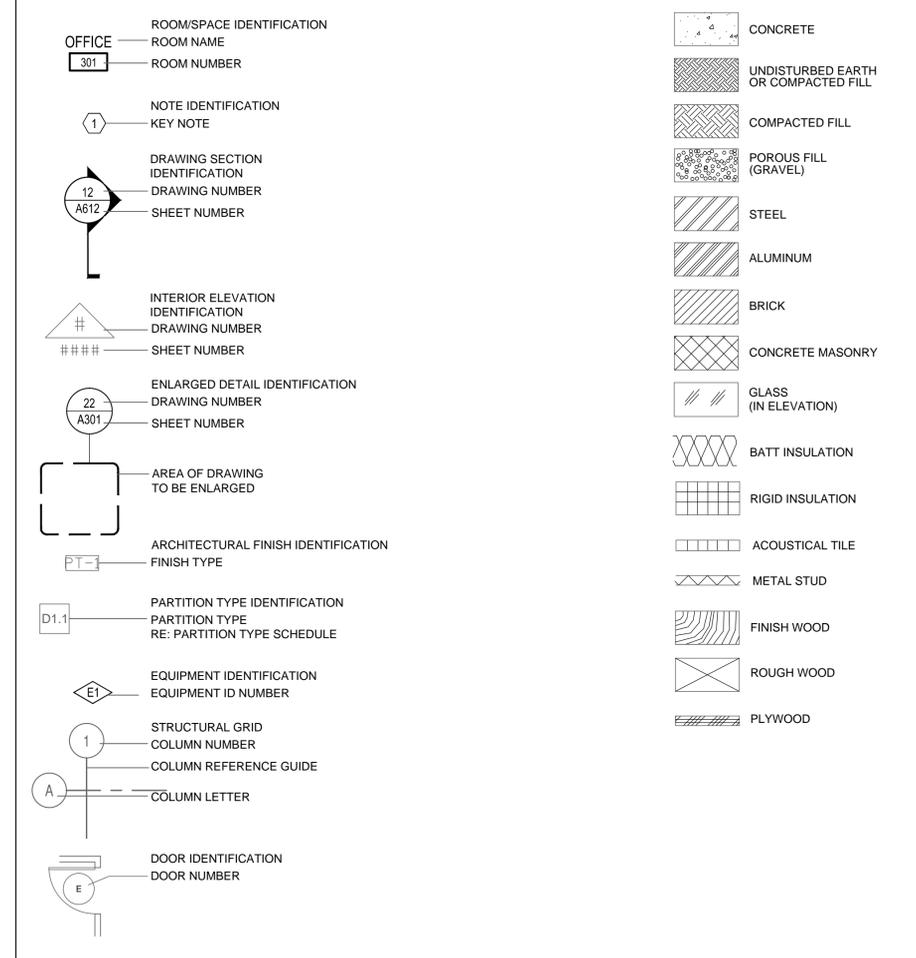


# 723 MAIN UNIT 1 - PERMIT

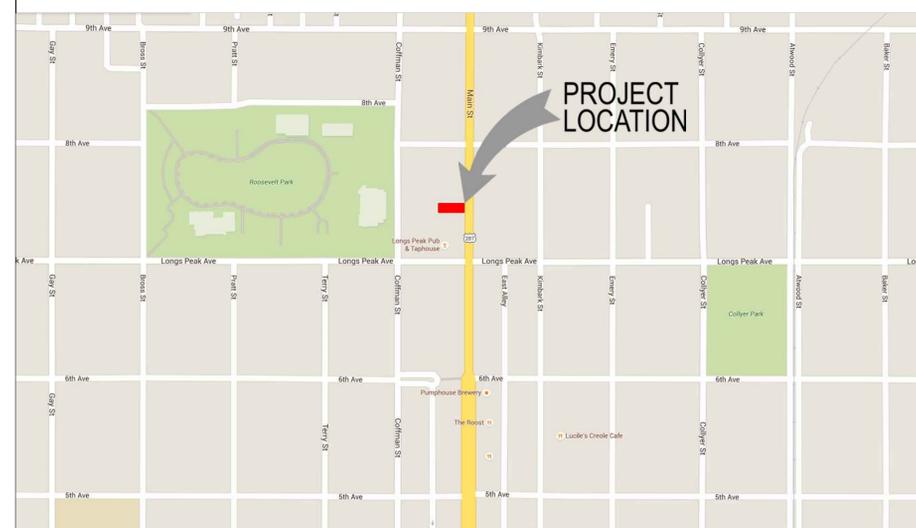
## ABBREVIATIONS

AB	ANCHOR BOLT	FIG	FIGURE	PLBG	PLUMBING
AC	AIR CONDITIONING	FIN	FINISH	PLYWD	PLYWOOD
ACOUS	ACOUSTICAL	FIX	FIXTURE	PNEU	PNEUMATIC
ACT	ACOUSTICAL CEILING TILE	FL	FLOW LINE	POL	POLISHED
AD	AREA DRAIN, ACCESS DOOR	FLG	FLASHING	PR	PAIR
ADD	ADDENDUM	FLR	FLOOR	PREFAB	PREFABRICATED
ADJ	ADJACENT, ADJUSTABLE	FLUOR	FLUORESCENT	PREFIN	PREFINISHED
AFF	ABOVE FINISHED FLOOR	FLEX	FLEXIBLE	PRIM	PRIMARY
ALLM	ALUMINUM	FOC	FACE OF CONCRETE	PSF	POUNDS PER SQUARE FOOT
ALT	ALTERNATE	FOF	FACE OF FINISH	PSI	POUNDS PER SQUARE INCH
ANOD	ANODIZED	FOM	FACE OF MASONRY	PT	POINT
APPROX	APPROXIMATE	FOS	FACE OF STUDS	PTN	PARTITION
ARCH	ARCHITECTURAL	FT	FOOT (FEET)	PVC	POLYVINYL CHLORIDE
ASPH	ASPHALT	FTG	FOOTING	PVMT	PAVEMENT
AUTO	AUTOMATIC	FURN	FURNISH(ED)	QTY	QUANTITY
AUX	AUXILIARY	FURR	FURRED(ING)	RAD	RADIUS
AV	AUDIO/VISUAL	FUT	FUTURE	RD	ROOF DRAIN ROAD
AVG	AVERAGE	G	GAS	RE	REFERENCE
BD	BOARD	GA	GAUGE	RECPT	RECEPTACLE
BET	BETWEEN	GAL	GALLON	REFR	REFRIGERATOR
BITUM	BITUMINOUS	GALV	GALVANIZED	REINF	REINFORCED
BLDG	BUILDING	GB	GRAB BAR	REM	REMOVE
BLKG	BLOCKING	GC	GENERAL CONTRACTOR	REQ'D	REQUIRED
BM	BENCHMARK, BEAM	GEN	GENERATOR	RESIL	RESILIENT
BOT	BOTTOM	GI	GALVANIZED IRON	REV	REVISION(S), REVISED
BRG	BEARING	GL	GLASS	RFL	REFLECTED
BUR	BUILT-UP ROOF	GYP	GYPSUM	RH	RIGHT HAND
CAB	CABINET	HAS	HEADED ANCHOR STUD	RM	ROOM
CAP	CAPACITY	HB	HOSE BIB	RO	ROUGH OPENING
CEM	CEMENTITIOUS	HC	HOLLOW CORE, HANDICAPPED	RVS	REVERSE (SIDE)
CER	CERAMIC	HDR	HEADER	SC	SOLID CORE
CFM	CUBIC FEET PER MINUTE	HDWR	HARDWARE	SEC	SECTION
CIP	CAST IN PLACE	HM	HOLLOW METAL	SF	STORE FRONT
CIRC	CIRCUMFERENCE	HORIZ	HORIZONTAL	SHT	SHEET
CJ	CONTROL JOINT	HT	HEIGHT	SHTH	SHEATHING
CK	CAULKING	HVAC	HEATING, VENTILATING AND A/C	SIM	SIMILAR
CL	COLUMN LINE	ID	INSIDE DIAMETER	SNT	SEALANT
C.L.	Centerline	IN	INCHES	SOFF	SOFFIT
C/L	CENTERLINE	INCL	INCLUDE(D)	SPCG	SPACING
CLG	CEILING	INSUL	INSULATION	SPRT	SUPPORT
CLOS	CLOSET	INT	INTERIOR	SPECS	SPECIFICATIONS
CM	CENTIMETERS	INTEG	INTEGRAL	SPKL	SPRINKLER
CMU	CONCRETE MASONRY UNIT	INTMED	INTERMEDIATE	SQ	SQUARE
CO	CLEAN OUT	JAN	JANITOR	SS	STAINLESS STEEL
COL	COLUMN	JST	JOIST	STA	STATION
CONC	CONCRETE	JT	JOINT	STD	STANDARD
CONF	CONFERENCE	KO	KNOCKOUT	STL	STEEL
CONSTR	CONSTRUCTION	L	LENGTH	STRUCT	STRUCTURAL
CONT	CONTINUOUS	LAV	LAVATORY	SUSP	SUSPENDED
CONTR	CONTRACTOR	LDR	LEADER	SYM	SYMMETRICAL
CORR	CORRIDOR, CORRUGATED	LH	LEFT HAND	SYS	SYSTEM
CPT	CARPET	LIN	LINEAR	T	TREAD
CT	CERAMIC TILE	LT	LIGHT	T&B	TOP AND BOTTOM
CTR	COUNTER	MAS	MASONRY	TEM	TEMPERED
CU	CUBIC	MATL	MATERIAL	TEMP	TEMPERATURE
DAMP	DAMP-PROOFING	MAX	MAXIMUM	T&G	TONGUE AND GROOVE
DBL	DOUBLE	MECH	MECHANICAL	THRM	THERMOSTAT
DEG	DEGREE	MED	MEDIUM	THK	THICK
DEMO	DEMOLISH, DEMOLITION	MEMB	MEMBRANE	THLD	THRESHOLD
DEPT	DEPARTMENT	MFG	MANUFACTURER	TO	TOP OF
DIA	DIAMETER	MIN	MINIMUM	TOC	TOP OF CONCRETE
DIAG	DIAGONAL	MISC	MISCELLANEOUS	TOS	TOP OF STEEL
DIAGN	DIAGONAL	MO	MASONRY OPENING	TOSL	TOP OF SLAB
DIM	DIMENSIONS	MTD	MOUNTED	TOW	TOP OF WALL
DIV	DIVISION	MTL	METAL	TRANS	TRANSFER
DN	DOWN	MUL	MULLION	TS	STEEL TUBING
DR	DOOR	N	NORTH	TV	TELEVISION
DS	DOWNSPOUT	NIC	NOT IN CONTRACT	TYP	TYPICAL
DTL	DETAIL	NO	NUMBER	UNFIN	UNFINISHED
DWG	DRAWING	NTS	NOT TO SCALE	UNO	UNLESS OTHERWISE NOTED
(E)	EXISTING	OC	ON CENTER	V	VOLT
EA	EACH	OD	OUTSIDE DIAMETER	VAR	VARIABLES
EB	EXPANSION BOLT	OF	OUTSIDE FACE	VCT	VINYL COMPOSITION TILE
EJ	EXPANSION JOINT	OH	OPPOSITE HAND	VENT	VENTILATION
EL	ELEVATION	OPNG	OPENING	VERT	VERTICAL
ELEC	ELECTRICAL	OPP	OPPOSITE	VOL	VOLUME
EMER	EMERGENCY	PT	PAINT	VTR	VENT THROUGH ROOF
EQ	EQUAL	PAR	PARALLEL	W	WEST, WIDE
EQUIP	EQUIPMENT	PC	PRECAST	W/	WITH
EXG	EXISTING	PCN	PENETRATION	WC	WATERCLOSET
EXH	EXHAUST	PERF	PERFORATED	WD	WOOD
EXP	EXPANSION, EXPOSED	PERIM	PERIMETER	WDO	WINDOW
EXT	EXTERIOR	PKG	PARKING	W.O.	WHERE OCCURS
FA	FIRE ALARM	P/L	PLATE, PROPERTY LINE	W/O	WITHOUT
FAC	FIRE ALARM CABINET	PLAM	PLASTIC LAMINATE	WP	WATERPROOFING
FBO	FURNISHED BY OTHER			W/R	WATER RESISTANT
FD	FLOOR DRAIN, FIRE DAMPER			WT	WEIGHT
FDN	FOUNDATION			WWF	WELDED WIRE FABRIC
FEC	FIRE EXTINGUISHER CABINET				
FHMS	FLAT HEAD MACHINE SCREW				
FHV	FIRE HOSE VALVE				
FHWS	FLAT HEAD WOOD SCREW				

## GRAPHIC SYMBOLS



## SITE MAP



## PROJECT TEAM

<b>OWNER</b> ROYALTY ARRANGEMENTS 723 MAIN STREET, UNIT 1 LONGMONT, CO 80501 CONTACT: YADIRA LERMA ph:	<b>ARCHITECT</b> THEODORE SCHULTZ, ARCHITECT, LLC 863 SANTA FE DRIVE DENVER CO 80204 TED@TLSARCHITECT.COM 303-875-8719	<b>ELECTRICAL ENGINEER</b> LW ENGINEERING, LLC LAURA WEILERT, PE LWEILERT@EARTHINK.NET 303-718-6472
<b>GENERAL CONTRACTOR</b> COLORADO CONSTRUCTION SERVICES CONTACT: SCOTT COBB SCOTTCOBB721@YAHOO.COM 720-271-1726	<b>MECHANICAL / PLUMBING ENGINEER</b> JK MECHANICAL PO BOX 1554 BUENA VISTA, CO 81211 CONTACT: JODI / KIRK ROBERTS JODI.ROBERTS@GMAIL.COM 303.952.0244	

## SUBCONTRACTORS

<b>HVAC</b> HOME RUN HEATING & COOLING	<b>PLUMBING / CONCRETE</b> HOME RUN HEATING & COOLING
<b>HVAC BALANCING</b> LAWRENCE FINN & ASSOCIATES	
<b>ELECTRICAL</b> BREAKERS ELECTRIC	

## SHEET INDEX

<b>GENERAL</b>	
A0.0	COVER PAGE
A0.1	CODE REVIEW PLAN
A0.5	ACCESSIBILITY DETAILS
A0.7	ARCHITECTURAL SPECIFICATIONS
A0.8	ARCHITECTURAL SPECIFICATIONS
A0.9	ARCHITECTURAL SPECIFICATIONS
<b>ARCHITECTURAL</b>	
A1.0	FLOOR PLAN
A1.1	WALL AND CEILING SECTIONS
A1.2	WALL AND CEILING SECTIONS
<b>ELECTRICAL</b>	
E0.0	ELECTRICAL GENERAL NOTES, LEGEND & ONE-LINE DIAGRAM
E1.1	ELECTRIC POWER PLAN
E1.2	ELECTRIC LIGHTING PLAN
E2.0	LOW VOLTAGE PLAN
<b>MECHANICAL</b>	
M0.0	MECHANICAL COVER SHEET & SCHEDULES
M1.1	MECH & HVAC PLANS
<b>PLUMBING</b>	
P0.0	PLUMBING COVER SHEET
P1.1	SEWER ISOMETRIC PLAN
P1.2	SEWER PLAN
P1.3	WATER PLAN

723 MAIN STREET  
ROYALTY ARRANGEMENTS  
(UNIT 1 OCCUPANCY PERMIT)  
LONGMONT, CO 80501

PROJECT No. 723-FLWR  
DESIGN BY: CWK  
CHECKED BY: CWK  
ISSUED FOR: DATE:  
CONCEPT 3.7.2023

COVER  
PAGE

SHEET  
A0.0

**CODE INFORMATION**

**NARRATIVE:**  
723 MAIN ST UNIT 1 IS A COMMERCIAL FLORIST SHOP WITH WALK IN COOLER FOR FLOWERS. THE LANDLORD INSTALLED DRYER CONNECTION WILL BE RE-PURPOSED TO POWER A ROOFTOP CONDENSER FOR THE WALK IN COOLER.

LANDLORD FINISHES ALREADY PERMITTED INCLUDED THE PERIMETER STUDS, 2 HOUR FIRE WALL, BUILDING & UNIT ELECTRICAL, DRYWALL AND A WASHER AND DRYER INSTALLATION. AN UNRATED CORRIDOR SERVES AS A MEANS OF EGRESS TO MAIN STREET AS THE SINGLE EXIT FROM UNIT 1.

TO THE BACK OF THE BUILDING IS THE UNIT 2 / COMMON AREA INCLUDING BREAK AREA, MOP SINK, EMPLOYEE SHOWER AND TWO UNISEX RESTROOMS. THIS WAS CONSTRUCTED UNDER SEPARATE PERMIT (CODE STUDY FOR THIS PERMIT IS SHOWN BELOW FOR REFERENCE.)

THE BUILDING IS 2,683 SF AND IS UN-SPRINKLED. THIS CONSISTS OF UNIT 1 UNDER THIS PERMIT AND UNIT 2 (UNDER SEPARATE PERMIT) SEPARATED BY A 2 HOUR FIRE BARRIER.

**LOCAL CODES REFERENCED:**  
City of Longmont Building code 2021

**BUILDING CODES REFERENCED:**  
2020 National Electric Code  
NFPA code 72  
2021 International Building Code  
2021 International Mechanical Code  
2021 International Energy Conservation Code  
2021 International Plumbing Code  
2021 International Existing Building Code  
2021 International Fire Code

**UNIT 1 - FLOOR 1 AREA:**  
UNIT 1 - Total GSF = 1,494 GSF

**BUILDING USE:**  
OCCUPANCY A-2, B, M  
(FLORIST B / M OCCUPANCY)

**BUILDING SEPARATION:**  
UNIT 1 / UNIT 2 TWO HOUR FIRE BARRIER SEPARATION

**UNIT 1 OCCUPANT LOADS**  
  
FLORIST - Total Max Occupant Load = 49 Occupants

**CONSTRUCTION TYPE:**  
Type V-B

1st floor structure:  
12" hollow CMU walls (north / south)  
8" hollow CMU walls (east / west)  
2x12 joist supporting continuous sloped roof constructed on 2x6 supports.  
Concrete Floor

**EGRESS REQUIREMENTS:**  
Min width: 36" (49 OCCUPANTS @ 2"/OCCUPANT = 9.8") Minimum as defined in 1005.3.2  
Max distance to exit (unsprinklered): 75FT

Minimum Corridor width: Occupants <50 = 36in width 1020.3

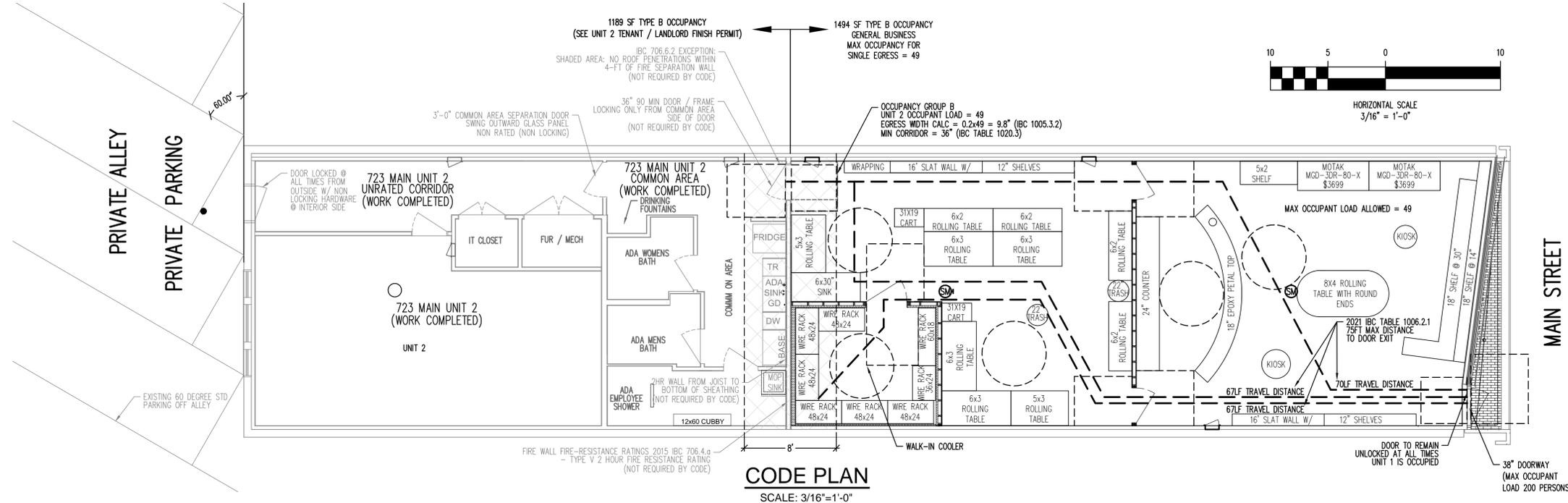
**PLUMBING COUNTS:** Note: Unit 1 plumbing installed under Landlord's Separate permit all facilities are shared with Unit #2.

	wc	lav	mop sink	fountain	shower
Required	2	2	1	2	0
Provided	2	2	1	2	1

**2021 IBC 2902.2.1**  
Each Facility Only Requires one WC - 2 Unisex Toilet Rooms may suffice.  
(TBD with Tenant Finish Permit for Occupancy)

**2021 IBC 1110.5.1**  
Fountains shall be installed for both wheelchair & standing persons

723 MAIN STREET  
ROYALTY ARRANGEMENTS  
(UNIT 1 OCCUPANCY PERMIT)  
LONGMONT, CO 80501



**ARCHITECTURAL GENERAL NOTES:**

- DO NOT SCALE OFF THE DRAWINGS. REFER TO DIMENSIONS INDICATED ON THE DRAWINGS. REFER ALL DISCREPANCIES, INCONSISTENCIES AND DIMENSIONAL CLARIFICATIONS TO THE ARCHITECT. ALL ROOM SIZES ON PLANS ARE APPROXIMATE, REFER TO DIMENSIONS FOR ACTUAL SIZES.
- THE DRAWINGS, SPECIFICATIONS AND ADDENDA ARE COMPLEMENTARY AND WHAT IS INDICATED IN ONE SHALL APPLY TO ALL, REFER CONFLICTING REQUIREMENTS TO THE ARCHITECT FOR CLARIFICATION. THE MOST RESTRICTIVE REQUIREMENTS SHALL APPLY.
- THE CONTRACTOR MUST CHECK ALL DIMENSIONS, FRAMING CONDITIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ARCHITECT MUST BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE JOB PRIOR TO THE BIDDING. ALL WORK INCIDENTAL TO THE COMPLETION OF THE JOB BUT NOT NECESSARILY SPECIFIED ON THE DRAWINGS IS TO BE CONSIDERED PART OF THE CONTRACT. SUCH WORK MAY INCLUDE, BUT IS NOT LIMITED TO, INSTALLING BARRICADES AROUND UNFINISHED WORK, AND CLEANING UP CONSTRUCTION DEBRIS DAILY.
- IT WILL BE ASSUMED THAT EACH TRADE HAS ACCEPTED THE QUALITY OF THE WORK OF OTHERS UPON WHICH HIS WORK MUST BE APPLIED AND ACCEPTS RESPONSIBILITY IF THEIR WORK IS UNACCEPTABLE BECAUSE OF IT.
- THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK WHICH HE BELIEVES TO BE CONTRARY TO HIS KNOWLEDGE OF GOOD CONSTRUCTION STANDARDS, AND SHALL NOT USE ANY SUB-STANDARD MATERIALS.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER FOR THE ACTS AND/OR OMISSIONS OF ALL HIS EMPLOYEES AND OTHERS INVOLVED IN THE COMPLETION OF THE WORK CONTRACTED. ALL WORK SHALL BE THE HIGHEST INDUSTRY STANDARD LEVEL.
- THE CONTRACTOR SHALL KEEP THE OWNER INFORMED OF ALL EMPLOYEES, SUPPLIERS AND OTHERS WHO HAVE LIEN RIGHTS AGAINST THE PROJECT.
- THE CONTRACTOR SHALL INFORM OWNER OF HIS WORK SCHEDULE AND ANY ANTICIPATED CHANGES THAT MAY OCCUR.
- ALL WORK, MATERIALS AND EQUIPMENT SHALL BE GUARANTEED FOR A MINIMUM OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION UNLESS NOTED OTHERWISE.
- TRANSPORT ALL MATERIALS REMOVED FROM THE PROJECT AND DISPOSE OF LEGALLY OFF THE SITE.
- LEAVE THE SITE IN A COMPLETELY SAFE AND CLEAN CONDITION.
- INSTALL NEW MATERIALS AS SPECIFIED AND AS PER MANUFACTURERS RECOMMENDATIONS. ALL WORKMANSHIP IS TO BE OF THE HIGHEST LEVEL EXPECTED BY EACH TRADE. SLOPPY WORKMANSHIP WILL NOT BE ACCEPTED AND WILL HAVE TO BE REDONE.
- TO THE FULLEST EXTENT PERMITTED BY LAW, THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER, ARCHITECT, ARCHITECT'S CONSULTANTS, AND AGENTS AND EMPLOYEES OF ANY OF THEM FROM AND AGAINST CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEY'S FEES, ARISING OR RESULTING FROM PERFORMANCE OF THE WORK.

- THE CONTRACTOR SHALL PROMPTLY CORRECT WORK FAILING TO CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, WHETHER OBSERVED BEFORE OR AFTER SUBSTANTIAL COMPLETION AND WHETHER OR NOT FABRICATED, INSTALLED OR COMPLETED.
- BEFORE ORDERING ANY NEW ITEMS SUCH AS WINDOWS, EQUIPMENT, ETC., MAKE SURE THE SPACE AVAILABLE WILL WORK WITH THE SIZE OF THESE ITEMS.
- THE WORK IS TO BE EXECUTED UNDER ONE PRIME CONTRACT COVERING ALL WORK IN CONNECTION WITH GENERAL WORK. THE GENERAL CONTRACTOR SHALL BE THE PRIME CONTRACTOR.
- THE GENERAL AND SUB CONTRACTORS SHALL INCLUDE IN THEIR BIDS THE COST OF ALL PERMITS, LICENSES, FEES AND ASSESSMENTS APPLICABLE TO THEIR RESPECTIVE TRADE AS REQUIRED BY GOVERNING AUTHORITIES. THE COSTS OF ANY SPECIAL FEES AND ASSESSMENTS SHALL BE PAID BY THE RESPECTIVE CONTRACTORS.
- A DETAIL, SECTION, ELEVATION, ETC. REFERENCE MAY BE INDICATED ONLY ONCE ON ANY DRAWING, BUT IS TO BE USED AT ALL LIKE AND SIMILAR CONSTRUCTION CONDITIONS. REFER ALL CLARIFICATIONS TO THE ARCHITECT.
- ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE EDITION OF THE INTERNATIONAL BUILDING CODE ADOPTED BY THE LOCAL JURISDICTION, AND ANY OTHER REGULATING AGENCIES THAT HAVE AUTHORITY OVER ANY PORTION OF THE WORK.
- PROVIDE SEALANT BETWEEN ALL DISSIMILAR AND SIMILAR JOINTS WHETHER SHOWN OR NOT.
- ALL INSULATING MATERIALS SHALL HAVE A FLAME SPREAD INDEX TO NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450. MINERAL FIBER BLANKET/BATT, FACED & NOT FACED SHALL HAVE MAX FLAME SPREAD OF 25 AND SMOKE-DEVELOPED OF 50.
- INTERIOR WALL AND CEILING FINISH MATERIALS TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723 WITH A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450.
- THE ARCHITECT'S INVOLVEMENT DURING CONSTRUCTION IS IN THE BEST INTEREST OF THE OWNER, THE CONTRACTOR, THE ARCHITECT, AND THE PUBLIC. IN ANY PROJECT, ISSUES ARISE DURING CONSTRUCTION THAT REQUIRE THE ARCHITECT. NO SET OF PLANS AND SPECIFICATIONS CAN BE PERFECT, OR COMPLETE. EVERY SET REQUIRES SOME INTERPRETATION. THE IMPACT OF CONSTRUCTION DEFECTS CAN BE SUBSTANTIALLY MITIGATED IF THE ARCHITECT IS AVAILABLE TO RESOLVE PROBLEMS AND TO OBSERVE CONSTRUCTION, TO MINIMIZE THE CONSEQUENCES OF CHANGES THAT ARE UNINTENTIONALLY OR INADVERTENTLY INTRODUCED TO THE PROJECT. CONDITIONS THAT ARISE WITH ALTERATIONS TO EXISTING BUILDINGS, AND TO RESOLVE DISCREPANCIES, CONFLICTS OR OMISSIONS IN THE PLANS AND SPECIFICATIONS.

