



MAXIMUM OCCUPANCY LOAD

FOR Event Center

253

OCCUPANCY CLASSIFICATION: **IBC A-3**

CONSTRUCTION TYPE: **UBC Type V-N**

CODE EDITION: **2021-I-Codes/Aurora Muni
Code/2023-NEC**

ISSUED Effective Date: **27** MONTH: **May** YEAR: **2025**

BUSINESS NAME: **MONARCHS EVENTS**

ADDRESS: **16786 E ILIFF AVE**

BY ORDER OF THE CHIEF BUILDING OFFICIAL

Kirk Nagle

CHIEF BUILDING OFFICIAL (or designated representative)

1899006

Reviewed for Certificate of Occupancy. These documents **DO** provide sufficient information for Final Inspections to be requested from all required city departments. **ALL** Final city inspections must be completed and approved.

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

Field Inspection consultation is available upon request. Call 303-739-7420 to request a consultation

An after-hours inspection to verify required egress illumination may be required during field inspection. **2021 IBC 1008**

Provide self-closing or metered faucets in public restrooms. **2021 COA 22-326 (a)**



City of Aurora Building Division
Project: **Monarchs Events**
Address: **16786 E Iliff Ave**
Occupancy Group: **A3**
Construction Type: **UBC VN**
RSN: **1899006**
Permit: **2025-2530957-LT**



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **Kirk Nagle**
Date: **Jun 17, 2025**
2021 INTERNATIONAL CODES & 2023 NEC

MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES CALC.

FROM 2021 IPC TABLE 403.1.1:
225 OCCUPANTS, 113 MALE, 113 FEMALE.

1 WC PER 75 MALE/FEMALE OCC. ;
113 / 75 = 2 MALE, 2 FEMALE WC'S REQUIRED. ; 3 FEMALE WC'S, 2 MALE WC'S, 1 URINAL PROVIDED.

1 LAV PER 200 MALE/FEMALE OCC. REQ.'D. ;
113 / 200 = 0.75 MALE, 0.75 FEMALE REQUIRED; 3 FEMALE LAVS , 2 MALE LAVS PROVIDED.

1 DF PER 500 OCC. REQUIRED;
300 / 500 = 0.6 MALE/FEMALE REQUIRED; 1 HI-LO DF PROVIDED.

1 SS REQUIRED; 1 SS(MSB) PROVIDED.

PROJECT SCOPE OF WORK

THIS PROJECT AND THESE PLANS ARE INTENDED TO DESCRIBE A MODIFICATION TO EXISTING A-3 OCCUPANCY, TENANT IMPROVEMENT/ALTERATION TO A PORTION OF AN EXISTING COMMERCIAL MIXED USE BUILDING IN AURORA, COLORADO.

SHEET LS1, LIFE SAFETY PLAN: PROPOSED PATH OF EGRESS WITH LENGTHS, AND CUMULATIVE POPULATION COUNTS TOWARDS EACH OF THE THREE(3) EXISTING TO REMAIN FIRE EXITS, AND ONE(1) ADDITIONAL EXIT FROM AN EXISTING UTILITY CLOSET. CUMULATIVE POPULATION COUNTS ARE INCLUDED

ON SHEET FP1, EXISTING/DEMOLITION FLOOR PLAN: DASHED LINES AND KEYNOTES DESCRIBE DEMOLITION AND REMOVAL OF PORTIONS OF SOME EXISTING WALLS AND PLUMBING FIXTURES.

SHEET FP2, PROPOSED FLOOR PLAN: REPLACEMENT, AND NEW WALLS, DOORS, AND PLUMBING FIXTURES AR SHOWN IN HEAVIER THICKER LINES AND KEYNOTES IDENTIFYING EXISTING AND PROPOSED SPACE FEATURES.

SHEET FP3, ENLARGED FLOOR PLAN: EXHIBITS THE ADA CLEARANCES FOR THE RE-ARRANGED RESTROOMS AND ADDITIONAL/REPLACEMENT PLUMBING FIXTURES, WALLS, AND DOORS.

SHEET FPD, FLOOR PLANS DETAILS: SEVERAL DETAILS REFERENCED IN FLOOR PLANS ARE PROVIDED TO ADD CLARIFICATION TO FLOOR PLANS AND SHEET KEYNOTES.

SHEET SP1, SITE PLAN: EXISTING PARKING LOT WITH SPACES AND ADJACENT BUSINESS OCCUPANCIES.

SHEETS M1 THROUGH M6: MODIFICATION, ADJUSTMENTS, DEMOLITION, REPLACEMENT, AND NEW MECHANICAL EQUIPMENT, DISTRIBUTION DUCTWORK, AND BALANCING INFORMATION SUPPORTING THE CHANGE OF OCCUPANCY TENANT IMPROVEMENT.

SHEETS P1 THROUGH P4: MODIFICATION, ADJUSTMENTS, DEMOLITION, REPLACEMENT, AND NEW PLUMBING FIXTURES, EQUIPMENT, AND DISTRIBUTION PIPING(DOMESTIC, SANITARY, AND NATURAL GAS) IN SUPPORT OF MECHANICAL WORK AND THE CHANGE OF OCCUPANCY TENANT IMPROVEMENT.

SHEETS E0 THROUGH E4: ELECTRICAL SYSTEM MODIFICATIONS AND ADJUSTMENTS REQUIRED FOR MECHANICAL, PLUMBING, AND FLOOR PLAN ALTERATIONS.

APPLICABLE BUILDING CODES AND STANDARDS:

2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL FUEL GAS CODE
2021 INTERNATIONAL EXISTING BUILDING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2023 NATIONAL ELECTRICAL CODE

BUILDING DESCRIPTION

TOTAL BUILDING AREA: 12,000 SQ. FT.
BUILDING HEIGHT: SINGLE STORY

LIFE SAFETY ANALYSIS

CHAPTER 3:
CURRENT OCCUPANCY: A-3, PLACE OF WORSHIP
CONSTRUCTION TYPE: V-N.

PROPOSED OCCUPANCY: A-3, EVENT CENTER
CONSTRUCTION TYPE: V-N.

CHAPTER 7: FIRE AND SMOKE PROTECTION FEATURES:
ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH FIRE RATED SEALANT TO MEET OR EXCEED RATING OF SAID ASSEMBLY.

CHAPTER 8: INTERIOR FINISHES
TABLE 803.13-INTERIOR WALL AND CEILING FINISH
REQUIREMENTS BY OCCUPANCY.
NON-SPRINKLERED

GROUP	EXIT PASSAGE WAY	CORRIDORS	ROOMS
A	A	A	C

CHAPTER 9: FIRE SPRINKLER SYSTEM (IBC & IFC)
BUILDING NOT REQUIRED TO BE SPRINKLERED PER IBC 903.2.1.3, OCCUPANT LOAD DOESN'T EXCEED 300.

FIRE ALARM SYSTEM: REQUIRED PER IBC 907.2.1, FOR MORE THAN 100 OCCUPANTS ABOVE OR BELOW THE LOWEST LEVEL OF EXIT DISCHARGE BUT LESS THAN 300 OCCUPANTS.

FIRE EXTINGUISHERS:
PROVIDED, SEE PLANS.

CHAPTER 10-MEANS OF EGRESS:
SECTION 1003 - GENERAL MEANS OF EGRESS
SECTION 1004 - OCCUPANT LOAD - OCCUPANT LOAD BASED ON MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT.

FLOOR	TOTAL OCCUPANTS
FIRST FLOOR	225

SECTION 1005 EGRESS WIDTH
1005.1 - MINIMUM EGRESS WIDTH
OTHER EGRESS COMPONENTS - 0.2"/OCCUPANT

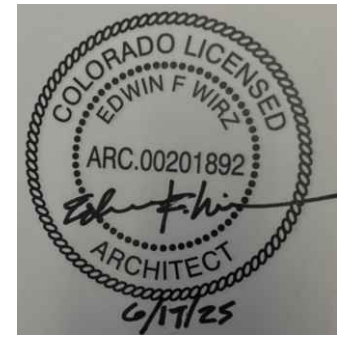
REFER TO LIFE SAFETY PLAN FOR OCCUPANT LOADS AND EXIT PATHS.

GENERAL CONSTRUCTION NOTES:

- THE WORK SHALL CONFORM TO THE APPLICABLE BUILDING CODE AND OTHER ORDINANCES AND REGULATIONS LISTED ON THE DRAWINGS AND REQUIRED LOCAL BUILDING AUTHORITIES. THE GOVERNING CODES, RULES AND REGULATIONS ARE COLLECTIVELY REFERRED TO AS "THE CODE".
- THE GENERAL CONTRACTOR SHALL VISIT THE SITE AND BECOME COMPLETELY FAMILIAR WITH ALL EXISTING CONDITIONS IN THE AREAS OF CONSTRUCTION PRIOR TO SUBMITTING PRICES AND STARTING WORK. THE CONTRACTOR SHALL REPORT ANY INCONSISTENCIES, CONFLICTS OR OMISSIONS HE MAY DISCOVER TO THE DESIGNER FOR INTERPRETATION PRIOR TO PERFORMING THE WORK.
- THE GENERAL CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL PROVIDE PUBLIC PROTECTION AS NECESSARY AND REQUIRED BYGOVERNING CITY AGENCIES.
- THE GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WORK OF ALL SUB CONTRACTORS AND SHALL PERFORM MISCELLANEOUS WORK AS MAY BE NECESSARY TO COMPLETE THE WORK.
- ALL PERMITS REQUIRED BY THE LOCAL GOVERNING AUTHORITIES AND THE FIRE DEPARTMENT TO PERFORM THE WORK SHALL BE PAID FOR AND OBTAINED BY THE GENERAL CONTRACTOR.
- ALL COSTS FOR INSPECTIONS AND OR TESTS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACT UNLESS OTHERWISE NOTED.
- ALL EXISTING BUILDING MEANS OF EGRESS SHALL BE CONTINUOUSLY MAINTAINED DURING CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL MINIMIZE INTERFERENCE OF CONSTRUCTION WORK WITH ONGOING BUSINESS IN THE EXISTING BUILDING. CONSTRUCTION AREA SHALL BE CLOSED OFF TO KEEP AREA FREE OF DUST AND DEBRIS.
- ALL DIMENSIONS ARE FROM EXISTING FINISHED FACE TO FACE OF NEW FINISH.
- VERIFY ALL ROUGH IN DIMENSIONS FOR EQUIPMENT AND FIXTURES WITH THE MANUFACTURER.
- CONTRACTOR SHALL PROVIDE ADEQUATE BLOCKING IN WALLS TO RECEIVE ALL ATTACHED EQUIPMENT, FIXTURE, MILLWORK ETC.
- PATCH ALL EXISTING CONSTRUCTION TO MATCH EXISTING MATERIAL AND FINISHES WHERE DISTURBED BY NEW CONSTRUCTION.
- PROVIDE SEALANT AROUND ALL PLUMBING FIXTURE, PIPING AND EQUIPMENT ABUTTING OR PENETRATING A WALL OR PARTITION. COLOR AS SELECTED BY THE OWNER.
- ALL OPENINGS THROUGH FIRE RATED ASSEMBLIES SHALL BE FIRE-SAFED OR SEALED TO MAINTAIN EXISTING RATING.
- THE CONTRACTOR SHALL MAINTAIN THE EXISTING STRUCTURAL AND FIREPROOFING INTEGRITY IN THE ENTIRE AREA OF WORK.

GENERAL DEMOLITION NOTES:

- THE CONTRACTOR SHALL COORDINATE AND IMPLEMENT ALL SAFETY MEASURES REQUESTED AND REQUIRED BY THE LOCAL FIRE MARSHAL, HEALTH DEPARTMENT, BUILDING OFFICIALS AND OTHER GOVERNING AGENCIES.
- SURVEY EXISTING CONDITIONS AND COORDINATE WITH REQUIREMENTS INDICATED TO DETERMINE EXTENT OF SELECTIVE DEMOLITION REQUIRED.
- DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTEND REQUIRED BY NEW CONSTRUCTION AND AS INDICATED. NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE AND TRUE TO DIMENSIONS REQUIRED. USE CUTTING METHODS LEAST LIKELY TO DAMAGE CONSTRUCTION TO REMAIN OR ADJOINING CONSTRUCTION. CUT OR DRILL FROM EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES TO AVOID MARRING EXISTING FINISHED SURFACES.
- WHEN UNANTICIPATED MECHANICAL, ELECTRICAL OR STRUCTURAL ELEMENTS THAT CONFLICT WITH INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, INVESTIGATE AND MEASURE THE NATURE AND EXTENT OF THE CONFLICT AND PROMPTLY SUBMIT A REQUEST FOR INFORMATION TO THE DESIGNER.
- DISRUPTION OF THE UTILITIES TO THE EXISTING BUILDINGS SHALL BE COORDINATED WITH THE OWNER PRIOR TO THE PLANNED DISRUPTION.
- USE TEMPORARY DUST PARTITIONS TO PROTECT THE EXISTING BUILDING AND CONTENTS DURING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL COORDINATE THE SALVAGE OF EXISTING MATERIALS AND EQUIPMENT WITH THE OWNER. THE OWNER RETAINS SALVAGE RIGHTS TO MATERIALS AND EQUIPMENT REMOVED FROM THE BUILDING AS PART OF THIS PROJECT.
- REMOVE, TRANSPORT AND DISPOSE DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACE AREAS.
- PROMPTLY DISPOSE OF DEMOLISHED MATERIALS, DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON SITE. TRANSPORT DEMOLISHED MATERIALS OFF OWNER'S PROPERTY AND LEGALLY DISPOSE THEM.
- ON SITE SALE AND/OR DISPOSAL OF AND/OR BURNING OF DEMOLISHED ITEMS IS NOT PERMITTED.
- PROTECT STAIRS, CORRIDORS AND OTHER BUILDING FACILITIES DURING SELECTIVE DEMOLITION OPERATIONS.
- THE CONTRACTOR SHALL KEEP ALL EXIT WAYS FREE OF STORED MATERIALS AND CONSTRUCTION DEBRIS AT ALL TIMES IN ORDER TO GIVE OCCUPANTS CLEAR ACCESS TO EXIT WAYS.
- CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT AND DEBRIS CAUSED BY SELECTIVE DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE SELECTIVE DEMOLITION OPERATIONS BEGAN.
- CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY CONDITION DAMAGED BY CONSTRUCTION ACTIVITIES.



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THE MONARCHS EVENTS

TENANT IMPROVEMENT

16786 E ILLIFF AVE.

AURORA, COLORADO 80013

Revisions/Issue

#	Revision/Issue	Date
1	Permit Submittal	5/14/25
2	Gen. Info. Revs.	5/16/25
3	Stamped Architectural Submittal	5/22/25
4	Arch. Floor Plan Revs.	6/4/25
5	Gen Info & Arch Revs.	6/17/25

Design: MLR
Review: EFZ
Date: 5-4-25
Scale: 1/4" = 1'-0"
REC Job No: 25004

Title: GENERAL INFO COVER SHEET

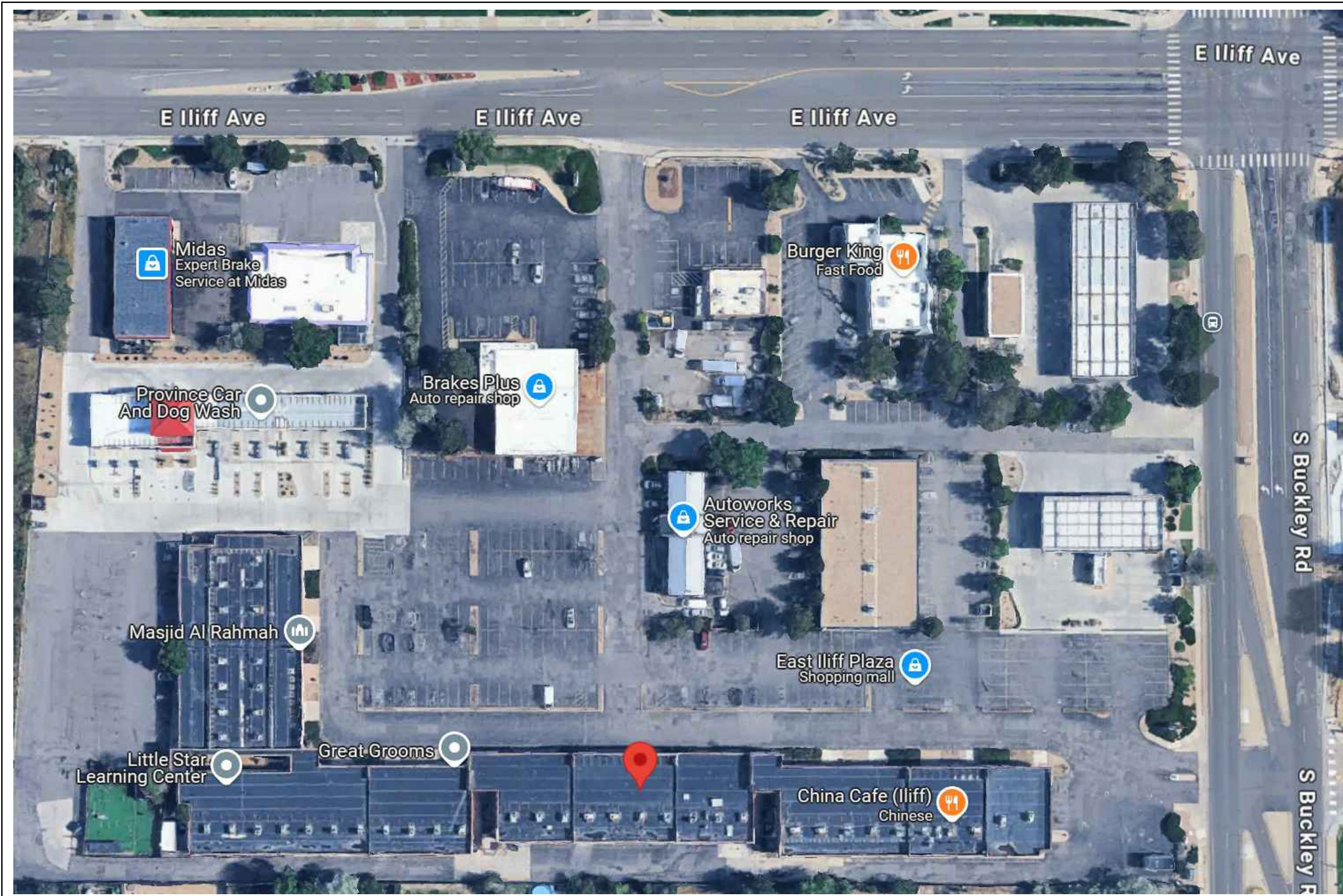
Sheet No:

G1

SHEET LIST

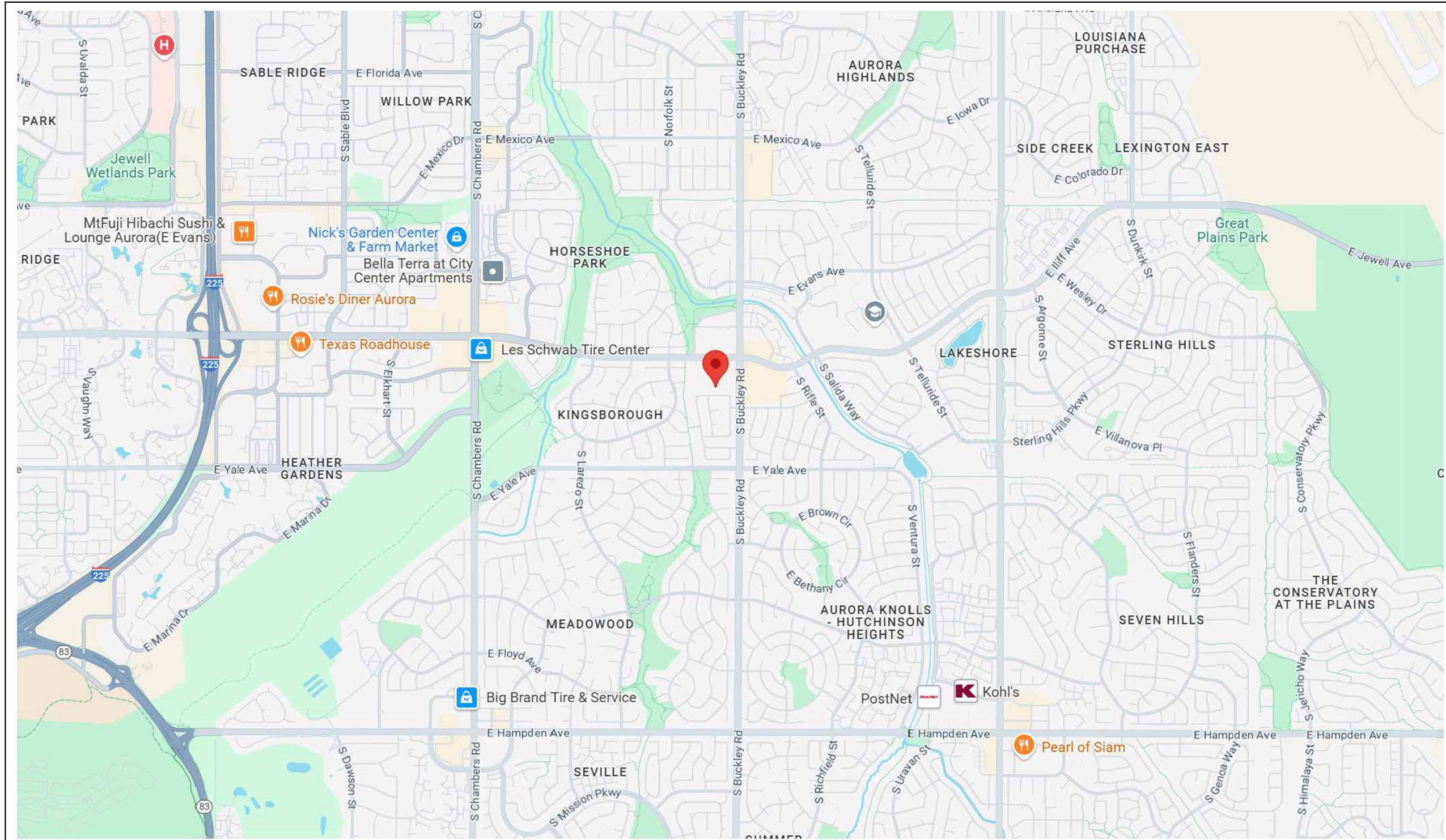
G1	GENERAL INFO COVER SHEET
LS1	LIFE SAFETY PLAN
FP1	EXISTING/DEMOLITION FLOOR PLAN
FP2	PROPOSED FLOOR PLAN
FP3	ENLARGED FLOOR PLAN
FPD	FLOOR PLAN DETAILS
SP1	SITE PLAN
M1	MECHANICAL COVER SHEET
M2	MECHANICAL SCHEDULES
M3	MECHANICAL COMCHECK DOCUMENTS
M4	MECHANICAL COMCHECK DOCUMENTS
M5	MECHANICAL EXISTING/DEMOLITION PLAN
M6	MECHANICAL PLAN
P1	PLUMBING COVER SHEET
P2	PLUMBING DETAILS
P3	PLUMBING EXISTING/DEMOLITION PLAN
P4	PLUMBING PLAN
E0	ELECTRICAL COVER SHEET
E1	DEMOLITION PLAN
E2	LIGHTING PLAN
E3	POWER PLAN
E4	COMCHECK

MUST BE AVAILABLE ON SITE
FULL SIZE AND IN COLOR FOR
INSPECTIONS.



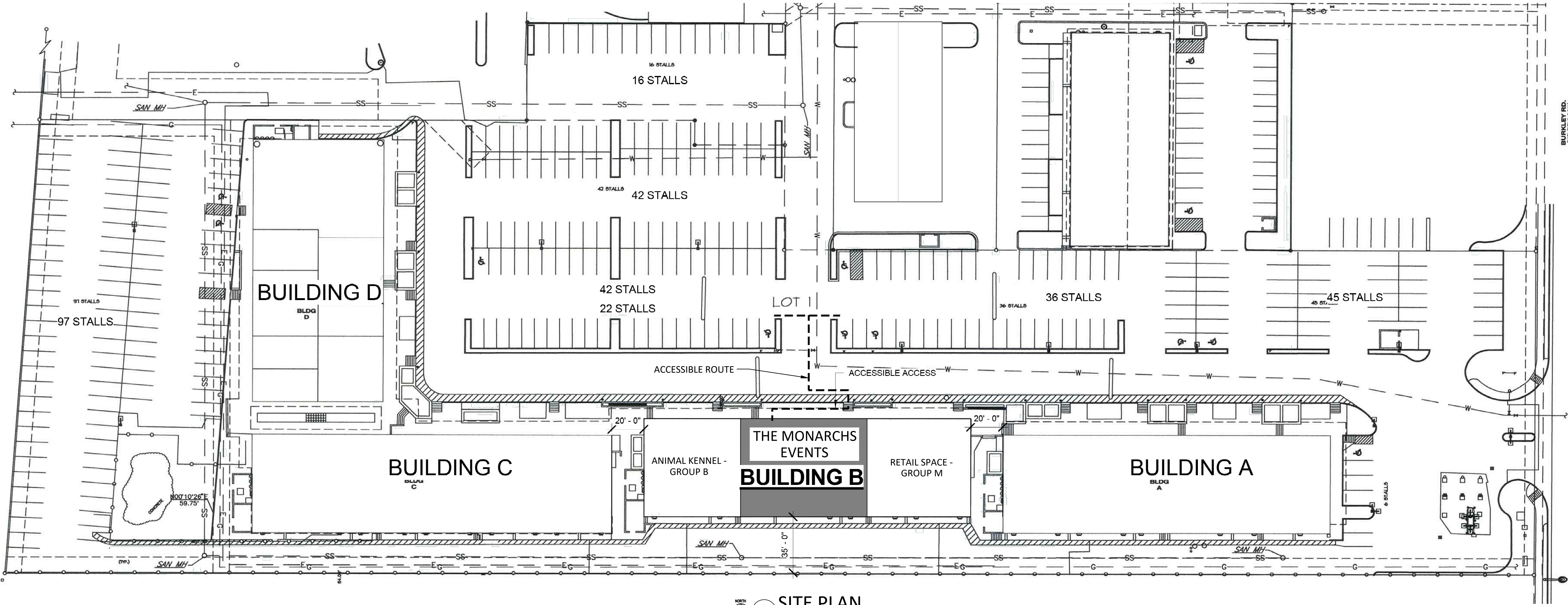
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SATELLITE
NOT TO SCALE



2

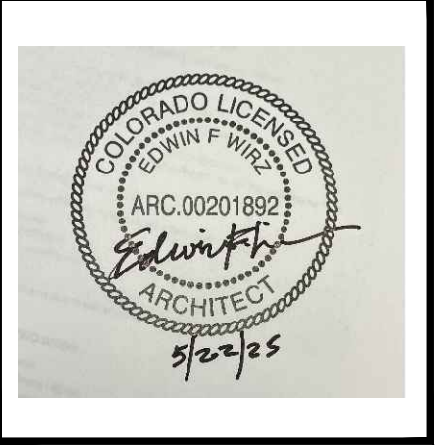
VICINITY MAP
NOT TO SCALE



1 SITE PLAN
SCALE: 1/32" = 1'-0"



City of Aurora Building Division
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Date: **Jun 16, 2025**
2021 INTERNATIONAL CODES & 2023 NEC



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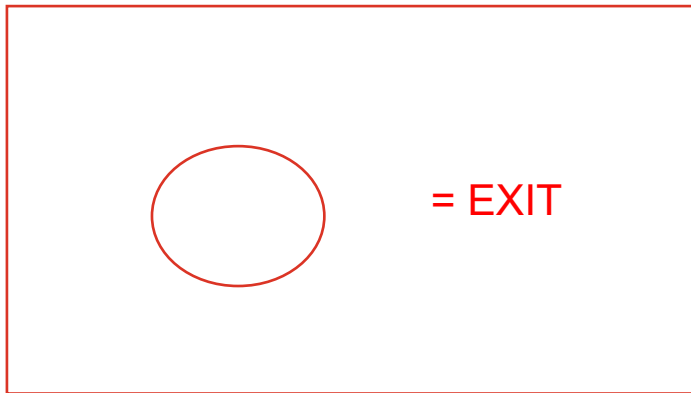
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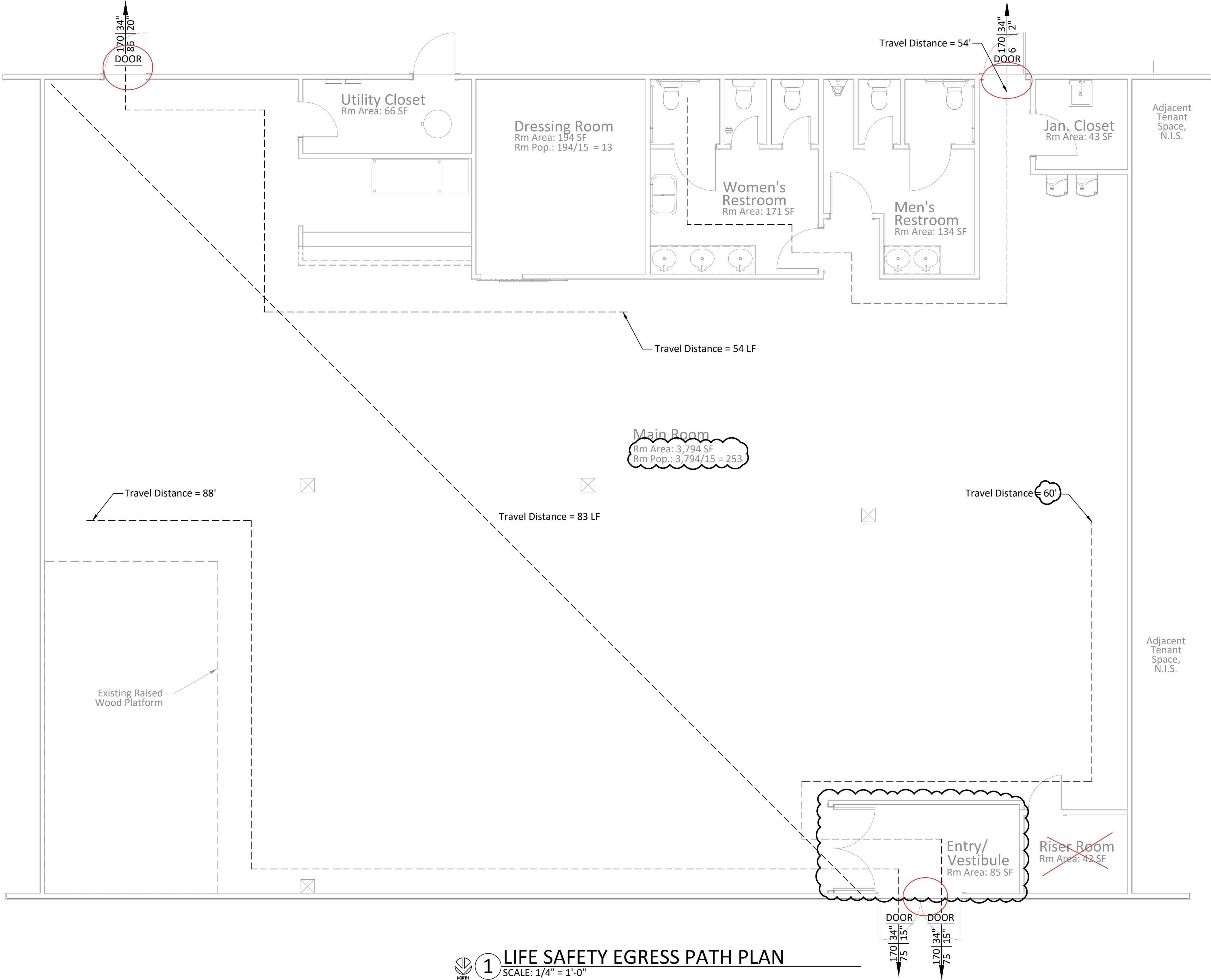
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Design:	MLR
Review:	MEK
Date:	5-4-25
Scale:	1/4" = 1'-0"
REC Job No:	25004
Title:	
SITE PLAN	
Sheet No:	
SP1	



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 1 LIFE SAFETY EGRESS PATH PLAN
SCALE: 1/4" = 1'-0"

LIFE SAFETY LEGEND

Room Name

Rm Area: 3884 SF

Rm Pop.: 3884/15 = 259

NET FLOOR AREA

ROOM POPULATION BY CODE

170 34" / 86 20"

ACTUAL WIDTH PROVIDED

ACTUAL WIDTH PROVIDED

WIDTH REQUIRED BY CODE BASED ON ACTUAL CUMULATIVE POPULATION

ACTUAL CUMULATIVE POPULATION

MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES CALC.

