF LIGHTING FIXTURES IN MECHANICAL ROOMS/SPACES WITH MECHANICAL DUCT WORK INSTALLER PRIOR TO ROUGH IN. LOCATE BELOW DUCT WORK (8'-0" A.F.F. MIN.) CENTERED IN ROOM AS MUCH AS POSSIBLE. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL MECHANICAL EQUIPMENT LOCATIONS AND REQUIREMENTS WITH MECHANICAL PLANS, MECHANICAL CONTRACTOR, AND ACTUAL MECHANICAL EQUIPMENT SUPPLIED. INCLUDE ALL REQUIRED</li> </ol>		DASHED AND THIN NEW AND RELOCATED DEVICES AND FIXTURES - CONTINUOUS AND BOLD EXISTING DEVICES AND FIXTURES	UUU    0    0    0	FUSED DISCONNECT SWITCH FUSED DISCONNECT SWITCH MOTOR		I" CONDUIT STUB TO ACCESSIBLE CEILING TELEPHONE/DATA OUTLET, DOUBLE GANG BOX, I" CONDUIT STUB TO ACCESSIBLE CEILING CABLE TV OUTLET, DOUBLE GANG BOX.
RED BY STEEL CITY, APPLETON, OR NG TRIM RINGS AS REQUIRED.	OUTLETS; HEAVY DUTY DISCONNECT SWITCHES, FUSES, CONTROLS, CONTROL WIRING AND ALL CONNECTIONS IN THE ELECTRICAL BID. 10. COORDINATE ALL INTERCONNECTIONS TO AND BETWEEN NEW AND EXISTING SYSTEMS INCLUDING, BUT NOT LIMITED TO: POWER,		- CONTINUOUS AND THIN DEMOLITION DEVICES AND FIXTURES - SMALLER DASHED AND THIN		ONE, TWO, and THREE BUTTON PUSH SWITCH POWER POLE	♥ 1 ♥ F	1" CONDUIT STUB TO ACCESSIBLE CEILING FLOOR DATA OUTLET - SEE DRAWING NOTES FLOOR TEI EPHONE/DATA OUTLET - SEE
TION, 20 AMP OR GREATER FOR FACLES, 5362-IG (ORANGE) ISOLATED	LIGHTING, FIRE ALARM AND DETECTION, TELEPHONE AND INTERCOM. 11. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN.		NOTES AND TAGS		CONTACTOR		DRAWING NOTES
I ING BUILDING STANDARD OR I DEVICE PLATES FOR ALL DEVICES. INS AND TENANT BEFORE ORDERING	12. COORDINATE WITH MECHANICAL CONTRACTOR FOR LOCATIONS OF EQUIPMENT CONNECTIONS PRIOR TO ROUGH-IN.	<b>₩</b>	REVISION DELTA	GB • EPO	GROUND BAR EMERGENCY POWER OFF PUSH BUTTON	SYMBOI	ONE LINE DIAGRAM SYMBOLS L DESCRIPTION
RING FOR ALL NEW COMBINATION	13. VERIFY ALL SPECIFIC KITCHEN EQUIPMENT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH IN. COORDINATION SHALL INCLUDE MOUNTING HEIGHTS, CONNECTION TYPE AND POWER REQUIREMENTS. ALL CONNECTIONS FOR KITCHEN EQUIPMENT SHALL BE IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S AND SUPPLIER'S RECOMMENDATIONS.		MECHANICAL EQUIPMENT		METER PANEL BOARD	PANEL	L PANEL BOARD
ABOVE ACCESSIBLE CEILING WITH CATION DEVICES AND WIRING FOR THE OR UNDER SEPARATE CONTRACT. RAL PLANS PRIOR TO ROUGH IN,	14. VERIFY ALL SPECIFIC COMPUTER AND COMMUNICATIONS EQUIPMENT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH IN. COORDINATION SHALL INCLUDE MOUNTING HEIGHTS, CONNECTION TYPE AND POWER REQUIREMENTS. ALL CONNECTIONS FOR COMPUTER AND COMMUNICATIONS EQUIPMENT SHALL BE IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S AND SUPPLIER'S RECOMMENDATIONS.	<b>₩</b>	KITCHEN EQUIPMENT LIGHTING CONTROL NOTE		PULLBOX CURRENT TRANSFORMER		
CAL OUTLET BOXES NOT EXCEEDING 16 IS NOT MORE THAN 100 SQUARE	15. ELECTRICAL CONTRACTOR SHALL FULLY FIELD COORDINATE THE TENANT'S COMMUNICATIONS SYSTEM INSTALLATION (DEVICES AND CABLING) WITH THE TENANT'S COMMUNICATION INSTALLING CONTRACTOR PRIOR TO ROUGH-IN AND PURCHASING OF MATERIALS, TYPICAL.		LIGHTING CONTROL SENSORS		TRANSFORMER		FUSED DISCONNECT SWITCH WITHIN SWITCHBOARD
CLES INSTALLED IN DAMP OR WET 5.9 (A) AND (B). ALL RECEPTACLES EATHERPROOF COVER.	16. ALL NEW LIGHT SWITCHES, RECEPTACLE OUTLETS, TELEPHONE OUTLETS, FIRE ALARM DEVICES, AND COMMUNICATION/DATA OUTLETS SHALL MEET THE REQUIREMENTS FOR AMERICANS WITH DISABILITIES (A.D.A.) AND ANSI A117.1 REQUIREMENTS FOR MOUNTING HEIGHTS AND ORIENTATIONS, TYPICAL UNLESS OTHERWISE NOTED. RECEPTACLES SHALL BE A MINIMUM OF 15" A.F.F. AT BOTTOM OF DEVICE AND SWITCHES A MAXIMUM OF 48" A.F.F. AT TOP OF DEVICE, TYPICAL UNLESS OTHERWISE NOTED.	III ™ s ™ s	SINGLE ZONE, INTEGRAL OVERRIDE SWITCH VALL VACANCY SENSOR, DUAL TECH, SINGLE ZONE, INTEGRAL OVR SWITCH, DIMMING	S S <sup>2</sup>	SWITCH, SINGLE POLE SWITCH, DOUBLE POLE		