**BUILDING OWNER GENERAL NOTES:**

- PROVIDE PROPER SEAL AT ALL FLOOR PENETRATIONS.
- DO NOT DRILL ANY HOLES THROUGH THE EXISTING 2x12 CEILING JOISTS
- PROVIDE CONDUIT/UNISTRUT ROUTING PLAN TO ALL PARTIES FOR REVIEW.
- PROVIDE PROTECTION FOR ALL EXISTING FINISHES THROUGHOUT CONSTRUCTION.
- ALL NOISY OR DISRUPTIVE WORK TO BE COORDINATED WITH OWNER, INCLUDING PHASING OF SCHEDULE FOR LEAST DISRUPTION TO NEIGHBORS.
- ALL CONSTRUCTION DEBRIS REMOVAL AND DELIVERY OF NEW CONSTRUCTION MATERIALS SHALL BE THROUGH THE ALLEY. PROTECT SURFACES AS NECESSARY.
- DO NOT PROP OPEN DOORS.
- CONTRACTOR SHALL PROVIDE BLOCKING FOR ALL WALL MOUNTED EQUIPMENT, WITH GYPSUM COVERING OR FIRE RETARDANT (EXPOSED) BLOCKING.
- ALL DIMENSIONS ARE BASED OFF OF FACE OF FINISH OR GRID LINES.
- ALL GYP. SOFFITS AND CEILING TO RECEIVE LEVEL 5 SMOOTH FINISH WITH 90 DEGREE CORNERS.
- MAINTAIN FIRE RATING AT EXISTING CORE WALLS.
- ALL PENETRATIONS UNDER FLOOR MUST BE SEALED AND REQUIRED FIRE RATINGS MAINTAINED.
- PATCH MASONRY ON INTERIOR & EXTERIOR AT LOCATIONS OF NEW PENETRATION.
- GO TO CONSIDER FLOOR SLOPE PRIOR TO EQUIPMENT PLACEMENT AND CONSTRUCTION.
- THIS DRAWING PROVIDES AN OUTLINE OF THE EXTENT OF WORK AND DOES NOT DETAIL CONSTRUCTION AND BUILDING SYSTEMS THAT MAY BE ENCOUNTERED DURING CONSTRUCTION. THE GENERAL CONTRACTOR AND RELEVANT SUBCONTRACTORS SHALL SURVEY EXISTING CONDITIONS PRIOR TO FINALIZING PRICING TO DETERMINE THE FULL EXTENT OF CONSTRUCTION REQUIRED AND COORDINATE WITH THE ARCHITECT AND OWNER.
- ALL THROUGH WALL PENETRATIONS OF RATED WALLS TO BE FIRESTOPPED WITH UL system WL-1164.
- CARE SHALL BE TAKEN TO ENSURE CONDUIT AND WIRING SHALL BE NEAT, TIDY, INSTALLED PLUMB, LEVEL AND PARALLEL.
- REFER TO REFLECTED CEILING NOTES ON SHEET A1.1 AND MEP DRAWINGS FOR ADDITIONAL INFORMATION.
- ANY CONFLICTS BETWEEN ARCHITECTURAL AND MEP DRAWINGS TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION PRIOR TO COMMENCEMENT OF WORK.
- REFER TO ENGINEERING DRAWINGS FOR ALL LIGHTING SPECIFICATIONS.
- ALL ADJ. LIGHT FIXTURES TO BE AIMED PRIOR TO SUBSTANTIAL COMPLETION. SCHEDULE AND COORDINATE WITH ARCHITECT.
- EXPOSED STRUCTURE TO REMAIN WITH EXISTING FINISH.
- ALL FIRE ALARM WIRING / PREWIRE TO BE LEFT WITH EXISTING FINISH. REMOVE ALL LABELS.
- ALL FIRE ALARM WIRING / PREWIRE TO BE ROUTED IN CONDUIT.
- CENTER PENDANTS AND SCHEDULED FIXTURES BETWEEN JOISTS WHERE CEILING IS EXPOSED, TYP.
- REFER TO ELEVATIONS FOR HEIGHTS OF PENDANT FIXTURES.
- REFER TO ELEVATIONS FOR LOCATION AND MOUNTING HEIGHT OF WALL SCONCE IN RESTROOMS.
- GO TO CONFIRM/COORDINATE ABOVE CEILING CLEARANCES AND CONDITIONS TO SET CEILING HEIGHTS PRIOR TO ORDERING DOORS, FRAMES, LIGHTS, ETC.
- ALL GYPSUM BOARD CEILINGS TO BE PAINT P-2, UNO.
- G.C. TO CENTER ALL LIGHT FIXTURES HEADS AT CEILING TILES UNO.
- ALL EXPOSED CONDUIT AND EXPOSED HVAC EQUIPMENT TO BE ARRANGED AS CLEAN, PARALLEL AND STRAIGHT AS POSSIBLE TO LOOK INTENTIONALLY ALIGNED.

**ORIGINAL CODE STUDY SUBMITTED UNDER SEPARATE PERMIT:**

(Provided for Reference Only)

723 MAIN ST UNIT 1 IS A COMMERCIAL TENANT FINISH PROJECT. THE OLD INTERIOR WALL PANELING AND DROP CEILING WILL BE REMOVED, ADDITIONAL ROOF INSULATION AND ELECTRICAL WILL BE INSTALLED TO SERVE 2 TENANTS, UNIT 1 AND UNIT 2. A COMMON HALLWAY SERVES AS EGRESS FOR UNIT 2 AND THE COMMON HALLWAY SERVES AS THE SECOND MEANS OF EGRESS FOR UNIT 1. A NEW GLAZING STOREFRONT WILL BE ADDED ALONG MAIN STREET AND WINDOWS WILL BE ADDED TO THE REAR OF THE BUILDING FOR UNIT 2. ONE WOMENS AND ONE MENS ADA BATHROOM WILL BE ACCESSED OFF THE COMMON HALLWAY. A SHARED EMPLOYEE ONLY ADA SHOWER WITH MOP SINK WILL BE AT THE END OF THE HALLWAY. A KITCHENETTE WILL BE LOCATED OFF THE COMMON HALLWAY ADJACENT TO THE BATHROOMS.

THE BUILDING IS CONSTRUCTED OF 2 CMU LOAD BEARING WALLS FOR THE TRUSS ASSEMBLIES AND END WALLS WHICH BEAR LOADS OF THE BRICK FACADES ALONE. THE EXISTING TRUSSES ARE CLEAR SPAN WITH NO INTERNAL LOAD BEARING POINTS. THE BUILDING IS 2,750SF AND IS UNSPRINKLED.

**LOCAL CODES REFERENCED:**  
City of Longmont International Codes 2021

**BUILDING CODES REFERENCED:**  
2020 National Electric Code  
NFPA code 72  
2021 International Building Code  
2021 International Mechanical Code  
2021 International Energy Conservation Code  
2021 International Plumbing Code  
2021 International Existing Building Code  
2021 International Fire Code

**ZONING:**  
LONGMONT COMMERCIAL

**FLOOR 1 AREA:**  
Total GSF = 2,771 GSF

**BUILDING USE:**  
OCCUPANCY A-2, B, M

**BUILDING SEPARATION:**  
Non-Separated Occupancies

**OCCUPANT LOADS**  
Unit 1 = (Unknown Tenant)  
Unit 2 = Professional Office  
(A-2, B, M) = 1,495 SF total area  
Max Allowed Occupant Load 49 Persons for Single Egress  
Note: 2nd egress provided with interior door swing

**CONSTRUCTION TYPE:**  
Type V-B

**ZONING:**  
COMMERCIAL-CENTRAL BUSINESS DISTRICT

BUILDING HEIGHT	CODE	EXISTING	PROPOSED
45'	15'-0"		NO CHANGE
FRONT SETBACK	20'	0'	NO CHANGE
REAR SETBACK	10'	25'-4.5"	NO CHANGE
SIDE SETBACK		0'	NO CHANGE

1st floor structure:  
12" hollow CMU walls (north / south)  
8" hollow CMU walls (east / west)  
2x12 joist supporting continuous sloped roof constructed on 2x6 supports.  
Concrete Floor

**EGRESS REQUIREMENTS:**  
Min width: 36"  
Max distance to exit (unsprinklered): A-75FT, B-75ft  
Max common path of travel (unsprinklered): A-75ft, B-100ft  
Max dead end corridor (unsprinklered): B-50ft  
Non Rated Corridor: Occupancy < 30

**PLUMBING COUNTS:**

UNIT 1	mwc	wvc	uvc	urinal	lav	mop sink	fountain	shower
1	1	1	0	0	4	1 (shared)	2 (shared)	0
UNIT 2	0	0	1	0	1	1 (shared)	0 (shared)	0
Required	1	1	0	0	2	1 (shared)	2 (shared)	0
Provided	1	1	0	0	3	1 (shared)	2 (shared)	1 (shared)

**2021 IBC 2902.1**  
Occupancies > 15 require separate men / womens restrooms  
1. A2: LAV 1 per 75, FOUNTAINS 1 per 500  
2. B: LAV 1 per 40, FOUNTAINS 1 per 100  
3. M: LAV 1 per 750, FOUNTAINS 1 per 1000  
4. Mop Sinks: 1 per floor

**2021 IBC 1110.5.1**  
Fountains shall be installed for both wheelchair & standing persons

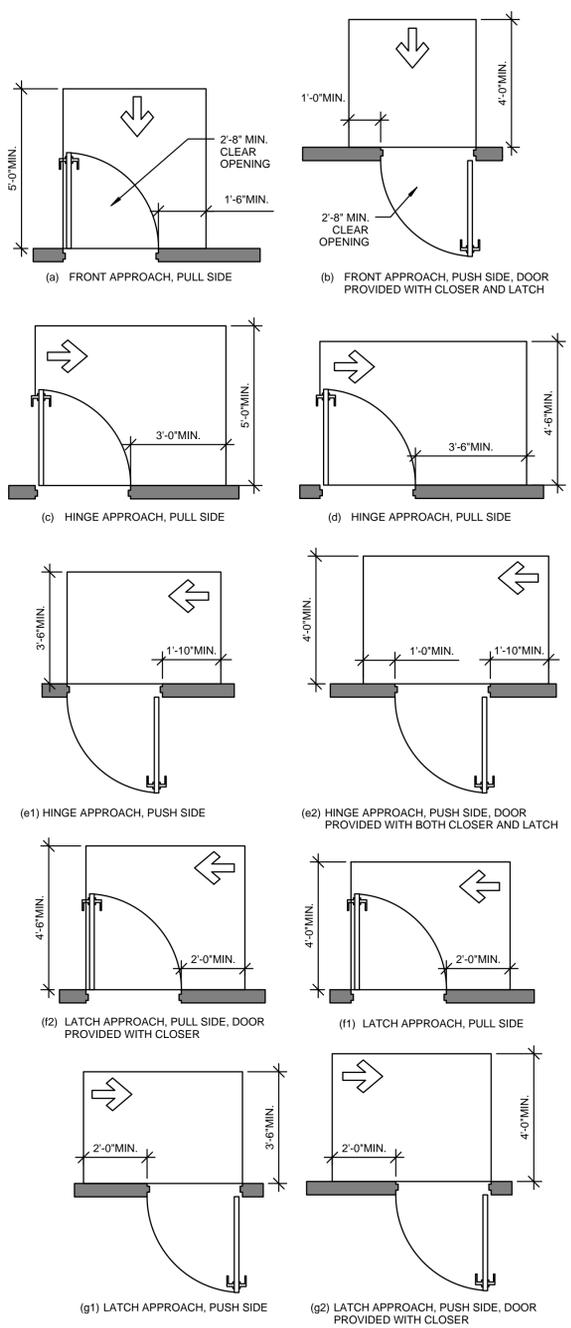
PROJECT No.	723-FLWR
DESIGN BY:	CWK
CHECKED BY:	CWK
ISSUED FOR:	DATE:
CONCEPT	3.7.2023

**CODE REVIEW PLAN**

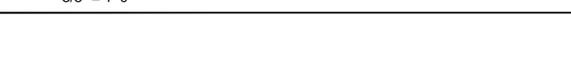
SHEET

A0.1

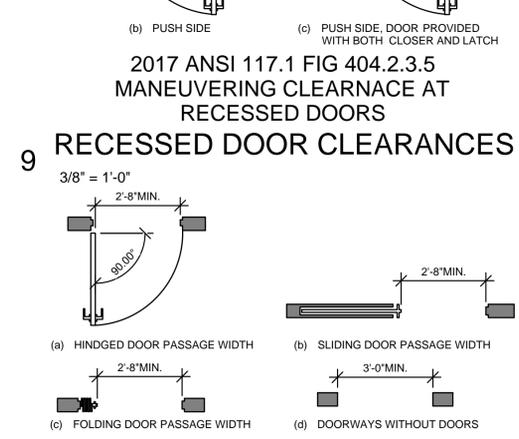
**11 ACCESSIBLE - LAVATORY**  
1/2" = 1'-0"



**10 DOOR CLEARANCES**  
3/8" = 1'-0"

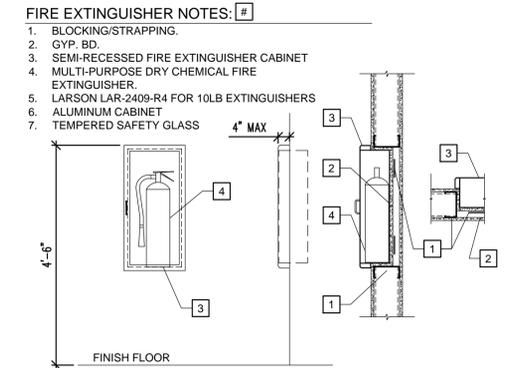


**9 RECESSED DOOR CLEARANCES**  
3/8" = 1'-0"

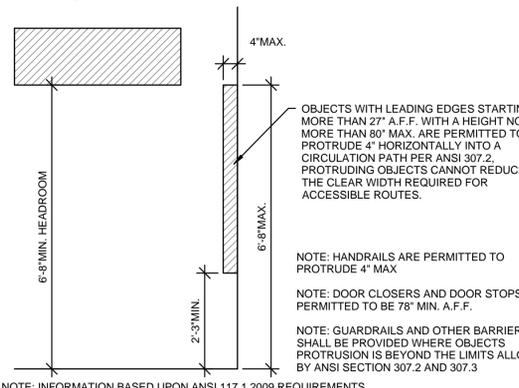


**2009 ANSI 117.1 FIG 404.2.2**  
CLEAR WIDTH OF DOORWAYS

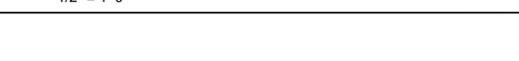
**8 DOOR CLEAR WIDTHS**  
3/8" = 1'-0"



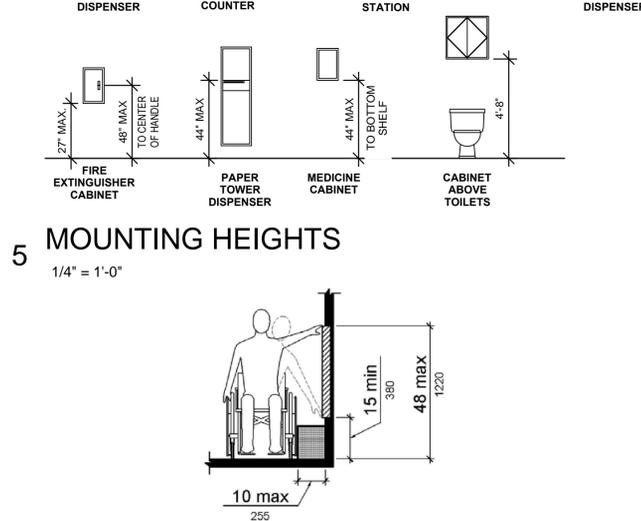
**7 FIRE EXTINGUISHER DETAIL**  
NTS



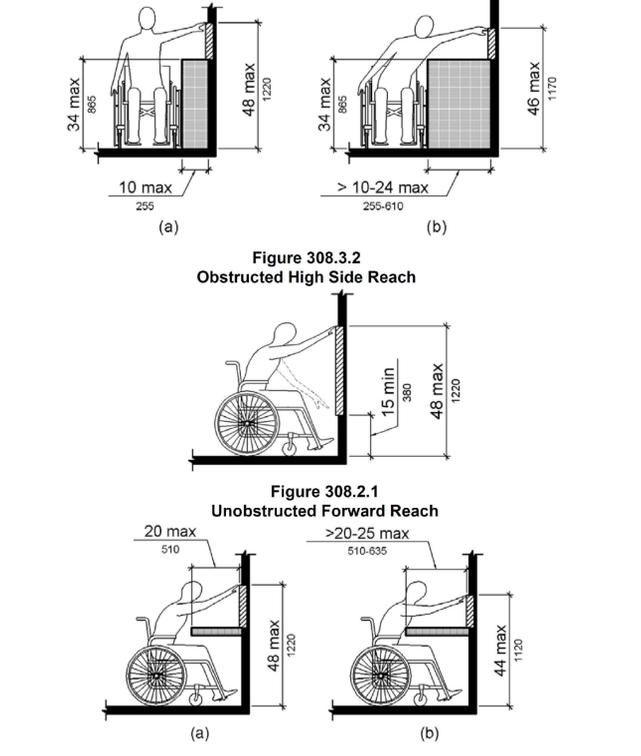
**6 PROTRUDING OBJECTS**  
1/2" = 1'-0"



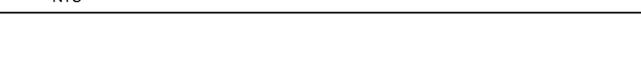
**5 MOUNTING HEIGHTS**  
1/4" = 1'-0"



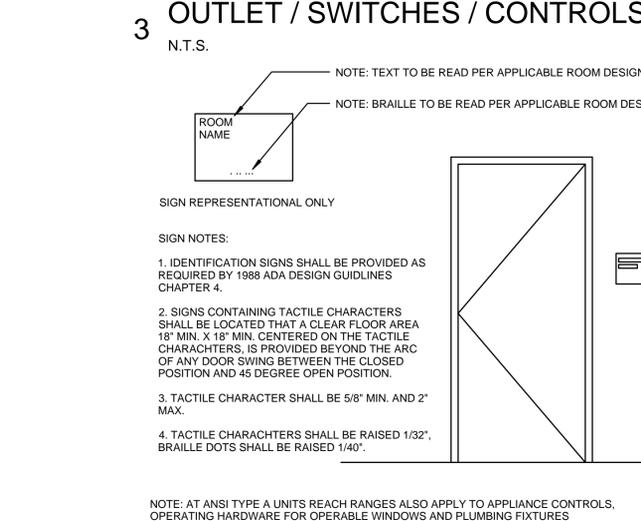
**4 REACH RANGES**  
NTS



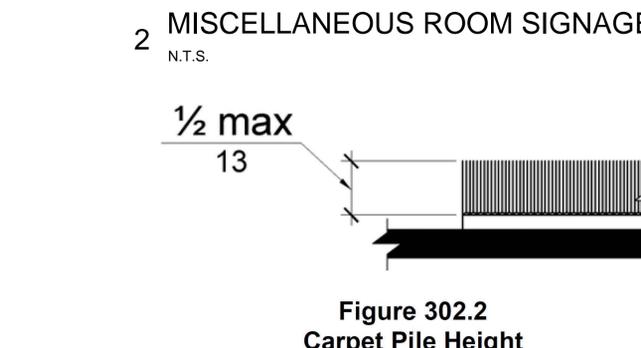
**3 OUTLET / SWITCHES / CONTROLS**  
N.T.S.



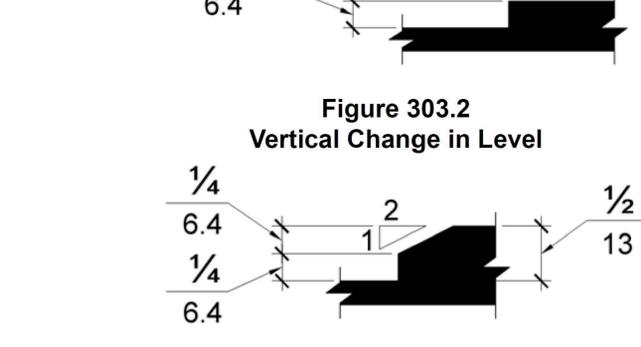
**3 OUTLET / SWITCHES / CONTROLS**  
N.T.S.



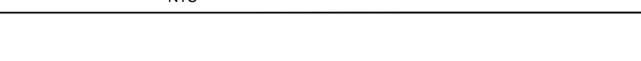
**2 MISCELLANEOUS ROOM SIGNAGE**  
N.T.S.



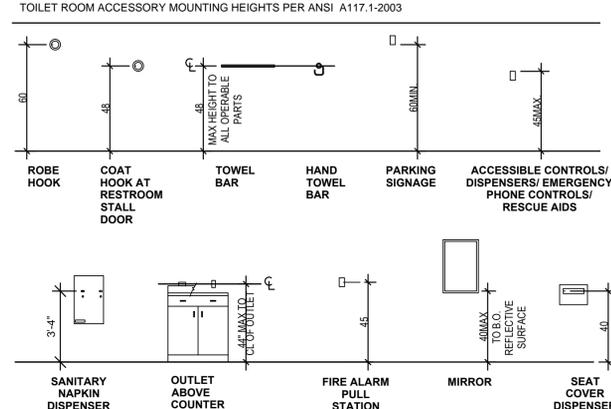
**1 CHANGES IN LEVEL**  
NTS



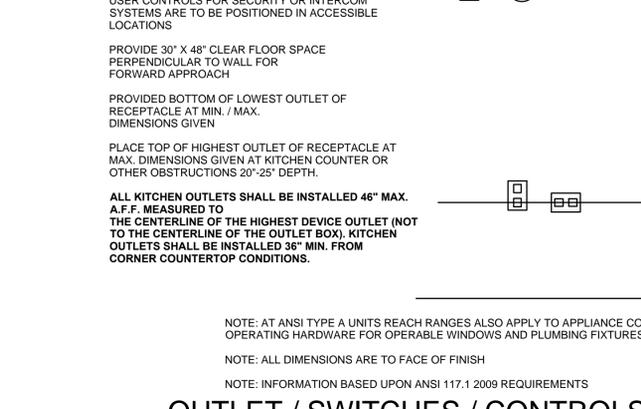
**1 CHANGES IN LEVEL**  
NTS



**MOUNTING HEIGHTS**  
TOILET ROOM ACCESSORY MOUNTING HEIGHTS PER ANSI A117.1-2003



ALL ENVIRONMENTAL CONTROLS, ELECTRICAL OUTLETS, LIGHT SWITCHES AND USER CONTROLS FOR SECURITY OR INTERCOM SYSTEMS ARE TO BE POSITIONED IN ACCESSIBLE LOCATIONS



PRODUCT SPECIFICATIONS

DIVISION 2 – EXISTING CONDITIONS
2.1 02 41 19 – SELECTIVE STRUCTURE DEMOLITION
A. Summary

- 1. This Section includes the following:
a. Demolition and removal of selected portions of building or structure.
b. Demolition and removal of selected site elements.
c. Salvage of existing items to be reused or recycled.
B. Project Conditions
1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
2. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
3. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
a. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
4. Storage or sale of removed items or materials on-site is not permitted.
5. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
a. Maintain fire-protection facilities in service during selective demolition operations.

C. Examination

- 1. Verify that utilities have been disconnected and capped.
2. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
3. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
4. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
5. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
6. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
7. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

D. Utility Services And Mechanical/Electrical Systems

- 1. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
2. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
a. Arrange to shut off indicated utilities with utility companies.
b. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
c. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.

E. Preparation

- 1. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
2. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
3. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
a. Shoring system provider shall engage professional engineering of shoring system, as required.

F. Selective Demolition

- 1. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
a. 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. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
b. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
c. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
d. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
2. Removed and Salvaged Items:
a. Clean salvaged items.
b. Pack or crate items after cleaning. Identify contents of containers.
c. Store items in a secure area until delivery to Owner.
d. Transport items to Owner's storage area designated by Owner.
e. Protect items from damage during transport and storage.
3. Removed and Reinstalled Items:
a. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
b. Pack or crate items after cleaning and repairing. Identify contents of containers.
c. Protect items from damage during transport and storage.
d. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
4. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

G. Disposal Of Demolished Materials

- 1. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
2. Burning: Do not burn demolished materials.
3. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

H. Cleaning

- 1. 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.

DIVISION 3 – CONCRETE

3.1 03 30 00 – CAST-IN-PLACE CONCRETE

A. See Structural drawings and specifications.

B. Finishing

- 1. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Use for undersides of suspended floor slabs.
2. Trowel Finish: Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system. Finish surfaces according to ASTM E 1155, for a randomly trafficked floor surface.

DIVISION 4 – MASONRY

4.1 04 20 00 – UNIT MASONRY

- A. Face Brick – ASTM C 216, Grade SW, Type FBX; color to match existing, selected by Architect from manufacturer's full range. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, and lintels. Provide Control and expansion joints, as recommended by the Brick Institute of America, and the Structural Engineer. Modular brick sized at 3-5/8" x 2-5/8" x 7-5/8".
B. Mortar And Grout Materials – Portland Cement per ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Hydrated Lime per ASTM C 207, Type S. Aggregate for Mortar per ASTM C 144. Aggregate for Grout per ASTM C 404. Water shall be Potable. Grout per Unit Masonry per ASTM C 476. Color by Architect.
C. Reinforcement: Masonry Joint Reinforcement per ASTM A 951. Masonry Joint Reinforcement for Single-Wythe Masonry shall be either ladder or truss type with single pair of side rods.
D. Wire Ties: Unless otherwise indicated, size wire ties to extend at least halfway through veneer but with at least 5/8-inch cover on outside face. Outer ends of wires are bent 90 degrees and extend 2 inches parallel to face of veneer. Use Stainless-Steel Wire per ASTM A 580/A 580M, Type 304.
E. Weep/Vent Products: Round Plastic Weep/Vent Tubing: Medium-density polyethylene, 3/8-inch OD by 4 inches long.
F. Flexible Flashing: For flashing not exposed to the exterior, use one of the following, unless otherwise indicated:
1. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.030 inch.
2. EPDM Flashing: Sheet flashing product made from ethylene-propylene-diene copolymer, complying with ASTM D 4637, 0.040 inch thick.
G. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, through one source from a single manufacturer for each product required. Metal Flashing Terminations:
1. Fabricate from stainless steel. Extend at least 3 inches into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch and down into joint 3/8 inch to form a stop for retaining sealant backer rod.
H. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from a single manufacturer for each cementitious component and from one source or producer for each aggregate.

DIVISION 5 – METALS

5.1 05 40 00 – COLD-FORMED METAL FRAMING

A. Non-load-bearing wall framing

- 1. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges
2. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges
3. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal and lateral loads and transfer them to the primary structure.
4. Drift Clips: Manufacturer's standard bypass or head clips, capable of isolating wall stud from upward and downward vertical displacement and lateral drift of primary structure.

B. Fire-Test-Response Characteristics: Where indicated, provide cold-formed metal framing identical to that of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.

C. ASI Specifications and Standards: Comply with ASI's "North American Specification for the Design of Cold-Formed Steel Structural Members" and its "Standard for Cold-Formed Steel Framing – General Provisions."

D. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows: supplementary framing; bracing, bridging, and solid blocking; web stiffeners; anchor clips; end clips; foundation clips; gusset plates; stud kickers; knee braces, and girts; joist hangers and end closures; hole reinforcing plates; backer plates.

E. Cold-Formed Steel Framing, General: Design according to ASI's "Standard for Cold-Formed Steel Framing – General Provisions." Headers according to ASI's "Standard for Cold-Formed Steel Framing – Header Design." Design exterior non-load-bearing wall framing to accommodate horizontal deflection without regard for contribution of sheathing materials. Wind Loads: Per ASCE 7-02 and Denver requirements. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:

- 1. Exterior Non-Load-Bearing Framing: Horizontal deflection of 1/600 of the wall height at brick.

5.2 05 50 00 – METAL FABRICATIONS

- A. Steel columns and lintels, including those required to support brick veneer. See Structural drawings and specifications.
B. Miscellaneous metal fabrications, including steel framing and supports for countertops; steel framing and supports for mechanical and electrical equipment; steel framing and supports for applications where framing and supports are not specified in other sections; loose bearing and leveling plates; steel weld plates and angles for casting into concrete not specified in other sections; metal bollards; loose steel lintels; anchor bolts, steel pipe sleeves, and wedge-type inserts indicated to be cast into concrete or built into unit masonry. See Structural drawings and specifications.
C. Pipe Bollards: Provide 6" dia. hot dipped galvanized, painted, schedule 80, concrete filled pipe bollards as indicated. Bollards shall be sleeved into exterior concrete sidewalk.
D. Ferrous metals.
1. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
2. Stainless-Steel Sheet, Strip, Plate, and Flat Bars: ASTM A 666, Type 304.
3. Stainless-Steel Bars and Shapes: ASTM A 276, Type 304.
4. Steel Tubing: ASTM A 500, cold-formed steel tubing.
5. Steel Pipe: ASTM A 53/A 53M, standard weight (Schedule 40), unless another weight is indicated or required by structural loads.

E. Nonferrous metals

- 1. Aluminum Plate and Sheet: ASTM B 209, Alloy 6061-T6.
2. Aluminum Extrusions: ASTM B 221, Alloy 6063-T6.

F. Fasteners: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633, Class Fe/Zn 5, at exterior walls. Provide stainless-steel fasteners for fastening aluminum. Select fasteners for type, grade, and class required.