FROM 2021 IPC TABLE 403.1.1 **W/ ASSEMBLY CLASSIFICATION & BANQUET HALL DESCRIPTION**

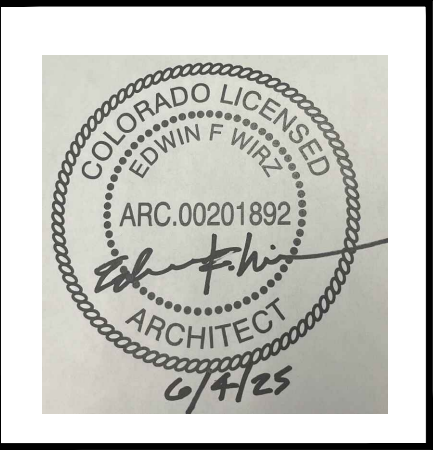
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THE MONARCHS EVENTS

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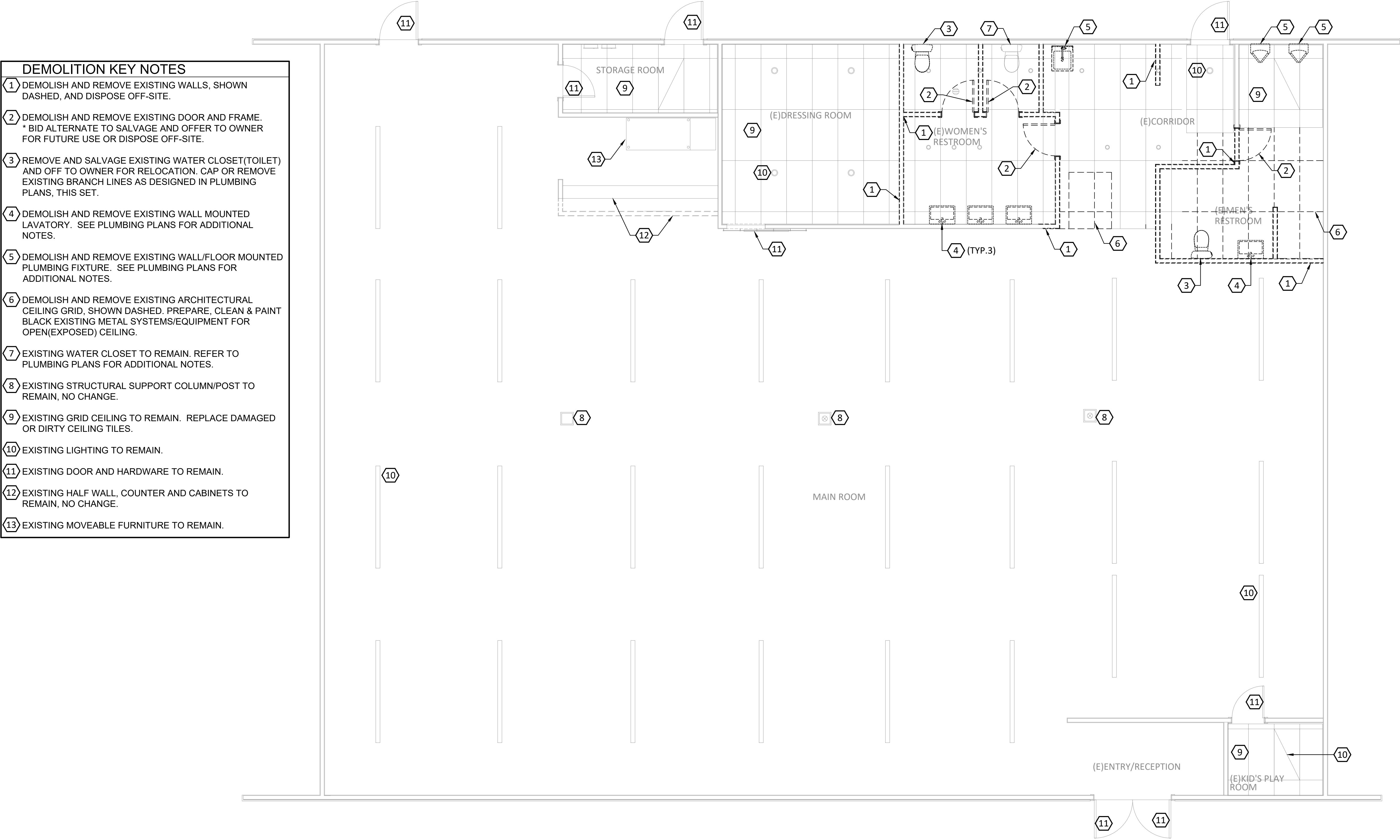
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Title:
LIFE SAFETY PLAN

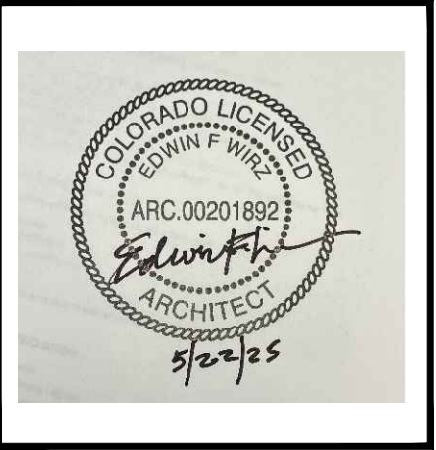
Sheet No:
LS1



- DEMOLITION KEY NOTES**
- 1 DEMOLISH AND REMOVE EXISTING WALLS, SHOWN DASHED, AND DISPOSE OFF-SITE.
 - 2 DEMOLISH AND REMOVE EXISTING DOOR AND FRAME. * BID ALTERNATE TO SALVAGE AND OFFER TO OWNER FOR FUTURE USE OR DISPOSE OFF-SITE.
 - 3 REMOVE AND SALVAGE EXISTING WATER CLOSET(TOILET) AND OFF TO OWNER FOR RELOCATION. CAP OR REMOVE EXISTING BRANCH LINES AS DESIGNED IN PLUMBING PLANS, THIS SET.
 - 4 DEMOLISH AND REMOVE EXISTING WALL MOUNTED LAVATORY. SEE PLUMBING PLANS FOR ADDITIONAL NOTES.
 - 5 DEMOLISH AND REMOVE EXISTING WALL/FLOOR MOUNTED PLUMBING FIXTURE. SEE PLUMBING PLANS FOR ADDITIONAL NOTES.
 - 6 DEMOLISH AND REMOVE EXISTING ARCHITECTURAL CEILING GRID, SHOWN DASHED. PREPARE, CLEAN & PAINT BLACK EXISTING METAL SYSTEMS/EQUIPMENT FOR OPEN(EXPOSED) CEILING.
 - 7 EXISTING WATER CLOSET TO REMAIN. REFER TO PLUMBING PLANS FOR ADDITIONAL NOTES.
 - 8 EXISTING STRUCTURAL SUPPORT COLUMN/POST TO REMAIN, NO CHANGE.
 - 9 EXISTING GRID CEILING TO REMAIN. REPLACE DAMAGED OR DIRTY CEILING TILES.
 - 10 EXISTING LIGHTING TO REMAIN.
 - 11 EXISTING DOOR AND HARDWARE TO REMAIN.
 - 12 EXISTING HALF WALL, COUNTER AND CABINETS TO REMAIN, NO CHANGE.
 - 13 EXISTING MOVEABLE FURNITURE TO REMAIN.

This sheet of drawings has not been reviewed for code compliance.

1 EXISTING/ DEMOLITION FLOOR PLAN
SCALE: 1/4" = 1'-0"



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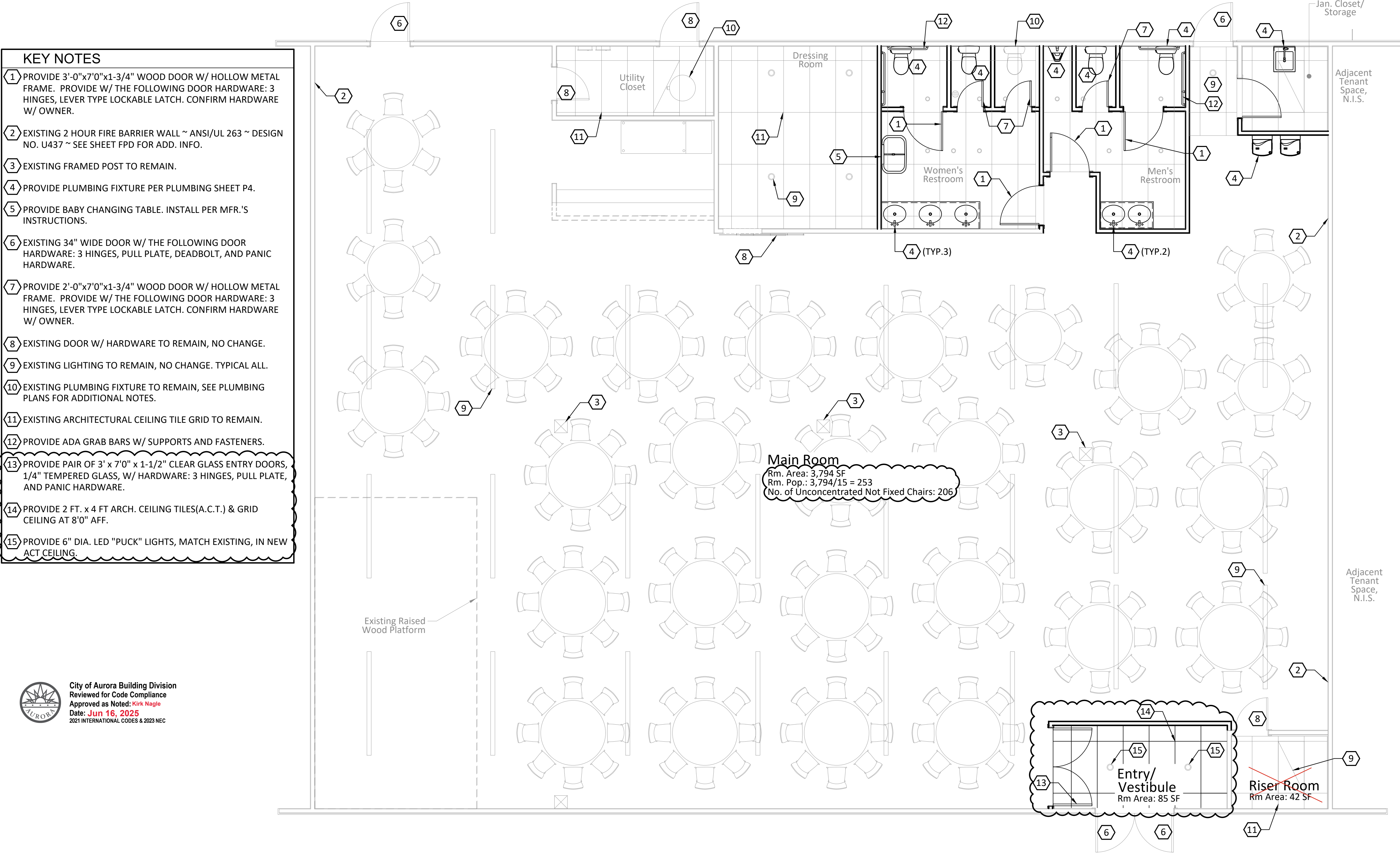
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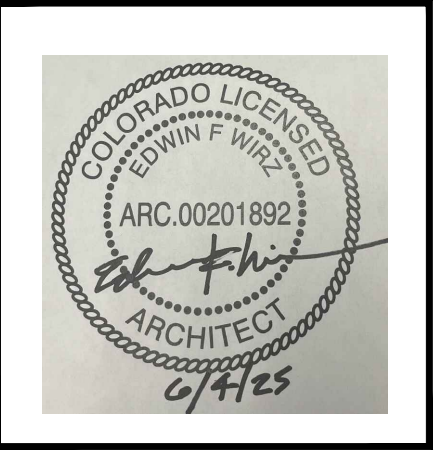
Title:
EXISTING/ DEMOLITION FLOOR PLAN

Sheet No:
FP1



Provide Lever or other approved hardware.
On all new and relocated doors 2017 ANSI A117.1

PROVIDE A DIRECTIONAL SIGNAGE FOR
ROUTE TO REQUIRED PUBLIC TOILET
FACILITIES IBC 2902.4.1



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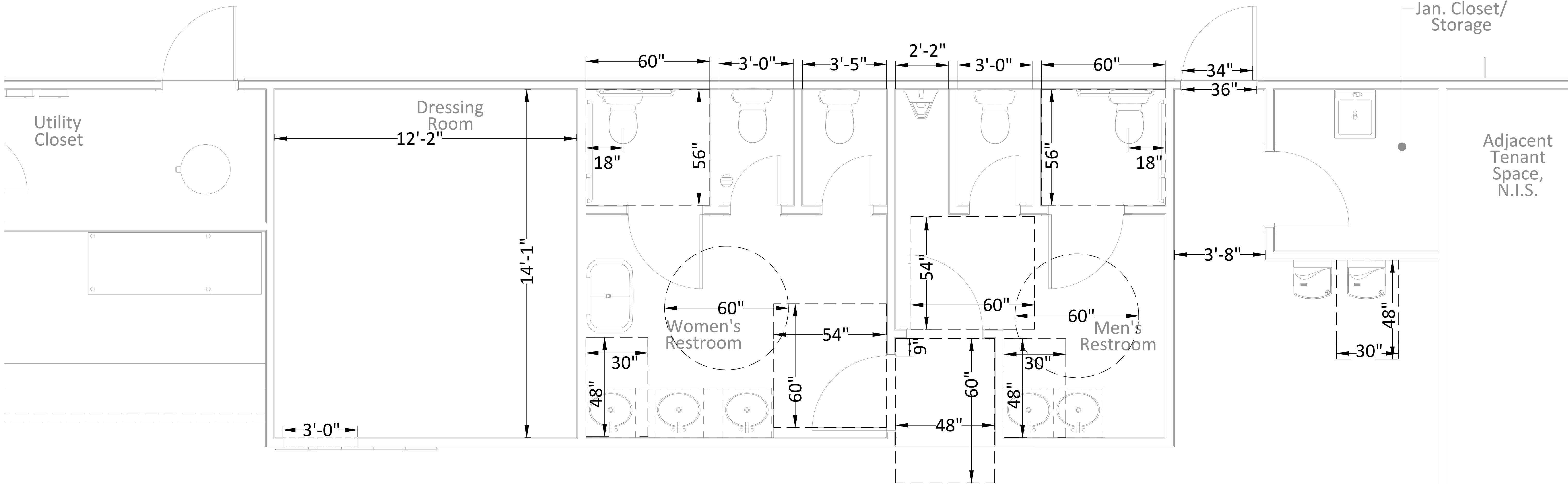
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Title:
PROPOSED FLOOR PLAN

Sheet No:
FP2



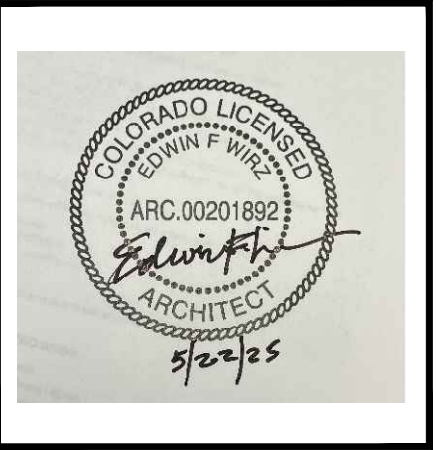
PROVIDE A DIRECTIONAL SIGNAGE FOR
ROUTE TO REQUIRED PUBLIC TOILET
FACILITIES IBC 2902.4.1

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1 ENLARGED FLOOR PLAN
SCALE: 1/2" = 1'-0"

19'-3"

19'-3"



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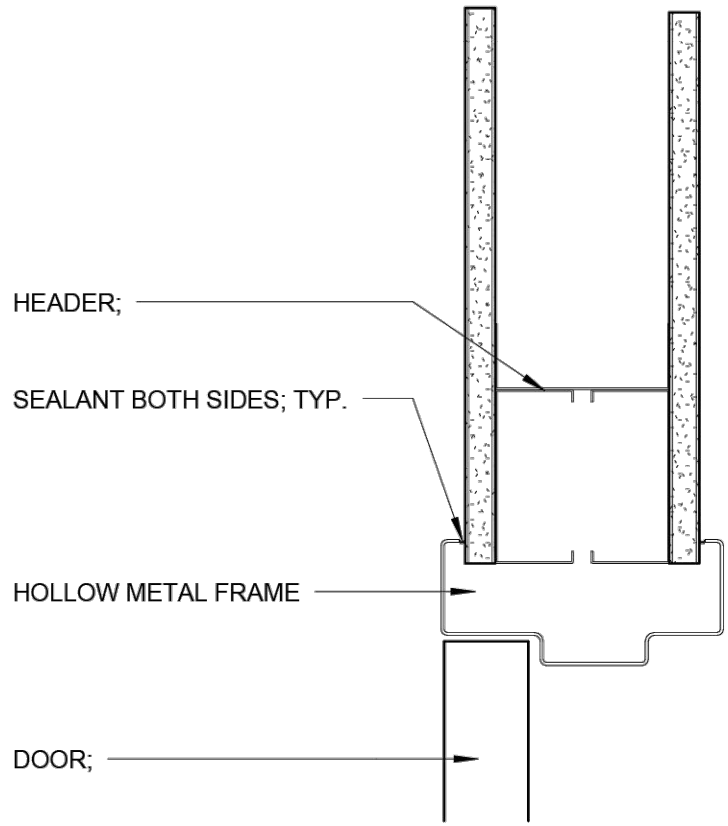
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2	Gen. Info. Revs.	5/16/25
3	Stamped Architectural Submittal	5/22/25

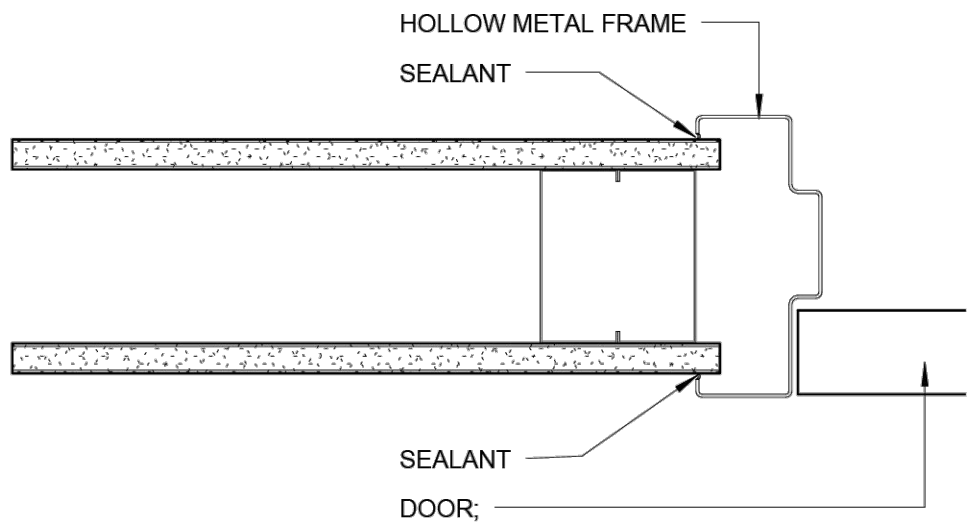
Design: MLR
Review: EFZ
Date: 5-4-25
Scale: 1/4" = 1'-0"
REC Job No: 25004

Title:
ENLARGED FLOOR PLAN

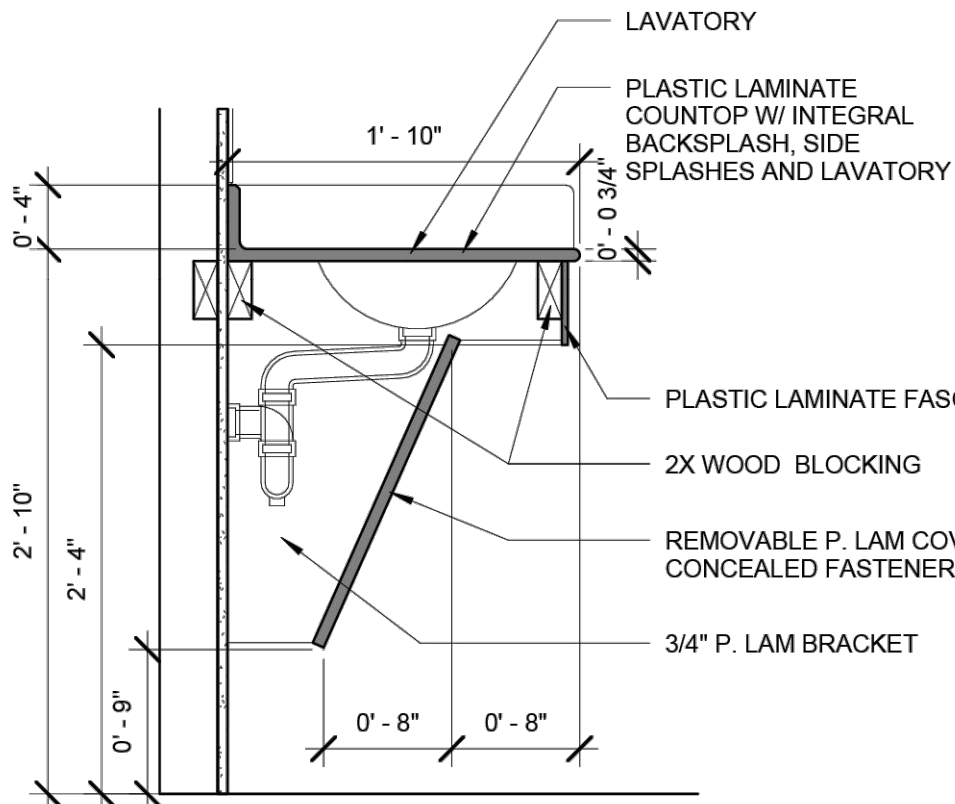
Sheet No:
FP3



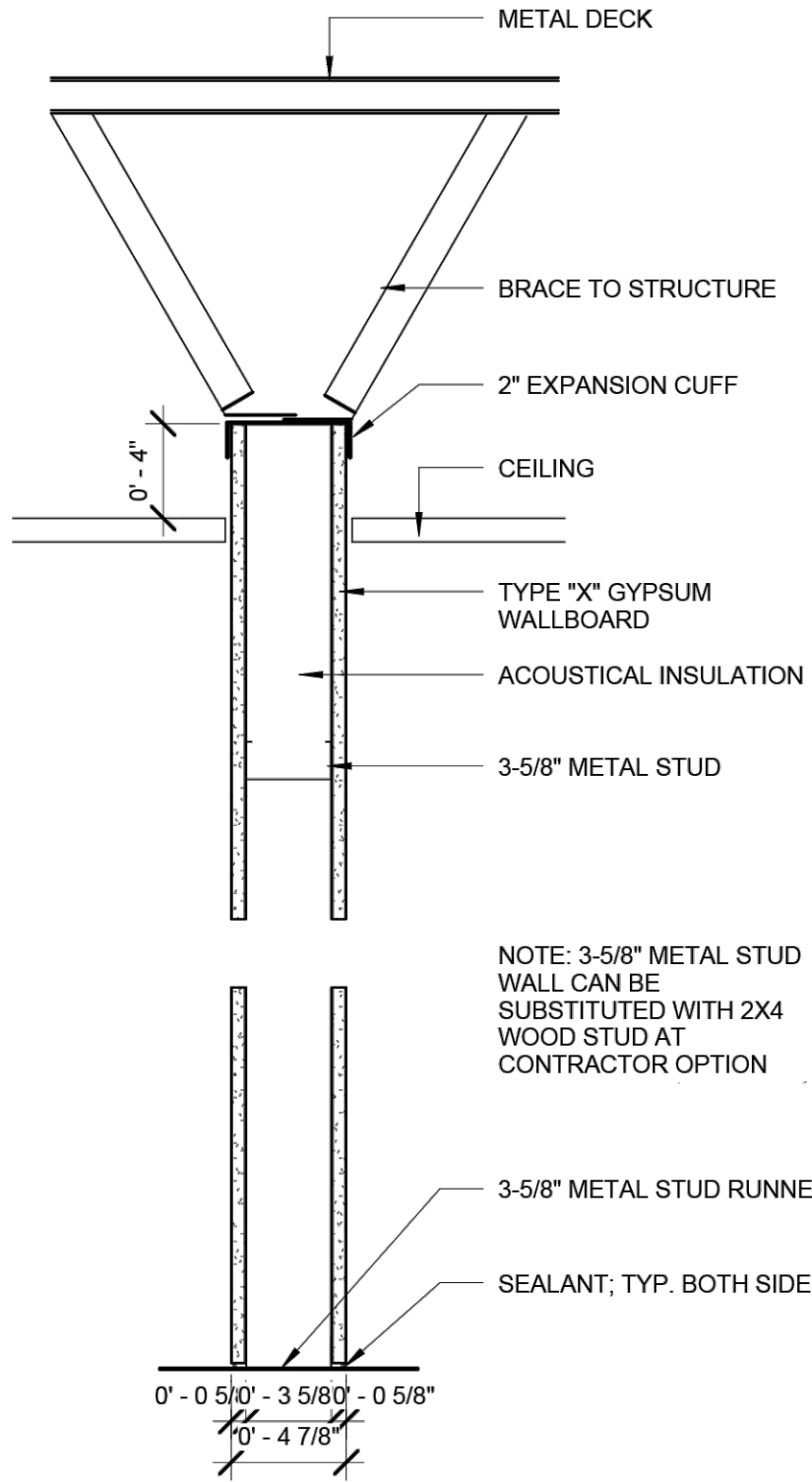
1 DOOR HEAD DETAIL
SCALE: 3" = 1'-0"