TRUTECTION FOR PERSONNEL IN THE IT FACILITIES FOR FOOD PREPARATION DGE OF SINKS PER 2023 NEC 210.8 (B).	17. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF ALL ELECTRICAL DEVICES LOCATED WITHIN, ABOVE, OR NEAR MILLWORK WITH ARCHITECTURAL DRAWINGS, APPROVED "SHOP DRAWINGS", AND MILLWORK CONTRACTOR. MAINTAIN CONSISTENT MOUNTING PRACTICES FOR A UNIFORM APPEARANCE. VERIFY ALL OUTLET REQUIREMENTS PRIOR TO ROUGH IN.		VALL VACANCY SENSOR, DUAL TECH, DUAL ZONE, INTEGRAL OVERRIDE SWITCH, EILING VACANCY SENSOR, DUAL TECH,	$\begin{vmatrix} S^3 \\ S^4 \end{vmatrix}$	SWITCH, THREE WAY SWITCH, FOUR WAY		
RCUITS CONDUCTORS. GROUND	18. COORDINATE LOCATIONS OF FIRE SMOKE DAMPERS WITH DIVISION 23. DAMPERS CONTROL CIRCUITRY FROM THE FIRE ALARM CONTROL PANEL. CIRCUITS FOR DAMPER POWER IS INDICATED ON PANELBOARD SCHEDULES.	∭ <sup>jvs</sup> S  s	INGLE ZONE, POWER PACK; V OVERRIDE SWITCHES	S <sup>D</sup>	SWITCH, DIMMER		
CUIT FED FROM PANELBOARDS	19. COORDINATE LOCATIONS OF MECHANICAL EQUIPMENT CONTROL PANELS WITH DIVISION 23. CIRCUITS FOR CONTROL PANEL POWER IS INDICATED ON PANELBOARD SCHEDULES.		EILING VACANCY SENSOR, DUAL TECH, WAL ZONE, 2P POWER PACK; V OVERRIDE SWITCHES	S <sup>``</sup>    c <sup>P</sup>	SWITCH, KEYED		
RIP-FREE AND TRIP INDICATING MULTI-	20. COORDINATE WITH GENERAL CONTRACTOR FOR ROUTING OF ELECTRICAL COMPONENTS IN PRECAST AND CAST IN-PLACE CONCRETE ARCHITECTURAL ELEMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING MATERIALS AND FINISHES.		ELLING VACANCY SENSOR, SINGLE ZONE,	s <sup>TO</sup>	SWITCH, THERMAL OVERLOAD		CURRENT TRANSFORMER
IECHANISM. CIRCUIT BREAKERS SHALL	21. REMOVE CONDUCTORS AND CONDUIT BACK TO SOURCE FOR EQUIPMENT WHICH IS TO BE REMOVED UNLESS EXISTING WIRING AND CONDUIT CAN BE REMOVED TO ACCESSIBLE JUNCTION BOX AT CONTRACTORS OPTION TO FEED NEW EQUIPMENT. MAINTAIN CIRCUIT CONTINUITY OF REMAINING DEVICES AND EQUIPMENT. CONTRACTOR IS TO PHASE WORK TO MAINTAIN CONTINUITY OF		NTERIOR DAYLIGHT SENSOR	LV	SWITCH, LOW VOLTAGE - SEE DWG NOTES		GROUNDING CONNECTION
F THE AHJ ADOPTED VERSION OF IECC	CIRCUITS IN AREAS WHICH ARE IN ANOTHER PHASE. 22. EXTEND EXISTING CIRCUITRY TO RECONNECT TO RELOCATED ITEMS AS INDICATED OR UNLESS OTHERWISE NOTED.			SC	LTG SCENE CONTROLLER-SEE DWG NOTES	M	METER
CONTRACTOR SHALL BE BUILDING	23. PROVIDE BLANK COVER PLATES ON WALLS TO REMAIN FOR REMOVED OR RELOCATED DEVICES. COVER PLATES SHALL MATCH EXISTING.				MISCELLANEOUS SYMBOLS		CIRCUIT BREAKER
RSHALL OF THE LOCAL FIRE LL BE COORDINATED WITH LOCAL FIRE P DRAWINGS SHALL BE SIGNED AND	24. ALL JUNCTION BOX COVERS SHALL BE INDELIBLY LABELED WITH PANEL DESIGNATION AND BRANCH CIRCUIT NUMBER OF EACH WIRE WITHIN THE JUNCTION BOX.				3/4" CONDUIT STUB TO ACCESSIBLE CEILING MUSIC OR PAGING SPEAKER, DOUBLE GANG.		
	25. CONDUIT SHALL BE CONCEALED WHERE LOCATED IN FINISHED AREAS, OR ON EXTERIOR OF BUILDING. CONDUITS IN UNFINISHED OR UTILITY AREAS MAY BE EXPOSED.			P	1/2" CONDUIT STUB TO ACCESSIBLE CEILING PHOTOCELL		
ED LAMPS AND CONTAIN BALLAST(S) INTERNAL OR EXTERNAL TO EACH	<ol> <li>COORDINATE ROUTING OF EXPOSED CONDUITS WITH ARCHITECT PRIOR TO INSTALLATION. CONDUITS SHALL BE ROUTED PERPENDICULAR OR PARALLEL TO BUILDING LINES.</li> <li>COORDINATE CORE DRILL LOCATIONS WITH BUILDING MANAGEMENT.</li> </ol>				THERMOSTAT, LINE VOLTAGE SECURITY CAMERA, DOUBLE GANG BOX, 3/4" CONDUIT STUB TO ACCESSIBLE CEILING		
) IN EXISTING LOCATIONS OR G BALLASTS AND REPLACE BALLAST INCTIONING AS REQUIRED.	28. DO NOT DRILL OR SHOOT CONCRETE ANCHORS INTO THE BOTTOM OF CONCRETE STRUCTURAL TEES.					014	