DIVISION 6 – WOOD, PLASTICS AND COMPOSITES

6.1 06 10 00 – ROUGH CARPENTRY

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the AISC Board of Review. Provide lumber graded by an agency certified by the AISC Board of Review to inspect and grade lumber under the rules indicated. Provide dressed lumber, S4S, unless otherwise indicated. Any species with a modulus of elasticity and an extreme fiber stress in bending as indicated on Drawings; exception: Southern (yellow) pine is not permitted. See Structural drawings and specifications.
B. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project. See Structural drawings and specifications.
C. Fire-Retardant-Treated Materials: Comply with performance requirements in AFWA C20 (lumber) and AFWA C27 (plywood).
D. Fasteners: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture: nails, brads, and staples per ASTM F 1667; power-driven fasteners per NES NER-272; wood screws per ASME B18.6.1; lag bolts per ASME B18.2.1; steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated. See Structural drawings and specifications.
E. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency. See Structural drawings and specifications.
F. Metal Framing Anchors – Provide products with allowable design loads, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. At Galvanized Steel Sheet use Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation; use for interior locations where stainless steel is not indicated. Stainless-Steel Sheet per ASTM A 666, Type 304; use for exterior locations and where indicated. See Structural drawings and specifications.
G. Framing Standards: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.
H. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
I. Wall and Partition Framing Installation: Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction, unless otherwise indicated.
1. For interior partitions and non-load-bearing walls, provide 2-by-4-inch nominal-size wood studs spaced 16 inches o.c., unless otherwise indicated.
2. Provide continuous horizontal blocking at midheight of partitions more than 96 inches high, using members of 2-inch nominal thickness and of same width as wall or partitions.

J. Construct corners and intersections with three or more studs, except that two studs may be used for interior non-load-bearing partitions.

K. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.
1. For non-load-bearing partitions, provide double-jamb studs and headers not less than 4-inch nominal depth for openings 48 inches and less in width, 6-inch nominal depth for openings 48 to 72 inches in width, 8-inch nominal depth for openings 72 to 120 inches in width, and not less than 10-inch nominal depth for openings 10 to 12 feet in width.

6.2 06 16 00 – SHEATHING

- A. Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.
B. Wood Panel Products
1. Plywood: Either DOC PS 1 or DOC PS 2, unless otherwise indicated
2. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
3. Factory mark panels to indicate compliance with applicable standard.

C. Wall Sheathing

- 1. Oriented-Strand-Board Wall Sheathing: Exposure 1, Structural I sheathing.
D. Roof Sheathing
1. As indicated on the structural drawings.
2. Nominal Thickness: Not less than 19/32 inch thick.

E. Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture. F. See also Structural drawings and specifications.

6.3 06 40 23 – INTERIOR ARCHITECTURAL WOODWORK

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 35 and 70 percent during the remainder of the construction period.

B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Wood Products

- 1. Medium-Density Fiberboard: ANSI A208.2, Grade MD.
2. Particleboard: ANSI A208.1, Grade M-2.
3. Southern Yellow Pine: finger jointed or continuous cut

D. High-Pressure Decorative Laminat: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.

E. Thermostat Decorative Panels: Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT

F. Cabinet Hardware And Accessories

- 1. General: Provide cabinet hardware and accessory materials associated with architectural woodwork, except for items specified in Division 08 Section "Door Hardware", as listed here and as indicated on the Drawings.
2. Butt Hinges: hinges made from 0.095-inch-thick metal, and as follows:
a. Semi-concealed Hinges for Overlay Doors: BHMA A156.9, B01521.
3. Back-Mounted Pulls: BHMA A156.9, B02011.
4. Catches: Magnetic catches, BHMA A156.9, B03141.
5. Drawer Slides: BHMA A156.9, B05081.
a. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Side mounted; full-extension type; zinc-plated steel ball-bearing slides.
6. Box Drawer Slides: Grade 1HD-100; for drawers not more than 6 inches high and 24 inches wide.
7. File Drawer Slides: Grade 1HD-200; for drawers not more than 6 inches high or 24 inches wide.
8. Pencil Drawer Slides: Grade 1; for drawers not more than 3 inches high and 24 inches wide.

G. Door Locks: BHMA A156.11, E07121.

H. Drawer Locks: BHMA A156.11, E07041.

I. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

J. Miscellaneous Materials

- 1. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
2. Grommets: PVC; to be field located.

K. Fabrication

- 1. General: Complete fabrication to maximum extent possible before shipment to Project site. Where necessary for fitting at site, provide allowance for scrubbing, trimming, and fitting.
a. Interior Woodwork: Grades: Custom.
b. Shop cut openings to maximum extent possible. Sand edges of cutouts to remove splinters and burrs. Seal edges of openings in countertops with a coat of varnish.
c. Underside of work surfaces to be "baby-bottom" smooth within 12' of the front edge of work surface.

L. Plastic-Laminate Cabinets:

- 1. AWI Type of Cabinet Construction: Full flush overlay.
2. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate as follows:
a. Horizontal Surfaces Other Than Tops: Grade HGL.
b. Postformed Surfaces: Grade HGP.
c. Vertical Surfaces: Grade VGS.
d. Edges: PVC tape, 0.018-inch minimum thickness, matching laminate in color.
3. Materials for Semiexposed Surfaces Other Than Drawer Bodies: Thermostat decorative panels.
4. Drawer Sides and Backs: Thermostat decorative panels.
5. Drawer Bottoms: Thermostat decorative panels.
6. Colors, Patterns, and Finishes: As selected by Architect from manufacturer's full range.
7. Provide dust panels of 1/4-inch plywood or tempered hardboard above compartments and drawers, unless located directly under tops.
M. Plastic-Laminate Countertops: See section 12 36 23, Plastic Countertops
N. Solid-Surfacing-Material Countertops:
1. Solid-Surfacing-Material Thickness: 3/4 inch.
2. Colors, Patterns, and Finishes: As indicated on the drawings.
3. Fabricate tops in one piece with shop-applied backslashes. Comply with solid-surfacing material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.
4. Install integral sink bowls in countertops in shop.

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

7.1 SECTION 07 11 13 – BITUMINOUS DAMPROOFING

A. Cold-Applied, Emulsified-Asphalt Damproofing: Basis-of-Design Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

- 1. Watchdog H3 waterproofing; Tremco, Inc.
B. Protection Course, Roll-Roofing Type: Smooth-surfaced roll roofing complying with ASTM D 6380, Class S, Type III.
C. Emulsified-Asphalt Primer: ASTM D 1227, Type III, Class 1, except diluted with water as recommended by manufacturer.
D. Asphalt-Coated Glass Fabric: ASTM D 1668, Type I.

7.2 07 21 00 – THERMAL INSULATION

A. Spray Foam Closed Cell Insulation Ceiling

- 1. Closed Cell 2.0 pcf Spray Foam Insulation with Flame Spread Rating <25 (ASTM E84).
a. Existing R16 Extruded Polystyrene above exist roof sheathing.
b. 3/4" Plywood roof sheathing.
c. Added insulation under sheathing, closed cell Spray Foam with Flame Spread Rating <25.
i. R38 Assembly Composite section for roof.
B. Glass-Fiber Blanket Insulation
1. Unfaced, Glass-Fiber Blanket Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
2. Where glass-fiber blanket insulation is indicated by the following thicknesses, provide blankets in batt or roll form with thermal resistances indicated:
a. 5-1/2 inches thick with a thermal resistance of 19 deg F x h x sq. ft./Btu at 75 deg F.
b. 3-5/8 inches thick with a thermal resistance of 11 deg F x h x sq. ft./Btu at 75 deg F.
C. Vapor Retarders
1. Polyethylene Vapor Retarders: ASTM D 4397, 6 mils thick, with maximum permeance rating of 0.13 perm.
2. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.
3. Vapor-Retarder Fasteners: Pancake-head, self-tapping steel drill screws; with fender washers.
4. Single-Component Nonsoy Urethane Sealant: ASTM C 920, Type I, Grade NS, Class 25, Use NT related to exposure, and Use O related to vapor-barrier-related substrates.
5. Adhesive for Vapor Retarders: Product recommended by vapor-retarder manufacturer and with demonstrated capability to bond vapor retarders securely to substrates indicated.

D. Auxiliary Insulating Materials

- 1. Adhesive for Bonding Insulation: Product with demonstrated capability to bond insulation securely to substrates indicated without damaging insulation and substrates.
E. Insulation Fasteners
1. Anchor Adhesive: Product with demonstrated capability to bond insulation anchors securely to substrates indicated without damaging insulation, fasteners, and substrates.

7.3 07 25 00 – WEATHER BARRIERS

A. Building Wrap: High-performance, spunbonded polyolefin, non-woven, non-perforated, weather barrier is based upon DuPont™ Tyvek, or other similar material, © CommercialWrap® and related assembly components.

B. Accessories

- 1. Seam Tape: 3 inch wide, DuPont™ Tyvek® Tape for commercial applications.
2. Fasteners: Tyvek® Wrap Caps, as manufactured by DuPont Building Innovations: #4 nails with large 1-inch plastic cap sealers.
3. Provide sealants that comply with ASTM C920, elastomeric polymer sealant to maintain watertight conditions. Use sealants recommended by the weather barrier manufacturer. Provide adhesive recommended by weather barrier manufacturer.
4. Provide flashing manufacturer recommended primer to assist in adhesion between substrate and flashing.
C. Vapor Permeable Weather-Resistive Barrier: two-ply asphalt saturated kraft grade D breather type sheathing paper; install behind masonry veneer
1. 30 LB, Asphalt Felt Type II, ASTM D-226 Gold Lined.
D. Self-Adhering Sheet Flashing
1. Modified Bituminous Sheet: 40-mil-thick, high-temperature resistant self-adhering sheet consisting of 36 mils of rubberized asphalt laminated to a 4-mil-thick, polyethylene film with release liner on adhesive side; Grace Vycor V40.
2. Provide at head, jamb and sill with and dams at openings in exterior skin; lap shingle style with weather barrier.
3. Joint Sealant: ASTM C 920, single-component, neutral-curing silicone, Class 100/50 (low modulus), Grade NS, Use NT related to exposure, and, as applicable to joint substrates indicated, Use O.

Building Owner - Builds Specific Specifications
1. Not all specifications will apply to this job. If applicable these specifications must be followed.
2. If structural design is required for any work G.C. to prepare structural design.
3. Anywhere that Architect is referenced for color, finish schedule or finish material selection should be replaced with Owner to select.

**Building Owner - Building Specific Specifications**

1. Not all specifications will apply to the job. If applicable these specifications must be followed.
2. If structural design is required for any work G.C. to ensure structural design.
3. Anywhere that checklist is referenced for color, finish schedule or finish material selection shall be replaced with Owner to select.

9.2 09 30 13 – CERAMIC TILING

A. Approved Manufacturers: Refer to Finish Schedule

B. ANSI Ceramic Tile Standard: Provide Standard grade tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.

C. Tile Types: As indicated on the Drawings

D. Accessories: Provide accessories of type and size indicated, suitable for installing by some method as adjoining tile.

E. Color and Finish: Match adjoining tile.

F. Wall Tile: Refer to Finish Schedule

F. Thresholds: General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.

1. Bevel edges at 1/2 slope, with lower edge of bevel aligned with or up to 1/16 inch above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch or less above adjacent floor surface.
2. ASTM C 241 and with honed finish.

G. Tile Base and Accessories: Provide special shapes such as bull-nose edges and other accessories as required, to match wall tile.

1. Provide matching bull-nose tile at all exposed edges.

H. Metal Edge Strips: Angle or L-shape, stainless steel, 300 Series exposed-edge material.

I. Provide self-bonding elastomeric crack-bridging membrane capable of heavy-duty service per ASTM C-627.

1. Color and Finish: Match adjoining tile.
- 3/16-inch (4-mm) nominal thickness; basis-of-design product, Schluter Systems L.P.; DITRA.

J. Provide waterproofing membrane: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated.

K. Leveling coat shall be 1/4" thick or less and shall consist of dry set mortar to which an equal volume of a mixture of one part Portland Cement and 1-1/2 parts sand has been added.

L. Floor tile mortar materials – Bond Coat: Thin Set Mortar with Polymer or Acrylic/Latex Additive. Installation conforming to ANSI A108.5 and A118.4 and Tile Council of America Handbook for Ceramic Tile Installation No. 22F131 and TR911.

M. Wall tile adhesive materials – High strength latex-based, non-flammable adhesive formulated to meet or exceed the requirements of ANSI A136.1, Type 1.

N. Latex Portland Cement Grout consisting of dry set mortar with a acrylic latex or polymer additive. Use in conformance with ANSI A108.5 and ANSI A108.10. Materials shall conform to ANSI A118.3 and A118.7.

1. Color as shown on Finish Schedule.

O. Grout sealer: 511 Impregator, Miracle Sealants Company; apply per manufacturer's written instructions.

P. Provide shower floor pan liner for lining concrete subfloor of showers in locations shown on drawings.

9.7 09 90 00 – PAINTING

A. Provide surface preparation and the application of paint materials to exposed interior and exterior items and surfaces scheduled. Surface preparation, prime and finish coats specified are in addition to shop-priming and surface treatments.

B. Paint all exposed surfaces, whether or not colors are designated, except where a surface or material is indicated not to be painted or is to remain natural. Where an item or surface is not mentioned, paint the same color as similar adjacent materials or surfaces. If color or finish is not designated, the Owner will select from standard colors or finishes available.

C. Except in mechanical and electrical rooms, paint all exposed plumbing, heating, fire protection, and electrical material to match the walls and ceilings of that area unless noted otherwise. This shall include, but not be limited to, pipes, sprinkler piping, insulation, conduit, ducts, access panels, grilles, diffusers, hangers, exposed steel and iron supports, HVAC and electrical equipment that do not have a factory applied finish, whether the adjacent surfaces receive paint or not, and the like. Include dampers or baffles behind grilles.

D. Unless noted otherwise, painting is not required on pre-finished items, finished metal surfaces, concealed surfaces, operating parts, sprinkler heads, or labels.

1. All louvers and grilles to be painted to match adjacent surfaces.

E. Labels: Do not paint over Underwriter's Laboratories, FMG or other code-required labels, or equipment name, identification, performance rating, or nomenclature plates.

F. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

G. Detailed specifications for the various surfaces are shown in the F i n i s h Schedule. If these specifications conflict with the recommendations of the manufacturer, this discrepancy shall be brought to the attention of the Architect, the Architect shall decide which method shall be followed.

H. Refer to Finish Schedule for products and manufacturers, colors and finishes.

I. Interior Paint, General:

1. High humidity and high use areas (including but not limited to Toilet rooms and Janitor Rooms ) shall be coated with epoxy based paint.
2. Material Compatibility:
  - a. Systems could fail if paints used for individual coats are incompatible. MPI's paintsystems match primers and topcoats and take compatibility into consideration.
  - b. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  - c. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

J. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior applications.

K. Interior Ferrous-Metal Primer: Factory-formulated quick-drying rust-inhibitive alkylid based metal primer.

L. Interior Zinc-Coated Metal Primer: Factory-formulated galvanized metal primer.

M. Interior Latex Paint: Factory-formulated latex paint for interior application.

9.8 09 96 00 – HIGH-PERFORMANCE COATINGS

A. Paint all exposed surfaces, whether or not colors are designated, except where a surface or material is indicated not to be painted or is to remain natural. Where an item or surface is not mentioned, paint the same color as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available.

B. Painting is not required on pre-finished items, operating parts, or labels.

1. Labels: Do not paint over Underwriter's Laboratories, Factory Mutual or other coderequired labels, or equipment name, identification, performance rating, or nomenclature plates.

C. Material Compatibility: Provide block fillers, primers, finish coats, and related materials that are compatible with one another and the substrates indicated under conditions of service and application as demonstrated by the manufacturer based on testing and field experience.

D. Exterior and Interior Pool and Ferrous Metals: All structural steel and metal fabrications, miscellaneous metal (including lintels), handrails, uninsulated piping, mechanical and electrical equipment at exterior (including all component parts, but not including stainless steel or prefinished aluminum):

1. Shop Priming: SP6 Commercial Blast
2. Field Application:
  - a. SP3 power tool clean
  - b. Finish required at exposed items only): Color as selected by Architect. Apply one coat if spray applied, two coats if brush or roller applied.

E. Exterior Steel Doors and Frames (Galvanized):

1. Factory Primer (By Door Manufacturer)
  - a. To be sanded or abraded as recommended by door manufacturer
2. Tie Coat
3. Back-prime frames and all edges at 2.0 mils DFT.
4. Finish: One coat (Semi-Gloss Color) at 3.0 mils DFT.

8.2 08 14 16 – FLUSH WOOD DOORS

A. Door Construction, General: WDMA I.S.1-A Performance Grade:

1. Heavy Duty unless otherwise indicated.
2. Extra Heavy Duty: Public toilets, janitor's closets, assembly spaces, exits and where indicated.
3. Standard Duty: Closets (not including janitor's closets) private toilets and where indicated.

B. Interior Solid-Core Doors: Veneered-Faced Doors For Transparent Finish

1. New doors shall match existing interior doors to remain.
2. Grade: Premium, with Grade AA faces.
3. Species: As indicated on Drawings.
4. Cut: As indicated on Drawings.
5. Match between Veneer Leaves: As indicated on Drawings.
6. Assembly of Veneer Leaves on Door Faces: As indicated on Drawings.
7. Core: Particleboard.
8. Construction: Five or seven plies. Stiles and rails are bonded to core, then entire unit abrasive planed before veneering.

C. Factory Finishing: General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.

1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on bottom edges, edges of cutouts, and mortises.

D. Finish doors at factory that are indicated to receive transparent finish.

E. Transparent Finish:

1. Grade: Custom.
2. Finish: AWI conversion varnish system.
3. Staining: As selected by Architect from manufacturer's full range.
4. Sheen: Satin.rust-inhibiting primer complying with ANSI A250.10 for acceptance criteria.

8.4 08 41 13– ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

A. Approved manufacturer and models for basis-of-design:

1. Exterior: "Trifab 451T", Kawneer North America, an Alcoa Company. (770-449-5555); thermally broken with 1" insulated glazing.
2. Interior: "Parwall", Kawneer North America

B. Entry doors style and rail tubular member door framing system by same manufacturer of storefront framing system, compatible with specified framing system. Framing members shall be extruded aluminum of 6063T-5 alloy and shall be of the size, shape, and intended function as shown on the Drawings. Performance requirements shall conform to standards established by the Architect in relation to wind load and deflection limits. Fasteners shall be stainless steel.

1. Medium stile doors, Type 350 by Kawneer or equal, fabricated for glazing with 1" insulated glass. Clear anodized finish.

C. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes

D. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

E. Entrance door hardware shall be supplied with doors unless indicated otherwise. Furnish manufacturer's bolting ponc device at storefront doors. Coordinate hardware at main entries with entry system.

8.5 08 71 00 – DOOR HARDWARE

A. Single Source Responsibility: Obtain each type of hardware (latch and lock sets, hinges, closers, etc.) from SCHLAGE USING SC6 KEYWAY.

B. Hardware models and manufacturers are specified for each hardware item to establish a standard of quality and minimum functional requirements. In the hardware schedule at the end of this Section, product model numbers are used as part of this description to assist in identifying individual items.

C. Refer to Hardware Schedule on drawings.

D. Provide Grade 1 hardware serving exterior doors

8.6 08 80 00 – GLAZING

A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190, and complying with other requirements specified.

1. Curtainwall and storefront systems: 1" insulated, Low-E; PPG Solorban 70XL glazing.
2. Entrance door hardware shall be supplied with doors unless indicated otherwise. Furnish manufacturer's bolting ponc device at storefront doors. Coordinate hardware at main entries with entry system.

C. Glazing for Fire-Rated Door and Window Assemblies: Glazing for assemblies that comply with NFPA 80 and that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 257.

1. Provide SuperLite II XL glazing in rated openings.

D. Safety Glazing Products: Comply with testing requirements in 16 CFR 120,1and, for wired glass, ANSI Z97.

1. Provide clear tempered glass at non-fire-rated interior glazed lites and openings.

E. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form, made out to Owner and signed by insulating-glass manufacturer agreeing to replace insulating-glass units that deteriorate, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.

1. Warranty Period: 10 years from date of Substantial Completion.

F. Glass Products:

1. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear) unless otherwise indicated.
2. Heat-Treated Float Glass: ASTM C 1048; Type I; Quality-Q3; Class I (clear) unless otherwise indicated; of kind and condition indicated.
3. Uncoated Tinted Float Glass: Class 2, complying with other requirements specified.

G. Glazing Accessories

1. Glazing Gaskets
  - a. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal.
  - b. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned EPDM silicone or thermoplastic polyolefin rubber gaskets complying with ASTM C 509, Type II, block; of profile and hardness required to maintain watertight seal.
2. Glazing Tapes
  - a. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated.
  - b. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.

3. Glazing Sealant: Neutral-curing silicone glazing sealant complying with STM C 920, Type S, Grade NS, Class 100/50, Use NT.

8.7 089000 – LOUVERS AND VENTS

A. Delegated Design: Design louvers, including comprehensive engineering analysis by a qualified professional engineer, using structural performance requirements and design criteria indicated.

B. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.

C. Join frame members to each other and to fixed louver blades with fillet welds concealed from view unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary.

D. Factory finish; color by Architect selected from manufacturer's full range, including nonstandard colors.

DIVISION 9 – FINISHES

9.1 092900 – GYPSUM BOARD

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

C. Comply with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.

D. Exterior Gypsum Soffit Board: ASTM C 931/C 931M or ASTM C 1396/C 1396M, with manufacturer's standard edges.

E. Glass-Mat, Water-Resistant Backing Board: Comply with ASTM C 1178/C 1178M or with ASTM C1177/C 1177M.

F. Gypsum board is 5/8" Type X unless noted otherwise.

G. Ceiling Type: Manufactured to have more sag resistance than regular-type gypsum board.

1. Thickness: 1/2 inch.
2. Long Edges: Tapered.

H. Moisture- and Mold-Resistant Type: With moisture- and mold-resistant core and surfaces.

1. Core: 5/8 inch, Type X.
2. Long Edges: Tapered.

I. Primer: As recommended by textured finish manufacturer.

J. Wall and Ceiling Finish: Smooth

1. Standard wall finish: Level 4
2. Provide level 5 finish on walls to receive wall covering; refer to Finish Schedule.

PRODUCT SPECIFICATIONS CONT.

7.4 07 46 00 – SIDING AND TRIM

A. Fiber-Cement Siding and Trim – General: ASTM C 1186, Type A, Grade II, pre-finished fiber-cementboard, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.

1. James Hardie H25, 12" x 12" x 1/4", Primed, Vented and Non Vented soffit panels
2. James Hardie H25, Primed, Artisan Matrix Panel Siding
3. James Hardie H25, 4" wide, Primed, battin strips

B. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.

1. Provide accessories matching color and texture of adjacent siding unless otherwise indicated.

C. Flashing: Provide galvanized steel flashing at window and door heads and where indicated.

D. Fasteners:

1. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch (6 mm), or three screw-threads, into substrate.
2. For fastening fiber cement, use hot-dip galvanized fasteners.

7.6 07 51 13 – BUILT-UP ASPHALT ROOFING (REPAIR AND PATCHING)

A. Membrane plies: Ply Sheet: ASTM D 2178, Type VI, asphalt-impregnated, glass-fiber felt.

B. Asphalt Primer: ASTM D 41

C. Roofing Asphalt: ASTM D 312, Type III

D. Aggregate Surfacing: ASTM D 1863, No. 6 or No. 67, clean, dry, opaque, water-worn gravel or crushed stone, free of sharp edges.

E. Remove surface material and most of the flood coat from existing membrane a minimum of 12 inches beyond the edge of the area to be patched. Prepare membrane by trimming away deteriorated felts. Use care not to damage the water/tight felts below. Prime area with a thin coat of asphalt primer and allow to dry. Apply 3-ply hot asphalt and fiberglass felt patch using strips 6", 9", and 12" wider than the area to be patched. Apply the surface material in a flood coat of hot asphalt. Apply aggregate surfacing as recommended by roofing materials manufacturer.

7.7 07 62 00 – SHEET METAL FLASHING AND TRIM

A. Provide prefinished sheet metal copings, flashing and counter flashing as indicated at roofing applications. Provide prefinished gutters, leader boxes and downspouts at roof eaves, fascias and roof canopies, as indicated; 24 GA typical, except provide 20 GA at all fascias.

B. Fasteners: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without falling, rattling, leaking, and fastener disengagement.

C. Sheet Metal Flashing and Trim Standards: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

D. Prepainted, Metallic-Coated Steel Sheet: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M. Zinc-Coated (Galvanized) Steel Sheet per ASTM A 653/A 653M, G90 coating designation; structural quality, mill phosphatized for shop painting. Aluminum-Zinc Alloy-Coated Steel Sheet per ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40; structural quality.

E. Provide materials and types of solder, welding rods, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation. Exposed fasteners shall have heads matching color of sheet metal by means of plastic caps or factory-applied coating; at areas exposed to public view only. Fasteners for Flashing and Trim to be blind fasteners or self-drilling screws, gasketed, with hex washer head.

F. Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release- paper backing. Provide permanently elastic, nongas, nontoxic, nonstaining tape.

G. Fabricate sheet metal flashing and trim without oil canning, buckling, or tool marks and true to line and levels indicated, with exposed edges folded back to form hems. Fabricate nonmoving seams in accessories with flat-lock seams.

7.8 07 72 00 – ROOF ACCESSORIES

A. Roof Curbs: Provide metal roof curbs, internally reinforced and capable of supporting superimposed live and dead loads, including equipment loads and other construction to be supported on roof curbs. Fabricate with welded or sealed mechanical corner joints, with stepped integral metal cant raised the thickness of roof insulation and integral formed mounting flange at perimeter bottom. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

7.10 079200 – JOINT SEALANTS

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.

B. Joint-Sealant Application JS-1: Exterior vertical and horizontal nontraffic construction joints in cast-in-place concrete; exterior vertical and horizontal nontraffic joints between plant-precast architectural concrete units; exterior vertical control and expansion joints in unit masonry; exterior perimeter joints between brick and stucco and frames of doors, windows and louvers; exterior control and expansion joints in ceilings and other overhead surfaces; vertical control and expansion joints on exposed interior surfaces of exterior walls: Multicomponent nongas urethane sealant; color by Architect.

C. Joint-Sealant Application JS-2: Exterior butt joints between metal panels: Multicomponent nongas neutral-curing silicone sealant; color by Architect.

D. Joint-Sealant Application JS-3: Exterior horizontal traffic, isolation and contraction joints in cast-in-place concrete slabs: Multicomponent pourable urethane sealant; color by Architect.

E. Joint-Sealant Application JS-4: Interior perimeter joints of exterior openings; interior joints between plumbing fixtures and adjoining walls, floors, and counters; perimeter joints between interior wall surfaces and frames of interior doors, windows and elevator entrances: Latex sealant; colors by Architect.

F. Joint-Sealant Application JS-5: Interior ceramic and dimension stone tile expansion, control, contraction, and isolation joints in horizontal traffic surfaces: Multicomponent pourable urethane sealant; color by Architect.

G. Joint-Sealant Application JS-6: Vertical joints on exposed surfaces of interior unit masonry and concrete walls and partitions: Multicomponent nongas urethane sealant; color by Architect.

DIVISION 8 – OPENINGS

8.1 08 11 13 – HOLLOW METAL DOORS AND FRAMES

A. Hollow metal doors and frames shall be fabricated in accordance with standards and specifications established by Steel Door Institute, complying with ANSI A250.8-1998 (SDI-100) Recommended Specifications for Standard Steel Doors and Frames' and as specified.

B. Acoustical qualities: Doors shall have a minimum sound transmission classification of 29 as tested under ASTM E90-61T.

D. Opening assemblies shall meet the requirements of NFPA 105 Hot Smoke Test.

E. Hollow metal frames for doors shall be formed of steel to sizes and shapes indicated. Frames shall be fabricated with continuously welded corners unit type construction at joints, unless noted otherwise for Prefinished Frames. Frames shall be furnished with Underwriter's Laboratories label, as required, at the place of manufacturer. Frames shall be cold-rolled or hotrolled, pickled and oiled, steel sheets with clean, smooth surfaces. Interior Frames of 16-gauge thick steel sheet shall be used for door openings wider than 48 inches, Level 2 steel doors, and wood doors, unless otherwise indicated. Exterior Frames of 16-gauge (0.053-inch/1.3-mm) thick steel sheet for shall be used for door openings wider than 48 inches, Level 2 steel doors and Level 3 steel doors.

F. Prefinished frames for doors shall be minimum 18 gauge, cold-rolled steel sheet conforming to ASTM A366. Use for interior door frames only. Wood or synthetic material applied casings per Section 064023. Factory applied baked enamel finish.

G. Interior Flush Door:

1. Basis-of-design Model: "L Series"; Steelcraft Manufacturing Company, or approved substitution.
2. Level 2, Heavy Duty, 18-gage, and Physical Performance Level B (Heavy Duty), Model 2 (Seamless).
3. Thickness: 1-3/4"
4. Cores: Per ANSI A250.8. Doors shall be reinforced, stiffened, sound deadened and insulated with impregnated Kraft honeycomb core completely filling the inside of the doors and laminated to inside faces of both panels using contact adhesive applied to both panels and honeycomb core.