2 DOOR JAMB DETAIL
SCALE: 3" = 1'-0"



3 ADA-LAVATORY DETAIL
SCALE: 1" = 1'-0"



4 WALL TYPE 1 DETAIL
SCALE: 1-1/2" = 1'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Kirk Nagle
Date: Jun 16, 2025
2021 INTERNATIONAL CODES & 2023 NEC

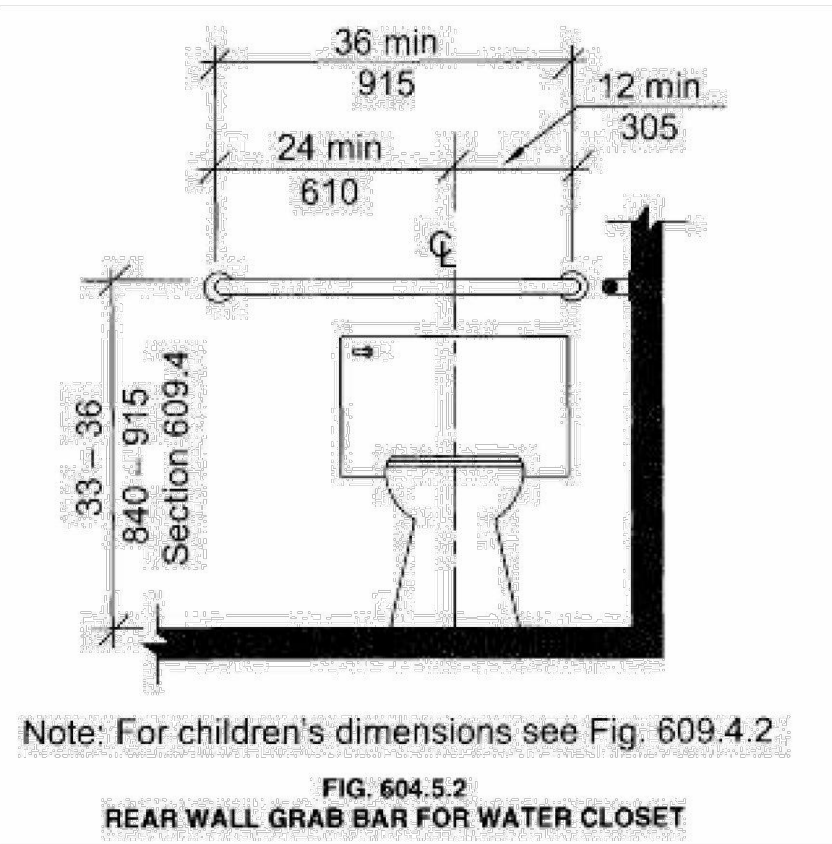


FIG. 604.5.2
REAR WALL GRAB BAR FOR WATER CLOSET

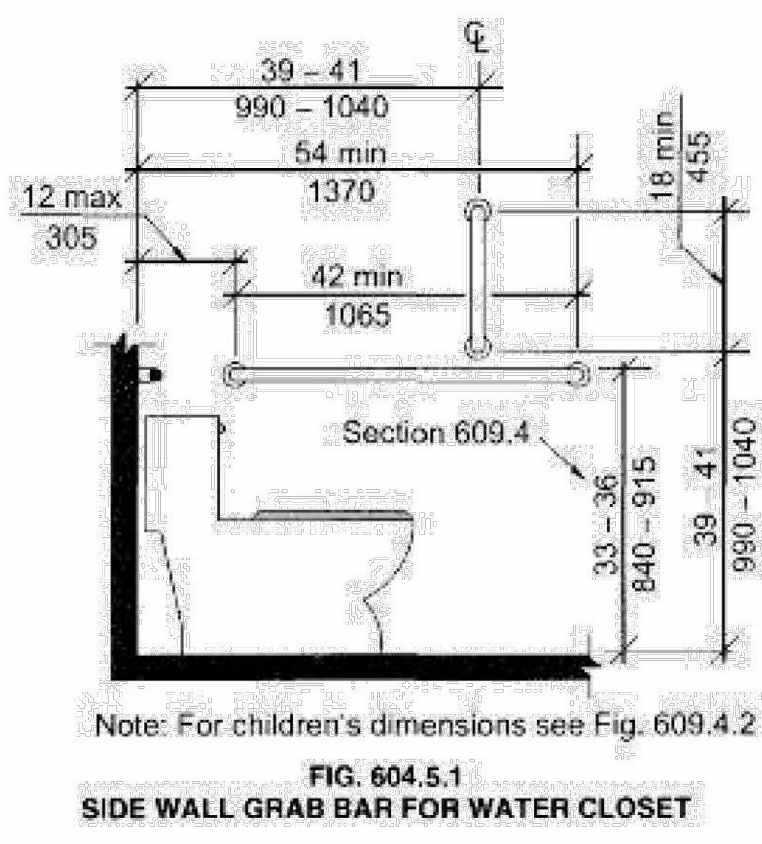


FIG. 604.5.1
SIDE WALL GRAB BAR FOR WATER CLOSET

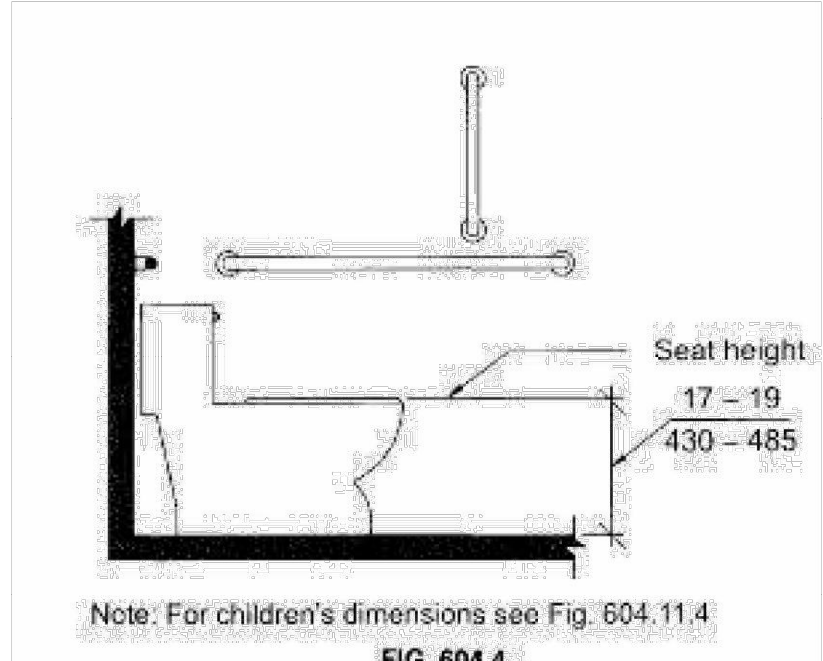
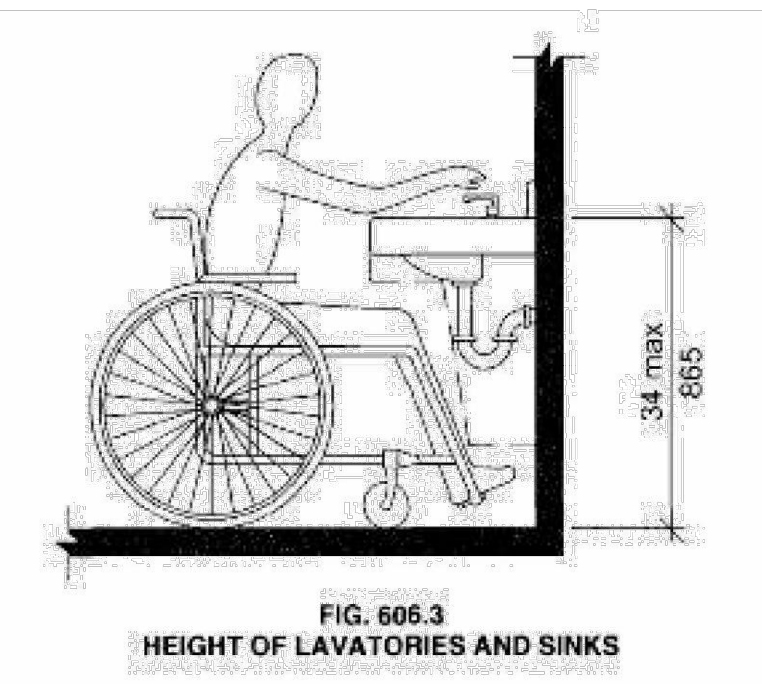
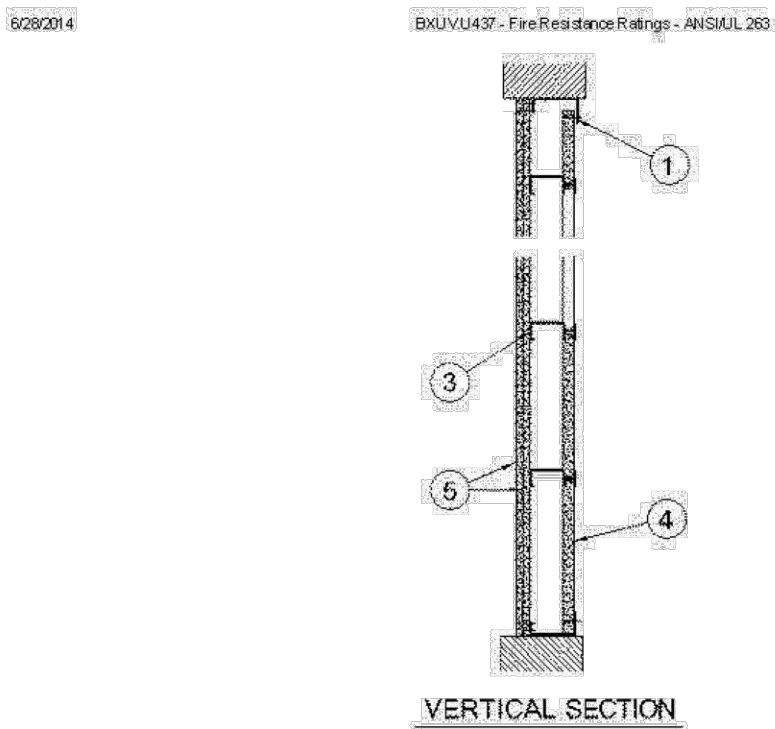


FIG. 604.4
WATER CLOSET SEAT HEIGHT



5 ANSI DIAGRAMS - N.T.S.
SCALE: NO SCALE

This plan was reviewed to adopted codes and NOT
Reviewed for compliance with ADA or FHA accessibility.
Contact 800-949-4232(ADA) and 303-894-7822X325(FHA)
For federal accessibility requirements that apply.



- Floor and Ceiling Runners** — "J"-shaped runner, min 4 in. deep with unequal legs of 1 in. and 2 in., fabricated from 20 MBS galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and spaced no more than 24 in. OC.
- Vertical Runners** — "J"-shaped runner, min 4 in. deep with unequal legs of 1 in. and 2 in., fabricated from 20 MBS galv steel. Vertical runners positioned at each end of the wall with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and spaced no more than 24 in. OC.
- Steel Studs** — "C"-shaped studs, min 4 in. deep, with 1-1/2 in. wide flanges fabricated from 20 MBS galv steel. Installed horizontally, with the "C" portion of the studs facing down. Nicks filed in the vertical "J"-shaped runners resting upon 2 by 2 in. by 20 ga. steel angles which are fastened to the side "J"-shaped runners. Studs cut to lengths to allow a 3/16 to 1/8 in. gap at each end of the wall, and spaced vertically 24 in. or 600 mm OC. As an option, the studs may be jowel attached to the side "J"-shaped runners. A total of four 1/2 in. long punched steel jowels are to be installed: one at each end of the stud on each side of the wall.
- Gypsum Board** — 1 in. thick gypsum wallboard liner panels, supplied in non 24 in. or 600 mm (for metric spacing) widths. Panels cut to lengths 1/2 in. less than the width of the wall, once between the vertical "J"-shaped runners, the panels are centered to split equally at each end the 1 in. gap. Installed horizontally, with the long edges inserted in the "H" section of the "C"-shaped studs. The top edge of the liner panel shall be cut 1 in. less than spanning height to allow installation past the 1 in. leg of J-runner. Free edge of panels attached to the long leg of the top and bottom "J"-runners, with 1-5/8 in. long Type S or S-12 steel screws spaced no more than 12 in. OC. The width of the wall is limited to the length of the liner panels (no butt joints in the liner panels).

CGC INC — Type SLK
UNITED STATES GYPSUM CO — Type SLK
USG MEXICO S A DE CV — Type SLK
5. **Gypsum Board** — 5/8 in. thick, 24 to 54 in. wide gypsum panels applied vertically in one (1-hr system) or two (2-hr system) layers. Vertical joints between panels need not be backed by framing. Vertical joints between layers staggered a minimum of 12 in. Horizontal joints between studs staggered a minimum of 24 in. in adjacent courses and 24 in. between layers. **1-Hr System:** Single layer attached to

6 UL ASSEMBLY
SCALE: NO SCALE

6262014 BXUV U437 - Fire Resistance Ratings - ANSI/UL 263

UL ONLINE CERTIFICATIONS DIRECTORY

Design No. U437
BXUV U437
Fire Resistance Ratings - ANSI/UL 263

Page Edition

Design/System/Construction/Assembly Usage Disclaimer:

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, device, and materials;
- Authorities Having Jurisdiction should be consulted before construction;
- Fire resistance assemblies and products are developed by the design submittal and have been investigated by UL for compliance with applicable requirements. The published information cannot address severe construction misuse encountered in the field;
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general guide information for each product category and each group of assemblies. The Guide Information includes specific concerning information related and alternate methods of construction;
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire Resistance Ratings - ANSI/UL 263
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U437
September 02, 2011

Nonbearing Wall Ratings — 1 or 2 Hr (See Item 5)

When used in Canada it is required that all materials included within the UL design are also cUL certified.

HORIZONTAL SECTION

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6262014 BXUV U437 - Fire Resistance Ratings - ANSI/UL 263

studs and vertical and horizontal "J"-shaped runners with 1 in. long Type S or S-12 steel screws spaced 8 in. OC. Joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound. Joint tape and compound may be omitted when square edge panels are used. **2-Hr System:** Base or inner layer attached to studs and vertical and horizontal "J"-shaped runners with 1 in. long Type S or S-12 steel screws spaced 12 in. OC. Outer or face layer attached to studs and vertical and horizontal "J"-shaped runners with 1-5/8 in. long Type S or S-12 steel screws spaced 8 in. OC. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound. Joint tape and compound may be omitted when square edge panels are used.

CGC INC — Type AR, IP-AR, IP-X1, SCV, ULX, or WRX

UNITED STATES GYPSUM CO — Type AR, FRX-G, IP-AR, IP-X1, SCV, ULX or WRX

USG MEXICO S A DE CV — Type AR, IP-AR, IP-X1, SCV, ULX, or WRX

6. **Batts and Blankets** — (Optional - Not shown) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt material bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

*Bearing the UL Classification Mark

Last Updated on 2011-09-02

Questions? Print this page Terms of Use Page Top

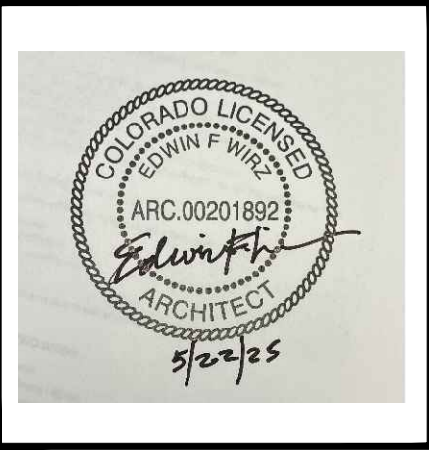
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When the UL Leaf Mark is on the product, or when the word "Environment" is included in the UL Mark, please search the UL [Equipment Database](#) for additional information regarding this product's certification.

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<http://database.ul.com/cgi-bin/XYV/templateULSEX/FRAME/shopsage.html?Name=BXUV U437&consultTitle=Fire Resistance Ratings - ANSI/UL 263...> 30



M/P ENGINEER & PROJECT MANAGER:

RAKES
ENGINEERS & CONSULTANTS

4775 S. OLATHE STREET,
AURORA, CO 80015
P: 720-935-5699
E: MRAKES@RAKESENGINEERS.COM

ARCHITECT: EDWIN F. WIRZ
P: 720-212-8606
E: EDWINFWIRZ@GMAIL.COM

THE MONARCHS EVENTS
TENANT IMPROVEMENT
16786 E ILLIFF AVE.
AURORA, COLORADO 80013

Revisions/Issue		
#	Revision/Issue	Date
1	Permit Submittal	5/14/25
2	Gen. Info. Revs.	5/16/25
3	Stamped Architectural Submittal	5/22/25

Design:	MLR
Review:	EFZ
Date:	5-4-25
Scale:	1/4" = 1'-0"
REC Job No:	25004
Title:	
FLOOR PLAN DETAILS	
Sheet No:	
FPD	

27799 E. Links Pl.
Aurora, CO 80016
Tel: 1-(720)-298-8446
kris@kpneng.com

KPN Engineering LLC

June 14, 2025

RAKES Engineers & Consultants

4775 S. Olathe Street
Aurora, Colorado 80015

Subject: HVAC Support Evaluation
THE MONARCHS EVENTS
16786 E Iliff Ave,
Aurora, Colorado 80013
Reference Number (RSN) 1899006

Matt

At your request, we visited the above-referenced site on June 5, 2025

The purpose of our visit was to evaluate existing roof framing for the installation of the new HVAC unit.

At the time of observation, I measured the existing roof trusses located under the unit. The roof trusses appeared to be 14" deep with two 1 ½"x1 ½" angles for bottom and top cord. I found that the joist has cord number 3. From loading tables, the uniform load capacity for 14H3 - 19'-11½" long joist is 275 lb/lf TL and 187 lb/lf LL the joists are placed 5'-0" on center.

I concluded that the joists are adequate to support the new 670 lbs HVAC unit and can safely transfer the loads to the joist girder. The HVAC units shall be supported on frame see S-1, the center line of 5" clip angle shall be no more than 3" away from center of top panel point see S-1.

Please feel free to call if you have any questions or need further information.

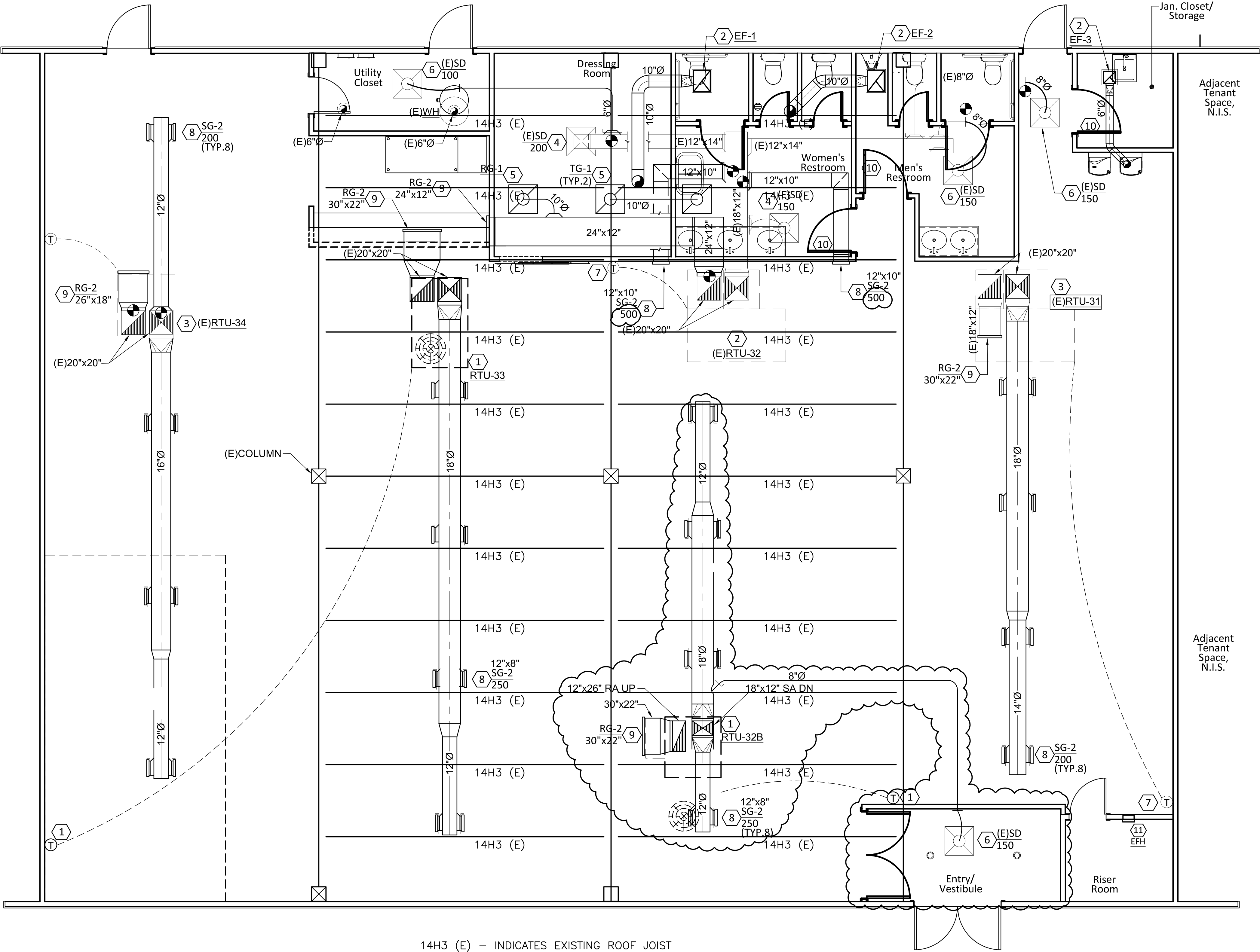
Cordially,

Krzysztof P. Nawalany



Krzysztof P. Nawalany, P.E

Managing Member



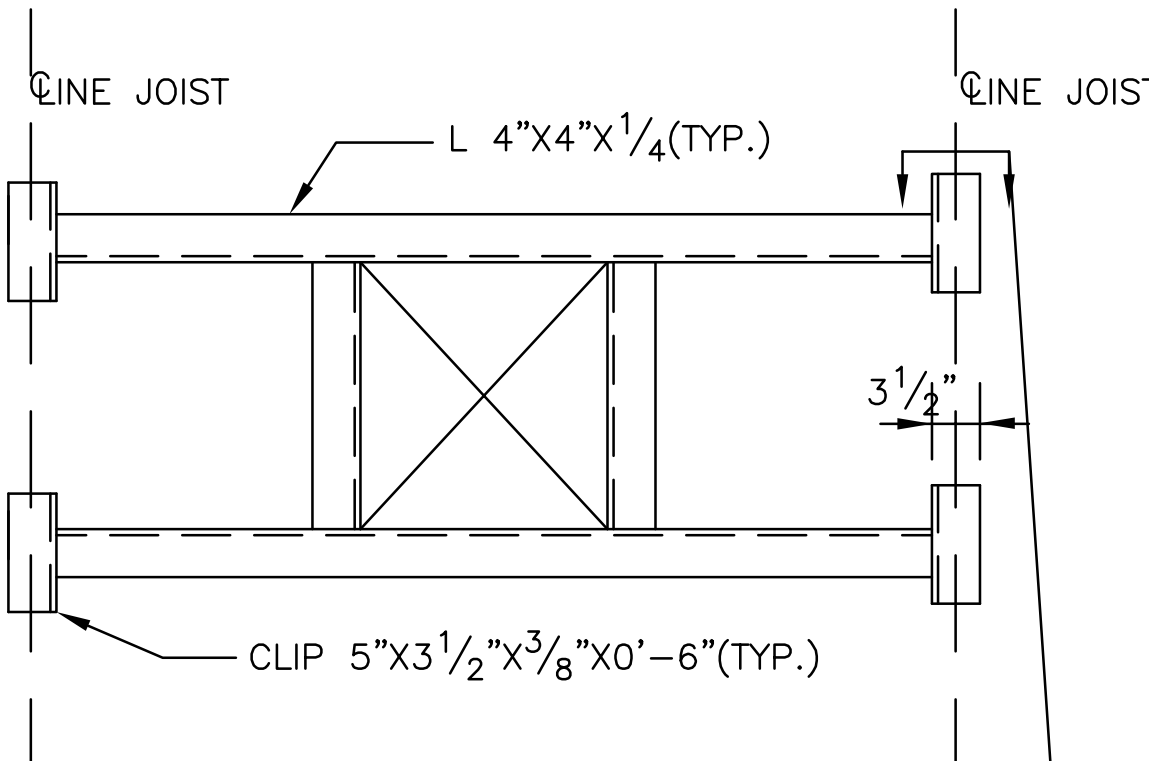
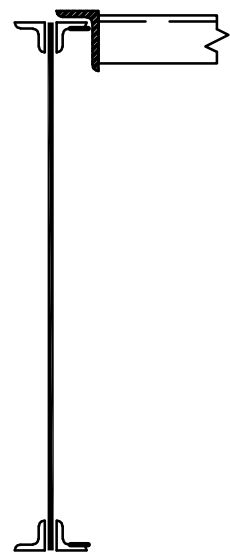
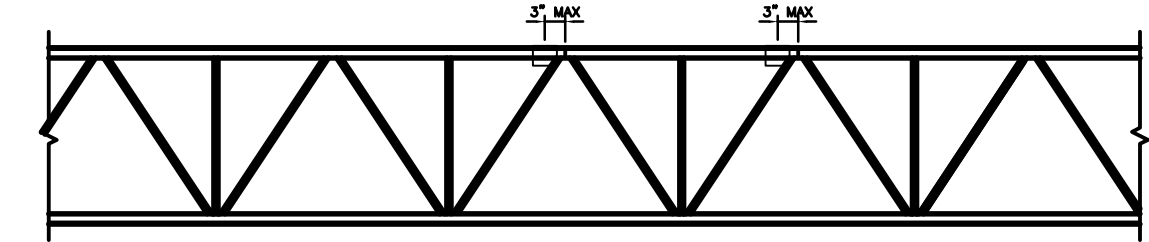
14H3 (E) – INDICATES EXISTING ROOF JOIST

1 EXISTING ROOF PLAN
SCALE 1/4"=1'-0"



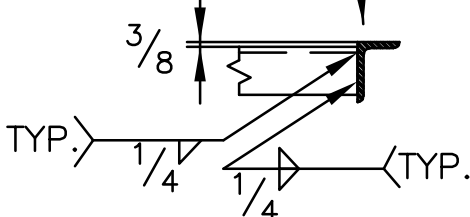
City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Kirk Nagle
Date: Jun 17, 2025
2021 INTERNATIONAL CODES & 2023 NEC

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.



TYP. ROOF FRAME

FOR OPENING MORE THAN 10"
(PROVIDE UNDER ALL ROOF CURBS)



GENERAL NOTES/SPECIFICATIONS GENERAL

- ALL CONSTRUCTION SHALL CONFIRM TO THE INTERNATIONAL BUILDING CODE (IBC) 2021 EDITION AND APPLICABLE TOWN OF FOXFIELD CODES AND ORDINANCES.
- ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTIED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE COMPLETED PROJECT BY THE OWNER.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE BEFORE COMMENCING CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
- ANY OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS DRAWINGS, NOTES AND/OR DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
- DO NOT SCALE DRAWINGS. USE WRITTEN DIMENSIONS OR CONSULT WITH THE ARCHITECT FOR CLARIFICATION.
- DETAILS SHOWN SHALL BE INCORPORATED INTO THE PROJECT AT ALL APPROPRIATE LOCATIONS WHETHER SPECIFICALLY CALLED OUT OR NOT.
- DESIGN LOADS ARE:
ROOF LIVE LOAD = 30 PSF
ROOF DEAD LOAD = 20 PSF
WIND LOAD:
BASIC WIND SPEED = 115 MPH
EXPOSURE = C
IMPORTANCE FACTOR = 1.0
SEISMIC DESIGN CATEGORY: B
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN PROTECTING THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE THE FOLLOWING WHICH INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE CONTRACTORS MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERE TO.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOFS SO AS NOT TO EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.
- WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN. WHERE NO SPECIFIC DETAILS IS SHOWN, IT IS THE ENGINEERS' INTENTION THAT CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
- REFER TO MECH., PLMG., AND ELECT. FOR LOCATION AND SIZE OF BLOCKOUTS, INSERTS AND OPENINGS, CURBS, BASES AND PADS, ETC. AND DIMENSIONS NOT SHOWN ON ARCHITECTURAL DRAWINGS.