E PROPERLY TENTED TO MAINTAIN	29. TELEPHONE AND DATA OUTLETS SHALL BE MOUNTED AT SAME HEIGHT AS ADJACENT RECEPTACLE OUTLETS UNLESS NOTED OTHERWISE. OUTLETS SHALL HAVE 1" INCH CONDUIT STUBBED TO CEILING SPACE WITH NYLON PULL STRING AND INSULATED THROAT FITTING.	AC AB AFF AB AL AL	OVE COUNTER OVE FINISHED FLOOR UMINUM	GFI/GFCI G; GND NL	GROUND FAULT CIRCUIT INTERRUPTER GROUND NIGHT LIGHT	SM T/D TR	SURFACE MOUNT TELE/DATA JUNCTION BOX TAMPER RESISTANT
ER TO ARCHITECTURAL PLANS FOR LUMINAIRES PER UBC	30. "BACK-TO-BACK" OUTLETS IN SAME WALL, OR "THRU-WALL" TYPE BOXES ARE NOT PERMITTED. PROVIDE 12" (MINIMUM) LONG NIPPLE TO OFFSET ALL OUTLETS SHOWN ON OPPOSITE SIDES OF A COMMON WALL. OUTLET BOXES ON OPPOSITE SIDES OF FIRE RATED	CU CC EWH EL	OPPER ECTRIC WATER HEATER	RL	RELOCATED DEVICE OR EQUIPMENT	WP	WEATHER PROOF
NSURE CONFLICTS WITH OTHER	WALLS AND PARTITIONS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF AT LEAST 24 INCHES. 31. MINIMUM WORKING CLEARANCES PER THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE SHALL BE PROVIDED AROUND AND	APPLICABLE (	CODE STANDARDS				
TO INSTALLATION OF EQUIPMENT. VICES. EXIT SIGNS TO REMAIN	IN FRONT OF ALL ELECTRICAL EQUIPMENT. 32. ALL CIRCUIT BREAKER LUGS SHALL BE RATED FOR A MINIMUM OF 75 DEGREE CELSIUS.	2023 INTERNA 2023 INTERNA	TIONAL BUILDING CODE 2023 NATI TIONAL FIRE CODE 2023 INTE	ONAL ELECT RNATIONAL	RIC CODE ENERGY CONSERVATION CODE		
ND AUTOMATIC CONTROL DEVICES.	33. MAINTAIN LIGHTING CIRCUIT AND SWITCHING CONTROL CONTINUITY IN ADJACENT VACANT AND NON-VACANT SUITES TO PROJECT.	L				-LABEL SHAL	LL INDICATE
	<ul> <li>34. MAINTAIN RECEPTACLE CIRCUIT CONTINUITY THROUGH WALLS WHICH ARE TO BE DEMOLISHED AND THROUGH RECEPTACLES</li> <li>WHICH ARE TO BE REMOVED.</li> <li>35. COOPDINATE CONTROL OF LUMINAIDES IN DUILDING COMMON CODDIDOD ADDAG MUTU DUILDING MANAGENEST.</li> </ul>	0	<b>0 0</b>				RD AND JMBER SERVING INDICATED ON
	<ol> <li>33. COORDINATE CONTROL OF LOWINARES IN BUILDING COMMON CORRIDOR AREAS WITH BUILDING MANAGEMENT.</li> <li>36. ALL NEW AND MODIFIED ELECTRICAL EQUIPMENT, SUCH AS SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS THAT ARE LIKELY TO RECURRE EXAMINATION. AD INSTRUCT SERVICING CONTROL CENTERS THAT ARE LIKELY TO RECURRE EXAMINATION. AD INSTRUCTOR CONTROL CENTERS THAT ARE LIKELY TO RECURRE EXAMINATION. AD INSTRUCTOR CONTROL CENTERS.</li> </ol>					DRAWINGS	
	SOURE LENGLOSORES, AND MOTOR CONTROL CENTERS THAT ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, AD JUSTMENT, SERVICING, OR MAINTENANCE OF THE FOUNDMENT.					L1A-26 ⊘	<ul> <li>Ø</li> <li>Ø</li> <li>■</li> <li>■</li></ul>
	ADJUST MILINT, SERVICING, ON MAINTENAINCE OF THE EQUIPMENT.						
		0	0 0				
		CONTRO	OLLED RECEPTACLE DIA	GRAM			
		NO SCALE					
		NOTES: 1. IECC 2021, 4 1.1, 50% OF	105.11 AUTOMATIC RECEPTACLE CONTROL ALL 125V, 15 AND 20 AMP RECEPTACLES ARE RE		1. LABELS SHALL INDICATE SERVING BR WELL AS BRANCH CIRCUIT SERVING E	anch circui Device. ex. "	IT PANELBOARD AS NOTED ON THE DRAWINGS AS "L1A-26" INDICATES PANEL L1A, CIRCUIT 26.
		PRIVATE	E OFFICES, CONFERENCE ROOMS, COPY / PRINT ROOMS, CLASSROOMS, AND INDIVIDUAL WORKS	TATIONS	2. LABELS SHALL BE SELF-ADHESIVE TY LETTERS VERIFY WITH BUILDING ENG	PE, DYMO LAE	BELS OR APPROVED EQUAL WITH MIN. 1/8" HIGH 1 OF THE ABOVE PRACTICES IS ACCEPTABLE
CAT5e WIRE	CAT5e WIRE	AND OP 1.2. AT LEAS FURNITU	EN OFFICE WORKSTATIONS. ST 25% OF BRANCH CIRCUIT FEEDERS FOR MOD JRE.	ULAR	3. PROVIDE BUILDING STANDARD DEVIC	ES UNLESS O	THERWISE DIRECTED BY ARCHITECT, DEVICES AF
N H BLACK- 120	0V N H BLK- 120V/ ORG 277V	2. IECC 2021, 4	105.11.1 - AUTOMATIC RECEPTACLE CONTROL FU		SHOWN AS EXAMPLES ONLY.		
WHITE - BLACK - BLUE -		EACH CONTROL	ONTROLLED RECEPTACLE		TYPICAL DEVICE COV	'ERPLA	
		2.2.1.   2.2.2.	I IMECLOCK, 5000 SQUARE FOOT ZONE LIMIT, 2-1 MANUAL OVERRIDE OR SENSOR WITH 20 MINUTE TIMEOUT OR	HOUR			
		222	SIGNAL FROM BLUUDING SYSTEM WUTH 20 MINUT				