I. Interior temperature rise doors shall be the same as flush door construction except core material shall be designed to produce the 450 degree temperature rise rating. Cores per ANSI A250.8. Use mineral-fiber board: For labeled doors if a temperature-rise limit is required.

J. Exterior Doors: Provide doors complying with requirements indicated below by referencing ANSI A250.8 for level and model and ANSI A250.4 for physical-endurance level:

1. Flush Door:
  - a. Thickness: 1-3/4"
  - b. Basis-of-design Model: "L Series"; Steelcraft Manufacturing Company, or approved substitution.
  - c. Level 3, Extra Heavy Duty, 16-gage, and Physical Performance Level B (Extra Heavy Duty), Model 2 (Seamless).
2. Exterior doors shall be fabricated as thermal insulating door and frame assemblies and tested in accordance with ASTM C236 or ASTM C976 on fully operable door assemblies. Provide thermal-rated assemblies with U-factor of 0.24 or better. Hot-dipped galvanized or electrolytic zinc-coated steel with a stretcher level degree of flatness.
3. Exterior swing-out doors shall have the top and bottoms closed to eliminate moisture penetration. Door tops shall no have holes or openings.

K. Factory Prime Coating for Field Painted Finish: Unless specified otherwise, provide manufacturer's standard, factory-applied coat of rust-inhibiting primer complying with ANSI A250.10 for acceptance criteria.

PROJECT No.	723-FLWR
DESIGN BY:	CWK
CHECKED BY:	CWK
ISSUED FOR:	DATE:
CONCEPT	3.7.2023

PRODUCT SPECIFICATIONS CONT.

DIVISION 10 - SPECIALTIES

10.1 10 21 13 - TOILET COMPARTMENTS

- A. Steel Sheet: Commercial steel sheet for exposed applications; mill phosphatized and selected for smoothness.
  - 1. Electrolytically Zinc Coated: ASTM A 879/A 879M, O1Z (03G).
- B. Zamac: ASTM B 86, commercial zinc-alloy die castings.
- C. Concealed Anchorage Reinforcement: Minimum 12 gauge galvanized steel sheet.
- D. Concealed Tapping Reinforcement: Minimum 14 gauge galvanized steel sheet.
- E. Door, Panel, and Pilaster Construction: Seamless, metal facing sheets pressure laminated to core material; with continuous, interlocking molding strip or lapped-and-formed edge closures; corners secured by welding or clips and exposed welds ground smooth. Exposed surfaces shall be free of pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections.
  - 1. Core Material: Manufacturer's standard sound-deadening honeycomb of resin-impregnated kraft paper in thickness required to provide finished thickness of 1 inch (25 mm) for doors and panels and 1-1/4 inches (32 mm) for pilasters.
  - 2. Grab-Bar Reinforcement: Provide concealed internal reinforcement for grab bars mounted on units.
  - 3. Tapping Reinforcement: Provide concealed reinforcement for tapping (threading) at locations where machine screws are used for attaching items to units.
- F. Steel-Sheet Finish: Manufacturer's standard baked-on finish, with one color in each room; to be selected by Architect from manufacturer's full range.
- G. Pilaster Shoes: ASTM A167, Type 304 stainless steel, not less than 3" high, 20-gauge, finished to match hardware.
- H. Stirrup Brackets: Manufacturer's standard design for attaching panels to walls and pilasters, either chromium-plated non-ferrous cast alloy ("Zamac") or anodized aluminum.
- I. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories of stainless steel.
- J. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match hardware, with theft-resistant type heads and nuts. For concealed anchors, use hot-dip galvanized, cadmium-plated, or other rust-resistant protective-coated steel.
- K. Overhead Bracing: Continuous extruded aluminum, antigrip profile, with clear anodized finish.

10.2 10 26 00 - WALL AND DOOR PROTECTION

- A. Surface-Mounted, Resilient, Plastic Corner Guards: Assembly consisting of snap-on plastic cover installed over continuous retainer; including mounting hardware; fabricated with 90- or 135-degree turn to match wall condition.
- B. Cover: Extruded rigid plastic, minimum 0.100-inch wall thickness; clear; in dimensions and profiles indicated on Drawings
  - 1. Polycarbonate Plastic Sheet: ASTM D 6098, S-PC01, Class 1 or 2, abrasion resistant; with a minimum impact-resistance rating of 15 ft-lbf/in. of notch when tested according to ASTM D 256, Test Method A.
- C. Retainer Clips: Manufacturer's standard impact-absorbing clips.
- D. Top and Bottom Caps: Prefabricated, injection-molded plastic; color matching cover; field adjustable for close alignment with snap-on cover.
- E. Accessories - Provide all appropriate mounting systems including all screws, bolts, brackets, end caps, and base plates as required for complete installation.

10.3 10 28 00 - TOILET, BATH, AND LAUNDRY ACCESSORIES

- A. 18-8 (Type 302) stainless steel alloy of at least 22 gauge in all elements of cabinet work. Unless shown otherwise, all exposed stainless steel to have a #4 Satin finish or Satin chrome finish where applicable with all elements of a unit to have brushing in one direction.
- B. Mirrors to be 1/4" polished plate glass with 10-year guarantee against silver spoilage.
- C. Stainless steel tubing: 18 ga., Type 304, seamless welded.
- D. Finish: Satin stainless steel; exposed heads of fasteners shall match finish of accessory.
- E. Fabrication - Toilet Accessories - Provide steel anchor plates and anchor components for installation on building finishes. Form surfaces flat without distortion. Maintain flat surface without scratches or dents. Back paint components where contact is made with building finishes to prevent electrolysis. Hot dip galvanize ferrous metal anchors and fastening devices. Shop assemble components and package complete with anchors and fittings.
- F. Toilet and Bath Accessories: Manufacturer; American Specialties, Inc.
  - 1. Heavy duty shower curtain rod with exposed flanges: Model 1214
  - 2. Shower curtain hook: Model 1200-SHU
  - 3. Shower curtain: Model 1200-V (specify size)
  - 4. Compact rectangular phenolic fold-up shower seat: Model 8203
  - 5. Security safety towel/clothes hooks strip: Model 129
  - 6. Grab bar with flanges for concealed mounting: Model 3100

10.5 10 44 00 - FIRE PROTECTION SPECIALTIES

- A. Provide fire extinguishers, fire extinguisher cabinets, hose valve cabinet and accessories.
- B. Extinguishers:
  - 1. Multi-Purpose, Dry-Chemical Type: Steel Tank, pressurized, including hose and nozzle; 10-pound, ABC classification, UL 4A/60BC.
- C. Cabinets:
  - 1. Items specified below are by Larsen's Manufacturing Co. Equivalent products by listed manufacturer will be acceptable.
    - a. Semi-recessed Cabinet (FEC-1); "MP10" Extinguisher with "G-2409-6R"; semi-recessed cabinet, projecting 2-1/2", rough opening of 10-1/2" x 25" x 4".
    - b. Hose Valve Cabinet (FVC); "MP10" Extinguisher with "GTVCS 3616 RL" Hose Valve Cabinet.
  - 2. Cabinet: 18 gauge steel with acrylic thermo-setting enamel finish, flat trim type with continuous hinged 1/4" acrylic plastic "Gemini" series door with black vertical letters on white background stating equipment in cabinet.
    - a. Provide lock similar to "Larsen-Loc" on all cabinets.
  - 3. Color: Exterior and interior of cabinet box to be field painted.
  - 4. Provide text "FIRE EXTINGUISHER" on side of cabinet where required by code.
- D. Mounting Hardware: Appropriate to Cabinet
- E. Fabrication
  - 1. Form body of cabinet with tight inside corners and seams.
  - 2. Pre-drill holes for anchorage.
  - 3. Form perimeter trim and door stiles by welding, filling, and grinding smooth.
  - 4. Hinge doors for 180 degree opening with continuous piano hinge. Provide pull handle and roller type catch.
- F. Finishes
  - 1. Extinguishers: Red Enamel

DIVISION 12 - FURNISHINGS

12.1 12 36 23 - PLASTIC COUNTERTOPS

- A. Provide plastic laminate countertops, backsplashes and aprons.
- B. Plastic Laminate: Shall be standard grade, 1/16" thick, general purpose material complying with current NEMA LD-3 Grade HGS for flat countertops and HGP for postformed. Comply with ANSI A161.2. Pattern and color shown in Finish Schedule.
- C. Countertops and Edging: 3/4" B-C particleboard (except at sinks, use exterior grade plywood only) with plastic laminate bonded to tops.
- D. Plastic Laminate Work:
  - 1. Where shown as self edged, countertops shall have 3/4" x 4" high square-edged separate matching backsplash and matching aprons with same grade of laminate as top surface unless indicated otherwise.
    - a. Apply trim and edging prior to surface sheet.
    - b. Apply veneers or plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Make corners and joints hairline. Locate counter butt joints minimum 2 feet from sink cut-outs.
  - 2. Counters and work tops with sinks: Substrate for back splashes and at edges shall be trimmed lumber. Use only exterior grade or marine grade Plywood near wet areas. All adhesives used near water shall be formulated to be specially water-resistant.
- E. Installation Materials
  - 1. Furring, Blocking, Shims, and Hanging Strips: Fire-retardant-treated Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
  - 2. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed steel or lead expansion sleeves for drilled-in-place anchors.
- F. Fabrication
  - 1. Shop assemble countertops for delivery to site in units easily handled and to permit passage through building openings.
  - 2. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trip for scribing and site cutting.
  - 3. Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes, and other fixtures and fittings.

12.2 12 48 13 - ENTRANCE FLOOR MAT

- A. Provide Surface-Mounted Floor Mat: Carpet tile walk-off mat.

DIVISION 22 - PLUMBING

Per Mechanical Drawings and Specifications

DIVISION 23 - HVAC

Per Mechanical Drawings and Specifications

DIVISION 26 - ELECTRICAL

Per Electrical Drawings and Specifications

DIVISION 27 - COMMUNICATIONS

Per Electrical Drawings and Specifications

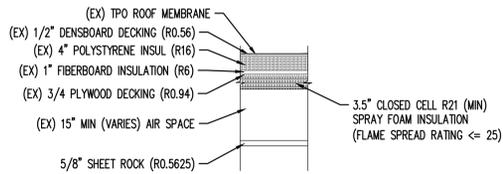
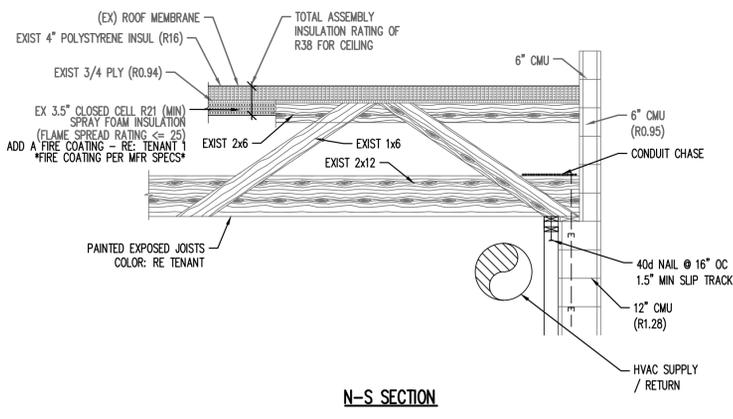
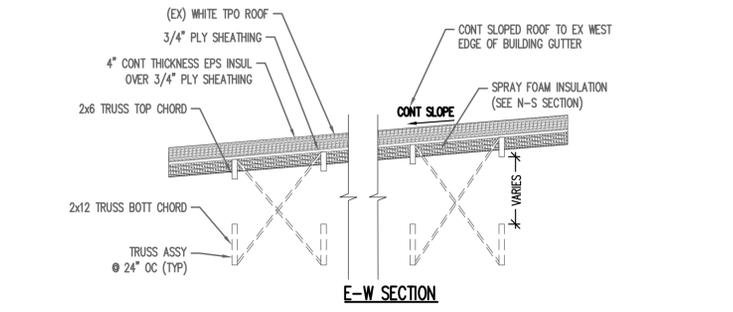
DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

Per Security Drawings and Specifications

**Builder Owner - Building Specific Specifications**

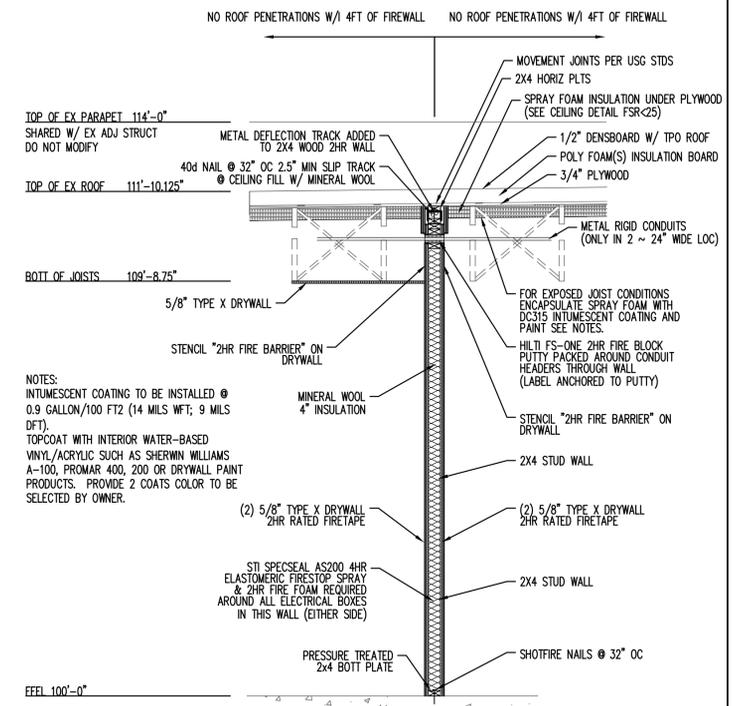
1. Not all specifications will apply to this job. If applicable these specifications must be followed.
2. If structural design is required for any work (A/C, to protect structural design).
3. Anywhere that Architect is referenced for color, finish schedule or finish material selection should be replaced with Owner to select.



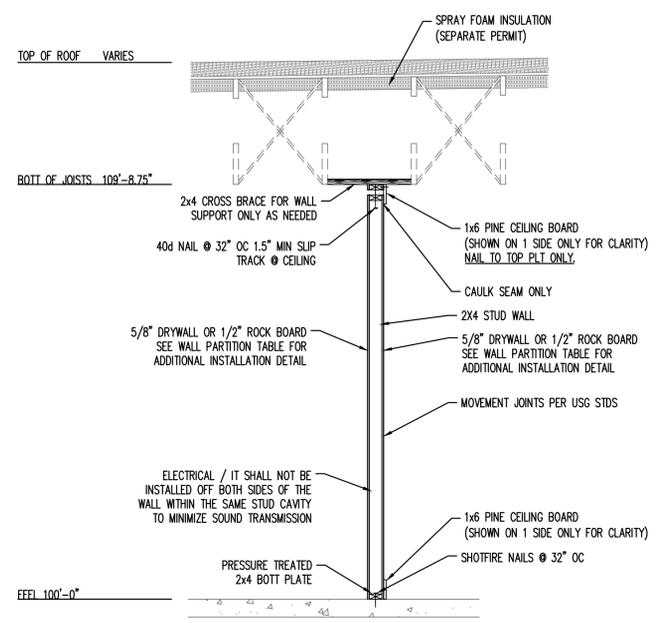


**E R45+ AG-BUILT ROOF INSULATION (TYP)**  
A-12 SCALE: 1/2" = 1'-0"

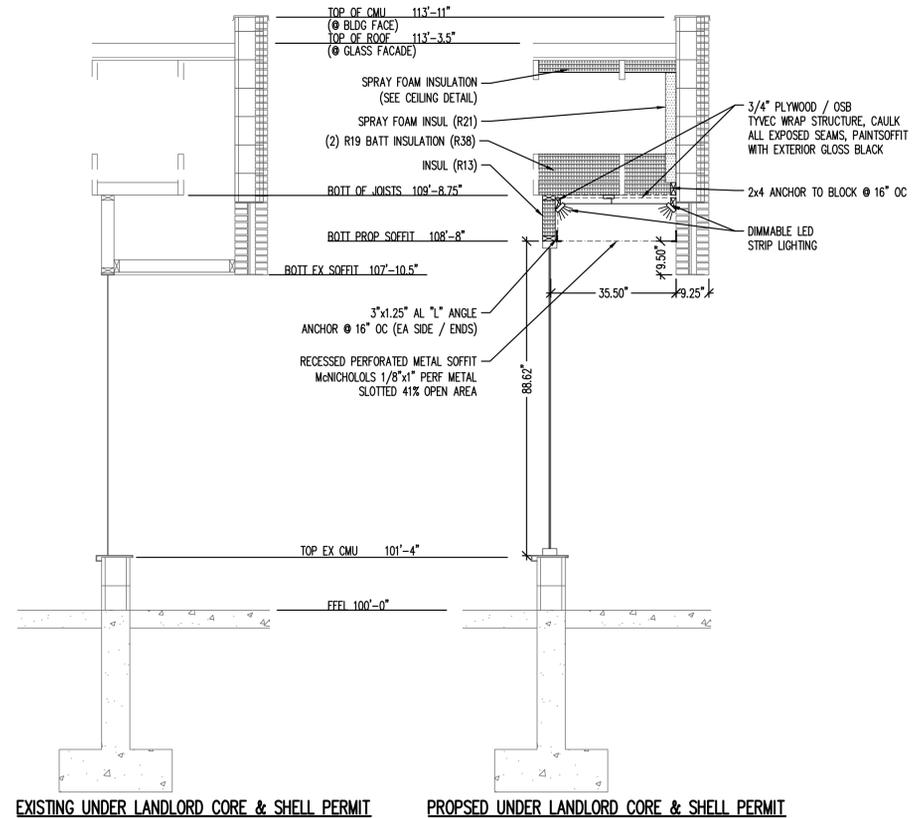
**C CEILING SECTIONS EXPOSED CEILING (TYP)**  
A-12 SCALE: 1/2" = 1'-0"



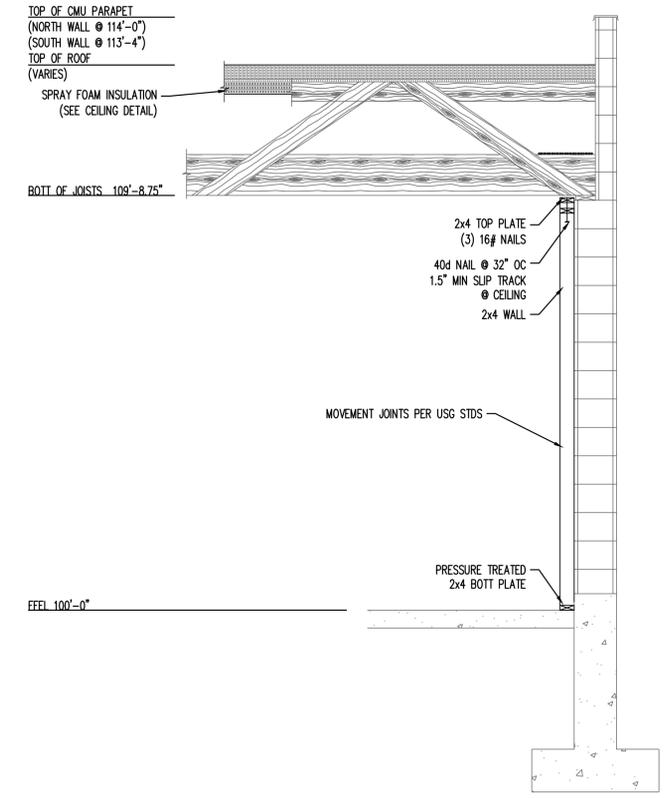
**WALL CONSTRUCTED UNDER LANDLORD CORE & SHELL PERMIT**  
A-12 SCALE: 1/2" = 1'-0"



**F PARTITION WALL SECTION (TYP)**  
A-12 SCALE: 1/2" = 1'-0"



**D EAST WALL SECTIONS (TYP)**  
A-12 SCALE: 1/2" = 1'-0"



**B NORTH / SOUTH WALL SECTION (TYP)**  
A-12 SCALE: 1/2" = 1'-0"

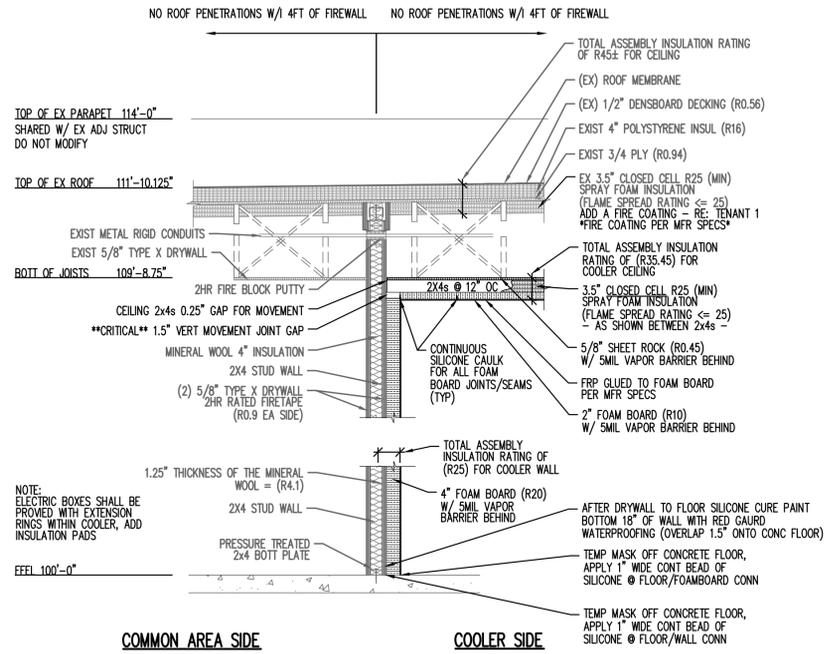
**723 MAIN STREET**  
**ROYALTY ARRANGEMENTS**  
**(UNIT 1 OCCUPANCY PERMIT)**  
**LONGMONT, CO 80501**

PROJECT No.	723-FLWR
DESIGN BY:	CWK
CHECKED BY:	CWK
ISSUED FOR:	DATE:
CONCEPT	3.7.2023

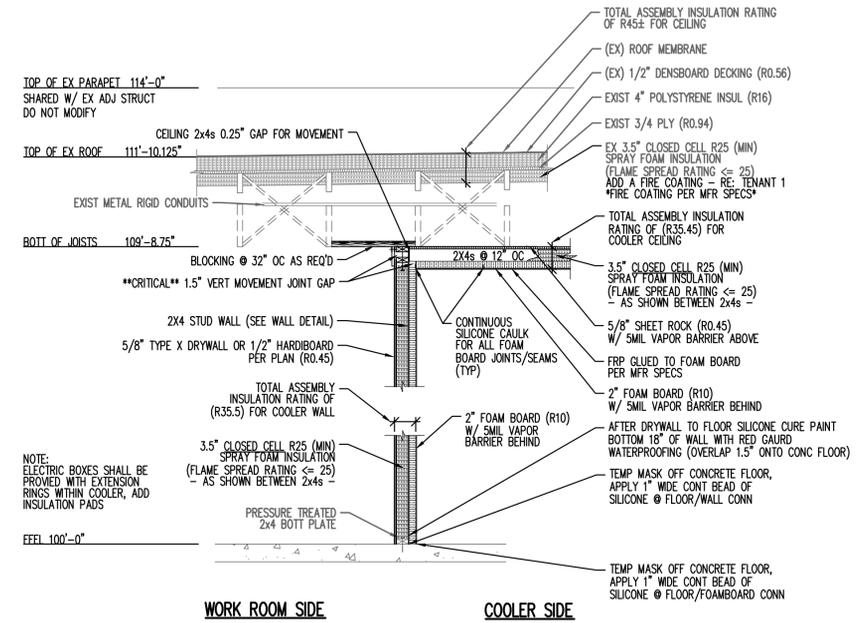
WALL & CEILING SECTIONS

G:\723 Main\Construction\723-1-A12- WALL SECTIONS.dwg

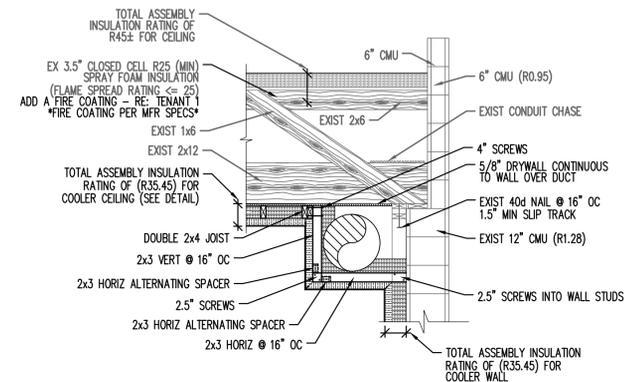




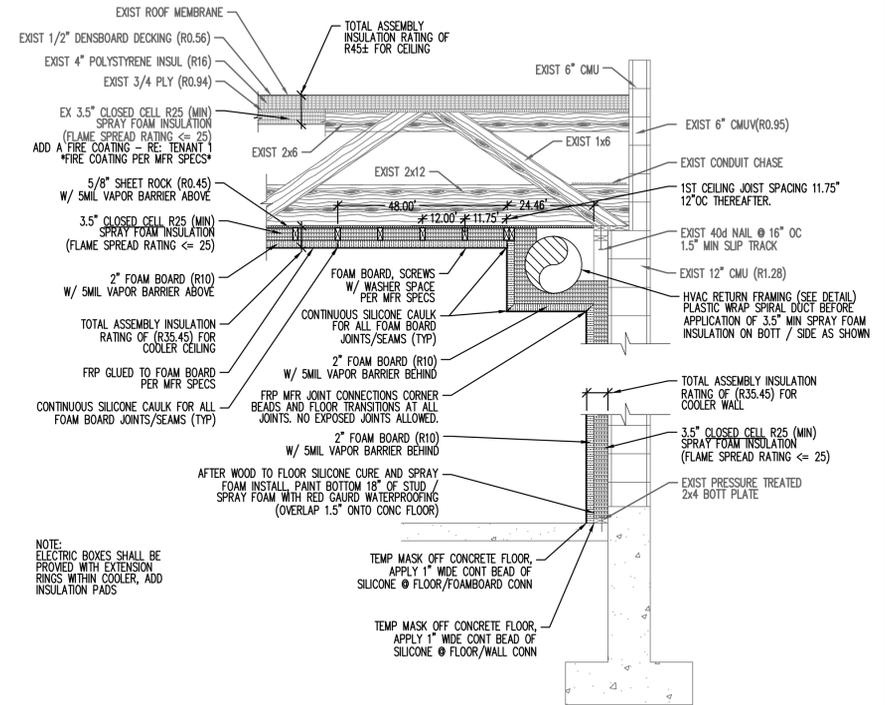
**1** COOLER CEILING / WALL @ 2 HR WALL DETAIL (TYP)  
A-12 SCALE: 1/2" = 1'-0"



**G** COOLER INTERIOR WALL DETAIL (TYP)  
A-12 SCALE: 1/2" = 1'-0"



**J** COOLER CEILING HVAC DUCT DETAIL (TYP)  
A-12 SCALE: 1/2" = 1'-0"



**H** COOLER CEILING / EXTERIOR WALL DETAIL (TYP)  
A-12 SCALE: 1/2" = 1'-0"

723 MAIN STREET  
ROYALTY ARRANGEMENTS  
(UNIT 1 OCCUPANCY PERMIT)  
LONGMONT, CO 80501

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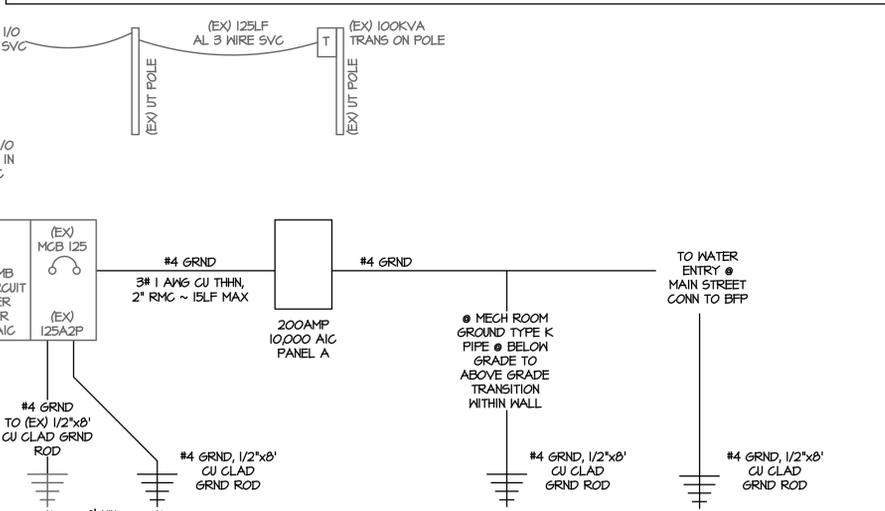
# ELECTRICAL GENERAL NOTES