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KPN Engineering LLC
Structural Engineer
27799 E Links Pl
AURORA CO. 80016
Tel. 1-(720)-298-8446

Roof Top HVAC Unit Support
For
Owner
16786 E Iliff Ave
Aurora CO. 80013

DESIGNED:	K.N.
DETAILED:	K.N.
CHECKED:	K.N.
APPROVED:	K.N.
DATE:	6/14/25

PROJECT NO.

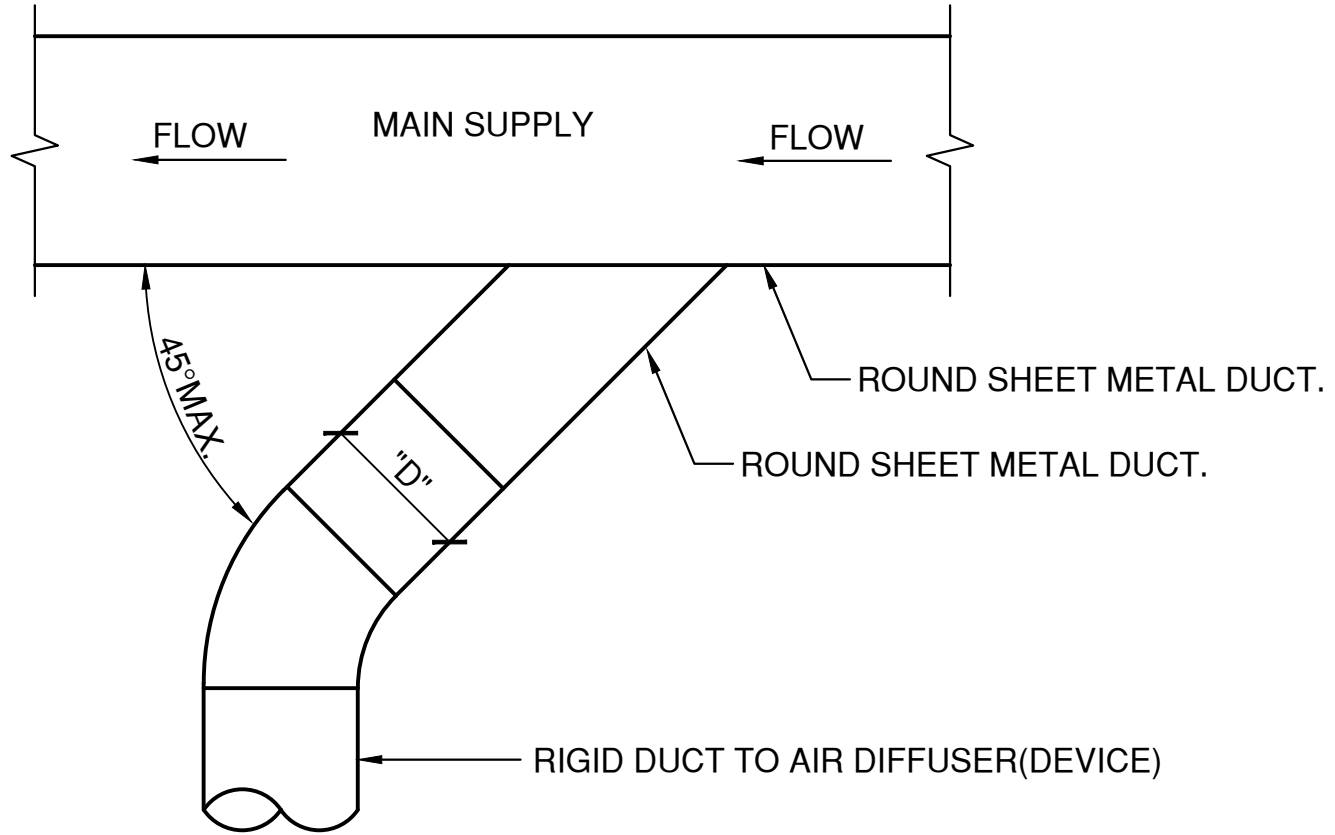
S1
SHEET
OF

GENERAL NOTES	
1.	PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITION OF ALL RULES, REGULATIONS AND CODES OF AURORA, COLORADO.
2.	THE MECHANICAL DRAWINGS INDICATE THE GENERAL DESIGN AND ARRANGEMENT OF LINES, EQUIPMENT, SYSTEM, ETC. INFORMATION SHOWN IS DIAGRAMMATIC IN CHARACTER AND DOES NOT INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DO NOT SCALE FOR DIMENSIONS.
3.	THIS CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK UNDER THIS CONTRACT WITH ALL OTHER BUILDING TRADES.
4.	SOME ASSUMPTIONS WERE MADE REGARDING DUCT CONFIGURATION DURING DESIGN. THIS CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FIELD CONDITIONS PRIOR TO THE PURCHASE OF ANY MATERIALS AND COMMENCEMENT OF ANY WORK AND IS TO NOTIFY THE ARCHITECT OF ANY DISCREPANCIES FOR RESOLUTION.
5.	MECHANICAL CONTRACTOR TO VERIFY OPERATION AND CONDITION OF ALL EQUIPMENT LOCATED IN TENANT AREA. IF EQUIPMENT IS NOT IN WORKING ORDER, CONTRACTOR TO NOTIFY ENGINEER TO GET DIRECTION TO MAKE NECESSARY REPAIRS TO SUCH EQUIPMENT TO MAKE EQUIPMENT WORK.
6.	PROVIDE ACCESS FOR ALL MECHANICAL EQUIPMENT.
7.	MAINTAIN ONE SET OF REDLINE AS-BUILT DRAWINGS ON JOB SITE. SUBMIT TO ARCHITECT AT COMPLETION OF ALL WORK.
8.	SUBMIT SHOP DRAWINGS OF ALL NEW EQUIPMENT TO ENGINEER. IN ADDITION, SUBMIT THE FOLLOWING INFORMATION TO THE OWNER & ENGINEER AT COMPLETION OF WORK. A. OPERATION AND MAINTENANCE MANUAL. B. TESTING AND BALANCING DATA. C. CERTIFICATION OF FINAL INSPECTION.
9.	ALL EQUIPMENT, MATERIALS AND INSTALLATION IS TO BE WARRANTEED FOR ONE YEAR TO BE FREE FROM DEFECT. PROVIDE WRITTEN WARRANTY TO OWNER.
10.	PROVIDE NOISE AND VIBRATION ISOLATION FOR ALL EQUIPMENT. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT INLETS AND OUTLETS.
11.	CONTRACTOR TO COORDINATE THAT ALL PLUMBING VENTS AND EXHAUST SYSTEMS ARE A MINIMUM OF 10'-0" AWAY FROM ALL FRESH AIR INTAKES.
12.	ALL DUCTWORK TO BE OF SHEET METAL CONSTRUCTION PER SMACNA STANDARDS FOR LOW PRESSURE DISTRIBUTION. PROVIDE ALL VOLUME DAMPERS AND TURNING VANES NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM. COORDINATE SHEET METAL LAYOUT WITH ALL OTHER TRADES PRIOR TO ANY FABRICATION. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
13.	ALL CONTROL WORK TO BE PER MECHANICAL EQUIPMENT LIST. PROVIDE ANY NECESSARY TRANSFORMERS FOR LOW VOLTAGE CONTROL CIRCUITS. LOW VOLTAGE (24v) WIRING TO BE BY M.C.
14.	AT THE COMPLETION OF WORK, PROVIDE TESTING AND BALANCING SERVICES FOR MECHANICAL SYSTEMS. AT COMPLETION OF WORK, SUBMIT WRITTEN REPORT TO ENGINEER LISTING DIFFUSER AIR FLOWS AND ALL AIR HANDLING EQUIPMENT AIR FLOWS, ELECTRIC DATA, TEMPERATURES AND PRESSURE DROPS.
15.	COORDINATE DIFFUSER AND GRILLE PLACEMENT WITH CEILING AND LIGHTING INSTALLATION FOR CONSISTENT AND FUNCTIONAL PATTERN.
16.	ALL DUCTWORK SIZES ARE CLEAR INSIDE DIMENSIONS. INCREASE SHEET METAL ACCORDINGLY TO ACCOMMODATE DUCT LINER FOR RETURN AIR DUCT.
17.	INSTALL ALL THERMOSTAT AND SWITCHES WHERE SHOWN ON PLANS AT 48" A.F.F. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR. CONTRACTOR TO CALIBRATE THERMOSTAT AND REPLACE AIR FILTERS AT COMPLETION OF PROJECT.
18.	BALANCE MANUAL OUTSIDE AIR DAMPER ON ALL ROOFTOP UNITS TO CFM SHOWN ON VENTILATION SCHEDULE.
19.	ALL INTERIOR CONCEALED(UN-EXPOSED) SUPPLY AND RETURN DUCTWORK SHALL BE WRAPPED WITH MINIMUM R-12 INSULATION. UNLESS OTHERWISE STATED ON DRAWINGS.
20.	ALL EXTERIOR DUCTWORK TO BE WRAPPED WITH RIGID INSULATION AND WEATHER PROOF JACKET. INSULATION TO BE MINIMUM R-12.
21.	ALL FLEXIBLE DUCTWORK CONNECTED TO ALL DIFFUSERS TO BE MINIMUM R-12 INSULATION.

ABBREVIATIONS			
ADA	AMERICAN DISABILITY ACT	L/m	LITERS PER MINUTE
AHU	AIR-HANDLING UNIT	L/s	LITERS PER SECOND
APD	AIR PRESSURE DROP	LAT	LEAVING AIR TEMPERATURE
		LF	LINEAL FEET
BD	BUTTERFLY DAMPER	LPG	LIQUID PROPANE GAS
BDD	BACKDRAFT DAMPER	LSD	LINEAR SLOT DIFFUSER
BFP	BACKFLOW PREVENTER	LVR	LOUVER
BTU	BRITISH THERMAL UNIT		
BTUH	BRITISH THERMAL UNIT PER HOUR	M	METER, WATER OR GAS
		M	METER, SI UNIT
C	CENTIGRADE (CELSIUS)	M/s	METERS PER SECOND
CD	CEILING DIFFUSER	MAU	MAKE-UP AIR UNIT
CFM	CUBIC FEET PER MINUTE	MBH	1000 BTUH
CH	CHILLER	MERV	MINIMUM EFFICIENCY REPORTING VALUE
CM	CARBON MONOXIDE		
COMP	COMPRESSOR UNIT	MFR	MANUFACTURER
COP	COEFFICIENT OF PERFORMANCE	MM	MILLIMETER
CR	CEILING REGISTER	MVD	MANUAL VOLUME DAMPER
CU	CONDENSING UNIT		
CUH	CABINET UNIT HEATER	NA	NOT APPLICABLE
		NG	NATURAL GAS
D	DAMPER - AUTOMATIC	NIS	NOT IN SCOPE
DB	DECIBELS	NPSH	NET POSITIVE SUCTION HEAD
(D)	DEMOLISH	NTS	NOT TO SCALE
D _b	DRY-BULB TEMPERATURE		
DDC	DIRECT DIGITAL CONTROLS	OA	OUTSIDE AIR
DEG	DEGREE	OAG	OUTSIDE AIR GRILLE
DF	DIFFUSER	OAI	OUTSIDE AIR INTAKE
DIA	DIAMETER		
DX	DIRECT EXPANSION	PSI	POUNDS PER SQUARE INCH
DXCC	DIRECT EXPANSION COOLING COIL		
		R/E	RETURN OR EXHAUST
EA	EXHAUST AIR	RA	RETURN AIR
EAT	ENTERING AIR TEMPERATURE	RAT	RETURN AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO	REA	RELIEF AIR
EF	EXHAUST FAN	RH	RELATIVE HUMIDITY
EG	EXHAUST GRILLE	RL	REFRIGERANT LIQUID LINE
ER	EXHAUST REGISTER	RPM	REVOLUTIONS PER MINUTE
(E)	EXISTING	RR	RETURN REGISTER
ESP	EXTERNAL STATIC PRESSURE	RS	REFRIGERANT SUCTION LINE
ET	EXPANSION TANK	RTU	ROOFTOP UNIT
EUH	ELECTRIC UNIT HEATER		
EWT	ENTERING WATER TEMPERATURE	SA	SUPPLY AIR
		SAT	SUPPLY AIR TEMPERATURE
F	FAHRENHEIT	SD	SMOKE DETECTOR
F/SDPR	COMBINATION FIRE SMOKE DAMPER	SFD	SMOKE FIRE DAMPER
FA	FREE AREA	SD	SUPPLY AIR DIFFUSER
FC	FLEXIBLE CONNECTION	SDPR	SMOKE DAMPER
FD	FIRE DAMPER	SG	SUPPLY AIR GRILLE
FPM	FEET PER MINUTE	SP	STATIC PRESSURE
FPS	FEET PER SECOND	SP GR	SPECIFIC GRAVITY
FSTAT	FREEZESTAT	SPS	STATIC PRESSURE SENSOR
FT	FEET	SR	SUPPLY AIR REGISTER
FV	FACE VELOCITY	SS	STAINLESS STEEL
		T & PCV	TEMPERATURE AND PRESSURE CONTROL VALVE
GA	GAUGE	TAB	TESTING, ADJUSTING, BALANCE
GAL	GALLONS	TDH	TOTAL DYNAMIC HEAD
GPH	GALLONS PER HOUR	TA	TRANSFER AIR
GPM	GALLONS PER MINUTE	TSP	TOTAL STATIC PRESSURE
		TSTAT	THERMOSTAT
HAC	HOUSEKEEPING AID CLOSET	TYP	TYPICAL
HB	HOSE BIBB	TP	TEMPERATURE/PRESSSRE RELIEF
HP	HEAT PUMP		
HSTAT	HUMIDISTAT		
		UC	UNIT COOLER
I/O	INPUT/OUTPUT	UH	UNIT HEATER
IAQ	INDOOR AIR QUALITY		
IN WC	INCH WATER COLUMN	VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
IN WG	INCH WATER GAUGE	VFD	VARIABLE FREQUENCY DRIVE
kg	KILOGRAM	W	WATTS
kg/HR	KILOGRAM PER HOUR	W _b	WET-BULB (TEMPERATURE)
kPa	KILOPASCAL	WFM	WATER FLOWMETER
kW	KILOWATT	W/	WITH
kWh	KILOWATT HOUR		
		YR	YEAR
L	LITER		
L/h	LITERS PER HOUR		

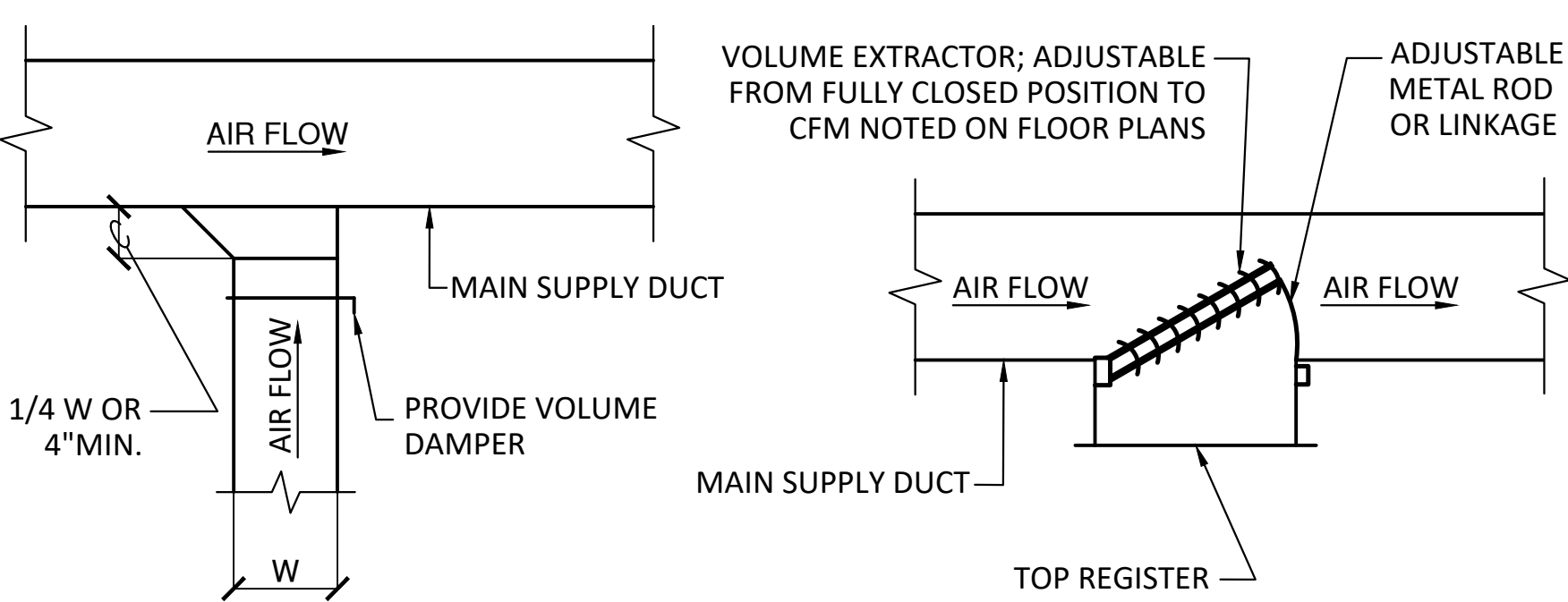
DUCTWORK SYMBOLS		
	UP	DN
SUPPLY DUCT (UP & DOWN)		
	UP	DN
EXHAUST DUCT (UP & DOWN)		
	UP	DN
RETURN DUCT (UP & DOWN)		
ROUND AND SQUARE 4-WAY CEILING DIFFUSERS		
INCLINED RISE, IN DIRECTION OF AIR FLOW		
INCLINED DROP, IN DIRECTION OF AIR FLOW		
VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)		
STANDARD RADIUS ELBOW (LONG RADIUS)		
NEW DUCT (INSIDE DIMENSIONS: WIDTH (IN.) x DEPTH(IN.))		
EXISTING DUCT TO REMAIN (W" x H")		
MANUAL VOLUME DAMPER		
SMOKE DAMPER, FIRE DAMPER, FIRE & SMOKE DAMPERS		
DRAWING SYMBOLS		
SMOKE DETECTOR (IN RETURN AIR DUCT)		
WALL MOUNTED THERMOSTAT		
POINT OF CONNECTION, NEW TO EXISTING		
MANUAL VOLUME DAMPER		
SPIN-IN FITTING W/MVD		
MOTORIZED DAMPER		
BACKDRAFT DAMPER		
UNDERCUT DOOR W/UNDERCUT HEIGHT		
CEILING OR DUCT ACCESS PANEL		
CEILING SUPPLY AIR DIFFUSER		
CEILING RETURN AIR GRILLE		
CEILING EXHAUST AIR GRILLE		
CEILING LINEAR SUPPLY DIFFUSER		
AIR DEVICE KEYNOTES		
KEYNOTE NUMBER		
AIR DEVICE ID TAG		
AIRFLOW RATE (CFM), DIFFUSER/GRILLE SIZE(IN.)		
NUMBER OF TYPICAL AIR DEVICES & CFM.		
EQUIPMENT ID TAGS		
EQUIPMENT ABBREVIATION (SUPPLY FAN)		
SUPPLY FAN NO. 3		
TYPICAL UNIT NO.		

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.



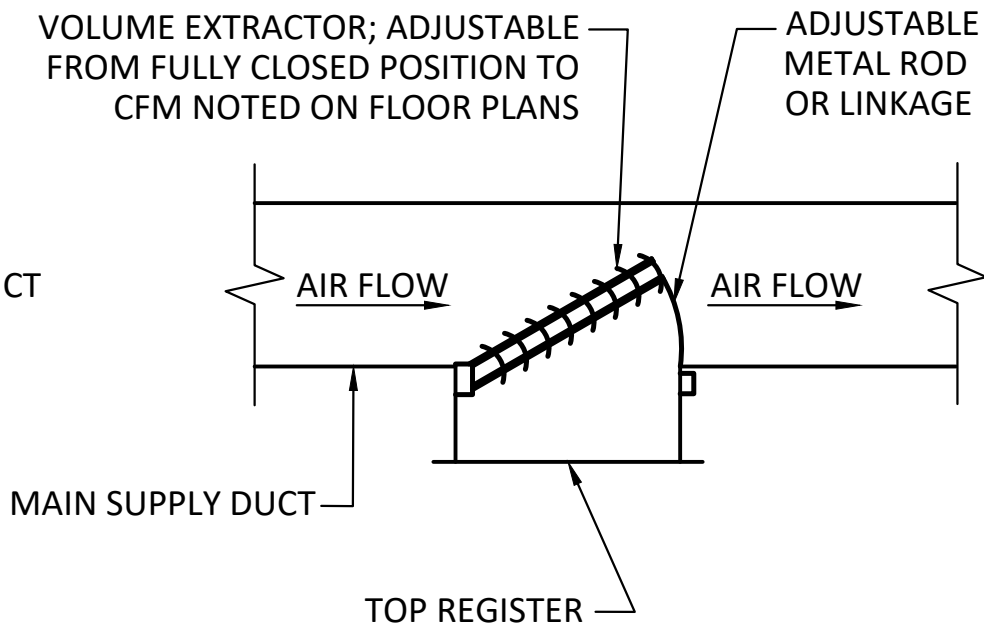
PLAN VIEW

1 SUPPLY DUCT ROUND TAKE-OFFS
NOT TO SCALE

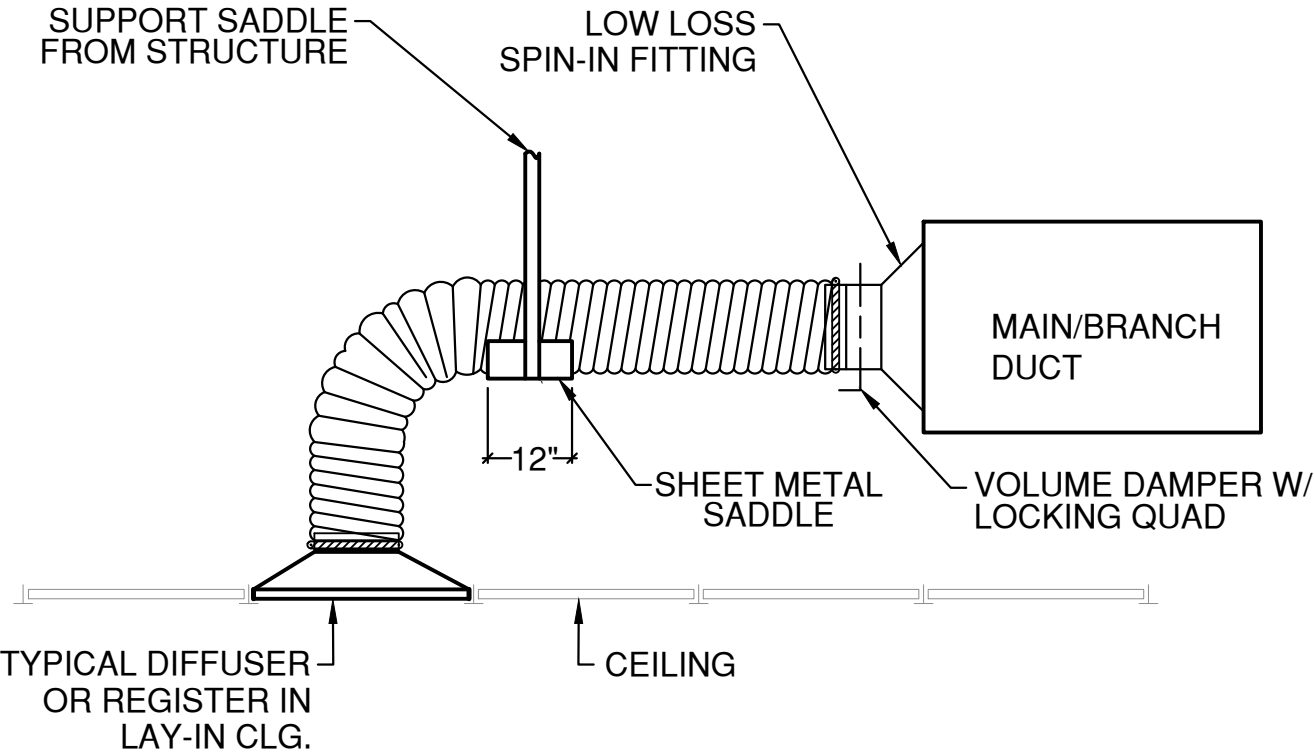


BRANCH DUCT TAKE-OFF PLAN VIEW

2 SUPPLY DUCT TAKE-OFFS
NOT TO SCALE

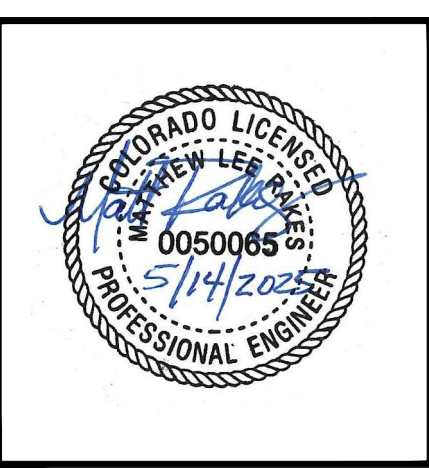


SUPPLY REGISTER TAKE-OFF PLAN VIEW



NOTE:
FLEXIBLE DUCT SIZE SAME AS DIFFUSER INLET: 5'-0" MAX LENGTH.

3 FLEX-DUCT DIFFUSER CONNECTION DETAIL
NOT TO SCALE



THE MONARCHS EVENTS
TENANT IMPROVEMENT
16786 E ILIFF AVE.
AURORA, COLORADO 80013

Revisions/Issue		
#	Revision/Issue	Date
#	Permit Submittal	5/14/25

Design:	MLR
Review:	MLR
Date:	5-4-25
Scale:	1/4" = 1'-0"
REC Job No:	25004
Title:	
MECHANICAL COVER SHEET	
Sheet No:	
M1	

PACKAGED GAS/DX ROOFTOP UNIT SCHEDULE																	
PLAN CODE	MANUFACTURER & MODEL NO.	SUPPLY FAN			COOLING			GAS HEAT INPUT (MBH)	ELECTRICAL		DIMENSIONS (IN.)			WEIGHT (LBS)	REMARKS		
		MOTOR (BHP)	CFM	E.S.P. (IN. W.C.)	TOTAL (MBH)	SENS. (MBH)	SEER/SEER2		VOLTS/ PHASE	MOTOR FLA	MCA	MOCP	L			W	H
(E)RTU-34	RHEEM RGEA14048AJT101AB	3/4	1,600	--	48	34.6	--/ --	100	208/1	--	33	50	59	45	40	--	①②③
(E)RTU-32, (E)RTU-31	YORK ZF048N10N1AAA2A	1.5	1,600	--	48	34.6	--/ --	125	208/1	--	29.5	40	73	37.3	32.6	--	①②③
RTU-33, RTU-32B	CARRIER 48FEFA06A3M5-8U0A0	1.5	2,000	1.0	59.4	38.9	14/ 13.4	150	208/3	6.5	29.5	40	75	47	34	670	①②③

- ① PROVIDE W/ 24/7 PROGRAMMABLE ON/OFF/AUTO THERMOSTAT.
- ② PROVIDE W/ 1" DISPOSABLE AIR FILTERS.
- ③ M.C. TO FIELD VERIFY, OR PROVIDE IF NOT PRESENT, SMOKE DETECTOR IN RETURN AIR DUCT INSTALLED AND FUNCTIONAL. UNIT DISABLED UPON DETECTION OF SMOKE/FIRE.