- 2.2.3. SIGNAL FROM BUILDING SYSTEM WITH 20 MINUTE TIMEOUT (BUILDING AUTOMATION SYSTEM)
- 3. ALL CONTROLLED RECEPTACLES TO BE PERMANENTLY MARKED PER NEC 406.3(F) AS SHOWN.

**CONTROLLED RECEPTACLE WIRING DIAGRAM - CEILING SENSOR** NO SCALE

CEILING MOUNTED

SENSOR

RELAY / POWER

PACK

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6402 S TROY CIRCLE, SUITE 100

CENTENNIAL, CO 80111

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MEP PROJECT NUMBER:

DESIGNED BY:

CHECKED BY:

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PANEL         "H4"         VOLTAGE         277         /         480         V         3         Φ         4         W           FLUSH         EXTG         X         MAIN         MLO         X	PANEL         "L4A"         VOLTAGE         120         /         208         V         3         Φ         4         W           FLUSH         EXTG         X         MAIN         225/3         MLO	PANEL         "L4B"         VOLTAGE         120         /         208         V         3         Φ         4         W           FLUSH         EXTG         X         MAIN         200/3         MLO
Description         BRN         CR         KA         LAD         CA         CA         CA         CR         KR         Description           ING         PAREL "IA"         1200         0         -         NOT USABLE SPACE         NOT USABLE SPACE           ING         PAREL"IA"         1200         0         -         NOT USABLE SPACE         NOT USABLE SPACE           ING         PAREL"IA"         1         2000         600         -         NOT USABLE SPACE           ING         PARAPET         20         15         0         0         0         0         0         0         0         0         15         0	LOAD         LOAD <thload< th="">         LOAD         LOAD         <thl< td=""><td>LOAD         Description         BKR         CIR         An         Point         Description         Type           SPARE         20         1         0         200         2         2         10000         L           SPARE         20         3         0         200         2         2         11000         COPE         L           SPARE         20         3         0         200         0         2         20         11000         COPE         L           SPARE         20         7         0         200         0         2         8         20         STRAD RECERSER VENNIN         L           SPARE         20         1         0         0         0         110         20         SPARE         20         SPA</td></thl<></thload<>	LOAD         Description         BKR         CIR         An         Point         Description         Type           SPARE         20         1         0         200         2         2         10000         L           SPARE         20         3         0         200         2         2         11000         COPE         L           SPARE         20         3         0         200         0         2         20         11000         COPE         L           SPARE         20         7         0         200         0         2         8         20         STRAD RECERSER VENNIN         L           SPARE         20         1         0         0         0         110         20         SPARE         20         SPA
LOAD TYPE       LEGEND       L=LIGHTING       R=RECEPTACLE       M=HVAC / MOTOR       K=KITCHEN       G=MISCELLANEOUS         PANEL SHOWN FOR REFERENCE ONLY	LOAD TYPE       LEGEND       L = LIGHTING       R = RECEPTACLE       M = HVAC / MOTOR       K = KITCHEN       G = MISCELLANEOUS         1       NEW OR MODIFIED LOAD ON EXISTING BREAKER.	LEVEL 4
		LEVEL 2 LEVEL 1
		GARDEN LEVEL F "MDC" 1,600A, 277/480V, 3%%129, 4W, 65 KAIC "MDC" 1,600A, 277/480V, 3%%129, 4W, 65 KAIC GND. BLDG. CWP ROD STEEL SCALE: N.T.S. (NO CHANGES)

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24243 BJC MEP PROJECT NUMBER: DESIGNED BY: RCC CHECKED BY:

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LEWIS RINGELMAN, F 101 UNIVERSITY FOURTH FLOOR - SUITE 400 101 UNIVERSITY BOULEVARD DENVER, COLORADO 80206

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(NO CHANGES) NOTE: ALL ITEMS ARE EXISTING UNLESS OTHERWISE NOTED. ALL CONDUCTORS ARE COPPER UNLESS OTHERWISE NOTED.

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3. 1 [EL22] <sup>1</sup>	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 illumination pattern $>= 50$ percent.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: E.7
C405.2.1, C405.2.1. 1 [EL18] <sup>1</sup>	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, corridors, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: E.7
C405.2.1. 2 [EL19] <sup>1</sup>	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways 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 turned off by occupant sensors is done so by time- switch.	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
C405.2.1. 3 [EL20] <sup>1</sup>	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 control 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) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: E.7
C405.2.2, C405.2.2. 1 [EL21] <sup>2</sup>	Each area not served by occupancy sensors (per C405.2.1.1) have time- switch controls and functions detailed in sections C405.2.2.1.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: E.7

 1
 High Impact (Tier 1)
 2
 Medium Impact (Tier 2)
 3
 Low Impact (Tier 3)

Project Title: 24243 101 University Suite 400 Data filename:

Report date: 01/02/25 Page 4 of 7 COMcheck Software Version COMcheckWeb **Inspection Checklist** 

Energy Code: 2022 Denver Energy Code Requirements: 100.0% were addressed directly in the COM*check* 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 [PR4] <sup>1</sup>	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.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: E.3

Additional Comments/Assumptions:

Project Title: 24243 101 University Suite 400 Data filename:

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5. 2 [FI17] <sup>3</sup>	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C408.1.1 [FI57] <sup>1</sup>	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C408.2.5 [FI16] <sup>3</sup>	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C408.3 [FI33] <sup>1</sup>	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Installed lighting 10 kW and area is 10,000 ft2.