- PRIOR TO SUBMITTING BIDS, THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING ELECTRICAL EQUIPMENT CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. FIELD VERIFY QUANTITIES OF EXISTING LIGHT FIXTURES, ELECTRICAL DEVICES, COMMUNICATION DEVICES, FIRE ALARM DEVICES, AND ELECTRICAL EQUIPMENT. NOTIFY THE ARCHITECT AND ENGINEER OF ANY EXISTING CONDITIONS WHICH MODIFY THE SCOPE OF WORK AS SHOWN ON THE CONSTRUCTION DOCUMENTS. SUBMISSION OF A BID PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR MOBILIZATION, LABOR, EQUIPMENT, AND/OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
- ELECTRICAL CONTRACTOR SHALL FULLY COORDINATE WITH OWNER REPRESENTATIVES. ALL ELECTRICAL WORK PERFORMED UNDER THIS CONTRACT SHALL CONFORM WITH LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, UNIFORM BUILDING CODE OR INTERNATIONAL BUILDING CODE, LOCAL BUILDING AND FIRE DEPARTMENT REQUIREMENTS. PERFORM WORK IN ACCORDANCE WITH REQUIREMENTS OF OWNER REPRESENTATIVES.
- ELECTRICAL CONTRACTOR SHALL MAINTAIN ON THE JOB AN UP TO DATE SET OF WORKING DRAWINGS, MARKED UP TO SHOW ELECTRICAL SYSTEMS AS INSTALLED. PROVIDE TENANT REPRESENTATIVES WITH ONE SET OF REPRODUCIBLES WITH "AS BUILT" PROJECT RECORD INFORMATION CLEARLY INDICATED. ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LOCAL FEES, PERMITS, AND SERVICES OF INSPECTION AUTHORITIES REQUIRED BY ELECTRICAL WORK FOR THIS ELECTRICAL CONSTRUCTION.
- REFER TO ARCHITECTURAL AND MECHANICAL EQUIPMENT DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL DEVICES AND LIGHT FIXTURES. DO NOT SCALE FROM THE ELECTRICAL PLANS. ADDITIONAL ELECTRICAL REQUIREMENTS ON ARCHITECTURAL PLANS, KITCHEN EQUIPMENT PLANS, AND MECHANICAL PLANS SHALL BE INCLUDED IN THE ELECTRICAL CONTRACTOR'S BID.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF ELECTRICAL WORK. LOCATIONS ARE APPROXIMATE AND SHALL BE SUBJECT TO MINOR MODIFICATIONS AS DIRECTED BY THE GENERAL CONTRACTOR AND OWNER REPRESENTATIVES. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT FITTING OF ALL MATERIALS, EQUIPMENT, ETC., IN THE BUILDING AND TENANT SPACE. ALL DIMENSIONS SHALL BE VERIFIED ON THE JOB. ELECTRICAL CONTRACTOR SHALL CUT, CHANNEL, CHASE, AND/OR DRILL FLOORS, WALLS, PARTITIONS, CEILING, OR OTHER SURFACES AS REQUIRED FOR INSTALLATION, SUPPORT, ANCHORAGE, ETC., OF WORK. PROVIDE X-RAY OF FLOOR PRIOR TO CORE DRILLS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUBSEQUENT PATCHING WORK.
- ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER OF ANY CHANGES REQUIRED BY THE BUILDING MANAGEMENT AND TENANT REPRESENTATIVES. DEMOLITION OR ABANDONING ANY ELECTRICAL AND COMMUNICATIONS CONDUIT, WIRING, CABLES, OR DEVICE MEANS TO REMOVE IN ITS ENTIRETY. REMOVED UNUSED CONDUITS FROM CEILING SPACES IN AREAS OF WORK. ABANDONED OUTLET JUNCTION BOXES ARE TO BE REMOVED AND COVERED WITH NEW GYPSUM BOARD. ABANDONED POKE THRU OUTLETS SHALL HAVE COVER PLATES AND BE FILLED WITH FIRE RATED FOAM SEALANT TO MAINTAIN FIRE RATING OF FLOOR. RETURN UNUSED ELECTRICAL EQUIPMENT AND LIGHT FIXTURES TO BUILDING MANAGEMENT FOR STORAGE AND/OR REMOVAL FROM SITE AS DIRECTED BY OWNERS.
- ELECTRICAL CONTRACTOR SHALL RE-USE EXISTING BRANCH CIRCUIT CONDUIT AND WIRING WHERE POSSIBLE. RE-ROUTE AND EXTEND AS NECESSARY FOR THIS TENANT FINISH CONSTRUCTION. PROVIDE ADDITIONAL NEW CONDUIT, WIRING, COMPONENTS, AND CONNECTIONS AS REQUIRED FOR COMPLETE AND OPERATIONAL SYSTEMS, TYPICAL.
- PROVIDE UPDATED, COMPLETE AND ACCURATE TYPED PANELBOARD CIRCUIT DIRECTORIES AT THE COMPLETION OF WORK. CLEAN EXPOSED PANELBOARD SURFACES AND CHECK TIGHTNESS OF ELECTRICAL CONNECTIONS. REPLACE DAMAGED CIRCUIT BREAKERS AS REQUIRED AND PROVIDE FILLER PLATES FOR VACANT SPACES.
- PROVIDE UPDATED LABELING OF ALL NEW AND RELOCATED ELECTRICAL EQUIPMENT IN SCOPE OF WORK INCLUDING, BUT NOT LIMITED TO, ENGINE GENERATOR SYSTEMS, TRANSFER SWITCHES, TRANSFORMERS, SWITCHGEAR, SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL CENTERS, AND DISCONNECTS TO INDICATE THE AMPERE RATING, VOLTAGE RATING, PHASE, CONDUCTOR COLOR CODING WITHIN THE EQUIPMENT AND APPLICABLE AIC RATING.
- WIRING DEVICES SHALL BE SPECIFICATION GRADE; 20 AMP FOR GENERAL APPLICATION, 20 AMP OR GREATER FOR DEDICATED CIRCUITS AND AS REQUIRED BY CIRCUIT LOAD. LEVITON #5362 RECEPTACLES, 5362-16 (ORANGE) ISOLATED GROUND RECEPTACLES, and #1221 SWITCHES (OR EQUAL). COLOR TO MATCH EXISTING BUILDING STANDARD OR PROVIDE (WHITE) UNLESS OTHERWISE NOTED. PROVIDE MATCHING COLOR NYLON COVER PLATES FOR ALL OUTLETS. ELECTRICAL CONTRACTOR SHALL VERIFY ALL OUTLETS WITH ARCHITECTURAL PLANS AND TENANT BEFORE ORDERING AND PURCHASING OF MATERIALS, TYPICAL.
- ALL 15 AMPERE AND 20 AMPERE, 125 VOLT AND 250 VOLT NON-LOCKING RECEPTACLES INSTALLED IN DAMP OR WET LOCATIONS SHALL BE LISTED AS WEATHER-RESISTANT PER 2020 NEC, ARTICLE 406.9 (A) AND (B). ALL RECEPTACLES MOUNTED IN WET LOCATIONS AS REFERENCED ABOVE SHALL HAVE AN "IN-USE" WEATHERPROOF COVER.
- ALL 125 VOLT, SINGLE PHASE, 15 AND 20 AMPERE RECEPTACLES INSTALLED IN OTHER THAN DWELLING UNITS SHALL HAVE GFCI PROTECTION FOR PERSONNEL IN THE FOLLOWING AREAS: BATHROOMS, KITCHENS (AREAS WITH A SINK AND PERMANENT FACILITIES FOR FOOD PREPARATION AND COOKING), ROOFTOPS, OUTDOORS AND WITHIN 6 FEET FROM THE OUTSIDE EDGE OF SINKS, PER 2020 NEC 210.8 (B).

- ALL WALL MOUNTED OUTLETS SHALL BE OFFSET SO THEY ARE NOT BACK TO BACK FOR SOUND TRANSMISSION PURPOSES. A HORIZONTAL DISTANCE OF AT LEAST 24 INCHES SHALL SEPARATE OUTLET BOXES ON OPPOSITE SIDES OF WALLS AND PARTITIONS. GANG MOUNT ELECTRICAL AND COMMUNICATIONS OUTLETS ON WALLS AS CLOSE TOGETHER AS POSSIBLE, TYPICAL.
- FIRE RESISTIVE WALLS AND OPENINGS MAY HAVE OPENINGS FOR STEEL ELECTRICAL OUTLET BOXES NOT EXCEEDING 16 SQUARE INCHES IN AREA, PROVIDED THE AGGREGATE AREA OF SUCH OPENINGS IS NOT MORE THAN 100 SQUARE INCHES FOR ANY 100 SQUARE FEET OF WALL, TYPICAL.
- ALL CONDUCTORS SHALL BE THIN/THIN INSULATED COPPER UNLESS OTHERWISE NOTED ON THE DRAWINGS. #12 AWG FOR 120 VOLT, 20 AMPERE CIRCUITS, 15 FEET OR LESS; #12 AWG FOR 277 VOLT, 20 AMPERE CIRCUITS, 150 FEET OR LESS TO FIRST DEVICE, TYPE THIN OR THIN INSULATION. PROVIDE WIRE COLOR CODING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. ALL WIRING SHALL BE RUN CONCEALED AND IN EMT CONDUIT. ALL HOMERUNS SHALL BE IN EMT CONDUIT. ELECTRICAL CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM DESIGN ENGINEER AND PROPERTY MANAGEMENT FOR USE OF "MC" AND "AC" TYPE CABLES. "MC" AND "AC" TYPE CABLE SHALL BE PERMITTED FOR BRANCH CIRCUIT WIRING IN APPROVED LOCATIONS ONLY AND INSTALLED PER NATIONAL ELECTRICAL CODE AND LOCAL BUILDING DEPARTMENT REQUIREMENTS. USE APPROVED TYPE COUPLINGS AND CONNECTORS. PROVIDE CONDUIT SUPPORTS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AS A MINIMUM. ALL EMPTY CONDUITS INDICATED ON THE DRAWINGS SHALL BE SUPPLIED WITH NYLON FILL LINES.
- ELECTRICAL CONTRACTOR SHALL USE #10 AWG CU WIRE WHEN LENGTH OF CONDUCTOR EXCEEDS 75 FEET FOR 120 VOLT, 20 AMP CIRCUITS. ADDITIONAL LENGTH OF WIRE FROM 75 FEET TO 150 FEET SHALL USE #12 AWG CU WIRE. SIZE CONDUCTORS FOR MINIMUM VOLTAGE DROP ALLOWED PER THE NATIONAL ELECTRICAL CODE.
- ELECTRICAL CONTRACTOR SHALL USE #10 AWG CU WIRE WHEN LENGTH OF CONDUCTOR EXCEEDS 150 FEET FOR 277 VOLT, 20 AMP CIRCUITS. SIZE CONDUCTORS FOR MINIMUM VOLTAGE DROP ALLOWED PER THE NATIONAL ELECTRICAL CODE.
- ELECTRICAL CONTRACTOR SHALL USE #8 AWG CU WIRE WHEN LENGTH OF CONDUCTOR EXCEEDS 150 FEET FOR 120 VOLT, 20 AMP CIRCUITS. ADDITIONAL LENGTH OF WIRE FROM 150 FEET TO 225 FEET SHALL USE #12 AWG CU WIRE. SIZE CONDUCTORS FOR MINIMUM VOLTAGE DROP ALLOWED PER THE NATIONAL ELECTRICAL CODE.
- ALL JUNCTION BOX COVERS SHALL BE INDELIBLY LABELED WITH PANEL DESIGNATION AND BRANCH CIRCUIT NUMBER OF EACH WIRE WITHIN THE JUNCTION BOX. 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 AWG CU MINIMUM "GREEN" TRACER GROUND).
- CIRCUITS FOR COMPUTERS, COPIERS, AND PRINTERS, WHICH ARE SEMI-DEDICATED, DEDICATED, OR ISOLATED, SHALL HAVE A SEPARATE NEUTRAL AND GROUND CONDUCTORS RUN FROM THE BRANCH CIRCUIT PANEL BOARD.
- ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY FROM STRUCTURE. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS OF LIGHT FIXTURES AND ELECTRICAL DEVICES.
- ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF LIGHTING FIXTURES IN MECHANICAL ROOMS/SPACES WITH MECHANICAL DUCT WORK INSTALLER PRIOR TO ROUGH IN. LOCATE BELOW DUCT WORK (8'-0" A.F.F. MIN) CENTERED IN ROOM AS MUCH AS POSSIBLE. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL MECHANICAL EQUIPMENT LOCATIONS AND REQUIREMENTS WITH MECHANICAL PLANS, MECHANICAL CONTRACTOR, AND ACTUAL MECHANICAL EQUIPMENT SUPPLIER. INCLUDE ALL REQUIRED OUTLETS; HEAVY DUTY DISCONNECT SWITCHES, FUSES, CONTROLS, CONTROL WIRING AND ALL CONNECTIONS IN THE ELECTRICAL BID.
- VERIFY ALL SPECIFIC KITCHEN EQUIPMENT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH IN. COORDINATION SHALL INCLUDE MOUNTING HEIGHTS, CONNECTION TYPE AND POWER REQUIREMENTS. ALL CONNECTIONS FOR KITCHEN EQUIPMENT SHALL BE IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S AND SUPPLIER'S RECOMMENDATIONS.
- VERIFY ALL SPECIFIC COMPUTER AND COMMUNICATIONS EQUIPMENT REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH IN. COORDINATION SHALL INCLUDE MOUNTING HEIGHTS, CONNECTION TYPE AND POWER REQUIREMENTS. ALL CONNECTIONS FOR COMPUTER AND COMMUNICATIONS EQUIPMENT SHALL BE IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S AND SUPPLIER'S RECOMMENDATIONS.
- ALL NEW LIGHT SWITCHES, RECEPTACLE OUTLETS, TELEPHONE OUTLETS, FIRE ALARM DEVICES, AND COMMUNICATION/DATA OUTLETS SHALL MEET THE REQUIREMENTS FOR AMERICANS WITH DISABILITIES (A.D.A.) AND ANSI A11.1 REQUIREMENTS FOR MOUNTING HEIGHTS AND ORIENTATIONS, TYPICAL UNLESS OTHERWISE NOTED. RECEPTACLES SHALL BE A MINIMUM OF 15" A.F.F. AND SWITCHES A MAXIMUM OF 48" A.F.F. TO CENTERLINE, TYPICAL UNLESS OTHERWISE NOTED.
- COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF ALL ELECTRICAL DEVICES LOCATED WITHIN, ABOVE, OR NEAR MILLWORK WITH ARCHITECTURAL DRAWINGS, APPROVED "SHOP DRAWINGS", AND MILLWORK CONTRACTOR. MAINTAIN CONSISTENT MOUNTING PRACTICES FOR A UNIFORM APPEARANCE. VERIFY ALL OUTLET REQUIREMENTS PRIOR TO ROUGH IN.
- PROVIDE 4" SQUARE (DOUBLE GANG) JUNCTION BOX WITH SINGLE GANG PLASTER RING FOR ALL NEW COMBINATION TELEPHONE/DATA OUTLETS. RUN CONDUIT AND STUB INTO IT / DATA ROOM VIA ABOVE CEILING ACCESSIBLE CONDUIT WITH FULL WIRE IN CONDUIT AND PLASTIC BUSHINGS ON CONDUIT ENDS. ALL COMMUNICATION DEVICES AND WIRING FOR THE TENANT'S COMMUNICATION SYSTEM SHALL BE INSTALLED BY THE TENANT'S VENDOR UNDER SEPARATE CONTRACT. COORDINATE EXACT REQUIREMENTS AND OUTLET LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGH IN, TYPICAL.
- ELECTRICAL CONTRACTOR SHALL FULLY FIELD COORDINATE COMMUNICATIONS SYSTEM INSTALLATION (DEVICES AND CABLES) WITH TENANT REPRESENTATIVES PRIOR TO ROUGH-IN AND PURCHASING OF MATERIALS, TYPICAL.
- FIRE ALARM DEVICE LOCATIONS ON THE DRAWINGS ARE DIAGRAMMATIC IN CHARACTER AND DO NOT NECESSARILY INDICATE EVERY REQUIRED PIECE OF EQUIPMENT AND DEVICE. ITEMS NOT SPECIFICALLY NOTED ON THE DRAWINGS, BUT WHICH ARE NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION IN ACCORDANCE WITH CODE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION SHALL BE INCLUDED. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING A SYSTEM THAT MEETS ALL NATIONAL AND LOCAL CODES. ALL FIRE ALARM SYSTEM MODIFICATIONS AND WIRING TO BE PERFORMED BY TENANT AND/OR BUILDING MANAGEMENT APPROVED FIRE ALARM CONTRACTOR. CONNECT DEVICES TO FIRE ALARM ZONES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE 120 VOLT CIRCUIT FOR ADDITIONAL FIRE ALARM BOOSTER PANELS IF REQUIRED FOR NEW FIRE ALARM DEVICES. PROVIDE SPOT SMOKE DETECTOR ABOVE ADDITIONAL FIRE ALARM BOOSTER PANELS. AFTER THE INSTALLATION IS COMPLETE, TENANT'S FIRE ALARM SYSTEM REPRESENTATIVE SHALL TEST THE ENTIRE FIRE ALARM SYSTEM FOR SYSTEM INTEGRITY AND OPERATION.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE FULLY ENGINEERED FIRE ALARM SHOP DRAWINGS FOR REVIEW BY THE LOCAL BUILDING AND FIRE DEPARTMENT. THE FIRE ALARM SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE PROJECT'S STATE.
- ELECTRICAL CONTRACTOR SHALL PROVIDE PRODUCT LITERATURE INFORMATION ON SITE FOR FIELD INSPECTOR REGARDING FIRE RATING OF FLOOR BOXES AND POKE THRU DEVICES.
- ALL FLOOR AND WALL PENETRATIONS WHERE ELECTRICAL DEVICES AND RACEWAY HAVE BEEN REMOVED MUST BE REPAIRED AND SEALED TO MAINTAIN THE REQUIRED FIRE RATING. ALL LUMINAIRES PENETRATING A ONE HOUR FIRE RESISTIVE ENCLOSURE SHALL BE PROPERLY TENTED TO MAINTAIN FIRE RATING OF THE ENCLOSURE. ALL CONDUITS PENETRATING A ONE HOUR FIRE RATED WALL OR CEILING SHALL BE FIRE STOPPED WITH A U.L. LISTED FIRE STOPPING COMPOUND SEALANT.
- MINIMUM WORKING CLEARANCES PER THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE SHALL BE PROVIDED AROUND AND IN FRONT OF ALL ELECTRICAL EQUIPMENT.
- ALL CIRCUIT BREAKER LUGS SHALL BE RATED FOR A MINIMUM OF 75 DEGREE CELSIUS.
- MAINTAIN LIGHTING CIRCUIT AND SWITCHING CONTROL CONTINUITY IN ADJACENT VACANT AND NON-VACANT SUITES TO PROJECT.
- MAINTAIN RECEPTACLE CIRCUIT CONTINUITY THROUGH WALLS WHICH ARE TO BE DEMOLISHED AND THROUGH RECEPTACLES WHICH ARE TO BE REMOVED.
- COORDINATE CONTROL OF LUMINAIRES IN BUILDING COMMON CORRIDOR AREAS WITH BUILDING MANAGEMENT.
- ALL NEW LUMINAIRES THAT UTILIZE DOUBLE-ENDED LAMPS SHALL BE NON BALLASTED LED THAT CAN BE SERVICED IN PLACE.
- ALL NEW AND MODIFIED ELECTRICAL EQUIPMENT, SUCH AS SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS, THAT ARE IN OTHER THAN DWELLING OCCUPANCIES, AND ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT PER NEC 2020, ARTICLE 100.8.

# ELECTRICAL SYMBOLS LEGEND

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
HOMERUN, SOLID 120/208 V, OPEN 277/480 V		RECESSED FLUORESCENT / LED FIXTURE	
CONDUIT RISER, TURNED UP, TURNED DOWN		SURFACE/PENDANT FLUORESCENT / LED FIXTURE	
JUNCTION BOX; CEILING OR WALL		FLUORESCENT / LED STRIP FIXTURE	
JUNCTION BOX; WITH COVER PLATE		DOWNLIGHT/PENDANT FIXTURE	
SIMPLEX RECEPTACLE		DROP CEILING LIGHT (RECESSED)	
DUPLEX RECEPTACLE		WALL MOUNTED FIXTURE	
DOUBLE DUPLEX RECEPTACLE		WALLWASH FIXTURE	
DUPLEX RECEPTACLE ON DEDICATED CIRCUIT		EXIT SIGN WITH "FROG EYE"	
SPECIAL RECEPTACLE - AS NOTED ON PLANS		TRACK LIGHTING	
TELEPHONE OUTLET, SINGLE GANG BOX, 3/4" CONDUIT STUB TO ACCESSIBLE CEILING.		EXIT SIGN	
DATA OUTLET, SINGLE GANG BOX, 3/4" CONDUIT STUB TO ACCESSIBLE CEILING.		EMERGENCY BATTERY PACK, "FROG EYE"	
COMBINATION TELE/DATA OUTLET, SINGLE GANG BOX, 3/4" CONDUIT, STUB TO ACCESSIBLE CEILING.		POLE MOUNTED OUTDOOR FIXTURE	
COMBINATION POWER/COMMUNICATIONS FLOOR BOX		SWITCH, SINGLE POLE	
POKE THRU DEVICE		TWO POLE SWITCH	
COMBINATION TELEPHONE/DATA FLOOR BOX		THREE WAY SWITCH	
TELEPHONE FLOOR BOX		FOUR WAY SWITCH	
WATER HEATER		KEYED SWITCH	
PANELBOARD		DIMMER SWITCH	
SWITCHBOARD		THERMAL OVERLOAD SWITCH	
DISCONNECT SWITCH, NON-FUSED		SWITCH WITH PILOT LIGHT	
DISCONNECT SWITCH, FUSED		FIRE HORN WITH STROBE LIGHT	
TRANSFORMER		MANUAL PULL STATION/FLOW AND TAMPER	
MOTOR STARTER		SMOKE DETECTOR	
CARD READER		HEAT DETECTOR	
MOTOR		CEILING MOUNTED FIRE ALARM SPEAKER	
PULLBOX		CEILING MOUNTED FIRE ALARM SPEAKER/STROBE	
TIME CLOCK		CEILING/WALL MOUNTED FIRE ALARM STROBE	
METER		REMOTE LAMP	
DISCONNECT SWITCH + FUSE (DIAGRAMMATIC)		DUCT DETECTOR	
CURRENT TRANSFORMER; CTS (DIAGRAMMATIC)		FIRE/SMOKE DAMPER	
CIRCUIT BREAKER (DIAGRAMMATIC)		WALL MOUNTED OCCUPANCY SENSOR	
PHOTOCELL		CEILING MOUNTED OCCUPANCY SENSOR	
TELEVISION CABLE OUTLET		EXHAUST FAN	

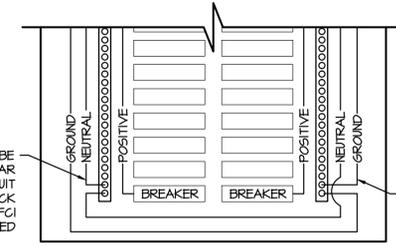


# (SEPARATELY PERMITTED) ONE-LINE DIAGRAM

SCALE: AS SHOWN  
NOTE: ALL ITEMS ARE EXISTING UNLESS OTHERWISE NOTED.  
ALL CONDUCTORS ARE COPPER UNLESS OTHERWISE NOTED.

# ISC CALCULATION - SINGLE PHASE

Point #1 - At the Utility Transformer
$I_{sc(L-L)} = 21600$ $I_{sc(L-N)} = 43400$
Point #2 - At the Meter Center LINE TO LINE
$f = \frac{2,000 \times \text{length} \times I_{sc(L-L)}}{100 \times 21600} / \left( \frac{\# \text{ runs}}{1} \times \text{wire factor} \times \text{voltage} \right)$ $f = \frac{2,000 \times 180 \times 21600}{100 \times 21600} / (1 \times 5,836 \times 240)$ $f = 1.605$
$M = \frac{1}{1+f}$ $M = 0.116$
$I_{sc(L-L)} = I_{sc(L-L \text{ prev})} \times M$ $I_{sc(L-L)} = 3,440$
Point #2 - At the Meter Center LINE TO NEUTRAL
$f = \frac{2,000 \times \text{length} \times I_{sc(L-N)}}{100 \times 43400} / \left( \frac{\# \text{ runs}}{1} \times \text{wire factor} \times \text{voltage} \right)$ $f = \frac{2,000 \times 180 \times 43400}{100 \times 43400} / (1 \times 5,836 \times 120)$ $f = 22.302$
$M = \frac{1}{1+f}$ $M = 0.043$
$I_{sc(L-N)} = I_{sc(L-N \text{ prev})} \times M$ $I_{sc(L-N)} = 1,862$



# BREAKER WIRING LENGTHS

SCALE: AS SHOWN

**ELECTRICAL PANEL SCHEDULE**

PANEL Primary @ West Corridor		VOLTAGE 120 / 240 V		1 %%C 4 W					
FLUSH Y	MAIN 200	MLO		A.I.C. 10000					
SURFACE N	BUS 225	FEED THRU							
TYPE	DESCRIPTION	BKR	CIR	LOAD (VOLT AMPS) / PHASE	CIR	BKR	DESCRIPTION	TYPE	
R	West Corridor	20	1a	360 360	2a	20	Unit 1 N-W	R	
R	North Common Hall	20	1b	0 0	2b	15	Unit 1 High North	R	
L	West Common Hall Lights	15	3a	360 360	4a	20	Unit 1 Room 4.5	R	
L	West Outdoor Lights	20	5a	470.81 373.32	6a	20	Main Sign / Soffit	L	
	SPACE		5b	0 540	6b	15	Unit 1 Entry Façade	R	
	SPACE		7a	33.32 900	8a	20	Unit 1 Entry	R	
RM	Mech - Furn/HWH	30	7b	0 180	8b	20	Unit 1 Room 3	R	
L	Mech Lights	20	9a	0 540	10a	20	Unit 1 Room 2	R	
M	Roof A/C 50A	50	9b	0 180	10b	20	Unit 1 Room 2	R	
R	IT Outlets	20	11a	0 900	12a	20	Unit 1 Room 3	R	
LM	H - Light / Fan	20	11b	0 720	12b	20	Unit 1 S-E	R	
R	Unit 2 S-W	20	13a	1680 0	14a	20	SPACE		
L	Unit 2 Lights	20	13b	0 0	14b	20	SPACE		
R	Unit 2 S-Mid	20	15a	12 180	16a	20	Unit 1 Room 1 W	R	
R	Unit 2 S-E	20	15b	2400 180	16b	20	Unit 1 Room 1 W	R	
R	Unit 2 N-Mid	20	17a	2400 900	18a	20	Unit 1 W-N	L	
K	Unit 2 N-E Fridge	20	17b	360 348.6	18b	20	Unit 1 Room 1	L	
	SPACE		19a	132 955.57	20a	20	Unit 1 Hallway	LM	
	SPACE		19b	0 0	20b	20	Unit 1 Rm 2,3,4,5	LM	
	SPACE		21a	720 900	22a	20	Kitch Fridge	K	
	SPACE		21b	0 0	22b	20	Kitch Fridge	K	
	SPACE		23a	374.57 360.36	24a	20	Kitch AC GFI (NT)	LK	
	SPACE		23b	0 0	24b	20	Kitch Disposal	K	
	SPACE		25a	720 720	26a	20	Kitch Dish / Micro	K	
	SPACE		25b	0 0	26b	20	Kitch Dish / Micro	K	
	SPACE		27a	360 1900	28a	20	Shower GFI	LR	
	SPACE		27b	0 0	28b	20	Shower GFI	LR	
	SPACE		29a	900 256	30a	20	Shower Heat / Fan	LMG	
	SPACE		29b	0 0	30b	20	Shower Heat / Fan	LMG	
	SPACE		31a	540 1635	32a	20	Mens Bath GFI	LRM	
	SPACE		31b	0 0	32b	20	Mens Bath GFI	LRM	
	SPACE		33a	800 699	34a	20	Womens Bath GFI	LRM	
	SPACE		33b	0 0	34b	20	Womens Bath GFI	LRM	
	SPACE		35a	0 699	36a	20	SPACE		
	SPACE		35b	0 0	36b	20	SPACE		
	SPACE		37a	0 0	38a	20	SPACE		
	SPACE		37b	0 0	38b	20	SPACE		
	SPACE		39a	0 0	40a	20	SPACE		
	SPACE		39b	0 0	40b	20	SPACE		
				14827.728			15094.4208		