PLAN CODE	SERVICE	TYPE	CFM	ESP IN WC (S.L.)	FAN RPM	MOTOR		SONES	DAMPER GRAVITY/ MOTORIZED	METHOD OF CONTROL	MANUFACTURER & MODEL NO.	CEILING GRILL SIZE	VIBRATION ISOLATORS	FAN DIMENSIONS (INCHES)			REMARKS
						HP/ WATT	VOLTAGE & PHASE							L x W (OR DIA)	H	OPER. WT. (LBS)	
EF-1	DRESSING RM/WOMENS RR	CEILING MOUNT	310	0.43	1070	224 W	120/1	4.0	GRAVITY	WALL SWITCH	GREENHECK SP-A510	19-3⁄8" x 16-3⁄8"	NO	18 x 14	15	35	①②
EF-2	TOILET RM/ JAN. CLOSET	CEILING MOUNT	242	0.46	1070	224 W	120/1	4.0	GRAVITY	WALL SWITCH	GREENHECK SP-A510	19-3⁄8" x 16-3⁄8"	NO	18 x 14	15	35	①②
EF-3	TOILET RM/ JAN. CLOSET	CEILING MOUNT	104	0.38	939	18 W	120/1	3.0	GRAVITY	WALL SWITCH	GREENHECK SP-LP0511-1	13.12" x 13.12"	NO	18 x 14	4	10	①②

- ① PROVIDE WITH RATED WALL SWITCH. LOCATE SWITCH WITH JANITOR CLOSET LIGHTING CONTROLS.
- ② COORDINATE INSTALLATION HARDWARE & FASTENERS WITH CEILING TYPE

2021 EXISTING BUILDING CODE VENTILATION CALCULATIONS

UNIT ID	ROOM NO.	ROOM DESC.	AREA(SF)	ZONE CLASS	# OF OCC. Pz	DEFAULT OCC. DENS. (#/1000 SF)	CFM/OCC. Rp	CFM/SF Ra	OA CFM Rp + Ra	Ez	OA Req'd (CFM)	Design Airflow (CFM)	Outdoor Air Fraction Zp	OA Provided (CFM)
(E)RTU-34		PART OF MAIN ROOM	1074	CONF/MEETING RMS	54	50	5	0.06	334	0.8	418	1600	0.26	420
					54						418	1600		420 *

*BALANCE OUTSIDE AIR DAMPER ON EXISTING 4 TON ROOFTOP UNIT TO VALUE INDICATED, +/- 10%, THROUGH TEST AND BALANCE BY CERTIFIED TABB AGENT.

UNIT ID	ROOM NO.	ROOM DESC.	AREA(SF)	ZONE CLASS	# OF OCC. Pz	DEFAULT OCC. DENS. (#/1000 SF)	CFM/OCC. Rp	CFM/SF Ra	OA CFM Rp + Ra	Ez	OA Req'd (CFM)	Design Airflow (CFM)	Outdoor Air Fraction Zp	OA Provided (CFM)
(E)RTU-32		UTILITY CLOSET	66	STORAGE	0	0	0	0.12	8	0.8	10	100	0.10	10
		PART OF MAIN ROOM	801	CONF/MEETING RMS	40	50	5	0	200	0.8	250	1000	0.20	200
					40				208		260	1600		200 *

*BALANCE OUTSIDE AIR DAMPER ON EXISTING 4 TON ROOFTOP UNIT TO VALUE INDICATED, +/- 10%, THROUGH TEST AND BALANCE BY CERTIFIED TABB AGENT.

UNIT ID	ROOM NO.	ROOM DESC.	AREA(SF)	ZONE CLASS	# OF OCC. Pz	DEFAULT OCC. DENS. (#/1000 SF)	CFM/OCC. Rp	CFM/SF Ra	OA CFM Rp + Ra	Ez	OA Req'd (CFM)	Design Airflow (CFM)	Outdoor Air Fraction Zp	OA Provided (CFM)
(E)RTU-31		PART OF MAIN ROOM	840	CONF/MEETING RMS	42	50	5	0.06	260	0.8	326	1600	0.20	320
					54						326	1600		660 *

*BALANCE OUTSIDE AIR DAMPER ON EXISTINMG 4 TON ROOFTOP UNIT TO VALUE INDICATED, +/- 10%, THROUGH TEST AND BALANCE BY CERTIFIED TABB AGENT.

2021 MECHANICAL CODE VENTILATION CALCULATIONS

UNIT ID	ROOM NO.	ROOM DESC.	AREA(SF)	ZONE CLASS	# OF OCC. Pz	DEFAULT OCC. DENS. (#/1000 SF)	CFM/OCC. Rp	CFM/SF Ra	OA CFM Rp + Ra	Ez	OA Req'd (CFM)	Design Airflow (CFM)	Outdoor Air Fraction Zp	OA Provided (CFM)
RTU-33		PART OF MAIN ROOM	789	CONF/MEETING RMS	39	50	5	0.06	242	0.8	303	1900	0.20	380
					39							1900		380 *

*BALANCE OUTSIDE AIR DAMPER ON 5 TON ROOFTOP UNIT TO VALUE INDICATED, +/- 10%, THROUGH TEST AND BALANCE BY CERTIFIED TABB AGENT.

UNIT ID	ROOM NO.	ROOM DESC.	AREA(SF)	ZONE CLASS	# OF OCC. Pz	DEFAULT OCC. DENS. (#/1000 SF)	CFM/OCC. Rp	CFM/SF Ra	OA CFM Rp + Ra	Ez	OA Req'd (CFM)	Design Airflow (CFM)	Outdoor Air Fraction Zp	OA Provided (CFM)
RTU-32B		PART OF MAIN ROOM	849	CONF/MEETING RMS	42	50	5	0.06	261	0.8	326	1750	0.19	330
		STORAGE ROOM	42	STORAGE	0	0	0	0.12	5	0.8	6	100	0.06	10
		ENTRY/VESTIBULE	85	CORRIDOR	0	0	5	0.06	5	0.8	6	150	0.04	10
					42						339	2000		350 *

*BALANCE OUTSIDE AIR DAMPER ON 5 TON ROOFTOP UNIT TO VALUE INDICATED, +/- 10%, THROUGH TEST AND BALANCE BY CERTIFIED TABB AGENT.

GRILLES, REGISTERS, & DIFFUSERS SCHEDULE

PLAN CODE	DESCRIPTION	MOUNTING DETAILS	MFR. & MODEL NO.	SIZE	REMARKS
SD-1	LOUVERED SQUARE CONE SUPPLY DIFFUSER	CEILING MOUNT	PRICE SCD	24"x24"	①②③
SG-2	45 DEG. DOWN DEFLECTED SUPPLY GRILLE	CEILING MOUNT	PRICE 510DL	SEE PLANS	①④⑤
RG-1	PERFORATED RETURN AIR GRILLE/PANEL	CEILING MOUNT	PRICE PFRF	24"x24"	④
RG-2	LOUVERED NO DEFLECTION RETURN AIR GRILLE	CEILING MOUNT	PRICE 510Z	SEE PLANS	①④

- ① NECK SIZE AS INDICATED ON PLANS.
- ② PROVIDE W/ MVD.
- ③ COLOR TO BE WHITE, U.N.O.
- ④ COLOR TO BE BLACK.
- ⑤ PROVIDE FACE MOUNTED BALANCING DAMPER.

Heating system shall be capable of maintaining an indoor temperature of not less than 68°F at 3'-0" above the floor.
2021 IMC 309.1, IRC 303.10, IBC 1203.1



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **malemu**
Date: **Jun 17, 2025**
2021 INTERNATIONAL CODES & 2023 NEC



M/P ENGINEER & PROJECT MANAGER:



4775 S. OLATHE STREET,
AURORA, CO 80015
P: 720-935-5699
E: MRAKES@RAKESENGINEERS.COM

THE MONARCHS EVENTS
TENANT IMPROVEMENT
16786 E ILIFF AVE.
AURORA, COLORADO 80013

Revisions/Issue

#	Revision/Issue	Date
1	Permit Submittal	5/14/25
4	BDC Responses	6/5/25

Design: MLR
Review: MLR
Date: 5-4-25
Scale: 1/4" = 1'-0"
REC Job No: 25004

Title:
MECHANICAL
SCHEDULES

Sheet No:

M2



COMcheck Software Version COMcheckWeb

Mechanical Compliance Certificate

Project Information

Energy Code: 2021 IECC

Project Title: MONARCHS EVENTS

Location: Aurora, Colorado

Climate Zone: 5b

Project Type: Alteration

Construction Site: 16786 E. ILIFF AVENUE
AURORA, Colorado 80013

Owner/Agent:

Designer/Contractor: MATT RAKES
RAKES ENGINEERS AND CONSULTANTS, INC.
4775 S. OLATHE ST.
AURORA, Colorado 80015
720-935-5699
MRAKES@RAKESENGINEERS.COM

Mechanical Systems List

QuantitySystem Type & Description

2

HVAC System (Single Zone):
Heating: 1 each - Central Furnace, Gas, Capacity = 150 kBtu/h
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE
Cooling: 1 each - Single Package DX Unit, Capacity = 59 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 13.40 SEER2, Required Efficiency = 13.40 SEER2
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00
Fan System: FAN SYSTEM 1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes

Fans:
FAN 1 Supply, Constant Volume, 2000 CFM, 1.5 motor nameplate hp, 0.00 fan energy index , fan exception: Part of code listed equipment

1

HVAC System (Single Zone):
Heating: 1 each - Other, Electric, Capacity = 5118 kBtu/h
No minimum efficiency requirement applies

Mechanical Compliance Statement

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

Name - Title

Signature

Date

Project Title: MONARCHS EVENTS

Report date: 05/12/25

Data filename:

Page 1 of 9



COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2021 IECC

Requirements: 100.0% were addressed directly in the COMcheck software

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

Section # & Req.ID

Plan Review

Complies?

Comments/Assumptions

C103.2 [PR2]¹

Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical and service water heating systems and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks. Hot water system sized per manufacturer's sizing guide.

☐Complies

☐Does Not

☐Not Observable

☐Not Applicable

Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Project Title: MONARCHS EVENTS

Report date: 05/12/25

Data filename:

Page 2 of 9

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6] ¹	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Project Title: MONARCHS EVENTS

Report date: 05/12/25

Data filename:

Page 3 of 9

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41] ¹	Thermally ineffective panel surfaces or sensible heating panels have insulation $\geq$ R-5.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.8.1 [ME5] ¹	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.8.3 [ME117] ²	Fans have a fan energy index (FEI) $\geq$ 1.00. Variable volume fans will have an FEI $\geq$ 0.95.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.4 [ME142] ²	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.8.6 [ME143] ²	Each DX cooling system $>$ 65 kBtu and chiller water/evaporative cooling system with fans $>$ 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.9 [ME144] ²	Large diameter fans where installed shall be tested and labeled in accordance with AMCA 230.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.13.1 [ME71] ²	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.3 [ME55] ²	HVAC equipment efficiency verified.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	<i>See the Mechanical Systems list for values.</i>
C403.5.5 [ME113] ²	Fault detection and diagnostics installed with air-cooled unitary DX units or VRF units having economizers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.2 [ME59] ¹	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.7.1 [ME59] ¹	Demand control ventilation provided for spaces $>$ 500 ft ² and $>$ 15 people/1000 ft ² occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow $>$ 3,000 cfm.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.7.2 [ME115] ²	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Project Title: MONARCHS EVENTS

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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.7.6 [ME141] ²	HVAC systems serving guestrooms in Group R-1 buildings with $>$ 50 guestrooms. Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.7.4 [ME57] ¹	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.7.5 [ME116] ¹	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.12.1 [ME60] ²	HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
C403.5, C403.5.1, C403.5.2 [ME62] ¹	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.2 [ME16] ¹	Economizer operation will not increase heating energy use during normal operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3.3 [ME124] ¹	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3.4 [ME125] ¹	System capable of relieving excess outdoor air during air economizer operation to prevent over pressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3.5 [ME126] ¹	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1.4 [ME63] ²	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures $>$ 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint $\leq$ 60F and cooling setpoint $\geq$ 80F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Project Title: MONARCHS EVENTS

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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.3.3 [ME35] ¹	Hot gas bypass limited to: $\leq$ 240 kBtu/h - 50% $>$ 240 kBtu/h - 25%	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.2.1 [ME53] ¹	Air outlets and zone terminal devices have means for air balancing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.11.3.1 [ME123] ¹	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.11.3.1 and refrigeration compressor systems that comply with C403.11.3.2..	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **malemu**
Date: **Jun 16, 2025**
2021 INTERNATIONAL CODES & 2023 NEC



THE MONARCHS EVENTS
TENANT IMPROVEMENT
16786 E ILIFF AVE.
AURORA, COLORADO 80013

Revisions/Issue		
#	Revision/Issue	Date
#	Permit Submittal	5/14/25

Design: MLR
Review: MLR
Date: 5-4-25
Scale: 1/4" = 1'-0"
REC Job No: 25004

Title: MECHANICAL COMCHECK

Sheet No: M3

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.7 [EL26] ²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.8 [EL27] ²	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	
C405.9.1, C405.9.2 [EL28] ²	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	
C405.10 [EL29] ²	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.1.1 [EL30] ²	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.11, C405.11.1 [EL31] ²	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	

Additional Comments/Assumptions:

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

Project Title: MONARCHS EVENTS Report date: 05/12/25
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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.3 [F18] ¹	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C403.1.1 [F150] ¹	HVAC systems and equipment design loads calculated in accordance with ANSI/ASHRAE/ACCA Standard 183 or by an approved equivalent computational procedure	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C403.3.1 [F127] ¹	HVAC systems and equipment capacity does not exceed calculated loads.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C403.4.1 [F147] ¹	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C403.4.1.2 [F138] ¹	Thermostatic controls have a 5 °F deadband.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C403.4.1.3 [F120] ¹	Temperature controls have setpoint overlap restrictions.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C403.4.2 [F139] ¹	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C403.4.2.1, C403.4.2.2 [F140] ¹	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C403.4.2.3 [F141] ¹	Systems include optimum start controls.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C408.1.1 [F157] ¹	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	
C408.2.1 [F128] ¹	Commissioning plan developed by registered design professional or approved agency.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.

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

Project Title: MONARCHS EVENTS Report date: 05/12/25
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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.3.1 [F131] ¹	HVAC equipment, systems and system-to-system relationships have been tested to ensure proper operation.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C408.2.3.2 [F110] ¹	HVAC and service water heating control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C408.2.3.3 [F132] ¹	Economizers have been tested to ensure proper operation.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C408.2.4 [F129] ¹	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C408.2.5 [F17] ¹	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C408.2.5.1 [F143] ¹	An air and/or hydronic system balancing report is provided for HVAC systems.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.
C408.2.5.2 [F130] ¹	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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

Project Title: MONARCHS EVENTS Report date: 05/12/25
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THE MONARCHS EVENTS

TENANT IMPROVEMENT

16786 E ILIFF AVE.
AURORA, COLORADO 80013

Revisions/Issue		
#	Revision/Issue	Date
#	Permit Submittal	5/14/25



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **malemu**
Date: **Jun 16, 2025**
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Design: MLR
Review: MLR
Date: 5-4-25
Scale: 1/4" = 1'-0"
REC Job No: 25004

Title:
MECHANICAL
COMCHECK

Sheet No:
M4



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[illegible]

Design: MLR
 Review: MLR
 Date: 5-4-25
 Scale: 1/4" = 1'-0"
 REC Job No: 25004

MECHANICAL EXISTING/
DEMOLITION FLOOR PLAN

Sheet No:

M5

KEY NOTES

1

PROVIDE PACKAGED GAS/DX ROOFTOP UNIT W/ SUPPORTS, GAS PIPING, CURB/ADAPTER, ELECTRICAL, AND CONTROLS. BALANCE OUTSIDE AIR DAMPER TO VALUE INDICATED ON VENTILATION CALCS., SEE SHEET M2.

2

PROVIDE CEILING MOUNTED EXHAUST FAN W/ WALL SWITCH, SUPPORTS, AND BRANCH DUCT TO EXISTING ROOF OPENING. ADJUST/MODIFY ROOF OPENING AND DUCT AS NEEDED.

3

EXISTING PACKAGED GAS/DX ROOFTOP UNIT TO REMAIN. MODIFY BELOW ROOF SA/RA DUCTWORK AS SHOWN.

4

EXISTING CEILING MOUNTED SUPPLY AIR DIFFUSER, BALANCE TO CFM INDICATED.

5

PROVIDE CEILING MOUNTED RETURN/TRANSFER AIR GRILLES W/ DUCTWORK AND SUPPORTS AS SHOWN.

6

NEW LOCATION, EXISTING CEILING MOUNTED SUPPLY AIR DIFFUSER. SHORTEN/EXTEND OR PROVIDE NEW BRANCH DUCT AND MVD. BALANCE TO CFM INDICATED.

7

NEW LOCATION, EXISTING THERMOSTAT. COORDINATE LOCATION W/ FURNITURE AND SHORTEN/EXTEND CONTROL WIRING.

8

PROVIDE SIDEWALL/DUCT MOUNTED SUPPLY AIR GRILLE W/ BRANCH DUCT, MVD, AND SUPPORTS. BALANCE TO CFM INDICATED.

9

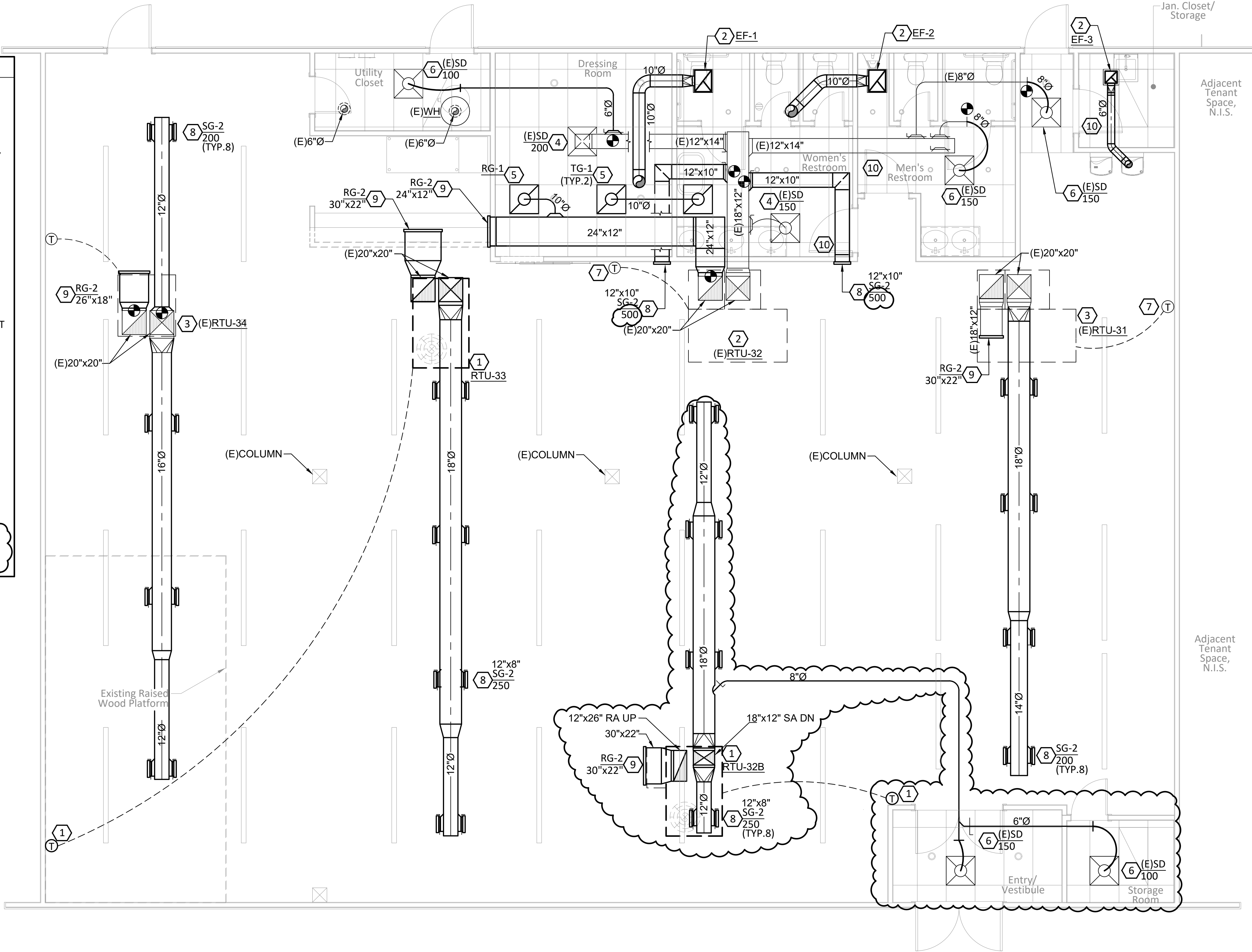
PROVIDE SIDEWALL/DUCT MOUNTED RETURN GRILLE W/ SUPPORTS AND DUCT AS SHOWN.

10

COORDINATE W/ G.C. TO UNDERCUT DOOR 1" FOR TRANSFER AIR.

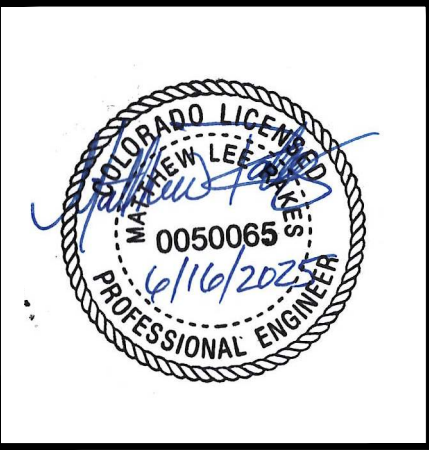
11

NOT USED.



MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **malemu**
Date: **Jun 17, 2025**
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M/P ENGINEER & PROJECT MANAGER:

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#	Revision/Issue	Date
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4	BDC Responses	6/5/25

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REC Job No: 25004

Title:
MECHANICAL
FLOOR PLAN

Sheet No:
M6

PLUMBING FIXTURE SCHEDULE	
PLAN CODE: WC-1 FLOOR MOUNT FLUSH TANK ADA WATER CLOSET MAKE: AMERICAN STANDARD MODEL: CADET #215AA.104.020 GPF: 1.28 SEAT: 5325.010 BOLT CAPS: 2 COLOR: WHITE LEFT HAND HANDLE, CHROME ESCUTCHEON: ONE PIECE CHROME PLATED CAST BRASS FLOOR TO RIM HEIGHT: 16-1/2" CONNECTIONS: 1/2" CW, 4" W, 2" V	PLAN CODE: LAV LAVATORY (ADA, SELF RIMMING) MAKE: KOHLER MODEL: #K-2905-8 SIZE: 19" X 16" COLOR: WHITE FAUCET: KOHLER K-800T20-4ANL 0.5 GPM FINISH: POLISHED CHROME MIXING VALVE: POWERS #LFLM495 VALVE SET AT 110 DEG F MAX SUPPLY & STOP: WHEEL HANDLE ANGLE VALVE, 1/2" NOM. COMP. INLET X 3/8" O.D. COMP. OUTLET, POL. CHR. ESCUTCHEONS: ONE PIECE CHROME PLATED BRASS TRAP: 1-1/4", 17 GAUGE, CHROME PLATED BRASS W/ CLEANOUT PLUG INSULATION: TRUEBRO #103EZ DRAIN: MCGUIRE #155WC
PLAN CODE: WC-2 FLOOR MOUNT FLUSH TANK WATER CLOSET MAKE: AMERICAN STANDARD MODEL: CADET #215AA.104.020 GPF: 1.28 SEAT: 5325.010 BOLT CAPS: 2 COLOR: WHITE LEFT HAND HANDLE, CHROME ESCUTCHEON: ONE PIECE CHROME PLATED CAST BRASS FLOOR TO RIM HEIGHT: 16-1/2" CONNECTIONS: 1/2" CW, 4" W, 2" V	PLAN CODE: TMV MIXING VALVE-INDIVIDUAL MAKE: POWERS MODEL: #LMLF495 INLET/OUTLET SIZE: 1/2" OUTLET TEMP. SETTING: 110 DEG F
PLAN CODE: UR-1 WALL MOUNT LOW-FLOW URINAL MAKE: KOHLER MODEL: BARDON K-4991-ET GPF: 0.125 FLUSHOMETER VALVE: K-76317 1/8 GPF COLOR: WHITE 3/4" INLET SPUD, 2" OUTLET SPUD. ESCUTCHEON: ONE PIECE CHROME PLATED CAST BRASS	PLAN CODE: MSB FLOOR MOUNTED MOP SERVICE BASIN MAKE: FIAT MODEL: #MSBIDTG2424 MATERIAL: STONE SIZE: 24" x 24" x 10" FAUCET: FIAT #830-AA LEVER HANDLES: #369, 2-1/2" HOSE AND WALL HOOK: #832AAMOP HANGER: #889-CC
PLAN CODE: DF DUAL HEIGHT, ADA DRINKING FOUNTAIN MAKE: OASIS MODEL: MSSLPM-14G DIMENSIONS: 36" x 18-5/8" x 12" NOTES: PROVIDE DRAINS, FLEX SUPPLIES, WALL CARRIER, & STOP VALVES.	PLAN CODE: (E)GWH NAT. VENT GAS STORAGE WATER HEATER MAKE: A.O. SMITH MODEL: #FSG 75 230 N.G. CAP.: 75 MBH STORAGE CAP.: 74.5 GAL RECOVERY CAP.: 76.8 GPH



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Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

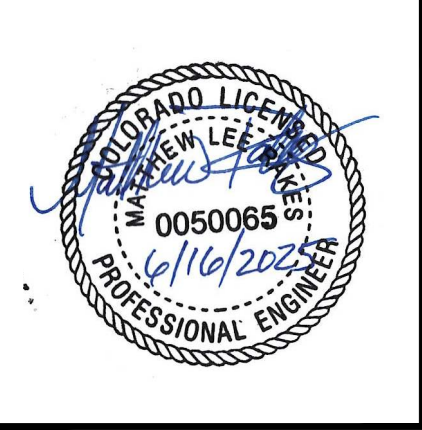
ABBREVIATIONS			
AHU	AIR-HANDLING UNIT	kg/HR	KILOGRAM PER HOUR
APD	AIR PRESSURE DROP	kPa	KILOPASCAL
		kW	KILOWATT
		kWh	KILOWATT HOUR
BFP	BACKFLOW PREVENTER		
BS	BREAK ROOM SINK		
BTU	BRITISH THERMAL UNIT	L	LAVATORY (HAND SINK)
BTUH	BRITISH THERMAL UNIT PER HOUR	L	LITER
		L/h	LITERS PER HOUR
C	CENTIGRADE (CELSIUS)	L/m	LITERS PER MINUTE
CH	CHILLER	L/s	LITERS PER SECOND
CFH	CUBIC FEET (PER) HOUR	LAT	LEAVING AIR TEMPERATURE
CO	CLEAN OUT	LPG	LIQUID PROPANE GAS
CO2	CARBON DIOXIDE		
COMP	COMPRESSOR UNIT	M	METER, SI UNIT
CU	CONDENSING UNIT	M/S	METERS PER SECOND
CUH	CABINET UNIT HEATER	MCA	MINIMUM CIRCUIT AMPACITY
CW	COLD WATER	MAU	MAKE-UP AIR UNIT
		MBH	1,000 BTU (PER) HOUR
DB	DECIBELS	MERV	MINIMUM EFFICIENCY REPORTING VALUE
(D)	DEMOLISH (EQUIPMENT, PIPE, ETC.)	NG	NATURAL GAS
DCP	DOMESTIC HW CIRCULATION PUMP	NGFM	NATURAL GAS FLOW METER
DDC	DIRECT DIGITAL CONTROLS	NPSH	NET POSITIVE SUCTION HEAD
DEG	DEGREE	NTS	NOT TO SCALE
DF	DRINKING FOUNTAIN		
DIA	DIAMETER	PPD	PINTS PER DAY
		PSI	POUNDS PER SQUARE INCH
EER	ENERGY EFFICIENCY RATIO	RH	RELATIVE HUMIDITY
EG	EMERGENCY GENERATOR	RPM	REVOLUTIONS PER MINUTE
(E)	EXISTING (EQUIPMENT, PIPE, ETC.)		
ESP	EXTERNAL STATIC PRESSURE	SP	STATIC PRESSURE
ET	EXPANSION TANK	SP GR	SPECIFIC GRAVITY
EWT	ENTERING WATER TEMPERATURE	SS	SANITARY SEWER (WASTE)
EWB	ELECTRIC WATER HEATER	SS	STAINLESS STEEL
		SS	SERVICE(MOP) SINK
F	FAHRENHEIT	T&PCV	TEMPERATURE AND PRESSURE CONTROL VALVE
FC	FAN COIL (UNIT)	TAB	TESTING, ADJUSTING, BALANCE
FD	FLOOR DRAIN	TDH	TOTAL DYNAMIC HEAD
FPM	FEET PER MINUTE	TMV	THERMOSTATIC MIXING VALVE
FPS	FEET PER SECOND	TSTAT	THERMOSTAT
FSTAT	FREEZESTAT	TYP	TYPICAL
FS	FLOOR SINK		
FT	FEET		
FV	FIELD VERIFY		
GA	GAUGE		
GAL	GALLONS	UH	UNIT HEATER
GCO	GRADE CLEAN-OUT (2-WAY)	UNO	UNLESS NOTED OTHERWISE
GPD	GALLONS PER DAY		
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE		
GR	GAS RANGE		
GWH	GAS WATER HEATER		
HB	HOSE BIBB	V	VENT (SANITARY)
HP	HEAT PUMP	VFD	VARIABLE FREQUENCY DRIVE
HR	HOUR		
HS	HAND SINK (LAVATORY)	W	WATTS (ELECTRICAL)
HW	HOT WATER	W	WASTE (SANITARY)
HWR	HOT WATER RETURN(CIRC)	WC	WATER CLOSET
		WC	WATER COLUMN
IMB	ICE MAKER BOX	WCO	WALL CLEAN OUT
IN	INCHES	WFM	WATER FLOWMETER
IN WC	INCH WATER COLUMN	WH	WATER HEATER
IN WG	INCH WATER GAUGE	WI	WITH
kg	KILOGRAM	YR	YEAR