Additional Comments/Assumptions:

![](_page_24_Picture_16.jpeg)

 
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 Low Impact (Tier 3)
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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.13 [EL34] <sup>2</sup>	New parking facilities are provided with EV charging infrastructure in accordance with 2022 Denver Energy Code Sections C405.13.1 through C405.13.6.	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
C405.14 [EL35] <sup>2</sup>	All new buildings of Occupancy Group A, B, E, M, R1 and R2 contain a solar- ready zone on the roof/overhang on the building plans that meets the specifications of Appendix CB.	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
C405.15.1 [EL36] <sup>2</sup>	Fossil fuel equipment and appliances are provided with a junction box located within the same space of the fossil fuel appliance or equipment connected to an electrical panel and meets the following: 1. The junction box, raceway, and bus bar in the electric panel and conductors serving the electric panel sized to accommodate electric equipment. 2. The panel shall have reserved physical space for a three-pole circuit breaker. 3. The junction box and electrical panel directory entry for the dedicated circuit breaker space shall have labels stating, "For future electric equipment".	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

 
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 High Impact (Tier 1)
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Project Title: 24243 101 University Suite 400 Data filename:

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 High Impact (Tier 1)
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 Low Impact (Tier 3)

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	Interior Lighting Compliance Certificate

#### Project Information Energy Code: Project Title: Project Type:

2022 Denver Energy Code 24243 101 University Suite 400 Alteration

Owner/Agent:

#### **Efficiency Packages** Description

101 University Suite 400 Denver, Colorado 80206

Construction Site:

Credit

Designer/Contractor:

#### Allowed Interior Lighting Power

Floor Area (ft2)	Allowe Watts / 1	d A ft2	llowed Watts
4865	0.74		3600
Tot	al Allowed W	atts =	3600
B ast Lamps Fixtur	C 5/ # of e Fixture	D Fixture Watt.	E (C X D)
0	76	30	2265
0	1	9	9
-	Total Propose	ed Watts =	2274
Lig	ghting Cor	trol	
	Floor Area (ft2) 4865 Tot. B ast Lamps Fixture 0 0	Floor Area (ft2)     Allower Watts / f       4865     0.74       Total Allowed W       B     C       ast     Lamps/ Fixture     # of Fixture       0     76       0     1       Total Propose       Lighting Cor	Floor Area (ft2)       Allowed Watts / ft2       A         4865       0.74          Total Allowed Watts =           ast       B       C       D         Image: B       C       D         ast       Lamps/       # of       Fixture         0       76       30         0       1       9         Total Proposed Watts =          Lighting Control

Space (Common Space Types: Office - Enclosed, 4865 sq.ft.) A: A: LED:

Occupancy Sensor Occupancy Sensor

B: B: LED:

Interior Lighting PASSES 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 2022 Denver Energy Code requirements in COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Project Title: 24243 101 University Suite 400 Data filename:

Report date: 01/02/25 Page 1 of 7 Δ

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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.4, C405.2.4. 1, C405.2.4. 2 [EL23] <sup>2</sup>	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
C405.2.5 [EL27] <sup>1</sup>	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: E.7
C405.7 [EL26] <sup>2</sup>	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
C405.8 [EL27] <sup>2</sup>	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
C405.9.1, C405.9.2 [EL28] <sup>2</sup>	Escalators 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.	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
C405.10 [EL29] <sup>2</sup>	Total voltage drop across the combination of feeders and branch circuits $\leq 5\%$ .	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: E.1
C405.1.1 [EL30] <sup>2</sup>	100% of dwelling unit permanently installed lighting have lamp or light sources $\geq$ 65 lm/W.	Complies Does Not Not Observable Not Applicable	Exception: Requirement does not apply.
C405.11, C405.11.1 [EL31] <sup>2</sup>	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: E.6
C405.4 [EL33] <sup>2</sup>	Non-LED lighting for plant growth and maintenance with replaceable lamps shall be installed with electronic ballasts and > 95 % of the lighting wattage provided by lighting having a photosynthetic photon efficacy > 1.6 $\mu$ mol/J (luminaires), or 1.9 $\mu$ mol/J (lamps).	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.

 
 1
 High Impact (Tier 1)
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 Medium Impact (Tier 2)
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 Low Impact (Tier 3)
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![](_page_24_Picture_46.jpeg)

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![](_page_24_Picture_48.jpeg)

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MEP PROJECT NUMBER: 24243 DESIGNED BY: BJC RCC CHECKED BY:

FOURTH FLOOR - SUITE 400	<b>101 UNIVERSITY BOULEVARD</b>	DENVER, COLORADO 80206

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20		65 <u>6</u>				
		(TYP.)	L4A-28	رمة ري ري ري ري ري 30,32,34 L4A-30,32,3		
$\begin{array}{c} \mathbf{x} \\ \mathbf{x} \\ \mathbf{y} \\ $			€ <b>r</b> L4A-55			
		1 CHA-53,100 YP.) CL4A-57,+60"				
		4A-61 <b>1 1 3 3</b>				
L4A-47 L4A-41,+60"					× ×	
		L4A-53,+6	50" € <b>F F L</b> 4A-51 <b>F L</b> 4A-51 <b>F L</b> 4A-51 <b>L</b> 4A-51 <b>L </b>	4A-36,38,40,42		L4A-38,40,42
	N ELECTRIC	AL DEMOLI	TION PLAN			