LOAD TYPE	CONNECTED KVA		TOTAL ALL PHASES	FACTOR	DEMAND KVA		TOTAL ALL PHASES
	A	B			A	B	
LIGHTING	1.3	1.7	3.0	125%	1.6	2.2	3.9
RECEPTACLE (10KVA OR LESS)	5.0	5.0	10.0	100%	5.0	5.0	10.0
RECEPTACLE (OVER 10KVA)	2.0	1.3	3.3	50%	1.5	0.8	1.7
HVAC/MOTOR	1.6	3.3	4.9	100%	1.6	3.3	4.9
MOTOR (LARGEST)	2.4	0.0	2.4	125%	3.0	0.0	3.0
KITCHEN EQUIPMENT	2.5	2.3	4.8	65%	1.4	1.5	2.9
MISCELLANEOUS	0.0	1.5	1.5	100%	0.0	1.5	1.5
<b>TOTAL KVA</b>		<b>14.8</b>	<b>15.1</b>		<b>14.1</b>	<b>14.3</b>	<b>28.5</b>
<b>TOTAL AMPS</b>		<b>117.9</b>	<b>119.3</b>		<b>117.9</b>	<b>119.3</b>	

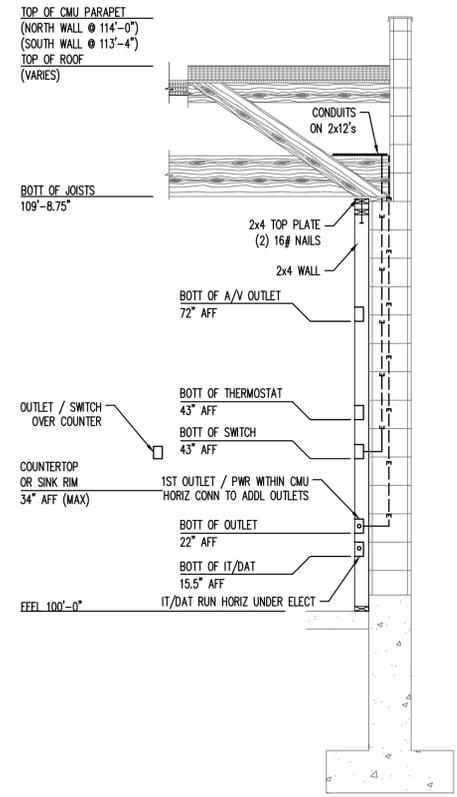
  

LEGEND	L = LIGHTING	R = RECEPTACLE	M = HVAC / MOTOR	K = KITCHEN	G = MISCELLANEOUS
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EXISTING PERMIT #S:  
 32922  
 M18927  
 (PERMITS PLUS SYSTEM)  
 B200101436 (A/C UPGRADE)  
 B200101952 (ELECT 60A-125A UPGRADE)  
 sn20030068 - Embroider me sign plaque

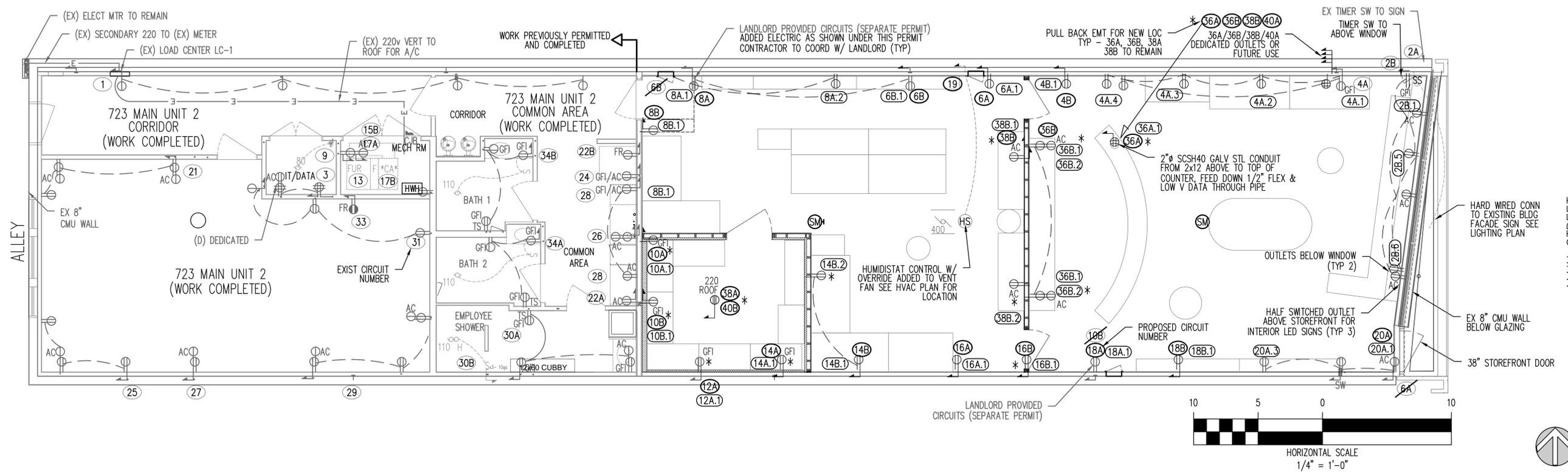
**CONDUIT & WIRING COLOR CODES SPECIFICATIONS**  
 WHITE = (-) NEUTRAL  
 BLACK = (+) 110V (1ST LEG)  
 RED = (+) 110V (2ND LEG)  
 BLUE = (+) 110V (3RD LEG)  
 PURPLE = (+) SW LEG 1  
 ORANGE = (+) SW LEG 2  
 YELLOW = SMOKE COMMON  
 << 5 CIRCUITS IN SINGLE CONDUIT NOT ALLOWED>>  
 GREEN = GROUND

MAX 3 CIRCUITS PER 1/2" EMT  
 MAX 5 CIRCUITS PER 3/4" EMT  
 MAX 1 6-3 W/ GROUND PER 3/4" EMT  
 NO COMBINED NEUTRAL / GROUND CIRCUITS



**ELECTRICAL MOUNTING HEIGHTS (TYP)**  
 1/2" = 1'-0"

723 MAIN STREET  
 ROYALTY ARRANGEMENTS  
 (UNIT 1 OCCUPANCY PERMIT)  
 LONGMONT, CO 80501

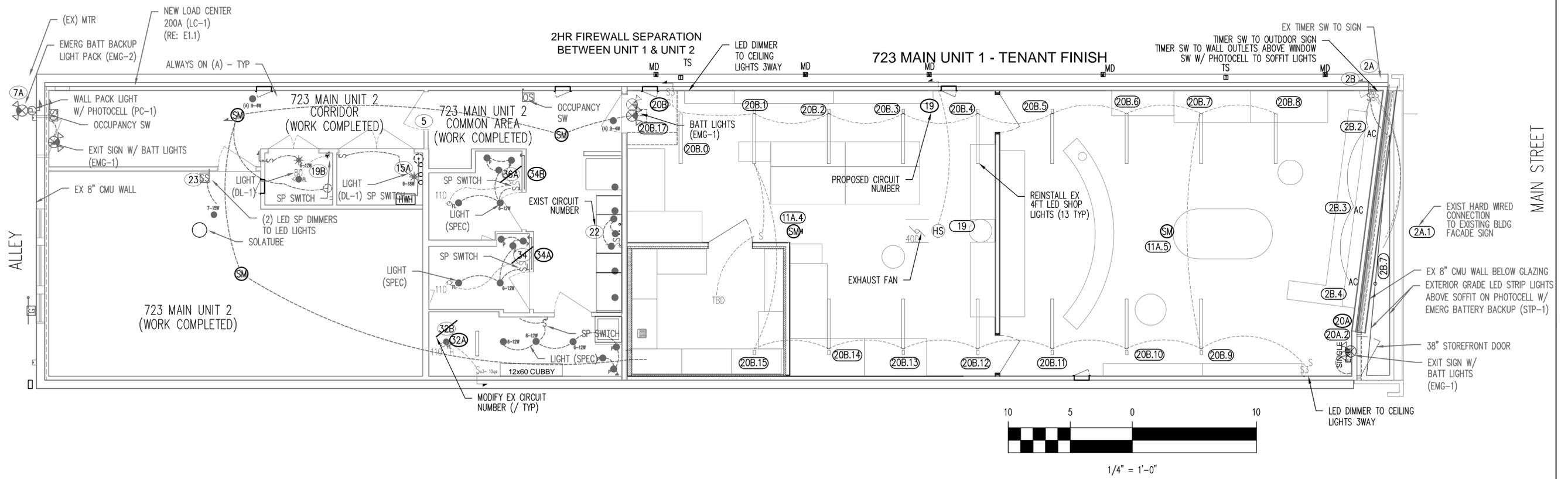


PROJECT No: 723-FLWR  
 DESIGN BY: CWK  
 CHECKED BY: CWK  
 ISSUED FOR: DATE: 3.7.2023  
 CONCEPT

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Code	Mfr	Model	Lighting Type	Luminaire Type	Wave Length	Lumens	Watts	Notes
CAN-1	TBD	Owner Spec					15	LED Dimmable Can Light Fixture
DL-1	TBD	Owner Spec					15	Surface Mount Light w/ LED bulb
STP-1	TBD	Owner Spec						Outdoor LED Strip Light (Waterproof)
STP-2	TBD	Owner Spec						Indoor LED Strip Light
PC-1			CFL*					* Photocell Outdoor Light (CFL)
EMG-1	TCP	LED-20725	LED			2.62		90 min Frog Eye Light w/ Exit Sign & Batt Backup
EMG-2	Lightalarms	SPLDWGCD	LED			1.4		Exit Sign w/ Batt Backup
EMG-3	Cooper	UET1SD	Halogen*			10.8		* Frog Eye Light w/ Batt Backup (Halogen)

\*All bulbs shall be replaced with LED



723 MAIN STREET  
ROYALTY ARRANGEMENTS  
(UNIT 1 OCCUPANCY PERMIT)  
LONGMONT, CO 80501

PROJECT No.	723-FLWR
DESIGN BY:	CWK
CHECKED BY:	CWK
ISSUED FOR:	DATE:
CONCEPT	3.7.2023

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**DIVISION 15 - MECHANICAL SPECIFICATIONS**

THE FOLLOWING SPECIFICATIONS APPLY TO BOTH MECHANICAL AND PLUMBING SHEETS.

**I. BASIC MECHANICAL & PLUMBING REQUIREMENTS**

FURNISH ALL LABOR AND MATERIALS AND PERFORM ALL OPERATIONS NECESSARY FOR THE INSTALLATION OF COMPLETE AND FUNCTIONING MECHANICAL SYSTEMS, AS SPECIFIED AND AS REQUIRED BY CODE.

INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.

COORDINATE AND ORDER THE PROGRESS OF MECHANICAL WORK TO CONFORM TO THE OWNER'S SCHEDULE AND THE PROGRESS OF THE WORK OF THE OTHER TRADES.

COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS AND/OR DOCUMENTS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.

APPLY FOR AND PAY FOR ALL PERMITS, FEES, LICENSES AND INSPECTIONS FOR THIS DIVISION OF WORK.

COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AND ORDINANCES. COMPLY WITH REQUIREMENTS OF THE UTILITY COMPANIES. IN THE CASE OF DIFFERENCES BETWEEN THESE REQUIREMENTS AND ORDINANCES, THE MOST STRINGENT SHALL GOVERN. CALL FOR INSPECTIONS REQUIRED BY LOCAL BUILDING INSPECTION AUTHORITY.

SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT SHOWING ANY CHANGES REQUIRED IN PIPING, DUCTING, ELECTRICAL WIRING, SPACE ALLOCATION, ETC.

CONTRACTOR SHALL PREPARE 4 COPIES OF SUBMITTALS FOR APPROVAL BY THE DESIGN TEAM OF THE FOLLOWING: ROOF TOP UNITS, EXHAUST FANS, DIFFUSERS AND GRILLES, CONTROLS, PLUMBING PIPING TRAINING CERTIFICATES, PLUMBING PIPING, PLUMBING FIXTURES, WATER HEATERS AND TEST AND BALANCE CERTIFICATIONS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PAY FOR AND REPAIR ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

MAINTAIN ONE SET OF REDLINED DRAWINGS ON THE JOB SITE INDICATING ALL CHANGES AND DEVIATIONS FROM THE WORK SHOWN ON THE DRAWINGS.

PRIOR TO FINAL ACCEPTANCE, THOROUGHLY CLEAN ALL WORK.

AT COMPLETION OF WORK, DELIVER COMPLETED PROJECT RECORD DOCUMENTS MARKED WITH FIELD CHANGES TO OWNER'S REPRESENTATIVE.

PROVIDE A WRITTEN WARRANTY TO THE OWNER COVERING THE ENTIRE MECHANICAL WORK TO BE FREE FROM DEFECTIVE MATERIALS, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF TWO YEARS AFTER DATE OF ACCEPTANCE.

**II. BASIC MATERIALS AND METHODS**

THE MECHANICAL DRAWINGS INDICATE THE GENERAL DESIGN AND ARRANGEMENT OF PIPING, EQUIPMENT, SYSTEMS, ETC. INFORMATION SHOWN IS DIAGRAMMATIC IN CHARACTER AND DOES NOT INDICATE EVERY REQUIRED OFFSET, FITTING, ETC.

THE LOCATIONS OF THE ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE THE DRAWINGS (UNLESS NOTED OTHERWISE).

MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM METAL DECK.

USE ADJUSTABLE PIPE HANGERS ON SUSPENDED PIPE. PROVIDE HANGERS TO SUPPORT THE SYSTEMS WITHOUT SAGGING. INCLUDE HANGERS AT EACH OFFSET OR CHANGE IN DIRECTION AND AT ENDS OF BRANCHES OVER FIVE FEET IN LENGTH. PROTECT ALL INSULATED PIPE AT POINT OF SUPPORT WITH A 360-DEGREE INSULATION INSERT.

WHERE HORIZONTAL DUCTS AND PIPE PASS THROUGH WALLS AND VERTICAL DUCTS AND PIPES PASS THROUGH FLOORS OR ROOFS, SEAL OFF VOID BETWEEN OPENING AND DUCT OR PIPE. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FIRE PENETRATION SEALING REQUIREMENTS.

FURNISH AND INSTALL ALL FOUNDATIONS, BASES AND SUPPORTS.

PROVIDE SHUTOFF VALVES AND UNIONS SUITABLY LOCATED TO ISOLATE EACH ITEM OF EQUIPMENT.

TEST PIPING AND DUCTWORK SYSTEMS PRIOR TO CONCEALMENT.

VALVES AND CLEANOUTS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY CODE.

ALL VALVES SHALL BE INSTALLED SO THAT THE VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.

ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.

INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.

ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.

ALL CLEANOUT RISERS SHALL BE 4-INCHES IN DIAMETER FOR 4-INCH PIPES

PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED TO SERVICE, CLOTHES DRYER BOOSTER FANS, SERVICE DAMPERS, VAV BOXES, VALVES AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE TURNED OVER TO GENERAL CONTRACTOR FOR INSTALLATION.

ALL DUCTWORK AND PIPING SHALL CLEAR DOORS AND WINDOWS.

**III. INSULATION**

FURNISH AND INSTALL INSULATION FOR ALL PIPING AND DUCTWORK SYSTEMS AS FOLLOWS:

DUCTWORK:

DUCTWORK: EXTERIOR DUCT WRAP OR DUCT LINER WITH A MINIMUM R-VALUE OF 5 FOR DUCTWORK IN UNCONDITIONED SPACE AND 8 WHEN LOCATED IN AN ATTIC OR OUTSIDE THE BUILDING.

PIPING:

ALL DOMESTIC HOT / COLD PIPING SHALL INCLUDE A VAPOR BARRIER. PIPING INSULATION AS INDICATED IN FOLLOWING TABLE.

MINIMUM THICKNESS FOR PIPE INSULATION  
IECC 403.2.10 - EXCEPTION 3 (NO INSULATION REQD)  
"PIPING THAT CONVEYS FLUIDS THAT HAVE A DESIGN OPERATING TEMPERATURE RANGE BETWEEN 60°F - 105°F"

DOMESTIC HOT WATER SYSTEM TYPE 60°F - 105°F	PIPE UP TO 0.5"	0.75" AND GREATER
DOMESTIC HOT WATER	R-3	R-3

ABOVE GRADE PIPE INSULATION: HEAVY-DENSITY, RUBBER INSULATION WITH SELF-SEALING ADHESIVE. SECURE INSULATION AT BENDS WITH TAPE

**IV. PLUMBING**

DOMESTIC WATER PIPING MATERIALS:  
BELOW GRADE: 1" AND SMALLER; TYPE "L" HARD DRAWN COPPER USING SILVER SOLDER (45% SILVER COMPOSITION AND BAG-1 CLASSIFICATION), ASTM B260-62T.

ABOVE GRADE: TYPE "M" HARD DRAWN COPPER, WROUGHT COPPER FITTINGS AND 95-5 (TIN/ANTIMONY),

SANITARY WASTE AND VENT MATERIALS:

COATED SERVICE WEIGHT CAST IRON WITH BELL AND SPIGOT FITTINGS WITH ELASTOMERIC JOINTS OR COATED SERVICE WEIGHT HUBLESS CAST IRON WITH GASKET AND CLAMP FITTINGS. SOLID WALL PVC PIPE MAY BE USED AND SHALL BE OF PVC, SCHEDULE 40 WITH SOCKET FITTINGS THAT MEET ASTM D 2665.

CONDENSATE PIPING MATERIALS: PVC PIPING WITH SOLVENT WELDED FITTINGS

GAS PIPING MATERIALS:

PIPE AND FITTINGS: SCHEDULE 40 BLACK STEEL PIPE AND MALLEABLE IRON FITTINGS OR CORRUGATED STAINLESS STEEL TUBING MANUFACTURED FROM ASTM A240 TYPE 304 STAINLESS STEEL WITH A MINIMUM NOMINAL WALL THICKNESS OF 0.010". ALL MECHANICAL TUBE FITTINGS ARE TO BE MANUFACTURED FROM ASTM B16 TYPE 360 BRASS WHOSE DESIGN INCORPORATES A DOUBLE WALL FLARE FOR GAS-TIGHT SEALING AND MECHANICAL CAPTURE OF THE JACKET FOR ENHANCED TUBING PROTECTION.

THE TUBING, FITTING, AND STRIKE-PROTECTION ARE TO BE INSTALLED PER THE CURRENT VERSION OF THE MANUFACTURER'S DESIGN & INSTALLATION GUIDE AND PER LOCAL CODE. MANUFACTURER DESIGNATED TRAINING SHALL BE OBTAINED BY ALL INSTALLERS PRIOR TO INSTALLATION. THE GAS-PIPING SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH ALL LOCAL REQUIREMENTS, ANSI LC-1 AND THE MOST CURRENT EDITION OF THE MANUFACTURER'S DESIGN AND INSTALLATION GUIDE.

WATER PIPING:

RUN PIPING AS DIRECT AS POSSIBLE TO REQUIRED CONNECTIONS, AND SLOPE TO DRAIN VALVES AT LOW POINTS FOR COMPLETE DRAINING OF SYSTEM. LOCATE DRAIN VALVES AT ACCESSIBLE POINTS WITHIN THE SYSTEM.

SANITARY WASTE PIPING:

ALL SANITARY WASTE PIPING SHALL BE SLOPED AT A 1/4" PER FOOT MIN.

HORIZONTAL VENT PIPING SHALL BE GRADED TO DRIP BACK TO THE SOIL OR WASTE PIPE BY GRAVITY.

GAS PIPING:

SUPPORT ROOF-MOUNTED GAS PIPING A MINIMUM OF 12 INCHES ABOVE ROOF ON METAL STANDS IN PITCH PANS AT 8 FEET ON CENTER.

PLUMBING FIXTURES:

ALL FIXTURES AND TRIM SHALL BE NEW. ALL FIXTURES SHALL BE COMMERCIAL GRADE UNITS AS MANUFACTURED BY AMERICAN STANDARD, CRANE, ELJER, KOHLER, MOEN, PRICE FISTER OR JUST AND SUBJECT TO APPROVAL BY PS THE ARCHITECT.

**V. AIR DISTRIBUTION SYSTEMS**

LOW PRESSURE HVAC DUCTWORK: ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK, SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC-PLUS-EMBEDDED-FABRIC SYSTEMS OR TAPES. TAPES AND MASTICS USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A AND SHALL BE MARKED 181A-P FOR PRESSURE-SENSITIVE TAPE, 181A-M FOR MASTIC OR 181A-H FOR HEAT-SENSITIVE TAPE. TAPES AND MASTICS USED TO SEAL FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS SHALL COMPLY WITH UL181B AND SHALL BE MARKED "181B-FX" FOR PRESSURE-SENSITIVE TAPE OR 181B-M FOR MASTIC. DUCT CONNECTIONS TO FLANGES OF AIR DISTRIBUTION SYSTEM EQUIPMENT SHALL BE SEALED AND MECHANICALLY FASTENED. MECHANICAL FASTENERS FOR USE WITH FLEXIBLE NONMETALLIC AIR DUCTS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED 181B-C.

DUCT CONSTRUCTION: DUCTWORK SHALL BE CONSTRUCTED AND ERECTED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS MANUAL. CONNECTIONS TO FLANGES OF AIR DISTRIBUTION SYSTEM EQUIPMENT MUST BE SEALED AND MECHANICALLY FASTENED. ALL JOINTS, SEAMS, AND CONNECTIONS MUST BE SECURELY FASTENED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC-PLUS-EMBEDDED-FABRIC, OR TAPES. TAPES AND MASTICS MUST BE RATED UL 181A OR UL 181B. EXCEPTION: CONTINUOUSLY WELDED AND LOCKING-TYPE LONGITUDINAL JOINTS AND SEAMS ON DUCTS OPERATING AT LESS THAN 2 IN. W.G. (500 PA). THE DUCT SYSTEM MUST PROVIDE A MEANS FOR BALANCING AIR.

ALL ROUND AND FLAT OVAL DUCTS EXPOSED TO VIEW SHALL BE SPIRAL SEAM. CONCEALED ROUND AND FLAT OVAL DUCTS MAY BE FABRICATED WITH LOCK TYPE OR WELDED LONGITUDINAL SEAMS.

SUSPEND DUCTS FROM STRUCTURE WITH PROPER HANGERS AT A MAXIMUM OF 8'-0" INTERVALS, AT EACH FLOOR, CHANGE OF DIRECTION AND WHEREVER NECESSARY.

MAKE ALL DUCT CONNECTIONS TO MOTOR DRIVEN EQUIPMENT WITH FLEXIBLE CONNECTIONS.

ALL DUCTWORK TO BE OF SHEET METAL CONSTRUCTION PER SMACNA STANDARDS FOR LOW PRESSURE DISTRIBUTION. PROVIDE VOLUME DAMPERS AT EACH ROUND DUCT AND 45 DEGREE DUCT TAKEOFF TO ALLOW COMPLETE BALANCING OF ALL BRANCHES AND DIFFUSERS.

COORDINATE DIFFUSER AND GRILLE LOCATIONS WITH CEILING AND LIGHTING LAYOUT TO AVOID CONFLICTS.

ATTACH FLEXIBLE DUCT INNER LINER TO DUCT CONNECTORS, DIFFUSER NECKS, OR DUCTWORK WITH STAINLESS STEEL WORM DRIVEN CLAMP.

CERTAIN ITEMS SUCH AS RISES AND DROPS IN DUCTWORK, ACCESS DOORS, VOLUME DAMPERS, ETC., ARE INDICATED ON THE CONTRACT DOCUMENT DRAWINGS FOR CLARITY FOR A SPECIFIC LOCATION REQUIREMENT AND SHALL NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS.

ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.

LOCATE ALL MECHANICAL EQUIPMENT FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS AND VALVING.

SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE SMOKE DETECTOR IN DUCTWORK IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.

CONTRACTOR TO INSTALL TEMPORARY COVERS OVER ALL DUCTWORK OPENINGS DURING CONSTRUCTION TO PREVENT THE ACCUMULATION OF CONSTRUCTION DUST IN AIR DISTRIBUTION SYSTEMS.

**VI. TEMPERATURE CONTROLS SYSTEMS**

ALL CONTROL WORK TO BE PER THE MECHANICAL SEQUENCE OF OPERATION. PROVIDE ALL NECESSARY TRANSFORMERS FOR LOW VOLTAGE CONTROL CIRCUITS. LOW VOLTAGE (24 V) WIRING TO BE BY THIS CONTRACTOR. PROVIDE ALL MOTOR DISCONNECTS AND CONTACTORS.

INSTALL ALL THERMOSTATS AND SWITCHES WHERE SHOWN ON PLANS AT 54 INCHES A.F.F. COORDINATE LOCATIONS WITH THE ELECTRICAL CONTRACTOR.

ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE.

**VII. TESTING, ADJUSTING, AND BALANCING**

TEST AND BALANCE THE ENVIRONMENTAL SYSTEMS INCLUDING BUT NOT LIMITED TO AIR DISTRIBUTION SYSTEMS, HYDRONIC DISTRIBUTION SYSTEMS, AND THE EQUIPMENT AND APPARATUS CONNECTED THERETO.

THE MECHANICAL CONTRACTOR SHALL PROCURE THE SERVICES OF AN INDEPENDENT TESTING AND BALANCING FIRM SPECIALIZING IN THIS WORK.

AIR INLETS AND OUTLETS SHALL BE BALANCED TO WITHIN 10 PERCENT OF THE AIR QUANTITY SPECIFIED ON THE DRAWINGS.

AT COMPLETION OF WORK, DELIVER FOUR COPIES OF THE TEST AND BALANCE REPORT TO THE GENERAL CONTRACTOR. REPORT SHALL LIST ALL SUPPLY, RETURN, AND EXHAUST AIR FLOWS, ELECTRICAL DATA, TEMPERATURES, AND PRESSURE DROPS.

**VIII. SEQUENCE OF OPERATION**

EXHAUST FANS: FAN SHALL BE CONTROLLED BY A WALL MOUNTED TIMER.

OUTSIDE AIR INTAKE DAMPERS: DAMPER SHALL BE CONTROLLED BY A 7 DAY DIGITAL TIMECLOCK LOCATED IN THE JANITORS CLOSET THAT SHALL BE PROGRAMMED TO OPEN THE DAMPER WHEN THE BUILDING IS OCCUPIED.

FURNACES AND SPLIT SYSTEMS: SHALL BE CONTROLLED BY A ZONE CONTROLLER. THE CONTROLLER SHALL BE CAPABLE OF MAINTAINING THE TEMPERATURE SETPOINTS IN TWO ZONES AND SHALL HAVE TWO STAGES OF COOLING CONTROL.

THE FIRST STAGE OF COOLING SHALL ACTIVATE THE AIR SIDE ECONOMIZER SUCH THAT WHEN OUTSIDE AIR CONDITIONS ARE FAVORABLE THE ECONOMIZER SHALL MIX OUTSIDE AIR WITH RETURN AIR TO MAINTAIN A 55F MIXED AIR TEMPERATURE AT THE FURNACE WHEN COOLING IS REQUIRED.

IF ECONOMIZER COOLING IS NOT AVAILABLE DUE TO OUTSIDE AIR CONDITIONS THE SECOND STAGE COOLING SHALL BECOME ACTIVE TO ACHIEVE THE SPACE SETPOINT.

THE ZONE CONTROLLER SHALL CYCLE THE FURNACE HEATING AND COOLING TO MAINTAIN 68F HEATING AND 75F COOLING DURING OCCUPIED HOURS AND 55F HEATING AND 85F COOLING IN THE ZONES DURING UNOCCUPIED HOURS AS DETERMINED BY THE IECC COMPLIANT PROGRAMMABLE THERMOSTAT.

THE ZONE CONTROLLER SHALL ALSO CHANGE THE POSITIONS OF THE ZONE DAMPERS TO ADJUST THE AIR FLOWS TO THE ZONES ACCORDING TO THE ZONE TEMPERATURE AND HEATING AND COOLING REQUIREMENTS.

MECHANICAL LEGEND ( NOT ALL SYMBOLS LISTED ARE BEING USED IN THIS SET OF MECHANICAL DRAWINGS )					
SYMBOL	ABBR	DESCRIPTION	SYMBOL	ABBR	DESCRIPTION
		DIFFUSER-- 4-WAY THROW			SHEET KEY NOTES
		DIFFUSER-- 3-WAY THROW		POC	POINT OF CONN. (CONN. NEW TO EXISTING)
		DIFFUSER-- 2-WAY THROW			AIR DEVICE CALL OUT TYP. OF (X) DEVICES.
	RA	RETURN AIR GRILLE		(E)	EXISTING (PAREN-THISIS AROUND ITEM INDICATES IT IS EXISTING)
		RETURN OR EXHAUST DUCT UP		T	NEW THERMOSTAT
		SUPPLY DUCT UP		T	EXIST. THERMOSTAT
		SUPPLY DUCT DOWN		UC	DOOR UNDERCUT
		RETURN OR EXHAUST DUCT DOWN			LOW PRESSURE FLEXIBLE DUCT
		ROUND DUCT DOWN			CONICAL TAP
		ROUND DUCT UP			CONICAL SPIN-IN FITTING W/ MANUAL VOLUME DAMPER
		VANED ELBOW		MD	MOTORIZED DAMPER
	MVD	MANUAL VOLUME DAMPER WITH LOCKING QUADRANT			EXISTING DUCTWORK NO CHANGE
NOTES 1. NEW DUCTWORK IS HEAVY LINE WEIGHT.					