PLUMBING SYMBOL/LEGEND		
NOTE: NOT ALL ITEMS LISTED MAY APPEAR ON DRAWINGS		
SYMBOL	ABBREV	DESCRIPTION
	CW	POTABLE COLD WATER PIPE
	CW	EXISTING POTABLE COLD WATER PIPE
	HW	POTABLE HOT WATER PIPE
	W	SANITARY WASTE PIPE (UNDER FLOOR/GROUND)
	W	SANITARY WASTE PIPE (ABOVE FLOOR/GROUND)
	W	EXISTING SANITARY WASTE PIPE
	V	SANITARY VENT
	CD	CONDENSATE DRAIN PIPE
	G	NATURAL GAS PIPE
	G	EXISTING NATURAL GAS PIPE
		BALL VALVE
		GATE VALVE
		SOLENOID CONTROL VALVE
		CHECK VALVE
		FLOW BALANCING VALVE
		PIPE CAP
		PIPE TURNED DOWN
		PIPE TURNED UP
		PIPE TEE CONNECTION DOWN
		PIPE TEE CONNECTION UP
	POC	POINT OF CONNECTION, NEW TO EXISTING
		PIPING DECREASE IN NOM. DIA. LEFT TO RIGHT
		INLINE PUMP
		FCO/GCO
		UNION
	CO	INLINE CLEAN OUT
	FD	FLOOR DRAIN
	FS	FLOOR SINK

- ### GENERAL NOTES
- THIS CONTRACTOR SHALL COORDINATE AND VERIFY LOCATIONS AND SIZES OF ALL EQUIPMENT, DUCTWORK, PIPING, ELECTRICAL CONDUIT, STRUCTURAL MEMBERS, ETC., PRIOR TO STARTING OF CONSTRUCTION. COORDINATE CONFLICTS WITH THE GENERAL CONTRACTOR.
 - ALL PLUMBING SYSTEMS ARE REQUIRED TO BE INSTALLED IN ACCORDANCE WITH BASE BUILDING SPECIFICATIONS, LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
 - PLUMBING CONTRACTOR SHALL PROVIDE FOR A CONTINGENCY FOR EXTRA PIPING, MATERIALS, ECT. REQUIRED FOR COMPLETE AND OPERATIONAL BUILDING SYSTEMS DUE TO EXISTING CONDITIONS AND BASE BUILDING REQUIREMENTS FOR THE ROUTING OF PIPING BELOW FLOOR.
 - ALL PLUMBING SYSTEMS SHALL BE INSTALLED PER LATEST ADOPTED CITY OF AURORA, COLORADO PLUMBING CODE.
 - THE WORK REQUIRED CONSISTS OF PERFORMING ALL LABOR AND FURNISHING ALL MATERIALS, FIXTURES AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE PLUMBING INSTALLATION AS INDICATED ON THE DRAWINGS. IT SHALL FURTHER INCLUDE FURNISHING AND INSTALLING ALL MISCELLANEOUS MINOR ITEMS REQUIRED FOR THE OPERATION OF THE SYSTEM WHETHER SPECIFICALLY CALLED FOR OR NOT.
 - THIS CONTRACTOR SHALL PAY FOR ALL PERMITS AND INSPECTION FEES REQUIRED BY STATE AND LOCAL AUTHORITIES.
 - VALVES AND CLEANOUTS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS, OR AS REQUIRED BY LOCAL CODES AND REGULATIONS.
 - AT THE COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE, ALL PARTS OF THE WORK INSTALLED UNDER THIS SPECIFICATION SHALL BE THOROUGHLY CLEANED.
 - THE EXISTING PIPE AND FIXTURES SHOWN ON THIS DOCUMENT ARE FOR REFERENCE ONLY. MINOR ADJUSTMENTS MAY BE REQUIRED FOR INSTALLATION OF NEW PIPING AND DEMOLITION OF EXISTING PIPING AND SHALL BE PART OF THIS CONTRACTORS WORK.
 - CONTRACTOR IS TO COORDINATE AND CONFIRM LOCATIONS OF ALL FINAL CONNECTIONS WITH GENERAL CONTRACTOR/DENTAL EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.
 - ALL DOMESTIC WATER PIPING IS TO BE PRESSURE TESTED FOR 24 HOURS PRIOR TO SUPPLY. FILL AND OPERATION. NITROUS OXIDE SHALL BE TESTED SEPARATELY AND INDEPENDENTLY FROM ALL OTHER LINES AND EACH OTHER.
 - CONTRACTOR SHALL COORDINATE LOCATION OF ALL ACCESS PANELS WITH ARCHITECT PRIOR TO INSTALLATION. FAILURE TO COORDINATE SHALL RESULT IN ACCESS PANELS BEING RELOCATED AT CONTRACTOR'S EXPENSE.
 - ALL NEW PVC PIPING SHALL HAVE FYRE-WRAP INSTALLED ON IT AS REQUIRED PER CODE AND MANUFACTURERS REQUIREMENTS OR REPLACE WITH CAST IRON PIPING AS REQUIRED AT RETURN AIR PLENUMS.
 - WATER SUPPLY AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES AND SINKS SHALL BE COVERED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. PIPE COVERINGS SHALL COMPLY WITH ASME A112.18.9.
 - NOT USED.

- ### PIPING MATERIALS
- WATER DISTRIBUTION PIPING**
ABOVE GRADE:
PIPE: TYPE "L" COPPER TUBE OR POLYPROPYLENE(PP)
FITTINGS: WROUGHT COPPER FITTINGS AND 95-5 TIN ANTIMONY JOINTS, OR POLYPROPYLENE JOINTS/FITTINGS.
- SOIL DRAIN WASTE, VENT, AND STORM PIPING**
BELOW GRADE:
PIPE: S.V. HUB AND SPIGOT CAST IRON
FITTINGS: JUB AND SPIGOT WITH NEOPRENE GASKETS AND LUBRICANTS CONFORMING TO ASA-021 AND ASTM C-564 SV PATTERN.
- ABOVE GRADE:
PIPE: S.V. NO-HUB CAST IRON
FITTINGS: NEOPRENE COMPRESSION GASKETS AND HEAVY DUTY BONDED STAINLESS STEEL CLAMP AND SHIELD ASSEMBLIES.
NOTE: PVC PIPING AND FITTINGS ACCEPTABLE, EXCEPT IN RETURN AIR PLENUMS AND WHERE NOT ALLOWED BY BASE BUILDING STANDARDS.

- INSULATION**
WATER DISTRIBUTION SYSTEM:
PIPING: GLASS FIBER PIPE COVERING WITH ALL SERVICE JACKET AND SELF-SEAL LAP WITH NON-COMBUSTIBLE MATERIALS MEETING ALL LOCAL JURISDICTIONAL CODES AND ORDINANCES. FIRE AND SMOKE HAZARD ROTINGS SHALL BE AS TESTED IN CONFORMANCE WITH ASTM E-84, NATIONAL FIRE PROTECTION AGENCY 225 AND UL 723, NOT EXCEEDING FLAME SPREAD RATING OF 25 AND A SMOKE DEVELOPED RATING OF 50. NO STAPLES ARE ALLOWED TO BE THROUGH VAPOR BARRIOR.
- VALVES: OVERSIZED PIPE COVERING OF SAME MATERIAL AND THICKNESS AS ADJACENT PIPE COVERING. FINISH WITH 6 OUNCE CANVAS AND HEAVY COAT OF VAPOR BARRIER MASTIC COATING.
- COLD WATER - 40 TO 60 DEGREES:
ALL HORIZONTAL AND VERTICAL MAINS AND BRANCH PIPING EXCEPT SUPPLY STUBOUTS.
1/2" THRU 1-1/4" = 1/2" THICK INSULATION, 1-1/2" thru 8" = 1"THICK INSULATION.
CONDUCTIVITY = 0.21 - 0.27
- HOT WATER - 105 TO 120 DEGREES:
ALL HORIZONTAL AND VERTICAL MAINS AND BRANCH PIPING EXCEPT SUPPLY STUB-OUTS.
1/2" THRU 1.25" = 1" THICK INSULATION
1-1/2" AND LARGER = 1.5" THICK INSULATION
CONDUCTIVITY = 0.21-0.28
- NATURAL GAS PIPING**
ABOVE GRADE:
PIPE: BLACK STEEL, ASTM A53/A53M, SCHEDULE 40.
- FITTINGS: STEEL WELDED: SCHEDULE 40, SMALLER THAN 2", ASME B16.3, THREADED MALLEABLE IRON.
- JOINTS: PROVIDE WELDED OR THREADED JOINTS.
GAS EQUIPMENT CONNECTORS: FLEXIBLE CONNECTORS WITH TEFLON CORE, INTERLOCKED GALVANIZED STEEL PROTECTIVE CASING, AGA CERTIFIED DESIGN.
- VALVES: BALL VALVE: BRONZE BODY, RATED FOR 150 PSIG AT 365 DEGREES F, REINFORCED TFE SEAT, STEM SEAL, AND THRUST WASHER; END ENTRY, THREADED ENDS, UL LISTED FOR NATURAL OR LP GAS SHUT OFF SERVICE WHEN USED ON THOSE SERVICES.



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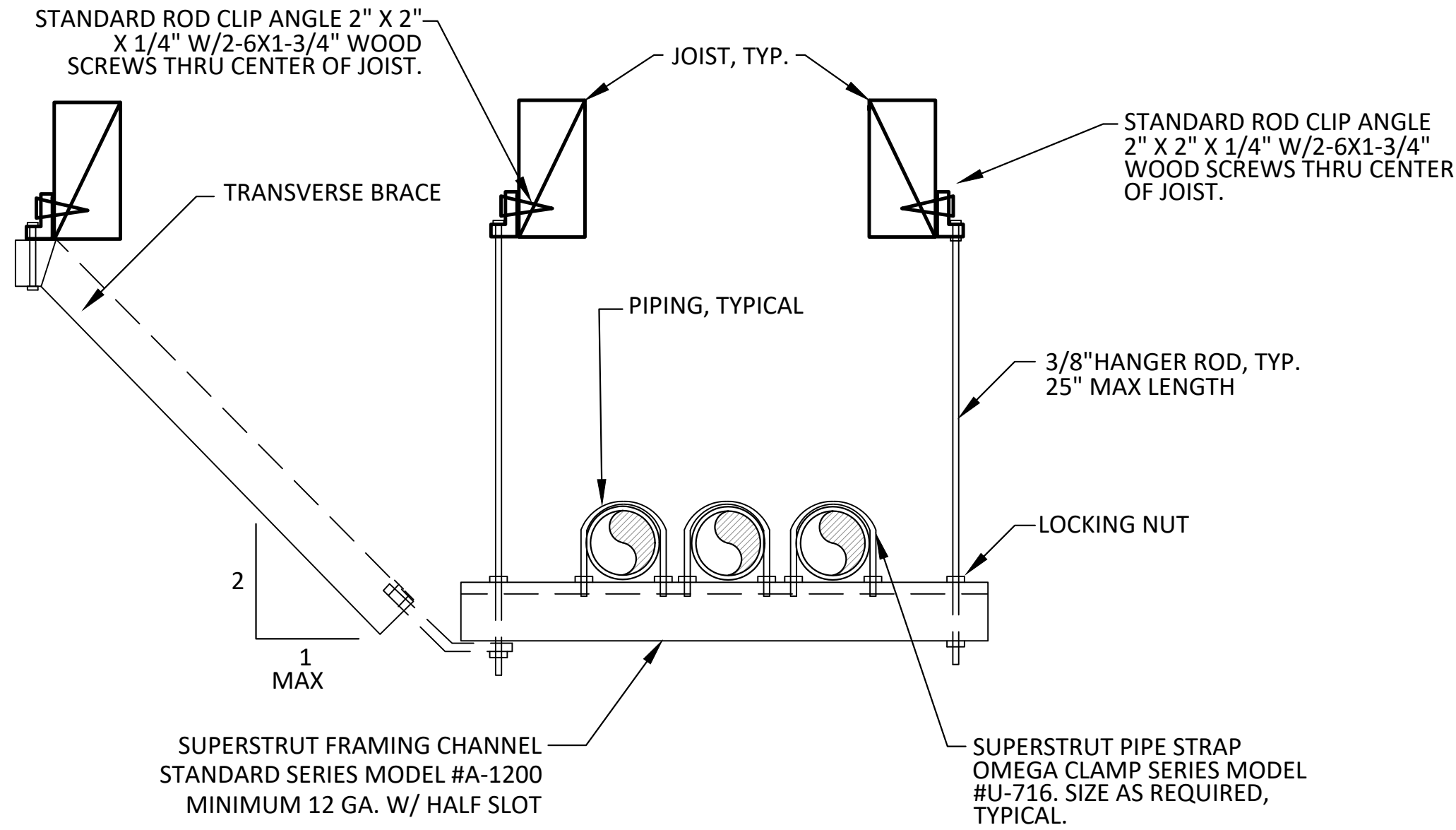
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Revisions/Issue		
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1	Permit Submittal	5/14/25
4	BDC Responses	6/16/25

Design: MLR
Review: MLR
Date: 5-4-25
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REC Job No: 25004

Title:
PLUMBING COVER SHEET

Sheet No:
P1

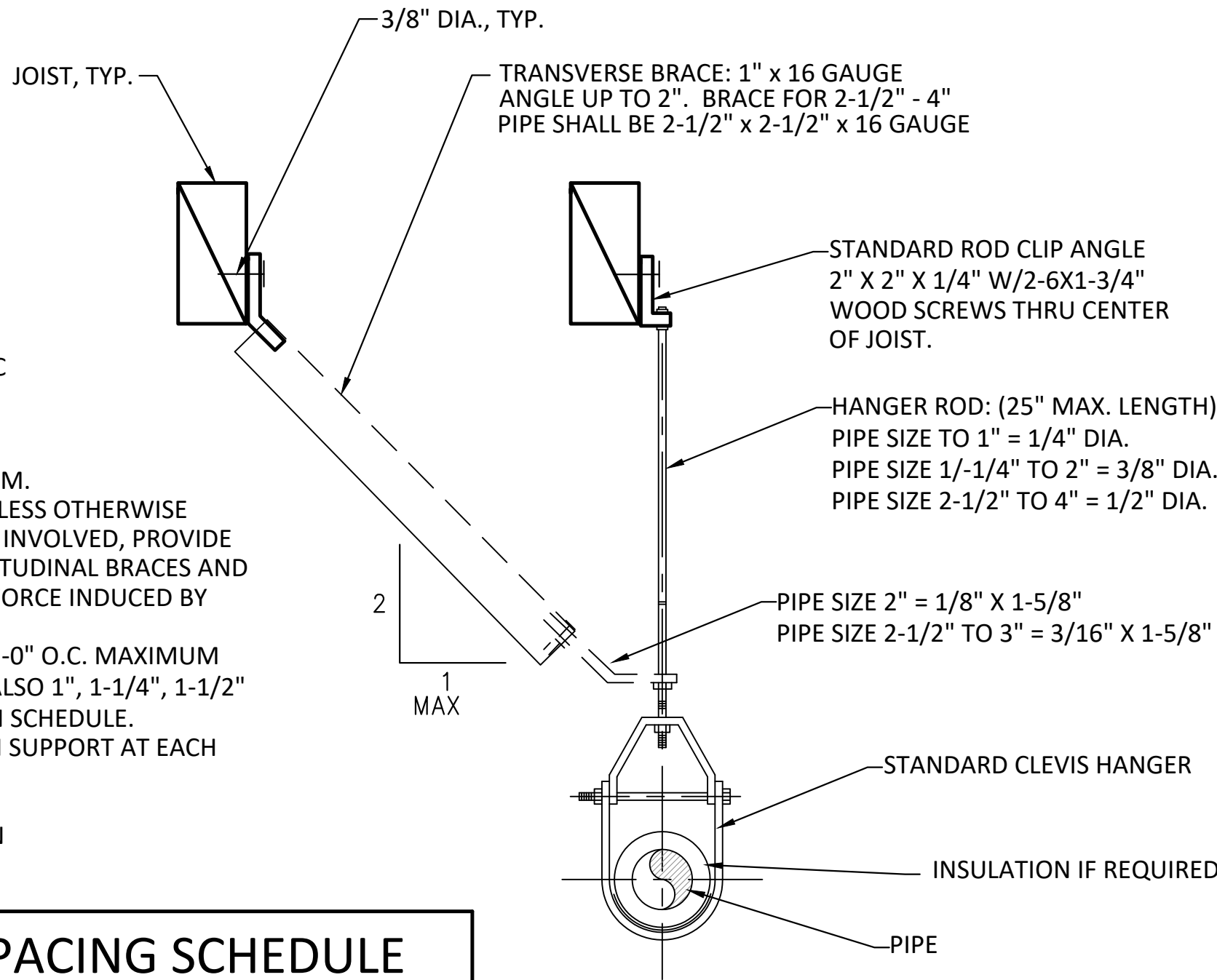


NOTE: ALL PIPING SUPPORTS SHALL BE PER LATEST EDITION OF SMACNA 'SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS'.

NOTE: TRANSVERSE BRACE NOT REQUIRED IF TRAPEZE IS LESS THAN 12" FROM STRUCTURE.

1 PIPE SUPPORT - TRAPEZE TYPE
SCALE: NONE

2 PIPE SUPPORT - SIDEWALL
SCALE: NONE



NOTE: TRANSVERSE BRACE NOT REQUIRED ON:
1) PIPING SMALLER THAN 2-1/2" NOM. DIA.
2) TOP OF PIPE IS LESS THAN 12" FROM STRUCTURE.

NOTE:
AS PER S.M.A.C.N.A. SEISMIC RESTRAINT MANUAL, SEISMIC HAZARD LEVEL "A".

- NOTES:
1. TRANSVERSE BRACING SHALL BE AT 40'-0" O.C. MAXIMUM.
 2. LONGITUDINAL BRACINGS AT 80'-0" O.C. MAXIMUM UNLESS OTHERWISE NOTED. WHEN THERMAL EXPANSION OR CONTRACTION IS INVOLVED, PROVIDE LONGITUDINAL BRACINGS AT ANCHOR POINTS. THE LONGITUDINAL BRACES AND THE CONNECTIONS MUST BE CAPABLE OF RESISTING THE FORCE INDUCED BY EXPANSION AND CONTRACTION.
 3. FOR GAS PIPING, TRANSVERSE BRACING SHALL BE AT 20'-0" O.C. MAXIMUM AND LONGITUDINAL BRACING AT 40'-0" O.C. MAXIMUM. ALSO 1", 1-1/4", 1-1/2" AND 2" SHALL BE BRACED THE SAME AS 2-1/2" DIA. PIPE IN SCHEDULE.
 4. SUPPORT AT EVERY OTHER JOINT UNLESS OVER 4', THEN SUPPORT AT EACH JOINT
 - A. SUPPORT ADJACENT TO JOINT, NOT TO EXCEED 18"
 - B. SUPPORT AT EACH HORIZONTAL BRANCH CONNECTION
 - C. HANGERS SHALL NOT BE PLACED ON THE COUPLING

HANGER RODS - SIZE AND SPACING SCHEDULE					
			MAX. HANGER SPACING		
			WATER AND WASTE		
PIPE SIZE	WEIGHT PER FOOT	MIN. HANGER ROD SIZE	COPPER TYPE 'L'	CAST IRON STD.	PLASTIC DWV/SCH. 40
1/2"	1.0	3/8"	6 FT.	SEE NOTE	4 FT.
3/4"	1.4	3/8"	6 FT.	#4	4 FT.
1"	2.1	3/8"	6 FT.		4 FT.
1-1/4"	2.9	3/8"	6 FT.		4 FT.
1-1/2"	3.6	3/8"	6 FT.		4 FT.
2"	5.2	3/8"	6 FT.		4 FT.
2-1/2"	7.9	3/8"	6 FT.		4 FT.
3"	10.8	3/8"	6 FT.		4 FT.

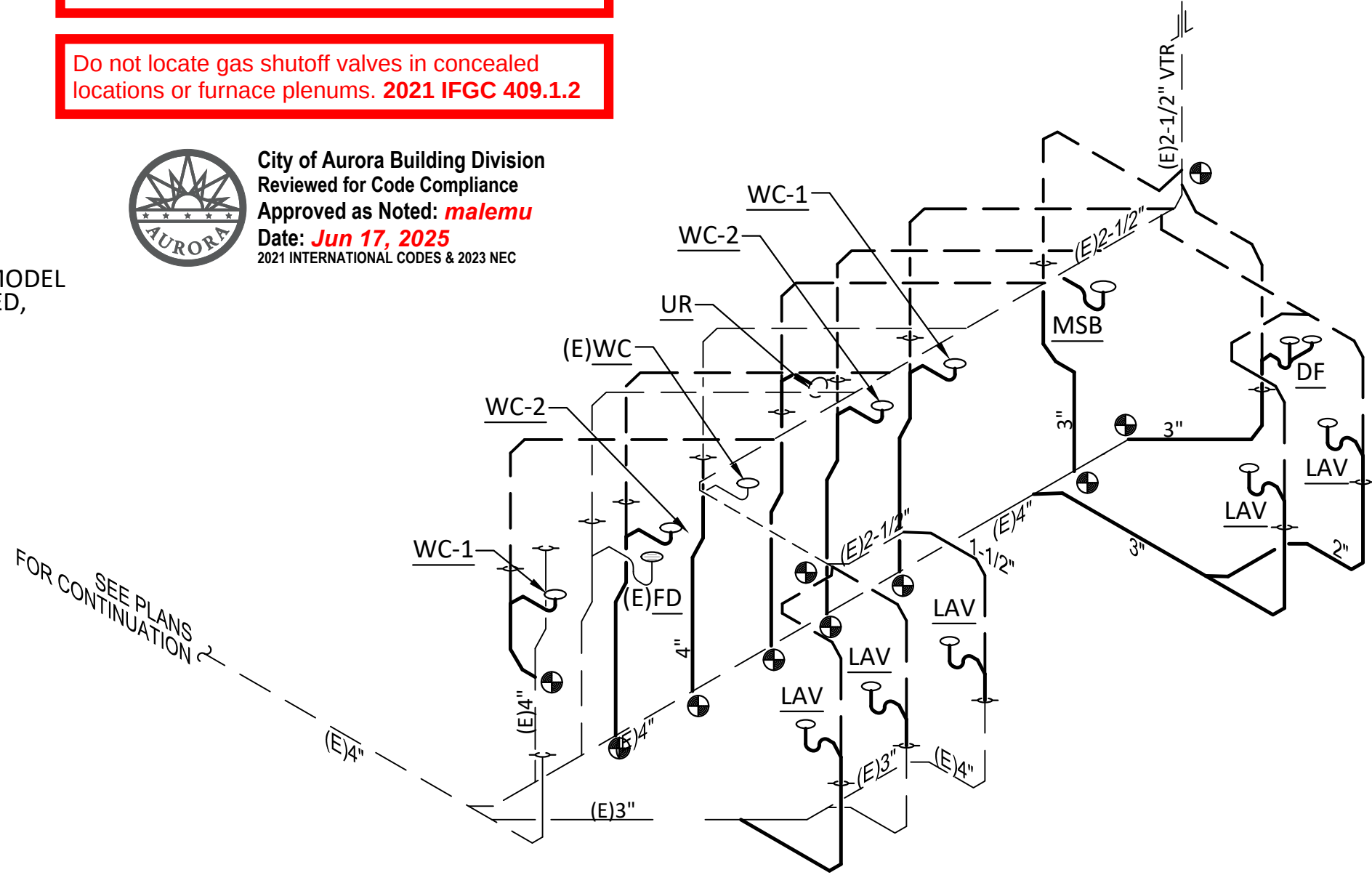
4 PIPE SUPPORT-CEILING
SCALE: NONE

Provide for thermal expansion on hot-water supply system as required by 2021 IPC 607.3

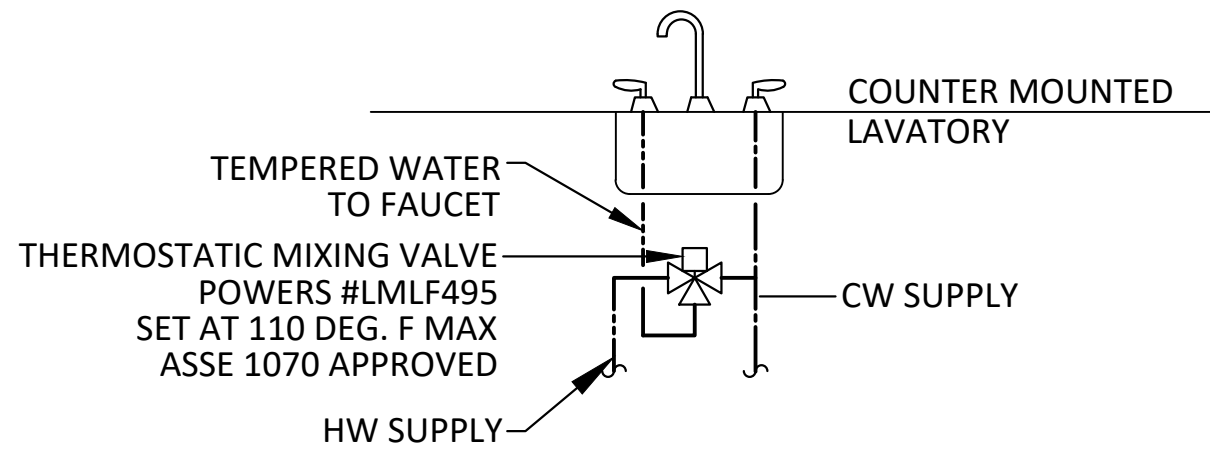
Do not locate gas shutoff valves in concealed locations or furnace plenums. 2021 IFGC 409.1.2



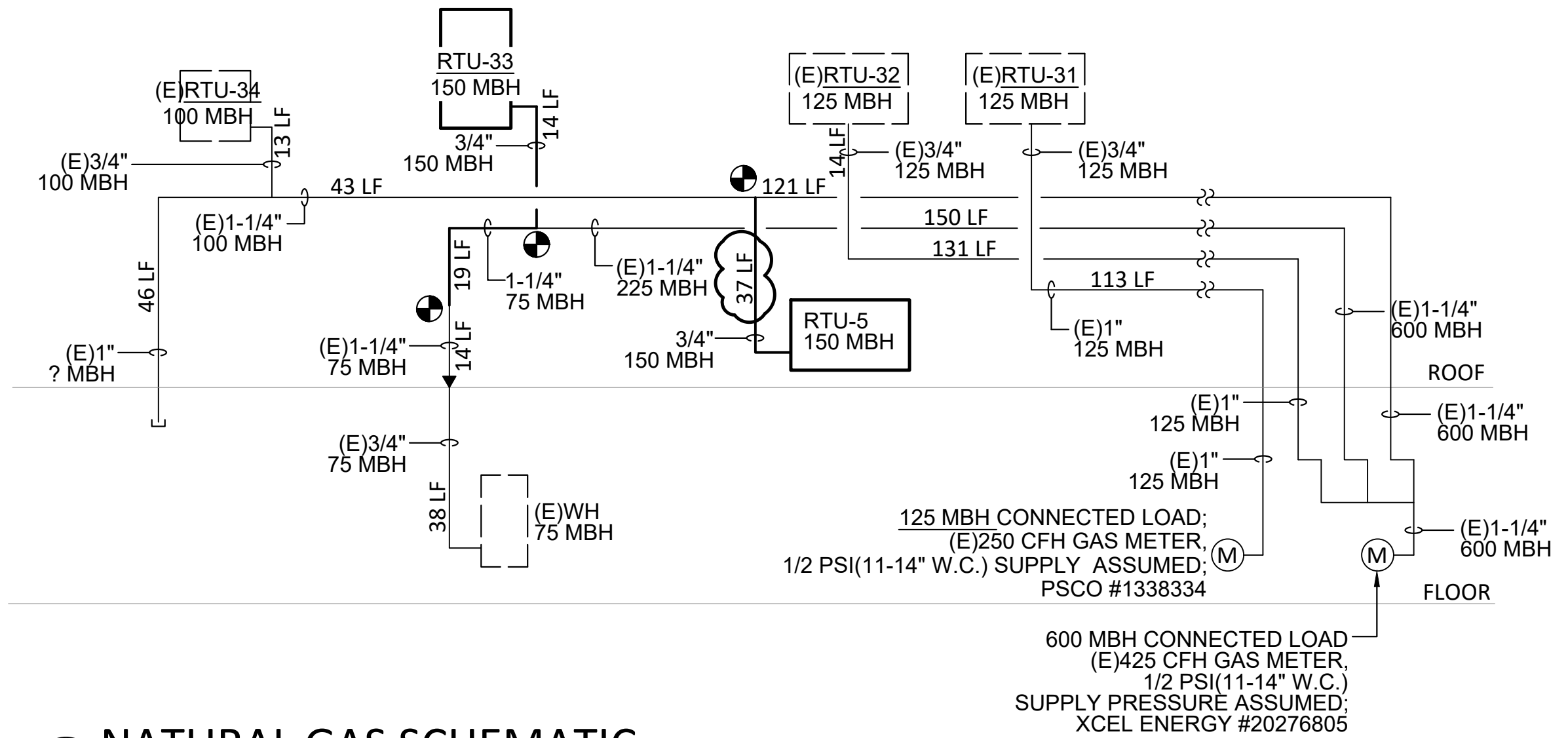
City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **malemu**
Date: **Jun 17, 2025**
2021 INTERNATIONAL CODES & 2023 NEC