- DEMOLITION PLANS ARE FOR REFERENCE AND MAY NOT SHOW ALL 1. ELECTRICAL DEVICES THAT NEED TO BE DEMOLISHED DUE TO FIELD CONDITION DURING THE ELECTRICAL SURVEY. FIELD VERIFY PRIOR TO PRICING. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR ADDITIONAL INFORMATION PRIOR TO PRICING.
- EXISTING DEVICES, CIRCUITS, AND CONDUITS SHOWN TO BE REMOVED 2. SHALL BE REMOVED IN THEIR ENTIRETY BACK TO NEAREST DEVICE TO REMAIN. MAINTAIN CIRCUIT CONTINUITY OF ALL EXISTING DEVICES TO REMAIN.
- DEMOLITION OR ABANDONING ANY ELECTRICAL AND COMMUNICATIONS 3. CONDUIT, WIRING, CABLING, OR DEVICE MEANS TO REMOVE IN ITS ENTIRETY. REMOVE UNUSED CONDUITS FROM CEILING SPACES IN AREAS OF WORK. ABANDONED OUTLET JUNCTION BOXES ARE TO BE REMOVED AND COVERED WITH NEW GYPSUM BOARD. ABANDONED POKE THRU OUTLETS SHALL HAVE COVER PLATES AND BE FILLED WITH FIRE RATED FOAM SEALANT TO MAINTAIN FIRE RATING OF FLOOR. RETURN UNUSED ELECTRICAL EQUIPMENT AND LIGHT FIXTURES TO BUILDING MANAGEMENT FOR STORAGE AND/OR REMOVAL FROM SITE AS DIRECTED BY OWNERS.
- REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ANY EQUIPMENT 4. THAT IS TO BE DEMOLISHED DURING THIS SCOPE OF WORK. COORDINATE WITH MECHANICAL CONTRACTOR FOR DEMOLITION RESPONSIBILITIES.
- 5. COORDINATE WITH BUILDING MANAGEMENT DISPOSAL OF EXISTING EQUIPMENT TO BE REMOVED AND IF ANY EQUIPMENT IS TO BE RETURNED TO BUILDING STOCK PRIOR TO PRICING.
- 6. TURN OFF ALL UNUSED BREAKERS AND INDICATE "SPARE" ON UPDATED PANEL INDEXES.
- 7. LUMINAIRES SHOWN DASHED SHALL BE RELOCATED.
- POKE THROUGH CORE LOCATIONS ARE TO BE CAPPED FROM FLOOR 8. BELOW AND FILLED WITH CONCRETE.

# $\bigcirc$ DRAWING NOTES:

1 PROTECT EXISTING LUMINAIRES DURING DEMOLITION FOR RELOCATION. REFER TO LIGHTING PLAN FOR NEW LOCATIONS.

![](_page_25_Picture_13.jpeg)

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DESIGNED BY:	BJC
CHECKED BY:	RCC

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ELECTRICAL DEMOLITION PLAN	04 / E.4

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FOURTH FL 101 UNIVERS DENVER, CO

,	AREA OF WORK
	Keyplan NOT TO SCALE

![](_page_26_Figure_1.jpeg)

- ALL COMPUTER AND TELEPHONE CABLING SHALL BE PULLED BY TENANTS 1 REPRESENTATIVE.
- CIRCUIT NUMBERS SHOWN ARE FOR REFERENCE ONLY AND SHOW 2. DESIGN INTENT. ACTUAL AVAILABLE CIRCUIT NUMBERS MAY DIFFER. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY.
- ELECTRICAL CONTRACTOR TO LABEL ALL SWITCHES AND RECEPTACLES, 3. NEW AND EXISTING WITH CIRCUIT NUMBERS AND PANEL NAME, CIRCUIT NUMBERS AND PANEL NAMES SHALL BE CLEAR AND LEGIBLE ON COVER PLATES. ELECTRICAL CONTRACTOR SHALL COORDINATE COLOR OF COVER PLATES WITH BUILDING MANAGEMENT.
- ENSURE CIRCUIT CONTINUITY TO RECEPTACLES THAT ARE EXISTING TO 4. REMAIN AND MAY BE AFFECTED BY DEMOLITION / REMODEL WORK.
- 5. FIRE ALARM IS UNDER SEPARATE DESIGN / BUILD CONTRACT COORDINATE ALL FIRE ALARM REQUIREMENTS WITH FIRE ALARM CONTRACTOR.
- REFER TO MECHANICAL DRAWINGS FOR ANY ADDITIONAL INFORMATION 6. AND ELECTRICAL REQUIREMENTS REGARDING ELECTRICAL EQUIPMENT.
- PROVIDE TYPEWRITTEN UPDATED PANEL DOOR DIRECTORIES FOR ALL 7. AFFECTED PANELS REFLECTING ALL CIRCUITS WITH THEIR ACCURATE DESTINATIONS PER N.E.C. 408.4. TURN OFF ALL UNUSED BREAKERS AND INDICATE "SPARE" IN PANEL INDEX.
- PROVIDE STICKERS ON ALL RECEPTACLE COVERPLATES INDICATING 8. PANEL AND CIRCUIT NUMBER INFORMATION IN TENANT SUITE.
- ALL NEW DEVICES AND COVERPLATES ARE TO BE WHITE. ALL EXISTING 9. TO REMAIN DEVICES AND COVERPLATES THAT ARE NOT WHITE ARE TO BE REPLACED WITH NEW BUILDING STANDARD WHITE DEVICES AND COVERPLATES.
- PRIOR TO COMMENCING WORK, ELECTRICAL CONTRACTOR SHALL VERIFY 10. / IDENTIFY WHICH BREAKERS ARE AVAILABLE FOR THIS BUILD-OUT. CONTACT ELECTRICAL ENGINEER IF THERE IS AN INSUFFICIENT NUMBER OF AVAILABLE BREAKERS.