- HVAC KEYNOTES:**
- 1G) NEW 14WC GAS METER / REGULATOR
  - 2G) PROVIDE GAS SVC PIPING BLACK IRON (1.5")
  - 3G) PROVIDE GAS SHUT OFF VALVE (3/4")
  - 4G) PROVIDE GAS FLEX HOSE TO EQUIP (3/4" 12" MAX)
  - 5G) PROVIDE GAS SVC PIPING BLACK IRON (1.25")
  - 5H) PROVIDE SPIRAL DUCT
  - 6H) PROVIDE 22"x11.5" DUCT BETWEEN JOISTS (OR AS NOTED)
  - 7H) PROVIDE 22"x22" DROP BOX
  - 8H) PROVIDE MECHANICAL DAMPER CONTROL
  - 9H) PROVIDE DUAL DEFLECTION DIFFUSER W/ OPPOSED BLADE FACE DAMPER @ 30° DOWNWARD ANGLE & FANTECH IR-X" 6IN, 8IN, 10IN BALANCING VALVES
  - 10H) NEW IECC COMPLIANT PROGRAMMABLE THERMOSTAT (TH-1). (HONEYWELL VISION PRO 8000 OR EQ)
  - 11H) HVAC REDUCER
  - 12H) COLD AIR RETURN
  - 13H) 12" VERT FRESH AIR STACK THRU ROOF
  - 14H) BATHROOM EXHAUST FAN
  - 15H) EXISTING FURNACE TO REMAIN, PLACE IN NEW LOCATION PER PLANS.
  - 16H) CONNECT OUTSIDE AIR INTAKE DUCTS TO EXISTING FURNACE RETURN DUCT. PROVIDE AN OUTSIDE DAMPER IN DUCT AND ROUTE UP THRU ROOF INTO A LOCATION THAT IS 10' AWAY FROM FURNACE FLUES AND 3' AWAY FROM ANY EXHAUST OUTLETS. TERMINATE WITH INTAKE HOOD PER LOCAL CODE REQUIREMENTS.

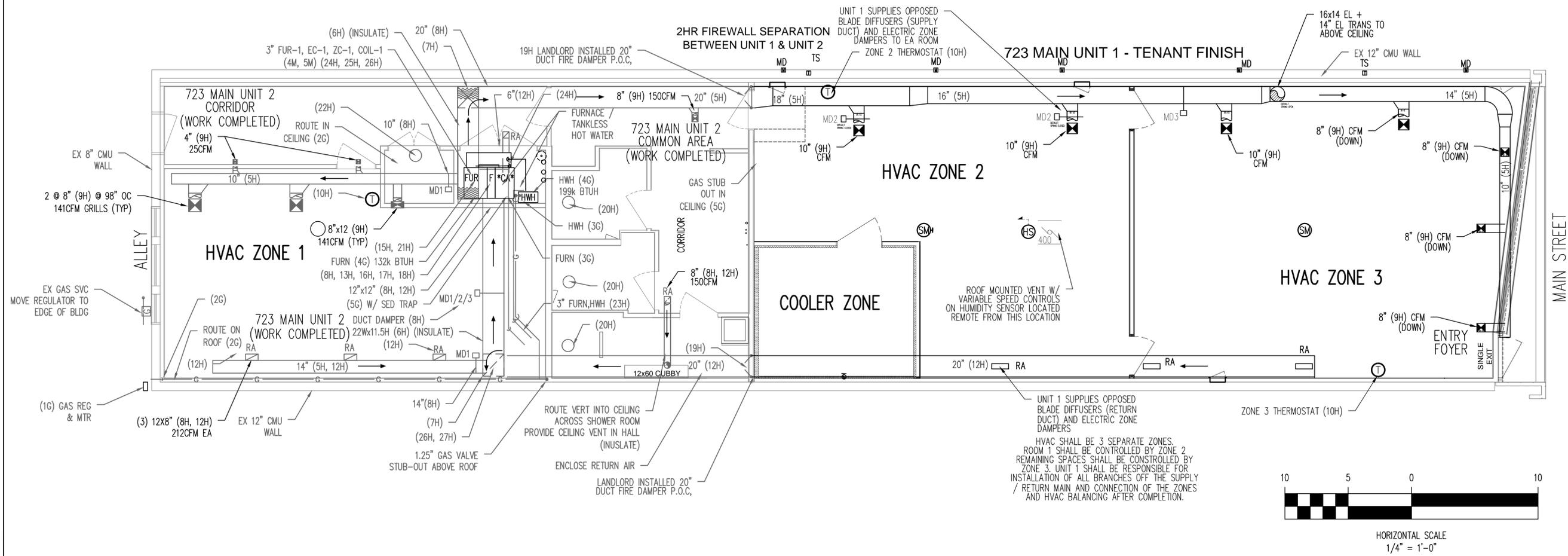
- 17H) BALANCE AIR DEVICES TO QUANTITY INDICATED.
- 18H) PATCH ROOF TO A WEATHER TIGHT CONDITION AND INSULATE TO MATCH EXISTING.
- 19H) PROVIDE FIRE DAMPER PER LOCAL CODE REQUIREMENTS.
- 20H) PROVIDE NEW EXHAUST FAN INSTALLED IN CEILING JOIST SPACE AND ROUTE 4"/6" EXHAUST DUCT UP THROUGH ROOF AND TERMINATE W/ ROOF CAP WITH INTEGRAL BACKDRAFT DAMPER. INSULATE ALL DUCTWORK WITH 1-1/2" FIBERGLASS DUCT BLANKET WITH INTEGRAL AND CONTINUOUS VAPOR BARRIER. TERMINATE PER LOCAL CODE REQUIREMENTS.
- 21H) CONNECT 12"x12" DUCT TO FURNACE BOTTOM INTAKE W/ DAMPER AND AND ROUTE TO FURNACE RETURN PLENUM. BALANCE AIR QUANTITY TO 1500 CFM.
- 22H) ROUTE 4" EXHAUST FAN TO HVAC ROOM FOR RECIRCULATION
- 23H) ROUTE FURN-1 /HWH EXHAUST VERT THRU ROOF PER MANUFACTURER CLEARANCES. SEAL ROOF PENETRATION.
- 24H) ROUTE FURN-1 / HWH INTAKE VERT THRU ROOF PER MANUFACTURER CLEARANCES. SEAL ROOF PENETRATION.
- 25H) ADD LOUVER W/ DAMPER AND ECONOMIZER CONTROL TO DUAL ZONE CONTROLLER.
- 26H) ROUTE RETURN AIR VENT VERT THRU ROOF PER MANUFACTURER CLEARANCES. SEAL ROOF PENETRATION.
- 27H) ADD LOUVER / DAMPER TO ECONOMIZER CONTROL W/ LOW LEAKAGE GRAVITY DAMPER FOR ECONOMIZER EXHAUST.

- EQUIPMENT SCHEDULE**
- 1M) LENNOX G61MP-600-135  
 - NATURAL GAS  
 - 95% EFFICIENT  
 - 132,000 BTUH
  - 2M) LENNOX XC14-048 4 TON AIR CONDITIONER  
 - HFC-410A REFRIGERANT  
 - UP TO 15.50 SEER (PER MFR)
  - 3M) RINNAI RUC981 - 9.5GPM  
 - 199,000 BTUH  
 - 95% EFFICIENT  
 - 65° RISE @ 5.4GPM (MIN)
  - 4M) BELIMO ECON-ZIP-BASE\*
  - 5M) HONEYWELL 3 ZONE CONTROLLER  
 - HONEYWELL HZ311
- GAS LOADS TO MECH ROOM**
- 1) FURNACE 132,000 BTUH
  - 2) HWH 199,000 BTUH
  - TOTAL LOAD TO MECH RM 331,000 BTUH
- DEVELOPED LENGTH OF PIPING <60 FT  
 1.5" PIPING REQUIRED

**G61MP-600-135 PERFORMANCE (Less Filter)**

External Static Pressure in. w.g.	Air Volume / Watts at Different Blower Speeds				Air Volume / Watts at Different Blower Speeds			
	Bottom Return Air, Side Return Air with Optional RAB Return Air Base, Return Air from Both Sides or Return Air from Bottom and One Side.				Single Side Return Air - Air volumes in bold require field fabricated transition to accommodate 20 x 25 x 1 in. air filter in order to maintain proper air velocity.			
	High	Medium-High	Medium-Low	Low	High	Medium-High	Medium-Low	Low
0.00	2730 1465	2425 1125	2055 915	1560 680	<b>2665 1440</b>	<b>2325 1100</b>	<b>1865 890</b>	1410 690
0.10	2670 1440	2400 1100	2065 890	1590 675	<b>2615 1405</b>	<b>2310 1065</b>	<b>1915 865</b>	1465 685
0.20	2600 1400	2365 1070	2045 865	1620 665	<b>2530 1370</b>	<b>2280 1055</b>	<b>1925 850</b>	1570 675
0.30	2525 1360	2315 1045	2035 845	1615 655	<b>2470 1330</b>	<b>2235 1015</b>	<b>1920 825</b>	1590 670
0.40	2445 1325	2260 1015	2020 820	1615 645	<b>2380 1290</b>	<b>2175 985</b>	<b>1910 805</b>	1590 655
0.50	2360 1280	2195 985	1960 790	1610 635	<b>2310 1265</b>	<b>2120 965</b>	<b>1890 790</b>	1595 645
0.60	2290 1255	2130 965	1900 755	1600 615	<b>2200 1230</b>	<b>2055 935</b>	<b>1835 765</b>	1580 630
0.70	2205 1220	2035 910	1825 730	1570 600	<b>2120 1190</b>	<b>1970 900</b>	1790 740	1545 605
0.80	2110 1195	1945 880	1765 710	1540 580	<b>2025 1160</b>	<b>1890 875</b>	1720 710	1515 590
0.90	1970 1120	1835 830	1680 690	1540 545	<b>1930 1110</b>	<b>1800 835</b>	1655 685	1440 570

NOTES - All air data is measured external to unit without filter (not furnished - field provided).



THE HVAC CFM FLOW RATES & LATERALS AS SHOWN IN THIS PERMIT SUPERCEED THE LANDLORD CORE & SHELL PERMIT SIZING. DUCTS / LATERALS HAVE BEEN RE-SIZED TO ACCOMADATE TENANT DESIGN & LAYOUT. COORDINATE SIZING REVISIONS & BALANCING WITH THE LANDLORD CORE & SHELL PERMIT.

**723 MAIN STREET**  
**ROYALTY ARRANGEMENTS**  
**(UNIT 1 OCCUPANCY PERMIT)**  
**LONGMONT, CO 80501**

PROJECT No. 723-FLWR  
 DESIGN BY: CWK  
 CHECKED BY: CWK  
 ISSUED FOR: DATE:  
 CONCEPT 3.7.2023

MECH & HVAC  
 PLAN

SHEET  
**M1.1**

**PLUMBING LEGEND**

(NOT ALL SYMBOLS LISTED BELOW ARE BEING USED IN THIS SET OF PLUMBING DRAWINGS)

SYMBOL	ABBR	DESCRIPTION	SYMBOL	ABBR	DESCRIPTION	SYMBOL	ABBR	DESCRIPTION
---	CW	DOMESTIC COLD WATER	→		ARROW INDICATES DIRECTION OF FLOW	⊗	SV	SOLENOID VALVE
---	HW	DOMESTIC HOT WATER	⊕		THERMOMETER	⊗		TEMPERATURE AND PRESSURE RELIEF VALVE
---	HWC	DOMESTIC HOT WATER CIRCULATING	⊕	U	UNION	⊗		BALANCING VALVE
---	SS	SANITARY SEWER (BLACK WATER)	⊗	GV	GATE VALVE	⊗	STR	STRAINER W/ BLOW-OFF VALVE & CAPPED HOSE-END CONNECTION
---	W	SANITARY WASTE (GREY WATER)	⊗	CV	CHECK VALVE	⊗		SHEET KEY NOTES
---	V	SANITARY VENT	⊗	TMV	THERMOSTATIC MIXING VALVE	⊗	POC	POINT OF CONN. (CONN. NEW TO EXISTING)
---	G	NATURAL GAS UNDERGROUND PIPING	⊗	BV	BALL VALVE	⊗	DN	DOWN
XXXXXX		EXISTING PIPING TO BE REMOVED	⊗	GC	GAS COCK	⊗	FF	FINISHED FLOOR
⊕		TEE DOWN	⊗	DV	HOSE END DRAIN VALVE	⊗	I.E.	INVERT ELEVATION
⊕		ELBOW UP	⊗	HB	HOSE BIBB, WALL HYDRANT	⊗	NTS	NOT TO SCALE
⊕		ELBOW DOWN	⊗	FD	FLOOR DRAIN	⊗	VTR	VENT THRU ROOF
⊕		TEE UP	⊗	FCO	FLOOR CLEANOUT	(E)	(E)	EXISTING
⊕		PIPE CAP OR PLUG	⊗	GCO	GRADE CLEANOUT	(N)	(N)	NEW
⊕		VALVE IN RISER	⊗	WCO	WALL CLEANOUT	(R)	(R)	RELOCATED
			⊗	RPBFP	BACKFLOW PREVENTOR	(D)	(D)	DEMOLISH (REMOVE)

**MAXIMUM FLOW RATES PER 2015 IPC & SENATE BILL 14-103**

PLUMBING FIXTURE	MAXIMUM FLOW RATE
LAVATORY, PUBLIC (NON-METERING)	0.5 GPM
LAVATORY, PRIVATE	1.5 GPM
SHOWER HEAD	2.0 GPM
SINK FAUCET	2.2 GPM
WATER CLOSET	1.28 GPF

**GAS NOTES:**

- TRANSITION GAS SIZE TO INLET SIZE OF EQUIPMENT AS REQUIRED.
- SIZES BASED ON 14 IN. W.C., 0.60 SPECIFIC GRAVITY AND 1000 BTUH/CFH FOR SCHEDULE 40 METALLIC PIPE. SIZES SHOULD BE RECALCULATED FOR OTHER PIPE MATERIAL. DO NOT DOWNSIZE ANY PIPE SIZES WITHOUT PRIOR APPROVAL FROM ENGINEER.
- COORDINATE EXACT BTUH AND PRESSURE REQUIRED TO EACH PIECE OF EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND PROVIDE REGULATORS AS REQUIRED FOR PROPER OPERATION.
- FIELD VERIFY EXACT DISTANCE TO FURTHEST PIECE OF EQUIPMENT. DISTANCE SHOWN IS APPROXIMATE ONLY AND HAS 50% ADDED FOR EQUIVALENT LENGTH OF FITTINGS AND VALVES.
- COORDINATE NEW GAS LOADS WITH XCEL ENERGY.

**GAS CONNECTION SCHEDULE**

EQUIPMENT	BTUH	CFH	DISTANCE TO EQUIPMENT	GAS SIZE TO EQUIP
(EX) FUR-1	132,000	132	90'	3/4"
(EX) WHG-1	199,000	199	90'	3/4"
FUTURE STUB OUT	269,000	269	100'	1-1/4"
<b>TOTAL NEW LOAD</b>	<b>600,000</b>	<b>600</b>		
DISTANCE TO FURTHEST FIXTURE	100'			
<b>NEW GAS MAIN SIZE</b>	<b>1-1/2"</b>			

**PLUMBING FIXTURE CONNECTION SCHEDULE**

Code	Mfr (Or EQ)	Model Name	Model #	GPM / HP	Color Code	Notes	Footnotes
FD-1	TBD	Owner Spec				Floor Drain	1,3
FD-2	TBD	Owner Spec				36" Long Strip Drain	2,3,12
LF-1	TBD	Owner Spec			Solid Copper	ADA Bathroom Lavatory	6,7,8
S-1	Delta	Leland	2578FRB-278RB	1.2	Solid Copper	ADA Lavatory Faucet	5,9
SF-1	TBD	Owner Spec	P1U-0904HA			Kitchenette Sink	10
MS-1	TBD	Owner Spec				Kitchenette Faucet	5
MSF-1	TBD	Owner Spec				Mop Sink Base	11
GD-1	Waste King	Legend Series				Garbage Disposal	15
DW-1	TBD	Owner Spec				Dishwasher	14
SH-1	Moen	Caldwell	82495PBRB	2.0		Shower Valves / Head	8,13
WC-1	American Std	Champion Pro		1.28 GPF		Toilet, w/ ADA flush handles	4,5
DF-1	Elkay	Swirflo		0.13 ea		Drinking Fountain	8,16
FIL-1	American Plumber		W38-PRA			3/8" Water Filters	8
HB-1	TBD	Owner Spec				Hose Bib	8
TMV-1	Watts	LFMMV				Thermostatic Mixing Valve	8,9
ET-1	Amrol	Therm-X-Trol	ST-5		2 Gallon	Thermal Expansion Tank	8
AAV-1	Studor	Mini-vent				1-1/2" or 2"	8
RPZ-1	TBD	Watts	LF009M3QT-5			3/4" RPZ Backflow Preventer	8

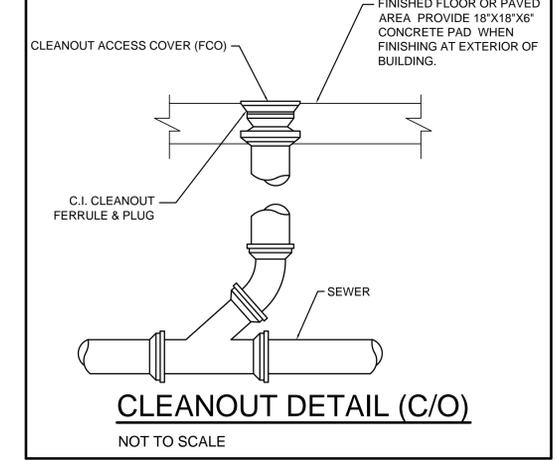
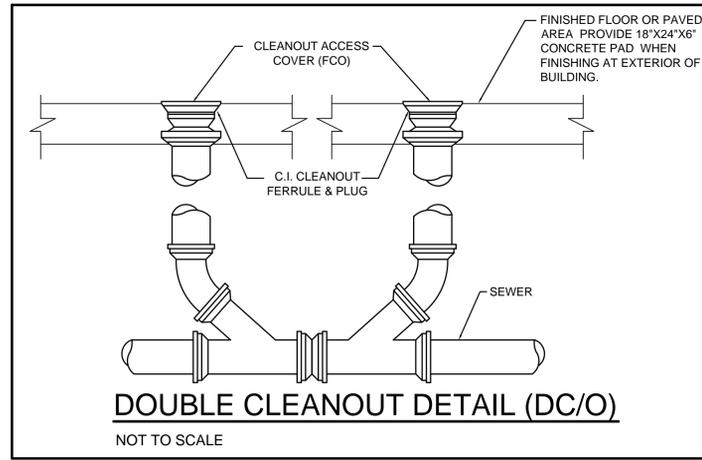
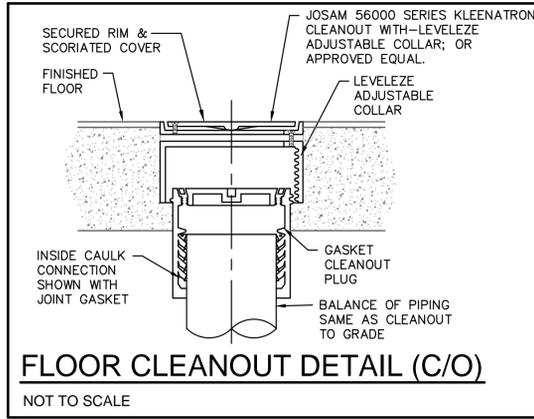
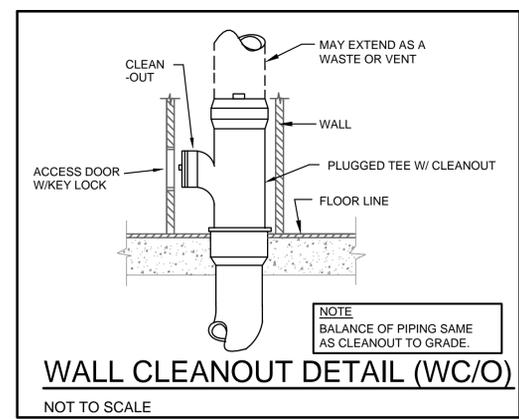
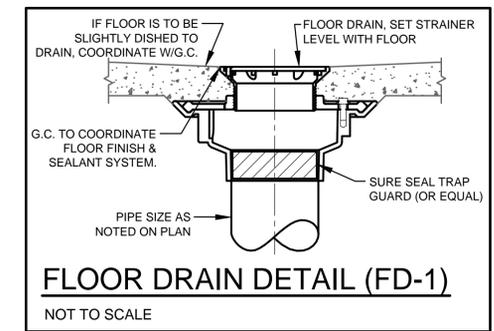
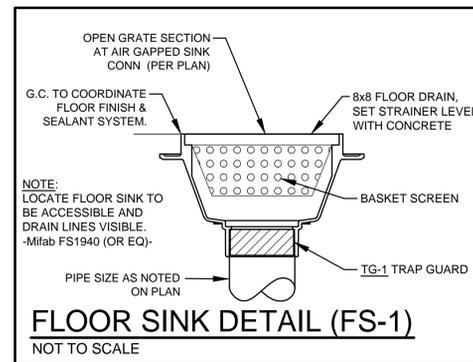
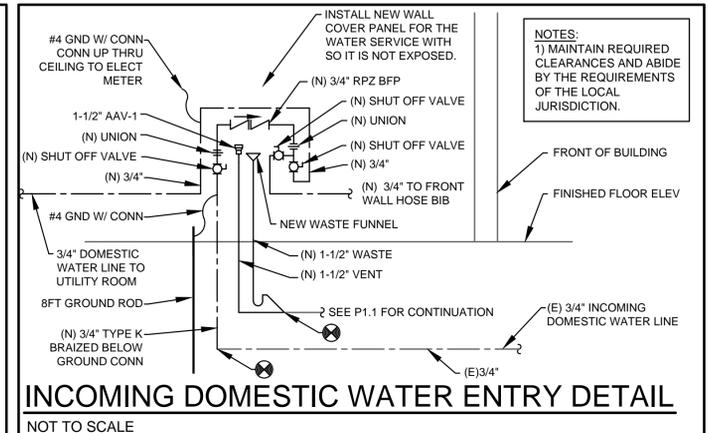
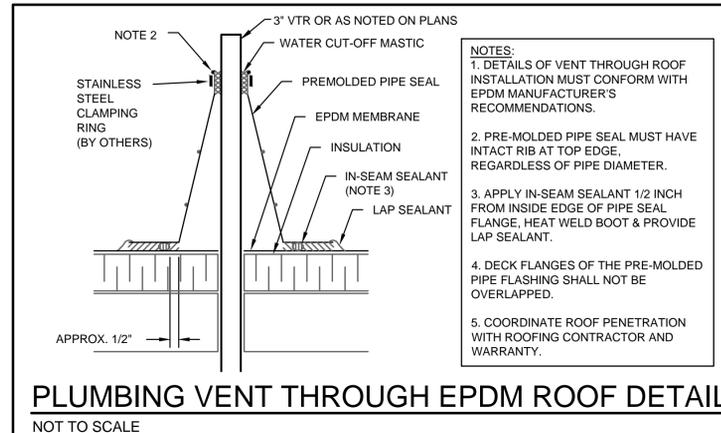
**REVISE & UPDATE**

- NOTES:**
- PROVIDE AND INSTALL P-TRAP AND TRAP GUARD. COORDINATE MODEL NUMBER REQUIRED FOR INSTALLATION IN APPROPRIATE FLOOR TYPE. SEE DETAIL ON THIS SHEET.
  - PROVIDE AND INSTALL P-TRAP. COORDINATE MODEL NUMBER REQUIRED FOR INSTALLATION IN APPROPRIATE FLOOR TYPE.
  - CAREFULLY COORDINATE ALL FLOOR DRAINS WITH FLOOR SLOPES REQUIRED. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
  - PROVIDE WITH A HEAVY DUTY ELONGATED OPEN FRONT SEAT LESS COVER (DIMENSIONS MUST FIT BOWL SPECIFIED), HEAVY DUTY WAX BOWL RING WITH HORN AND BOLT KIT, ANGLE STOP, SUPPLY, & CAST BRASS ESCUTCHEON.
  - FLOW RATES OF FIXTURES MUST NOT EXCEED MAXIMUM FIXTURE FLOW RATES PER CODE AS SCHEDULED ON THIS SHEET.
  - PROVIDE AND INSTALL WITH LF-1 OWNER SPECIFIED ADA FAUCET, PROVIDE OPEN GRID STRAINER (NO POP UP), OFFSET DRAIN, P-TRAP, ANGLE STOPS, FLEXIBLE RISERS AND CAST BRASS ESCUTCHEONS WITH SET SCREWS.
  - PROVIDE AND INSTALL WITH SAFETY COVERS OVER DRAIN, TRAP, WALL BEND AND HOT AND COLD ANGLE STOP AND SUPPLIES. SAFETY COVERS SHALL CONFORM TO ALL FEDERAL AND STATE ACCESSIBILITY STANDARDS AND HAVE A PLEASING APPEARANCE.
  - INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - PROVIDE TMV-1 ON ALL L-IF LAVATORY FAUCETS. SEE P1.3 FOR LOCATIONS. SET TO 105 DEGREES.
  - PROVIDE AND INSTALL WITH SF-1 OWNER SPECIFIED FAUCET (MAX. 2.2 GPM), P-TRAP, ANGLE STOPS, FLEXIBLE RISERS AND CAST BRASS ESCUTCHEONS WITH SET SCREWS.
  - PROVIDE AND INSTALL WITH MSF-1 OWNER SPECIFIED MOP SINK FAUCET WITH INTEGRAL STOPS AND VACUUM BREAKER SPOUT WITH PAIL HOOK AND WALL BRACE. PROVIDE WITH 2" DRAIN, STRAINER, P-TRAP AND SUPPLIES. VERIFY IF OWNER REQUIRES MOP BRACKET, HOSE AND HOSE BRACKET.
  - OWNER SPECIFIED WIDTH TO ACCENT FLOOR TILE SIZE (MIN 24" LENGTH)
  - PROVIDE AND INSTALL WITH OWNER PROVIDED SHOWER TRIM (PRESSURE BALANCED MIXING VALVE, HANDLE, SHOWERHEAD, ARM, FLANGE AND REQUIRED ROUGH IN.
  - VERIFY CONNECTION SIZES TO DISHWASHER. CONNECT DISHWASHER DRAIN HOSE TO GD-1 THROUGH A HIGH LOOP DRAIN ATTACHED TO THE BOTTOM OF THE COUNTERTOP. PROVIDE AIR GAP IF REQUIRED BY LOCAL AUTHORITY.
  - COORDINATE WALL SWITCH CONTROLLED RECEPTACLE WITH ELECTRICAL.
  - PROVIDE AND INSTALL P-TRAP, ANGLE STOP, WALL CARRIER AND TRANSITION TO 3/8" CW INLET AS REQUIRED.

**GAS FIRED TANKLESS WATER HEATER SCHEDULE**

PLAN CODE	MFR.	MODEL	INPUT AT SL (BTUH)	EWT	LWT	GPH DELIVERY @ 65 DEG RISE	EFFICIENCY FACTOR	WIDTH	HT	LBS	ELECTRICAL	NOTES
WHG-1	RINNAI	RUC98i - 9.5 GPM (75 WATTS)	199,000	-	-	5.4 GPM	95%	18.3"	28.5"	67.1	120/1 PH	1-5

- NOTES:**
- PROVIDE VENT AND INTAKE TERMINATIONS PER MANUFACTURER RECOMMENDATIONS, FIELD CONDITIONS & DRAWINGS.
  - INSTALL PER ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - MAINTAIN MANUFACTURER RECOMMENDED INSTALLATION CLEARANCES.
  - COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
  - PROVIDE WITH CONDENSATE NEUTRALIZING KIT AND ROUTE CONDENSATE FROM (E)FUR-1 FURNACE THROUGH CONDENSATE NEUTRALIZING KIT ALSO.