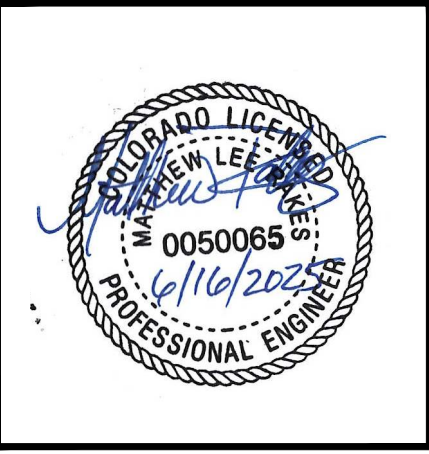
3 WASTE AND VENT ISOMETRIC
SCALE: NTS



5 LAVATORY/HAND SINK MIXING VALVE DETAIL
SCALE: NONE



6 NATURAL GAS SCHEMATIC
SCALE: NONE

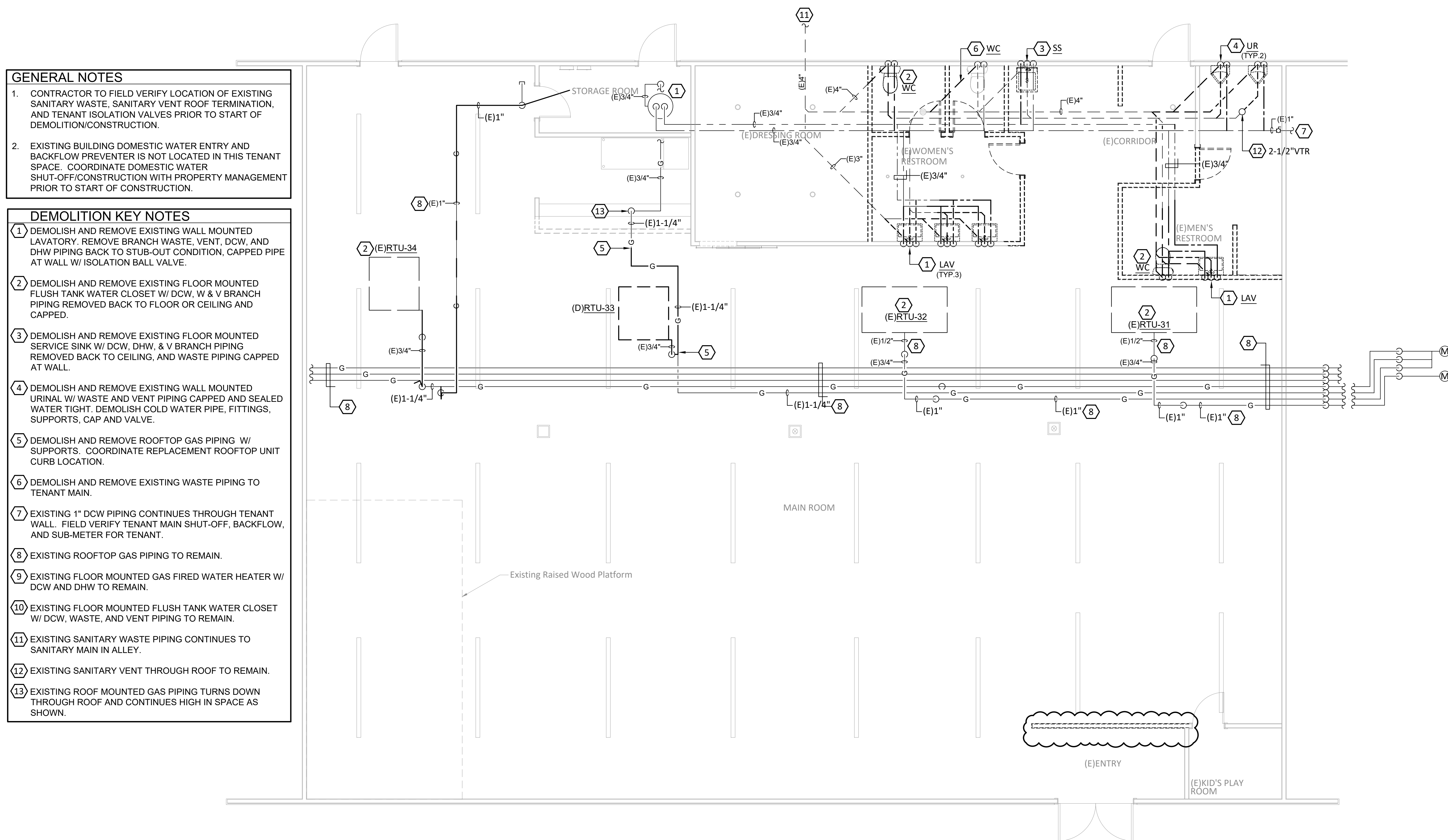


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THE MONARCHS EVENTS
TENANT IMPROVEMENT
16786 E ILLIFF AVE.
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Revisions/Issue		
#	Revision/Issue	Date
1	Permit Submittal	5/14/25
4	BDC Responses	6/16/25

Design:	MLR
Review:	MLR
Date:	5-4-25
Scale:	1/4" = 1'-0"
REC Job No:	25004
Title: PLUMBING DETAILS SHEET	
Sheet No: P2	



 1 PLUMBING EXISTING/DEMOLITION FLOOR PLAN
SCALE: 1/4" = 1'-0"

This sheet of drawings has not been reviewed for code compliance.



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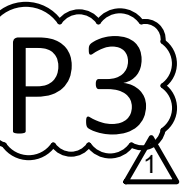
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Title:
PLUMBING EXISTING/
DEMOLITION FLOOR PLAN

Sheet No:



- GENERAL NOTES
1.

PROVIDE INSULATION FOR ALL DOMESTIC WATER PIPING ON EXTERIOR WALLS.
2.

CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING SANITARY WASTE, SANITARY VENT ROOF TERMINATION, AND TENANT ISOLATION VALVES PRIOR TO START OF DEMOLITION/CONSTRUCTION.

- KEY NOTES
- 1

NOT USED.
- 2

PROVIDE FLOOR MOUNTED FLUSH TANK WATER CLOSET W/ 1/2 DCW AND 2" SANITARY V PIPING DOWN IN WALL AND 4" W PIPING ROUTED TO EXISTING W PIPE AS SHOWN. PROVIDE W/ STOP VALVE FLEXIBLE SUPPLY, ESCUTCHEONS, AND WAX RING.
- 3

PROVIDE AND ROUTE 1/2" DCW/DHW, 2" W & V DOWN IN WALL TO REPLACEMENT COUNTER MOUNTED LAVATORY. PROVIDE STOP VALVES, FLEXIBLE SUPPLIES, FITTINGS, AND ESCUTCHEONS.
- 4

PROVIDE FLOOR MOUNTED MOP SERVICE BASIN W/ WALL MOUNTED FAUCET, 3/4" DCW/DHW, 1-1/2" V PIPING DOWN IN WALL AND 3" W PIPING UNDERGROUND TO EXISTING. COORDINATE FINAL LOCATION W/ OWNER.
- 5

PROVIDE WALL MOUNTED URINAL W/ SUPPORTS, FLUSH VALVE, AND CONNECT TO EXISTING SANITARY W & V PIPING.
- 6

PROVIDE ROOFTOP GAS PIPING TO NEW/REPLACEMENT RTU'S W/ DIRT LEG, AND SHUT-OFF BALL VALVE. COORDINATE METER SHUT-OFF W/ XCEL ENERGY PRIOR TO START OF CONSTRUCTION.
- 7

PROVIDE BI-LEVEL ADA WALL MOUNTED DRINKING FOUNTAIN W/ 1/2" DCW, 3" W & V PIPING DN/UP IN WALL TO EXISTING PIPE.
- 8

EXISTING FLOOR MOUNTED FLUSH TANK WATER CLOSET WITH DCW, SANITARY WASTE AND VENT PIPING TO REMAIN.
*BID ALTERNATE TO REPLACE EXISTING WITH NEW.
- 9

EXISTING FLOOR MOUNTED GAS FIRED WATER HEATER W/ FLUE, DCW, AND DHW PIPING CONNECTIONS TO REMAIN.
- 10

EXISTING ROOFTOP GAS PIPING TO REMAIN.
- 11

EXISTING TENANT MAIN DOMESTIC WATER SHUT-OFF VALVE TO REMAIN.

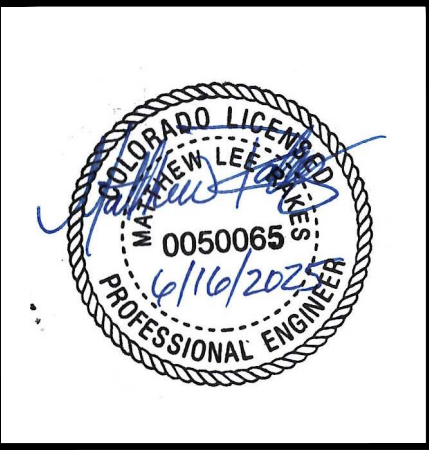
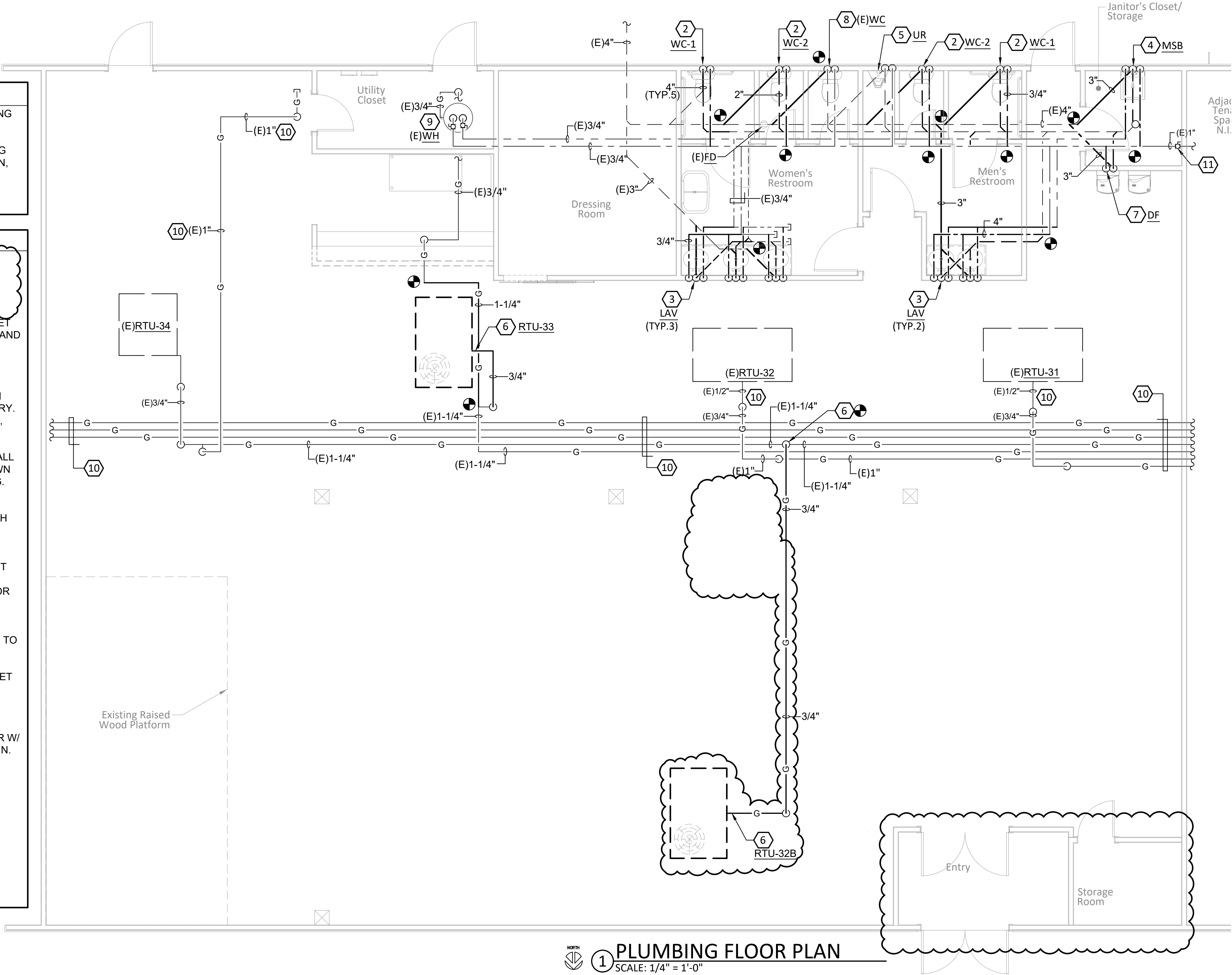
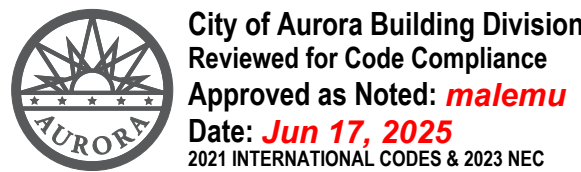
The City of Aurora Building Division does not Permit, Review, or Inspect for Backflow Prevention Devices on building domestic water entry. Please contact **Aurora Water** - Water Service Cross Connection Control 303-326-8510

The dry vent must rise 6" vertically above the flood level rim of the highest trapped fixture being vented. **2021 IPC 905.4**

Provide drains no smaller than allowed by **2021 IPC 709.1 and 710.1(1)**

Provide self-closing or metered faucets in public restrooms. **2021 COA 22-326 (a)**

Directional signage indicating the route to public restroom facilities shall be posted. The sign shall be located in a lobby, corridor, aisle or similar space such that it can be seen from the main entrance. **2021 IPC 403.4.1**



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REC Job No: 25004

Title:
PLUMBING FLOOR PLAN

Sheet No:
P4

Code violations that are found during inspections are required to be corrected. Permit issuance does not grant approval of a code violation.

Every circuit and circuit modification shall be provided with a legible and permanent description that complies with all of the following conditions as applicable (see 1-6). 2023 NEC 408.4

EXISTING PANEL "A"											
VOLTS: 208/120V,3PH,4W MAINS: 200A M.L.O. A.I.C.: 10KA						MTG: SURFACE NEMA 1 MFGR: GEN.ELECT. TYPE: LOAD CNTR					
DESCRIPTION	T	KVA	BKR	CKT#	BKR	KVA	T	DESCRIPTION	T	KVA	BKR
* BACK AREA LTG	L	0.41	20A1P	1 +	2	20A1P	0.18	R			
* MAIN AREA LTG	L	0.70	20A1P	3 +	4	20A1P	0.36	R			
* EXTERIOR SIGN	L	1.20	20A1P	5 +	6	20A1P	0.90	R			
* GWH-E	H	0.06	20A1P	7 +	8	20A1P	0.18	R			
* ROOF RECS	R	0.36	20A1P	9 +	10	20A1P	0.46	C			
* MAIN AREA LTG	L	0.84	20A1P	11 +	12	20A1P	0.36	R			
* EFH-1	H	1.50	20A1P	13 +	14	20A1P	0.36	R			
* SPARE			20A1P	15 +	16	20A1P	0.36	R			
+ SPARE			20A1P	17 +	18	20A1P					
+ SPARE			20A1P	19 +	20	20A1P					
+ SPARE			20A1P	21 +	22	20A1P					
+ SPARE			20A1P	23 +	24	20A					
SPACE				25 +	26	2P					
SPACE				27 +	28	50A					
SPACE				29 +	30	2P					
SPACE				31 +	32	40A	3.19	M			
SPACE				33 +	34		3.19	M			
SPACE				35 +	36	3P	3.19	M			
SPACE				37 +	38	40A	3.19	M			
SPACE				39 +	40		3.19	M			
SPACE				41 +	42	3P	3.19	M			
LOAD KVA LTG 3.1 REC 3.1 MTR 22.0 HTR 1.6 TOTAL 27.4 CONNECTED 3.9 3.1 22.0 1.6 30.6 NEC DEMAND 3.9 3.1 22.0 1.6 30.6 AMPS 85											
PHASE KVA A = 9.1 B = 8.6 C = 9.7 PHASE IMBALANCE (%) A/B = 5.2 B/C = 12.2 C/A = 6.7											

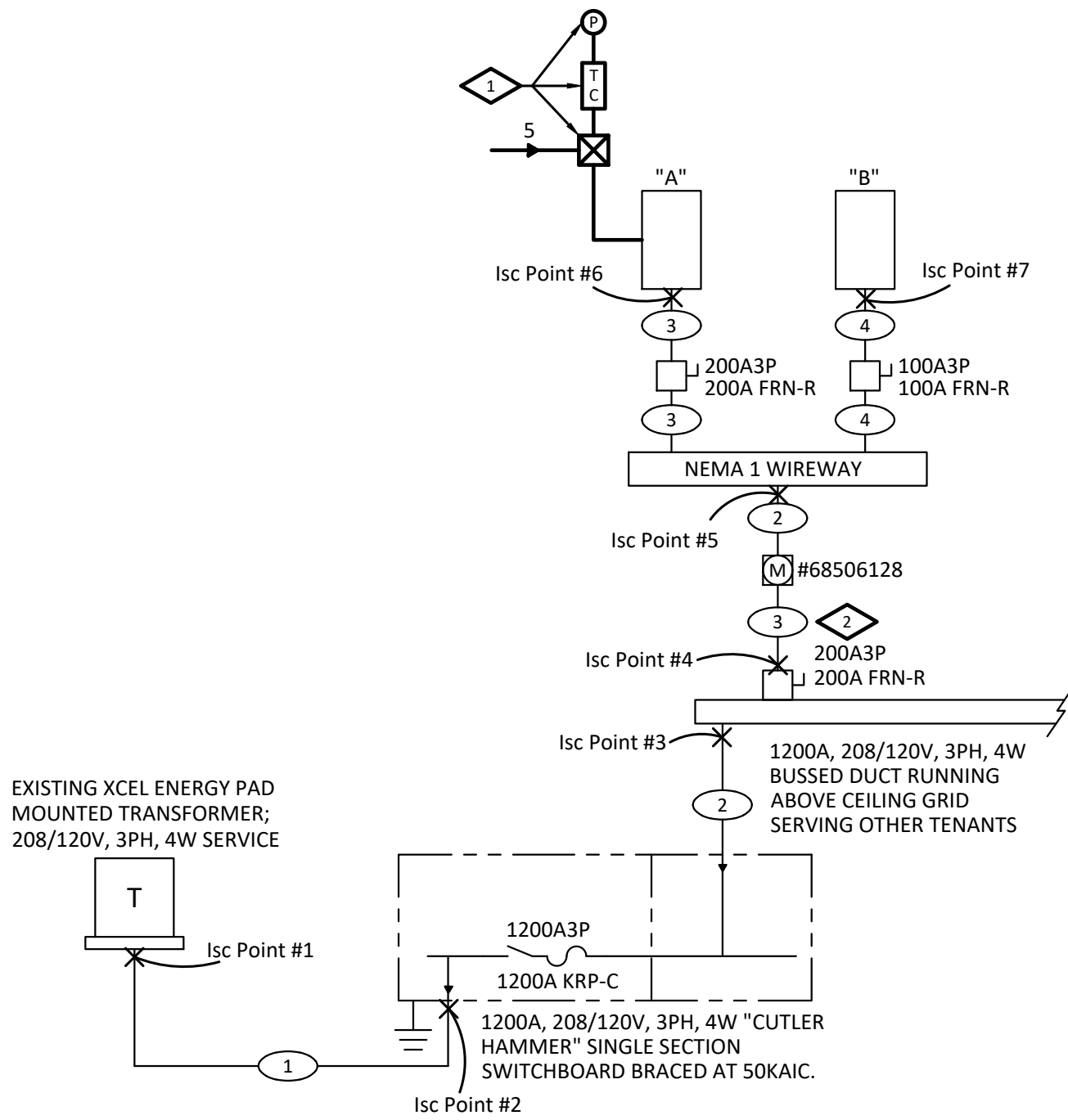
** ROUTE CIRCUIT THROUGH TIMECLOCK AND PHOTOCELL; REFER TO ONE-LINE DIAGRAM. LOAD AFFECTED ON EXISTING BREAKER.
* CIRCUIT LOAD AFFECTED ON EXISTING BREAKER.
++ PROVIDE NEW BREAKER TO MATCH EXISTING.
+ CIRCUIT TO BECOME SPARE; FIELD VERIFY.

EXISTING PANEL "B"											
VOLTS: 208/120V,3PH,4W MAINS: 100A M.L.O. A.I.C.: 10KA						MTG: SURFACE NEMA 1 MFGR: GEN.ELECT. TYPE: LOAD CNTR					
DESCRIPTION	T	KVA	BKR	CKT#	BKR	KVA	T	DESCRIPTION	T	KVA	BKR
SPACE				1 +	2			SPACE			
SPACE				3 +	4			SPACE			
EXISTING AC UNIT	M	2.60	50A	5 +	6	20A		SPARE			
-	M	2.60	2P	7 +	8			-			
EXISTING AC UNIT	M	2.60	50A	9 +	10	40A		SPARE			
-	M	2.60	2P	11 +	12	2P		-			
SPACE				13 +	14			SPACE			
SPACE				15 +	16			SPACE			
SPACE				17 +	18			SPACE			
SPACE				19 +	20			SPACE			
SPACE				21 +	22	50A	2.60	M			
SPACE				23 +	24	2P	2.60	M			
LOAD KVA MTR 15.6 TOTAL 15.6 CONNECTED 15.6 15.6 NEC DEMAND 16.9 16.9 AMPS 47											
PHASE KVA A = 2.6 B = 5.2 C = 7.8 PHASE IMBALANCE (%) A/B = 100.0 B/C = 50.0 C/A = 200.0											

PANEL SHOWN FOR REFERENCE ONLY.

200A SERVICE LOAD SUMMARY **						
LOAD KVA	LTG	REC	MTR	HTR	TOTAL	
CONNECTED	3.1	3.1	35.2	1.6	43.0	
NEC DEMAND	3.9	3.1	37.6	1.6	46.2	
AMPS					128	
PHASE KVA		A	= 11.7	B	= 13.8	C = 17.5
PHASE IMBALANCE (%)		A/B	= 18.4	B/C	= 26.4	C/A = 49.7

** SERVICE SUMMARY INCLUDES PANELS "A" AND "B".



PARTIAL ONE-LINE DIAGRAM

NO SCALE
NOTE: ALL ITEMS ARE EXISTING UNLESS OTHERWISE NOTED

FEEDER SCHEDULE

- 1 4 SETS OF (4-500 KCMIL XHHW ALJ) 3"C. (1200A)
- 2 4 SETS OF (4-500 KCMIL XHHW AL & #250 AL GND) 3"C. (1200A)
- 3 (4 #3/0 THWN CU & #6 CU GND) 2"C. (200A)
- 4 (4 #2 THWN CU & #8 CU GND) 1-1/4"C. (100A)

DETAIL NOTES

- 2-POLE MECHANICALLY HELD CONTACTOR IN NEMA-1 ENCLOSURE, TORK MODEL DGUM-100A AND TORK ROOF MOUNTED PHOTOCELL MODEL #EPC1. MOUNT PHOTOCELL ON ROOF AND FACE NORTH. LOCATE TIMECLOCK AS CLOSE AS POSSIBLE TO PANEL.
- VERIFY EXISTING 200A3P DISCONNECT WITH 200A FRN-R FUSES IS INSTALLED; NOTIFY ENGINEER OTHERWISE.