## **ORAWING NOTES:**

- ENSURE ALL RECEPTACLES WITHIN FOOD PREP AREA ARE GFI PROTECTED AND READILY ACCESSIBLE PER NEC 210.8. IF RECEPTACLE IS NOT READILY ACCESSIBLE PROVIDE FACELESS GFI RESET IN A READILY ACCESSIBLE LOCATION. COORDINATE LOCATION OF RESETS WITH TENANT AND ARCHITECT PRIOR TO ROUGH-IN. PROVIDE LABEL ON EACH RESET INDICATING ASSOCIATED CIRCUIT / APPLIANCE.
- PROVIDE AND INSTALL FIRE RATED FLUSH FLOOR POKE-THRU OUTLET, HUBBELL SYSTEM-ONE FRPT SERIES, #S1PTAVFIT (BL), ASSEMBLED ONE-PIECE UNIT OR APPROVED EQUIVALENT. ELECTRICAL CONTRACTOR SHALL VERIFY SUB-PLATE SELECTION WITH CABLING CONTRACTOR PRIOR TO ORDER. UNIT CONTAINS TWO (2) PRE-WIRED, NEMA 5-20R, 20 AMP RECEPTACLES WITH 2-#12 COPPER CONDUCTORS FOR LINE AND NEUTRAL AS WELL AS 1-#12 COPPER GROUND CONDUCTOR. UNIT AVAILABLE WITH 3/4" EMT STUB FOR POWER CONNECTION. FOR TELEPHONE/DATA CABLING, PROVIDE (1) 1-1/2" EMPTY CONDUITS FROM UNIT'S ONE (1) PROVIDED, 1-1/2" EMT'S STÙBBED UP INTO ACCESSIBLE CEILING SPACE. PROVIDE PULL LINE IN ENTIRE LENGTHS OF CONDUITS AND PLASTIC BUSHINGS ON CONDUIT ENDS. TELEPHONE/DATA CABLING AND DEVICES SHALL BE PROVIDED BY OWNER'S COMMUNICATIONS SYSTEM VENDOR UNDER SEPARATE CONTRACT. ELECTRICAL CONTRACTOR SHALL PROVIDE X-RAYING OF FLOOR TO VERIFY ANY EXISTING OBSTRUCTIONS PRIOR TO CORE DRILLING. COORDINATE EXACT LOCATIONS, CONDUIT ROUTING, AND REQUIREMENTS WITH ARCHITECTURAL PLANS, BUILDING MANAGEMENT, COMMUNICATIONS VENDOR PRIOR TO ROUGH-IN AND ORDERING OF EQUIPMENT.
- COORDINATE EXACT LOCATION AND REQUIREMENTS OF FLAT PANEL 3 TELEVISION WITH ARCHITECT AND TENANT PRIOR TO ROUGH-IN. PROVIDE RECESSED STYLE DUPLEX AND TELEDATA CONNECTION.
- 4 PROVIDE JUNCTION BOX MOUNTED +48" FOR TENANT PROVIDED CARD READER SYSTEM. ALSO PROVIDE 1" EMPTY CONDUIT TO 6" ABOVE ACCESSIBLE CEILING WITH PULL LINE AND PLASTIC BUSHING ON CONDUIT END. SECURITY CABLING AND DEVICES TO BE PROVIDED BY TENANT'S SECURITY SYSTEM VENDOR UNDER SEPARATE CONTRACT. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH ARCHITECTURAL PLANS, TENANT'S REPRESENTATIVE, AND SECURITY SYSTEM SUPPLIER PRIOR TO ROUGH-INS.
- IN MEETING ROOMS PER NEC 210.65(B), ACCORDING TO THE SPACING AND SQUARE FOOTAGE REQUIREMENTS, THE NUMBER OF RECEPTACLES REQUIRED ARE INDICATED BELOW. RECEPTACLES CAN BE LOCATED AS DESIRED BY THE TENANT: CONFERENCE 420: (6) DUPLEX WALL RECEPTS; (1) DUPLEX FLOOR RECEPTS CONFERENCE 412: (5) DUPLEX WALL RECEPTS; (1) DUPLEX FLOOR RECEPTS
- EXISTING DEVICE TO BE REPLACED WITH NEW HALF CONTROLLED DEVICE. 6 CONNECT SWITCHED LEG TO LOCAL OCCUPANCY SENSOR CONTROLS PER 2021 IECC. MAINTAIN EXISTING CIRCUIT CONTINUITY.
- 7 CONNECT EXISTING DEVICE(S) TO NEW CIRCUIT AS SHOWN.

![](_page_26_Picture_21.jpeg)

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![](_page_26_Picture_24.jpeg)

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<u>Keyplan</u> NOT TO SCALE

ID	MANUFACTURER	MODEL	
A	DAY-BRITE	FLUXPANEI	
В	ALPHABET	NU4	
x	TBD	TBD	
NOTE	S:		
1	WHERE APPLICABLE, VERIFY ALL		
2	VERIFY ALL SUSPENSION LENGTH		
3	NO SUBSTITUTIONS ACCEPTED D		
4	FOR LUMINAIRES THAT REQUIRE		
5	REFER TO ARCHITE	ECTURAL DETA	

![](_page_27_Figure_1.jpeg)

#### LIGHTING FIXTURE SCHEDULE LUMINAIRE LAMPS CATALOG NUMBER DESCRIPTION VOLTAGE DIMMING MOUNTING LAMP QTY TYPE WATTS LUMENS COLOR TEMP/CRI RECESSED 2FPX-38L-835-2-DS-UNV-DIM (BSL10LST FOR 2X2 FLAT PANEL LED \*BUILDING UNV 0-10N LED 29.8 3800 3500/80 IN GRID BATTERY PACK) STANDARD\* CEILING RECESSED IN DRYWALL NU4RD SW 10LM 35K 80 50D NL WH UNV 4" DIAMETER LED DOWNLIGHT 0-10V LED 990 UNV 9 3500/80 1 CEILING THERMOPLASTIC LED EXIT SIGN, WHITE WITH GREEN LETTERING \*MATCH EXISTING TBD UNV NONE UNIVERSAL LED N/A 1 3 N/A **BUILDING STANDARD\***

FINISHES WITH ARCHITECT PRIOR TO ORDERING.