723 MAIN STREET  
ROYALTY ARRANGEMENTS  
(UNIT 1 OCCUPANCY PERMIT)  
LONGMONT, CO 80501

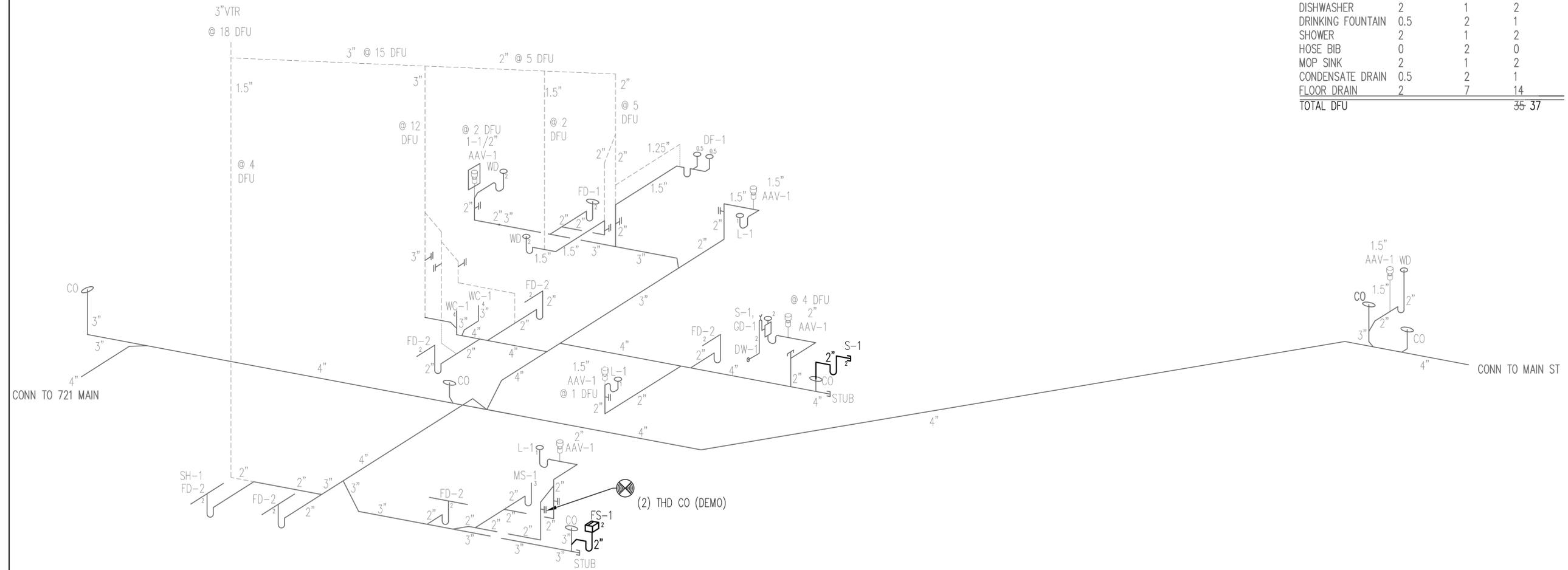
PROJECT No. 723-FLWR  
DESIGN BY: CWK  
CHECKED BY: CWK  
ISSUED FOR: DATE:  
CONCEPT 3.7.2023

PLUMBING COVER SHEET  
SHEET  
P0.0



**DRAIN FIXTURE CALCULATIONS**

FIXTURE	UNITS	QTY	TOTAL
WATER CLOSET	4	2	8
LAVATORY	1	3	3
KITCHEN SINK	2	± 2	± 4
DISHWASHER	2	1	2
DRINKING FOUNTAIN	0.5	2	1
SHOWER	2	1	2
HOSE BIB	0	2	0
MOP SINK	2	1	2
CONDENSATE DRAIN	0.5	2	1
FLOOR DRAIN	2	7	14
<b>TOTAL DFU</b>			<b>35-37</b>



**WASTE & VENT ISOMETRIC  
TENANT 1 IMPROVEMENTS**

(NOT TO SCALE)

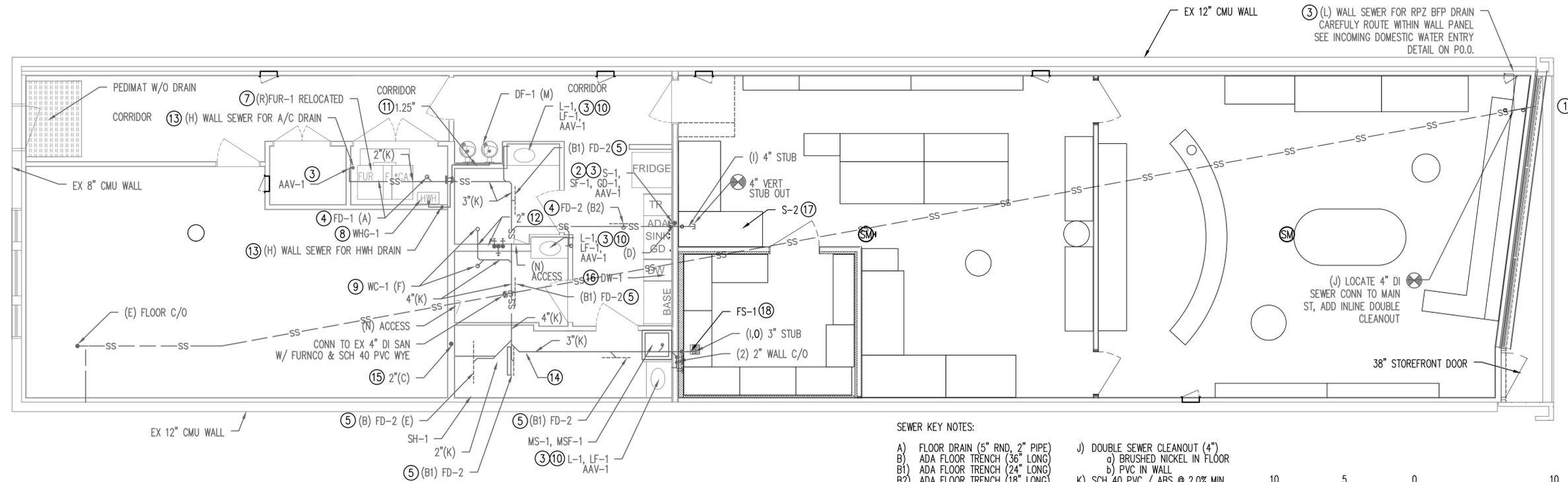
723 MAIN STREET  
ROYALTY ARRANGEMENTS  
(UNIT 1 OCCUPANCY PERMIT)  
LONGMONT, CO 80501

PROJECT No.	723-FLWR
DESIGN BY:	CWK
CHECKED BY:	CWK
ISSUED FOR:	DATE:
CONCEPT	3.7.2023

SEWER  
ISOMETRIC PLAN

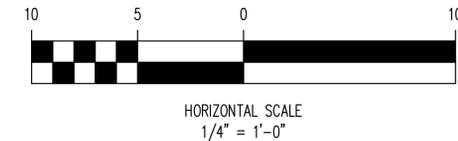
SHEET

P1.1



**SEWER KEY NOTES:**

- A) FLOOR DRAIN (5" RND, 2" PIPE)
- B) ADA FLOOR TRENCH (36" LONG)
- B1) ADA FLOOR TRENCH (24" LONG)
- B2) ADA FLOOR TRENCH (18" LONG)
- C) VENT THROUGH ROOF
- D) SINK CONN STUB (2")
- E) SHOWER BASE (2" PTRAP)
- F) TOILET FLANGE (3")
- G) NEW FLOOR CLEANOUT COVER (4")
- H) WALL CONN FOR HVAC DRIP SEWER CLEANOUT (3"/4")
  - a) BRUSHED NICKEL IN FLOOR
  - b) PVC IN WALL
- I) 4" STUB
- J) DOUBLE SEWER CLEANOUT (4")
  - a) BRUSHED NICKEL IN FLOOR
  - b) PVC IN WALL
- K) SCH 40 PVC / ABS @ 2.0% MIN
- L) WALL CONN FOR RPZ BFP DRIP
- M) DRINKING FOUNTAIN (1-1/2")
- N) SEE P1.3 FOR WALL ACCESS PANEL WITH H/C HOSE BIBS & BFPs.
- O) DEMO VERT SEWER PLUG, RESET PLUG VERT STUB



**NEW SEWER PLAN**

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

**KEYNOTES**

- 1) EXISTING 4" UNDERGROUND SANITARY SEWER ROUTED FROM BUILDING TO STREET MAIN TO REMAIN UNCHANGED. LOCATION SHOWN IS AN ASSUMPTION PER FIELD OBSERVATION AND LOCATIONS OF EXISTING CLEANOUTS. SEWER WAS VIDEO SCOPED FROM BUILDING TO STREET POINT OF CONNECTION WITH NO COMPROMISES IN PIPE INTEGRITY. FIELD VERIFY EXACT LOCATION, SIZE, AND INVERT ELEVATION FOR NEW CONNECTIONS SHOWN. (TYPICAL)
- 2) ROUTE NEW 2" WASTE FROM S-1 SINK DOWN IN WALL TO CONNECT TO UNDERSLAB WASTE.
- 3) PROVIDE AN AAV-1 AIR ADMITTANCE VALVE A MINIMUM OF 4" ABOVE THE HORIZONTAL BRANCH DRAIN OR FIXTURE DRAIN. PROVIDE A WALL BOX IF LOCATED IN A WALL. SEE WASTE AND VENT ISOMETRIC ON P1.1
- 4) NEW FD-1 FLOOR DRAIN WITH TRAP GUARD. CONNECT NEW 2" WASTE UNDERSLAB TO NEW SANITARY SEWER AS INDICATED.
- 5) NEW FD-2 (36"/24"/18") STRIP FLOOR DRAIN. CONNECT NEW 2" WASTE UNDERSLAB TO NEW SANITARY SEWER AS INDICATED.
- 6) REMOVE EXISTING WASTE & VENT STACK FROM BATHROOMS NOTED TO BE DEMO'D ON ARCHITECTURAL PLANS. INSERT 4" SCH 40 PVC SPLICE W/ FERNCO'S. INSTALL FLOOR CLEANOUT TO 721 MAIN (SEE WASTE & VENT ISOMETRIC ON P1.1)
- 7) RELOCATED EX FURNACE PER M1.1. ROUTE NEW GAS PIPING TO FURNACE PER M1.1.
- 8) ROUTE 3" EXHAUST & INTAKE AIR FROM WHG-1 GAS FIRED TANKLESS WATER HEATER TO TERMINATE THROUGH THE ROOF. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE EXACT ROOF TERMINATION LOCATION AND HEIGHT WITH FIELD CONDITIONS AND LOCAL BUILDING DEPARTMENT REQUIREMENTS. VERIFY THAT TOTAL ACTUAL ROUTING WILL NOT EXCEED MANUFACTURER'S MAXIMUM NUMBER OF 90 DEGREE ELBOWS & LENGTHS. MAINTAIN 3'-0" CLEAR FROM ROOF EDGE AND 10'-0" FROM ANY MECHANICAL INTAKES. SEE GAS FIRED TANKLESS WATER HEATER CONNECTION DETAIL AND SCHEDULE ON P.O.O.
- 9) NEW WC-1 ADA WATER CLOSET. SEE PLUMBING FIXTURE CONNECTION SCHEDULE ON P.O.O. ROUTE NEW 3" SANITARY SEWER FROM FIXTURE TO CONNECT TO 4" UNDERSLAB SANITARY SEWER AS INDICATED.
- 10) ROUTE NEW 1.5" WASTE FROM L-1 LAVATORY AND ROUTE 2" WASTE DOWN IN WALL TO CONNECT TO UNDERSLAB WASTE AS INDICATED.
- 11) ROUTE NEW 1.25" VENT UP IN WALL FROM FIXTURE DRAIN. ROUTE VENT OVER IN CEILING SPACE TO CONNECT TO NEW 3" VENT THROUGH ROOF. SEE WASTE & VENT ISOMETRIC ON P1.1.
- 12) ROUTE NEW 2" VENT UP IN WALL AS INDICATED FROM UNDERSLAB SANITARY SEWER. VENT OVER IN CEILING SPACE TO CONNECT TO NEW 3" VENT THROUGH ROOF. SEE WASTE & VENT ISOMETRIC ON P1.1.
- 13) CONDENSATE FROM RELOCATED (R) FUR-1 ROUTED TO 2" WASTE STANDPIPE.
- 14) SEE DEMO PLAN ON P1.0 FOR REQUIRED SAWCUTS. (TYPICAL)
- 15) ROUTE NEW 2" VENT UP IN WALL AS INDICATED FROM UNDERSLAB SANITARY SEWER. TRANSITION TO 3" A MINIMUM OF 18" BELOW ROOF. TERMINATE A MINIMUM OF 12" ABOVE THE ROOF AND SEAL ROOF PENETRATION WATER TIGHT. MAINTAIN 3'-0" CLEAR FROM ROOF EDGE AND 3'-0" ABOVE OR 10'-0" FROM ANY MECHANICAL INTAKES.
- 16) CONNECT DW-1 DISHWASHER DRAIN HOSE WITH HIGH LOOP TO UNDERSIDE OF CABINET AND INTO GD-1 GARBAGE DISPOSER.
- 17) CONNECT SINK S-2 WITH 1.5" P TRAP TO VERT 2" SEWER STUB-OUT THROUGH FIREWALL, (EX) 2" AAV INSTALLED UNDER KITCHEN SINK.
- 18) FULL DEPTH SAWCUT EXIST CONCRETE FLOOR, ADD 8x8 FLOOR SINK AS SHOWN. CONN TO EXIST SEWER WITH 2" PVC PIPE @ 3.0% SLOPE. PATCH CONCRETE FLOOR, MATCH EXIST FINISH. (EX) 2" AAV INSTALLED UNDER SHOWER ROOM SINK.

**GENERAL NOTES:**

1. CAREFULLY COORDINATE ALL PLUMBING ROUTING AND PENETRATIONS TO AVOID CONFLICTS WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL SYSTEMS.
2. SEE MECHANICAL DRAWINGS FOR ALL PLUMBING SPECIFICATIONS.
3. ALL PIPE PENETRATIONS THROUGH THE FOUNDATION WALLS, EXTERIOR WALLS, FLOORS AND ROOF SHALL BE WATER TIGHT.
4. SLOPE ALL WASTE PIPING 3" AND LARGER INSIDE BUILDING AT A 1/4" PER FOOT UNLESS INVERT ELEVATION OF CONNECTION TO THE EXISTING SEWER CANNOT BE MET. THE MINIMUM SLOPE IS 1/8" PER FOOT. SLOPE ALL WASTE PIPING 2-1/2" AND SMALLER AND ALL HORIZONTAL VENT PIPING AT 1/4" PER FOOT.
5. FIELD VERIFY AND COORDINATE EXACT LOCATIONS, SIZE AND INVERT ELEVATIONS FOR NEW PIPING CONNECTIONS SHOWN.
6. SEE PLUMBING FIXTURE CONNECTION SCHEDULE ON P.O.O FOR EACH NEW FIXTURE CODE INDICATED.
7. PLUMBING COORDINATED TO 5 FEET OUTSIDE THE BUILDING FOOTPRINT. SEE CIVIL DRAWINGS FOR CONTINUATION AND COORDINATE AS REQUIRED.
8. CONTRACTOR MUST KEEP A REDLINED SET OF DRAWINGS ON SITE SHOWING ANY PLUMBING/PIPING DEVIATIONS.
9. COORDINATE EXACT LOCATIONS OF ALL NEW EQUIPMENT WITH OWNER.
10. CAREFULLY COORDINATE PLUMBING INSTALLATION REQUIREMENTS OF ALL NEW EQUIPMENT WITH OWNER, EQUIPMENT SPECIFICATIONS, AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
11. PROVIDE WALL CLEAN OUTS UNDER ALL NEW SINKS AND LAVATORIES. PROVIDE ALL OTHER CLEANOUTS PER CODE.
12. RUN ALL PLUMBING TIGHT TO STRUCTURE AND ALONG BEAMS WHERE POSSIBLE. COORDINATE WITH STRUCTURE.
13. COORDINATE ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS WITH ELECTRICAL CONTRACTOR.
14. MECHANICAL EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE MECHANICAL DRAWINGS.
15. LABEL ALL PIPING PER ANSI 13.1 (INCLUDE TYPE AND DIRECTION OF FLOW).
16. FIRESEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND CEILINGS. COORDINATE WITH ARCHITECTURAL PLANS.
17. REFERENCE ARCHITECTURAL PLANS FOR ALL DEMO WORK SHOWN DASHED. SEE P1.1 & P1.2 FOR NEW PLUMBING WORK.
18. SEE P1.1 FOR WASTE & VENT ISOMETRIC.

**723 MAIN STREET**  
**ROYALTY ARRANGEMENTS**  
**(UNIT 1 OCCUPANCY PERMIT)**  
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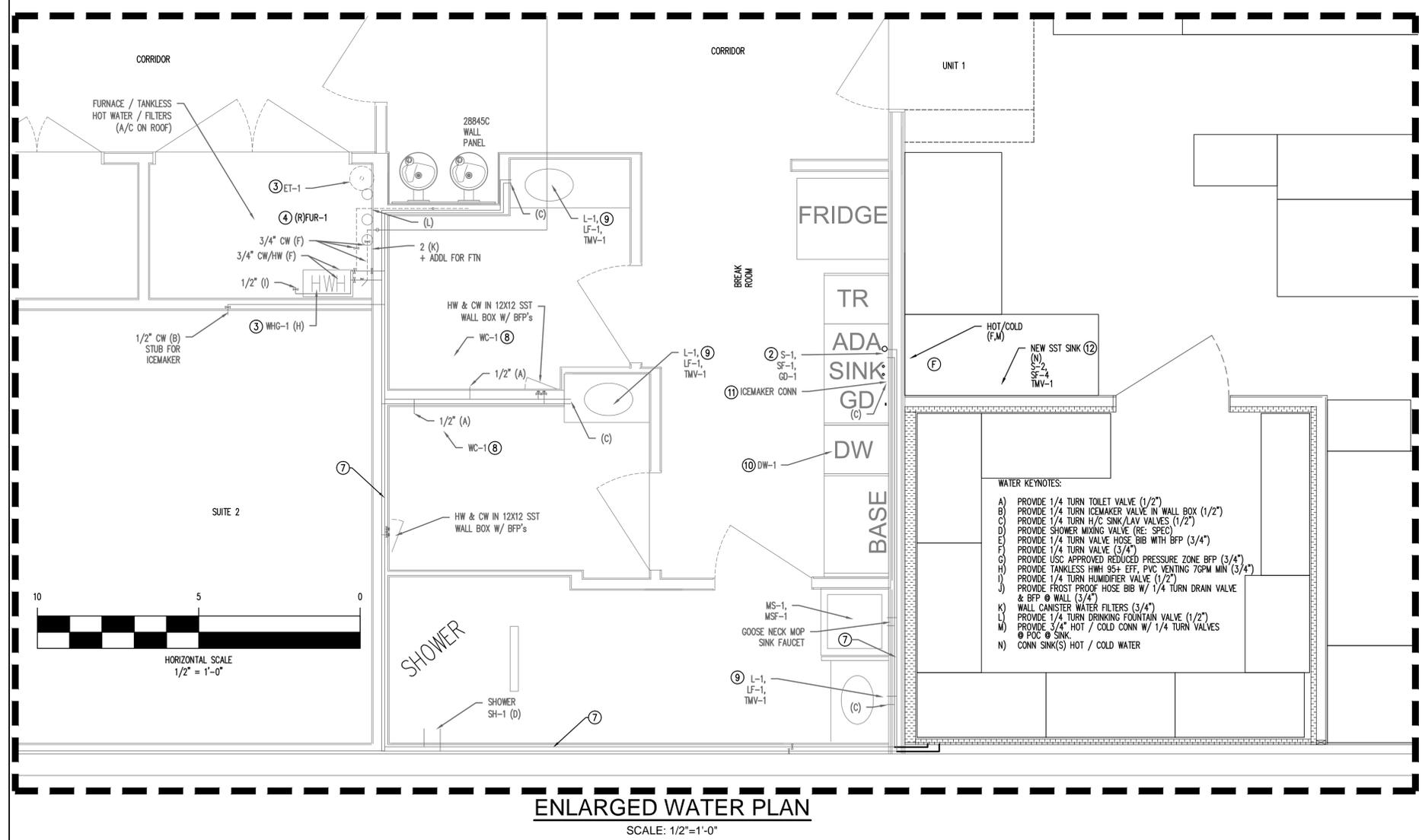
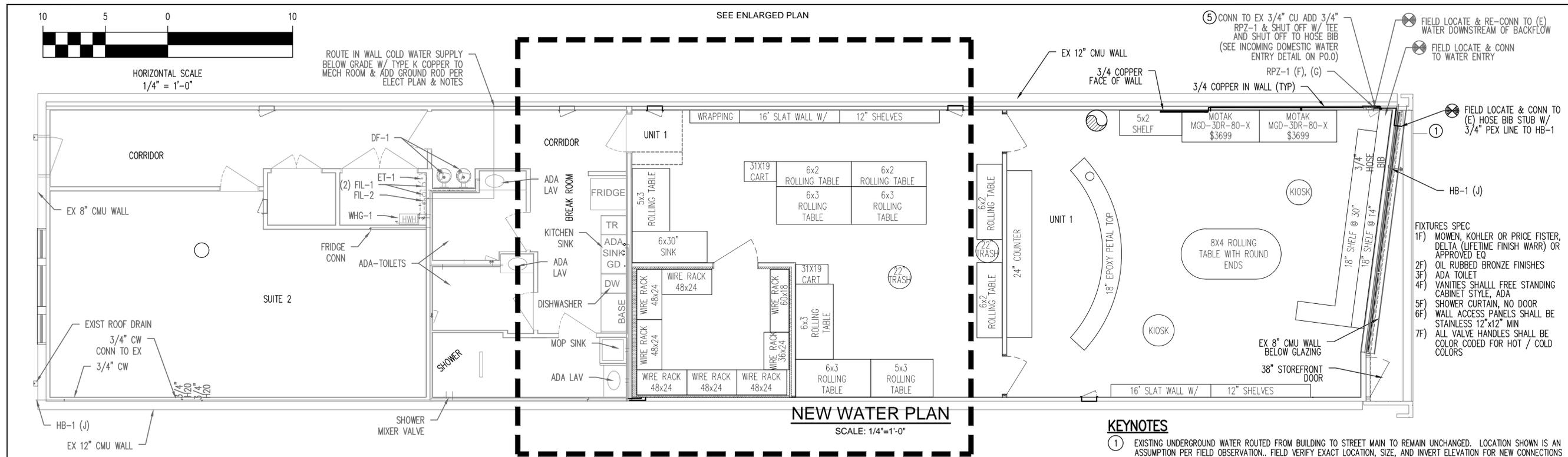
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SEWER  
PLAN

SHEET

P1.2





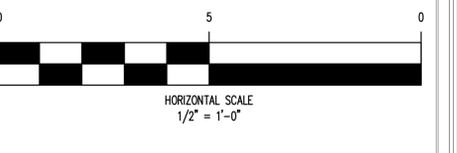
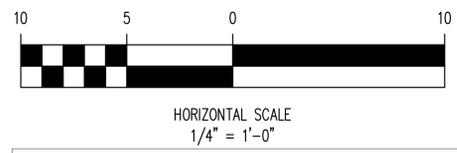
**KEYNOTES**

- 1) EXISTING UNDERGROUND WATER ROUTED FROM BUILDING TO STREET MAIN TO REMAIN UNCHANGED. LOCATION SHOWN IS AN ASSUMPTION PER FIELD OBSERVATION.. FIELD VERIFY EXACT LOCATION, SIZE, AND INVERT ELEVATION FOR NEW CONNECTIONS SHOWN. (TYPICAL)
- 2) EXIST S-1 SINK WITH SE-1 FAUCET. SEE PLUMBING FIXTURE CONNECTION SCHEDULE ON P.O.O.
- 3) EXIST WHG-1 GAS FIRED TANKLESS WATER HEATER. SEE P.O.O FOR SCHEDULE AND DETAIL. ROUTE NEW 3/4" CW TO WHG-1 WITH ET-1 EXPANSION TANK. CONTINUE 3/4" CW AND ROUTE NEW 3/4" DOMESTIC HW INTO THE COMMON WALL OF THE ADA RESTROOMS AS INDICATED.
- 4) RELOCATED EX FURNACE PER M1.1. ROUTE NEW GAS PIPING TO FURNACE PER M1.1. ADD 1/2" COLD WATER CONNECTION FOR FUTURE HUMIDIFIER AT FURNACE.
- 5) EXISTING 3/4" DOMESTIC CW SERVICE FROM EXISTING WATER METER ROUTED UP FROM UNDERSLAB TO SERVE THE BUILDING WITH NEW DOUBLE CHECK BACKFLOW PREVENTION ROUTED HORIZONTALLY ALONG INTERIOR WALL. COORDINATE A NEW WALL COVER PANEL FOR THE WATER SERVICE WITH G.C. TO PROVIDE ACCESSIBILITY FOR SERVICING. SEE INCOMING DOMESTIC WATER ENTRY DETAIL ON P.O.O.
- 6) CONNECT NEW 3/4" CW DOWNSTREAM OF THE BACKFLOW PREVENTOR AND ROUTE UNDERGROUND USING EXISTING 3/4" COPPER PIPING TO MECHANICAL ROOM. SEE INCOMING DOMESTIC WATER SERVICE RISER DETAIL ON P.O.O.
- 7) ROUTE NEW 3/4" DOMESTIC HW & CW IN THE NEW WALLS AND BRANCH TO FIXTURES AS INDICATED. (TYPICAL)
- 8) EXIST WC-1 ADA WATER CLOSET. SEE PLUMBING FIXTURE CONNECTION SCHEDULE ON P.O.O.
- 9) EXIST L-1 LAVATORY WITH LF-1 LAVATORY FAUCET WITH A TMV-1 THERMOSTATIC MIXING VALVE LOCATED TIGHT TO WALL UNDER LAVATORY. COORDINATE EXACT LOCATION TO NOT INTERFERE WITH ADA CLEARANCES. SEE PLUMBING FIXTURE CONNECTION SCHEDULE ON P.O.O. ROUTE NEW CW AND HW THROUGH WALLS FROM TO MECHANICAL ROOM.
- 10) EXIST DUAL VALVE 1/4 TURN VALVE AT SINK HW FOR CONNECTION TO DW-1 DISHWASHER.
- 11) EXIST DUAL VALVE 1/4 TURN VALVE AT SINK CW FOR ICEMAKER
- 12) S-2 ROUTE COPPER HW & CW PIPING ON FACE OF WALL W/ 1/4 TURN VALVES, SE-4 FAUCET

- WATER KEYNOTES:**
- A) PROVIDE 1/4 TURN TOILET VALVE (1/2")
  - B) PROVIDE 1/4 TURN ICEMAKER VALVE IN WALL BOX (1/2")
  - C) PROVIDE 1/4 TURN H/C SINK/LAV VALVES (1/2")
  - D) PROVIDE SHOWER MIXING VALVE (REF: SPEC)
  - E) PROVIDE 1/4 TURN VALVE HOSE BIB WITH BFP (3/4")
  - F) PROVIDE 1/4 TURN VALVE (3/4")
  - G) PROVIDE USC APPROVED REDUCED PRESSURE ZONE BFP (3/4")
  - H) PROVIDE TANKLESS HWI 95+ EFF. PVC VENTING 70PM MIN (3/4")
  - I) PROVIDE 1/4 TURN HUMIDIFIER VALVE (1/2")
  - J) PROVIDE FROST PROOF HOSE BIB W/ 1/4 TURN DRAIN VALVE & BFP @ WALL (3/4")
  - K) WALL CANISTER WATER FILTERS (3/4")
  - L) PROVIDE 1/4 TURN DRINKING FOUNTAIN VALVE (1/2")
  - M) PROVIDE 3/4" HOT / COLD CONN W/ 1/4 TURN VALVES @ POC @ SINK.
  - N) CONN SINK(S) HOT / COLD WATER

**GENERAL NOTES:**

1. CAREFULLY COORDINATE ALL PLUMBING ROUTING AND PENETRATIONS TO AVOID CONFLICTS WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL SYSTEMS.
2. SEE MECHANICAL DRAWINGS FOR ALL PLUMBING SPECIFICATIONS.
3. ALL PIPE PENETRATIONS THROUGH THE FOUNDATION WALLS, EXTERIOR WALLS, FLOORS AND ROOF SHALL BE WATER TIGHT.
4. FIELD VERIFY AND COORDINATE EXACT LOCATIONS, SIZE AND INVERT ELEVATIONS FOR NEW PIPING CONNECTIONS SHOWN.
5. SEE PLUMBING FIXTURE CONNECTION SCHEDULE ON P.O.O FOR INDIVIDUAL PIPE SIZES TO EACH NEW FIXTURE SHOWN.
6. PLUMBING COORDINATED TO 5 FEET OUTSIDE THE BUILDING FOOTPRINT. SEE CIVIL DRAWINGS FOR CONTINUATION AND COORDINATE AS REQUIRED.
7. CONTRACTOR MUST KEEP A REDLINED SET OF DRAWINGS ON SITE SHOWING ANY PLUMBING/PIPING DEVIATIONS.
8. COORDINATE EXACT LOCATIONS OF ALL NEW EQUIPMENT WITH OWNER.
9. CAREFULLY COORDINATE PLUMBING INSTALLATION REQUIREMENTS OF ALL NEW EQUIPMENT WITH OWNER, EQUIPMENT SPECIFICATIONS, AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
10. ALL DOMESTIC WATER VALVES SHALL MEET NSF 61.
11. RUN ALL PLUMBING TIGHT TO STRUCTURE AND ALONG BEAMS WHERE POSSIBLE. COORDINATE WITH STRUCTURE.
12. COORDINATE ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS WITH ELECTRICAL CONTRACTOR.
13. MECHANICAL EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE MECHANICAL DRAWINGS.
14. INSULATE ALL HW AND HWC PIPING PER THE 2015 IECC.
15. LABEL ALL PIPING PER ANSI 13.1 (INCLUDE TYPE AND DIRECTION OF FLOW).
16. FIRESEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND CEILINGS. COORDINATE WITH ARCHITECTURAL PLANS.
17. REFERENCE ARCHITECTURAL PLANS FOR ALL DEMO WORK SHOWN DASHED. SEE P1.1 & P1.2 FOR NEW PLUMBING WORK.



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