GENERAL NOTES

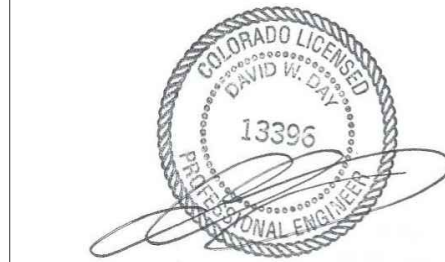
- EXISTING CONDITIONS SHALL BE VERIFIED AT THE SITE PRIOR TO SUBMITTING BIDS. ALL WORK PERFORMED UNDER THIS CONTRACT SHALL CONFORM WITH LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE AND INTERNATIONAL BUILDING CODE AS AMENDED BY THE LOCAL JURISDICTION AND TENANT FINISH GUIDELINES FOR ELECTRICAL INSTALLATIONS.
- ELECTRICAL CONTRACTOR SHALL MAINTAIN ON THE JOB AN UP TO DATE SET OF WORKING DRAWINGS AND SPECIFICATIONS, MARKED UP TO SHOW ELECTRICAL SYSTEMS AS INSTALLED. PROVIDE THE OWNER WITH ONE SET OF REPRODUCIBLE DRAWINGS WITH "AS BUILT" INFORMATION CLEARLY INDICATED.
- THE DRAWINGS ARE DIAGMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF ELECTRICAL WORK. LOCATIONS ARE APPROXIMATE AND SHALL BE SUBJECT TO MINOR MODIFICATIONS AS DIRECTED. VERIFY ALL FIXTURE AND DEVICE LOCATIONS WITH ARCHITECTURAL PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT FITTING OF ALL MATERIALS, EQUIPMENT, ETC., IN BUILDING. ALL DIMENSIONS SHALL BE VERIFIED ON THE JOB. 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. ALL PATCHING SHALL BE DONE BY THE GENERAL CONTRACTOR.
- PROVIDE NEW TYPED PANEL CIRCUIT DIRECTORY FOR EACH PANEL AFFECTED BY CONSTRUCTION. PANEL DIRECTORY SHALL INCORPORATE ACCURATE DESCRIPTIONS FOR EACH CIRCUIT BREAKER.
- NEW WIRING DEVICES SHALL BE SPECIFICATION GRADE; 15 AMP FOR GENERAL APPLICATION, 20 AMP OR GREATER FOR DEDICATED CIRCUITS AND AS REQUIRED BY CIRCUIT LOAD. LEVITON #5262-I RECEPTACLES AND #1201-2I SWITCHES (OR EQUAL). COLOR LISTED IS IVORY, VERIFY WITH ARCHITECT BEFORE ORDERING. PROVIDE MATCHING SMOOTH NYLON COVER PLATES FOR ALL OUTLETS.
- ALL WIRING SHALL BE COPPER. #12 AWG MINIMUM FOR 20 AMP CIRCUITS 75'-0" OR LESS TO FIRST OUTLET; TYPE THHN OR THWN INSULATION. PROVIDE WIRE COLOR CODING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. ALL WIRING SHALL BE RUN CONCEALED AND IN EMT CONDUIT OR "MC" TYPE CABLE. "MC" CABLE SHALL BE PERMITTED FOR BRANCH CIRCUIT WIRING IN APPROVED LOCATIONS ONLY PER LOCAL CODES AND NATIONAL ELECTRICAL CODE REQUIREMENTS. USE APPROVED TYPE COUPLINGS AND CONNECTORS. PROVIDE CONDUIT SUPPORTS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AS A MINIMUM. HOMERUN JUNCTION BOXES SHALL BE LABELED WITH PANEL AND CIRCUIT DESIGNATIONS. ALL HOME RUNS SHALL BE IN EMT CONDUIT, (TYPICAL).
- 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 CU MINIMUM "GREEN").
- ALL NEW POWER, TELEPHONE, AND COMMUNICATIONS RECEPTACLES SHALL MATCH EXISTING MOUNTING HEIGHTS AND ORIENTATIONS, TYPICAL UNLESS OTHERWISE NOTED. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF ALL ELECTRICAL DEVICES LOCATED WITHIN, ABOVE, OR NEAR MILLWORK WITH ARCHITECTURAL MILLWORK DRAWINGS. MAINTAIN CONSISTENT MOUNTING PRACTICES FOR A UNIFORM APPEARANCE. VERIFY ALL OUTLET REQUIREMENTS PRIOR TO BEGINNING WORK.
- COORDINATE THE EXACT WIRING AND RECONFIGURATION OF LIGHTING AS SHOWN ON NEW LIGHTING PLAN WITH EXISTING CONDITIONS. PROVIDE SWITCHING AND CONTROLS AS REQUIRED TO MATCH THE INTENT OF THE DESIGN SHOWN.
- VERIFY ALL FIXTURE AND DEVICE LOCATIONS WITH ARCHITECTURAL PLANS. REFER TO ARCHITECTURAL PLANS FOR DEMOLITION OF ELECTRICAL DEVICES AND LIGHT FIXTURES, (TYPICAL). ALL DEMOLISHED EQUIPMENT AND LIGHT FIXTURES SHALL BECOME THE PROPERTY OF BUILDING MANAGEMENT. ANY DEVICES OR EQUIPMENT NOT WANTED BY PROPERTY MANAGER SHALL BE PROPERTY OF ELECTRICAL CONTRACTOR AND REMOVED FROM PREMISES.
- PROVIDE DEMOLITION OF EXISTING ELECTRICAL WORK WHICH CONFLICTS WITH THE NEW CONSTRUCTION. MAINTAIN CONTINUITY OF ALL CIRCUITS FEEDING EXISTING DEVICES AND LIGHTING. RE-WORK ITEMS THAT CONFLICT WITH THE NEW CONSTRUCTION TO ACCOMMODATE THE NEW CONSTRUCTION. EXISTING CIRCUITS IN-USE IN THE SPACE WHICH ARE REMOVED IN DEMOLITION MAY BE RE-USED FOR THE NEW CONSTRUCTION IN LIEU OF THE NEW CIRCUITS SHOWN ON THE DRAWINGS. OTHERWISE, CIRCUITS REMOVED SHALL BE PULLED FROM CONDUITS. RE-WORK AND RECONNECT AS REQUIRED FOR ALL EXISTING CIRCUITS SUPPLYING EQUIPMENT, FIXTURES AND DEVICES TO REMAIN FOR THIS SPACE, AND EXISTING CIRCUITS TO REMAIN FOR ALL OTHER SPACES THAT ARE AFFECTED BY THIS CONSTRUCTION.
- PROVIDE FIRE ALARM DEVICES AND RELOCATE EXISTING ON A DESIGN-BUILD BASIS AS REQUIRED. CONNECT EQUIPMENT TO EXISTING FIRE ALARM ZONES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. PROVIDE ADDITIONAL BACKUP BATTERY POWER AS NECESSARY FOR NEW DEVICES. AFTER THE INSTALLATION IS COMPLETE, THE FIRE ALARM SYSTEM SHALL BE TESTED IN THE PRESENCE OF FIRE DEPARTMENT REPRESENTATIVES AND THE OWNER'S REPRESENTATIVE FOR SYSTEM INTEGRITY AND OPERATION. COORDINATE EXACT FIRE ALARM REQUIREMENTS WITH FIRE DEPARTMENT PRIOR TO BIDS. MAKE NECESSARY CHANGES TO DESIGN/BUILD DOCUMENTS AS DESIGNED PER FIRE DEPARTMENT COMMENTS. PROVIDE SHOP DRAWINGS FOR APPROVAL, REVISE AND RE-SUBMIT AS REQUIRED FOR FIRE DEPARTMENT APPROVAL AND OBTAINING APPLICABLE PERMITS.
- PER NEC ARTICLE 410.130(G); ALL FLUORESCENT FIXTURES (INCLUDING EXISTING AND RELOCATED FIXTURES) THAT UTILIZE DOUBLE-ENDED LAMPS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE OR BALLASTED FIXTURES THAT ARE SUPPLIED FROM MULTI-WIRE BRANCH CIRCUITS AND CONTAIN BALLASTS SHALL HAVE A DISCONNECTING MEANS TO DISCONNECT SIMULTANEOUSLY ALL CONDUCTORS TO THE BALLAST, INCLUDING THE GROUNDING CONDUCTOR. PROVIDE "IDEAL" POWERPLUG LUMINAIRE DISCONNECT (3-AMP MAX) ON ALL REQUIRED EXISTING/RELOCATED FIXTURES IN THIS SCOPE OF WORK.
- PER NEC SECTION 210.4(B), PROVIDE A HANDLE TIE ON ALL TWO AND THREE CIRCUIT HOMERUNS THAT SHARE A COMMON NEUTRAL TO SIMULTANEOUSLY DISCONNECT THE UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES.

SYMBOL LEGEND	
Symbol	Description
	Distribution Equipment; Switchgear, Panelboards
	Branch Circuit Panel
	Telephone Terminal
	Transformer
	Fused Disconnect Switch (Non-Fused When Fusing Not Required)
	Combination Starter/Disconnect Sw.
	Magnetic Starter or Contactor
	Meter
	Motor Outlet and Connection
	Fused Disconnect Sw., Diagrammatic
	Circuit Breaker, Diagrammatic
	Indicates Detail Note
	Indicates Mechanical Equipment
	Indicates Kitchen Equipment, Riser, or Room Number
	Circuit Run; In Walls and Above Ceiling (Concealed)
	Circuit Run; Underground or in Floor
	Circuit Run; Exposed
	Circuit Risers; Up,Down
	Home Run; Arrows Indicate Number of Circuits
	Overhead Service Entrance
	Letter Indicates Fixture Type, See Schedule for Description
	Lower Case Subscript Indicates Switching
	Shading Indicates Connection to Emergency, Egress, or Night-Light Circuit
	Fixtures Surface Mounted on Ceiling
	Fixtures Recessed in Ceiling
	Wall Mounted Fixtures
	Exit Lights; Mounting Faces and Arrows as Indicated
	Porcelain Keyless Lampholder with 100W A19 Lamp; PG Indicates Pull Chain
	Duplex Receptacle; Wall
	Double Duplex Receptacle
	Switched Receptacle; Half, Full
	Isolated Ground Receptacle
	Above Counter Receptacle; 4"
	Above Top Of Backsplash
	Weatherproof Duplex Receptacle
	Ground Fault Interrupt Duplex Receptacle
	AG
	Ground Fault Interrupt Duplex Receptacle; Above Counter
	Ceiling Mtd. Duplex Receptacle
	Special Configuration Receptacle
	Duplex Receptacle; Floor
	Recessed Clock Style Receptacle
	Junction Box; Wall
	Junction Box; Ceiling
	Telephone Outlet; Wall
	Computer Data Outlet; Wall
	Combination Telephone & Computer Data Outlet; Wall
	Telephone Outlet; Floor
	Special Configuration Combination Floor Outlet/Box
	T.V. Outlet
	Single Pole Switch; Subscripts Indicate Switching
	S^2
	Double Pole Switch
	S^3 S^4
	Three and Four Way Switching
	Switch with Pilot Light
	S^K
	Key Operated Switch
	S^LV
	Low Voltage Switch
	S^OS
	Occupancy Sensor Switch
	Ceiling Mounted Occupancy Sensor
	Gang Mounted Switching
	Combination Switch and Duplex Receptacle
	S^TO
	Thermal Overload Switch
	Dimmer Switch
	Time Clock
	Photo Cell
	Hood Outlet and Connection
	Disposer Receptacle and Connection
	Surface Raceway
	Pushbutton Stations
	Tele-Power Pole
	Items Shown Heavy and/or Denoted (N) Are New Unless Otherwise Noted.
	Items Shown Light and/or Denoted (E) Are Existing To Remain Unless Otherwise Noted
	Items Shown Dashed Are Existing To Be Removed Unless Otherwise Noted
	Items Shown Heavy and Denoted (R) Are Relocated Unless Otherwise Noted.



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Project

The Monarchs Events

16786 E Iliff Ave
Aurora, CO

Issue/Revisions

Permit & Construction - 05-16-25

GENERAL NOTES, SYMBOLS, ONE-LINE DIAGRAM & PANEL SCHEDULES

Project Number: 22-047
Date: 16 May 2025
Project Manager: JH/NJR

E0

All dimensions and conditions must be checked and verified onsite by the contractor and subcontractors. The Project Manager shall be notified of any discrepancies prior to proceeding with the work.
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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted:
Date: May 27, 2025
2021 INTERNATIONAL CODES & 2023 NEC

This page was NOT reviewed for code compliance and is for reference only.

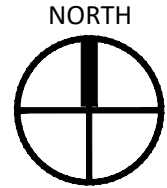
DEMOLITION NOTES

1. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REQUIRED DEMOLITION OF ELECTRICAL DEVICES AND ASSOCIATED EQUIPMENT AS INCLUDED IN THE DEMOLITION PER ARCHITECTURAL PLANS. THEY SHOULD NOT, HOWEVER, BE CONSIDERED COMPREHENSIVE. THE ELECTRICAL CONTRACTOR SHALL COMPLETELY REMOVE ALL LIGHTING, ELECTRICAL DEVICES, JUNCTION BOXES, CONDUIT AND WIRE. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE NEED FOR PERFORMING ADDITIONAL ELECTRICAL DEMOLITION OF ANY OTHER MISCELLANEOUS ELECTRICAL EQUIPMENT, DEVICES AND WIRING NOT LISTED HEREIN FOR THE AREA OF WORK. FIELD VERIFY ALL DEMOLITION REQUIREMENTS AND COORDINATE WITH OWNER PRIOR TO BEGINNING WORK. REFERENCE DEMOLITION DRAWINGS OF OTHER TRADES FOR ADDITIONAL DEMOLITION INFORMATION. CONTRACTOR WILL BE REQUIRED TO WALK SITE WITH OWNERS REPRESENTATIVE TO EVALUATE ADDITIONAL DEMOLITION REQUIREMENTS PRIOR TO BIDS.
2. DEVICES DEMOLISHED SHALL BE COMPLETELY REMOVED (INCLUDING WIRING, CONDUIT AND DEVICE BOXES). WALLS SHALL BE PATCHED AS REQUIRED. ALL REQUIRED WALL, FLOOR AND CEILING REPAIR SHALL BE PERFORMED BY THE GENERAL CONTRACTOR.
3. ALL ELECTRICAL DEVICES NOT WANTED BY THE OWNER ARE TO BECOME PROPERTY OF THE ELECTRICAL CONTRACTOR AND REMOVED FROM THE SITE.
4. ELECTRICAL CONTRACTOR SHALL REFERENCE THE MECHANICAL PLANS FOR ADDITIONAL DEMOLITION OF HVAC AND PLUMBING EQUIPMENT BEING REMOVED. ALL CONDUIT AND CIRCUITS SERVING EXISTING EQUIPMENT BEING TO BE REMOVED SHALL BE DEMOLISHED BACK TO THE PANEL SERVING THE EQUIPMENT.



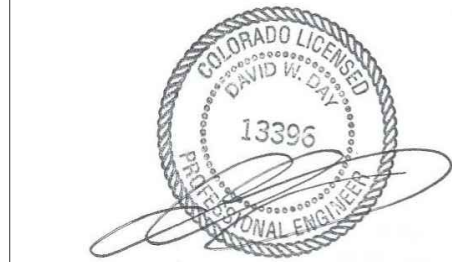
DEMOLITION PLAN

SCALE: 1/4" = 1'-0"



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Project

The Monarchs Events

16786 E Iliff Ave
Aurora, CO

Issue/Revisions

Permit & Construction - 05-16-25

DEMOLITION PLAN

Project Number: 22-047

Date: 16 May 2025

Project Manager: JH/NJR

E1

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DETAIL NOTES

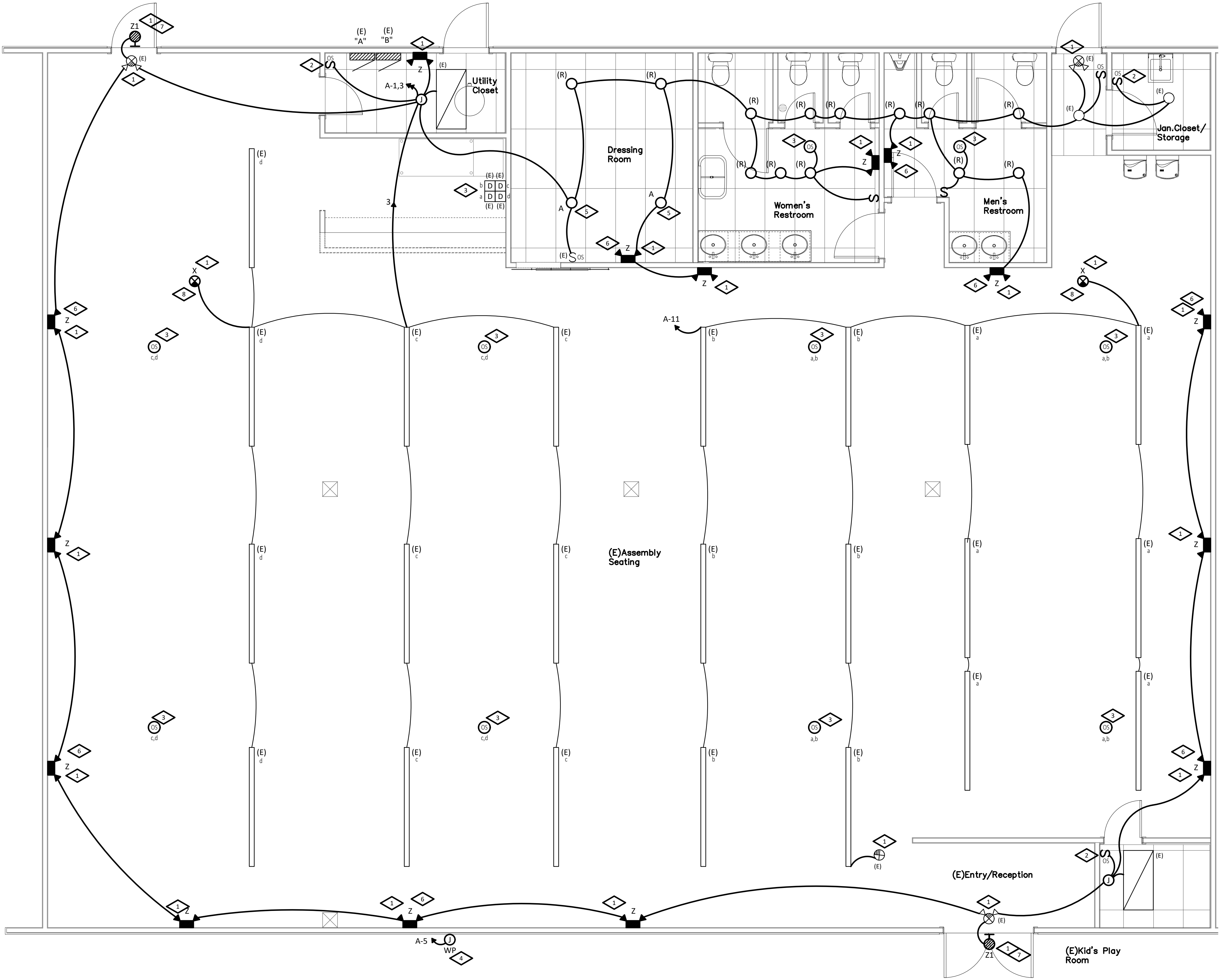
- CONNECT ALL EXIT LIGHTS, EMERGENCY BATTERY PACKS AND SHADED FIXTURES AHEAD OF SWITCHING FOR CONTINUOUS EGRESS/NIGHTLIGHT FUNCTIONS, (TYPICAL).
- PROVIDE DUAL TECHNOLOGY WALL MOUNTED OCCUPANCY SENSOR FOR FIXTURES IN THIS ROOM. WATTSTOPPER CAT# DSW-301 OR EQUAL, (TYPICAL FOR THIS SYMBOL). SET TIME DELAY TO 15 MINUTES IN RESTROOMS.
- PROVIDE DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR(S) FOR CONTROL OF FIXTURES IN THIS AREA AS SHOWN; WATTSTOPPER DT-355 OR EQUAL. MULTIPLE SENSORS TO BE CONNECTED IN PARALLEL WHEN SHOWN (REFER TO MANUFACTURERS INSTRUCTIONS FOR WIRING). SET TIME DELAY TO 20 MINUTES. WIRE ANY ADDITIONAL SWITCHING SHOWN AHEAD OF CEILING MOUNTED OCCUPANCY SENSOR FOR MANUAL CONTROL.
- PROVIDE 120V, 20A CONNECTION FOR EXTERIOR SIGN. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.
- TYPE A - NEW 120V, 15W, 4" LED DOWNLIGHT TO MATCH EXISTING.
- TYPE Z - NEW 120V INTERIOR EMERGENCY EGRESS FIXTURE. SURE-LITE APEL OR EQUAL.
- TYPE Z1 - NEW 120V INTERIOR EMERGENCY EGRESS FIXTURE. SURE-LITE AEL2 OR EQUAL.
- TYPE X - NEW BATTERY POWERED EXIT SIGN TO MATCH EXISTING.

Locate the required overcurrent Protection per 2023 NEC 240.21

110.14. Identify disconnects per 2023 NEC 110.22 and provide working space and egress to and around electrical equipment per 2023 NEC 110.26

Provide Emergency Illumination that complies with 2023 NEC 700.16

Suspended Ceiling Systems and the Luminaires They support shall meet the requirements of 410.36(B) 2023 NEC



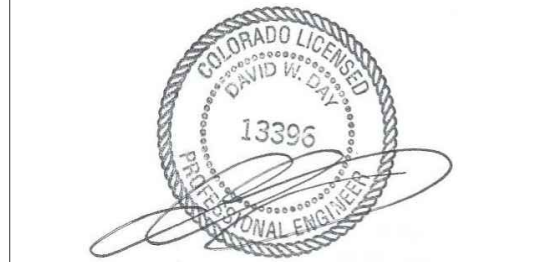
LIGHTING PLAN

SCALE: 1/4" = 1'-0"



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Project

The Monarchs Events

16786 E Iliff Ave
Aurora, CO

Issue/Revisions

Permit & Construction - 05-16-25

LIGHTING PLAN

Project Number: 22-047

Date: 16 May 2025

Project Manager: JH/VJR

E2

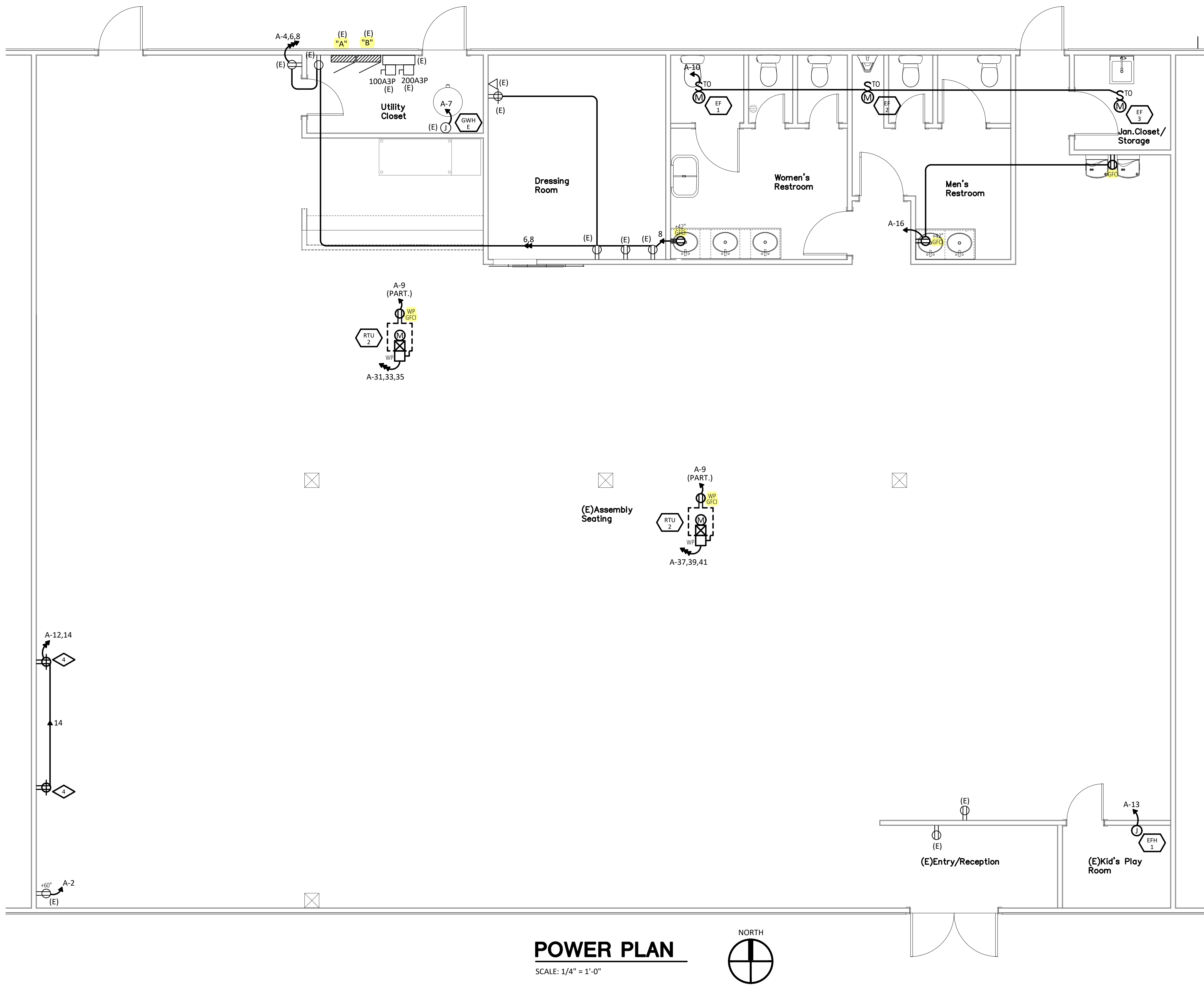


City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *wgriffin*
Date: **May 27, 2025**
2021 INTERNATIONAL CODES & 2023 NEC
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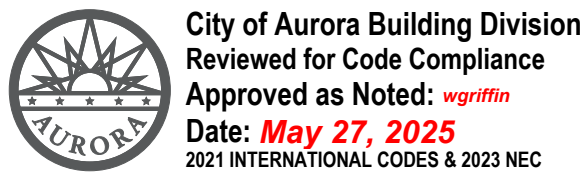
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1	FOR ALL TELEPHONE/DATA/TV OUTLETS SHOWN PROVIDE DOUBLE GANG JUNCTION BOX WITH SINGLE GANG PLESTER RING AND 3/4" CONDUIT STUBBED UP TO ABOVE LAY-IN CEILING. PROVIDE A NYLON PULL WIRE IN CONDUIT AND PLASTIC BUSHINGS AT CONDUIT TERMINATIONS. CABLE TO BE INSTALLED BY OTHERS, (TYPICAL).
2	SEE TELE BACKBOARD; SEE DETAIL THIS SHEET FOR FURTHER INFORMATION. VERIFY EXACT LOCATION WITH ARCHITECT.
3	CONNECT TO 120-VOLT LIGHTING CIRCUIT AND CONTROLS SERVING THIS ROOM.
4	COORDINATE WITH OWNER FOR EXACT LOCATION OF DEDICATED 120V, 20A QUADPLEX RECEPTACLE.

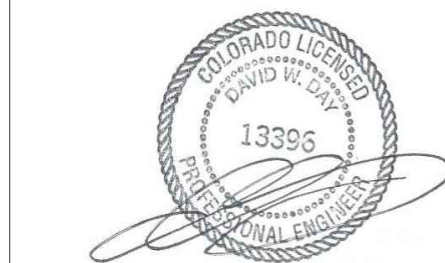
110.14. Identify disconnects per 2023 NEC 110.22 and provide working space and access to and around electrical equipment per 2023 NEC 110.26



	DESCRIPTION	CHARACTERISTICS				SUPPLY DATA						FIRE PROVISIONS				COMMENTS
		LOAD FORM	LOAD	VOLTS	PH	FEEDER	CIRCUIT PROTECTION			CONTROL	BY	CFM	DETECTION			
							BREAKER	DISC. SW.	FUSE				SMOKE	FURN.	INSTAL.	
EF-1 & EF-2	EXHAUST FAN	KVA	0.22	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			SWITCH PER MECH	MC					
EF 3	EXHAUST FAN	FLA	0.2	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			SWITCH PER MECH	MC					
EFH 1	ELECTRIC HEATER	KVA	1.50	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			T-STAT	MC					
GWHE	EXISTING GAS WATER HEATER	FLA	0.5	120	1	(2 # 12 THWN CU & 1 # 12 CU GND)1/2" C.	20A1P			INTEGRAL	MC					
RTU-2 & RTU-5	NEW ROOFTOP UNIT	FLA	26.6	208	3	(3 # 10 THWN CU & 1 # 10 CU GND)1/2" C.	40A3P	60A3P	40 FRN-R	T-STAT	MC					



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Project

The Monarchs Events

16786 E Iliff Ave
Aurora, CO

Issue/Revisions

Permit & Construction - 05-16-25

POWER PLAN

Project Number: 22-047

Date: 16 May 2025

Project Manager: JH/VJF

E3

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COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: 25-047 - The Monarchs Events
Project Type: Alteration

Construction Site: 16786 East Iliff Avenue
Aurora, Colorado
Owner/Agent: Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Events Center (Convention Center)	4656	0.64	2980
Total Allowed Watts =			2980

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Events Center (Convention Center, 4656 sq.ft.)				
LED: (E): 8" LED: Other:	1	22	90	1980
LED: A/(R): New/Relocated 4" LED Downlight: Other:	1	17	15	255
Linear Fluorescent: (E): Existing 2"x4' Troffer: 48" T8 32W (Super T8): Electronic:	2	1	64	64
LED: (E): Existing LED Troffer: Other:	1	1	40	40
Total Proposed Watts =			2339	

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 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Justin Hayes - Project Manager JUSTIN HAYES
Name - Title Signature Date 05-14-2025

Project Title: 25-047 - The Monarchs Events Report date: 05/14/25
Data filename: Page 1 of 5

COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2021 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

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

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4]¹	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	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
Project Title: 25-047 - The Monarchs Events Report date: 05/14/25
Data filename: Page 2 of 5

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3.1 [EL22]¹	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	
C405.2.1.1 [EL18]¹	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	
C405.2.1.2 [EL19]¹	Occupancy sensors control function in warehouses: In warehouses, the lighting in aiseways 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 aiseway independently and do not control lighting beyond the aiseway 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	
C405.2.1.3 [EL20]¹	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	
C405.2.2.1 [EL21]²	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	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
Project Title: 25-047 - The Monarchs Events Report date: 05/14/25
Data filename: Page 3 of 5

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.4.1 [EL23]²	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	
C405.2.5 [EL27]¹	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	
C405.7 [EL26]²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.8 [EL27]²	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	
C405.9.1.1 [EL28]²	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	
C405.10 [EL29]²	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.1.1 [EL30]²	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C405.11.1 [EL31]²	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	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
Project Title: 25-047 - The Monarchs Events Report date: 05/14/25
Data filename: Page 4 of 5

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3.2 [F117]²	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C408.1.1 [F157]¹	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	
C408.2.5 [F116]²	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	
C408.3 [F133]²	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐ Complies ☐ Does Not ☐ Not Observable ☐ Not Applicable	

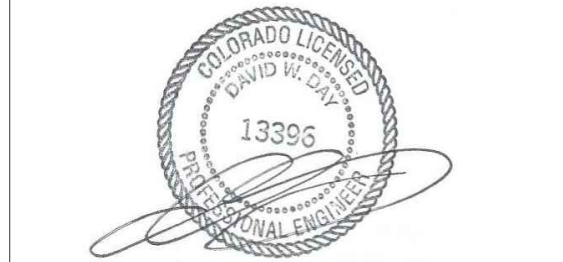
Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
Project Title: 25-047 - The Monarchs Events Report date: 05/14/25
Data filename: Page 5 of 5



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Project

The Monarchs Events

16786 E Iliff Ave
Aurora, CO

Issue/Revisions

Permit & Construction - 05-16-25

COMCHECK

Project Number: 22-047
Date: 16 May 2025
Project Manager: JH/NJR

E4

All dimensions and conditions must be checked and verified onsite by the contractor and subcontractors. The Project Manager shall be notified of any discrepancies prior to proceeding with the work.
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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: wgriffin
Date: May 27, 2025
2021 INTERNATIONAL CODES & 2023 NEC