HS FOR PENDANT FIXTURES PRIOR TO ORDERING. DURING BID PROCESS UNLESS DIRECTED BY ARCHITECT / ENGINEER. PROVIDE PRICING FOR FIXTURES AS LISTED ON THIS SCHEDULE.

E MULTIPLE COMPONENTS (TRACK LIGHTING, TAPE LIGHT, ETC), ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE REPRESENTATIVE / MANUFACTURER TO ENSURE ALL COMPONENTS NEEDED ARE ORDERED. AILS FOR ANY SPECIAL MOUNTING REQUIREMENTS PRIOR TO ORDERING.

## **GENERAL NOTES:**

- ELECTRICAL CONTRACTOR SHALL REMOVE ALL SPARE AND UN-USED 1. CIRCUITS FOUND DURING CONSTRUCTION. PROVIDE UPDATED TYPED PANEL SCHEDULES.
- ENSURE CIRCUIT CONTINUITY TO ALL LUMINAIRES THAT ARE EXISTING TO 2. REMAIN AND MAY BE AFFECTED BY DEMOLITION / REMODEL.
- VERIFY THAT ALL EXISTING TO REMAIN OR TO BE REUSED LIGHT 3 FIXTURES, LAMPS, BALLASTS, EXIT LIGHTS, AND BATTERY BACK-UPS, ETC ARE OPERATIONAL. REPAIR / REPLACE AS REQUIRED. LAMP TEMPERATURES SHALL BE 3500K. CLEAN LIGHT LENSES THROUGHOUT.
- BUILDING STANDARD COVERPLATES AND DEVICES IS WHITE. VERIFY 4. WITH TENANT AND BUILDING MANAGEMENT IF NEW DEVICES AND COVERPLATES ARE TO BE WHITE OR SHALL MATCH EXISTING IN TENANT'S SUITE.
- 5. VERIFY THAT ALL EXIT SIGNS COMPLY WITH BUILDING STANDARD WHITE SIGNS. INSTALL NEW AS NEEDED. CLEAN / REPAIR EXISTING SIGNS FOR LIKE-NEW APPEARANCE.
- ELECTRICAL CONTRACTOR TO LABEL ALL SWITCHES AND RECEPTACLES, 6. NEW AND EXISTING WITH CIRCUIT NUMBERS AND PANEL NAME, CIRCUIT NUMBERS AND PANEL NAMES SHALL BE CLEAR AND LEGIBLE ON COVER PLATES. ELECTRICAL CONTRACTOR SHALL COORDINATE COLOR OF COVER PLATES WITH BUILDING MANAGEMENT.
- PROVIDE TYPEWRITTEN UPDATED PANEL DOOR DIRECTORIES FOR ALL 7 AFFECTED PANELS REFLECTING ALL CIRCUITS WITH THEIR ACCURATE DESTINATIONS PER N.E.C. 408.4. TURN OFF ALL UNUSED BREAKERS AND INDICATE "SPARE" IN PANEL INDEX.
- ALL SWITCHING SHOWN SHALL BE 44" A.F.F. TO CENTERLINE OF 8. COVERPLATE. MULTIPLE SWITCHES SHOWN AT THE SAME LOCATION SHALL BE GANGED AND FINISHED WITH A ONE-PIECE COVERPLATE. ALL SWITCHES TO HAVE WHITE COVERPLATES.
- FINAL LUMINAIRE COUNT IS THE RESPONSIBILITY OF THE CONTRACTOR. 9. CIRCUIT NUMBERS INDICATED ON PLAN ARE FOR REFERENCE ONLY. 10
- ACTUAL AVAILABLE CIRCUITRY IN THIS AREA SHALL BE FIELD VERIFIED. CONNECT ALL LUMINAIRES LABELED WITH "(EM)" TO CONTROLLED LEG OF 11. LOCAL LIGHTING CIRCUIT SERVING THIS AREA. PROVIDE INTEGRAL NINETY MINUTE BATTERY . PROVIDE CONSTANT HOT WIRE FOR CONNECTION TO BATTERY. BATTERY SHALL ALLOW FOR CONTROLLABILITY OF LUMINAIRE. FIXTURES SHALL BE CONTROLLED DURING NORMAL CONDITIONS AND RETURN TO FULL OUTPUT UPON LOSS OF NORMAL POWER.

## **ORAWING NOTES:**

CONNECT TO EXISTING 277V LIGHTING CIRCUIT CURRENTLY SERVING THIS 1 AREA.

# LIGHTING CONTROLS SPECIFICATIONS

NOTE: COORDINATE ALL DEVICE SPECIFICATIONS AND DEVICE LOCATIONS WITH BUILDING MANAGEMENT AND CONTROLS REPRESENTATIVE PRIOR TO PRICING. LOCATIONS SHOWN ARE DIAGRAMMATIC. COORDINATE FINAL LOCATIONS OF OPEN AREA LIGHTING CONTROLS WITH ARCHITECT AND TENANT PRIOR TO ROUGH-IN.

- BUILDING STANDARD WALL MOUNTED DIMMABLE VACANCY SENSOR. VS
- DIMMABLE OVERRIDE SWITCH.
- BUILDING STANDARD CEILING MOUNTED OCCUPANCY SENSOR WITH LOW VOLTAGE DIMMABLE OVERRIDE SWITCH.
- BUILDING STANDARD CEILING MOUNTED DAYLIGHT SENSOR WITH LOW VOLTAGE DIMMABLE OVERRIDE SWITCH.

![](_page_27_Figure_25.jpeg)

![](_page_27_Picture_26.jpeg)

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